Second Quarter 2019
Quarterly Monitoring Report
Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, New York
Site No. 1-30-211

July 2019

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
Albany, New York 12207

Prepared by:

CA RICH CONSULTANTS, INC.
17 Dupont Street
Plainview, NY 11803-1614

e-mail: jproscia@carichinc.com

July 26, 2019

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—Second Quarter 2019**
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 Second Quarter 2019, 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.

The next quarterly system sampling and measurements are planned for September 2019.

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

Brian Jankauskas
NYSDEC
Brian.jankauskas@dec.ny.gov

Mark Sergott
New York State Department of Health
Mark.sergott@health.ny.gov

Alali Tamuno, Esq.
NYSDEC
Alali.tamuno@dec.ny.gov

Michael Murphy, Esq.
Beveridge & Diamond, P.C.
mmurphy@bdlaw.com

John Paul, Esq.
Beveridge & Diamond, P.C.
jpaul@bdlaw.com

Laurence Gordon
Seaboard Estates, Inc.
fmrc@optonline.net

Charlotte Bethoney
New York State Department of Health
Charlotte.bethoney@health.ny.gov

TABLE OF CONTENTS

FIGURES

TABLES and DATA PLOTS

APPENDICES

Second Quarter 2019
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 detailed in Table 6.

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 (June 2019) monitoring event.

June 2019

Vent/Well	Vacuum (inches of water)	Flow (scfm)
SVE-1	-8.0	16.4
SVE-2	-8.0	6.00
SVE-3	-8.0	6.9
SSD-4	-8.0	25
SSD-5	-8.0	29
SSD-6	-8.0	30
System	-30	100

System Hour Meter = 21,899 hours at 10:32
System influent temperature = 94.8^{o}F
System effluent temperature = 111^{o}F
Pre-carbon = 0.0 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. At the end of the fourth quarter 2017, the concentration of TCA was 1,630 ug/m^3. At the end of the fourth quarter 2018, the concentration of TCA was 693 ug/m^3. The most recent sample collected on June 24, 2019, detected a TCA concentration of 1,000 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 second quarter 2019 mid-carbon sample was collected on June 24, 2019 and detected a TCA concentration of 1,330 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 June 24, 2019 using a SUMMA canister. The sample detected a TCA concentration of 546 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 second quarter 2019 was 1,000 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 6, 2018 to June 24, 2019 is estimated to be 2.08 pounds and the amount of TCA removed to date equals 71.25 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. A telemetry unit was installed in December 2017 to notify CA RICH of any unexpected system shutdowns. The system has been in continuous operations since September 2016 with the exception of carbon drum change outs and unexpected system shutdowns. From March 21, 2019 to June 24, 2019 the system has been operating for 99.91 percent of the time.

During the last quarter the system has removed approximately 2.08 pounds of TCA and 71.25 pounds since system start up in September 2016. The system shall remain in continuous operation. The next system sampling event is scheduled for September 2019.

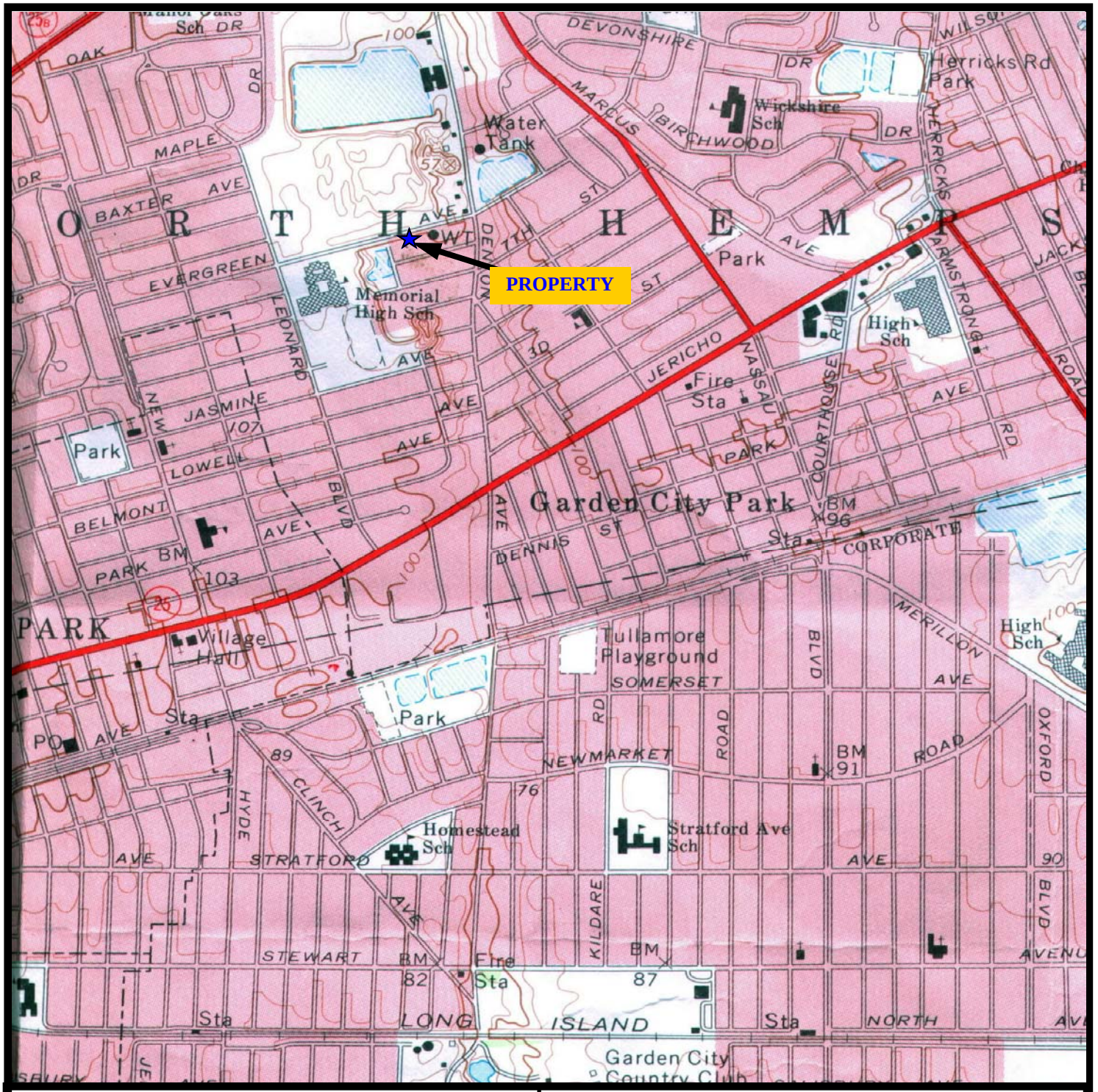
Additionally, a Remedial Investigation Feasibility Study was prepared for the Site and submitted to the NYSDEC and NYSDOH on July 24, 2019.

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.)

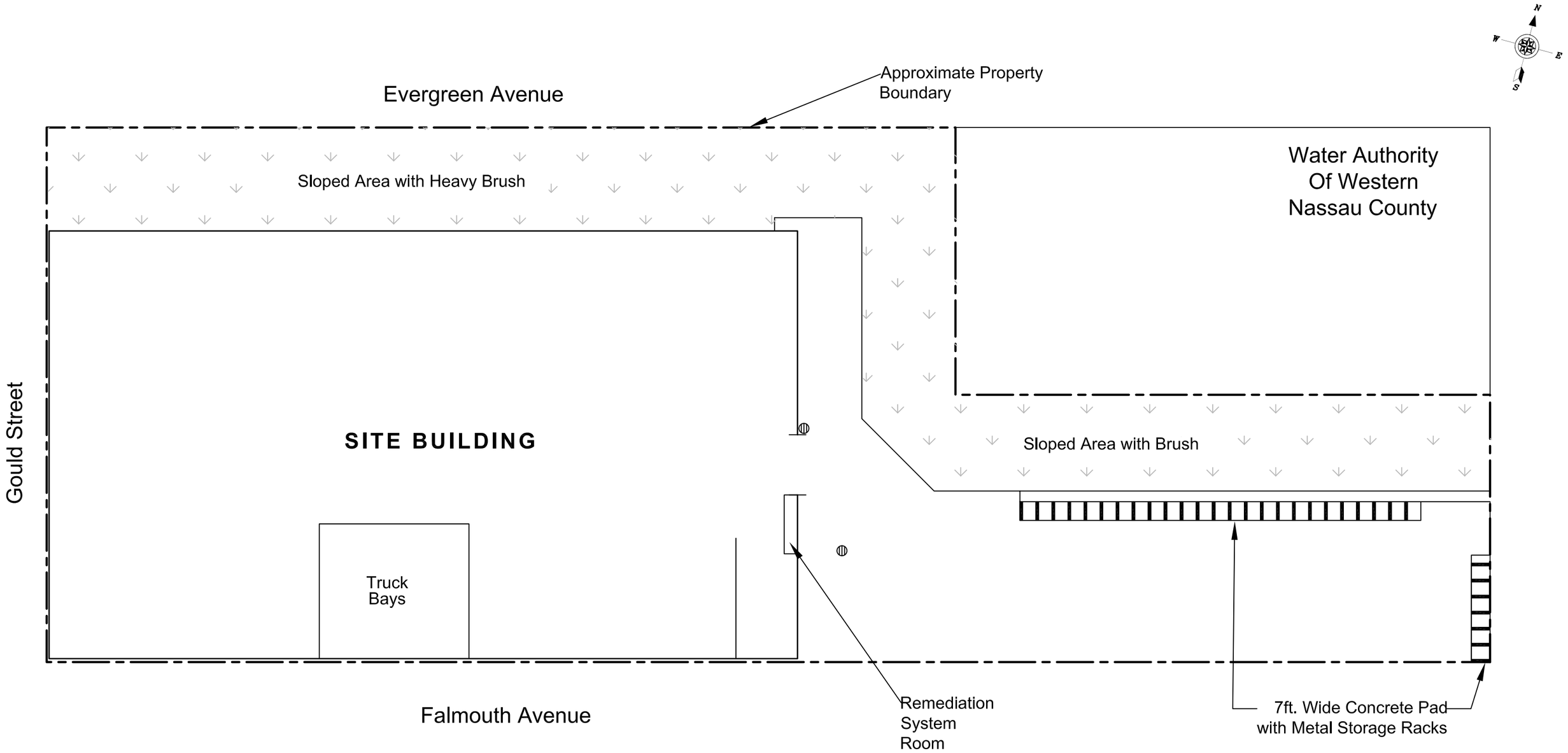
0 2,000 4,000

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

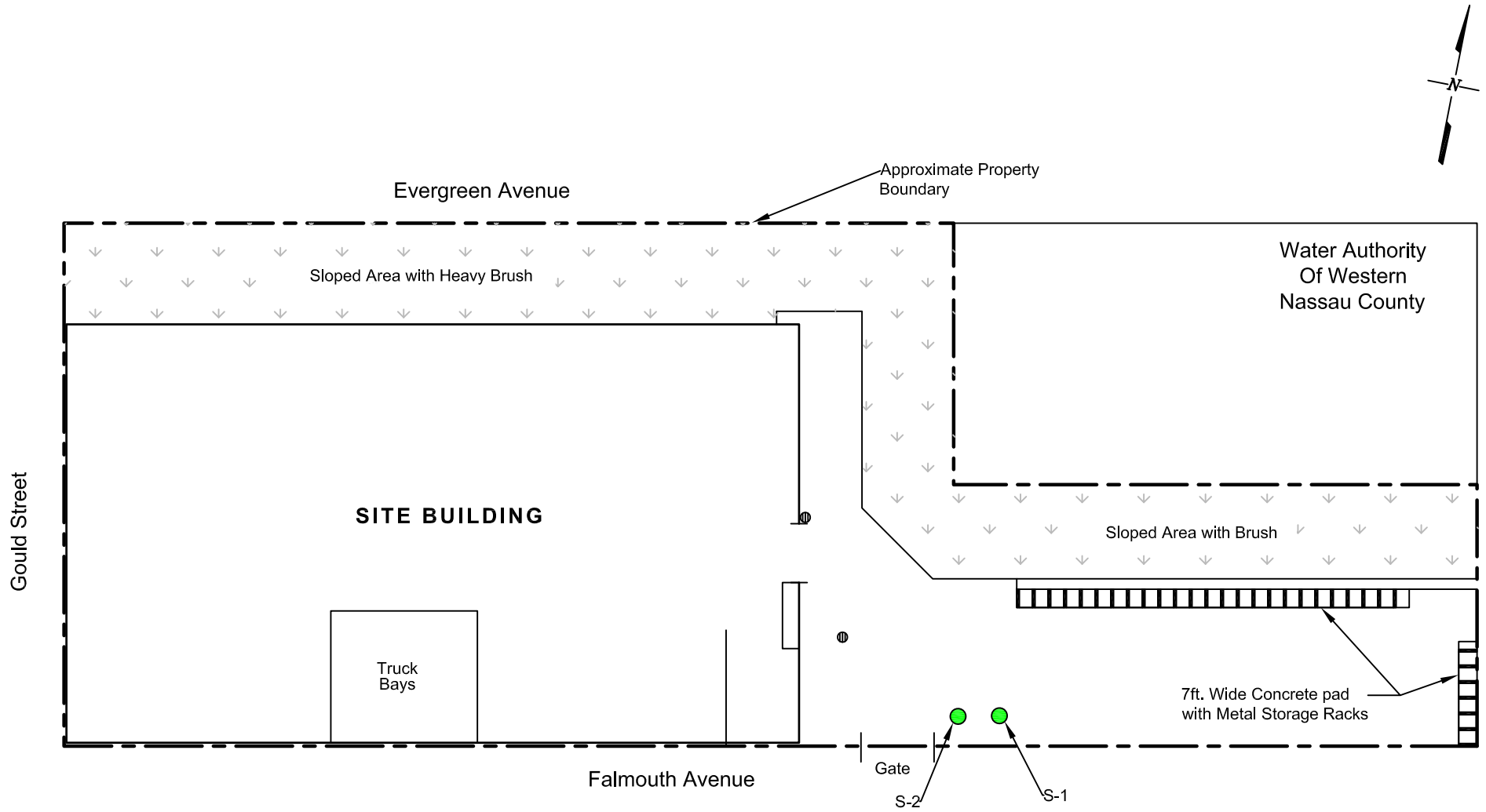
◍ Dry well

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.	

H:\Drawings\Seaboard Estates-Zoe Chemical\QMR Drawings\QMR 2017-1



LEGEND

Former Cesspools

0 20 40 60

Graphic Scale In Feet

CA RICH CONSULTANTS, INC.

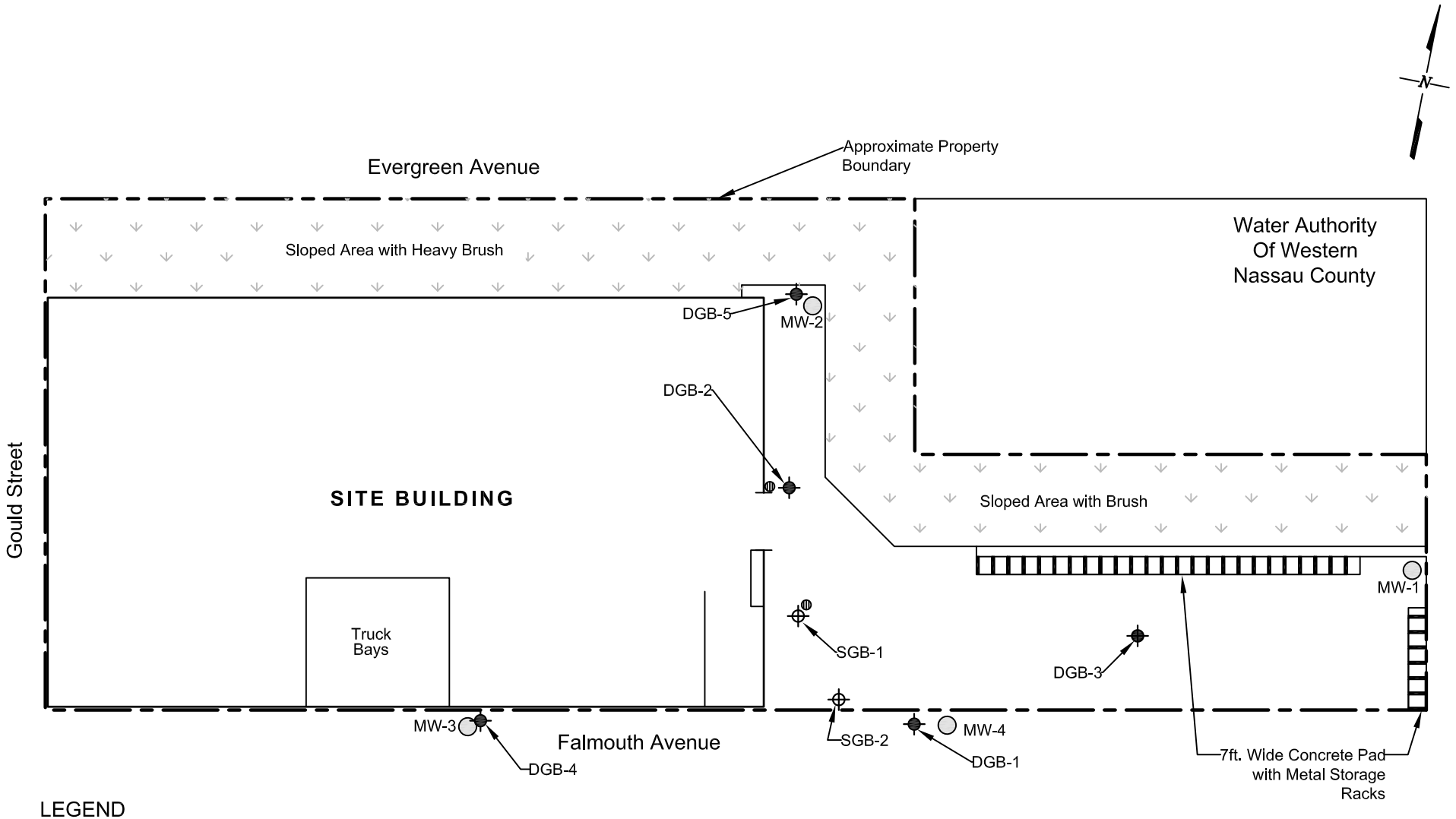
Environmental Specialists Since 1982

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

H:\Drawings\Seaboard Estates-Zoe Chemical\QMR Drawings\QMR 2017-2



LEGEND

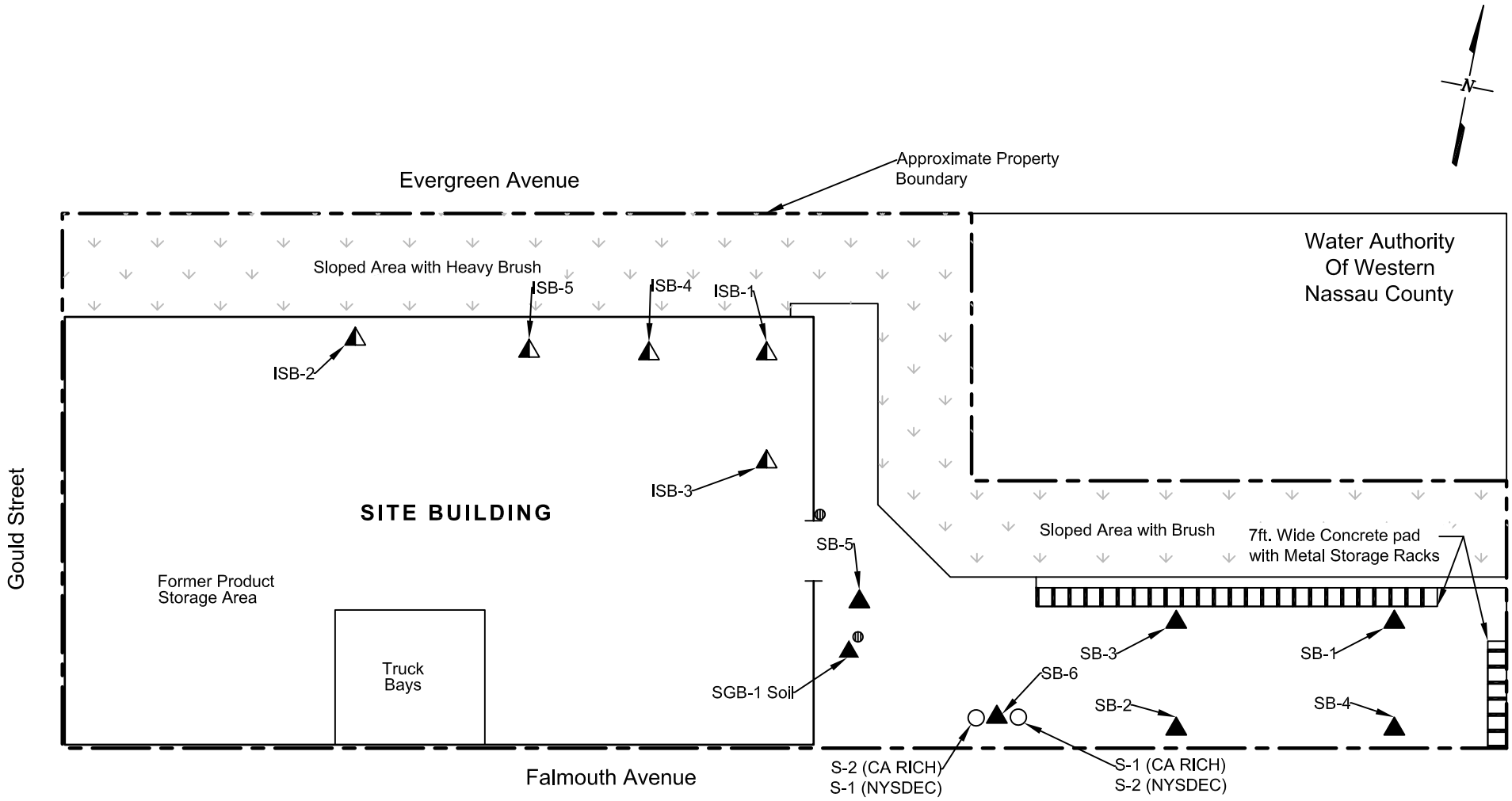
- 2" Diameter Groundwater Monitoring Well
- Temporary 55' or 85' Groundwater Boring
- 30' Groundwater Monitoring Well
- Temporary 30' Groundwater Boring
- Storm Drain

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.

H:\Drawings\Seaboard Estates-Zoe Chemical\QMR Drawings\QMR 2017-3



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.

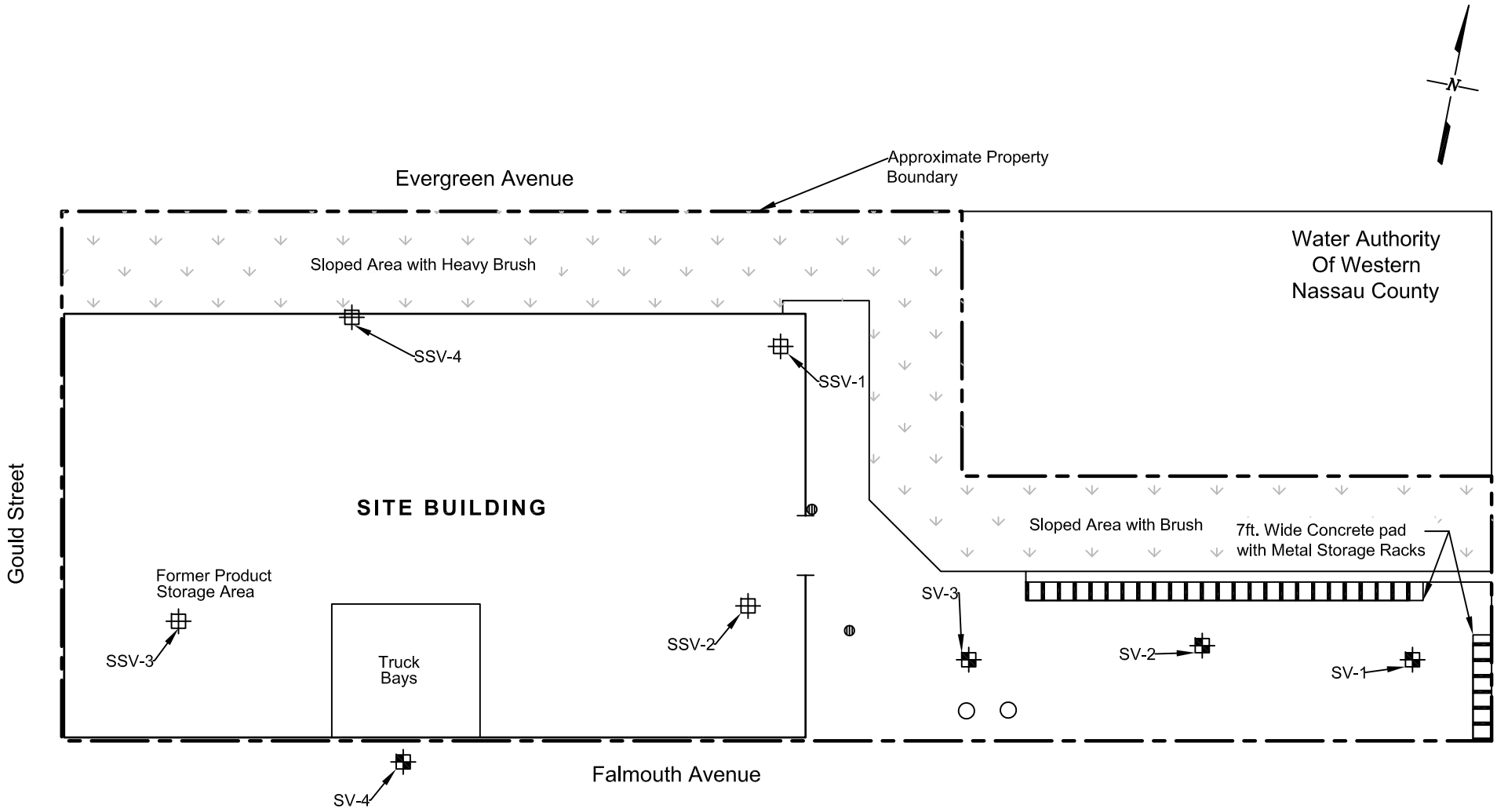
0 20 40 60
Graphic Scale In Feet

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

H:\Drawings\Seaboard Estates-Zoe Chemical\QMR Drawings\QMR 2017-4



LEGEND

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

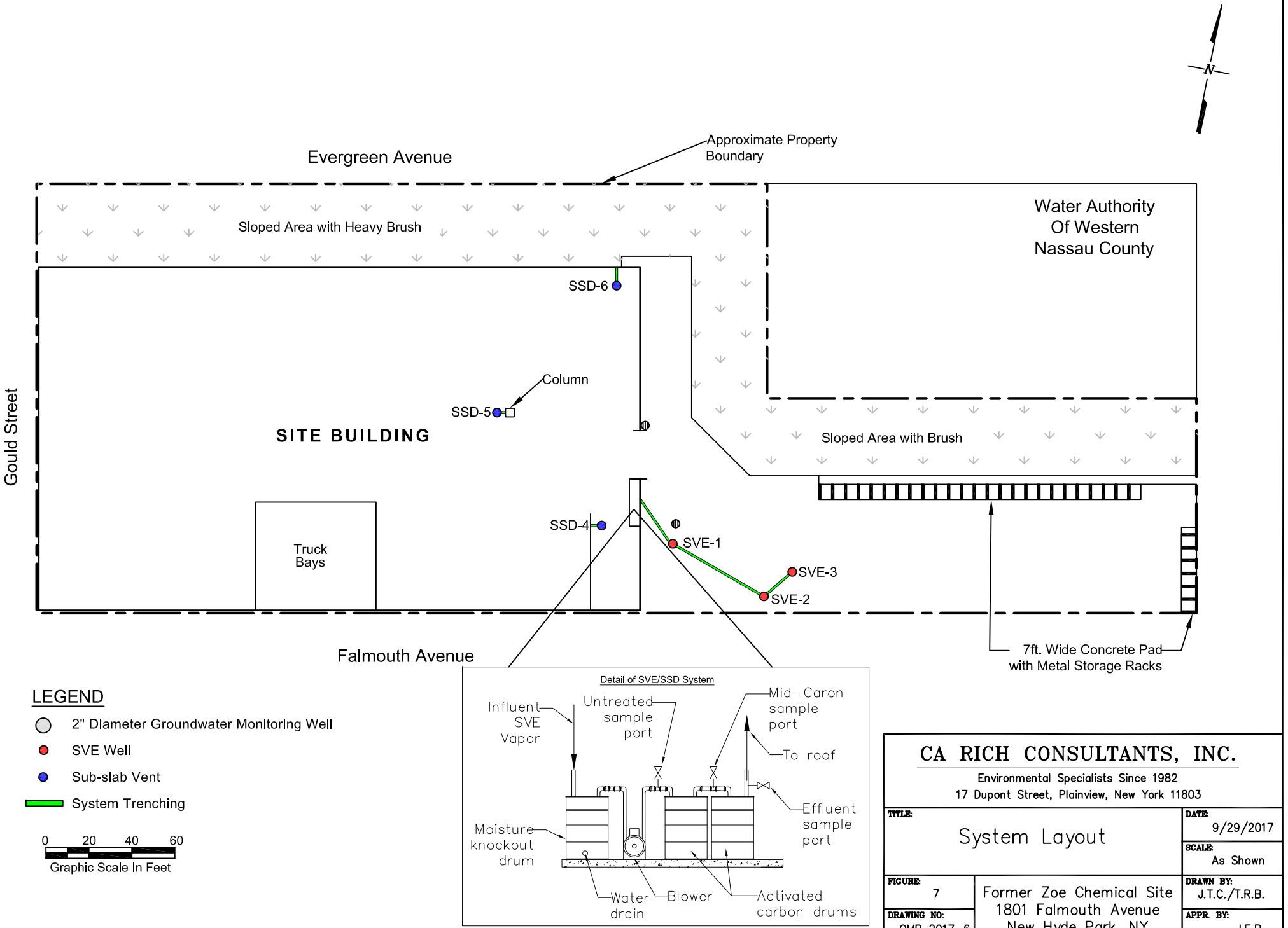
Note:
1. The soil vapor samples depicted on this figure collected as part of the Site Characterization Report completed in July 2014.

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.

H:\Drawings\Seaboard Estates-Zoe Chemical\QMR Drawings\QMR 2017-5



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

H:\Drawings\Seaboard Estates-Zoe Chemical\QMR Drawings\QMR 2017-6

TABLES

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	3/23/2018	6/22/2018	9/6/2018	12/4/2018	3/21/2019	6/24/2019
System Status on Arrival		On	On		On	On	On	On	On	On	On
System Status on Departure		On	On		On	On	On	On	On	On	On
Control Panel Hours		5057.9	7304.4		9317.1	11,660	13,812	15,177	17,249	19,621	21,899
Control Panel Hours - Time Recorded		0900	0900		0900	10:27	10:07	8:43	9:52	10:40	10:32
Operating Hours Since Last Visit		----	2246.5		2012.70	2,342.9	2,152	1,365	2,072	2,372	2,278
Hours Available Since Last Visit		----	2904.0		2016.00	2520	2184	1824	2136	2568	2280
Percent Operation (quarterly)		----	77.4		99.84	92.97	98.53	74.84	97.00	92.37	99.91
Moisture Separator Liquid Level (inches)		None	None		4 inch	2 inch	0 inch	0 inch	0 inch	0 inch	0 inch
Vacuum											
	SVE-1 ("WC) at Wellhead	-2.51	-2.9		-7.4	-10	-10	-8.0	-9.2	-8.0	-8.0
	SVE-2 ("WC) at Wellhead	-0.008	-0.120		-7.0	-7.0	-9.4	-7.5	-9.2	-8.0	-8.0
	SVE-3 ("WC) at Wellhead	-0.066	-0.103		-7.0	-8.0	-9.4	-7.5	-9.0	-8.0	-8.0
	SVE-4 ("WC) at Wellhead	-4.0	-4.1		-7.2	-9.2	-9.6	-8.0	-4.1	-8.0	-8.0
	SVE-5 ("WC) at Wellhead	-3.9	-4.1		-7.2	-9.3	-9.1	-8.0	-4.1	-8.0	-8.0
	SVE-6 ("WC) at Wellhead	-3.9	-4.1		-7.2	-9.3	-9.4	-7.5	-4.1	-8.0	-8.0
	System Influent ("WC)	-24.0	-24.0		-28.0	-32	-32	-32	-24	-24	-30
Temperature											
	Influent Temp (°F)	76.2	91		65	68	87	86.3	59.6	66.4	94.8
	Effluent Temp (°F)	105	115		94	93	104	95	73.9	67.4	111
Airflow											
	SVE-1 (CFM) at Wellhead	47.00	51.69		13.0	11.0	12.0	14.5	14.0	15.42	16.4
	SVE-2 (CFM) at Wellhead	0.00	0.10		7.0	8.0	9.0	5.3	12.24	8.89	6.00
	SVE-3 (CFM) at Wellhead	2.20	0.25		6.0	7.0	8.0	14.35	7.0	10.0	6.9
	SVE-4 (CFM) at Wellhead	16.0	30		60	50	55	40	17	31.2	25
	SVE-5 (CFM) at Wellhead	46.0	35		57	62	61	24	19	21	29
	SVE-6 (CFM) at Wellhead	43.0	45		56	62	61	57	32	54	30
	System Influent (SCFM)	117.0	87.2		95.0	118	114	113	111	111	100
Volatile Organic Compounds											
	Pre-Carbon (ppm)	10.1	0.6		24.0	0.8	0.3	0.0	0.0	0.0	0.0
	Mid-Carbon (ppm)	1.2	1.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Post-Carbon (ppm)	2.0	0.4		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Soil Vapor Extraction System Leak Repaired - 10/19/17

Notes:

Carbon changeout (Both vessels) conducted on 12/1/16, 4/14/17, 8/3/17, 12/4/17, 3/20/18, 7/11/18, 9/20/18, 1/7/19, 7/25/19

Magnehelic guage used to collect vacuum readings at 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	
3/23/2018	536	69.8	52.2	1.42	6.26	1,040	198	33.2	
6/22/2018	625	93.6	66.6	< 5.11	< 7.93	993	194	24.1	
9/6/2018	699	178.0	138	< 10.3	< 15.9	1,660	347	107	
12/4/2018	787	58.7	45.9	<2.56	5.47	693	162	31.7	
3/21/2019	894	53.6	38.0	1.19	4.12	617	133	18.3	
6/24/2019	987	95.6	64.0	< 1.28	6.19	1,000	191	23.1	

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

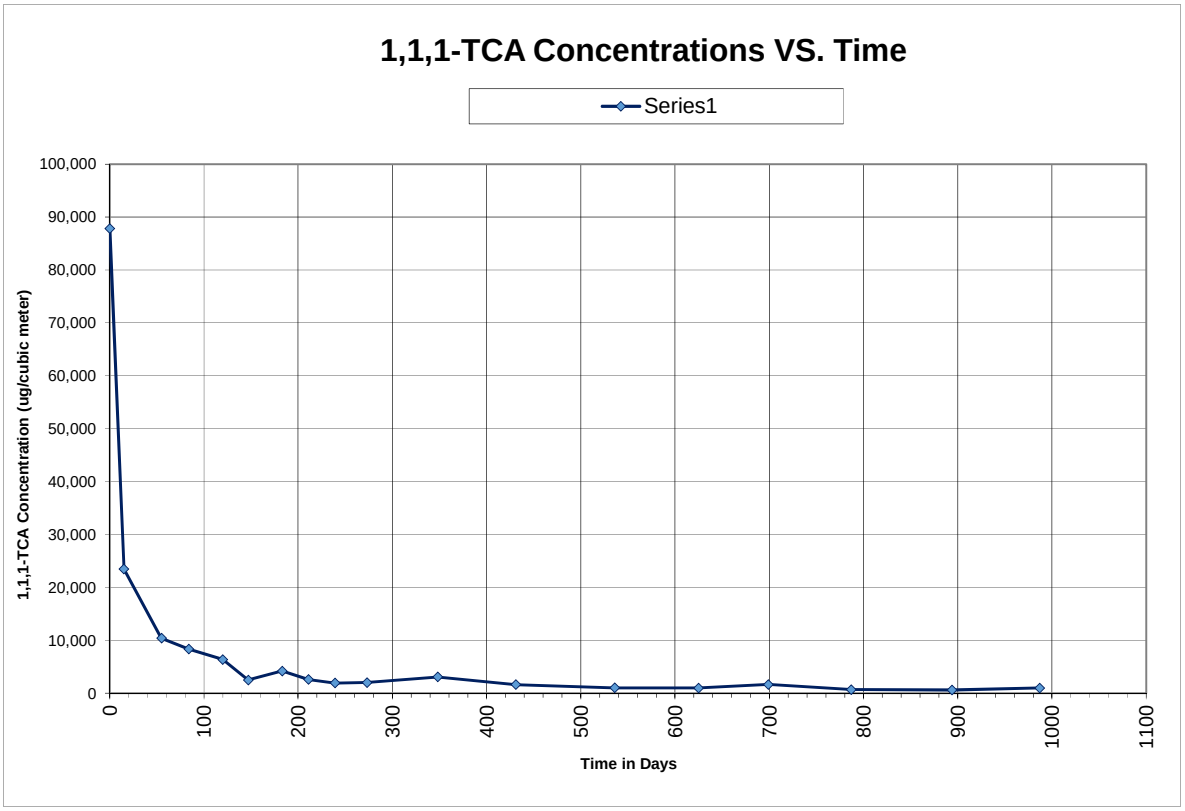


Table 3

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	
3/23/2018	536	< 1.36	< 1.07	1.34	< 0.793	< 1.09	< 0.809	28.5	
6/22/2018	625	115	96.2	< 5.11	< 0.793	1,060	200	22.3	
9/6/2018	699	104	131	< 10.3	<15.9	1,640	400	103	
12/4/2018	787	41.8	33.0	<2.56	4.0	480	116	23.6	
3/21/2019	894	< 1.36	< 1.07	1.06	4.40	154	162	15.4	
6/24/2019	987	39.1	69.9	< 1.71	6.74	1,330	177	19.7	

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

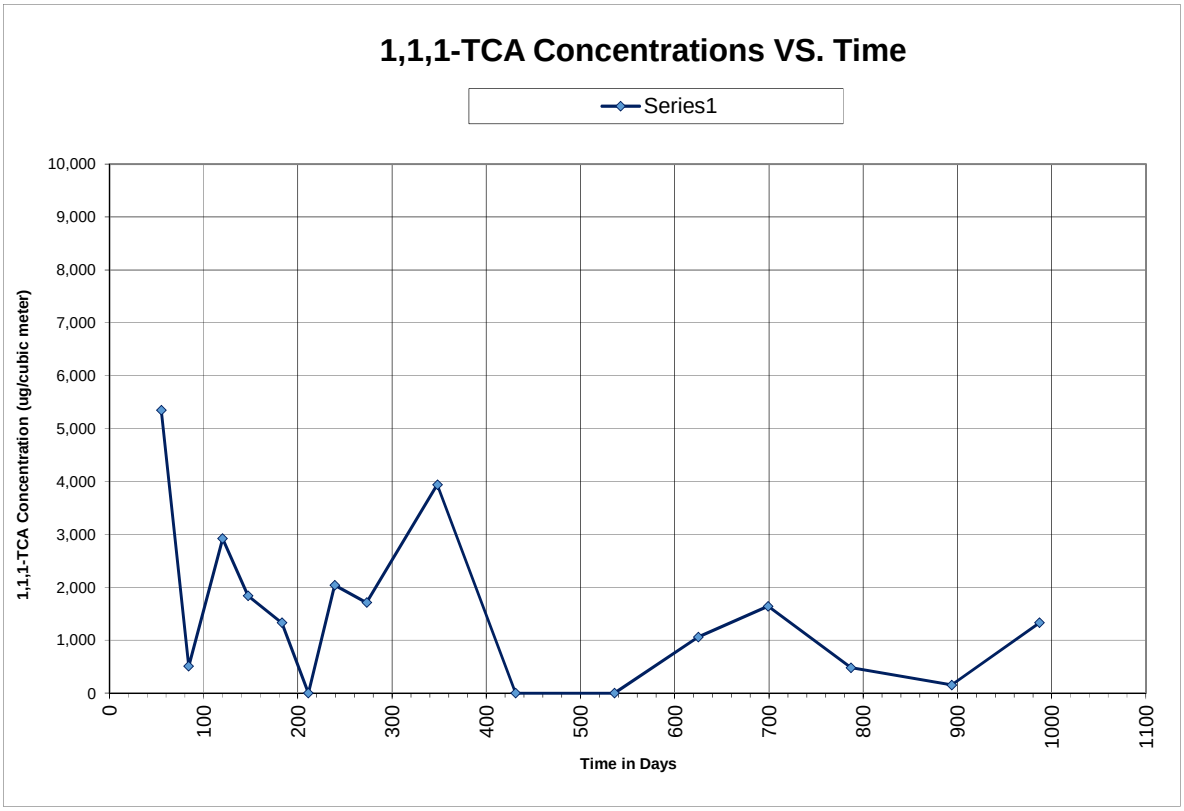


Table 4

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	< 0.809	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	
3/23/2018	536	< 1.36	< 1.07	1.84	< 0.793	< 1.09	< 0.809	< 0.528	
6/22/2018	625	< 4.52	< 3.58	1.71	23.1	446	692	30.9	
9/6/2018	699	< 6.78	< 5.37	5.93	17.8	324	858	81.3	
12/4/2018	787	< 6.78	14.2	<2.56	10.6	1,400	191	23.6	
3/21/2019	894	< 1.36	< 1.07	0.846	< 0.793	< 1.09	< 0.809	13.5	
6/24/2019	987	3.61	< 1.79	0.882	8.05	546	240	19.3	

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

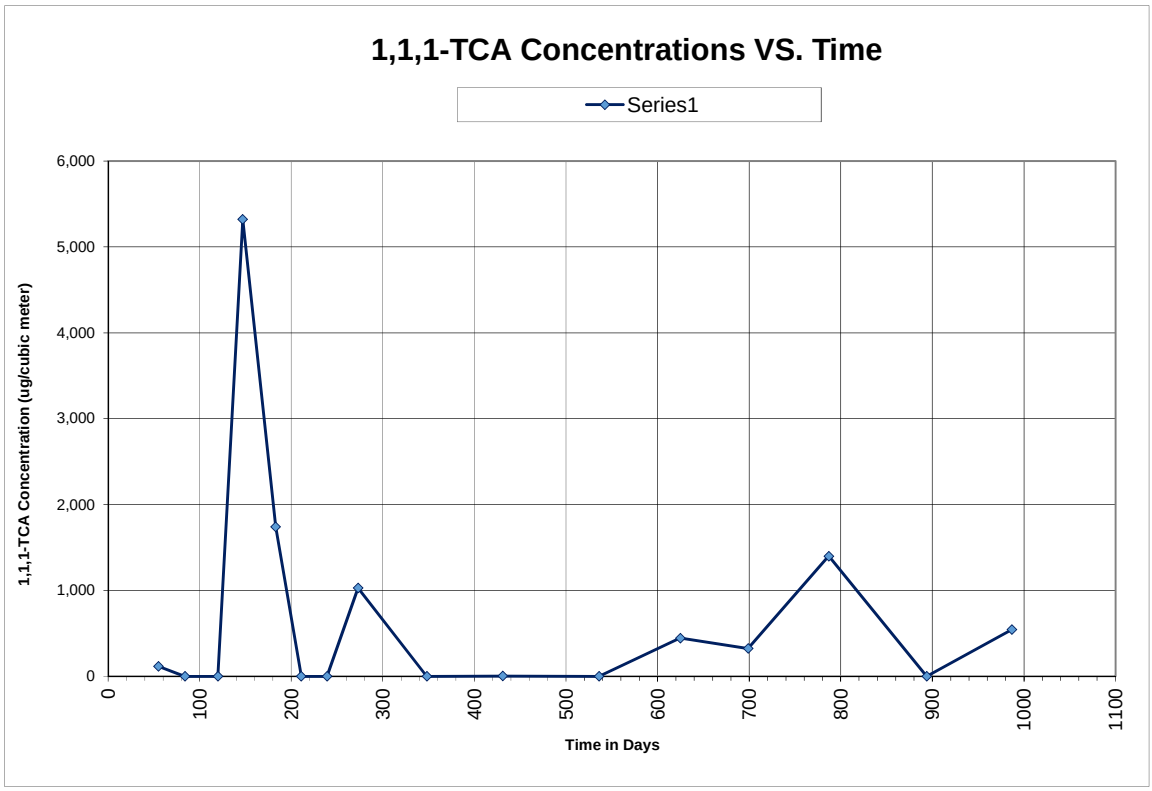


Table 5

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
12/8/2017	3/23/2018	1,630	1,040	118.0	1.34221E-07	1.79632E-05	105	151200	2.72	62.51
3/23/2018	6/22/2018	1,040	993	114.0	9.5921E-08	1.28214E-05	91	131040	1.68	64.19
6/22/2018	9/6/2018	993	1,660	113.0	1.13807E-07	1.50225E-05	76	109440	1.64	65.84
9/6/2018	12/4/2018	1,660	693	111.0	1.25262E-07	1.62632E-05	89	128160	2.08	67.92
12/4/2018	3/21/2019	693	617	111.0	6.25219E-08	8.09658E-06	107	154080	1.25	69.17
3/21/2019	6/24/2019	617	1,000	200.0	6.97323E-08	1.52365E-05	95	136800	2.08	71.25

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

Table 6

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

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 (Untreated, Mid, and Treated)
December 27, 2017	On	Telemetry System installed
March 20, 2018	On	Carbon change out
March 23, 2018	On	Quarterly system samples collected
June 22, 2018	On	Quarterly system samples collected
July 11, 2018	On	Carbon change out
September 6, 2018	On	Quarterly system samples collected
September 20, 2018	On	Carbon change out
December 4, 2018	On	Quarterly system samples collected (Untreated, Mid, and Treated)
January 7, 2019	On	Carbon change out
January 7, 2019	On	Insulation installed around exterior SVE system piping
March 21, 2019	On	Quarterly system samples collected (Untreated, Mid, and Treated)
June 24,2019	On	Quarterly system samples collected (Untreated, Mid, and Treated)
July 25, 2019	On	Carbon change out

APPENDIX A

Monthly Progress Reports

e-mail: JProscia@carichinc.com

May 3, 2019

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 – April 2019**
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:

- On April 1, 2019, CA RICH renewed its telemetry unit service for the SVE system.
- On April 23, 2019, the Quarterly Monitoring Report was submitted to the NYSDEC and NYSDOH.

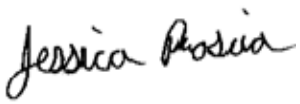
The following will be performed this month:

- Once a response is provided from the NYSDOH regarding CA RICH's comments to the Offsite Tenant Notification letters, the comments will be reviewed and incorporated.
- 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 next quarterly monitoring assignment will be performed in June 2019.
- A Remedial Investigation / Feasibility Study Report is being be prepared.

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

email list

Brian Jankauskas	brian.jankauskas@dec.ny.gov
Mark Sergott	mark.sergott@health.ny.gov
Alali Tamuno, Esq.	alali.tamuno@dec.ny.gov
Michael Murphy, Esq.	MMurphy@bdlaw.com
Laurence Gordon	fmrc@optonline.net
John Paul, Esq.	JPaul@bdlaw.com
Charlotte Bethoney	charlotte.bethoney@health.ny.gov

e-mail: JProscia@carichinc.com

June 4, 2019

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 – May 2019**
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:

- On May 3, 2019, a Monthly Progress Report was submitted to the NYSDEC and NYSDOH.
- Preparation of the Remedial Investigation/Feasibility Study was performed.

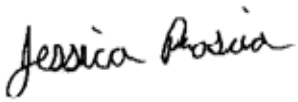
The following will be performed this month:

- Once a response is provided from the NYSDOH regarding CA RICH's comments to the Offsite Tenant Notification letters, the comments will be reviewed and incorporated.
- 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 next quarterly monitoring assignment will be performed in June 2019.
- A Remedial Investigation / Feasibility Study Report will be finalized.

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

ca RICH Environmental Specialists

email list

Brian Jankauskas	brian.jankauskas@dec.ny.gov
Mark Sergott	mark.sergott@health.ny.gov
Alali Tamuno, Esq.	alali.tamuno@dec.ny.gov
Michael Murphy, Esq.	MMurphy@bdlaw.com
Laurence Gordon	fmrc@optonline.net
John Paul, Esq.	JPaul@bdlaw.com
Charlotte Bethoney	charlotte.bethoney@health.ny.gov

APPENDIX B

Laboratory Data for System Air Samples

ANALYTICAL REPORT

Lab Number:	L1927637
Client:	CA RICH CONSULTANTS, INC. 17 Dupont St. Plainview, NY 11803
ATTN:	Jessica Proscia
Phone:	(516) 576-8844
Project Name:	FORMER ZOE CHEMICAL
Project Number:	Not Specified
Report Date:	07/03/19

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

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

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified

Lab Number: L1927637
Report Date: 07/03/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1927637-01	RAW AIR (6/24/19)	SOIL_VAPOR	1801 FALMOUTH AVE., NEW HYDE PARK, NY	06/24/19 10:27	06/25/19
L1927637-02	MID AIR (6/24/19)	SOIL_VAPOR	1801 FALMOUTH AVE., NEW HYDE PARK, NY	06/24/19 10:30	06/25/19
L1927637-03	EFFLUENT AIR (6/24/19)	SOIL_VAPOR	1801 FALMOUTH AVE., NEW HYDE PARK, NY	06/24/19 10:35	06/25/19

Project Name:	FORMER ZOE CHEMICAL	**Lab Number:**	L1927637
Project Number:	Not Specified	**Report Date:**	07/03/19

Case Narrative

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

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

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

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

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

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

Project Name:	FORMER ZOE CHEMICAL	**Lab Number:**	L1927637
Project Number:	Not Specified	**Report Date:**	07/03/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on June 18, 2019. The canister certification results are provided as an addendum.

L1927637-01-03: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L1927637-03:The Acetone result should be considered estimated due to co-elution with a non-target compound.

The WG1255926-3 LCS recovery for bromoform (134%) is above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of this analyte.

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

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 07/03/19

AIR

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-01 D
Client ID: RAW AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY
Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 07/02/19 23:29
Analyst: TS

Date Collected: 06/24/19 10:27
Date Received: 06/25/19
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	4.00	0.500	--	19.8	2.47	--		2.5
Chloromethane	ND	0.500	--	ND	1.03	--		2.5
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.942	0.500	--	6.58	3.49	--		2.5
Vinyl chloride	ND	0.500	--	ND	1.28	--		2.5
1,3-Butadiene	ND	0.500	--	ND	1.11	--		2.5
Bromomethane	ND	0.500	--	ND	1.94	--		2.5
Chloroethane	8.75	0.500	--	23.1	1.32	--		2.5
Ethyl Alcohol	ND	12.5	--	ND	23.6	--		2.5
Vinyl bromide	ND	0.500	--	ND	2.19	--		2.5
Acetone	43.0	2.50	--	102	5.94	--		2.5
Trichlorofluoromethane	ND	0.500	--	ND	2.81	--		2.5
iso-Propyl Alcohol	1.59	1.25	--	3.91	3.07	--		2.5
1,1-Dichloroethene	1.94	0.500	--	7.69	1.98	--		2.5
tert-Butyl Alcohol	ND	1.25	--	ND	3.79	--		2.5
Methylene chloride	ND	1.25	--	ND	4.34	--		2.5
3-Chloropropene	ND	0.500	--	ND	1.57	--		2.5
Carbon disulfide	ND	0.500	--	ND	1.56	--		2.5
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.500	--	ND	3.83	--		2.5
trans-1,2-Dichloroethene	0.832	0.500	--	3.30	1.98	--		2.5
1,1-Dichloroethane	47.2	0.500	--	191	2.02	--		2.5
Methyl tert butyl ether	ND	0.500	--	ND	1.80	--		2.5
2-Butanone	3.10	1.25	--	9.14	3.69	--		2.5
cis-1,2-Dichloroethene	1.56	0.500	--	6.19	1.98	--		2.5

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-01 D
Client ID: RAW AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY
Sample Depth:

Date Collected: 06/24/19 10:27
Date Received: 06/25/19
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								
Ethyl Acetate	ND	1.25	--	ND	4.50	--		2.5
Chloroform	7.65	0.500	--	37.4	2.44	--		2.5
Tetrahydrofuran	ND	1.25	--	ND	3.69	--		2.5
1,2-Dichloroethane	ND	0.500	--	ND	2.02	--		2.5
n-Hexane	ND	0.500	--	ND	1.76	--		2.5
1,1,1-Trichloroethane	184	0.500	--	1000	2.73	--		2.5
Benzene	0.990	0.500	--	3.16	1.60	--		2.5
Carbon tetrachloride	ND	0.500	--	ND	3.15	--		2.5
Cyclohexane	0.852	0.500	--	2.93	1.72	--		2.5
1,2-Dichloropropane	ND	0.500	--	ND	2.31	--		2.5
Xylene (Total)	ND	0.500	--	ND	2.17	--		2.5
Bromodichloromethane	ND	0.500	--	ND	3.35	--		2.5
1,4-Dioxane	1.54	0.500	--	5.55	1.80	--		2.5
Trichloroethene	11.9	0.500	--	64.0	2.69	--		2.5
2,2,4-Trimethylpentane	0.930	0.500	--	4.34	2.34	--		2.5
Heptane	ND	0.500	--	ND	2.05	--		2.5
cis-1,3-Dichloropropene	ND	0.500	--	ND	2.27	--		2.5
4-Methyl-2-pentanone	ND	1.25	--	ND	5.12	--		2.5
trans-1,3-Dichloropropene	ND	0.500	--	ND	2.27	--		2.5
1,1,2-Trichloroethane	ND	0.500	--	ND	2.73	--		2.5
Toluene	1.54	0.500	--	5.80	1.88	--		2.5
1,2-Dichloroethene (total)	2.39	0.500	--	9.48	1.98	--		2.5
2-Hexanone	ND	0.500	--	ND	2.05	--		2.5
Dibromochloromethane	ND	0.500	--	ND	4.26	--		2.5
1,3-Dichloropropene, Total	ND	0.500	--	ND	2.27	--		2.5
1,2-Dibromoethane	ND	0.500	--	ND	3.84	--		2.5

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified

Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-01 D
Client ID: RAW AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY

Date Collected: 06/24/19 10:27
Date Received: 06/25/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	14.1	0.500	--	95.6	3.39	--		2.5
Chlorobenzene	ND	0.500	--	ND	2.30	--		2.5
Ethylbenzene	ND	0.500	--	ND	2.17	--		2.5
p/m-Xylene	ND	1.00	--	ND	4.34	--		2.5
Bromoform	ND	0.500	--	ND	5.17	--		2.5
Styrene	0.732	0.500	--	3.12	2.13	--		2.5
1,1,2,2-Tetrachloroethane	ND	0.500	--	ND	3.43	--		2.5
o-Xylene	ND	0.500	--	ND	2.17	--		2.5
4-Ethyltoluene	ND	0.500	--	ND	2.46	--		2.5
1,3,5-Trimethylbenzene	ND	0.500	--	ND	2.46	--		2.5
1,2,4-Trimethylbenzene	ND	0.500	--	ND	2.46	--		2.5
Benzyl chloride	ND	0.500	--	ND	2.59	--		2.5
1,3-Dichlorobenzene	ND	0.500	--	ND	3.01	--		2.5
1,4-Dichlorobenzene	ND	0.500	--	ND	3.01	--		2.5
1,2-Dichlorobenzene	ND	0.500	--	ND	3.01	--		2.5
1,2,4-Trichlorobenzene	ND	0.500	--	ND	3.71	--		2.5
Hexachlorobutadiene	ND	0.500	--	ND	5.33	--		2.5

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	102		60-140
chlorobenzene-d5	96		60-140

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-02 D
Client ID: MID AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY
Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 07/03/19 00:06
Analyst: TS

Date Collected: 06/24/19 10:30
Date Received: 06/25/19
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	3.21	0.667	--	15.9	3.30	--		3.333
Chloromethane	ND	0.667	--	ND	1.38	--		3.333
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.783	0.667	--	5.47	4.66	--		3.333
Vinyl chloride	ND	0.667	--	ND	1.71	--		3.333
1,3-Butadiene	ND	0.667	--	ND	1.48	--		3.333
Bromomethane	ND	0.667	--	ND	2.59	--		3.333
Chloroethane	7.47	0.667	--	19.7	1.76	--		3.333
Ethyl Alcohol	ND	16.7	--	ND	31.5	--		3.333
Vinyl bromide	ND	0.667	--	ND	2.92	--		3.333
Acetone	48.5	3.33	--	115	7.91	--		3.333
Trichlorofluoromethane	ND	0.667	--	ND	3.75	--		3.333
iso-Propyl Alcohol	2.26	1.67	--	5.56	4.10	--		3.333
1,1-Dichloroethene	2.54	0.667	--	10.1	2.64	--		3.333
tert-Butyl Alcohol	ND	1.67	--	ND	5.06	--		3.333
Methylene chloride	ND	1.67	--	ND	5.80	--		3.333
3-Chloropropene	ND	0.667	--	ND	2.09	--		3.333
Carbon disulfide	ND	0.667	--	ND	2.08	--		3.333
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.667	--	ND	5.11	--		3.333
trans-1,2-Dichloroethene	0.873	0.667	--	3.46	2.64	--		3.333
1,1-Dichloroethane	43.8	0.667	--	177	2.70	--		3.333
Methyl tert butyl ether	ND	0.667	--	ND	2.40	--		3.333
2-Butanone	2.18	1.67	--	6.43	4.93	--		3.333
cis-1,2-Dichloroethene	1.70	0.667	--	6.74	2.64	--		3.333

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-02 D
Client ID: MID AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY
Sample Depth:

Date Collected: 06/24/19 10:30
Date Received: 06/25/19
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								
Ethyl Acetate	ND	1.67	--	ND	6.02	--		3.333
Chloroform	7.90	0.667	--	38.6	3.26	--		3.333
Tetrahydrofuran	ND	1.67	--	ND	4.93	--		3.333
1,2-Dichloroethane	ND	0.667	--	ND	2.70	--		3.333
n-Hexane	0.686	0.667	--	2.42	2.35	--		3.333
1,1,1-Trichloroethane	243	0.667	--	1330	3.64	--		3.333
Benzene	2.47	0.667	--	7.89	2.13	--		3.333
Carbon tetrachloride	ND	0.667	--	ND	4.20	--		3.333
Cyclohexane	1.24	0.667	--	4.27	2.30	--		3.333
1,2-Dichloropropane	ND	0.667	--	ND	3.08	--		3.333
Xylene (Total)	ND	0.667	--	ND	2.90	--		3.333
Bromodichloromethane	ND	0.667	--	ND	4.47	--		3.333
1,4-Dioxane	2.42	0.667	--	8.72	2.40	--		3.333
Trichloroethene	13.0	0.667	--	69.9	3.58	--		3.333
2,2,4-Trimethylpentane	1.02	0.667	--	4.76	3.12	--		3.333
Heptane	ND	0.667	--	ND	2.73	--		3.333
cis-1,3-Dichloropropene	ND	0.667	--	ND	3.03	--		3.333
4-Methyl-2-pentanone	ND	1.67	--	ND	6.84	--		3.333
trans-1,3-Dichloropropene	ND	0.667	--	ND	3.03	--		3.333
1,1,2-Trichloroethane	ND	0.667	--	ND	3.64	--		3.333
Toluene	ND	0.667	--	ND	2.51	--		3.333
1,2-Dichloroethene (total)	2.57	0.667	--	10.2	2.64	--		3.333
2-Hexanone	ND	0.667	--	ND	2.73	--		3.333
Dibromochloromethane	ND	0.667	--	ND	5.68	--		3.333
1,3-Dichloropropene, Total	ND	0.667	--	ND	3.03	--		3.333
1,2-Dibromoethane	ND	0.667	--	ND	5.13	--		3.333

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-02 D
Client ID: MID AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY
Sample Depth:

Date Collected: 06/24/19 10:30
Date Received: 06/25/19
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								
Tetrachloroethene	5.77	0.667	--	39.1	4.52	--		3.333
Chlorobenzene	ND	0.667	--	ND	3.07	--		3.333
Ethylbenzene	ND	0.667	--	ND	2.90	--		3.333
p/m-Xylene	ND	1.33	--	ND	5.78	--		3.333
Bromoform	ND	0.667	--	ND	6.90	--		3.333
Styrene	ND	0.667	--	ND	2.84	--		3.333
1,1,2,2-Tetrachloroethane	ND	0.667	--	ND	4.58	--		3.333
o-Xylene	ND	0.667	--	ND	2.90	--		3.333
4-Ethyltoluene	ND	0.667	--	ND	3.28	--		3.333
1,3,5-Trimethylbenzene	ND	0.667	--	ND	3.28	--		3.333
1,2,4-Trimethylbenzene	ND	0.667	--	ND	3.28	--		3.333
Benzyl chloride	ND	0.667	--	ND	3.45	--		3.333
1,3-Dichlorobenzene	ND	0.667	--	ND	4.01	--		3.333
1,4-Dichlorobenzene	ND	0.667	--	ND	4.01	--		3.333
1,2-Dichlorobenzene	ND	0.667	--	ND	4.01	--		3.333
1,2,4-Trichlorobenzene	ND	0.667	--	ND	4.95	--		3.333
Hexachlorobutadiene	ND	0.667	--	ND	7.11	--		3.333

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

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-03 D
Client ID: EFFLUENT AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY
Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 07/03/19 00:45
Analyst: TS

Date Collected: 06/24/19 10:35
Date Received: 06/25/19
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	3.68	0.333	--	18.2	1.65	--		1.667
Chloromethane	ND	0.333	--	ND	0.688	--		1.667
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.832	0.333	--	5.82	2.33	--		1.667
Vinyl chloride	0.345	0.333	--	0.882	0.851	--		1.667
1,3-Butadiene	ND	0.333	--	ND	0.737	--		1.667
Bromomethane	ND	0.333	--	ND	1.29	--		1.667
Chloroethane	7.30	0.333	--	19.3	0.879	--		1.667
Ethyl Alcohol	12.6	8.34	--	23.7	15.7	--		1.667
Vinyl bromide	ND	0.333	--	ND	1.46	--		1.667
Acetone	13.0	1.67	--	30.9	3.97	--		1.667
Trichlorofluoromethane	0.487	0.333	--	2.74	1.87	--		1.667
iso-Propyl Alcohol	2.62	0.834	--	6.44	2.05	--		1.667
1,1-Dichloroethene	4.17	0.333	--	16.5	1.32	--		1.667
tert-Butyl Alcohol	1.51	0.834	--	4.58	2.53	--		1.667
Methylene chloride	ND	0.834	--	ND	2.90	--		1.667
3-Chloropropene	ND	0.333	--	ND	1.04	--		1.667
Carbon disulfide	0.660	0.333	--	2.06	1.04	--		1.667
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.333	--	ND	2.55	--		1.667
trans-1,2-Dichloroethene	1.02	0.333	--	4.04	1.32	--		1.667
1,1-Dichloroethane	59.4	0.333	--	240	1.35	--		1.667
Methyl tert butyl ether	ND	0.333	--	ND	1.20	--		1.667
2-Butanone	ND	0.834	--	ND	2.46	--		1.667
cis-1,2-Dichloroethene	2.03	0.333	--	8.05	1.32	--		1.667

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-03 D
Client ID: EFFLUENT AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY
Sample Depth:

Date Collected: 06/24/19 10:35
Date Received: 06/25/19
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								
Ethyl Acetate	ND	0.834	--	ND	3.01	--		1.667
Chloroform	9.63	0.333	--	47.0	1.63	--		1.667
Tetrahydrofuran	1.31	0.834	--	3.86	2.46	--		1.667
1,2-Dichloroethane	ND	0.333	--	ND	1.35	--		1.667
n-Hexane	ND	0.333	--	ND	1.17	--		1.667
1,1,1-Trichloroethane	100	0.333	--	546	1.82	--		1.667
Benzene	1.04	0.333	--	3.32	1.06	--		1.667
Carbon tetrachloride	ND	0.333	--	ND	2.09	--		1.667
Cyclohexane	ND	0.333	--	ND	1.15	--		1.667
1,2-Dichloropropane	ND	0.333	--	ND	1.54	--		1.667
Xylene (Total)	ND	0.333	--	ND	1.45	--		1.667
Bromodichloromethane	ND	0.333	--	ND	2.23	--		1.667
1,4-Dioxane	ND	0.333	--	ND	1.20	--		1.667
Trichloroethene	ND	0.333	--	ND	1.79	--		1.667
2,2,4-Trimethylpentane	ND	0.333	--	ND	1.56	--		1.667
Heptane	ND	0.333	--	ND	1.36	--		1.667
cis-1,3-Dichloropropene	ND	0.333	--	ND	1.51	--		1.667
4-Methyl-2-pentanone	ND	0.834	--	ND	3.42	--		1.667
trans-1,3-Dichloropropene	ND	0.333	--	ND	1.51	--		1.667
1,1,2-Trichloroethane	ND	0.333	--	ND	1.82	--		1.667
Toluene	0.475	0.333	--	1.79	1.25	--		1.667
1,2-Dichloroethene (total)	3.04	0.333	--	12.1	1.32	--		1.667
2-Hexanone	ND	0.333	--	ND	1.36	--		1.667
Dibromochloromethane	ND	0.333	--	ND	2.84	--		1.667
1,3-Dichloropropene, Total	ND	0.333	--	ND	1.51	--		1.667
1,2-Dibromoethane	ND	0.333	--	ND	2.56	--		1.667

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

SAMPLE RESULTS

Lab ID: L1927637-03 D
Client ID: EFFLUENT AIR (6/24/19)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE PARK, NY
Sample Depth:

Date Collected: 06/24/19 10:35
Date Received: 06/25/19
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	0.533	0.333	--	3.61	2.26	--		1.667
Chlorobenzene	ND	0.333	--	ND	1.53	--		1.667
Ethylbenzene	ND	0.333	--	ND	1.45	--		1.667
p/m-Xylene	ND	0.667	--	ND	2.90	--		1.667
Bromoform	ND	0.333	--	ND	3.44	--		1.667
Styrene	ND	0.333	--	ND	1.42	--		1.667
1,1,2,2-Tetrachloroethane	ND	0.333	--	ND	2.29	--		1.667
o-Xylene	ND	0.333	--	ND	1.45	--		1.667
4-Ethyltoluene	ND	0.333	--	ND	1.64	--		1.667
1,3,5-Trimethylbenzene	ND	0.333	--	ND	1.64	--		1.667
1,2,4-Trimethylbenzene	ND	0.333	--	ND	1.64	--		1.667
Benzyl chloride	ND	0.333	--	ND	1.72	--		1.667
1,3-Dichlorobenzene	ND	0.333	--	ND	2.00	--		1.667
1,4-Dichlorobenzene	ND	0.333	--	ND	2.00	--		1.667
1,2-Dichlorobenzene	ND	0.333	--	ND	2.00	--		1.667
1,2,4-Trichlorobenzene	ND	0.333	--	ND	2.47	--		1.667
Hexachlorobutadiene	ND	0.333	--	ND	3.55	--		1.667

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	99		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	94		60-140

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 07/02/19 15:32

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: WG1255926-4								
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: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 07/02/19 15:32

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: WG1255926-4								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylene (Total)	ND	0.200	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Isopropyl Ether	ND	0.200	--	ND	0.836	--		1
Ethyl-Tert-Butyl-Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 07/02/19 15:32

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: WG1255926-4								
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Tertiary-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl Acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 07/02/19 15:32

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: WG1255926-4								
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane (C9)	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
o-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
p-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane (C10)	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified
Lab Number: L1927637
Report Date: 07/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 07/02/19 15:32

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: WG1255926-4								
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane (C12)	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ZOE CHEMICAL

Project Number: Not Specified

Lab Number: L1927637

Report Date: 07/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1255926-3								
Chlorodifluoromethane	87		-		70-130	-		
Propylene	110		-		70-130	-		
Propane	94		-		70-130	-		
Dichlorodifluoromethane	96		-		70-130	-		
Chloromethane	97		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	98		-		70-130	-		
Methanol	97		-		70-130	-		
Vinyl chloride	95		-		70-130	-		
1,3-Butadiene	99		-		70-130	-		
Butane	97		-		70-130	-		
Bromomethane	95		-		70-130	-		
Chloroethane	92		-		70-130	-		
Ethyl Alcohol	88		-		40-160	-		
Dichlorofluoromethane	90		-		70-130	-		
Vinyl bromide	97		-		70-130	-		
Acrolein	87		-		70-130	-		
Acetone	77		-		40-160	-		
Acetonitrile	90		-		70-130	-		
Trichlorofluoromethane	94		-		70-130	-		
iso-Propyl Alcohol	87		-		40-160	-		
Acrylonitrile	93		-		70-130	-		
Pentane	91		-		70-130	-		
Ethyl ether	89		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ZOE CHEMICAL

Project Number: Not Specified

Lab Number: L1927637

Report Date: 07/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1255926-3								
1,1-Dichloroethene	95		-		70-130	-		
tert-Butyl Alcohol	89		-		70-130	-		
Methylene chloride	102		-		70-130	-		
3-Chloropropene	104		-		70-130	-		
Carbon disulfide	100		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	101		-		70-130	-		
trans-1,2-Dichloroethene	93		-		70-130	-		
1,1-Dichloroethane	96		-		70-130	-		
Methyl tert butyl ether	98		-		70-130	-		
Vinyl acetate	102		-		70-130	-		
2-Butanone	101		-		70-130	-		
cis-1,2-Dichloroethene	99		-		70-130	-		
Ethyl Acetate	104		-		70-130	-		
Chloroform	100		-		70-130	-		
Tetrahydrofuran	102		-		70-130	-		
2,2-Dichloropropane	91		-		70-130	-		
1,2-Dichloroethane	89		-		70-130	-		
n-Hexane	96		-		70-130	-		
Isopropyl Ether	90		-		70-130	-		
Ethyl-Tert-Butyl-Ether	88		-		70-130	-		
1,2-Dichloroethene (total)	96		-			-		
1,2-Dichloroethene (total)	96		-			-		
1,1,1-Trichloroethane	101		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ZOE CHEMICAL

Project Number: Not Specified

Lab Number: L1927637

Report Date: 07/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1255926-3								
1,1-Dichloropropene	96		-		70-130	-		
Benzene	98		-		70-130	-		
Carbon tetrachloride	112		-		70-130	-		
Cyclohexane	97		-		70-130	-		
Tertiary-Amyl Methyl Ether	91		-		70-130	-		
Dibromomethane	94		-		70-130	-		
1,2-Dichloropropane	100		-		70-130	-		
Bromodichloromethane	106		-		70-130	-		
1,4-Dioxane	96		-		70-130	-		
Trichloroethene	100		-		70-130	-		
2,2,4-Trimethylpentane	97		-		70-130	-		
Methyl Methacrylate	72		-		40-160	-		
Heptane	101		-		70-130	-		
cis-1,3-Dichloropropene	112		-		70-130	-		
4-Methyl-2-pentanone	104		-		70-130	-		
trans-1,3-Dichloropropene	95		-		70-130	-		
1,1,2-Trichloroethane	105		-		70-130	-		
Toluene	102		-		70-130	-		
1,3-Dichloropropane	99		-		70-130	-		
2-Hexanone	109		-		70-130	-		
Dibromochloromethane	124		-		70-130	-		
1,2-Dibromoethane	112		-		70-130	-		
Butyl Acetate	101		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ZOE CHEMICAL

Project Number: Not Specified

Lab Number: L1927637

Report Date: 07/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1255926-3								
Octane	95		-		70-130	-		
Tetrachloroethene	109		-		70-130	-		
1,1,1,2-Tetrachloroethane	108		-		70-130	-		
Chlorobenzene	108		-		70-130	-		
Ethylbenzene	105		-		70-130	-		
p/m-Xylene	104		-		70-130	-		
Bromoform	**134**	Q	-		70-130	-		
Styrene	108		-		70-130	-		
1,1,2,2-Tetrachloroethane	117		-		70-130	-		
o-Xylene	105		-		70-130	-		
1,2,3-Trichloropropane	103		-		70-130	-		
Nonane (C9)	100		-		70-130	-		
Isopropylbenzene	106		-		70-130	-		
Bromobenzene	101		-		70-130	-		
o-Chlorotoluene	98		-		70-130	-		
n-Propylbenzene	100		-		70-130	-		
p-Chlorotoluene	99		-		70-130	-		
4-Ethyltoluene	111		-		70-130	-		
1,3,5-Trimethylbenzene	122		-		70-130	-		
tert-Butylbenzene	104		-		70-130	-		
1,2,4-Trimethylbenzene	114		-		70-130	-		
Decane (C10)	100		-		70-130	-		
Benzyl chloride	125		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified

Lab Number: L1927637
Report Date: 07/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1255926-3								
1,3-Dichlorobenzene	118		-		70-130	-		
1,4-Dichlorobenzene	115		-		70-130	-		
sec-Butylbenzene	106		-		70-130	-		
p-Isopropyltoluene	96		-		70-130	-		
1,2-Dichlorobenzene	118		-		70-130	-		
n-Butylbenzene	108		-		70-130	-		
1,2-Dibromo-3-chloropropane	111		-		70-130	-		
Undecane	111		-		70-130	-		
Dodecane (C12)	116		-		70-130	-		
1,2,4-Trichlorobenzene	119		-		70-130	-		
Naphthalene	99		-		70-130	-		
1,2,3-Trichlorobenzene	118		-		70-130	-		
Hexachlorobutadiene	130		-		70-130	-		

Project Name: FORMER ZOE CHEMICAL

Lab Number: L1927637

Project Number:

Report Date: 07/03/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1927637-01	RAW AIR (6/24/19)	2852	2.7L Can	06/18/19	294736	L1924593-02	Pass	-29.2	-2.7	-	-	-	-
L1927637-02	MID AIR (6/24/19)	185	2.7L Can	06/18/19	294736	L1924593-02	Pass	-29.3	-1.3	-	-	-	-
L1927637-03	EFFLUENT AIR (6/24/19)	2686	2.7L Can	06/18/19	294736	L1924593-02	Pass	-29.3	-1.2	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1924593
Report Date: 07/03/19

Air Canister Certification Results

Lab ID: L1924593-02
Client ID: CAN 412 SHELF 19
Sample Location:

Date Collected: 06/07/19 18:00
Date Received: 06/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 06/10/19 19:30
Analyst: JT

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1924593
Report Date: 07/03/19

Air Canister Certification Results

Lab ID: L1924593-02
Client ID: CAN 412 SHELF 19
Sample Location:

Date Collected: 06/07/19 18:00
Date Received: 06/10/19
Field Prep: Not Specified

Sample Depth:

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

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

Lab Number: L1924593
Report Date: 07/03/19

Air Canister Certification Results

Lab ID: L1924593-02
Client ID: CAN 412 SHELF 19
Sample Location:

Date Collected: 06/07/19 18:00
Date Received: 06/10/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1924593
Report Date: 07/03/19

Air Canister Certification Results

Lab ID: L1924593-02
Client ID: CAN 412 SHELF 19
Sample Location:

Date Collected: 06/07/19 18:00
Date Received: 06/10/19
Field Prep: Not Specified

Sample Depth:

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

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

Lab Number: L1924593
Report Date: 07/03/19

Air Canister Certification Results

Lab ID: L1924593-02
Client ID: CAN 412 SHELF 19
Sample Location:

Date Collected: 06/07/19 18:00
Date Received: 06/10/19
Field Prep: Not Specified

Sample Depth:

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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	102		60-140
chlorobenzene-d5	98		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1924593
Report Date: 07/03/19

Air Canister Certification Results

Lab ID: L1924593-02
Client ID: CAN 412 SHELF 19
Sample Location:

Date Collected: 06/07/19 18:00
Date Received: 06/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/10/19 19:30
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1924593
Report Date: 07/03/19

Air Canister Certification Results

Lab ID: L1924593-02
Client ID: CAN 412 SHELF 19
Sample Location:

Date Collected: 06/07/19 18:00
Date Received: 06/10/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1924593
Report Date: 07/03/19

Air Canister Certification Results

Lab ID: L1924593-02
Client ID: CAN 412 SHELF 19
Sample Location:

Date Collected: 06/07/19 18:00
Date Received: 06/10/19
Field Prep: Not Specified

Sample Depth:

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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	100		60-140
bromochloromethane	104		60-140
chlorobenzene-d5	93		60-140

Project Name: FORMER ZOE CHEMICAL
Project Number: Not Specified

Lab Number: L1927637
Report Date: 07/03/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1927637-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L1927637-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L1927637-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	FORMER ZOE CHEMICAL	**Lab Number:**	L1927637
Project Number:	Not Specified	**Report Date:**	07/03/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	FORMER ZOE CHEMICAL	**Lab Number:**	L1927637
Project Number:	Not Specified	**Report Date:**	07/03/19

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

Terms

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

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

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

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

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

REFERENCES

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

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

Date Rec'd in Lab: 6/26/19

ALPHA Job #: L1927637

Client Information

Client: Ca Rich Consultants
Address: 17 DuPont Street Plainview NY 11803
Phone: 516-576-8841
Fax:
Email: JProscia@CarichInc.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Zoe Chemical
Project Location: 1801 Falmouth Ave New Hyde Park, NY
Project #:
Project Manager: Jessica Proscia
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: ☐

All Columns Below Must Be Filled Out

ANALYSIS

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	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (subset Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
927637-01	Raw Air (6/24/19)	6/24/19	10:27	10:27	-21	5	SV	JP	2.7	2852	NA	✓					
-02	Mid Air (6/24/19)	6/24/19	10:30	10:30	-29	5	SV	JP	2.7	185	NA	✓					
-03	Effluent Air (6/24/19)	6/24/19	10:35	10:35	-29	5	SV	JP	2.7	2685	NA	✓					

*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:
Jessica Proscia - AA	6/25/19 15:47	[illegible] - AA	6/25/19 10:11
			6/26/19 09:02

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.

Form No: 101-02 Rev: (25-Sep-15)