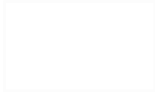


ISTR Operations Monthly Progress Report

Reporting Period: **February 2021**



**Operable Unit 3 VOC Source Area Remedy
Former Grumman Settling Ponds, Bethpage, NY**

NYSDEC Site No. 130003A

April 2, 2021

In-Situ Thermal Remediation (ISTR) Operations Monthly Progress Report

Prepared per Section 8.2 of the OU3 Remedial Action Work Plan (RAWP) and DER-10, Section 5.7(b):

1. Remedy Progress / Performance Monitoring
2. Ambient Air
3. Significant Activities
4. Schedule / Proposed Modifications
5. Pending RAWP Modifications
6. Data Tables

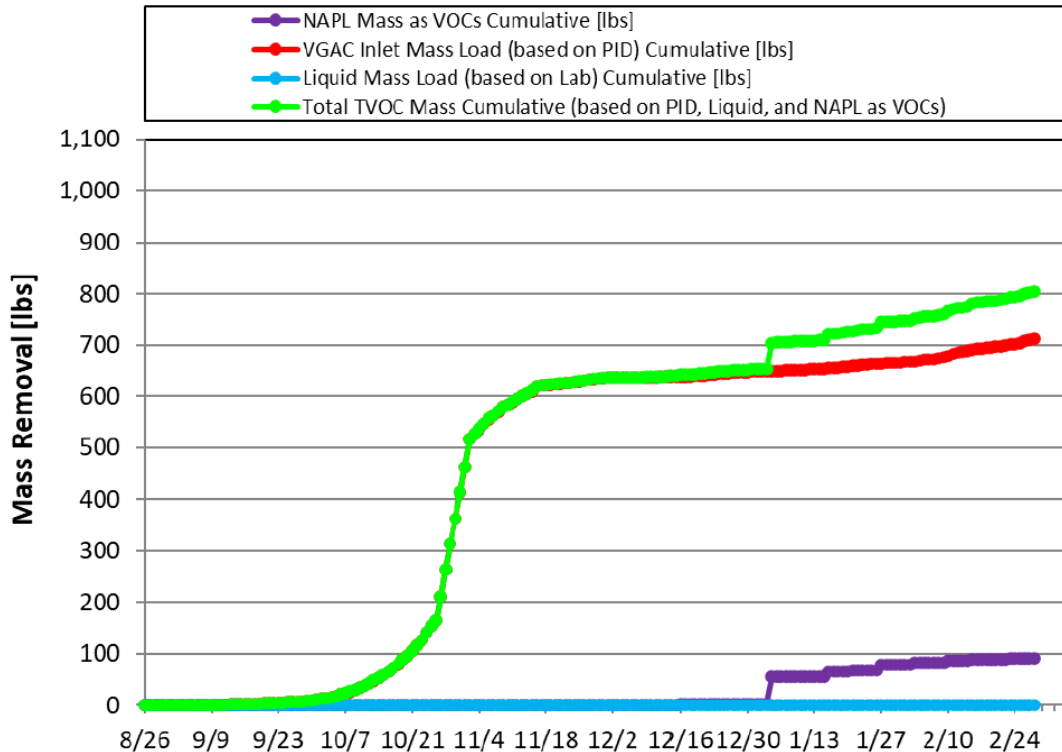
ISTR Operations Summary

- Air emissions comply with effluent concentration limits specified in the RAWP
- No exceedances of NYSDEC Community Air Monitoring Plan (CAMP) PID action levels
- No validated ambient air monitoring results above target screening levels
- Liquid discharges comply with criteria specified in the RAWP

Reporting Period: February 2021

System Startup	8/26/2020
Days of Operation Since Startup	186
Estimated cumulative TVOC Mass Removed, lbs	804

Cumulative TVOC Mass Removed

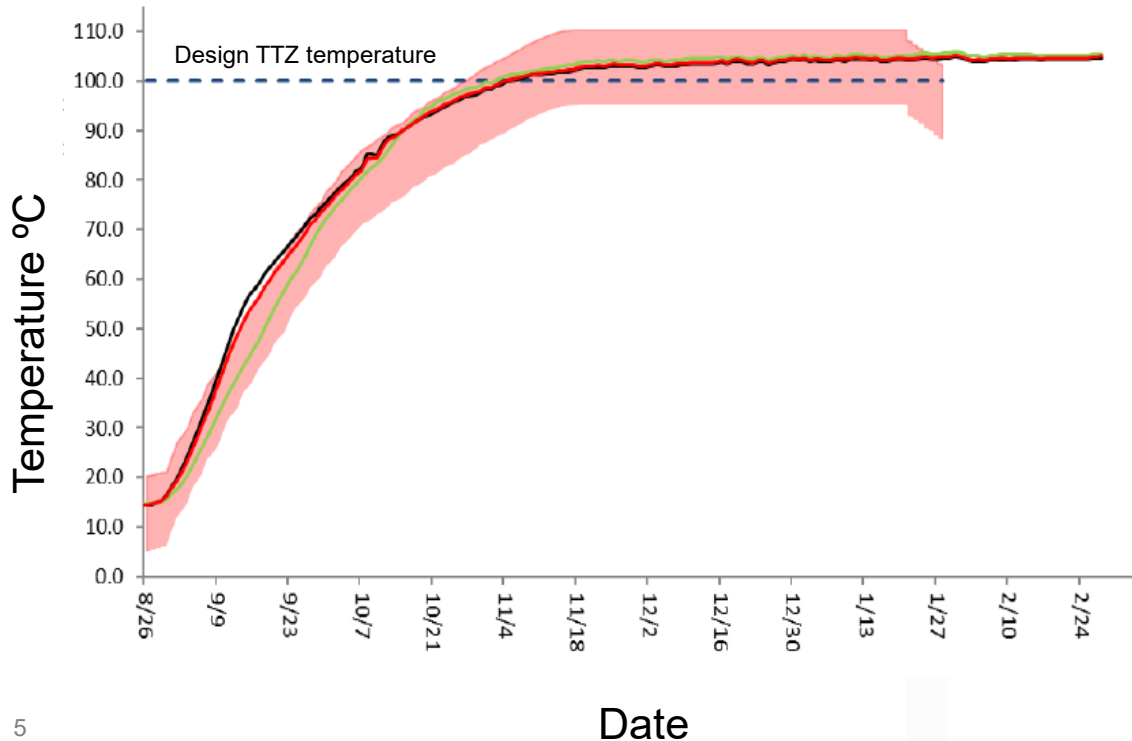


Estimated 804 lbs of total volatile organic compounds (TVOCs) removed through 2/28

Cumulative TVOC mass is the sum of the following:

- Photoionization detector (PID) TVOC vapor mass
- Liquid TVOC mass
- Condensed non-aqueous phase liquid (NAPL) TVOC mass (estimated NAPL accumulated through 2/28 is included)

Cumulative Temperature Progression



Target treatment zone (TTZ) design temperature is 100°C

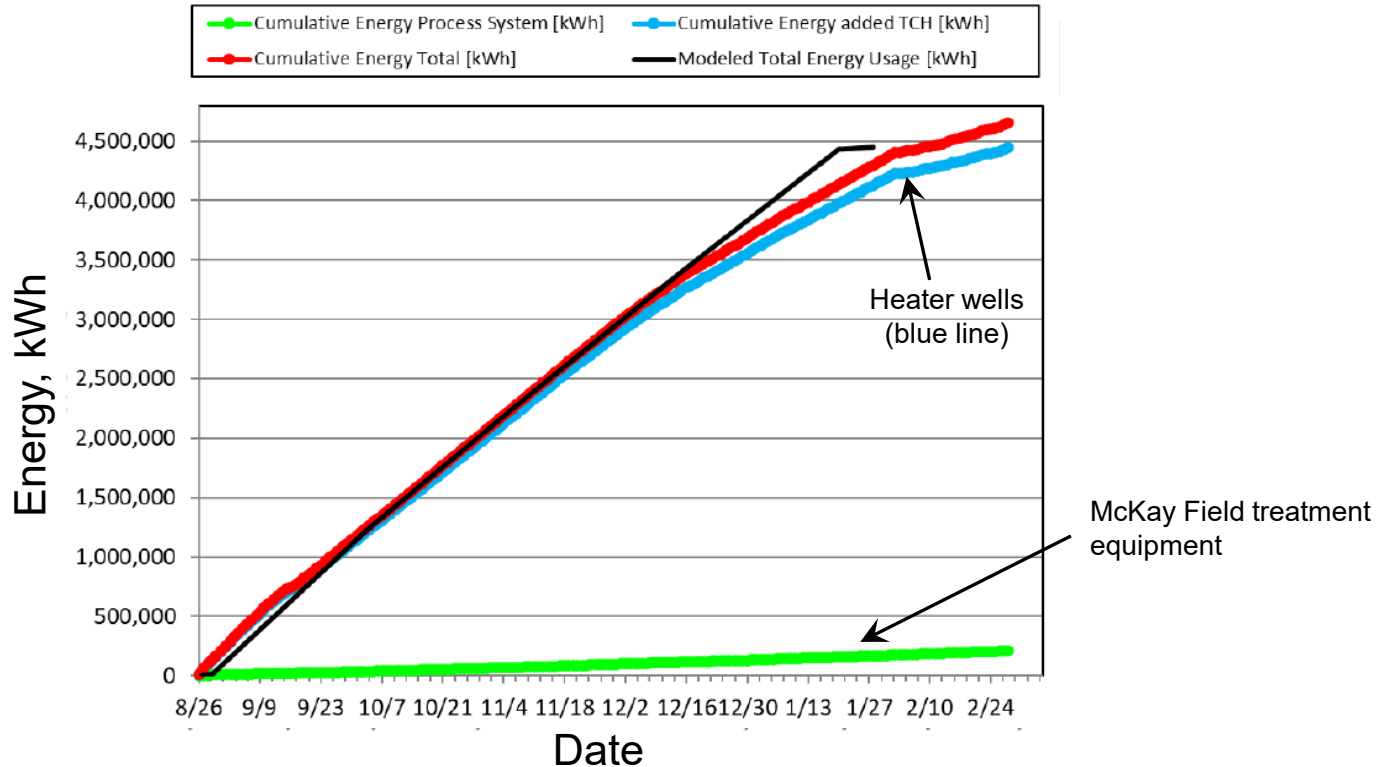
Days of treatment at 100°C through February 28:

- Area 1 = 116 days
- Area 2 = 118 days

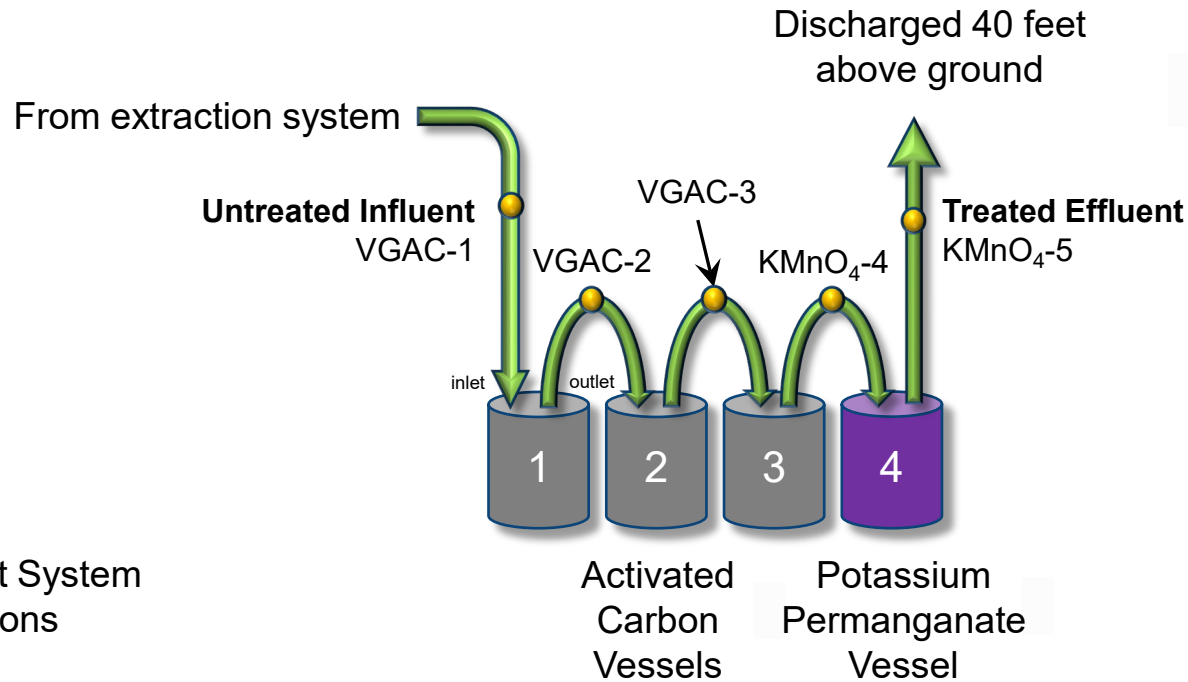
Remedy Progress / Performance Monitoring

February 2021

Energy Use



Vapor Treatment System



- Vapor Treatment System Sampling Locations

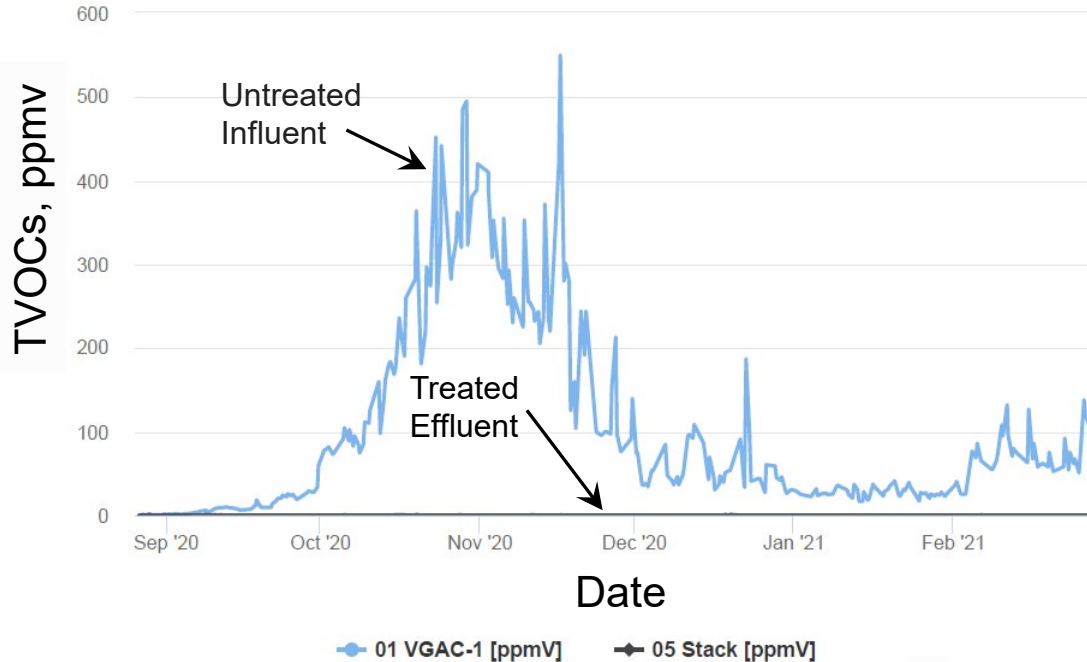
Vapor Treatment System

Air emissions meet treatment criteria in the RAWP:

- Stack concentrations less than 7.6 mg/m³ for TCE and 1.9 mg/m³ design limits for vinyl chloride throughout February.
- TCE and vinyl chloride concentrations in ambient air samples collected in February were all below target screening levels.

Vapor treatment system analytical results for February provided in Table 1

Vapor Treatment System (PID)



TVOC concentrations (PID) on February 27:

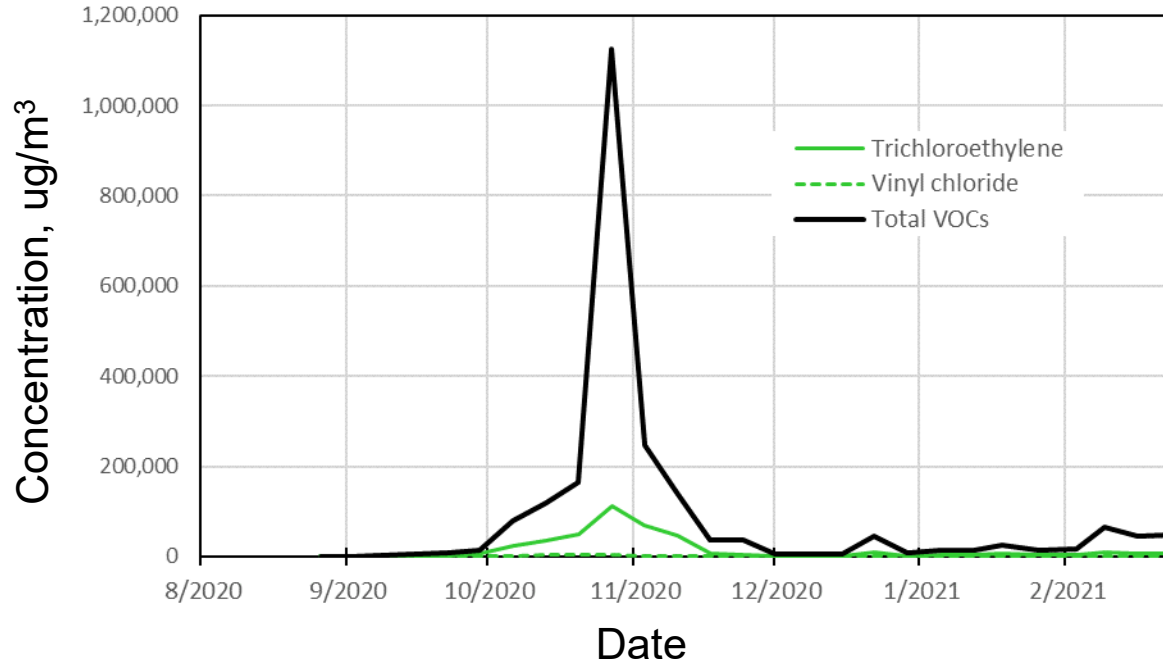
- Influent = 107. ppmv
- Effluent = 0.0 ppmv

Maximum TVOC concentrations (PID) during reporting period:

- Influent = 138 ppmv
- Effluent = max 0.4 ppmv

Vapor Treatment System Influent

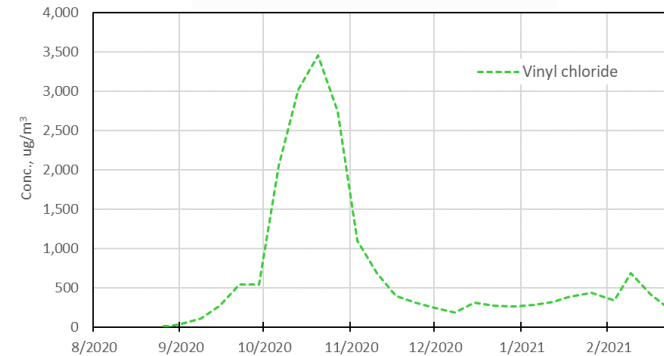
VGAC-1 (System Influent - Position 1)



Influent concentrations (Summa) on 2/23:

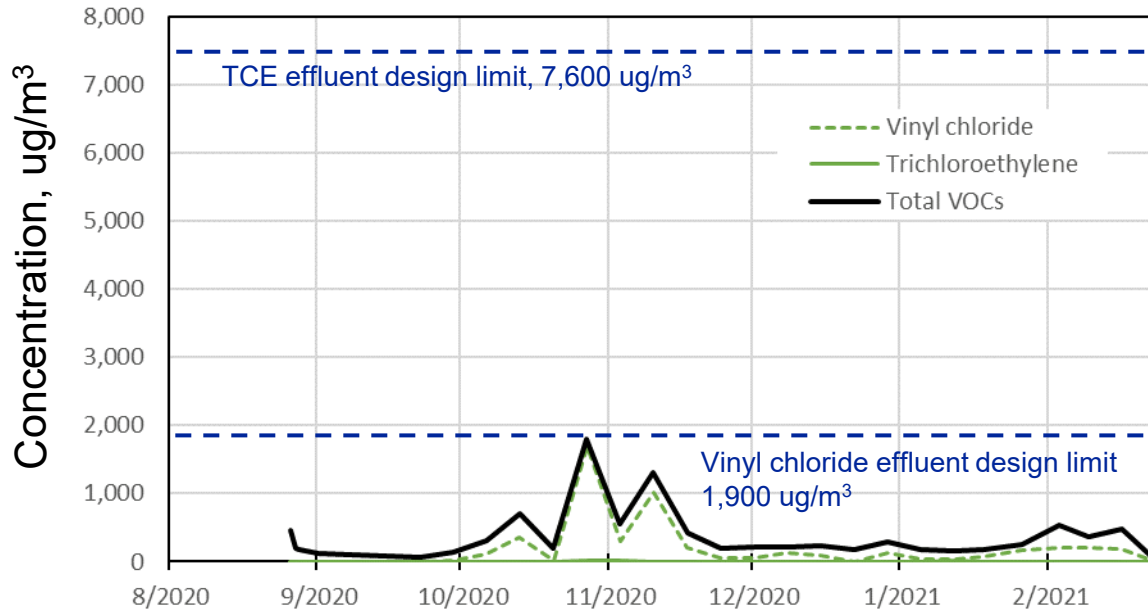
- TVOCs = 48,702 $\mu\text{g}/\text{m}^3$
- TCE = 7,090 $\mu\text{g}/\text{m}^3$
- Vinyl chloride = 228 $\mu\text{g}/\text{m}^3$

Vinyl chloride



Vapor Treatment System Effluent

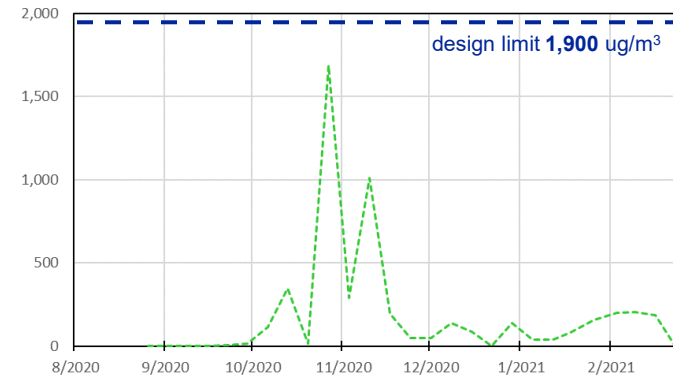
KMNO4-5 (System Effluent - Position 5)



Effluent concentrations (Summa) on 2/23:

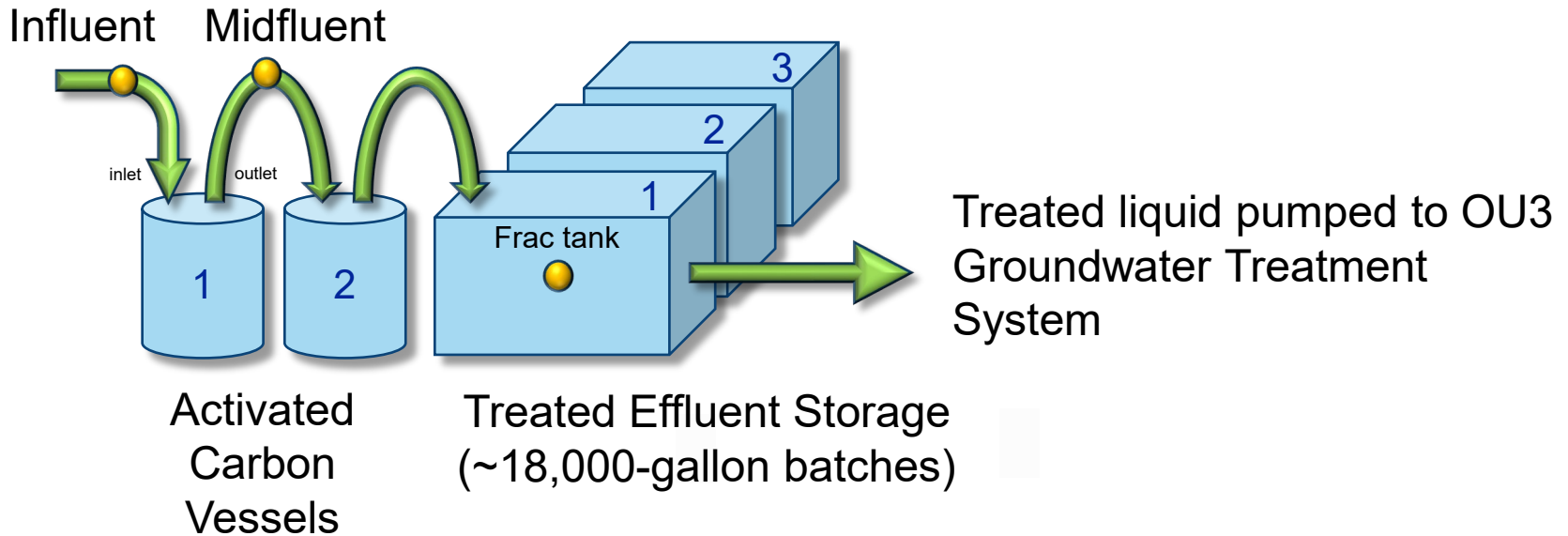
- TVOCs = 31 ug/m³
- TCE = 0 ug/m³
- Vinyl chloride = 0.97ug/m³

Vinyl chloride

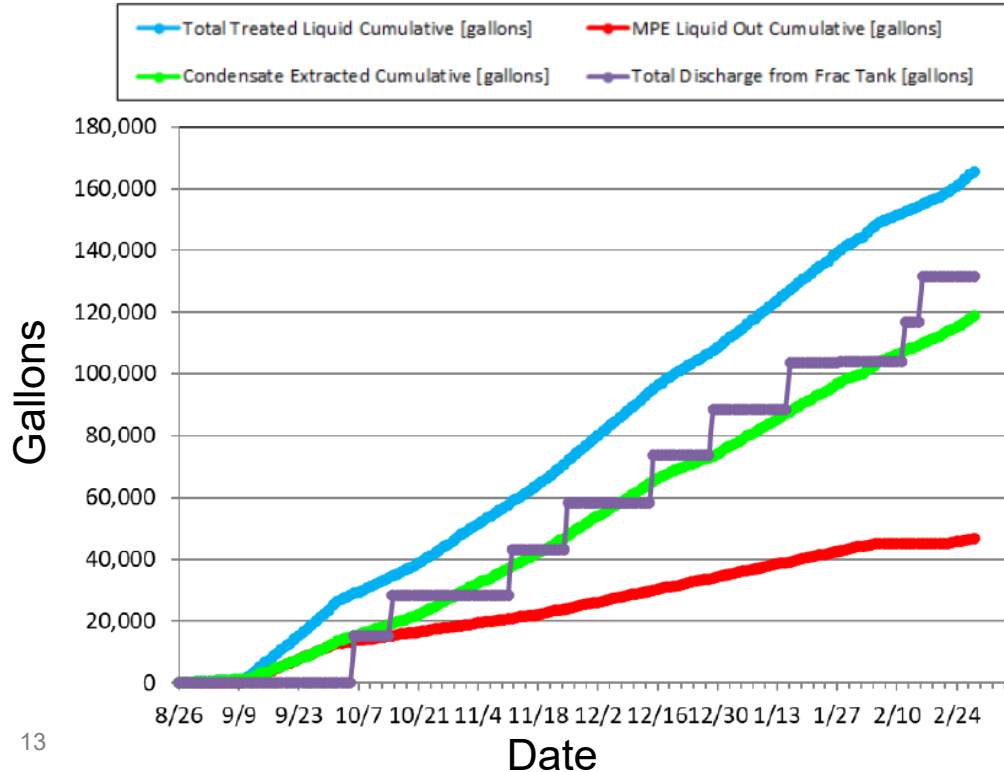


Liquid Treatment System

● Liquid Treatment System Sampling Locations



Cumulative Liquid Produced



131,430 gallons treated water discharged to OU3 groundwater treatment system

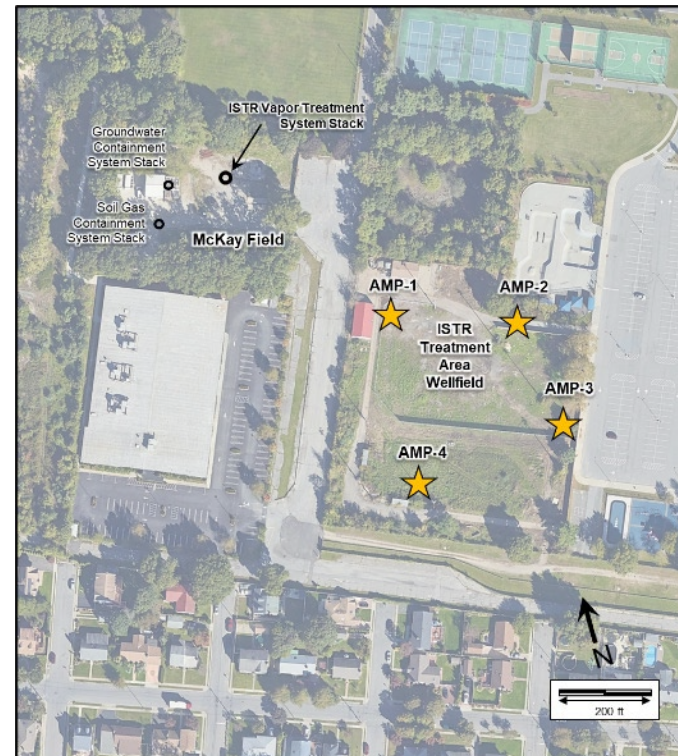
- Frac tank 3 - sampled 2/3, discharge 2/12
- Frac tank 1 - sampled 2/9, discharge 2/16

Liquid treatment system analytical results for February provided in Table 2

Ambient Air PID Monitoring

PID levels comply with Community Air Monitoring Plan (CAMP) criteria in the RAWP:

- PID readings recorded continuously at locations AMP-1 through 4
- Results emailed daily to the State and Town of Oyster Bay (Monday through Saturday)
- PID monitoring results did not exceed NYSDEC's CAMP action level (5 ppm TVOCs for a 15-minute average)

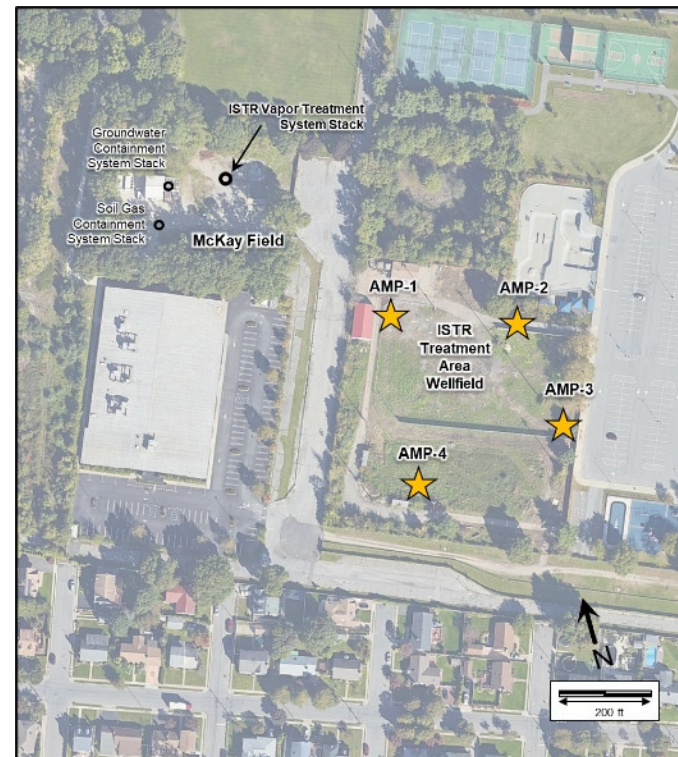


Ambient Air Summa Canister Monitoring

Summa canister levels comply with ambient air criteria in the RAWP:

- Summa canister samples collected 2/3, 2/9, 2/16, and 2/23
- Unvalidated results emailed to the State and Town of Oyster Bay
- Summa canister validated results for compounds of interest (COIs) lower than target screening levels in the CAMP
- Summa canister validated results for non-COIs also lower than target screening levels calculated using CAMP-specified protocol

Ambient air analytical results for February provided in Table 3 (results for samples collected on 1/27 also provided)



Significant Activities

Major equipment repairs and significant downtime:

- Onsite chiller unit failure on 2/6. Repaired and back online 2/8.
- Above ground portion of Heater H-145 damaged by drill rig and taken offline (2/25). Remained offline for rest of reporting period.
- Heater wells and vapor extraction wells shut down during working hours while drilling confirmation sample borings 2/3 – 2/25.

Other significant Activities: None

Planned Significant Activities During Next Two Months

Continue routine system operations, monitoring, and maintenance

Continue confirmation sampling (as needed)

Complete installation of new VEW well screens in select boring locations

Schedule

Activity	RAWP Schedule	Current Status
Remedial System Operation	Q3/20 – Q1/21	On schedule
Post-Treatment Confirmation Sampling	Q1/21	On schedule
Remedy Cool-down	Q1/21-Q2-21	On schedule
Equipment Removal & Site Restoration	Q2/21	On schedule

No significant delays or corrective actions required

No schedule modifications anticipated

Pending RAWP Modifications

None

**Table 1. Vapor Treatment System Air Sampling Results
Routine Monitoring - February 2021**

Compound (ug/m ³)	Sample ID:	VGAC-1	VGAC-3	KMNO4-5	Percent Removed
	Lab Sample ID: Date Sampled:	JD19891-1 2/3/2021	JD19891-2 2/3/2020	JD19891-3 2/3/2020	
1,1,1-Trichloroethane		< 7.1	< 0.71	< 0.71	
1,1-Dichloroethane		19 J	< 0.19	< 0.19	
1,1-Dichloroethylene		94.4	< 0.27	< 0.27	
1,2,4-Trimethylbenzene		< 6.4	< 0.64	< 0.64	
1,2-Dibromoethane		< 5.5	< 0.55	< 0.55	
1,3,5-Trimethylbenzene		< 6.4	< 0.64	< 0.64	
1,4-Dioxane*		< 7.6	< 0.76	< 0.76	
2,2,4-Trimethylpentane		125	< 0.41	< 0.41	
2-Hexanone		< 6.1	< 0.61	< 0.61	
4-Ethyltoluene		< 5.9	< 0.59	< 0.59	
Acetone*		1,340	10	19	
Benzene		82.4	< 0.15	41.2	
Bromoform		< 16	< 1.6	< 1.6	
Carbon disulfide		37.1	< 0.29	< 0.29	
Carbon tetrachloride		< 5.9	< 0.59	< 0.59	
Chloroethane		< 5.0	2.3	1.2 J	
Chloroform		< 3.9	< 0.39	< 0.39	
Chloromethane*		27.9	28.1	27.3	
cis-1,2-Dichloroethylene		5,350	12	2.1 J	
Cyclohexane		78.5	< 0.30	< 0.30	
Dichlorodifluoromethane		< 3.3	2.0 J	2.0 J	
Ethanol		106	161	38.1	
Ethyl acetate		< 5.4	2.6 J	10	
Ethylbenzene		23 J	< 0.26	13	
Heptane		250	< 0.29	< 0.29	
Hexane		35	< 0.15	2.1 J	
Isopropyl alcohol*		28.8	2.1	9.6	
m,p-Xylene		57.8	4.3	25	
m-Dichlorobenzene		< 4.6	< 0.46	< 0.46	
Methyl ethyl ketone		206	< 0.50	1.1 J	
Methyl isobutyl ketone		< 5.7	< 0.57	< 0.57	
Methylene chloride*		< 2.0	< 0.20	< 0.20	
o-Dichlorobenzene		26 J	< 0.52	< 0.52	
o-Xylene		22 J	< 0.30	6.5	
Propylene*		320	309	101	
Styrene		< 3.2	< 0.32	< 0.32	
Tertiary butyl alcohol		14 J	< 0.17	1.3 J	
Tetrachloroethylene		< 8.1	< 0.81	< 0.81	
Tetrahydrofuran		< 5.9	< 0.59	< 0.59	
Toluene		1,930	12	18	
trans-1,2-Dichloroethylene		287	< 0.11	< 0.11	
Trichloroethylene		4,590	13	5.1	99.9%
Trichlorofluoromethane		< 6.2	< 0.62	< 0.62	
Vinyl acetate		< 4.9	< 0.49	< 0.49	
Vinyl chloride*		337	550	202	
Xylenes (total)		79.5	4.3	31	
TVOCs		15,387	1108	525	

Footnotes:

ug/mg³ micrograms per cubic meter

* Compound is poorly adsorbed by activated carbon.

< Compound was not detected at or above the indicated value.

J Detected concentration is less than the quantitation limit.

TVOCs total volatile organic compounds

Detections are highlighted.

**Table 1. Vapor Treatment System Air Sampling Results
Routine Monitoring - February 2021**

Compound (ug/m ³)	Sample ID:	VGAC-1	VGAC-3	KMNO4-5	Percent Removed
	Lab Sample ID: Date Sampled:	JD20199-1 2/9/2021	JD20199-2 2/9/2021	JD20199-3 2/9/2021	
1,1,1-Trichloroethane		< 48	< 1.5	< 0.71	
1,1-Dichloroethane		< 13	< 0.38	< 0.19	
1,1-Dichloroethylene		132 J	< 0.52	< 0.27	
1,2,4-Trimethylbenzene		< 43	< 1.3	< 0.64	
1,2-Dibromoethane		< 36	< 1.1	< 0.55	
1,3,5-Trimethylbenzene		< 44	< 1.3	< 0.64	
1,4-Dioxane*		< 50	< 1.5	< 0.76	
2,2,4-Trimethylpentane		343	< 0.79	< 0.41	
2-Hexanone		< 40	< 1.2	< 0.61	
4-Ethyltoluene		< 39	< 1.2	< 0.59	
Acetone*		1,460	8.1	18	
Benzene		103 J	< 0.30	< 0.15	
Bromoform		< 100	< 3.1	< 1.6	
Carbon disulfide		< 20	< 0.59	< 0.29	
Carbon tetrachloride		< 40	< 1.2	< 0.59	
Chloroethane		< 34	< 1.0	1.0 J	
Chloroform		< 26	< 0.78	< 0.39	
Chloromethane*		< 8.5	14	14	
cis-1,2-Dichloroethylene		11,200	< 0.37	< 0.19	
Cyclohexane		107 J	< 0.62	< 0.30	
Dichlorodifluoromethane		< 22	< 0.64	< 0.33	
Ethanol		610	28.6	42.4	
Ethyl acetate		< 36	< 1.1	< 0.54	
Ethylbenzene		295	< 0.52	3.3 J	
Heptane		1,090	< 0.57	< 0.29	
Hexane		3,740	< 0.30	< 0.15	
Isopropyl alcohol*		10,500	< 1.3	5.4	
m,p-Xylene		625	6.9	16	
m-Dichlorobenzene		< 30	< 0.90	< 0.46	
Methyl ethyl ketone		170	2.9 J	3.2	
Methyl isobutyl ketone		< 39	< 1.2	< 0.57	
Methylene chloride*		431	< 0.42	< 0.20	
o-Dichlorobenzene		< 35	< 1.0	< 0.52	
o-Xylene		169 J	< 0.61	2.8 J	
Propylene*		344	211	40.9	
Styrene		< 21	< 0.64	< 0.32	
Tertiary butyl alcohol		225	< 0.33	< 0.17	
Tetrachloroethylene		< 56	< 1.7	< 0.81	
Tetrahydrofuran		< 38	< 1.2	3.2	
Toluene		21,900	3.8 J	2.7 J	
trans-1,2-Dichloroethylene		300	< 0.23	< 0.11	
Trichloroethylene		10,400	< 0.81	0.81 J	100%
Trichlorofluoromethane		< 42	< 1.2	< 0.62	
Vinyl acetate		< 32	< 0.95	< 0.49	
Vinyl chloride*		683	506	206	
Xylenes (total)		795	6.9	19	
TVOCs		64,800	781	360	

Footnotes:

ug/mg³ micrograms per cubic meter

* Compound is poorly adsorbed by activated carbon.

< Compound was not detected at or above the indicated value.

J Detected concentration is less than the quantitation limit.

TVOCs total volatile organic compounds

Detections are highlighted.

**Table 1. Vapor Treatment System Air Sampling Results
Routine Monitoring - February 2021**

Compound (ug/m ³)	Sample ID:	VGAC-1	VGAC-3	KMNO4-5	Percent Removed
	Lab Sample ID: Date Sampled:	JD20415-1 2/16/2021	JD20415-2 2/16/2021	JD20415-3 2/16/2021	
1,1,1-Trichloroethane		< 26	< 0.71	< 0.71	
1,1-Dichloroethane		< 6.9	< 0.19	< 0.19	
1,1-Dichloroethylene		58.3 J	< 0.27	< 0.27	
1,2,4-Trimethylbenzene		< 23	4.9	< 0.64	
1,2-Dibromoethane		< 20	< 0.55	< 0.55	
1,3,5-Trimethylbenzene		< 24	< 0.64	< 0.64	
1,4-Dioxane*		< 27	< 0.76	< 0.76	
2,2,4-Trimethylpentane		279	< 0.41	< 0.41	
2-Hexanone		< 21	< 0.61	< 0.61	
4-Ethyltoluene		< 21	< 0.59	< 0.59	
Acetone*		2,540	32.8	32.3	
Benzene		65.5 J	< 0.15	< 0.15	
Bromoform		< 56	< 1.6	< 1.6	
Carbon disulfide		44.2 J	< 0.29	< 0.29	
Carbon tetrachloride		< 21	< 0.59	< 0.59	
Chloroethane		< 18	< 0.50	< 0.50	
Chloroform		< 14	< 0.39	< 0.39	
Chloromethane*		< 4.5	14	15	
cis-1,2-Dichloroethylene		7,370	2.6 J	< 0.19	
Cyclohexane		< 11	< 0.30	< 0.30	
Dichlorodifluoromethane		< 12	2.2 J	2.2 J	
Ethanol		827	200	194	
Ethyl acetate		< 19	1.4 J	4.0	
Ethylbenzene		180	< 0.26	< 0.26	
Heptane		643	< 0.29	< 0.29	
Hexane		1,220	< 0.15	< 0.15	
Isopropyl alcohol*		5,800	4.4	13	
m,p-Xylene		409	7.8	< 0.61	
m-Dichlorobenzene		< 16	< 0.46	< 0.46	
Methyl ethyl ketone		228	31.6	< 0.50	
Methyl isobutyl ketone		< 21	< 0.57	< 0.57	
Methylene chloride*		< 7.3	< 0.20	< 0.20	
o-Dichlorobenzene		< 19	< 0.52	< 0.52	
o-Xylene		112 J	3.0 J	< 0.30	
Propylene*		143	172	35.7	
Styrene		< 11	< 0.32	< 0.32	
Tertiary butyl alcohol		47.6 J	< 0.17	< 0.17	
Tetrachloroethylene		58	< 0.81	< 0.81	
Tetrahydrofuran		< 21	95.9	< 0.59	
Toluene		16,700	9.0	4.5	
trans-1,2-Dichloroethylene		183	< 0.11	< 0.11	
Trichloroethylene		7,850	2.1	0.86	100%
Trichlorofluoromethane		< 22	< 0.62	< 0.62	
Vinyl acetate		< 17	< 0.49	< 0.49	
Vinyl chloride*		417	539	186	
Xylenes (total)		521	11	< 0.30	
TVOCs		45,175	1,123	488	

Footnotes:

ug/mg³ micrograms per cubic meter

* Compound is poorly adsorbed by activated carbon.

< Compound was not detected at or above the indicated value.

J Detected concentration is less than the quantitation limit.

TVOCs total volatile organic compounds

Detections are highlighted.

**Table 1. Vapor Treatment System Air Sampling Results
Routine Monitoring - February 2021**

Compound (ug/m ³)	Sample ID:	VGAC-1	VGAC-3	KMNO4-5	Percent Removed
	Lab Sample ID: Date Sampled:	JD20645-1 2/23/2021	JD20645-2 2/23/2021	JD20645-3 2/23/2021	
1,1,1-Trichloroethane		< 29	< 1.5	< 0.71	
1,1-Dichloroethane		< 7.7	< 0.38	< 0.19	
1,1-Dichloroethylene		66.6 J	< 0.52	< 0.27	
1,2,4-Trimethylbenzene		< 27	< 1.3	< 0.64	
1,2-Dibromoethane		< 22	< 1.1	< 0.55	
1,3,5-Trimethylbenzene		< 27	< 1.3	< 0.64	
1,4-Dioxane*		< 30	< 1.5	< 0.76	
2,2,4-Trimethylpentane		170	< 0.79	< 0.41	
2-Hexanone		< 24	< 1.2	< 0.61	
4-Ethyltoluene		< 24	< 1.2	< 0.59	
Acetone*		2,800	22	17	
Benzene		69.3 J	< 0.30	< 0.15	
Bromoform		< 63	< 3.1	< 1.6	
Carbon disulfide		55.4 J	< 0.59	< 0.29	
Carbon tetrachloride		< 24	< 1.2	< 0.59	
Chloroethane		< 21	< 1.0	< 0.50	
Chloroform		< 16	< 0.78	< 0.39	
Chloromethane*		< 5.2	19	< 0.13	
cis-1,2-Dichloroethylene		5,830	< 0.37	< 0.19	
Cyclohexane		87.1 J	< 0.62	< 0.30	
Dichlorodifluoromethane		< 13	< 0.64	< 0.33	
Ethanol		560	14	6.0	
Ethyl acetate		< 22	< 1.1	< 0.54	
Ethylbenzene		331	< 0.52	< 0.26	
Heptane		652	< 0.57	< 0.29	
Hexane		1,570	< 0.30	< 0.15	
Isopropyl alcohol*		6,020	28.5	< 0.64	
m,p-Xylene		791	< 1.2	< 0.61	
m-Dichlorobenzene		< 19	< 0.90	< 0.46	
Methyl ethyl ketone		428	< 1.0	1.7 J	
Methyl isobutyl ketone		< 24	< 1.2	< 0.57	
Methylene chloride*		358	92.8	4.2	
o-Dichlorobenzene		< 21	< 1.0	< 0.52	
o-Xylene		246	< 0.61	< 0.30	
Propylene*		213	295	1.7 J	
Styrene		< 13	< 0.64	< 0.32	
Tertiary butyl alcohol		87.6 J	< 0.33	< 0.17	
Tetrachloroethylene		81.4	< 1.7	< 0.81	
Tetrahydrofuran		< 24	< 1.2	< 0.59	
Toluene		20,800	3.8 J	< 0.22	
trans-1,2-Dichloroethylene		168	< 0.23	< 0.11	
Trichloroethylene		7,090	< 0.81	< 0.41	100%
Trichlorofluoromethane		< 26	< 1.2	< 0.62	
Vinyl acetate		< 20	< 0.95	< 0.49	
Vinyl chloride*		228	621	0.97 J	
Xylenes (total)		1,040	< 0.61	< 0.30	
TVOCs		48,700	1,096	31.6	

Footnotes:

ug/mg³ micrograms per cubic meter

* Compound is poorly adsorbed by activated carbon.

< Compound was not detected at or above the indicated value.

J Detected concentration is less than the quantitation limit.

TVOCs total volatile organic compounds

Detections are highlighted.

Analyte	Sample ID: Lab Sample ID: Date Sampled:	FRAC3-A191- 20210203 JD19890-1 2/3/2021	LGAC-INF- 20210203 JD19890-2 2/3/2021	FRAC1-A2949- 20210209 JD20159-1 2/9/2021	OU3 Air STRIPPER FINAL EFF-20210216 JD20413-1 2/16/2021	FRAC2-A4272- 20210223 JD20644-1/1A 2/23/2021	LGAC-INF- 20210223 JD20644-2/2A 2/23/2021	LGAC-MID- 20210223 JD20644-3/3A 2/23/2021
Volatile Organic Compounds (ug/L):								
2-Butanone (MEK)	<	6.9	83.6	<	6.9	-	<	6.9
2-Hexanone	<	2.0	3.2 J	<	2.0	-	<	2.0
4-Methyl-2-pentanone (MIBK)	<	1.9	7.3	<	1.9	-	<	1.9
Acetone*	<	8.0 J	479	<	6.0	-	<	6.0
cis-1,2-Dichloroethene	<	0.51	61.6	<	0.51	-	<	0.51
Ethylbenzene	<	0.60	<	0.60	<	0.60	-	0.60
m,p-Xylene	<	0.78	2.0	<	0.78	-	<	0.78
Methyl Acetate	<	0.80	<	0.80	<	0.80	-	0.80
o-Xylene	<	0.59	1.2	<	0.59	-	<	0.59
Styrene	<	0.49	<	0.49	<	0.49	-	0.49
Toluene	<	0.53	15.6	<	0.53	-	<	0.53
trans-1,2-Dichloroethene	<	0.54	0.71 J	<	0.54	-	<	0.54
Trichloroethene	<	0.53	11.8	<	0.53	-	<	0.53
Xylene (total)	<	0.59	3.2	<	0.59	-	<	0.59
TVOCs	<	8	666	<	0	-	<	0
Semivolatile Organic Compounds (ug/L):								
1,1'-Biphenyl	<	0.21	2.5	<	0.21	-	<	0.22
1,4-Dioxane	<	0.66	27.1	<	0.66	-	<	0.67
2,3,4,6-Tetrachlorophenol	<	1.5	1.7 J	<	1.5	-	<	1.5
2,4-Dimethylphenol	<	2.4	805	<	2.4	-	<	2.5
2-Methylnaphthalene	<	0.21	4.2	<	0.21	-	<	0.21
2-Methylphenol	<	0.89	302	<	0.89	-	<	0.90
3&4-Methylphenol	<	0.88	1310	<	0.88	-	<	0.89
Acenaphthene	<	0.19	0.60 J	<	0.19	-	<	0.19
Acetophenone	<	0.21	20.6	<	0.21	-	<	0.21
Anthracene	<	0.21	0.48 J	<	0.21	-	<	0.21
Benzaldehyde	<	0.29	<	0.32	<	0.29	-	0.29
Butyl benzyl phthalate	<	1.4 JB	<	0.51	<	0.46	-	0.46
Carbazole	<	0.23	0.47 J	<	0.23	-	<	0.23
Dibenzofuran	<	0.22	0.93 J	<	0.22	-	<	0.22
Dimethyl phthalate	<	0.22	6.7	<	0.22	-	<	0.22
Fluoranthene	<	0.17	0.61 J	<	0.17	-	<	0.17
Fluorene	<	0.17	1.5	<	0.17	-	<	0.17
Naphthalene	<	0.23	3.5	<	0.23	-	<	0.24
Phenanthrene	<	0.18	3.7	<	0.18	-	<	0.18
Phenol	<	0.39	264	<	0.39	-	<	0.40
Pyrene	<	0.22	0.40 J	<	0.22	-	<	0.22
Semivolatile Organic Compounds (SIM) (ug/L):								
1,4-Dioxane	<	0.050	25.7	<	0.050	-	<	0.051
Polychlorinated Biphenyls (ug/L):								
Aroclor 1016	<	0.13	<	0.13	<	0.13	-	0.13
Aroclor 1221	<	0.28	<	0.28	<	0.28	-	0.28
Aroclor 1232	<	0.17	<	0.17	<	0.17	-	0.17
Aroclor 1242	<	0.15	<	0.15	<	0.15	-	0.15
Aroclor 1248	<	0.084	<	0.084	<	0.084	-	0.084
Aroclor 1254	<	0.28	<	0.28	<	0.28	-	0.28
Aroclor 1260	<	0.10	<	0.10	<	0.10	-	0.10
Aroclor 1262	<	0.13	<	0.13	<	0.13	-	0.13
Aroclor 1268	<	0.12	<	0.12	<	0.12	-	0.12
Metals (mg/L):								
Cadmium	<	3.0	<	3.0	--	-	<	3.0
Chromium	<	10	<	10	--	-	<	10
Iron**		186	4970	644	216	320	1,580	2,650
Manganese**		439	180	231	96.3	398	110	107
Mercury	<	0.20	<	0.20	<	0.20	-	0.20
General Chemistry (mg/L):								
Nitrogen, Nitrate	<	0.11	0.29	0.40	-	<	0.12	<
Nitrogen, Nitrate + Nitrite		0.19	0.30	0.61	-	0.25	<	0.10
Nitrogen, Nitrite		0.12	<	0.010	0.21	-	0.23	<
Nitrogen, Total Kjeldahl		4.0	5.5	4.5	-	7.7	8.3	7.5

Footnotes:

- ug/L micrograms per liter
- mg/L milligrams per liter
- * Poorly adsorbed on activated carbon.
- ** Generated by Method 6010D; all other metals results generated by Method 200.7.
- < Analyte was not detected at or above the indicated value.
- J Detected concentration is less than the laboratory quantitation limit.
- B Analyte was detected in the laboratory method blank.
- TVOCs Total volatile organic compounds

Table 1: Ambient Air Laboratory Results (2021-01-21 through 2021-01-27)

Analyte	Target Screening Level (µg/m ³) ^{1,3}	95% of Concentration Distribution NYSDOH Background Air (µg/m ³) ²	Ambient Air Concentration (µg/m ³)				
			Sample Location				
			AMP-01	AMP-02	AMP-03*	AMP-04	AMP-04-DUP
Site-specific Compounds of Interest¹							
1,1,1-Trichloroethane	520	0.7	< 0.22	< 0.20	< 0.14	< 0.20	< 0.20
1,1-Dichloroethane	45	< 0.25	< 0.16	< 0.15	< 0.10	< 0.15	< 0.14
1,1-Dichloroethene	8	<0.25	< 0.078	< 0.074	< 0.050	< 0.072	< 0.071
1,2-Dichloroethane	3	< 0.25	< 0.16	< 0.15	< 0.10	< 0.15	< 0.14
Benzene	8	5.8	0.71	0.57	0.37	0.46	0.46
Ethyl-benzene	29	1.9	< 0.17	< 0.16	< 0.11	< 0.16	< 0.16
m,p-Xylene	10	3.1	< 0.34	< 0.32	0.22	0.36	0.35
o-Xylene	10	2.3	< 0.17	< 0.16	< 0.11	< 0.16	< 0.16
Tetrachloroethene	30	1.6	< 0.27	< 0.25	< 0.17	< 0.24	< 0.24
Toluene	521	21	1.3	1.0	0.49	0.74	0.73
trans-1,2-Dichloroethene	82	NA2	< 0.78	< 0.74	< 0.50	< 0.72	< 0.71
Trichloroethene	2	0.5	< 0.21	< 0.20	< 0.14	< 0.19	< 0.19
Vinyl Chloride	8	< 0.25	< 0.051	< 0.048	< 0.032	< 0.046	< 0.046
Other Compounds³							
1,1,2,2-Tetrachloroethane	1.3	< 0.25	< 0.27	< 0.26	< 0.17	< 0.25	< 0.25
1,1,2-Trichloroethane	0.21	< 0.25	< 0.22	< 0.20	< 0.14	< 0.20	< 0.20
1,2-Dibromoethane (EDB)	0.12	< 0.25	< 0.30	< 0.29	< 0.20	< 0.28	< 0.28
1,4-Dichlorobenzene	7	0.8	< 0.24	< 0.22	< 0.15	< 0.22	< 0.22
Carbon Tetrachloride	12	1	0.49	0.50	0.47	0.45	0.44
Chloroethane	417	0.4	< 0.26	< 0.25	< 0.17	< 0.24	< 0.24
Chloroform	3	0.5	< 0.19	< 0.18	< 0.12	< 0.18	< 0.18
Chloromethane	310	4.6	< 2.0	< 1.9	< 1.3	< 1.9	< 1.8
cis-1,2-Dichloroethene	NA1	< 0.25	< 0.16	< 0.15	< 0.10	< 0.14	< 0.14
Freon 114	NA1	1.3	< 0.28	< 0.26	< 0.18	< 0.25	< 0.25
Freon 12	100	11	3.3	2.8	2.3	2.2	2.2
Methyl tert-butyl ether	260	NA2	< 0.71	< 0.67	< 0.46	< 0.65	< 0.65
<p>Notes: µg/m³ - micrograms per cubic meter < - indicates not detected at or above the indicated value J - indicates sample result is estimated Bold - indicates detections</p> <p>R - rejected after data validation NA1 - no criteria given in the EPA RSL Calculator NA2 - NYSDOH did not include this compound in the guidance document² * - Sample collected after 5 days due to low vacuum</p> <p>¹Target Screening Levels for site-specific compounds of interest provided in Bethpage Ambient Air Monitoring Plan and are based on a one-year exposure duration (B&B Engineers & Geologists of New York, P.C., May 2020) ²NYSDOH Outdoor Air Background Values from Appendix C (Table C1) of Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006) ³Target Screening Levels for other compounds calculated using the EPA RSL calculator with the same inputs as described in the Bethpage Ambient Air Monitoring Plan</p>							

Table 3: Ambient Air Laboratory Results (2021-01-28 through 2021-02-03)

Analyte	Target Screening Level (µg/m³) ^{1,3}	95% of Concentration Distribution NYSDOH Background Air (µg/m³) ²	Ambient Air Concentration (µg/m³)				
			Sample Location				
			AMP-01	AMP-02*	AMP-03*	AMP-04	AMP-01-DUP
Site-specific Compounds of Interest¹							
1,1,1-Trichloroethane	520	0.7	< 0.17	< 0.14	< 0.14	< 0.17	< 0.17
1,1-Dichloroethane	45	< 0.25	< 0.13	< 0.10	< 0.10	< 0.12	< 0.13
1,1-Dichloroethene	8	<0.25	< 0.063	< 0.050	< 0.050	< 0.061	< 0.062
1,2-Dichloroethane	3	< 0.25	< 0.13	< 0.10	< 0.10	< 0.12	< 0.13
Benzene	8	5.8	0.40	0.40	0.38	0.40	0.41
Ethyl-benzene	29	1.9	< 0.14	< 0.11	< 0.11	< 0.13	< 0.14
m,p-Xylene	10	3.1	< 0.27	< 0.22	< 0.22	< 0.27	< 0.27
o-Xylene	10	2.3	< 0.14	< 0.11	< 0.11	< 0.13	< 0.14
Tetrachloroethene	30	1.6	< 0.21	< 0.17	< 0.17	< 0.21	< 0.21
Toluene	521	21	0.33	0.29	0.28	0.31	0.33
trans-1,2-Dichloroethene	82	NA2	< 0.63	< 0.50	< 0.50	< 0.61	< 0.62
Trichloroethene	2	0.5	< 0.17	0.24	< 0.14	< 0.17	< 0.17
Vinyl Chloride	8	< 0.25	< 0.040	< 0.032	< 0.032	< 0.040	< 0.040
Other Compounds³							
1,1,2,2-Tetrachloroethane	1.3	< 0.25	< 0.22	< 0.17	< 0.17	< 0.21	< 0.22
1,1,2-Trichloroethane	0.21	< 0.25	< 0.17	< 0.14	< 0.14	< 0.17	< 0.17
1,2-Dibromoethane (EDB)	0.12	< 0.25	< 0.24	< 0.19	< 0.20	< 0.24	< 0.24
1,4-Dichlorobenzene	7	0.8	< 0.19	< 0.15	< 0.15	< 0.19	< 0.19
Carbon Tetrachloride	12	1	0.50	0.49	0.50	0.49	0.49
Chloroethane	417	0.4	< 0.21	< 0.17	< 0.17	< 0.20	< 0.21
Chloroform	3	0.5	< 0.15	< 0.12	< 0.12	< 0.15	< 0.15
Chloromethane	310	4.6	< 1.6	< 1.3	< 1.3	< 1.6	< 1.6
cis-1,2-Dichloroethene	NA1	< 0.25	< 0.12	0.12	< 0.10	< 0.12	< 0.12
Freon 114	NA1	1.3	< 0.22	< 0.18	< 0.18	< 0.22	< 0.22
Freon 12	100	11	2.1	2.1	2.1	2.1	2.1
Methyl tert-butyl ether	260	NA2	< 0.57	< 0.45	< 0.46	< 0.56	< 0.57
<p>Notes: µg/m³ - micrograms per cubic meter R - rejected after data validation</p> <p>< - indicates not detected at or above the indicated value NA1 - no criteria given in the EPA RSL Calculator</p> <p>J - indicates sample result is estimated NA2 - NYSDOH did not include this compound in the guidance document²</p> <p>Bold - indicates detections * - Canister closed after 5 days due to low vacuum</p> <p>¹ Target Screening Levels for site-specific compounds of interest provided in Bethpage Ambient Air Monitoring Plan and are based on a one-year exposure duration (B&B Engineers & Geologists of New York, P.C., May 2020)</p> <p>² NYSDOH Outdoor Air Background Values from Appendix C (Table C1) of Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006)</p> <p>³ Target Screening Levels for other compounds calculated using the EPA RSL calculator with the same inputs as described in the Bethpage Ambient Air Monitoring Plan</p>							

Table 3: Ambient Air Laboratory Results (2021-02-03 through 2021-02-09)

Analyte	Target Screening Level (µg/m ³) ^{1,3}	95% of Concentration Distribution NYSDOH Background Air (µg/m ³) ²	Ambient Air Concentration (µg/m ³)				
			Sample Location				
			AMP-01	AMP-02	AMP-03	AMP-04	AMP-03-DUP
Site-specific Compounds of Interest¹							
1,1,1-Trichloroethane	520	0.7	< 0.44	< 0.32	< 0.29	< 0.45	< 0.45
1,1-Dichloroethane	45	< 0.25	< 0.32	< 0.24	< 0.22	< 0.34	< 0.33
1,1-Dichloroethene	8	<0.25	< 0.16	< 0.12	< 0.11	< 0.16	< 0.16
1,2-Dichloroethane	3	< 0.25	< 0.32	< 0.24	< 0.22	< 0.34	< 0.33
Benzene	8	5.8	0.71	0.56	0.69	0.72	0.71
Ethyl-benzene	29	1.9	< 0.35	< 0.25	< 0.23	< 0.36	< 0.36
m,p-Xylene	10	3.1	< 0.69	< 0.50	< 0.46	< 0.72	< 0.71
o-Xylene	10	2.3	< 0.35	< 0.25	< 0.23	< 0.36	< 0.36
Tetrachloroethene	30	1.6	< 0.54	< 0.39	< 0.36	< 0.56	< 0.56
Toluene	521	21	1.1	0.75	0.93	0.95	1.0
trans-1,2-Dichloroethene	82	NA2	< 1.6	< 1.2	< 1.1	< 1.6	< 1.6
Trichloroethene	2	0.5	< 0.43	< 0.31	< 0.29	< 0.44	< 0.44
Vinyl Chloride	8	< 0.25	< 0.10	< 0.074	< 0.068	< 0.10	< 0.10
Other Compounds³							
1,1,2,2-Tetrachloroethane	1.3	< 0.25	< 0.55	< 0.40	< 0.37	< 0.57	< 0.56
1,1,2-Trichloroethane	0.21	< 0.25	< 0.44	< 0.32	< 0.29	< 0.45	< 0.45
1,2-Dibromoethane (EDB)	0.12	< 0.25	< 0.61	< 0.45	< 0.41	< 0.64	< 0.63
1,4-Dichlorobenzene	7	0.8	< 0.48	< 0.35	< 0.32	< 0.50	< 0.49
Carbon Tetrachloride	12	1	< 0.50	< 0.37	0.34	< 0.52	< 0.52
Chloroethane	417	0.4	< 0.53	< 0.38	< 0.35	< 0.55	< 0.54
Chloroform	3	0.5	< 0.39	< 0.28	< 0.26	< 0.40	< 0.40
Chloromethane	310	4.6	< 4.1	< 3.0	< 2.8	< 4.3	< 4.2
cis-1,2-Dichloroethene	NA1	< 0.25	< 0.32	< 0.23	< 0.21	< 0.33	< 0.32
Freon 114	NA1	1.3	< 0.56	< 0.41	< 0.37	< 0.58	< 0.57
Freon 12	100	11	2.2	2.2	2.2	2.3	2.3
Methyl tert-butyl ether	260	NA2	< 1.4	< 1.0	< 0.97	< 1.5	< 1.5

Notes:

µg/m³ - micrograms per cubic meter

Bold - indicates detections

R - rejected after data validation

< - indicates not detected at or above the indicated value

NA1 - no criteria given in the EPA RSL Calculator

J - indicates sample result is estimated

NA2 - NYSDOH did not include this compound in the guidance document²

¹ Target Screening Levels for site-specific compounds of interest provided in Bethpage Ambient Air Monitoring Plan and are based on a one-year exposure duration (B&B Engineers & Geologists of New York, P.C., May 2020)

² NYSDOH Outdoor Air Background Values from Appendix C (Table C1) of Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006)

³ Target Screening Levels for other compounds calculated using the EPA RSL calculator with the same inputs as described in the Bethpage Ambient Air Monitoring Plan

Table 3: Ambient Air Laboratory Results (2021-02-10 through 2021-02-16)

Analyte	Target Screening Level (µg/m ³) ^{1,3}	95% of Concentration Distribution NYSDOH Background Air (µg/m ³) ²	Ambient Air Concentration (µg/m ³)				
			Sample Location				
			AMP-01	AMP-02	AMP-03	AMP-04	AMP-04-DUP
Site-specific Compounds of Interest¹							
1,1,1-Trichloroethane	520	0.7	< 0.38	< 0.24	< 0.35	< 0.16	< 0.37
1,1-Dichloroethane	45	< 0.25	< 0.28	< 0.18	< 0.26	< 0.12	< 0.27
1,1-Dichloroethene	8	<0.25	< 0.14	< 0.086	< 0.13	< 0.059	< 0.13
1,2-Dichloroethane	3	< 0.25	< 0.28	< 0.18	< 0.26	< 0.12	< 0.27
Benzene	8	5.8	< 0.55	0.51	< 0.51	0.56	< 0.54
Ethyl-benzene	29	1.9	< 0.30	< 0.19	< 0.28	< 0.13	< 0.29
m,p-Xylene	10	3.1	0.65	< 0.38	< 0.56	0.28	< 0.59
o-Xylene	10	2.3	0.37	< 0.19	< 0.28	0.13	< 0.29
Tetrachloroethene	30	1.6	< 0.47	< 0.29	< 0.44	< 0.20	< 0.46
Toluene	521	21	0.75	0.66	0.79	0.59	< 0.64
trans-1,2-Dichloroethene	82	NA2	< 1.4	< 0.86	< 1.3	< 0.59	< 1.3
Trichloroethene	2	0.5	< 0.37	0.31	< 0.34	< 0.16	< 0.36
Vinyl Chloride	8	< 0.25	< 0.088	< 0.055	< 0.082	< 0.038	< 0.086
Other Compounds³							
1,1,2,2-Tetrachloroethane	1.3	< 0.25	< 0.48	< 0.30	< 0.44	< 0.20	< 0.46
1,1,2-Trichloroethane	0.21	< 0.25	< 0.38	< 0.24	< 0.35	< 0.16	< 0.37
1,2-Dibromoethane (EDB)	0.12	< 0.25	< 0.53	< 0.33	< 0.49	< 0.23	< 0.52
1,4-Dichlorobenzene	7	0.8	< 0.42	< 0.26	< 0.39	< 0.18	< 0.41
Carbon Tetrachloride	12	1	0.44	0.39	0.44	0.40	0.42
Chloroethane	417	0.4	< 0.46	< 0.29	< 0.42	< 0.20	< 0.44
Chloroform	3	0.5	< 0.34	< 0.21	< 0.31	< 0.14	< 0.33
Chloromethane	310	4.6	< 3.6	< 2.2	< 3.3	< 1.5	< 3.5
cis-1,2-Dichloroethene	NA1	< 0.25	< 0.27	< 0.17	< 0.25	< 0.12	< 0.27
Freon 114	NA1	1.3	< 0.48	< 0.30	< 0.45	< 0.21	< 0.47
Freon 12	100	11	2.3	2.3	2.3	2.5	2.3
Methyl tert-butyl ether	260	NA2	< 1.2	< 0.78	< 1.2	< 0.54	< 1.2

Notes:

µg/m³ - micrograms per cubic meter

Bold - indicates detections

R - rejected after data validation

< - indicates not detected at or above the indicated value

NA1 - no criteria given in the EPA RSL Calculator

J - indicates sample result is estimated

NA2 - NYSDOH did not include this compound in the guidance document²

¹ Target Screening Levels for site-specific compounds of interest provided in Bethpage Ambient Air Monitoring Plan and are based on a one-year exposure duration (B&B Engineers & Geologists of New York, P.C., May 2020)

² NYSDOH Outdoor Air Background Values from Appendix C (Table C1) of Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006)

³ Target Screening Levels for other compounds calculated using the EPA RSL calculator with the same inputs as described in the Bethpage Ambient Air Monitoring Plan

Table 3: Ambient Air Laboratory Results (2021-02-17 through 2021-02-23)

Analyte	Target Screening Level (µg/m ³) ^{1,3}	95% of Concentration Distribution NYSDOH Background Air (µg/m ³) ²	Ambient Air Concentration (µg/m ³)				
			Sample Location				
			AMP-01	AMP-02	AMP-03	AMP-04	AMP-03-DUP
Site-specific Compounds of Interest¹							
1,1,1-Trichloroethane	520	0.7	< 0.40	< 0.39	< 0.40	< 0.40	< 0.40
1,1-Dichloroethane	45	< 0.25	< 0.29	< 0.29	< 0.30	< 0.29	< 0.29
1,1-Dichloroethene	8	<0.25	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
1,2-Dichloroethane	3	< 0.25	< 0.29	< 0.29	< 0.30	< 0.29	< 0.29
Benzene	8	5.8	0.59	0.65	< 0.58	0.58	0.66
Ethyl-benzene	29	1.9	< 0.32	< 0.31	< 0.32	< 0.32	< 0.32
m,p-Xylene	10	3.1	0.78	< 0.62	< 0.63	< 0.63	< 0.63
o-Xylene	10	2.3	0.50	< 0.31	< 0.32	< 0.32	< 0.32
Tetrachloroethene	30	1.6	< 0.49	< 0.48	< 0.50	< 0.49	< 0.49
Toluene	521	21	0.89	1.1	0.75	< 0.68	0.76
trans-1,2-Dichloroethene	82	NA2	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Trichloroethene	2	0.5	< 0.39	< 0.38	< 0.39	< 0.39	< 0.39
Vinyl Chloride	8	< 0.25	< 0.093	< 0.091	< 0.093	< 0.093	< 0.093
Other Compounds³							
1,1,2,2-Tetrachloroethane	1.3	< 0.25	< 0.50	< 0.49	< 0.50	< 0.50	< 0.50
1,1,2-Trichloroethane	0.21	< 0.25	< 0.40	< 0.39	< 0.40	< 0.40	< 0.40
1,2-Dibromoethane (EDB)	0.12	< 0.25	< 0.56	< 0.55	< 0.56	< 0.56	< 0.56
1,4-Dichlorobenzene	7	0.8	< 0.44	< 0.43	< 0.44	< 0.44	< 0.44
Carbon Tetrachloride	12	1	0.47	0.48	0.47	0.47	0.47
Chloroethane	417	0.4	< 0.48	< 0.47	< 0.48	< 0.48	< 0.48
Chloroform	3	0.5	< 0.35	< 0.35	< 0.36	< 0.35	< 0.35
Chloromethane	310	4.6	< 3.7	< 3.7	< 3.8	< 3.7	< 3.7
cis-1,2-Dichloroethene	NA1	< 0.25	< 0.29	0.40	< 0.29	< 0.29	< 0.29
Freon 114	NA1	1.3	< 0.51	< 0.50	< 0.51	< 0.51	< 0.51
Freon 12	100	11	2.4	2.5	2.4	2.4	2.4
Methyl tert-butyl ether	260	NA2	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3

Notes:

µg/m³ - micrograms per cubic meter

Bold - indicates detections

R - rejected after data validation

< - indicates not detected at or above the indicated value

NA1 - no criteria given in the EPA RSL Calculator

J - indicates sample result is estimated

NA2 - NYSDOH did not include this compound in the guidance document²

¹ Target Screening Levels for site-specific compounds of interest provided in Bethpage Ambient Air Monitoring Plan and are based on a one-year exposure duration (B&B Engineers & Geologists of New York, P.C., May 2020)

² NYSDOH Outdoor Air Background Values from Appendix C (Table C1) of Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006)

³ Target Screening Levels for other compounds calculated using the EPA RSL calculator with the same inputs as described in the Bethpage Ambient Air Monitoring Plan