NORTHROP GRUMMAN

ISTR Operations Monthly Progress Report

Reporting Period: July 2021

Operable Unit 3 VOC Source Area Remedy
Former Grumman Settling Ponds, Bethpage, NY
NYSDEC Site No. 130003A
August 27, 2021

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

NORTHROP GRUMMAN

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

Remedy Progress / Performance Monitoring
July 2021

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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

** See slide 12 for additional information*

*** See slide 13 for additional information*

Reporting Period:
July 2021

System Startup	8/26/2020
Days of Operation Since Startup	339
Estimated cumulative TVOC Mass Removed, lbs	1,318

Remedy Progress / Performance Monitoring
July 2021

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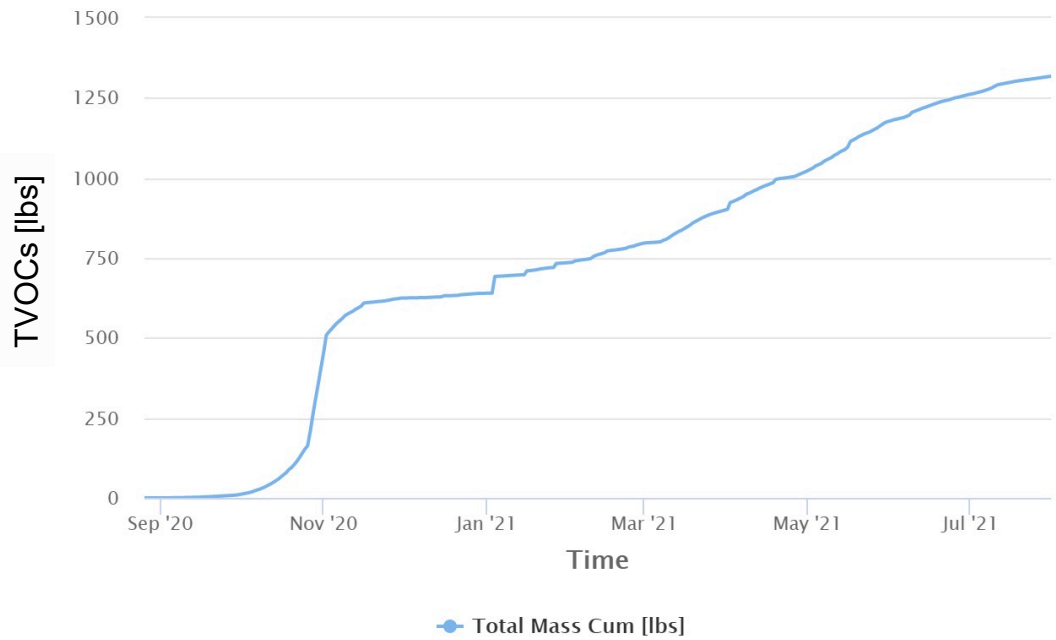
Cumulative TVOC Mass Removed



Estimated 1,318 lbs of total volatile organic compounds (TVOCs) removed through 7/31

Cumulative TVOC mass is the sum of the following:

- Photoionization detector (PID) TVOC vapor mass
- Liquid TVOC mass
- Condensed non-aqueous phase liquid (NAPL) mass

Remedy Progress / Performance Monitoring
July 2021

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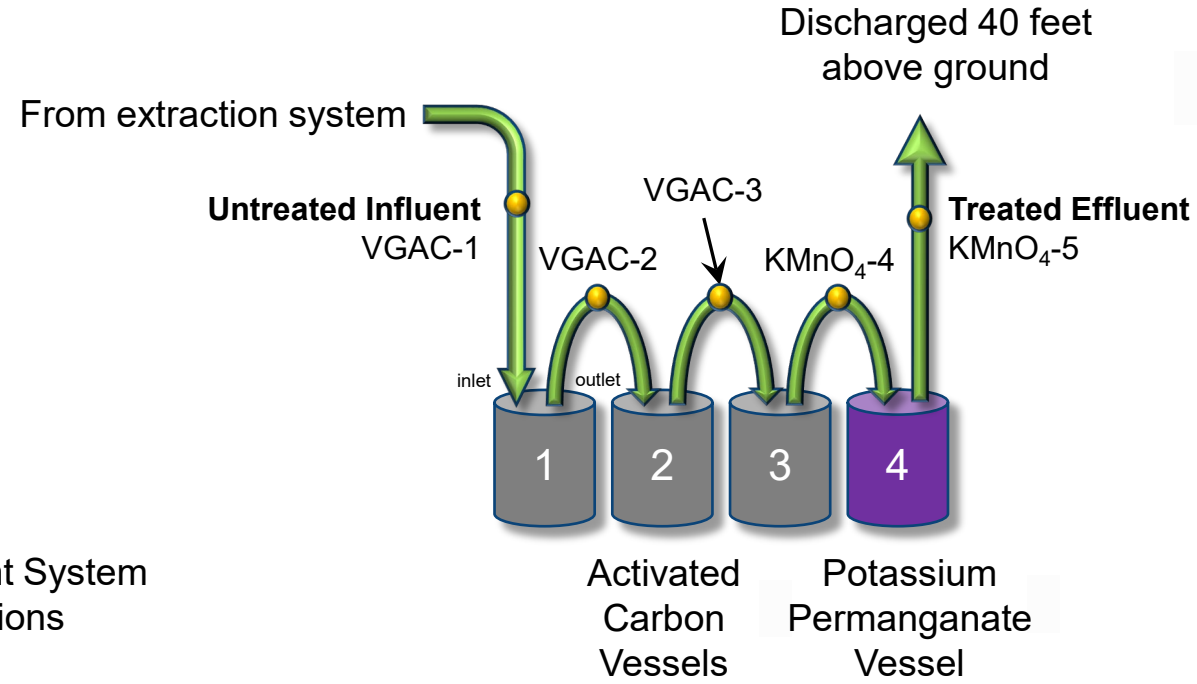
Vapor Treatment System



- Vapor Treatment System Sampling Locations

Remedy Progress / Performance Monitoring
July 2021

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Vapor Treatment System

Air emissions meet treatment criteria in the RAWP:

- Stack concentrations less than 7.6 mg/m^3 for TCE and 1.9 mg/m^3 design limits for vinyl chloride throughout July.
- TCE and vinyl chloride concentrations in ambient air samples collected in July (one sampling event on 7/6) were below target screening levels.

Vapor treatment system analytical results for July provided in Table 1

Remedy Progress / Performance Monitoring
July 2021

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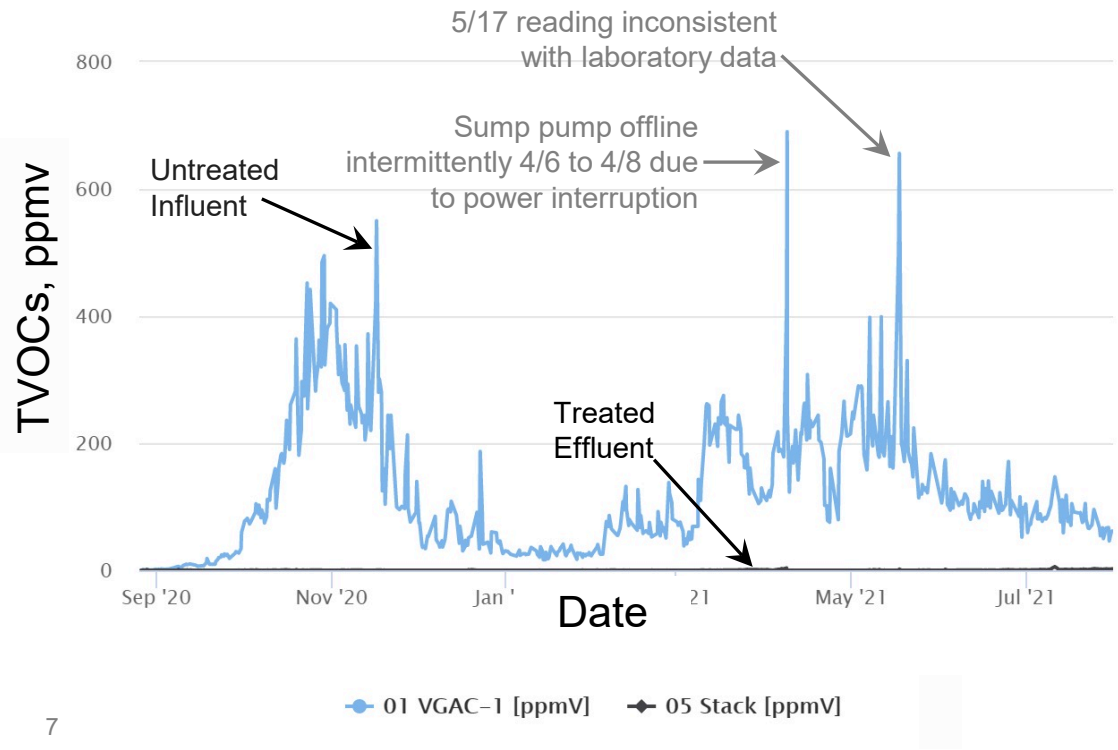
Vapor Treatment System (PID)



TVOC concentrations (PID) on July 31:

- Influent = 61 ppmv
- Effluent = 1.6 ppmv

Maximum TVOC concentrations (PID) during July reporting period:

- Influent = 147 ppmv
- Effluent = 5.6 ppmv

Remedy Progress / Performance Monitoring
July 2021

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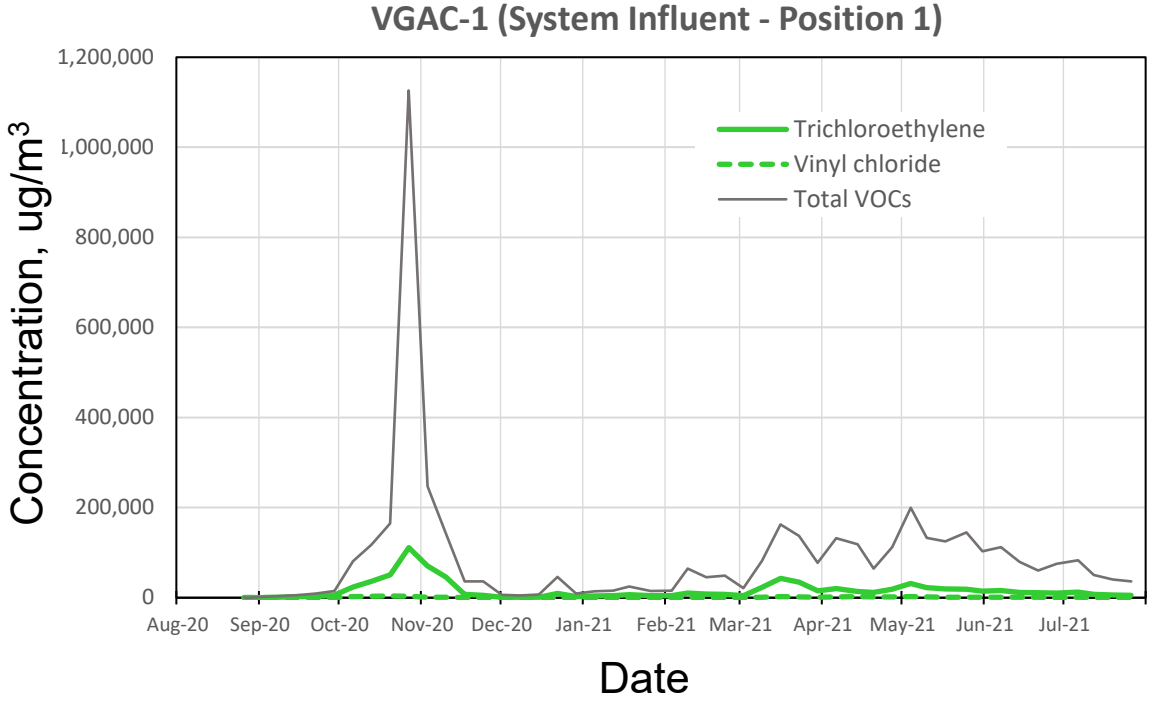
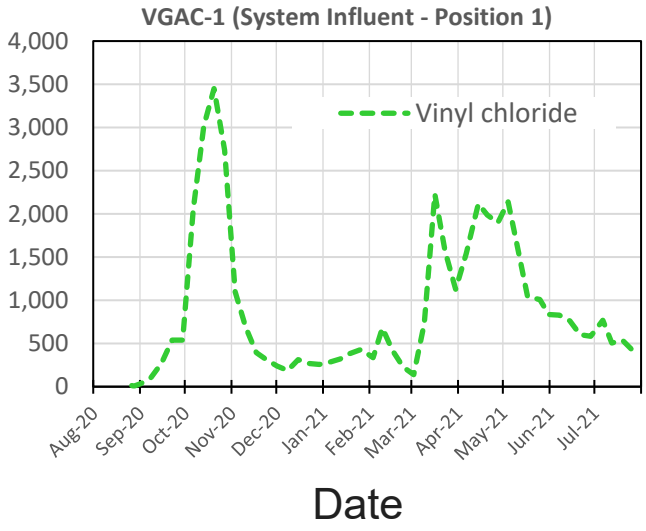
Vapor Treatment System Influent



Influent concentrations (Summa) on 7/26:

- TVOCs = 35,900 ug/m^3
- TCE = 4,960 ug/m^3
- Vinyl chloride = 419 ug/m^3



Remedy Progress / Performance Monitoring July 2021

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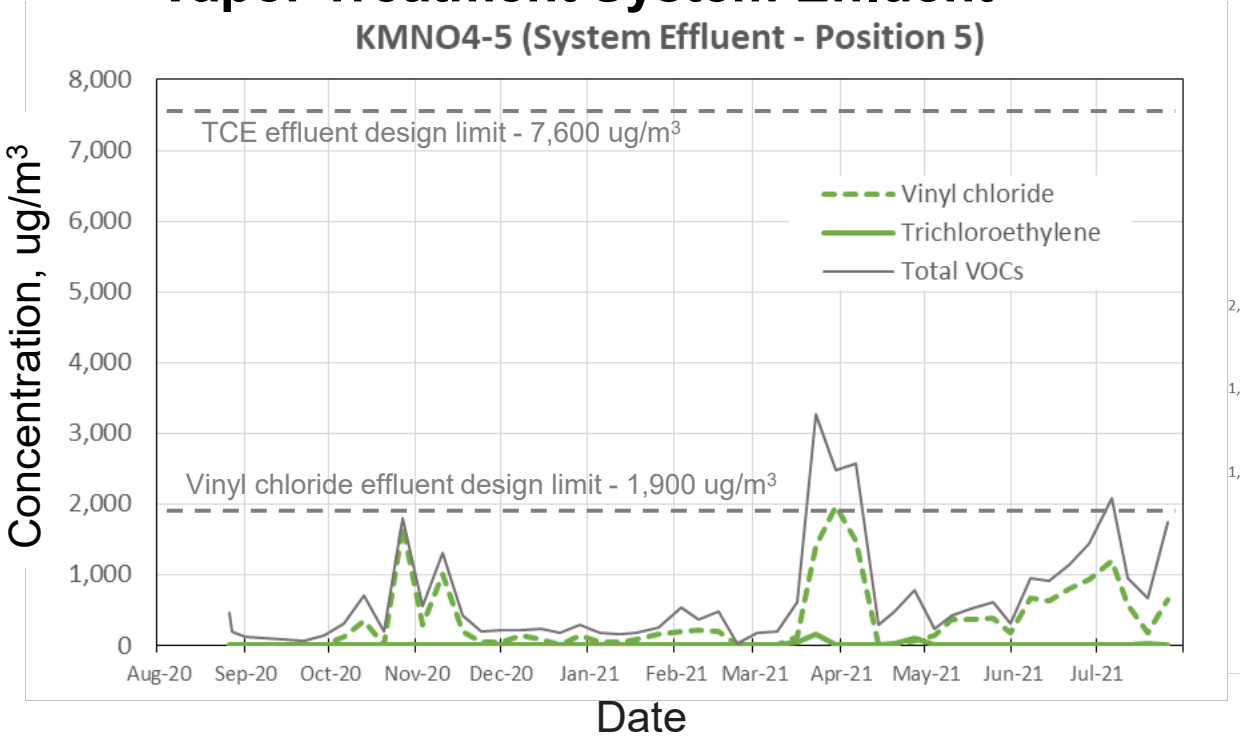
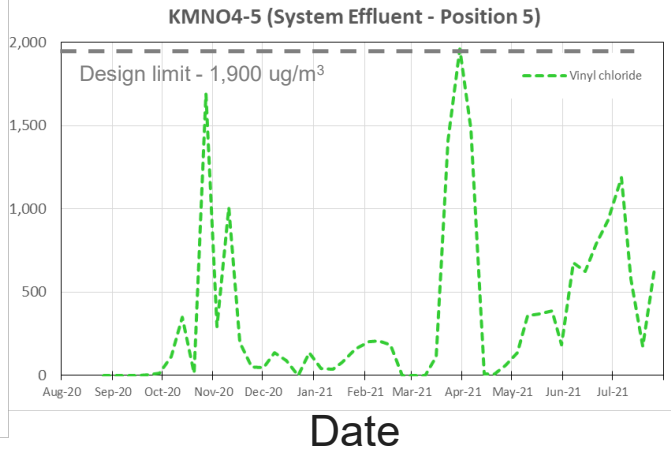
Vapor Treatment System Effluent



Effluent concentrations (Summa) on 7/26:

- TVOCs = 1,733 ug/m^3
- TCE = < 1.0 ug/m^3
- Vinyl chloride = 644 ug/m^3



Remedy Progress / Performance Monitoring
July 2021

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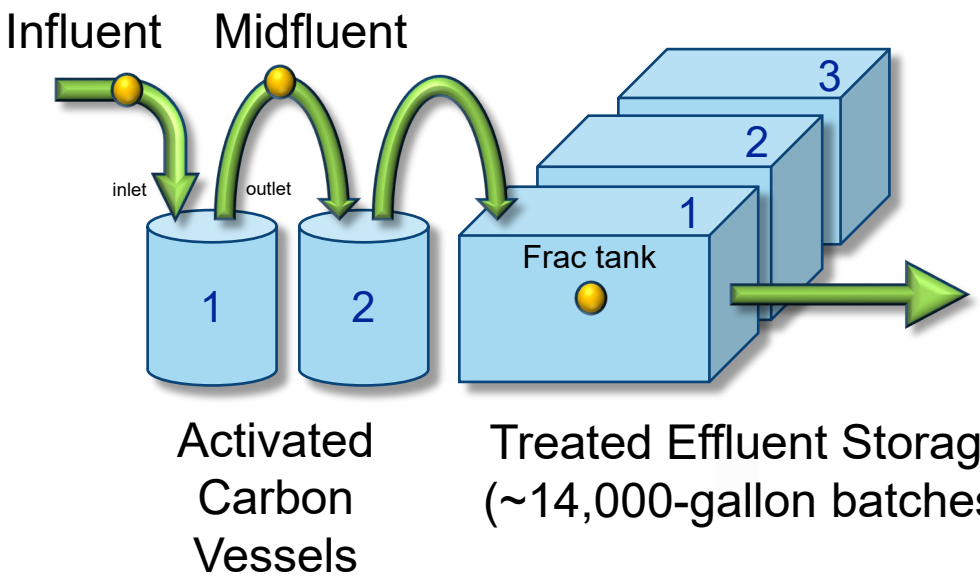
Liquid Treatment System



- Liquid Treatment System Sampling Locations

Treated liquid pumped to OU3 Groundwater Treatment System

Remedy Progress / Performance Monitoring
July 2021

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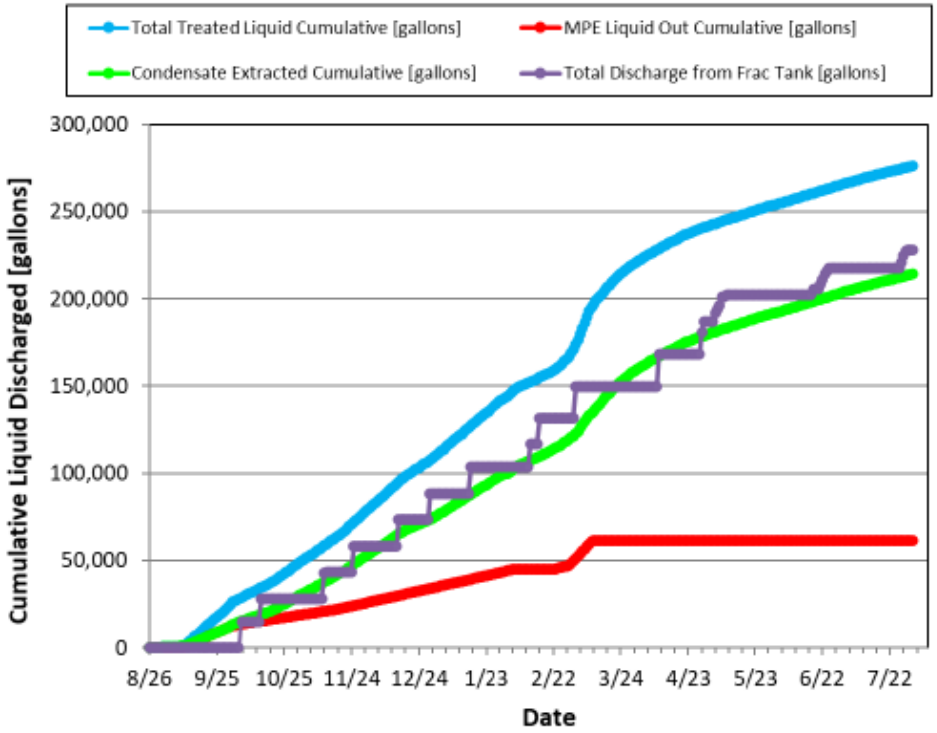
Cumulative Liquid Produced



276,000 total gallons extracted and treated through 7/31

228,140 total gallons treated effluent discharged to OU3 groundwater treatment system through 7/31

Liquid treatment system analytical results for July provided in Table 2

Ambient Air PID Monitoring
July 2021

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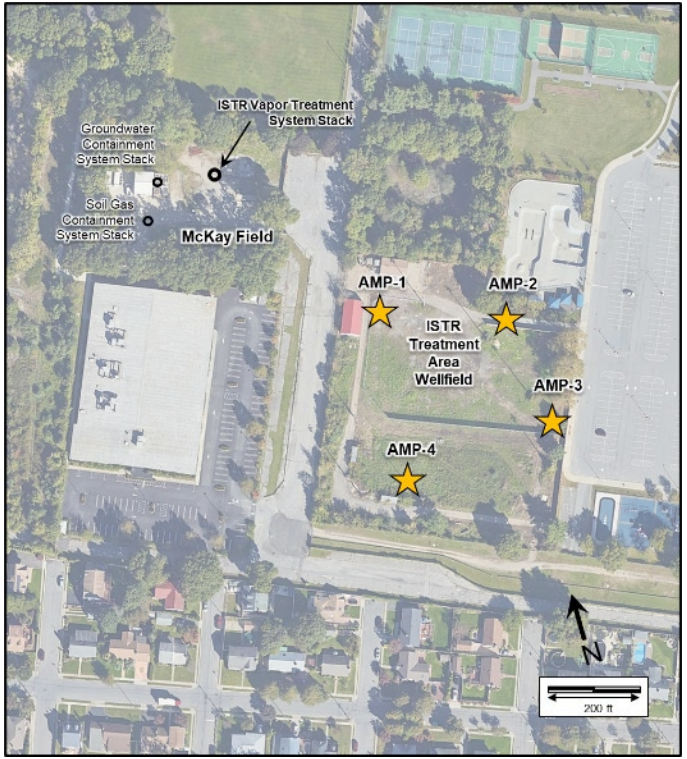
PID levels comply with Community Air Monitoring Plan (CAMP) criteria in the RAWP:

- 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)*

*As described in daily CAMP monitoring emails, condensation buildup in the PID inlet tubing caused some erroneously high PID readings during this reporting period. The remote communications module at AMP-2 malfunctioned and was offline from 7/2 to 7/6.



Ambient Air Summa Canister Monitoring July 2021

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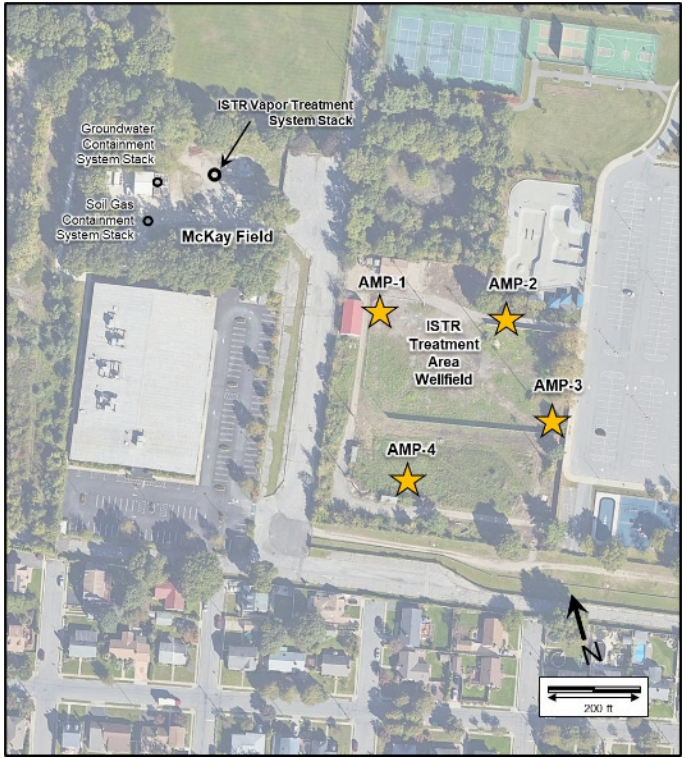
Summa canister levels comply with ambient air criteria in the RAWP:

- Summa canister samples collected 7/6. Ambient air sampling with Summa canisters discontinued after 7/6 per NYSDEC's 6/30 verbal approval.
- 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 July provided in Table 3



Significant Activities
July 2021

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Major equipment repairs and significant downtime:

- None

Other significant activities:

- CAMP ambient air Summa canister monitoring discontinued per NYSDEC 6/30 verbal approval (final canister samples collected on 7/6).
- Well field heater circuits de-energized for approximately 24 hours (7/12 – 7/13) for sampling of two soil borings in ball field.
- Changed out primary VGAC vessel on 7/8.

Planned Significant Activities During Next Two Months

Maintain system operations, monitoring, and maintenance in preparation for system shutdown.

Submit design for modifications to OU3 soil gas containment system to extract and treat vapors from ISTR VEWs.

Implement LNAPL gauging and removal from 8 VEWs where LNAPL observed.

Schedule

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

ISTR heating system continues to operate at low energy while the extraction system continues to address vapor treatment system influent concentrations.

Pending RAWP Modifications

None

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Table 1. Vapor Treatment System Air Sampling Results
Routine Monitoring

Compound (ug/m^3) / Sample ID: / Lab Sample ID: / Date Sampled:	VGAC-1 JD27822-1 7/6/2021	VGAC-3 JD27822-2 7/6/2021	KMNO4-5 JD27822-3 7/6/2021	DUPLICATE JD27822-4 7/6/2021	
1,1,1-Trichloroethane	< 47	< 3.6	< 3.6	< 3.6	
1,1-Dichloroethane	**102 J**	< 0.93	< 0.93	< 0.93	
1,1-Dichloroethylene	**73.0 J**	**13 J**	< 1.3	< 1.3	
1,2,4-Trimethylbenzene	**254 J**	< 3.2	< 3.2	< 3.2	
1,2-Dibromoethane	< 35	< 2.8	< 2.8	< 2.8	
1,3,5-Trimethylbenzene	**192 J**	< 3.3	< 3.3	< 3.3	
1,3-Butadiene	< 27	< 2.0	< 2.0	< 2.0	
1,4-Dioxane*	< 47	< 3.6	< 3.6	< 3.6	
2,2,4-Trimethylpentane	**365**	< 2.1	< 2.1	< 2.1	
2-Hexanone	< 38	< 3.0	< 3.0	< 3.0	
4-Ethyltoluene	**312**	< 2.9	< 2.9	< 2.9	
Acetone*	**9,880**	**5,040**	**49.9**	**31.6**	
Benzene	**98.4 J**	< 0.77	< 0.77	< 0.77	
Bromoform	< 100	< 7.8	< 7.8	< 7.8	
Carbon disulfide	**476**	**226**	< 1.5	< 1.5	
Carbon tetrachloride	< 38	< 3.0	< 3.0	< 3.0	
Chloroethane	< 34	**34.0**	**36.7**	**35.1**	
Chloroform	< 25	< 2.0	< 2.0	< 2.0	
Chloromethane*	< 8.3	**33.0**	**36.6**	**30.4**	
cis-1,2-Dichloroethylene	**8,760**	< 0.91	< 0.91	< 0.91	
Cyclohexane	< 20	< 1.5	< 1.5	< 1.5	
Dichlorodifluoromethane	< 21	< 1.6	< 1.6	< 1.6	
Ethanol	**366**	**462**	**135**	**120**	
Ethyl acetate	< 35	**107**	**59.7**	**46.8**	
Ethylbenzene	**2,610**	< 1.3	< 1.3	< 1.3	
Heptane	**1,110**	< 1.4	< 1.4	< 1.4	
Hexane	< 9.9	< 0.74	< 0.74	< 0.74	
Isopropyl alcohol*	< 42	< 3.2	**18**	**16**	
m,p-Xylene	**8,040**	< 3.0	< 3.0	< 3.0	
m-Dichlorobenzene	< 29	< 2.3	< 2.3	< 2.3	
Methyl ethyl ketone	**2,460**	< 2.5	< 2.5	< 2.5	
Methyl isobutyl ketone	< 39	< 3.0	< 3.0	< 3.0	
Methylene chloride*	< 13	**25**	**41.3**	**40.0**	
o-Dichlorobenzene	< 34	< 2.6	< 2.6	< 2.6	
o-Xylene	**2,750**	< 1.5	< 1.5	< 1.5	
Propylene*	**373**	**416**	**522**	**436**	
Styrene	< 21	< 1.6	< 1.6	< 1.6	
Tertiary butyl alcohol	< 11	< 0.85	< 0.85	< 0.85	
Tetrachloroethylene	**78.7**	< 4.2	< 4.2	< 4.2	
Tetrahydrofuran	< 38	< 2.9	< 2.9	< 2.9	
Toluene	**31,100**	< 1.1	< 1.1	< 1.1	
trans-1,2-Dichloroethylene	**199 J**	< 0.59	< 0.59	< 0.59	
Trichloroethylene	**12,600**	< 2.0	< 2.0	< 2.0	100%
Trichlorofluoromethane	< 41	< 3.1	< 3.1	< 3.1	
Vinyl acetate	< 31	< 2.4	< 2.4	< 2.4	
Vinyl chloride*	**772**	**1,150**	**1,190**	**1,030**	
Xylenes (total)	**10,800**	< 1.5	< 1.5	< 1.5	
TVOCs	**82,981**	**7,506**	**2,090**	**1,790**	
TVOCs less poor adsorbers*	**72,000**	**800**	**200**	**200**	

Footnotes:

ug/mg^3 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.

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Table 1. Vapor Treatment System Air Sampling Results
Routine Monitoring

Compound (ug/m^3)	Sample ID:	VGAC-1		VGAC-3		KMNO4-5		
	Lab Sample ID:	JD28063-1		JD28063-2		JD28063-3		
	Date Sampled:	7/12/2021		7/12/2021		7/12/2021		
1,1,1-Trichloroethane		< 26		< 3.6		< 1.8		
1,1-Dichloroethane		**79.3**	**J**	< 0.93		< 0.49		
1,1-Dichloroethylene		**50.4**	**J**	**38**		< 0.67		
1,2,4-Trimethylbenzene		< 24		< 3.2		< 1.6		
1,2-Dibromoethane		< 20		< 2.8		< 1.4		
1,3,5-Trimethylbenzene		< 24		< 3.3		< 1.7		
1,3-Butadiene		< 15		< 2.0		< 1.0		
1,4-Dioxane*		< 27		< 3.6		< 1.9		
2,2,4-Trimethylpentane		**322**		< 2.1		< 1.0		
2-Hexanone		< 22		< 3.0		< 1.5		
4-Ethyltoluene		< 21		< 2.9		< 1.5		
Acetone*		**6,270**		**4,610**		**31.8**		
Benzene		**49.5**	**J**	< 0.77		< 0.38		
Bromoform		< 56		< 7.8		< 3.8		
Carbon disulfide		**282**		**486**		< 0.75		
Carbon tetrachloride		< 21		< 3.0		< 1.5		
Chloroethane		< 18		**9.8**	**J**	**20**		
Chloroform		< 14		< 2.0		< 0.98		
Chloromethane*		< 4.5		**16**		**16**		
cis-1,2-Dichloroethylene		**5,350**		< 0.91		< 0.48		
Cyclohexane		**59.9**	**J**	< 1.5		< 0.76		
Dichlorodifluoromethane		< 12		< 1.6		< 0.84		
Ethanol		**161**		**624**		**92.7**		
Ethyl acetate		< 20		< 2.7		**10**		
Ethylbenzene		**1,160**		< 1.3		< 0.65		
Heptane		**943**		< 1.4		< 0.74		
Hexane		< 5.3		< 0.74		< 0.39		
Isopropyl alcohol*		**108**		< 3.2		**13**		
m,p-Xylene		**3,390**		< 3.0		< 1.5		
m-Dichlorobenzene		< 16		< 2.3		< 1.1		
Methyl ethyl ketone		**1,100**		< 2.5		< 1.2		
Methyl isobutyl ketone		**84.4**	**J**	< 3.0		< 1.5		
Methylene chloride*		< 7.3		**20**		**34**		
o-Dichlorobenzene		< 19		< 2.6		< 1.3		
o-Xylene		**1,140**		< 1.5		< 0.74		
Propylene*		**184**		**180**		**159**		
Styrene		< 11		< 1.6		< 0.81		
Tertiary butyl alcohol		**61.5**	**J**	< 0.85		< 0.42		
Tetrachloroethylene		**88.8**		< 4.2		< 2.1		
Tetrahydrofuran		< 22		< 2.9		< 1.5		
Toluene		**21,000**		**11**	**J**	**5.3**	**J**	
trans-1,2-Dichloroethylene		**144**		< 0.59		< 0.29		
Trichloroethylene		**7,630**		< 2.0		< 1.0		100%
Trichlorofluoromethane		< 23		< 3.1		< 1.6		
Vinyl acetate		< 18		< 2.4		< 1.2		
Vinyl chloride*		**509**		**47.8**		**575**		
Xylenes (total)		**4,520**		< 1.5		< 0.74		
TVOCs		**50,200**		**6,040**		**957**		
TVOCs less poor adsorbers*		**43,100**		**1,200**		**100**		

Footnotes:

ug/mg^3 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.

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Table 1. Vapor Treatment System Air Sampling Results
Routine Monitoring

Compound (ug/m^3)	Sample ID:	VGAC-1		VGAC-3		KMNO4-5		
	Lab Sample ID:	JD28480-1		JD28480-2		JD28480-3		
	Date Sampled:	7/19/2021		7/19/2021		7/19/2021		
1,1,1-Trichloroethane		< 9.8		< 3.6		< 0.71		
1,1-Dichloroethane		**74.5**		< 0.93		< 0.19		
1,1-Dichloroethylene		**50.4**		**109**		< 0.27		
1,2,4-Trimethylbenzene		< 8.8		< 3.2		< 0.64		
1,2-Dibromoethane		< 7.5		< 2.8		< 0.55		
1,3,5-Trimethylbenzene		< 8.8		< 3.3		< 0.64		
1,3-Butadiene		< 5.8		**8.4**	J	< 0.40		
1,4-Dioxane*		< 10		< 3.6		< 0.76		
2,2,4-Trimethylpentane		**217**		< 2.1		< 0.41		
2-Hexanone		**53.2**		< 3.0		< 0.61		
4-Ethyltoluene		< 7.9		< 2.9		< 0.59		
Acetone*		**10,500**		**12,900**		**63.7**		
Benzene		**39.3**		< 0.77		< 0.15		
Bromoform		< 22		< 7.8		< 1.6		
Carbon disulfide		**237**		**831**		**5.0**		
Carbon tetrachloride		< 8.2		< 3.0		< 0.59		
Chloroethane		**15**	J	< 2.6		**17**		
Chloroform		< 5.4		< 2.0		< 0.39		
Chloromethane*		**20**	J	**17**		**17**		
cis-1,2-Dichloroethylene		**5,110**		< 0.91		< 0.19		
Cyclohexane		**69.5**		< 1.5		< 0.30		
Dichlorodifluoromethane		< 4.5		< 1.6		< 0.33		
Ethanol		**251**		**424**		**128**		
Ethyl acetate		< 7.6		< 2.7		< 0.54		
Ethylbenzene		**200**		< 1.3		< 0.26		
Heptane		**598**		< 1.4		< 0.29		
Hexane		**90.9**		< 0.74		< 0.15		
Isopropyl alcohol*		**162**		< 3.2		**20**		
m,p-Xylene		**478**		< 3.0		**3.6**		
m-Dichlorobenzene		< 6.0		< 2.3		< 0.46		
Methyl ethyl ketone		**1,740**		< 2.5		**3.5**		
Methyl isobutyl ketone		**51.6**		< 3.0		< 0.57		
Methylene chloride*		< 2.8		**6.6**	J	**18**		
o-Dichlorobenzene		< 7.2		< 2.6		< 0.52		
o-Xylene		**122**		< 1.5		< 0.30		
Propylene*		**251**		**194**		**189**		
Styrene		< 4.3		< 1.6		< 0.32		
Tertiary butyl alcohol		**86.4**		< 0.85		**1.7**	J	
Tetrachloroethylene		< 12		< 4.2		< 0.81		
Tetrahydrofuran		< 8.3		< 2.9		< 0.59		
Toluene		**13,300**		< 1.1		**6.4**		
trans-1,2-Dichloroethylene		**130**		< 0.59		**1.9**	J	
Trichloroethylene		**5750**		< 2.0		**24**		100%
Trichlorofluoromethane		< 9.0		< 3.1		< 0.62		
Vinyl acetate		< 6.7		< 2.4		< 0.49		
Vinyl chloride*		**542**		**524**		**175**		
Xylenes (total)		**599**		< 1.5		**3.6**		
TVOCs		**40,100**		**15,000**		**674**		
TVOCs less poor adsorbers*		**28,600**		**1,400**		**200**		

Footnotes:

ug/mg^3 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.

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Table 1. Vapor Treatment System Air Sampling Results
Routine Monitoring

Compound (ug/m^3)	Sample ID:	VGAC-1		VGAC-3		KMNO4-5		
	Lab Sample ID:	JD28927-1		JD28927-2		JD28927-3		
	Date Sampled:	7/26/2021		7/26/2021		7/26/2021		
1,1,1-Trichloroethane		< 7.1		< 3.6		< 1.8		
1,1-Dichloroethane		**64.4**		< 0.93		< 0.49		
1,1-Dichloroethylene		**40.8**		**192**		< 0.67		
1,2,4-Trimethylbenzene		**46**		< 3.2		< 1.6		
1,2-Dibromoethane		< 5.5		< 2.8		< 1.4		
1,3,5-Trimethylbenzene		**26**	J	< 3.3		< 1.7		
1,3-Butadiene		< 4.0		< 2.0		< 1.0		
1,4-Dioxane*		< 7.6		< 3.6		< 1.9		
2,2,4-Trimethylpentane		**108**		< 2.1		< 1.0		
2-Hexanone		< 6.1		< 3.0		< 1.5		
4-Ethyltoluene		**40**		< 2.9		< 1.5		
Acetone*		**10,200**		**14,800**		**91.2**		
Benzene		**30**		< 0.77		< 0.38		
Bromoform		< 16		< 7.8		< 3.8		
Carbon disulfide		**159**		**623**		**12**		
Carbon tetrachloride		< 5.9		< 3.0		< 1.5		
Chloroethane		**11**	J	**9.5**	J	**7.4**		
Chloroform		< 3.9		< 2.0		< 0.98		
Chloromethane*		**16**	J	**25.2**		**22.5**		
cis-1,2-Dichloroethylene		**4,400**		**18**		< 0.48		
Cyclohexane		< 3.0		< 1.5		< 0.76		
Dichlorodifluoromethane		< 3.3		< 1.6		< 0.84		
Ethanol		**196**		**222**		**614**		
Ethyl acetate		< 5.4		**17**		**26**		
Ethylbenzene		**375**		< 1.3		< 0.65		
Heptane		**270**		< 1.4		< 0.74		
Hexane		**75.4**		< 0.74		< 0.39		
Isopropyl alcohol*		**123**		< 3.2		**23**		
m,p-Xylene		**1,070**		< 3.0		**8.3**	J	
m-Dichlorobenzene		< 4.6		< 2.3		< 1.1		
Methyl ethyl ketone		**1,500**		< 2.5		< 1.2		
Methyl isobutyl ketone		**64.3**		< 3.0		< 1.5		
Methylene chloride*		< 2.0		< 1.0		**17**		
o-Dichlorobenzene		< 5.2		< 2.6		< 1.3		
o-Xylene		**357**		< 1.5		< 0.74		
Propylene*		**199**		**282**		**258**		
Styrene		< 3.2		< 1.6		< 0.81		
Tertiary butyl alcohol		**66.1**		< 0.85		< 0.42		
Tetrachloroethylene		**26**		< 4.2		< 2.1		
Tetrahydrofuran		< 5.9		< 2.9		< 1.5		
Toluene		**10,900**		**36**		**9.4**		
trans-1,2-Dichloroethylene		**113**		< 0.59		< 0.29		
Trichloroethylene		**4,960**		**13**		< 1.0		100%
Trichlorofluoromethane		< 6.2		< 3.1		< 1.6		
Vinyl acetate		< 4.9		< 2.4		< 1.2		
Vinyl chloride*		**419**		**688**		**644**		
Xylenes (total)		**1,430**		< 1.5		**8.3**	J	
TVOCs		**35,900**		**16,900**		**1,733**		
TVOCs less poor adsorbers*		**24,900**		**1,100**		**700**		

Footnotes:

ug/mg^3 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.

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Table 2. Liquid Treatment System Sampling Results

HSW

Analyte	TOGS 111 Effluent Limitations (GA)	SPDES Permit Equivalent Daily Maximum Discharge Limitations	Sample ID: / Lab Sample ID: / Date Sampled:	OU3 AIR STRIPPER FINAL EFF-20210728 / JD29046-1 / 7/28/2021	FRAC2-A4272-20210729 / JD29126-1 / 1A / 7/29/2021	LGAC-MID-20210729 / JD29126-2 / 2A / 7/29/2021	LGAC-INF-20210729 / JD29126-3 / 3A / 7/29/2021
Volatile Organic Compounds (ug/L, detections only):							
2-Butanone (MEK)	50			-	< 6.9	377	3290
2-Hexanone	50			-	< 2.0	< 2.0	497
4-Methyl-2-pentanone (MIBK)	--			-	< 1.9	< 1.9	100
Acetone*	50			-	3380	6160	13600
cis-1,2-Dichloroethene	5	5		-	< 0.51	< 0.51	103
Ethylbenzene	5			-	< 0.60	< 0.60	27.9
m,p-Xylene	5			-	< 0.78	< 0.78	103
Methyl Acetate	--			-	< 0.80	4.4 J	28.3
o-Xylene	5			-	< 0.59	< 0.59	60.1
Toluene	5			-	< 0.53	< 0.53	326
Trichloroethene	5	5		-	< 0.53	< 0.53	69.7
Xylene (total)	5			-	< 0.59	< 0.59	163
TVOCs	--				3380	6,540	18,200
TVOCs less poor adsorbers*	--					380	4.600
Semivolatile Organic Compounds (ug/L, detections only):							
1,4-Dioxane	--			-	< 0.63	24.1	26.9
2,4-Dimethylphenol	1			-	< 2.3	< 2.3	124
2-Methylphenol	2**			-	< 0.85	< 0.85	87.0
3&4-Methylphenol	2**			-	5.3	< 0.84	103
Acenaphthene	20			-	< 0.18	< 0.18	0.76 J
Acetophenone	--			-	< 0.20	< 0.20	682
Anthracene	50			-	< 0.20	< 0.20	0.45 J
Benzaldehyde	--			-	< 0.28	< 0.28	897
Dibenzofuran	--			-	< 0.21	< 0.21	1.2 J
Fluoranthene	50			-	< 0.16	< 0.16	1.7
Fluorene	50			-	< 0.16	< 0.16	1.1
Naphthalene	10			-	< 0.22	< 0.22	3.2
Phenanthrene	50			-	< 0.17	< 0.17	7.0
Phenol	1			-	0.48 J	< 0.38	123
Pyrene	50			-	< 0.21	< 0.21	1.5
Semivolatile Organic Compounds (SIM) (ug/L):							
1,4-Dioxane	--			-	0.119	18.4	23.1
Polychlorinated Biphenyls (ug/L):							
Aroclor 1254	0.09			-	< 0.32	< 0.30	0.49
Metals (ug/L):							
Iron	300	600		240	7150	7920	2240
Manganese	300	600		56.7	223	129	29.4
Sum of total iron and manganese		1000		297	7,373	8,049	2,269
General Chemistry (mg/L):							
Nitrogen, Total Kjeldahl	-			-	0.89	1.1	0.33

Footnotes:

ug/L	micrograms per liter
mg/L	milligrams per liter
TOGS 111	Technical and Operational Guidance Series 1.1.1., Groundwater Effluent Limitations, Class GA, New York State.
*	Poorly adsorbed on activated carbon.
**	Applies to sum of phenolic compounds.
***	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.
J1	Low recovery reported for the matrix spike duplicate.
ND	Not Determined
TVOCs	Total volatile organic compounds

Detections are highlighted

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Table 3: Ambient Air Laboratory Results (2021-06-29 through 2021-07-06)

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 Interest[1]							
1,1,1-Trichloroethane	520	0.7	< 0.38	< 0.39	< 0.38	< 0.34	< 0.35
1,1-Dichloroethane	45	< 0.25	< 0.28	< 0.29	< 0.28	< 0.26	< 0.26
1,1-Dichloroethene	8	<0.25	< 0.14	< 0.14	< 0.14	< 0.12	< 0.13
1,2-Dichloroethane	3	< 0.25	< 0.28	< 0.29	< 0.28	< 0.26	< 0.26
Benzene	8	5.8	< 0.55	< 0.57	< 0.56	< 0.51	< 0.51
Ethyl-benzene	29	1.9	< 0.30	< 0.31	**0.35**	< 0.28	< 0.28
m,p-Xylene	10	3.1	< 0.60	< 0.62	**0.99**	**0.75**	< 0.56
o-Xylene	10	2.3	< 0.30	< 0.31	**0.37**	**0.29**	< 0.28
Tetrachloroethene	30	1.6	< 0.47	< 0.48	< 0.48	< 0.43	< 0.44
Toluene	521	21	**0.97**	**0.87**	**1.6**	**1.9**	**1.0**
trans-1,2-Dichloroethene	82	NA2	< 1.4	< 1.4	< 1.4	< 1.2	< 1.3
Trichloroethene	2	0.5	< 0.37	< 0.38	< 0.38	< 0.34	< 0.34
Vinyl Chloride	8	< 0.25	< 0.088	< 0.091	< 0.090	< 0.081	< 0.082
Other Compounds[3]							
1,1,2,2-Tetrachloroethane	1.3	< 0.25	< 0.48	< 0.49	< 0.48	< 0.44	< 0.44
1,1,2-Trichloroethane	0.21	< 0.25	< 0.38	< 0.39	< 0.38	< 0.34	< 0.35
1,2-Dibromoethane (EDB)	0.12	< 0.25	< 0.53	< 0.55	< 0.54	< 0.49	< 0.49
1,4-Dichlorobenzene	7	0.8	< 0.42	< 0.43	< 0.42	< 0.38	< 0.39
Carbon Tetrachloride	12	1	< 0.44	< 0.45	< 0.44	**0.42**	**0.41**
Chloroethane	417	0.4	< 0.46	< 0.47	< 0.46	< 0.42	< 0.42
Chloroform	3	0.5	< 0.34	< 0.35	< 0.34	< 0.31	< 0.31
Chloromethane	310	4.6	< 3.6	< 3.7	< 3.6	< 3.3	< 3.3
cis-1,2-Dichloroethene	NA1	< 0.25	< 0.27	< 0.28	< 0.28	< 0.25	< 0.25
Freon 114	NA1	1.3	< 0.48	< 0.50	< 0.49	< 0.44	< 0.45
Freon 12	100	11	**2.0**	**2.0**	**2.0**	**2.1**	**2.1**
Methyl tert-butyl ether	260	NA2	< 1.2	< 1.3	< 1.3	< 1.1	< 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 document[2]

[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


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