NORTHROP GRUMMAN

ISTR Operations Monthly Progress Report

Reporting Period: September 2021

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

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

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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 September 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*
- Liquid discharges comply with criteria specified in the RAWP*

** See slides 11 and 12 for additional information*

Reporting Period: September 2021

System Startup	8/26/2020
Days of Operation Since Startup	400
Estimated cumulative TVOC Mass Removed, lbs	1,355

Remedy Progress / Performance Monitoring September 2021

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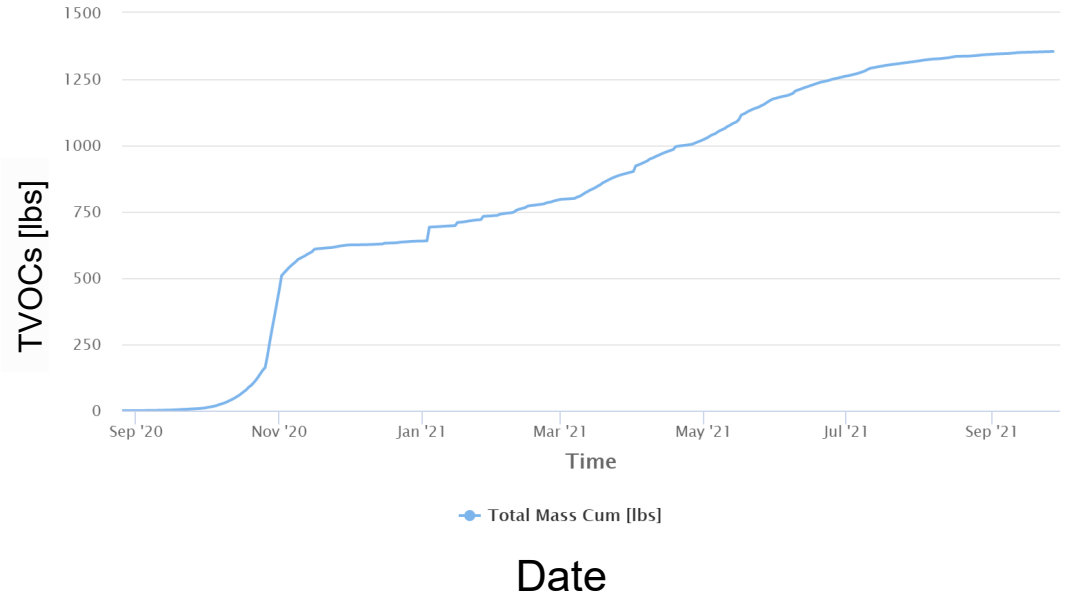
Cumulative TVOC Mass Removed



Estimated 1,355 lbs of total volatile organic compounds (TVOCs) removed through 9/30.

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
September 2021

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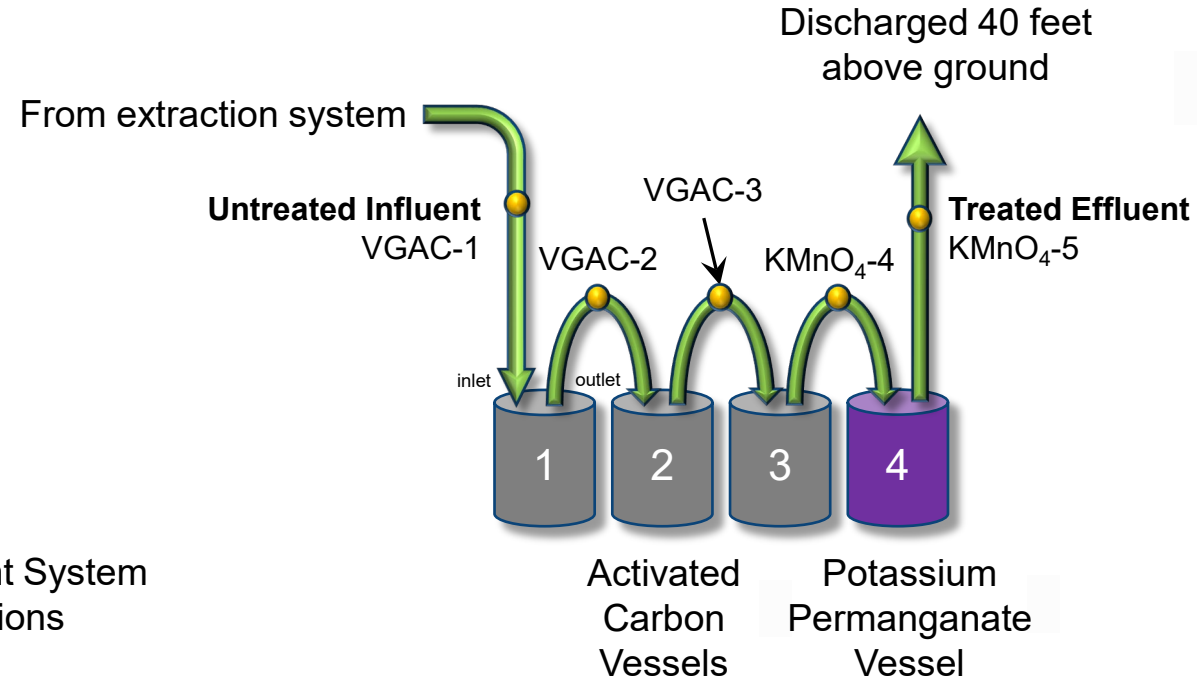
Vapor Treatment System



- Vapor Treatment System Sampling Locations

Remedy Progress / Performance Monitoring September 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 September.

Vapor treatment system analytical results for September provided in Table 1

Remedy Progress / Performance Monitoring September 2021

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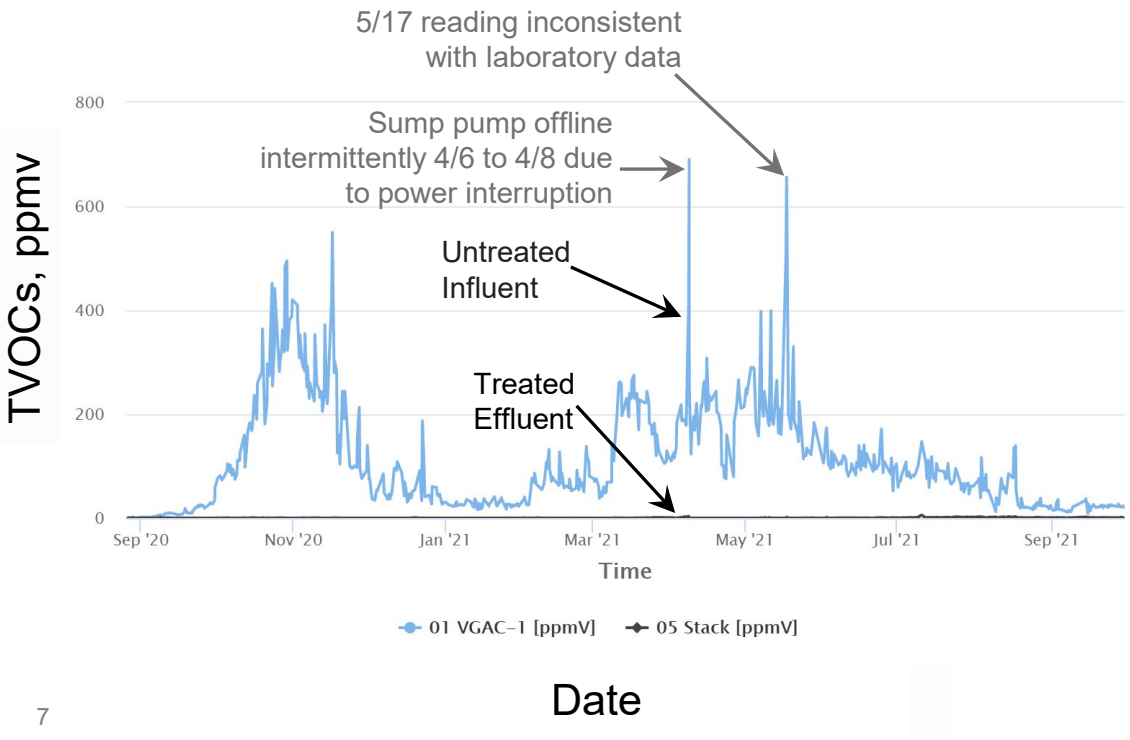
Vapor Treatment System (PID)



TVOC concentrations (PID) on September 30:

- Influent = 22 ppmv
- Effluent = 0.8 ppmv

Maximum TVOC concentrations (PID) during September reporting period:

- Influent = 37 ppmv
- Effluent = 2.2 ppmv

Remedy Progress / Performance Monitoring September 2021

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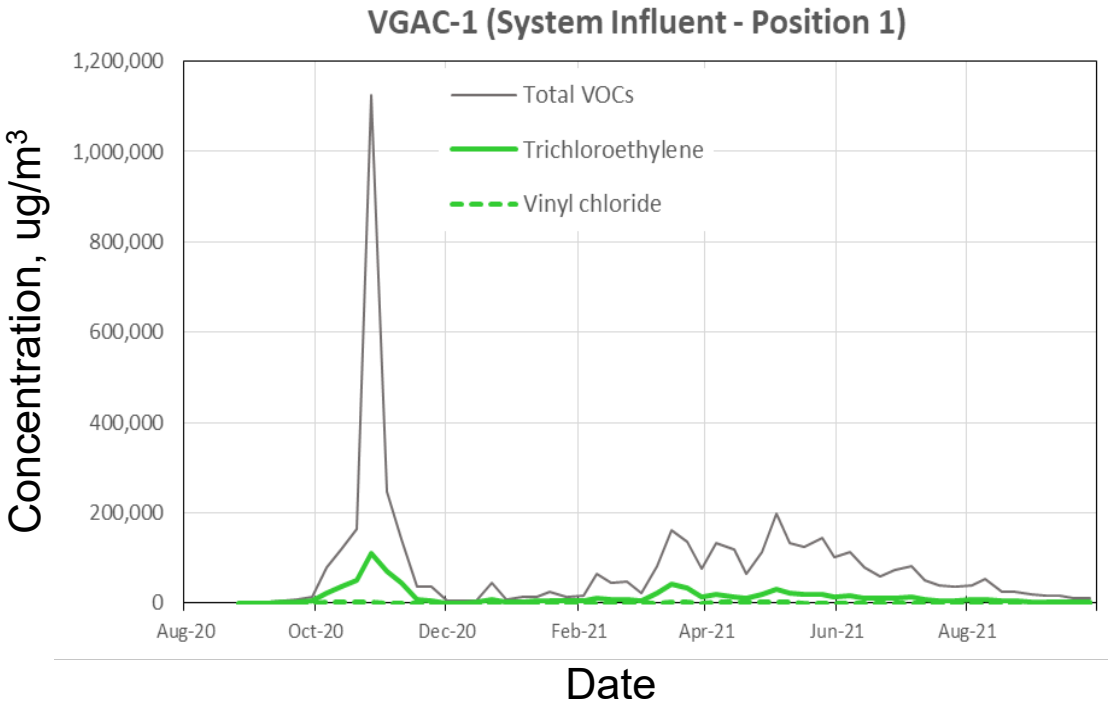
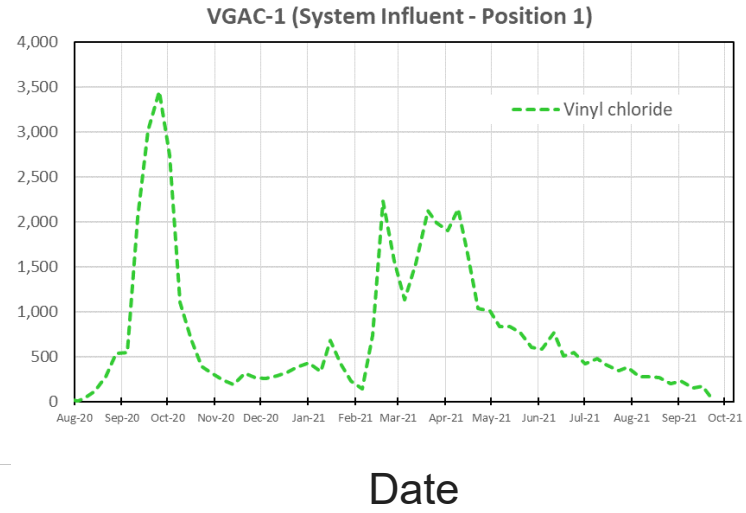
Vapor Treatment System Influent



Influent concentrations (Summa) on 9/27:

- TVOCs = 11,060 ug/m^3
- TCE = 2,360 ug/m^3
- Vinyl chloride = 228 ug/m^3



Remedy Progress / Performance Monitoring
September 2021

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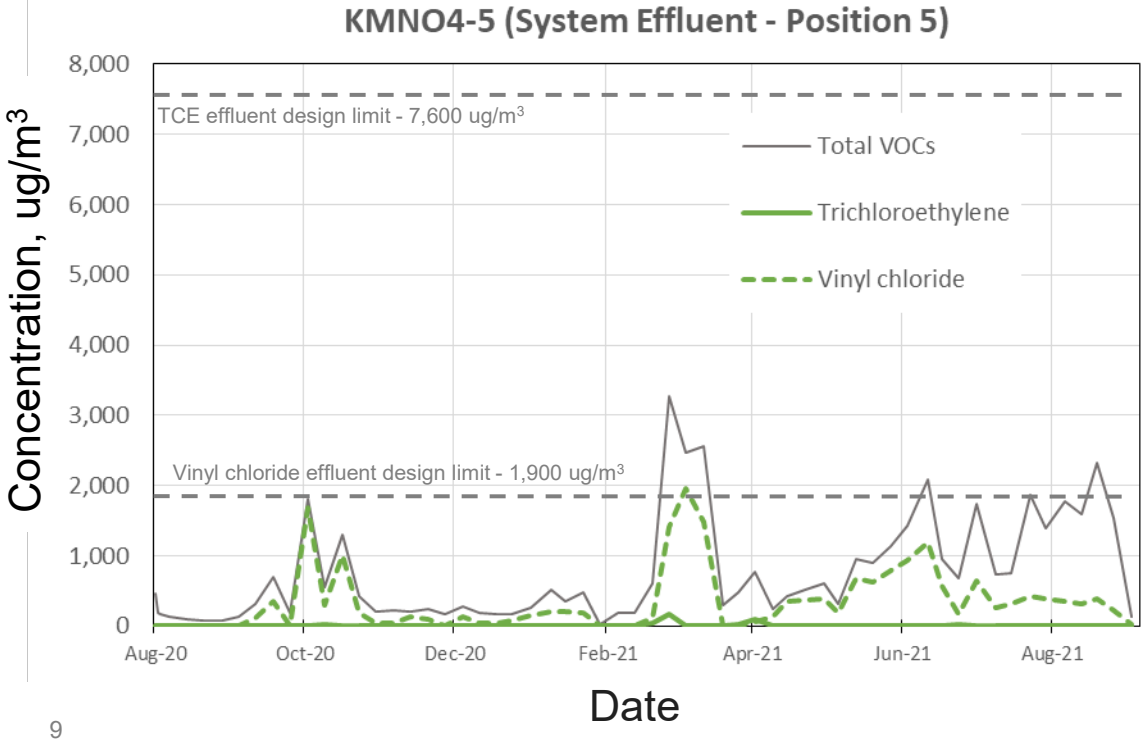
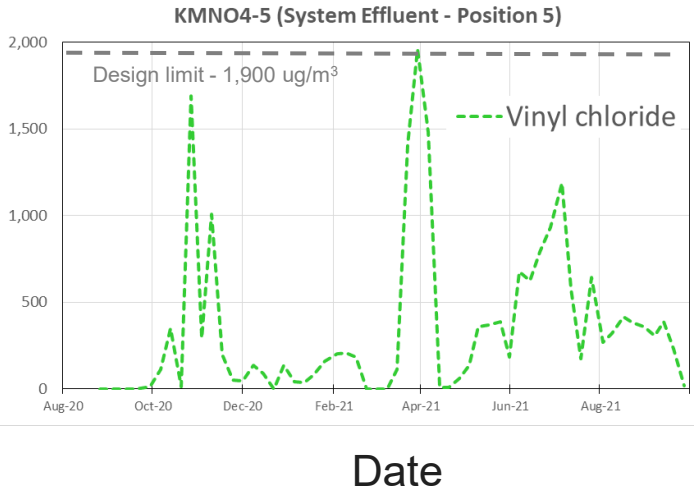
Vapor Treatment System Effluent



Effluent concentrations (Summa) on 9/27:

- TVOCs = 134 ug/m^3
- TCE = 2.6 ug/m^3
- Vinyl chloride = 19 ug/m^3



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September 2021

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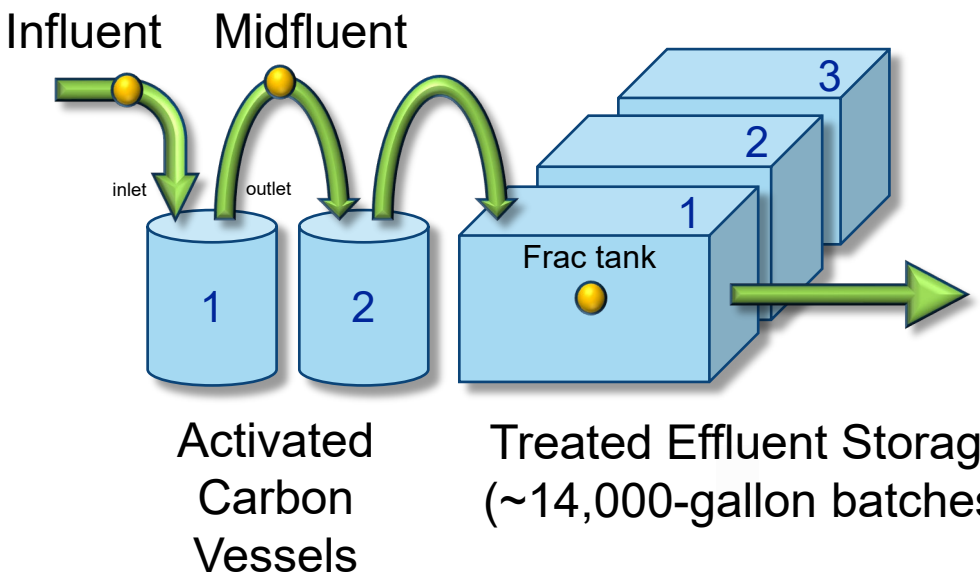
Liquid Treatment System



- Liquid Treatment System Sampling Locations

Treated liquid pumped to OU3 Groundwater Treatment System

Remedy Progress / Performance Monitoring September 2021

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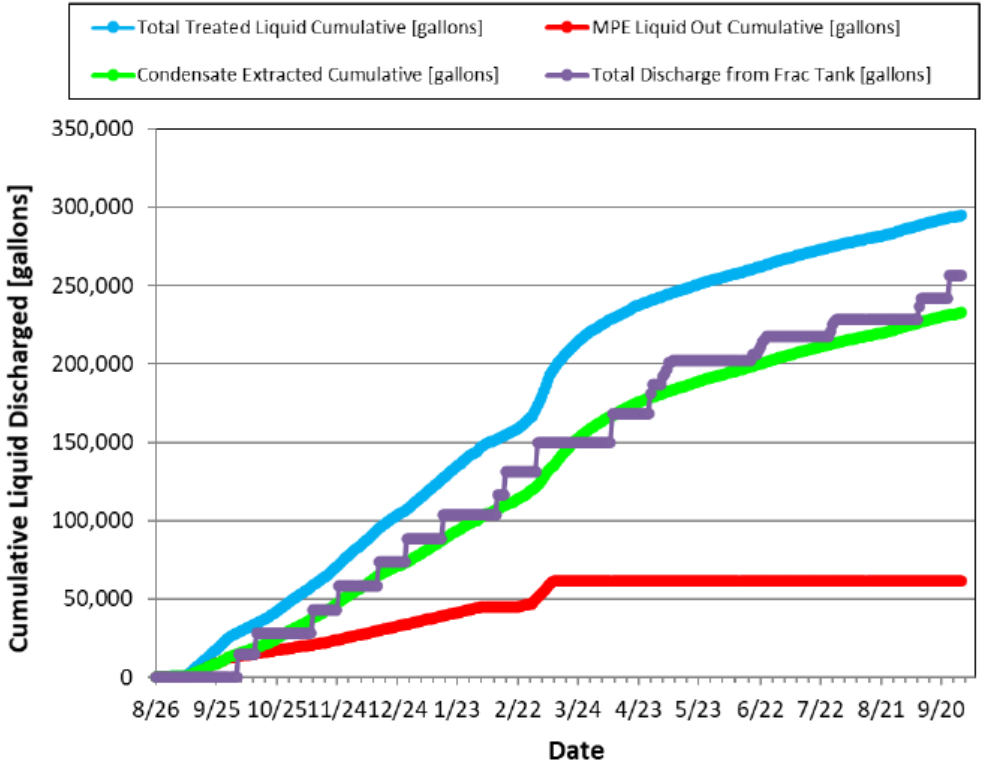
Cumulative Liquid Produced



294,566 total gallons extracted and treated through 9/30

256,720 total gallons treated effluent discharged to OU3 groundwater treatment system through 9/30*

* As described in the discharge monitoring report for September 2021, the iron concentration in the OU3 groundwater treatment system effluent sample collected on September 9 was above the SPDES limit of 600 ug/L.

Liquid treatment system analytical results for September provided in Table 2

Ambient Air PID Monitoring
September 2021

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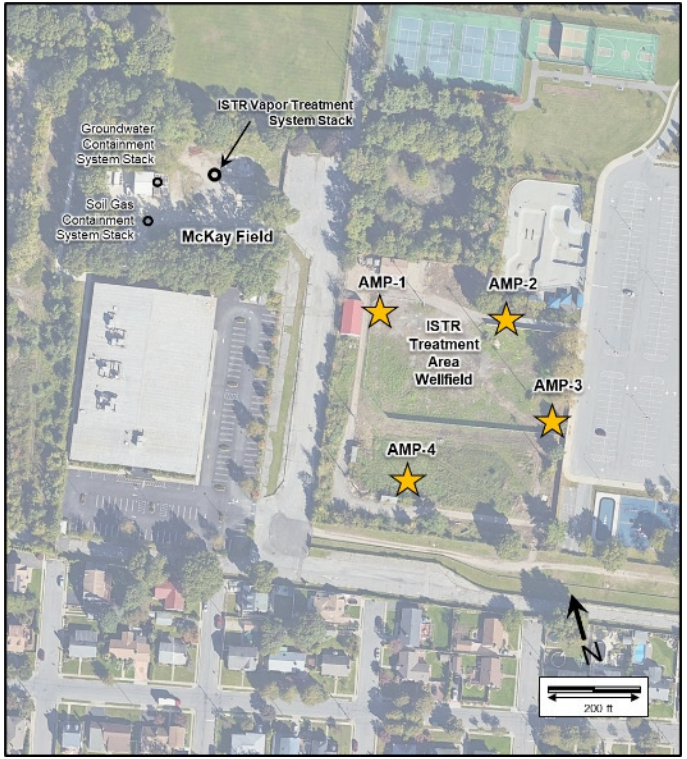
PID levels comply with Community Air Monitoring Plan (CAMP) criteria in the RAWP:

- 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, elevated PID readings were recorded on 9/1, 2, 8, 9, 11, 16, 20, 21, 24, and 25 at AMP-1 and/or AMP -3. These PID readings were the result of atmospheric conditions and/or instrument errors/faults and could not be confirmed by downwind station readings and/or hand-held PID units. Also, inspections did not identify any remedial equipment malfunctions or releases to ambient air.



Significant Activities
September 2021

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Major equipment repairs and significant downtime:

None

Other significant activities:

- Began modifications to the OU3 SGCS on September 22 to treat ISTR vapors (per NYSDEC 9/9/21 approval).
- Installed pneumatic pumps to purge water from six shallow VEWs.
- Continued LNAPL gauging and removal in 8 VEWs.

Planned Significant Activities During Next Two Months

- Maintain vapor extraction system operation, monitoring, and maintenance in preparation for system shutdown.
- Continue modifications of the OU3 SGCS to treat ISTR vapors.
- Continue LNAPL gauging and removal in 8 VEWs.
- Continue purging water from shallow VEWs.
- Continue decommissioning of ISTR system.

Schedule

Activity	RAWP Schedule	Current Status
Remedial System Operation	Q3/20 – Q1/21	Q3/20 – Q4/21
Post-Treatment Confirmation Sampling	Q1/21	Complete
Remedy Cool-down	Q1/21-Q2-21	Q1/21 - Q1/22
Equipment Removal & Site Restoration	Q2/21	Q4/21

ISTR vapor extraction and treatment system continues to operate.

Pending RAWP Modifications

None


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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:	JD31076-1		JD31076-2		JD31076-3	
	Date Sampled:	9/7/2021		9/7/2021		9/7/2021	
1,1,1-Trichloroethane		< 7.1		< 1.5		< 1.8	
1,1-Dichloroethane		**48.6**		**22**		< 0.49	
1,1-Dichloroethylene		**25**		**97.9**		< 0.67	
1,2,4-Trimethylbenzene		< 6.4		< 1.3		< 1.6	
1,2-Dibromoethane		< 5.5		< 1.1		< 1.4	
1,3,5-Trimethylbenzene		< 6.4		< 1.3		< 1.7	
1,3-Butadiene		< 4.0		< 0.82		< 1.0	
1,4-Dioxane*		< 7.6		< 1.5		< 1.9	
2,2,4-Trimethylpentane		**40**		< 0.79		< 1.0	
2-Hexanone		**28**	J	< 1.2		< 1.5	
4-Ethyltoluene		< 5.9		< 1.2		< 1.5	
Acetone*		**4,540**		**444**		**706**	
Benzene		**13**	J	< 0.30		< 0.38	
Bromoform		< 16		< 3.1		< 3.8	
Carbon disulfide		**63.5**		**86.3**		**308**	
Carbon tetrachloride		< 5.9		< 1.2		< 1.5	
Chloroethane		< 5.0		**7.9**		**9.5**	
Chloroform		< 3.9		< 0.78		< 0.98	
Chloromethane*		**11**	J	**12**		**13**	
cis-1,2-Dichloroethylene		**3,030**		**956**		< 0.48	
Cyclohexane		< 3.0		< 0.62		< 0.76	
Dichlorodifluoromethane		< 3.3		< 0.64		< 0.84	
Ethanol		**128**		**258**		**102**	
Ethyl acetate		< 5.4		**54.0**		**11**	
Ethylbenzene		**104**		< 0.52		< 0.65	
Heptane		**72.5**		< 0.57		< 0.74	
Hexane		< 1.5		< 0.30		< 0.39	
Isopropyl alcohol*		**82.8**		**7.1**		**5.7**	
m,p-Xylene		**293**		**5.6**	J	< 1.5	
m-Dichlorobenzene		< 4.6		< 0.90		< 1.1	
Methyl ethyl ketone		**805**		**2.3**	J	< 1.2	
Methyl isobutyl ketone		**24**	J	< 1.2		< 1.5	
Methylene chloride*		< 2.0		**9.0**		**8.3**	
o-Dichlorobenzene		< 5.2		< 1.0		< 1.3	
o-Xylene		**95.1**		< 0.61		< 0.74	
Propylene*		**115**		**97.6**		**128**	
Styrene		< 3.2		< 0.64		< 0.81	
Tertiary butyl alcohol		**58.2**		**6.1**		< 0.42	
Tetrachloroethylene		**12**		< 1.7		< 2.1	
Tetrahydrofuran		< 5.9		< 1.2		< 1.5	
Toluene		**3,760**		**9.4**		**3.7**	J
trans-1,2-Dichloroethylene		**75.7**		**105**		< 0.29	
Trichloroethylene		**3,220**		**2.7**		< 1.0	
Trichlorofluoromethane		< 6.2		< 1.2		< 1.6	
Vinyl acetate		< 4.9		< 0.95		< 1.2	
Vinyl chloride*		**281**		**297**		**307**	
Xylenes (total)		**388**		**5.6**	J	< 0.74	
TVOCs		**16,920**		**2,480**		**1,602**	
TVOCs less poor adsorbers*		**11,900**		**1,600**		**400**	

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:	JD31467-1		JD31467-2		JD31467-3	
	Date Sampled:	9/13/2021		9/13/2021		9/13/2021	
1,1,1-Trichloroethane		< 7.1		< 3.6		< 3.6	
1,1-Dichloroethane		**51.0**		**44.9**		< 0.93	
1,1-Dichloroethylene		**25**		**139**		< 1.3	
1,2,4-Trimethylbenzene		< 6.4		< 3.2		< 3.2	
1,2-Dibromoethane		< 5.5		< 2.8		< 2.8	
1,3,5-Trimethylbenzene		< 6.4		< 3.3		< 3.3	
1,3-Butadiene		< 4.0		< 2.0		< 2.0	
1,4-Dioxane*		< 7.6		< 3.6		< 3.6	
2,2,4-Trimethylpentane		**40**		< 2.1		< 2.1	
2-Hexanone		**31**	J	< 3.0		< 3.0	
4-Ethyltoluene		< 5.9		< 2.9		< 2.9	
Acetone*		**3,820**		**584**		**1220**	
Benzene		**12**	J	< 0.77		< 0.77	
Bromoform		< 16		< 7.8		< 7.8	
Carbon disulfide		**50.1**		**225**		**427**	
Carbon tetrachloride		< 5.9		< 3.0		< 3.0	
Chloroethane		< 5.0		**9.5**	J	**13**	
Chloroform		< 3.9		< 2.0		< 2.0	
Chloromethane*		**13**	J	**11**		**15**	
cis-1,2-Dichloroethylene		**2,840**		**2,270**		< 0.91	
Cyclohexane		< 3.0		< 1.5		< 1.5	
Dichlorodifluoromethane		< 3.3		< 1.6		< 1.6	
Ethanol		**102**		**334**		**109**	
Ethyl acetate		**80.3**		**22**		< 2.7	
Ethylbenzene		**109**		< 1.3		< 1.3	
Heptane		**66.0**		< 1.4		< 1.4	
Hexane		< 1.5		< 0.74		< 0.74	
Isopropyl alcohol*		**62.9**		< 3.2		< 3.2	
m,p-Xylene		**291**		< 3.0		< 3.0	
m-Dichlorobenzene		< 4.6		< 2.3		< 2.3	
Methyl ethyl ketone		**758**		< 2.5		< 2.5	
Methyl isobutyl ketone		**30**	J	< 3.0		< 3.0	
Methylene chloride*		< 2.0		< 1.0		**14**	
o-Dichlorobenzene		< 5.2		< 2.6		< 2.6	
o-Xylene		**89.0**		< 1.5		< 1.5	
Propylene*		**114**		**122**		**145**	
Styrene		< 3.2		< 1.6		< 1.6	
Tertiary butyl alcohol		**54.3**		< 0.85		< 0.85	
Tetrachloroethylene		**14**		< 4.2		< 4.2	
Tetrahydrofuran		< 5.9		< 2.9		< 2.9	
Toluene		**3,670**		< 1.1		< 1.1	
trans-1,2-Dichloroethylene		**73.0**		**192**		< 0.59	
Trichloroethylene		**3,310**		< 2.0		< 2.0	
Trichlorofluoromethane		< 6.2		< 3.1		< 3.1	
Vinyl acetate		**117**		< 2.4		< 2.4	
Vinyl chloride*		**271**		**345**		**389**	
Xylenes (total)		**380**		< 1.5		< 1.5	
TVOCs		**16,090**		**4,300**		**2,330**	
TVOCs less poor adsorbers*		**11,800**		**3,200**		**500**	

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:	JD31873-1		JD31873-2		JD31873-3	
	Date Sampled:	9/20/2021		9/20/2021		9/20/2021	
1,1,1-Trichloroethane		< 3.6		< 1.8		< 0.71	
1,1-Dichloroethane		**38**		**56.7**		< 0.19	
1,1-Dichloroethylene		**19**		**109**		< 0.27	
1,2,4-Trimethylbenzene		**18**	J	< 1.6		< 0.64	
1,2-Dibromoethane		< 2.8		< 1.4		< 0.55	
1,3,5-Trimethylbenzene		< 3.3		< 1.7		< 0.64	
1,3-Butadiene		< 2.0		< 1.0		< 0.40	
1,4-Dioxane*		< 3.6		< 1.9		< 0.76	
2,2,4-Trimethylpentane		**28**		< 1.0		< 0.41	
2-Hexanone		**34**		< 1.5		< 0.61	
4-Ethyltoluene		< 2.9		< 1.5		< 0.59	
Acetone*		**2,000**		**682**		**827**	
Benzene		**9.6**	J	< 0.38		< 0.15	
Bromoform		< 7.8		< 3.8		< 1.6	
Carbon disulfide		**36.1**		**238**		**254**	
Carbon tetrachloride		< 3.0		< 1.5		< 0.59	
Chloroethane		< 2.6		**6.3**		**6.9**	
Chloroform		**8.3**	J	< 0.98		< 0.39	
Chloromethane*		**6.4**	J	**9.9**		**9.1**	
cis-1,2-Dichloroethylene		**2,020**		**1,800**		**5.9**	
Cyclohexane		< 1.5		< 0.76		< 0.30	
Dichlorodifluoromethane		< 1.6		< 0.84		**2.3**	J
Ethanol		**85.9**		**228**		**79.5**	
Ethyl acetate		< 2.7		< 1.4		**2.5**	J
Ethylbenzene		**75.1**		< 0.65		< 0.26	
Heptane		**51.6**		< 0.74		< 0.29	
Hexane		< 0.74		< 0.39		< 0.15	
Isopropyl alcohol*		**56.3**		< 1.6		< 0.64	
m,p-Xylene		**215**		< 1.5		**2.2**	J
m-Dichlorobenzene		< 2.3		< 1.1		< 0.46	
Methyl ethyl ketone		**584**		< 1.2		**2.3**	J
Methyl isobutyl ketone		**20**		< 1.5		< 0.57	
Methylene chloride*		**16**		< 0.52		**11**	
o-Dichlorobenzene		< 2.6		< 1.3		< 0.52	
o-Xylene		**69.1**		< 0.74		< 0.30	
Propylene*		**88.0**		**103**		**95.2**	
Styrene		< 1.6		< 0.81		< 0.32	
Tertiary butyl alcohol		**37.6**		< 0.42		**1.4**	J
Tetrachloroethylene		**74.6**		**4.0**		**4.0**	
Tetrahydrofuran		< 2.9		< 1.5		< 0.59	
Toluene		**2,000**		**5.3**	J	**3.1**	
trans-1,2-Dichloroethylene		**57.9**		**222**		**3.1**	J
Trichloroethylene		**2,410**		**5.9**		< 0.41	
Trichlorofluoromethane		< 3.1		< 1.6		< 0.62	
Vinyl acetate		< 2.4		< 1.2		< 0.49	
Vinyl chloride*		**204**		**258**		**230**	
Xylenes (total)		**285**		< 0.74		**2.2**	J
TVOCs		**10,260**		**3,730**		**1,540**	
TVOCs less poor adsorbers*		**7,900**		**2,700**		**400**	

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: / Lab Sample ID: / Date Sampled:	VGAC-1 JD32304-1 9/27/2021	VGAC-3 JD32304-2 9/27/2021	KMNO4-5 JD32304-3 9/27/2021	DUPLICATE JD32304-4 9/27/2021
1,1,1-Trichloroethane	< 7.1	< 7.1	< 0.71	< 1.8
1,1-Dichloroethane	**48.2**	**70.0**	< 0.19	< 0.49
1,1-Dichloroethylene	**22**	**82.1**	< 0.27	< 0.67
1,2,4-Trimethylbenzene	< 6.4	< 6.4	< 0.64	< 1.6
1,2-Dibromoethane	< 5.5	< 5.5	< 0.55	< 1.4
1,3,5-Trimethylbenzene	< 6.4	< 6.4	< 0.64	< 1.7
1,3-Butadiene	< 4.0	< 4.0	< 0.40	< 1.0
1,4-Dioxane*	< 7.6	< 7.6	< 0.76	< 1.9
2,2,4-Trimethylpentane	**29 J**	< 4.1	< 0.41	< 1.0
2-Hexanone	< 6.1	< 6.1	< 0.61	< 1.5
4-Ethyltoluene	< 5.9	< 5.9	< 0.59	< 1.5
Acetone*	**3,160**	**2,130**	**51.8**	**539**
Benzene	< 1.5	< 1.5	< 0.15	< 0.38
Bromoform	< 16	< 16	< 1.6	< 3.8
Carbon disulfide	**38.3**	**187**	**11**	**152**
Carbon tetrachloride	< 5.9	< 5.9	< 0.59	< 1.5
Chloroethane	< 5.0	< 5.0	< 0.50	**4.0 J**
Chloroform	< 3.9	< 3.9	< 0.39	< 0.98
Chloromethane*	**8.5 J**	**9.5 J**	**1.6 J**	**6.8**
cis-1,2-Dichloroethylene	**2,230**	**3,080**	**4.8**	< 0.48
Cyclohexane	< 3.0	< 3.0	< 0.30	< 0.76
Dichlorodifluoromethane	< 3.3	< 3.3	**2.5 J**	< 0.84
Ethanol	**105**	**151**	**15**	**84.4**
Ethyl acetate	< 5.4	< 5.4	**3.6**	**6.5 J**
Ethylbenzene	**49.5**	< 2.6	< 0.26	< 0.65
Heptane	**45.1**	< 2.9	< 0.29	< 0.74
Hexane	**13 J**	< 1.5	< 0.15	< 0.39
Isopropyl alcohol*	**70.1**	< 6.4	**2.4**	< 1.6
m,p-Xylene	**128**	< 6.1	**1.9 J**	< 1.5
m-Dichlorobenzene	< 4.6	< 4.6	< 0.46	< 1.1
Methyl ethyl ketone	**528**	< 5.0	**1.7 J**	< 1.2
Methyl isobutyl ketone	**16 J**	< 5.7	< 0.57	< 1.5
Methylene chloride*	< 2.0	**14 J**	< 0.20	**6.6 J**
o-Dichlorobenzene	< 5.2	< 5.2	< 0.52	< 1.3
o-Xylene	**38**	< 3.0	< 0.30	< 0.74
Propylene*	**105**	**110**	**11**	**81.3**
Styrene	< 3.2	< 3.2	< 0.32	< 0.81
Tertiary butyl alcohol	**44.6**	< 1.7	< 0.17	< 0.42
Tetrachloroethylene	< 8.1	< 8.1	< 0.81	< 2.1
Tetrahydrofuran	< 5.9	< 5.9	< 0.59	< 1.5
Toluene	**1,740**	< 2.2	**4.9**	< 0.53
trans-1,2-Dichloroethylene	**59.5**	**269**	< 0.11	< 0.29
Trichloroethylene	**2,360**	< 4.1	**2.6**	< 1.0
Trichlorofluoromethane	< 6.2	< 6.2	< 0.62	< 1.6
Vinyl acetate	< 4.9	< 4.9	< 0.49	< 1.2
Vinyl chloride*	**228**	**274**	**19**	**166**
Xylenes (total)	**165**	< 3.0	**1.9 J**	< 0.74
TVOCs	**11,060**	**6,380**	**133.8**	**1,047**
TVOCs less poor adsorbers*	**7,500**	**3,800**	**0**	**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 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:	FRAC3-A191-20210907 / JD31073-1 / 1A / 9/7/2021	LGAC-MID-20210907 / JD31073-2 / 2A / 9/7/2021	LGAC-INF-20210907 / JD31073-3 / 3A / 9/7/2021	OU3 AIR STRIPPER FINAL EFF-20210909 / JD31220-1 / 9/9/2021
Volatile Organic Compounds (ug/L, detections only):							
1,2,3-Trichlorobenzene	5			**0.72 J**	< 0.50	< 0.50	-
1,2,4-Trichlorobenzene				**2.2**	< 0.50	< 0.50	-
1,2-Dichlorobenzene				**3.5**	< 0.53	< 0.53	-
1,3-Dichlorobenzene				**1.5**	< 0.54	< 0.54	-
1,4-Dichlorobenzene				**0.95 J**	< 0.51	< 0.51	-
2-Butanone (MEK)	50			< 6.9	< 6.9	**203**	-
2-Hexanone	50			< 2.0	< 2.0	**25.1**	-
4-Methyl-2-pentanone (MIBK)	--			< 1.9	< 1.9	**5.0**	-
Acetone*	50			< 3.1	**8.3 J**	**1,010**	-
cis-1,2-Dichloroethene	5	5		< 0.51	< 0.51	**2.5**	-
m,p-Xylene	5			< 0.78	< 0.78	**2.2**	-
o-Xylene	5			< 0.59	< 0.59	**1.6**	-
Toluene	5			< 0.53	< 0.53	**5.7**	-
Trichloroethene	5	5		< 0.53	< 0.53	**0.94 J**	-
Xylene (total)	5			< 0.59	< 0.59	**3.8**	-
TVOCs	--			**8.9**	**8.3**	**1,256**	
TVOCs less poor adsorbers*	--			**8.9**	0	**246**	
Semivolatile Organic Compounds (ug/L, detections only):							
1,4-Dioxane	--			< 0.63	< 0.63	**2.7**	-
2,4-Dimethylphenol	1			< 2.3	< 2.3	**16.0**	-
2-Methylphenol	2**			< 0.85	< 0.85	**9.1**	-
3&4-Methylphenol	2**			< 0.85	< 0.84	**24.7**	-
Acetophenone	--			< 0.20	< 0.20	**45.2**	-
Benzo(a)anthracene	0.002			< 0.20	< 0.19	**0.22 J**	-
Chrysene	0.002			< 0.17	< 0.17	**0.47 J**	-
Dimethyl phthalate	50			< 0.21	< 0.21	**2.3**	-
Fluoranthene	50			< 0.16	< 0.16	**0.93 J**	-
Phenanthrene	50			< 0.17	< 0.17	**2.0**	-
Phenol	1			< 0.38	< 0.37	**40.6**	-
Pyrene	50			< 0.21	< 0.21	**0.78 J**	-
Semivolatile Organic Compounds (SIM) (ug/L):							
1,4-Dioxane	--			**0.192**	< 0.048	**3.42**	-
Polychlorinated Biphenyls (ug/L):							
Aroclor 1016				< 0.15	< 0.15	< 0.15	-
Aroclor 1221				< 0.32	< 0.31	< 0.32	-
Aroclor 1232				< 0.20	< 0.19	< 0.20	-
Aroclor 1242				< 0.18	< 0.17	< 0.18	-
Aroclor 1248	0.09			< 0.097	< 0.093	**3.3**	-
Aroclor 1254	0.09			< 0.32	< 0.31	**2.4**	-
Aroclor 1260				< 0.12	< 0.11	< 0.12	-
Aroclor 1262				< 0.15	< 0.14	< 0.15	-
Aroclor 1268				< 0.13	< 0.13	< 0.13	-
Metals (ug/L):							
Cadmium				< 3.0	< 3.0	< 3.0	-
Chromium				< 10	< 10	< 10	-
Iron	300	600		**535**	< 100	**63,600**	**2,350**
Manganese	300	600		**156**	**107**	**288**	**57.5**
Sum of total iron and manganese		1000		**691**	**207**	**63,888**	
Mercury				< 0.20	< 0.20	**0.20**	-
General Chemistry (mg/L):							
Nitrogen, Nitrate	10	10		< 0.11	< 0.11	**0.36**	-
Nitrogen, Nitrate + Nitrite	10			< 0.10	< 0.10	**0.36**	-
Nitrogen, Nitrite	1			< 0.010	< 0.010	< 0.010	-
Nitrogen, Total Kjeldahl	-			**0.89**	**0.52**	**0.73**	-

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.
TVOCs	Total volatile organic compounds
	Detections are highlighted.