



Proactive by Design

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION
MANAGEMENT



MEMORANDUM

To: Joseph Martella, RIDEM

From: Dave Rusczyk, GZA

Cc: Kenneth Lento, Rhode Island Energy

Date: September 2, 2022

Re: Site Response Action Report
Period August 7, 2022 through August 20, 2022
Former Tidewater Facility
Pawtucket, Rhode Island
RIDEM Case No. 95-022 / Site Remediation File No. SR-26-0934

SITE ACTIVITIES PERFORMED

- Charter Contracting Company, LLC (Charter) continued activities related to implementation of the remedial construction work. These activities included:
 - Continued regrading of the ground surface south of the proposed stadium in preparation for installation of the engineered cap.
 - Continued installation of the engineered cap directly east of the substation.
 - Continued installation of the engineered cap in the western portion of the Site.
- Perimeter air monitoring was performed during the period covered by this report with 9 air monitoring stations (4 solar powered units located proximate to the river and 5 electrically powered units). The stations measured and recorded respirable dust and total volatile organic compounds (TVOC) concentrations continuously 24 hours per day/7 days per week. As indicated in the attached weekly perimeter air monitoring graphs, no exceedances of the total volatile organic compound (0.5 ppmv) and respirable dust ($150 \mu\text{g}/\text{m}^3$) perimeter threshold levels were observed during the monitoring period covered by this report with the exception of the following:
 - An isolated elevated respirable dust level above the 15-minute sustained perimeter threshold level was observed at Station 1 on August 11, 2022 at 3:20 pm. The elevated respirable dust level was attributed to the dry weather conditions and the contractor continued to apply water to Site materials through-out the day. The isolated elevated dust level decreased to background levels soon after detection and application of water to the Site materials. We also note that the majority of the Site is capped with clean imported materials with the exception of the areas in the proposed parking lot area south of the proposed stadium.
 - An isolated elevated total volatile organic compound (TVOC) concentration above the 15-minute sustained perimeter threshold level was observed at Station 10 on August 18, 2022 at 7:00 pm. No work was being performed at this time and the source of the isolated elevated TVOC concentration is unclear. TVOC levels however decreased to levels below the perimeter threshold level and consistent with background levels soon after detection of the isolated elevated TVOC concentration.



- GZA collected ambient air samples from upwind and downwind locations on August 11, 2022 and August 19, 2022 for laboratory analysis for benzene, toluene, ethylbenzene, xylenes, and naphthalene. The analytical results from these samples indicated there were no exceedances of the project action levels. The analytical results were posted to the project website and the bulletin boards at the ends of Tidewater Street and Bowles Court and are also attached to this report.

ANTICIPATED SITE ACTIVITIES TO BE PERFORMED WITHIN NEXT 2 WEEKS

- Completion of the engineered cap south of the proposed stadium.
- Completion of the engineered cap directly east of the substation.
- Completion of the engineered cap in the western portion of the Site outside the limits of the Narragansett Bay Commission's Combined Sewer Outfall upgrade project.

Please contact Kenneth Lento at 781-907-3655 if you have any questions or comments.

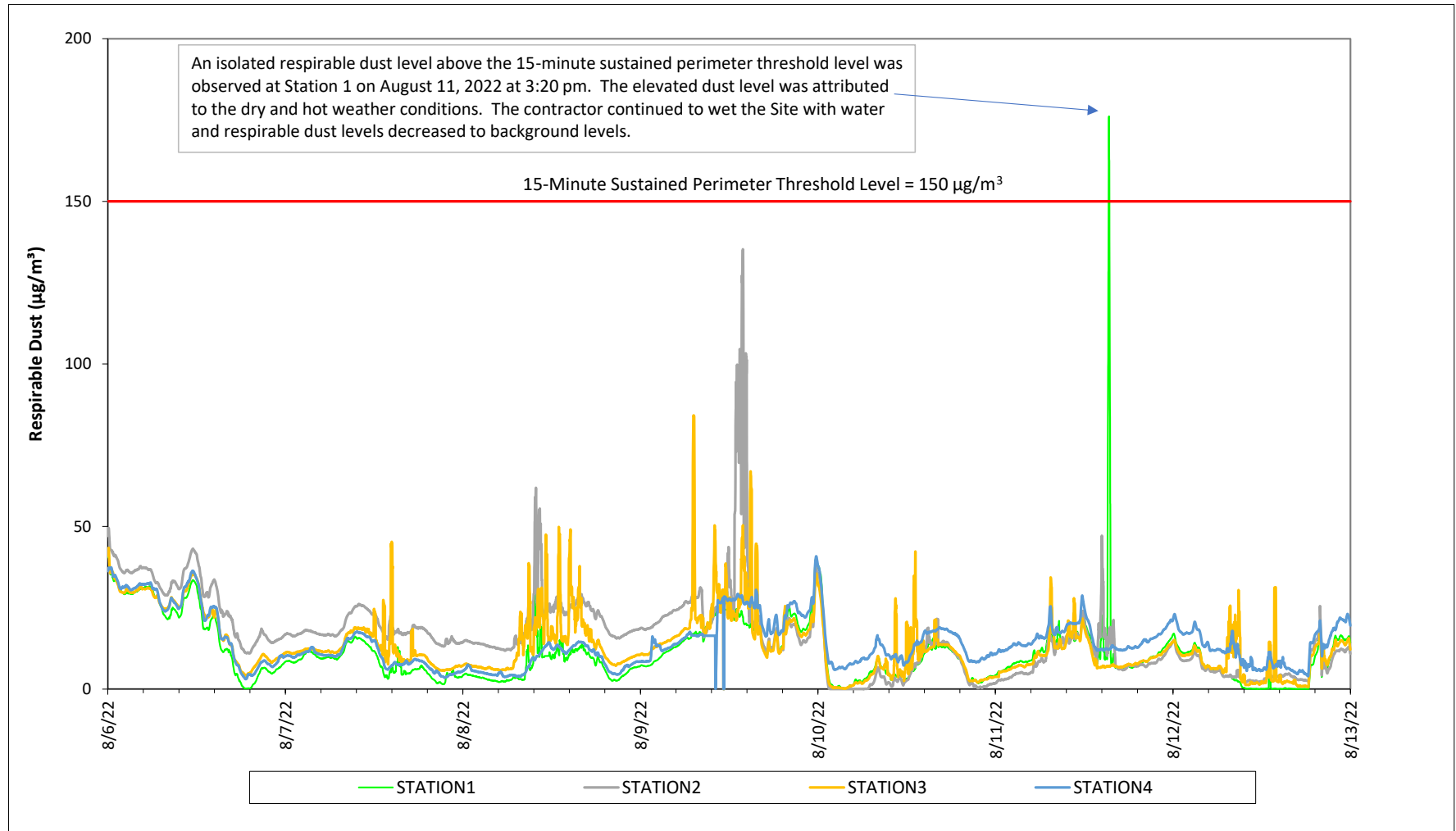
Attachments:

Weekly Perimeter Air Monitoring Results

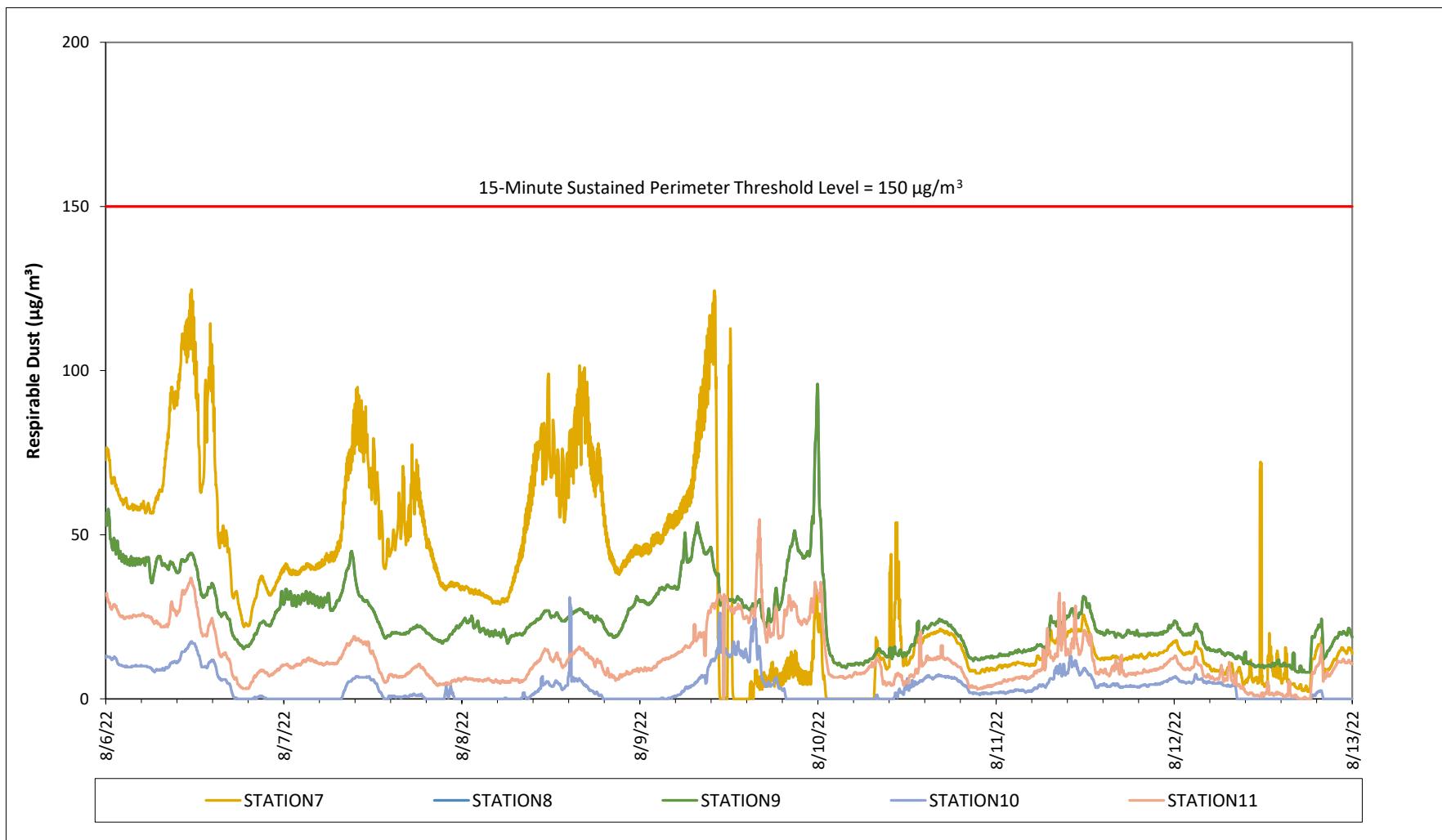
Air Monitoring Station Locations

Weekly Ambient Air Sampling Results

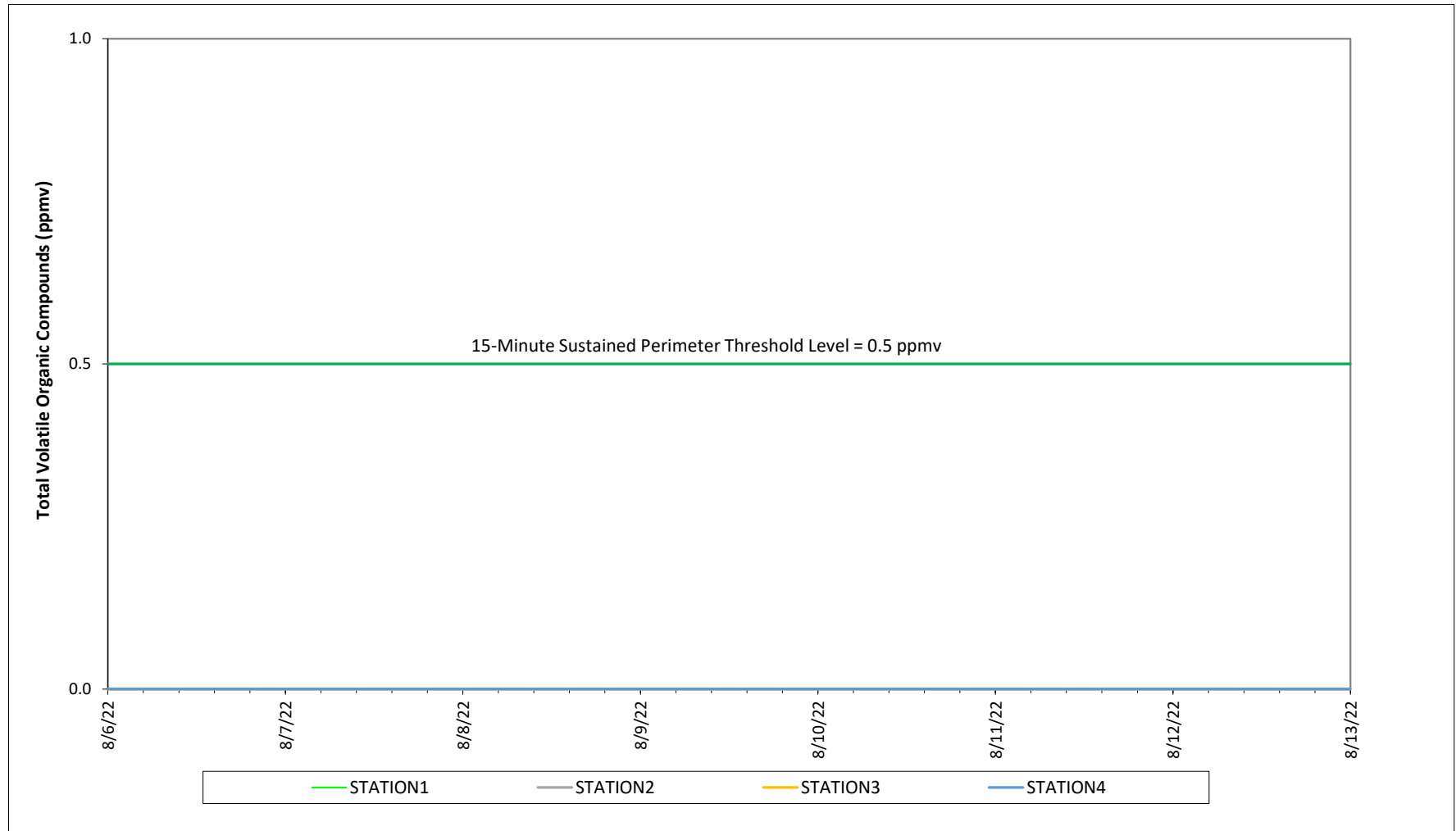
Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former
Tidewater Facility
Air Quality Monitoring - Respirable Dust



Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former
Tidewater Facility
Air Quality Monitoring - Respirable Dust

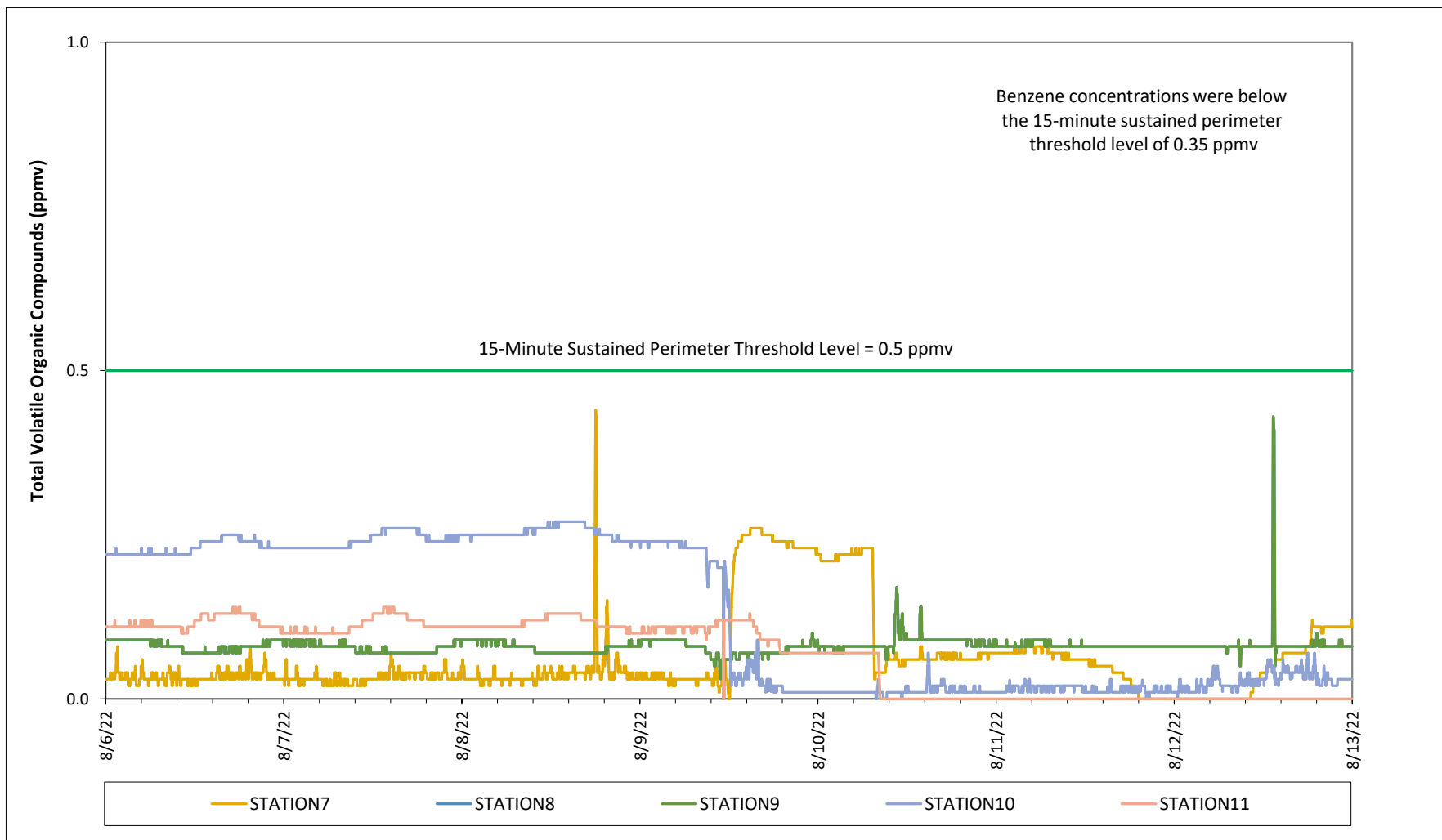


Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former
Tidewater Facility
Air Quality Monitoring - Total Volatile Organic Compounds

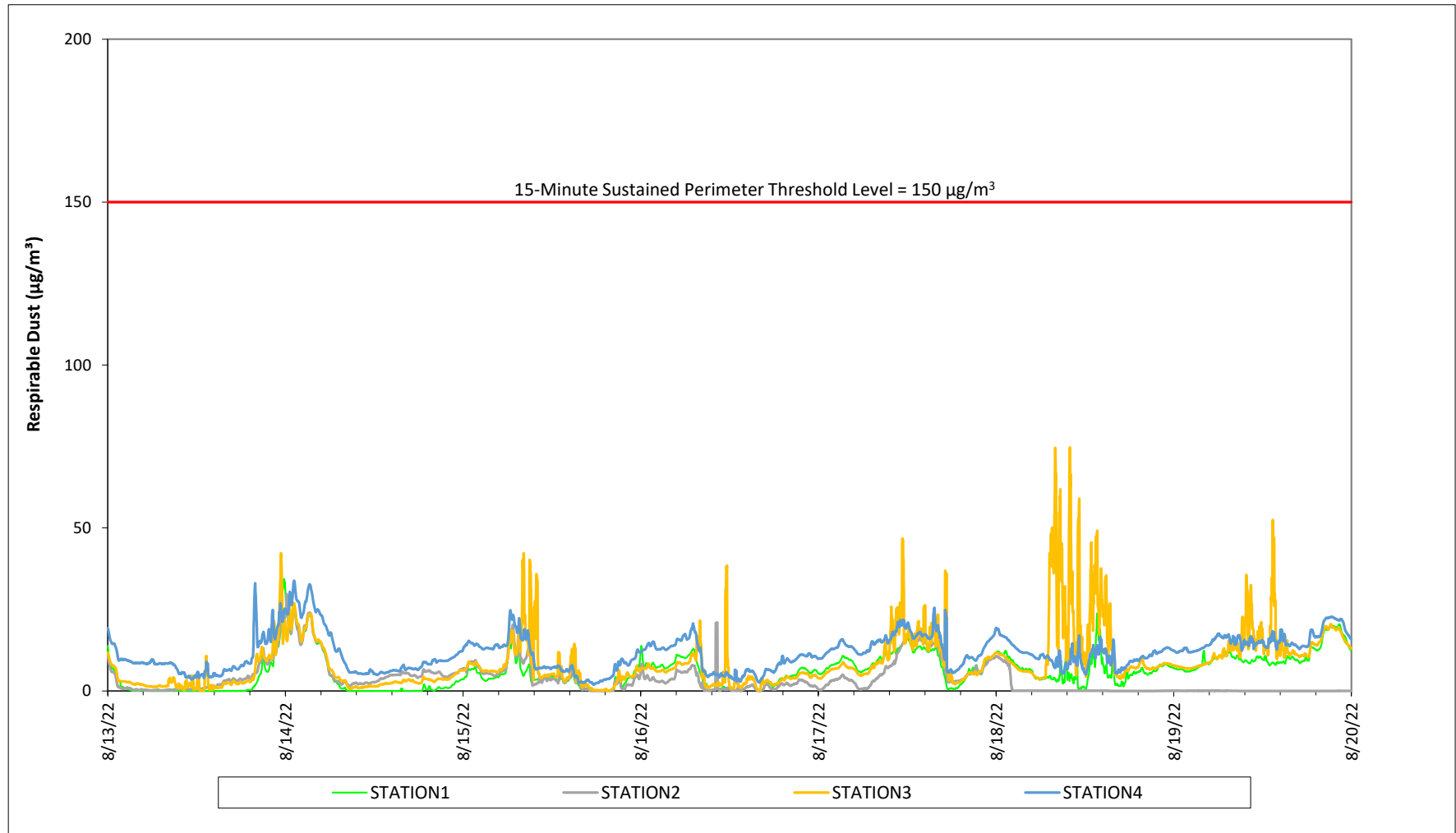


Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former
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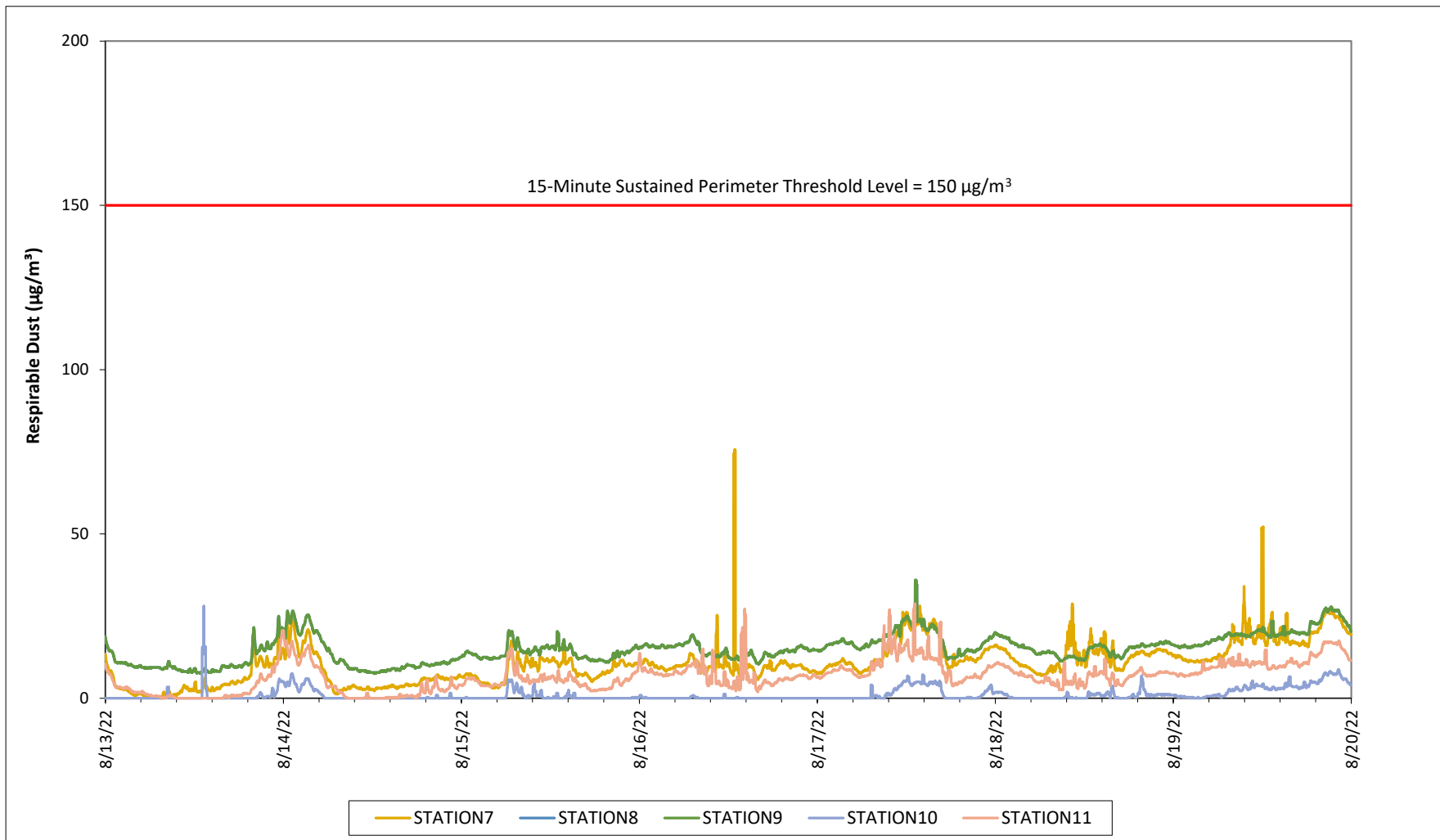
Air Quality Monitoring - Total Volatile Organic Compounds



Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former
Tidewater Facility
Air Quality Monitoring - Respirable Dust

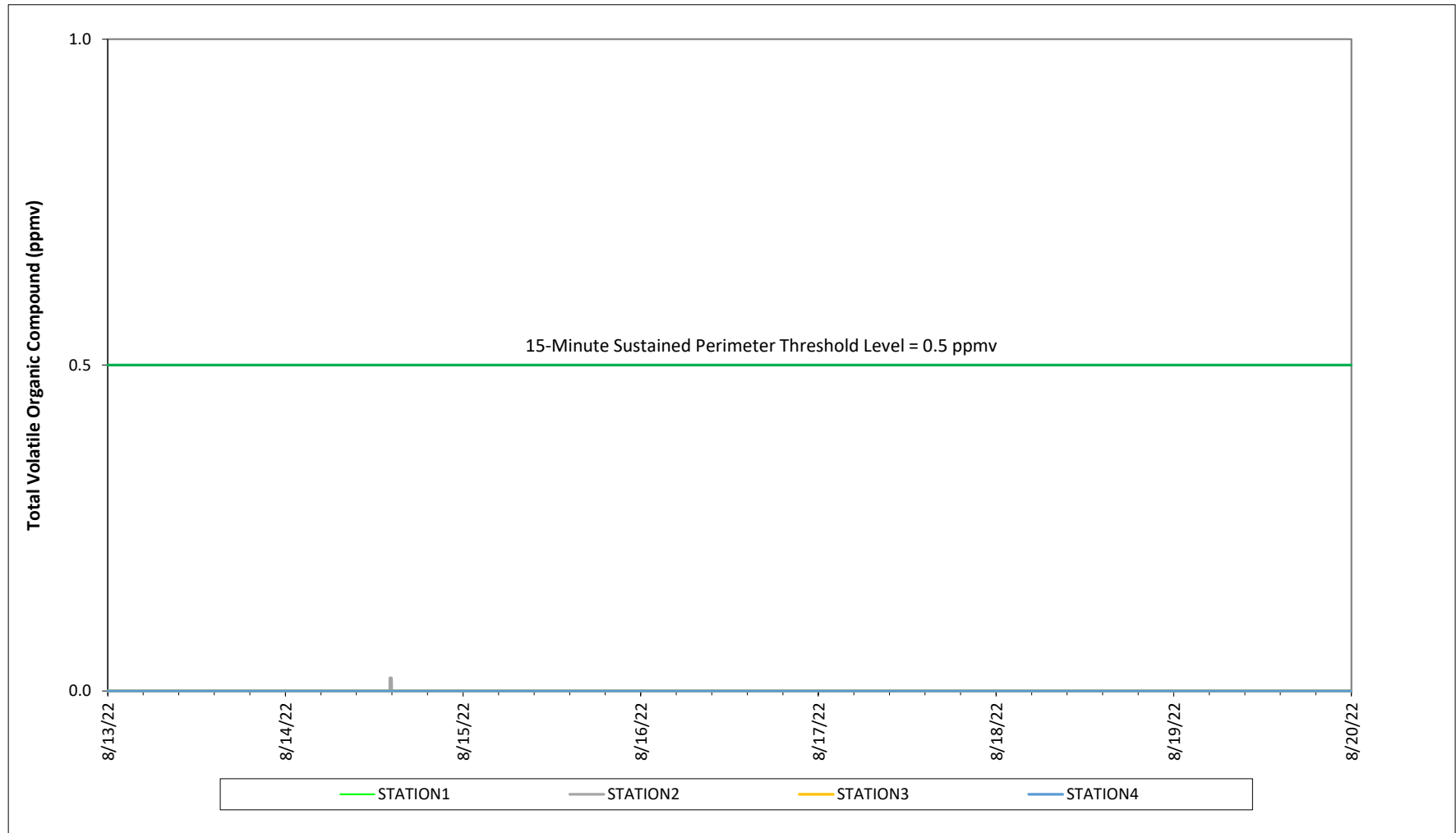


Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former
Tidewater Facility
Air Quality Monitoring - Respirable Dust



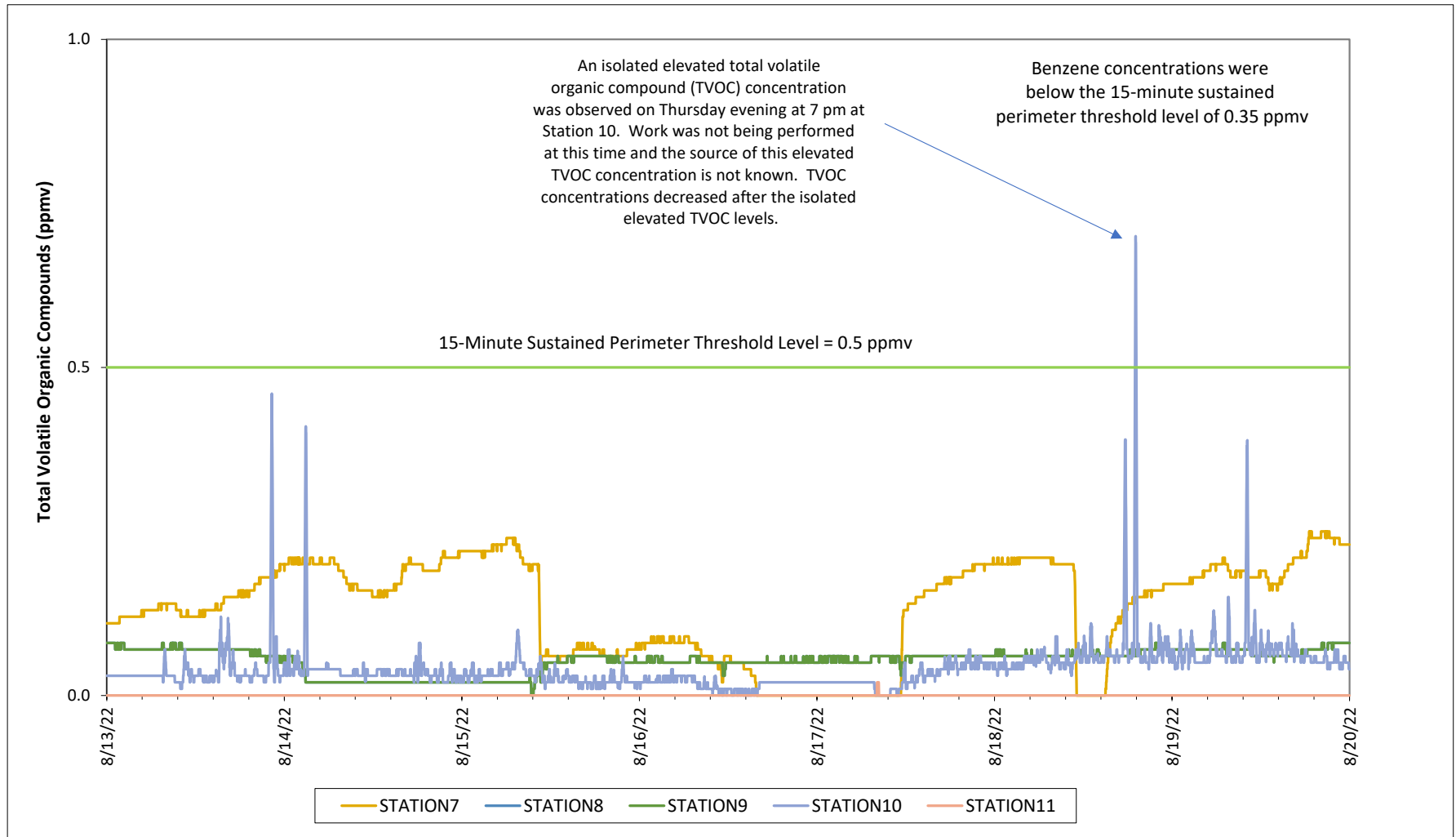
Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former
Tidewater Facility

Air Quality Monitoring - Total Volatile Organic Compounds

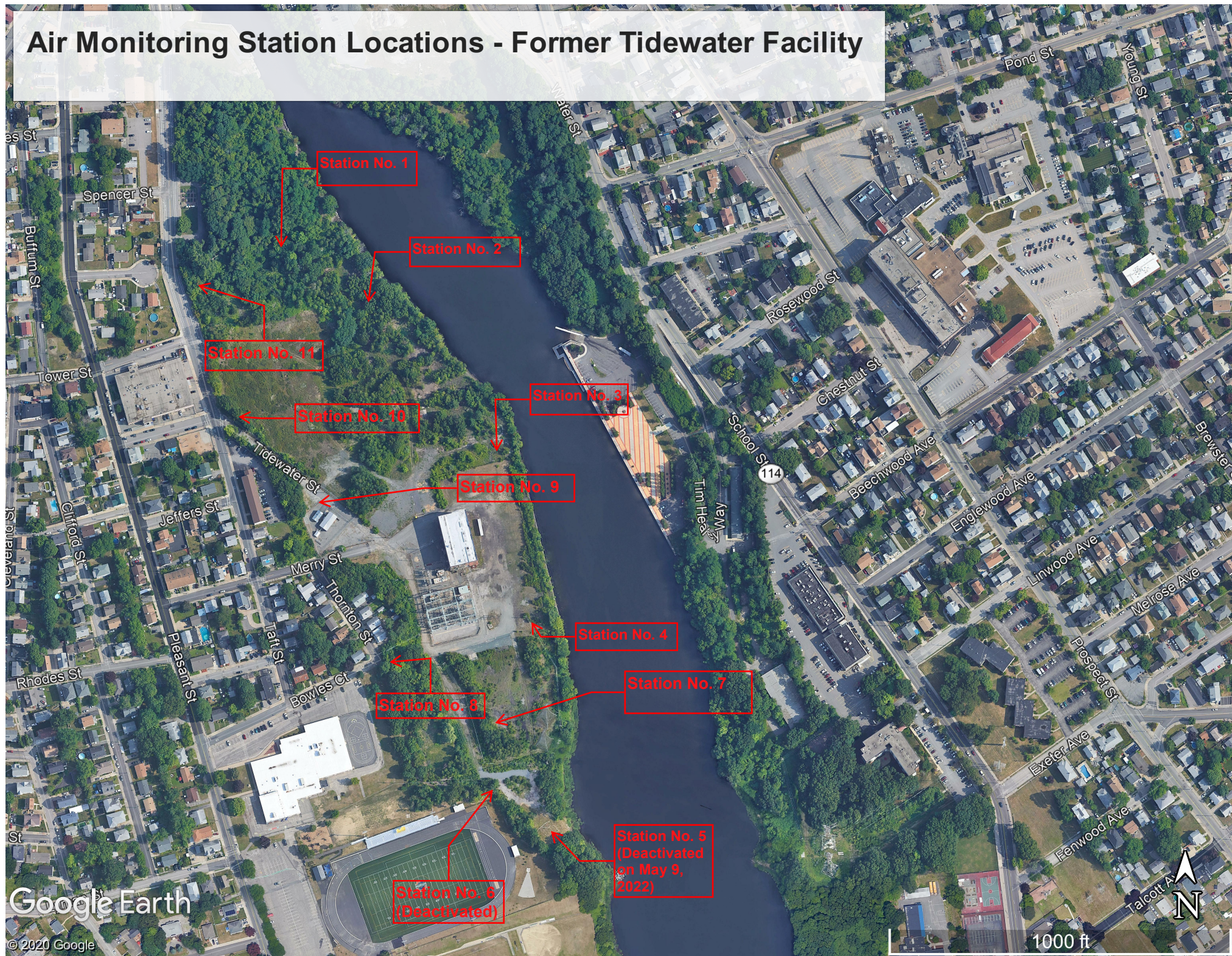


Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former
Tidewater Facility

Air Quality Monitoring - Total Volatile Organic Compounds



Air Monitoring Station Locations - Former Tidewater Facility



Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former Tidewater Facility
Weekly Ambient Air Sampling Results

Sample Date	Compounds				
	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	(ppb v/v)				
12-3-20 UP STREAM	0.13	0.22	0.079	0.054	< 0.5
12-3-20 DOWN STREAM	0.13	0.2	0.073	0.05	< 0.5
12-10-20 UP STREAM	0.25	0.23	< 0.2	0.14	< 0.5
12-10-20 DOWN STREAM	0.17	0.2	< 0.2	< 0.7	< 0.5
12-16-20 UP STREAM	0.19	0.2	0.083	0.12	< 0.5
12-16-20 DOWN STREAM	0.13	0.16	0.078	0.094	< 0.5
12-23-20 UP STREAM	0.15	0.16	< 0.2	0.1	< 0.5
12-23-20 DOWN STREAM	0.13	0.11	< 0.2	< 0.7	< 0.5
12-30-20 UP STREAM	0.21	0.22	< 0.2	< 0.7	< 0.5
12-30-20 DOWN STREAM	0.089	< 0.2	< 0.2	< 0.7	< 0.5
1/7/21 UP STREAM	0.29	1.5	0.22	2.1	< 0.5
1/7/21 DOWN STREAM	0.16	0.27	0.086	0.42	< 0.5
1/14/21 UP STREAM	0.43	0.44	< 0.2	0.23	< 0.5
1/14/21 DOWN STREAM	0.4	0.52	0.076	0.3	< 0.5
1-21-21 UPSTREAM	0.15	0.28	0.1	< 0.7	0.24
1-21-21 DOWNSTREAM	0.18	0.23	0.11	0.1	< 0.5
1-28-21 UPSTREAM	0.21	0.19	< 0.2	< 0.7	< 0.5
1-28-21 DOWNSTREAM	0.21	0.17	< 0.2	< 0.7	< 0.5
2-4-21 UPSTREAM	0.2	1.1	0.23	1.4	0.18
2-4-21 DOWNSTREAM	0.23	0.29	0.26	0.29	< 1.1
2-11-21 UPSTREAM	0.19	0.12	< 0.2	< 0.7	< 0.5
2-11-21 DOWNSTREAM	0.17	< 0.2	< 0.2	< 0.7	< 0.5
2-18-21 UPSTREAM	0.46	2.8	0.11	0.25	< 0.5
2-18-21 DOWNSTREAM	0.31	0.42	0.13	0.45	< 0.5
2-25-21 UPSTREAM	< 0.2	0.16	< 0.2	0.16	< 0.5
2-25-21 DOWNSTREAM	0.13	< 0.2	0.081	0.3	< 0.5
3-4-21 UPSTREAM	0.2	0.21	< 0.2	0.18	0.27
3-4-21 DOWNSTREAM	0.15	0.12	< 0.2	0.16	< 0.5
3-11-21 UPSTREAM	0.18	0.17	< 0.2	0.23	0.3
3-11-21 DOWNSTREAM	0.18	0.22	0.23	1.0	< 0.5
3-18-21 DOWNSTREAM	0.44	1.6	0.19	0.67	< 0.5
3-25-21 UPSTREAM	0.17	0.32	0.85	4.1	0.53
3-25-21 DOWNSTREAM	0.33	0.67	0.16	0.57	0.27
4-1-21 UPSTREAM	0.22	0.17	< 0.2	< 0.7	< 0.5
4-1-21 DOWNSTREAM	0.12	0.11	< 0.2	< 0.7	< 0.5
4-8-21 UPSTREAM	0.096	0.12	1.5	8.0	< 0.5
4-8-21 DOWNSTREAM	0.086	0.14	0.086	0.38	0.19
4-15-21 UPSTREAM	0.85	0.57	0.1	0.44	< 0.5
4-15-21 DOWNSTREAM	0.11	0.11	0.26	1.20	< 0.5
4-22-21 UPSTREAM	0.11	< 0.2	< 0.2	< 0.7	< 0.5
4-22-21 DOWNSTREAM	0.11	0.16	< 0.2	< 0.7	< 0.5
4-29-21 UPSTREAM	0.14	0.34	0.11	0.32	0.26
4-29-21 DOWNSTREAM	0.19	0.39	0.11	0.37	0.27
5-6-21 UPSTREAM	0.086	0.15	< 0.2	< 0.7	0.38
5-6-21 DOWNSTREAM	1.0	8.4	0.21	0.69	< 0.5
5-13-21 UPSTREAM	< 0.2	0.36	< 0.2	0.19	0.34
5-13-21 DOWNSTREAM	0.12	< 0.2	< 0.2	< 0.7	< 0.5
5-20-2021 UPSTREAM	0.38	2.5	< 0.2	< 0.7	< 0.5
5-20-2021 DOWNSTREAM	0.16	0.56	0.3	1.40	< 0.5
Project Action Levels	6.2	80	230	23	20

Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former Tidewater Facility
Weekly Ambient Air Sampling Results

Sample Date	Compounds				
	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	(ppb v/v)				
5-27-21 UPSTREAM	0.095	0.12	0.45	2.10	0.4
5-27-21 DOWNSTREAM	0.075	0.094	< 0.2	< 0.7	< 0.5
6-3-21 UPSTREAM	< 0.2	0.16	< 0.2	< 0.7	< 0.5
6-3-21 DOWNSTREAM	0.075	0.11	< 0.2	< 0.7	< 0.5
6-10-21 UPSTREAM	< 0.2	< 0.2	< 0.2	< 0.7	< 0.5
6-10-21 DOWNSTREAM	< 0.2	< 0.2	< 0.2	< 0.7	< 0.5
6-17-21 UPSTREAM	0.64	0.6	0.48	0.66	0.64
6-17-21 DOWNSTREAM	0.12	0.12	0.16	< 0.7	< 0.5
6-24-21 UPSTREAM	< 0.2	0.17	< 0.2	< 0.7	< 0.5
6-24-21 DOWNSTREAM	< 0.2	0.45	0.19	0.82	< 0.5
7-1-21 UPSTREAM	1.10	7.9	0.12	0.39	< 0.7
7-1-21 DOWNSTREAM	0.13	0.74	< 0.2	0.29	< 0.7
7-8-21 UPSTREAM	< 0.2	0.29	< 0.2	0.38	0.29
7-8-21 DOWNSTREAM	< 0.2	< 0.2	< 0.2	< 0.7	< 0.5
7-15-21 UPSTREAM	0.10	0.28	< 0.2	0.32	< 0.5
7-15-21 DOWNSTREAM	0.14	0.37	0.31	1.5	< 0.5
7-22-21 UPSTREAM	0.27	0.3	< 0.2	< 0.7	< 0.5
7-22-21 DOWNSTREAM	0.30	0.33	< 0.2	< 0.7	< 0.5
7-29-21 UPSTREAM	0.22	0.26	0.1	0.56	0.19
7-29-21 DOWNSTREAM	0.099	0.23	< 0.2	< 0.7	< 0.5
8-5-21 UPSTREAM	0.70	1.2	< 0.2	0.17	< 0.5
8-5-21 DOWNSTREAM	0.310	0.53	< 0.25	< 0.88	< 0.63
8-12-21 UPSTREAM	0.19	0.18	< 0.2	< 0.7	0.2
8-12-21 DOWNSTREAM	1.2	0.7	< 0.2	0.31	< 0.5
8-19-21 UPSTREAM	0.66	6.2	1.2	3.50	< 1.6
8-19-21 DOWNSTREAM	0.21	0.24	< 0.2	0.11	< 0.5
8-26-21 UPSTREAM	0.34	0.73	0.22	0.90	0.18
8-26-21 DOWNSTREAM	0.34	0.63	0.24	0.87	0.31
9-1-21 UPSTREAM	0.17	0.34	< 0.2	< 0.7	< 0.5
9-1-21 DOWNSTREAM	0.18	0.35	< 0.2	0.19	< 0.5
9-9-21 UPSTREAM	0.12	0.22	< 0.2	0.28	< 0.5
9-9-21 DOWNSTREAM	< 0.2	0.89	< 0.2	< 0.7	0.42
9-16-21 UPSTREAM	0.14	0.26	0.11	0.31	0.3
9-16-21 DOWNSTREAM	0.11	0.26	< 0.2	0.28	< 0.5
9-23-21 UPSTREAM	< 0.2	0.12	< 0.2	< 0.7	< 0.5
9-23-21 DOWNSTREAM	< 0.2	0.12	< 0.2	< 0.7	< 0.5
9-30-21 UPSTREAM	0.17	0.37	0.23	0.66	< 0.51
9-30-21 DOWNSTREAM	0.086	0.21	< 0.2	< 0.7	< 0.5
10-7-21 UPSTREAM	0.24	0.55	0.14	0.41	< 0.5
10-7-21 DOWNSTREAM	< 0.2	0.42	0.11	0.16	< 0.5
10-14-21 UPSTREAM	0.19	0.40	< 0.2	< 0.7	< 0.5
10-14-21 DOWNSTREAM	0.34	0.89	0.23	0.75	< 0.5
10-22-21 UPWIND	0.14	0.32	< 0.2	< 0.7	< 0.5
10-22-21 DOWNWIND	0.13	0.39	< 0.2	0.43	< 0.5
10-28-21 UPWIND	0.41	0.14	0.46	0.10	< 0.5
10-28-21 DOWNWIND	0.18	0.43	< 0.2	< 0.70	< 0.5
11-4-2021 UPWIND	0.20	0.31	< 0.2	< 0.70	< 0.5
11-4-2021 DOWNWIND	0.14	0.23	< 0.2	< 0.7	< 0.5
11-11-21 UPWIND	0.23	0.45	0.17	0.51	0.35
11-11-21 DOWNWIND	0.31	0.69	0.18	0.56	< 0.5
11-18-21 DOWNWIND	0.14	0.29	< 0.2	< 0.7	< 0.5
11-18-2021 UPWIND	0.29	0.54	0.32	0.26	2.4
11-23-21 DOWNWIND	0.13	0.24	< 0.2	0.33	< 0.5
11-23-21 UPWIND	0.27	1.0	< 0.2	0.30	0.23
12-02-21 DOWNWIND	0.28	0.82	0.22	1.0	0.95
12-02-21 UPWIND	0.36	0.67	< 0.2	0.42	< 0.5
12-9-21 DOWNWIND	0.17	0.27	< 0.2	< 0.7	< 0.5
12-9-21 UPWIND	0.18	0.39	0.13	0.43	< 0.5
Project Action Levels	6.2	80	230	23	20

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Weekly Ambient Air Sampling Results

Sample Date	Compounds				
	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	(ppb v/v)				
12-16-21 DOWNWIND	0.15	0.21	< 0.2	0.38	0.89
12-16-21 UPWIND	0.13	0.16	< 0.2	< 0.7	< 0.5
12-22-21 DOWNWIND	0.27	0.39	< 0.2	< 0.7	< 0.5
12-22-21 UPWIND	0.29	0.47	0.12	< 0.5	< 0.5
12-29-21 UPWIND	0.19	0.28	< 0.2	< 0.7	< 0.5
12-29-21 DOWNWIND	0.26	0.53	0.19	1.0	< 0.5
01-05-2022 UPWIND	0.28	0.38	0.14	0.38	0.2
01-05-2022 DOWNWIND	0.40	1.10	0.16	0.5	0.71
1-13-22 UPWIND	0.49	0.91	0.15	0.59	< 0.5
1-13-22 DOWNWIND	0.83	1.40	0.19	0.79	< 0.5
1-20-22 DOWNWIND	0.18	0.32	0.11	0.34	0.17
1-20-22 UPWIND	0.14	1.40	< 0.2	< 0.7	< 0.5
UPWIND 012722	0.24	0.26	< 0.2	< 0.7	< 0.5
DOWNWIND 012722	0.30	1.0	< 0.2	0.4	< 0.5
2/3/22 UPWIND	0.27	0.50	0.1	0.28	< 0.5
2/3/22 DOWNWIND	0.30	0.49	0.12	0.46	0.22
2-10-22 UPWIND	0.17	0.27	< 0.2	< 0.7	< 0.5
2-10-22 DOWNWIND	0.19	0.22	< 0.2	< 0.7	< 0.5
2-17-22 UPWIND	< 0.2	0.11	< 0.2	< 0.7	< 0.5
2-17-22 DOWNWIND	0.18	0.66	0.26	1.5	1.1
2-24-22 UPWIND	< 0.2	0.11	< 0.2	< 0.7	0.17
2-24-22 DOWNWIND	< 0.2	< 0.2	< 0.2	< 0.7	< 0.5
3-03-22 UPWIND	0.11	< 0.2	< 0.2	< 0.7	< 0.5
3-03-22 DOWNWIND	0.14	< 0.2	< 0.2	< 0.7	< 0.5
3-10-22 UPWIND	0.16	0.31	0.13	0.4	0.26
3-10-22 DOWNWIND	0.14	0.18	< 0.2	< 0.7	< 0.5
3-17-22 UPWIND	0.22	0.61	0.14	0.49	< 0.5
3-17-22 DOWNWIND	0.19	0.25	< 0.2	0.12	< 0.5
3-24-22 UPWIND	0.18	< 0.3	< 0.3	< 1.1	< 0.75
3-24-22 DOWNWIND	< 0.2	< 0.2	< 0.2	< 0.7	< 0.5
3-31-22 UPWIND	0.14	0.22	< 0.2	< 0.7	< 0.5
3-31-22 DOWNWIND	0.17	0.37	0.12	0.40	< 0.5
4-7-22 UPWIND	0.11	0.16	< 0.2	< 0.7	< 0.5
4-7-22 DOWNWIND	0.15	0.24	< 0.2	< 0.7	< 0.5
4-15-22 UPWIND	0.13	0.29	< 0.2	0.095	< 0.5
4-15-22 DOWNWIND	0.095	0.19	0.1	< 0.7	< 0.5
4-20-22 UPWIND	0.19	0.22	0.13	0.42	< 0.5
4-20-22 DOWNWIND	0.13	0.14	< 0.2	< 0.7	0.18
4-26-22 UPWIND	< 0.2	< 0.2	< 0.2	< 0.7	< 0.5
4-26-22 DOWNWIND	0.22	0.13	< 0.2	< 0.7	< 0.5
5-4-22 UPWIND	0.11	0.22	< 0.5	< 0.7	< 0.5
5-4-22 DOWNWIND	0.11	0.24	< 0.5	< 0.7	< 0.5
5-12-22 UPWIND	< 0.2	0.11	< 0.2	< 0.7	< 0.5
5-12-22 DOWNWIND	< 0.21	0.10	< 0.21	< 0.75	< 0.54
5-19-22 UPWIND	0.13	0.63	< 0.2	< 0.7	0.18
5-19-22 DOWNWIND	0.15	0.30	< 0.2	< 0.7	< 0.5
5-26-22 UPWIND	0.14	0.14	< 0.2	< 0.7	< 0.5
5-26-22 DOWNWIND	< 0.2	0.12	< 0.2	< 0.7	< 0.5
6/2/22 DOWNWIND	0.074	0.17	< 0.2	< 0.7	0.26
6/2/22 UPWIND	< 0.2	0.14	< 0.2	< 0.7	< 0.5
6-10-22 UPWIND	0.17	0.31	< 0.2	< 0.7	< 0.5
6-10-22 DOWNWIND	0.25	0.61	< 0.2	< 0.7	< 0.5
6-16-22 UPWIND	0.43	1.20	< 0.2	< 0.7	< 0.5
6-16-22 DOWNWIND	< 0.2	0.13	< 0.2	< 0.7	< 0.5
6-23-22 UPSTREAM	< 0.2	< 0.2	< 0.2	< 0.7	0.19
6-23-22 DOWNSTREAM	0.16	0.72	< 0.2	0.31	< 0.5
6-30-22 UPWIND	< 0.2	0.17	< 0.2	< 0.7	0.2
6-30-22 DOWNWIND	0.12	0.24	< 0.2	< 0.7	< 0.5
7-7-22 UPWIND	0.077	0.29	< 0.2	< 0.7	< 0.5
7-7-22 DOWNWIND	0.20	0.87	< 0.2	0.21	< 0.5

Prepared by Rhode Island Energy for the Businesses and Residents Located Near the Former Tidewater Facility
Weekly Ambient Air Sampling Results

Sample Date	Compounds				
	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	(ppb v/v)				
7-14-22 UPWIND	< 0.2	0.35	< 0.2	< 0.7	< 0.5
7-14-22 DOWNWIND	0.10	0.22	< 0.2	< 0.7	< 0.5
7-21-22 UPWIND	0.14	0.21	< 0.2	< 0.7	0.33
7-21-22 DOWNWIND	1.0	2.5	0.48	1.9	< 0.3
7-28-22 UPWIND	0.087	0.15	< 0.2	< 0.7	< 0.5
7-28-22 DOWNWIND	0.13	0.23	< 0.2	< 0.7	< 0.5
8-4-22 UPWIND	0.13	0.31	< 0.2	< 0.7	< 0.5
8-4-22 DOWNWIND	0.17	0.26	0.13	< 0.7	0.3
8-11-22 UPWIND	0.22	0.33	0.10	0.34	< 0.5
8-11-22 DOWNWIND	0.37	0.30	0.11	0.17	< 0.5
8-19-22 UPWIND	< 0.20	0.22	< 0.20	0.36	< 0.5
8-19-22 DOWNWIND	0.11	0.45	< 0.20	0.29	< 0.5
Project Action Levels	6.2	80	230	23	20

Notes:

1. The Project Action Levels are consistent with the Air Quality Monitoring Plan developed for the Site.
2. Air samples are collected in stainless steel summa canisters over an approximately 8-hour period.
3. Air samples are analyzed by EuroFins TestAmerica of Burlington, VT.
4. Results and action levels are listed in parts per billion volume/volume (ppb v/v).
5. An upstream ambient air sample was not collected on March 18, 2021 due to a problem with the sampling equipment.