



MEMORANDUM

Proactive by Design	To:	Joseph Martella, RIDEM				
	From:	Dave Rusczyk, GZA				
	Cc:	Kenneth Lento, Rhode Island Energy				
	Date:	December 20, 2022				
GEOTECHNICAL ENVIRONMENTAL ECOLOGICAL WATER CONSTRUCTION MANAGEMENT	Re:	Site Response Action Report Period November 13, 2022 through November 26, 2022 Former Tidewater Facility Pawtucket, Rhode Island RIDEM Case No. 95-022 / Site Remediation File No. SR-26-0934				

SITE ACTIVITIES PERFORMED

- During the reporting period covered by this report, Site activities were associated with the following:
 - On-going work associated with relocation of the existing combined sewer outfall (CSO) by the Narragansett Bay Commission (NBC);
 - Modification to the riprap cap installed in the western portion of the Site adjacent to Merry Street by Charter Contracting (Charter); and,
 - On-going installation of electrical equipment in the newly constructed control house by Rhode Island Energy (RI Energy).
- Perimeter air monitoring was performed during this reporting period with 4 electrically powered air monitoring stations located around the work activities with the potential to disturb impacted Site materials which were limited to NBC's work area and Charter's work proximate to Merry Street. These stations measured and recorded respirable dust and total volatile organic compounds (TVOC) concentrations continuously 24 hours per day/7 days per week with the following exceptions:
 - The calibration gas within Stations 7 and 10 was depleted between Saturday, November 12, 2022 and Tuesday, November 15, 2022. Delivery of additional cylinders of calibration gas to the Site was delayed due to labor shortages associated with COVID until Tuesday, November 15, 2022. The calibration gas within both stations was replaced on Tuesday, November 15, 2022.
 - The gas chromatograph (GC) within Station 10 was observed to be faulty between Thursday, November 24, 2022 and Friday, November 25, 2022 over the holiday. A replacement GC was installed on Friday, November 25, 2022.

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 μ g/m³) perimeter threshold levels were observed during the monitoring period covered by this report with the exception of the following:

 Elevated total volatile organic compound (TVOC) concentration above the 15-minute sustained perimeter threshold level were observed at Station 10 on Wednesday morning November 16, 2022 between 1:00 am and 8:30 am. No work was being performed in this



area during these timeframes and the source of the elevated TVOC concentrations is attributed to the wet overnight weather conditions.

- Elevated TVOC concentrations above the 15-minute sustained perimeter threshold level were observed at Station 10 between 2:44 pm on Thursday, November 17, 2022 and 6:22 am Friday, November 18, 2022. The source of the elevated TVOC concentrations were attributed to the exhaust from a generator operating proximate to the station and the wet overnight weather conditions.
- Elevated TVOC concentrations above the 15-minute sustained perimeter threshold level were observed at Station 10 between Monday, November 21, 2022 and Wednesday, November 23, 2022. The source of the elevated TVOC concentrations was attributed to the exhaust from a generator operating proximate to the station.
- GZA collected ambient air samples from upwind and downwind locations on November17 and 23, 2022 for laboratory analysis for benzene, toluene, ethylbenzene, xylenes, and naphthalene. The analytical results 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

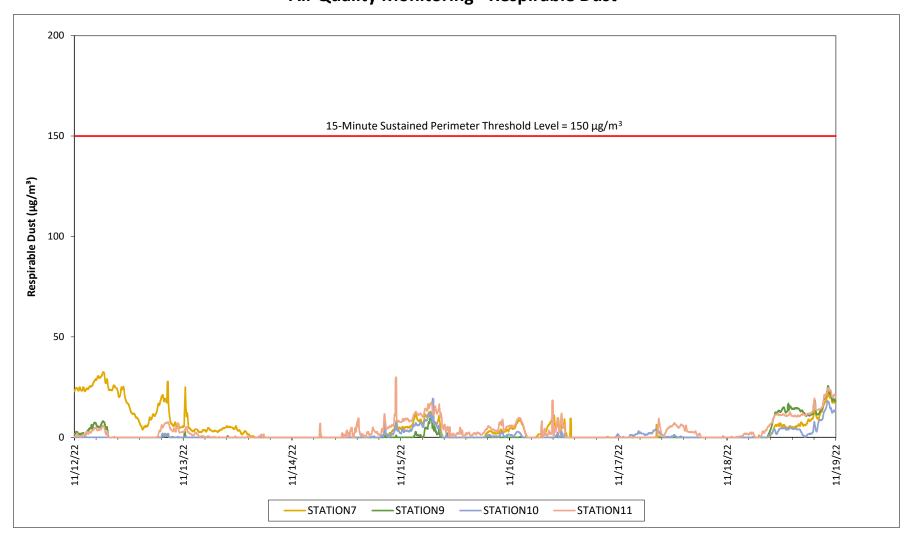
- On-going CSO relocation work by NBC's contractor.
- On-going installation of electrical equipment within the new control house building by RI Energy.

Please contact Kenneth Lento at 401-784-4250 if you have any questions or comments.

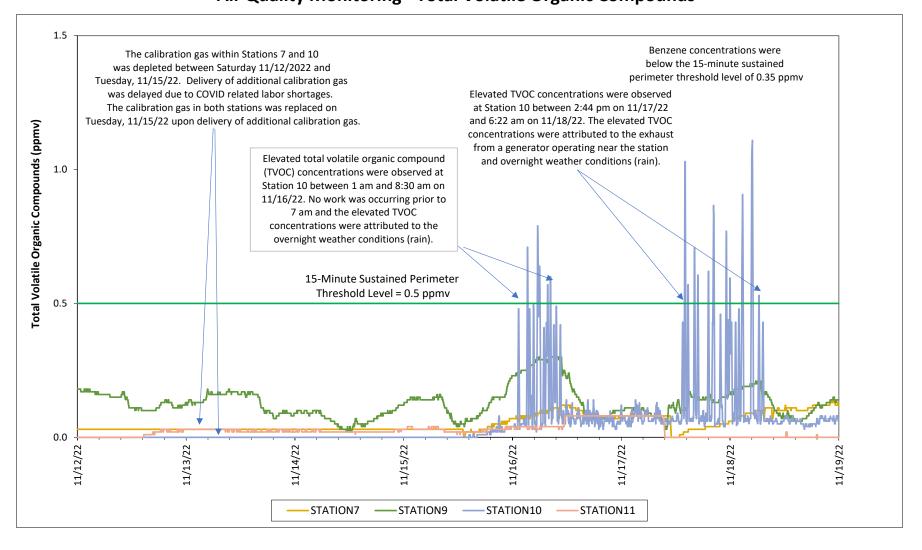
Attachments:

Weekly Perimeter Air Monitoring Results Air Monitoring Station Locations Weekly Ambient Air Sampling Results

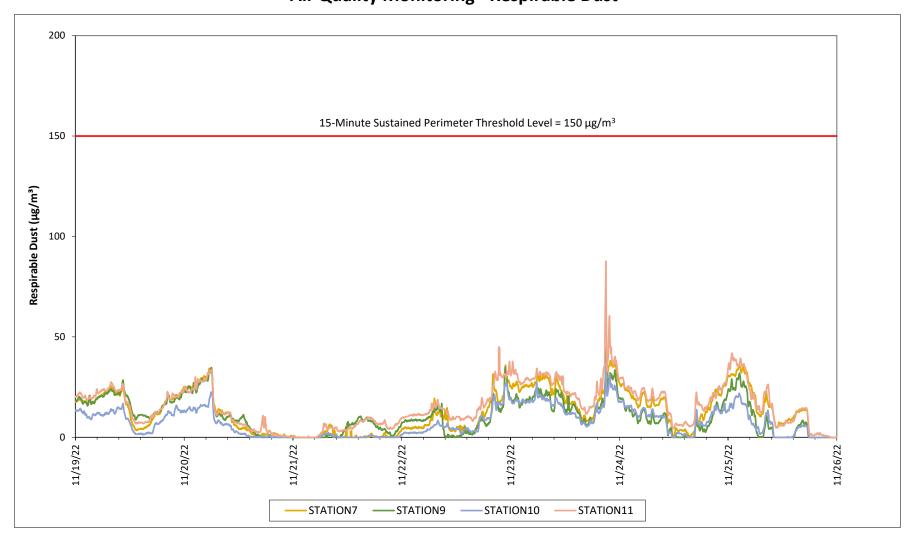
Prepared for the Businesses and Residents Located Near the Former Tidewater Facility Air Quality Monitoring - Respirable Dust



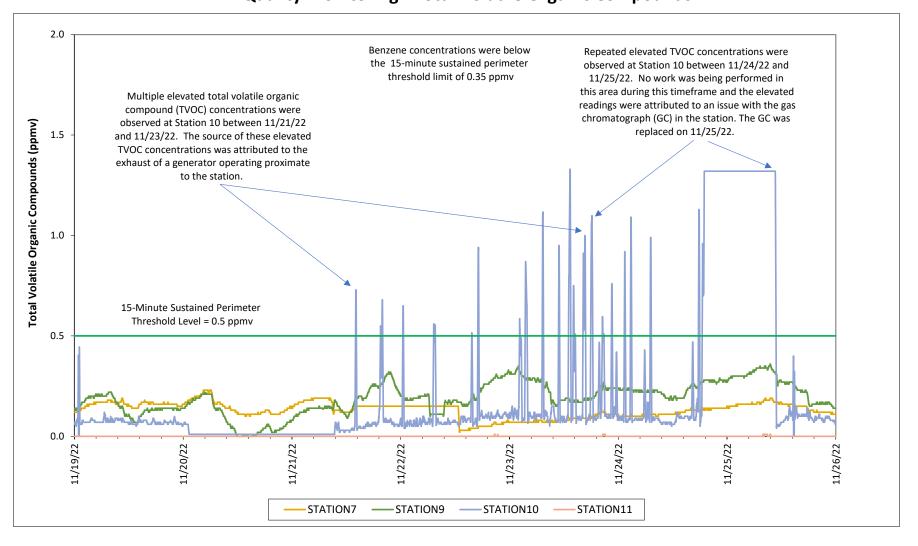
Prepared for the Businesses and Residents Located Near the Former Tidewater Facility Air Quality Monitoring - Total Volatile Organic Compounds

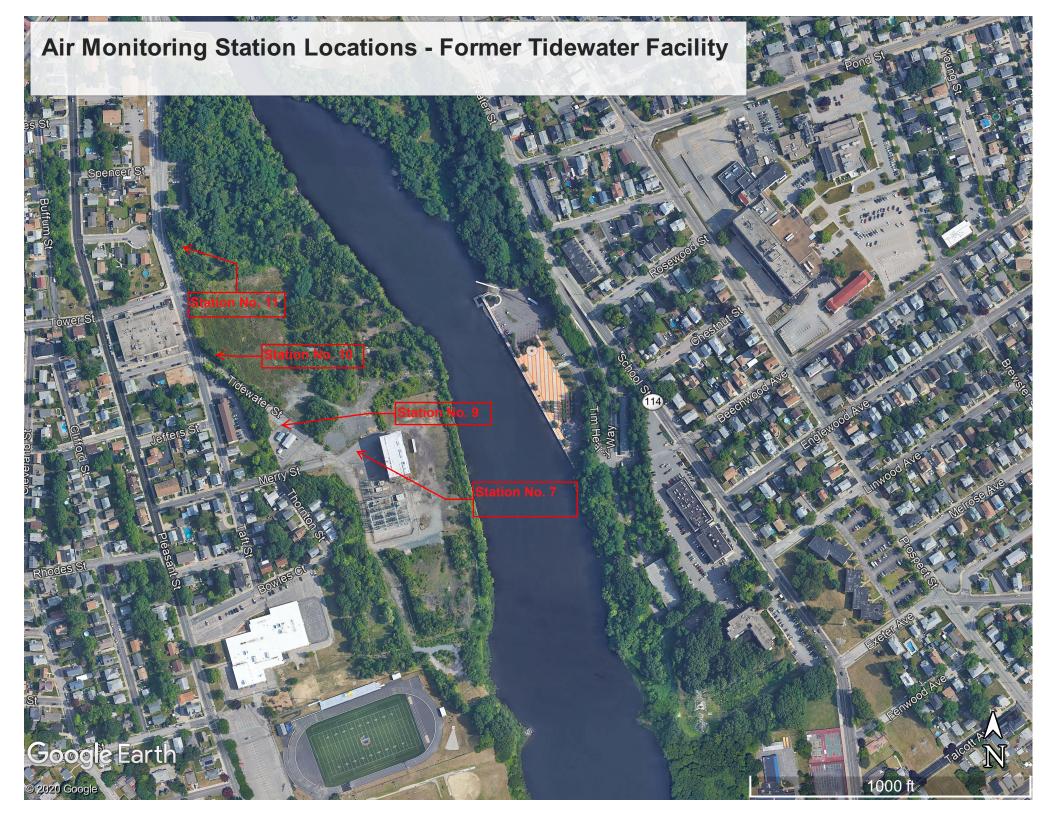


Prepared for the Businesses and Residents Located Near the Former Tidewater Facility Air Quality Monitoring - Respirable Dust



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





Sample Date	Compounds					
·	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	
	u		(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	0.12	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	0.32	0.20	
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	< 012	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	
FIGEL ACION LEVELS	0.2		230	25	20	

	Compounds				
Toluene	Ethylbenzene	Total Xylenes	Naphthalene		
(ppb v/v)					
0.12	0.45	2.10	0.4		
0.094	< 0.2	< 0.7	< 0.5		
0.16	< 0.2	< 0.7	< 0.5		
0.11	< 0.2	< 0.7	< 0.5		
< 0.2	< 0.2	< 0.7	< 0.5		
< 0.2	< 0.2	< 0.7	< 0.5		
0.6	0.48	0.66	0.64		
0.12 0.17	0.16	< 0.7 < 0.7	< 0.5		
0.45	0.19	0.82	< 0.5		
7.9	0.13	0.39	< 0.5		
0.74	< 0.2	0.29	< 0.7		
0.29	< 0.2	0.38	0.29		
< 0.2	< 0.2	< 0.7	< 0.5		
0.28	< 0.2	0.32	< 0.5		
0.37	0.31	1.5	< 0.5		
0.3	< 0.2	< 0.7	< 0.5		
0.33	< 0.2	< 0.7	< 0.5		
0.26	0.1	0.56	0.19		
0.23	< 0.2	< 0.7	< 0.5		
1.2	< 0.2	0.17	< 0.5		
0.53	< 0.25	< 0.88	< 0.63		
0.18	< 0.2	< 0.7	0.2		
0.7	< 0.2	0.31	< 0.5		
6.2	1.2	3.50	< 1.6		
0.24	< 0.2	0.11	< 0.5		
0.73	0.22	0.90	0.18		
0.63	0.24	0.87	0.31		
0.34	< 0.2	< 0.7	< 0.5		
0.35	< 0.2	0.19	< 0.5		
0.22	< 0.2	0.28	< 0.5		
0.89	< 0.2	< 0.7	0.42		
0.26	0.11	0.31	0.3		
0.26	< 0.2	0.28	< 0.5		
0.12	< 0.2	< 0.7	< 0.5		
0.12	< 0.2	< 0.7	< 0.5		
0.37	0.23	0.66	< 0.51		
0.21	< 0.2	< 0.7	< 0.5		
0.55	0.14	0.41	< 0.5		
0.42	0.11	0.16	< 0.5		
0.40	< 0.2	< 0.7	< 0.5		
0.89	0.23	0.75	< 0.5		
0.32	< 0.2	0.43	< 0.5		
0.39	0.46	0.43	< 0.5		
0.14	< 0.2	< 0.70	< 0.5		
0.43	< 0.2	< 0.70	< 0.5		
0.23	< 0.2	< 0.7	< 0.5		
0.45	0.17	0.51	0.35		
0.69	0.18	0.56	< 0.5		
0.29	< 0.2	< 0.7	< 0.5		
0.54	0.32	0.26	2.4		
0.24	< 0.2	0.33	< 0.5		
1.0	< 0.2	0.30	0.23		
0.82	0.22	1.0	0.95		
0.67	< 0.2	0.42	< 0.5		
0.27	< 0.2	< 0.7	< 0.5		
0.39	0.13	0.43	< 0.5		
80	230	23	20		
	0.27 0.39	0.27 < 0.2 0.39 0.13	0.27 < 0.2 < 0.7 0.39 0.13 0.43		

Sample Date			Compounds		
•	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
			(ppb v/v)		1
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 1-13-22 UPWIND	0.40	1.10 0.91	0.16 0.15	0.5	0.71
1-13-22 OPWIND 1-13-22 DOWNWIND	0.49	1.40	0.19	0.79	< 0.5
1-20-22 DOWNWIND	0.85	0.32	0.19	0.34	0.17
1-20-22 DOWNWIND	0.13	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 5-12-22 UPWIND	0.11	0.24	< 0.5	< 0.7	< 0.5
	< 0.2	0.11		< 0.7	
5-12-22 DOWNWIND 5-19-22 UPWIND	< 0.21 0.13	0.10 0.63	< 0.21	< 0.75	< 0.54
5-19-22 UPWIND 5-19-22 DOWNWIND	0.13	0.63	< 0.2	< 0.7	< 0.5
5-26-22 UPWIND	0.13	0.30	< 0.2	< 0.7	< 0.5
5-26-22 DOWNWIND	< 0.2	0.14	< 0.2	< 0.7	< 0.5
6/2/22 DOWNWIND	0.074	0.12	< 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
Project Action Levels	6.2	80	230	23	20

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	
8-25-22 Downwind	0.09	0.44	< 0.2	< 0.7	< 0.5	
8-25-22 Upwind	0.29	0.47	< 0.2	< 0.7	< 0.5	
9-2-22 Upwind	< 0.2	0.15	< 0.2	< 0.7	< 0.5	
9-2-22 Downwind	0.35	0.34	< 0.2	< 0.7	< 0.5	
9-8-22 Upwind	0.092	0.21	< 0.2	< 0.7	< 0.5	
9-8-22 Downwind	1.20	0.44	< 0.2	< 0.7	< 0.5	
9-15-22 Upwind	< 0.2	0.15	< 0.2	< 0.7	< 0.5	
9-15-22 Downwind	7.1	2.9	2.3	2.0	4.6	
9-22-22 Upwind	0.32	0.34	< 0.29	0.4	< 0.73	
9-22-22 Downwind	0.18	0.29	< 0.2	0.21	< 0.5	
9/29/22 Downwind	0.13	0.22	0.11	< 0.7	0.33	
9/29/22 Upwind	< 0.2	0.14	< 0.2	< 0.7	< 0.5	
10-6-22 Downwind	0.1	< 0.2	< 0.2	< 0.7	< 0.5	
10-6-22 Upwind	< 0.2	< 0.2	< 0.2	< 0.7	< 0.5	
10-13-22 Upwind	0.068	0.12	< 0.2	< 0.7	< 0.5	
10-13-22 Downwind	0.6	0.17	0.052	< 0.7	< 0.5	
10/20/22 Upwind	0.14	0.16	< 0.2	< 0.7	< 0.5	
10/20/22 Downwind	0.21	0.28	< 0.2	0.16	< 0.5	
10-27-22 Upwind	0.18	0.39	0.12	0.38	< 0.5	
10-27-22 Downwind	1.0	0.64	0.19	0.88	0.62	
11/3/22 UP	0.31	1.40	0.083	0.37	< 0.5	
11/3/22 DOWN	0.38	1.20	0.11	0.82	< 0.5	
11/10/22 Upwind	0.091	0.18	0.074	0.17	< 0.5	
11/10/22 Downwind	0.085	0.16	0.055	0.061	< 0.5	
11/17/22 Upwind	0.14	0.23	< 0.2	< 0.7	< 0.5	
11/17/22 Downwind	0.14	0.35	0.057	0.230	< 0.5	
11/23/22 Upwind	0.22	0.77	0.066	0.240	< 0.5	
11/23/22 Downwind	0.21	0.50	0.062	0.210	< 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.

6. A bold and gray shaded value exceeds the Project Action Levels. The 9/15/2022 Downwind sample was collected directly downwind

of NBC's active work area. Volatile organic compound concentrations at the perimeter limit were below the project action levels.