

Prepared By: Peter Rathsack

NYSDEC BCP Site No:	C224219	Date:	06/14/2023
Project Name:	450 Union Street	Weather:	Overcast-Rain, 70-75 °F
Client:	2201 Union LLC	Time:	7:00 – 13:20

Personnel On-Site:
 Environmental Consultant: Vektor Consultants – Peter Rathsack, Ezgi Karayel
 GZA: Daniel Tessar
 Coastal Environmental Solutions - Patrick Slavin, Mike Martino
 WSP: Brian Jessourian

Work Activities Performed:

- Vektor mobilized to the site to oversee the grossly contaminated media (GCM) delineation as per the Remedial Site Optimization Work Plan (RSOWP) along with Coastal Environmental Solutions (driller), and GZA (National Grid’s environmental consultant).
- The location for DB-4 was measured and marked according to the RSOWP.
- Coastal mobilized with Sonic Drill Rig CRS XL 140 DUO and installed boring (DB-4). DB-4 was installed to a depth of 70 feet bgs to assess the extent of non-aqueous phase liquid (NAPL) and GCM at the site.
 - GCM as evidenced by staining, sheen, odors, and PID readings was encountered starting at a depth of approximately 22 feet below grade surface (bgs). Visually impacted soils continued until approximately 47 feet. Coal tar saturation was observed between 40 to 44 feet. No olfactory or PID evidence of impacted soils were present below 47 feet.
 - A shake test was conducted for suspected GCM at 25-26 feet interval and revealed a small amount of LNAPL sheen and trace DNAPL.
- All soil cuttings were placed into a 55-gallon drum at the Site for future off-site disposal, and DB-1 was backfilled with a concrete slurry.

Samples Collected:

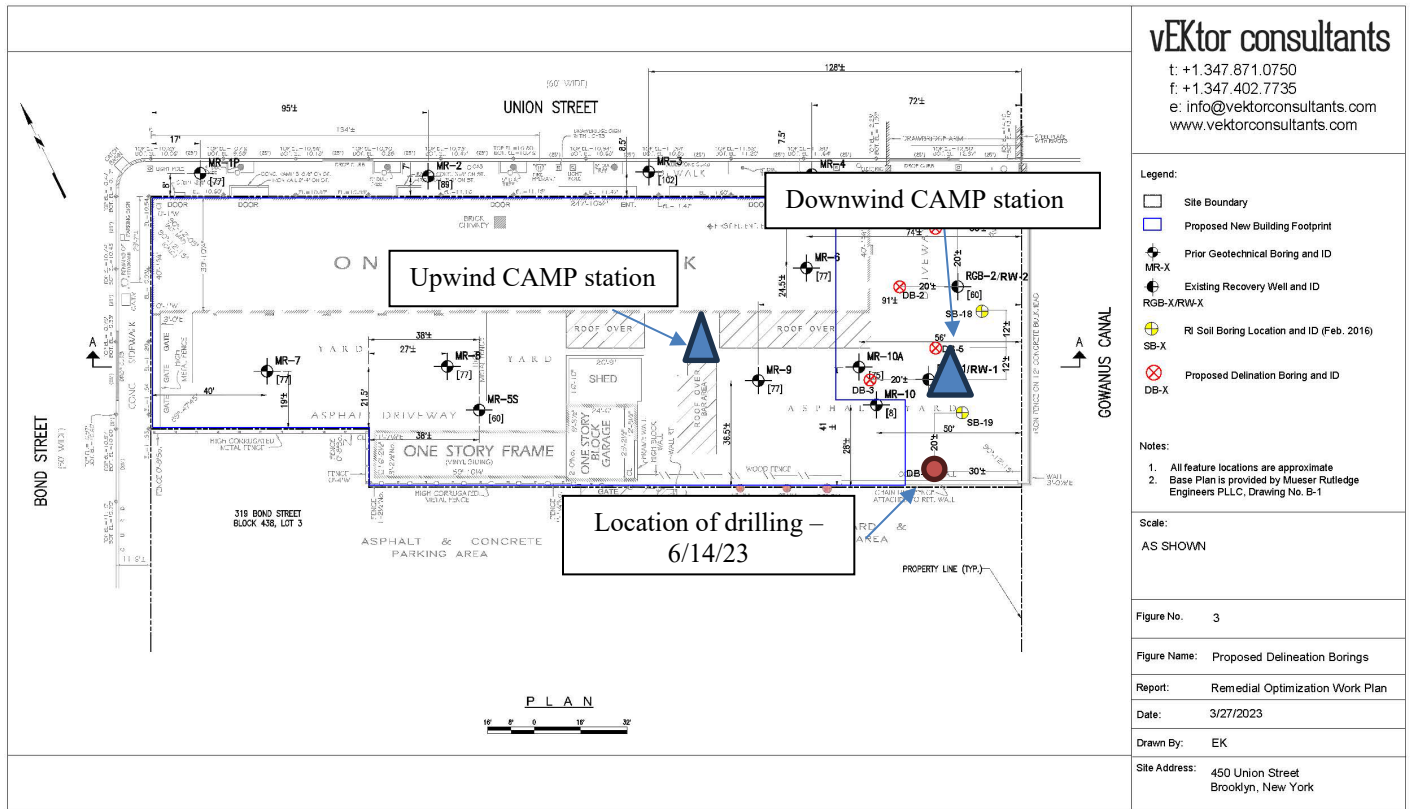
- Vektor collected coal tar delineation samples from DB-4 (25'- 26') from 25 to 26 feet bgs, DB-4 (32'-34') from 32 to 34 feet bgs (on hold), and DB-4 (48'-49') from 48 to 49 feet bgs. The samples will be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, herbicides, target analyte list (TAL) metals, and cyanide. One field blank (FB-2) was also collected to be analyzed for the same parameters. One trip blank (TB-2) was included in the samples delivered to the lab.

Community Air Monitoring Program
 Real-time Community Air Monitoring Plan (CAMP) was implemented during all intrusive work at an upwind and a downwind location. No CAMP exceedances were observed.

Problems Encountered
 N/A

Planned Activities for the Next Day
 Drilling of DB-6 and DB-7.

SITE PLAN / WORK AREAS



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Legend:

- Site Boundary
- ▭ Proposed New Building Footprint
- ⊕ Prior Geotechnical Boring and ID MR-X
- ⊕ Existing Recovery Well and ID RGB-X/RW-X
- ⊕ RI Soil Boring Location and ID (Feb. 2016) SB-X
- ⊗ Proposed Delineation Boring and ID DB-X

Notes:

1. All feature locations are approximate
2. Base Plan is provided by Mueser Rutledge Engineers PLLC, Drawing No. B-1

Scale:

AS SHOWN

Figure No. 3

Figure Name: Proposed Delineation Borings

Report: Remedial Optimization Work Plan

Date: 3/27/2023

Drawn By: EK

Site Address: 450 Union Street
Brooklyn, New York

PHOTO LOG

Photo 1: View of CAMP station facing southwest.



Photo 2: View of Coastal Environmental Solutions drilling DB-4 with Sonic Drill Rig CRS XL 140 DUO



Photo 3: View of DB-4 sonic sleeves 20 to 25 feet and 25 to 30 feet.



Photo 4: View of shake tests from DB-4 from intervals 25-26 feet, 33-34 feet, and 48-49 feet.



Photo 5: View of DB-4 sonic sleeves 60 to 65 feet and 65 to 70.



Drilling Start Date: 06/14/2023	Boring Depth (ft): 70
Drilling End Date: 06/14/2023	Boring Diameter (in): 4.00
Drilling Company: Costal Environmental Solutions	Sampling Method(s): DS - Dedicated Plastic Sonic Sleeve
Drilling Method: Sonic	Location (Lat, Long): 40.67928, -73.98885
Drilling Equipment: CRS XL 140 DUO	
Driller: Patrick Slavin	
Logged By: Peter Rathsack	

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0.00') Asphalt			0
								(1.00') Poorly graded GRAVEL (GP); fine-coarse grained, loose, dry, light gray	2.2		
									0.6		
5								(6.00') Poorly graded GRAVEL (GP); fine-coarse grained, loose, dry, light gray	0.5		5
									0.5		
10								(10.50') Poorly graded GRAVEL (GP); fine-coarse grained, loose, dry, light gray	0.1		10
								(13.50') Lean CLAY with sand (CL); little fine-coarse gravel, some fine-coarse sand, mostly clay, low plasticity, medium stiff, wet, Black with Brown Streaks	0.1		
15								(15.00') Lean CLAY (CL); medium plasticity, medium stiff, moist, black, some organic material			15
								(16.00') SILT (ML); few fine-coarse gravel, trace fine-coarse sand, mostly silt, low plasticity, medium stiff, moist, Brown with Black streaks	0.1		
									0.1		
20								(19.00') PEAT (PT); with clay			20

NOTES:

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DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT		SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Recovery (ft)		PID (ppm)	Lab Sample	
20						(20.00') PEAT (PT); little clay			20
						(22.00') Lean CLAY (CL); low plasticity, medium stiff, moist, gray			
						(24.00') Poorly graded SAND (SP); mostly fine-medium grained sand, medium dense, moist, gray	133		
25						(25.00') Poorly graded SAND (SP); mostly fine-medium grained sand, medium dense, moist, gray			25
				Coated		(26.00') SILT with sand (ML); some fine sand, some silt, medium plasticity, medium stiff, moist, gray	76.4	DB-4 (25'-26')	
				Lenses					
						(29.50') ORGANIC SOIL (OL); some silt, low plasticity, medium stiff, moist, light black			
30						(30.00') Poorly graded SAND (SP); mostly fine-coarse grained sand, trace fine-coarse gravel, medium dense, moist, gray			30
				Odor, Staining	2.58	(31.00') SILT (ML); trace fine-coarse gravel, mostly silt, low plasticity, soft, moist, gray			
						(32.00') Silty SAND with gravel (SM); little fine-coarse gravel, poorly graded, loose, moist, brown			
				Coated			416.4	DB-4 (33'-34') HOLD	
				No Observed Impacts	3.25	(34.50') SILT (ML); little fine-coarse gravel, low plasticity, soft, moist, dark gray			35
35						(36.00') Poorly graded SAND (SP); fine-medium grained, loose, moist, light gray			19
				Odor, Staining		(38.00') Poorly graded SAND with gravel (SP); mostly fine-coarse grained sand, some fine-coarse gravel, loose, moist, light gray			57.8
									59.6
40									40

NOTES:

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DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT		SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Recovery (ft)		PID (ppm)	Lab Sample	
40			DS		2.16	(40.00') Poorly graded SAND with gravel (SP); some fine-coarse grained sand, some fine-coarse gravel, very loose, wet, Gray with Brown			40
						Tar Saturated			
						Tar Saturated			
								65.6	
45			DS		3.50	(44.50') Fat CLAY (CH); trace fine-coarse gravel, medium plasticity, medium stiff, wet, brown			45
						(45.00') Fat CLAY (CH); little fine-coarse gravel, medium plasticity, medium stiff, wet, black			
						(46.00') Poorly graded SAND with gravel (SP); some fine-coarse grained sand, some fine-coarse gravel, some silt, loose, wet, brown			
						(47.50') SILT with sand (ML); little fine sand, mostly silt, medium plasticity, stiff, moist, brown			
								3.3	DB-4 (33'-34')
50			DS		3.50	(50.00') Fat CLAY (CH); trace fine-medium sand, high plasticity, stiff, moist, light reddish-brown			50
						(52.00') Poorly graded SAND with gravel (SP); mostly fine-coarse grained sand, little fine gravel, loose, moist, light reddish-brown			
								0.1	
								0.8	
55			DS		4.16	(55.00') Fat CLAY (CH); trace silt, high plasticity, very stiff, moist, light brown			55
								0.1	
								0.1	
60									60

NOTES:

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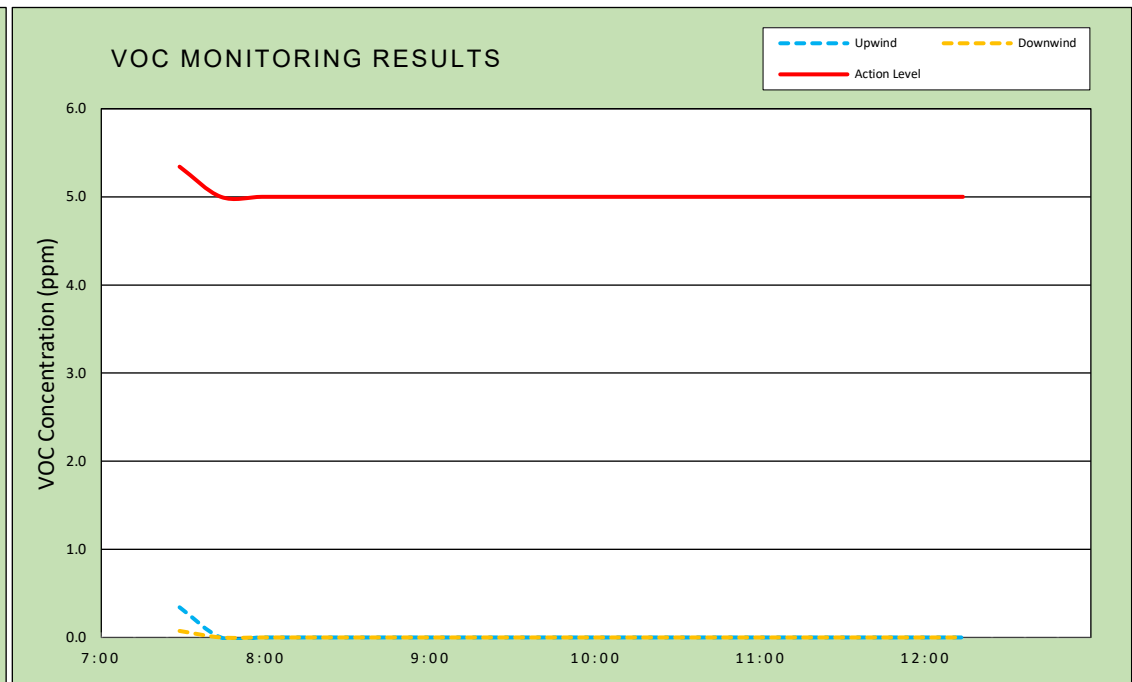
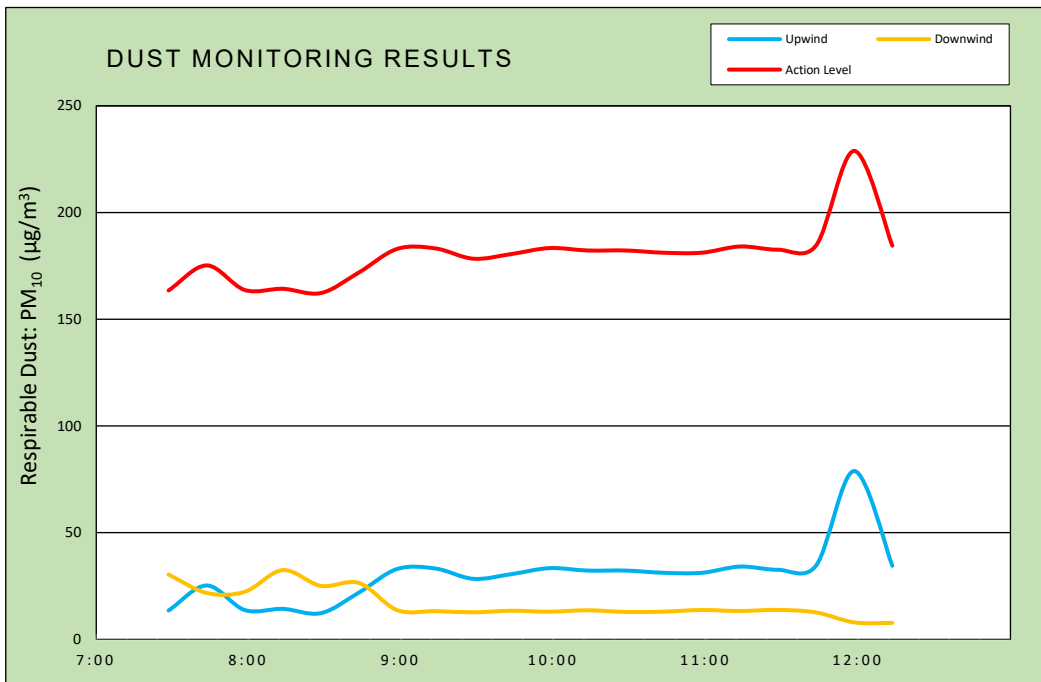
DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT		SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Recovery (ft)		PID (ppm)	Lab Sample	
60			DS		0.80	(60.00') Poorly graded SAND (SP); fine-coarse grained, some silt, loose, moist, brown			60
65			DS		2.80	(65.00') Poorly graded SAND (SP); fine-coarse grained, some silt, medium dense, moist, light brown (66.00') Poorly graded SAND (SP); fine-coarse grained, trace silt, dense, moist, light brown (68.00') SILT (ML); trace fine-coarse gravel, few fine sand, low plasticity, medium stiff, moist, light reddish-brown, trace cobble			65
70						(70.00') Boring terminated			70
75									75
80									80

NOTES:

vEktor consultants 37 W. 37th St, 6th Floor - New York, NY	DAILY AIR MONITORING REPORT 450 Union Street Brooklyn, New York					06/14/2023		
						Rev. No. 0	Page 1 of 2	
						Project Number:		
						Dust Action Level	150 $\mu\text{g}/\text{m}^3$	
VOC Action Level		5 ppm						

Weather Data Range for Work Day		Wind Direction	S	Relative Humidity (%)	56.0 - 79.0	Daily Rain Total (in)	0.00	Readings in the summary table and graphs below are the reported downwind concentrations.
Temperature (°F)	66.0 - 78.0	Wind Speed (MPH)	1.3 - 4.0	Barometer (inHg)	29.60 - 29.60	Avg. Dew Point Temp (°F)	60.7	

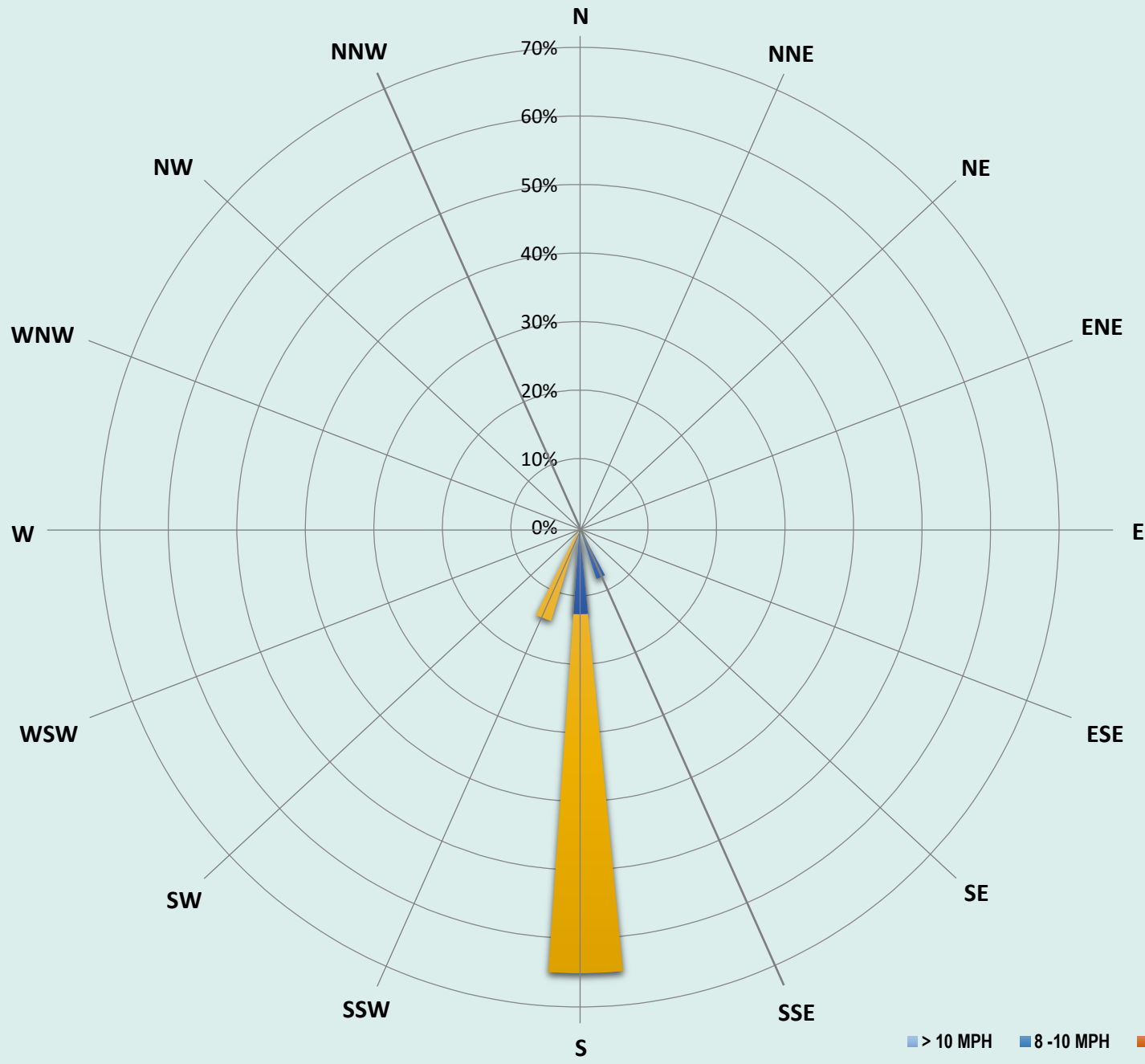
Station Location	Daily Avg. Dust Concentration ($\mu\text{g}/\text{m}^3$)	Max 15-Min Dust Concentration ($\mu\text{g}/\text{m}^3$)	Time of Max Dust Reading	Daily Avg. VOC Concentration (ppm)	Max 15-Min VOC Concentration (ppm)	Time of Max VOC Reading
Upwind	30.2	79.1	11:57	0.0	2.3	7:19
Downwind	16.2	43.7	7:17	0.0	0.1	7:39



Air Monitoring Notes:

Weather Notes:

vEKtor - 450 Union St
Air Monitoring
06/14/23
Wind Speed & Direction
Daily Readings



Wednesday, June 14, 2023

Number of Instances Where Downwind Particulates 0
 Number of Comparable Data Points = 20
 Start Time: 7:29
 End Time: 12:14

PARTICULATE DATA

Upwind		Downwind		Exceeds Particulate Alarm Limit
Time	15-Min Avg Concentration (ug/m ³)	Time	15-Min Avg Concentration (ug/m ³)	
7:29	13.5	7:29	30.4	-
7:44	25.2	7:44	21.7	-
7:59	13.7	7:59	22.3	-
8:14	14.3	8:14	32.4	-
8:29	12.3	8:29	25.0	-
8:44	22.0	8:44	26.4	-
8:59	33.0	8:59	13.7	-
9:14	33.2	9:14	13.2	-
9:29	28.4	9:29	12.7	-
9:44	30.6	9:44	13.4	-
9:59	33.4	9:59	13.0	-
10:14	32.2	10:14	13.6	-
10:29	32.2	10:29	12.8	-
10:44	31.2	10:44	13.0	-
10:59	31.2	10:59	13.7	-
11:14	34.1	11:14	13.3	-
11:29	32.6	11:29	13.8	-
11:44	34.6	11:44	12.6	-
11:59	78.9	11:59	7.9	-
12:14	34.5	12:14	7.7	-

Exceedance Level

163.5
175.2
163.7
164.3
162.3
172.0
183.0
183.2
178.4
180.6
183.4
182.2
182.2
181.2
181.2
184.1
182.6
184.6
228.9
184.5

Upwind DustTrak Data Summary

Daily Maximum	494.8 ug/m ³
Daily Minimum	0.0 ug/m ³
Daily Average	30.2 ug/m ³
Maximum 15-Minute Average	78.9 ug/m ³

Downwind DustTrak Data Summary

Daily Maximum	121.0 ug/m ³
Daily Minimum	6.0 ug/m ³
Daily Average	16.2 ug/m ³
Maximum 15-Minute Average	32.4 ug/m ³

Wednesday, June 14, 2023				
Number of Instances Where Downwind VOCs Exceeds				0
Number of Comparable Data Points =				0
Start Time:				7:30
End Time:				12:15
PID DATA				
Upwind		Downwind		Exceeds VOC Alarm Limit
Time	15-Min Avg Concentration (ppm)	Time	15-Min Avg Concentration (ppm)	
7:30	0.3	7:30	0.1	-
7:45	0.0	7:45	0.0	-
8:00	0.0	8:00	0.0	-
8:15	0.0	8:15	0.0	-
8:30	0.0	8:30	0.0	-
8:45	0.0	8:45	0.0	-
9:00	0.0	9:00	0.0	-
9:15	0.0	9:15	0.0	-
9:30	0.0	9:30	0.0	-
9:45	0.0	9:45	0.0	-
10:00	0.0	10:00	0.0	-
10:15	0.0	10:15	0.0	-
10:30	0.0	10:30	0.0	-
10:45	0.0	10:45	0.0	-
11:00	0.0	11:00	0.0	-
11:15	0.0	11:15	0.0	-
11:30	0.0	11:30	0.0	-
11:45	0.0	11:45	0.0	-
12:00	0.0	12:00	0.0	-
12:15	0.0	12:15	0.0	-

Exceedance Level

5.3
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0
5.0

Upwind PID Data Summary		
Daily Maximum	2.3	ppm
Daily Minimum	0.0	ppm
Daily Average	0.0	ppm
Maximum 15-Minute Average	0.3	ppm

Downwind PID Data Summary		
Daily Maximum	0.1	ppm
Daily Minimum	0.0	ppm
Daily Average	0.0	ppm
Maximum 15-Minute Average	0.1	ppm