

**WEEKLY PROGRESS REPORT – TRC SOLUTIONS**

**Gowanus Canal Turning Basin 4 Dredging and Capping Pilot Study  
Brooklyn, New York**

**Project number: 283126**

**Period: April 30 to May 4, 2018**

**Date of Report: May 9, 2018**

**Rev: 0**

**Prepared For: Gowanus Environmental Remediation Trust**



**On-Site Activities Conducted During Week:**

*Sevenson Environmental Services (SES)*

Phase I Dredging:

- Installation and testing of new air curtain
- Approximately 2,080 cubic yards of sediment dredged (volume provided by Sevenson and accepted as draft by Geosyntec)
- Decanted dredged sediment consolidated into approximate 750 cubic yard scows and transferred to Clean Earth Claremont

Sheet Pile Installation

- Stage sheet piling removed and replaced with Giken Silent Press on asphalt pad at Citizens Site for decontamination

Water Treatment and Monitoring

- No discharge of treated water during the week.
- Dredged sediment decanted prior to consolidation for off-site shipment.

Turbidity Monitoring

- Turbid water not observed migrating from the 4<sup>th</sup> Street Turning Basin.

Debris Screening Activities

- Large debris (i.e., debris greater than 5 feet in any direction) segregated and placed on the asphalt pad at Citizens Site. Photographs of debris provided for AHRS consultation.
- Screening and segregating of dredged sediment following removal of non-large debris performed at Clean Earth Claremont for inspection by AHRS.
- Geosyntec conducted site visit of Clean Earth Claremont facility on 05/04/18.

Sediment Stabilization Activities

- Clean Earth Claremont stabilized dredged sediment by adding 8% Portland cement

*Quality Assurance and Control – Geosyntec*

- No exceedance of the turbidity trigger or action criteria during Phase I dredging.
- Measurements for 4/30/18:
  - Daily average for ambient buoy – 11.7 NTU
  - Daily average for sentinel buoy – 15.3 NTU
  - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 7.7 NTU at 0745.
- Measurements for 5/1/18:
  - Daily average for ambient buoy – 10.1 NTU
  - Daily average for sentinel buoy – 16.4 NTU
  - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 9.3 NTU at 1345.
- Measurements for 5/2/18:
  - Daily average for ambient buoy – 9.2 NTU
  - Daily average for sentinel buoy – 17.2 NTU
  - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 21.1 NTU at 1400.



- Measurements for 5/3/18:
  - Daily average for ambient buoy – 9.1 NTU
  - Daily average for sentinel buoy – 11.2 NTU
  - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 8.6 NTU at 1245.
- Measurements for 5/4/18:
  - Daily average for ambient buoy – 7.7 NTU
  - Daily average for sentinel buoy – 11.2 NTU
  - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 18.7 NTU at 1430.

*Community Air Monitoring Program – TRC CAMP*

- Operated and maintained two (2) air monitoring stations at the upland staging area and five (5) monitoring station at the 4<sup>th</sup> Street Turning Basin Area.
- No exceedances of particulate matter of 10 microns in diameter or smaller (PM<sub>10</sub>) or total volatile organic compounds (TVOC) of the action level of 150 micrograms per cubic meter or 1,000 parts per billion, respectively.
- Maximum weekly measurements of PM<sub>10</sub> in µg/m<sup>3</sup>
  - Station 1 – 55 µg/m<sup>3</sup> recorded on 05/02/18
  - Station 2 – 32 µg/m<sup>3</sup> recorded on 05/01/18
  - Station 3 – 32 µg/m<sup>3</sup> recorded on 04/30/18
  - Station 4 – 28 µg/m<sup>3</sup> recorded on 05/03/18
  - Station 5 – 20 µg/m<sup>3</sup> recorded on 05/04/18
  - Station 6 – <1 µg/m<sup>3</sup> recorded throughout the week
  - Station 7 – <1 µg/m<sup>3</sup> recorded throughout the week
- Maximum weekly measurements of TVOC in ppb
  - Station 1 – 60 ppb recorded on 05/02/18
  - Station 2 – 54 ppb recorded on 05/04/18
  - Station 3 – 54 ppb recorded on 04/30 and 05/02/18
  - Station 4 – <1 ppb recorded throughout the week
  - Station 5 – 47 ppb recorded on 05/03/18
  - Station 6 – <1 ppb recorded throughout the week
  - Station 7 – 8 ppb recorded on 05/02, 05/03, and 05/04/18
- All real-time readings of hydrogen sulfide, ammonia, or formaldehyde less than instrument reporting limit.
- 23-hour sample collected at ST-1 on 04/30 through 05/01 and ST-3 on 05/01 through 05/02. Laboratory turnaround time is 10 business days.
- Tabulated laboratory analytical results for 23-hour sample collected at ST-3 on 04/17 through 04/18 and ST-7 on 04/19 through 04/20 presented in weekly CAMP report.

*Noise and Vibration Monitoring – Wilson Ihrig*

- Operated and maintained three (3) noise monitors: NM-1 (north side of canal on Whole Foods promenade), NM-2 (south side of canal on southeast corner of 386 3rd Avenue), and NM-3 (southeast corner of Whole Foods at 3rd Avenue Bridge).
- No exceedances of the hourly Leq noise limit of 80 dBA.



- Greatest hourly Leq noise measurements
  - Northern monitor (NM-1) – 76.2 dBA during 1200-1300 on 04/30/18
  - Southern monitor (NM-2) – 74.7 dBA during 1700-1800 on 05/03/18
  - 3<sup>rd</sup> Avenue Bridge monitor (NM-3) – 70.7 dBA during 1400-1500 on 04/30/18
- No exceedances of the commercial and industrial structures vibration criterion of 2.0 inches per second peak particle velocity.
- Greatest peak particle velocity measurements
  - Northern monitor (VM-1) – 0.03 in/sec event between 1500 and 1600 on 05/02/18
  - Southern monitor (VM-2) – 0.0525 in/sec event between 1200 and 1300 on 05/02/18
- Demobilized vibration monitors and noise monitor NM-3 on 05/03/18.

*Cultural Natural Resource Monitoring – Archeology and Historic Resource Services (AHRS)*

- Reviewed photographs of screened debris from Phase I dredging at Clean Earth Claremont and Citizens Site. Wooden beams segregated at Citizens Site identified as requiring additional recording and measurement and possible coordination with SHPO and EPA.
- Conducted cultural resource training at Citizens Site.

**Two-Week Look Ahead:**

Sevenson:

- Continue Phase I dredging.
- Shipment of dredged sediment to Clean Earth Claremont for screening and stabilization prior to shipment to Waste Management Fairless Hills for beneficial reuse.
- Treatment and discharge of water decanted from dredged sediment.
- Perform optical monitoring of bulkheads and surrounding structures with autonomous total survey stations. Along with weekly optical surveys conducted by subcontractor.

Geosyntec – Perform construction quality assurance responsibilities, including collection of water samples from dredge water system.

TRC CAMP Monitoring – Perform community air monitoring.

Wilson Ihrig – Perform noise monitoring,

AHRS:

- Finalize report of inspection of screened debris from Access Dredging in preparation for off-site disposal.
- Review photographs and perform inspection of screened debris from Phase I dredging at Clean Earth Claremont and Citizens Site.

**Key Milestones**

- Recommence Phase I dredging on 05/01/18

Attachments:

1. Geosyntec In-Canal Water Quality Monitoring Weekly Data Summary
2. TRC Weekly CAMP Report
3. Wilson Ihrig Weekly Noise and Vibration Monitoring Report
4. AHRS Weekly Report
5. Water Treatment System Monitoring Analytical Laboratory Data (no activities during current week)
6. Cumulative Dredged Material Chart



<b>Client Name:</b> Gowanus ERT	<b>Site Location:</b> TB-4 Pilot Study	<b>Project No.:</b> 283126.0000.0001
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<b>Photo No.</b> 001	<b>Date</b> 04-30-2018
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**Description**  
Air curtain being placed into the TB-4 work area.



<b>Photo No.</b> 002	<b>Date</b> 04-30-2018
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**Description**  
Testing of the new air curtain.



<b>Client Name:</b> Gowanus ERT	<b>Site Location:</b> TB-4 Pilot Study	<b>Project No.:</b> 283126.0000.0001
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<b>Photo No.</b> 003	<b>Date</b> 05-01-2018
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**Description**  
Starting the air curtain prior to dredging for day.



<b>Photo No.</b> 004	<b>Date</b> 05-01-2018
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**Description**  
Material stacked in the hopper scow.



<b>Client Name:</b> Gowanus ERT	<b>Site Location:</b> TB-4 Pilot Study	<b>Project No.:</b> 283126.0000.0001
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<b>Photo No.</b> 005	<b>Date</b> 05-02-2018
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**Description**  
Loaded bucket heading for the empty scow.



<b>Photo No.</b> 006	<b>Date</b> 05-02-2018
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**Description**  
Large object found in the canal (loader bucket).



<b>Client Name:</b> Gowanus ERT	<b>Site Location:</b> TB-4 Pilot Study	<b>Project No.:</b> 283126.0000.0001
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<b>Photo No.</b> 007	<b>Date</b> 05-03-2018
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**Description**  
Dredging material from the south side of TB-4.



<b>Photo No.</b> 008	<b>Date</b> 05-03-2018
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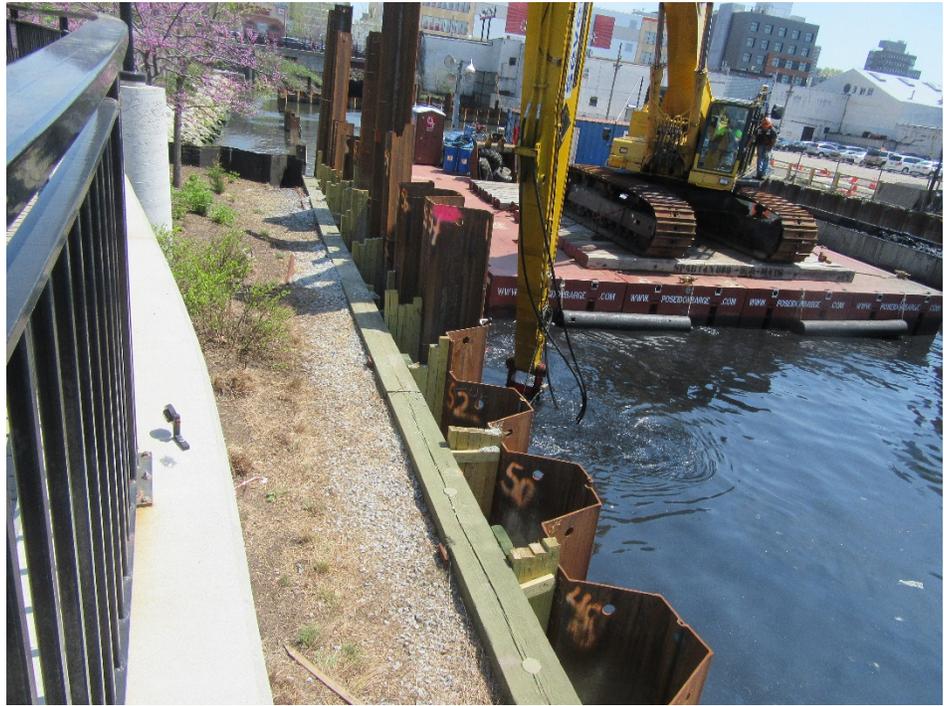
**Description**  
Loading scow with dredged material.



<b>Client Name:</b> Gowanus ERT	<b>Site Location:</b> TB-4 Pilot Study	<b>Project No.:</b> 283126.0000.0001
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<b>Photo No.</b> 009	<b>Date</b> 05-04-2018
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**Description**  
Dredging next to sheet pile wall.



<b>Photo No.</b> 010	<b>Date</b> 05-04-2018
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**Description**  
Transferring scows after the barge was rotated 180 degrees to allow for dredging of eastern end of TB-4.



**GEOSYNTEC IN-CANAL WATER QUALITY MONITORING WEEKLY DATA SUMMARY**



*Prepared for*  
**Gowanus Canal  
Remedial Design  
Group**

# **GOWANUS CANAL SUPERFUND SITE DREDGING AND CAPPING PILOT STUDY Water Quality Monitoring Weekly Data Summary**

Week of April 30<sup>th</sup>, 2018

## **Report Contents**

- Scope of Monitoring
- Turbidity Buoy Data
- Handheld Measurements
- Summary of Visual Observations
  - Report of Exceedances

*Prepared by*

**Geosyntec**  **Beech and Bonaparte**   
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engineers | scientists | innovators

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Project Number HPH106A (52)

## 1. SCOPE OF MONITORING

The following report summarizes water quality monitoring data collected during the week of April 30<sup>th</sup>, 2018. Two turbidity buoys were deployed to monitor turbidity during the pilot study. One turbidity buoy was deployed just outside of the 4<sup>th</sup> Street Turning Basin and is referred to as the sentinel buoy. A second turbidity buoy was deployed further upstream in RTA1 in order to monitor background turbidity unaffected by on-water construction activities. This turbidity buoy is referred to as the ambient buoy. A map indicating the approximate locations of the turbidity buoys is provided in Figure 1. Each turbidity buoy was equipped with a YSI 600 OMS water quality meter with optical turbidity sensor. The buoys were programmed such that readings were collected every 15 minutes. After each measurement, the turbidity data were transmitted to a FTP site via telemetry. This report provides the turbidity data collected every 15 minutes from both the ambient and sentinel buoys during each day between 7 AM and 5 PM during the week of April 30<sup>th</sup>. Average and maximum turbidity are also presented. No handheld measurements were collected during this reporting period. Visual observations of turbidity and sheen are summarized in Section 4. The data provided in this summary report have not yet been validated and should be considered preliminary.



## 2. TURBIDITY BUOY DATA

The following section provides turbidity data for the sentinel and ambient turbidity buoys from 7 AM to 5 PM from April 30<sup>th</sup> to May 4<sup>th</sup>, 2018. Background data prior to the start of dredging is provided in Appendix A. No exceedances to the rolling average threshold criteria were observed during the reporting period. On Wednesday May 2, some measurements between 11:45 and 14:45 were not collected due to maintenance on the turbidity buoys.

### 2.1 Monday, April 30<sup>th</sup>, 2018

Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel >Ambient (Y/N)	Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel >Ambient (Y/N)
4/30/2018 7:00	9.3	16.0	Y	4/30/2018 12:15	10.4	14.4	Y
4/30/2018 7:15	9.8	16.1	Y	4/30/2018 12:30	10.0	14.3	Y
4/30/2018 7:30	9.5	16.7	Y	4/30/2018 12:45	9.4	14.2	Y
4/30/2018 7:45	9.2	16.9	Y	4/30/2018 13:00	8.9	14.2	Y
4/30/2018 8:00	9.4	17.0	Y	4/30/2018 13:15	11.5	14.2	Y
4/30/2018 8:15	10.3	17.1	Y	4/30/2018 13:30	12.5	14.1	Y
4/30/2018 8:30	11.4	17.1	Y	4/30/2018 13:45	13.3	14.1	Y
4/30/2018 8:45	9.9	17.1	Y	4/30/2018 14:00	13.0	14.0	Y
4/30/2018 9:00	11.4	17.3	Y	4/30/2018 14:15	13.1	13.9	Y
4/30/2018 9:15	12.2	17.3	Y	4/30/2018 14:30	11.0	13.8	Y
4/30/2018 9:30	13.6	17.3	Y	4/30/2018 14:45	13.2	13.8	Y
4/30/2018 9:45	14.1	17.1	Y	4/30/2018 15:00	12.0	14.0	Y
4/30/2018 10:00	13.3	16.7	Y	4/30/2018 15:15	11.3	14.2	Y
4/30/2018 10:15	13.8	16.2	Y	4/30/2018 15:30	13.0	14.4	Y
4/30/2018 10:30	14.3	16.0	Y	4/30/2018 15:45	14.5	14.6	Y
4/30/2018 10:45	14.2	15.6	Y	4/30/2018 16:00	13.2	14.6	Y
4/30/2018 11:00	12.8	15.4	Y	4/30/2018 16:15	12.7	14.5	Y
4/30/2018 11:15	11.6	15.2	Y	4/30/2018 16:30	11.7	14.6	Y
4/30/2018 11:30	11.3	14.9	Y	4/30/2018 16:45	11.4	14.5	Y
4/30/2018 11:45	11.5	14.9	Y	4/30/2018 17:00	10.9	14.6	Y
4/30/2018 12:00	10.2	14.6	Y				
Average	11.7	15.3	Y				
Maximum	14.5	17.3	Y				
<b>Notes:</b>							
No exceedances to rolling average threshold criteria during reporting period							
Values highlighted in green are greater than 20 NTU above the ambient buoy reading							
Values highlighted in blue are greater than 40 NTU above the ambient buoy reading							



### 2.3 Wednesday, May 2<sup>nd</sup>, 2018

Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel >Ambient (Y/N)	Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel >Ambient (Y/N)
5/2/2018 7:00	6.8	16.8	Y	5/2/2018 12:15	--	--	N
5/2/2018 7:15	6.6	16.8	Y	5/2/2018 12:30	--	--	N
5/2/2018 7:30	6.2	17.1	Y	5/2/2018 12:45	9.4	19.8	Y
5/2/2018 7:45	7.2	17.0	Y	5/2/2018 13:00	9.8	18.6	Y
5/2/2018 8:00	7.7	16.9	Y	5/2/2018 13:15	8.4	21.6	Y
5/2/2018 8:15	8.5	17.0	Y	5/2/2018 13:30	8.5	28.1	Y
5/2/2018 8:30	8.8	17.0	Y	5/2/2018 13:45	--	--	N
5/2/2018 8:45	8.5	17.0	Y	5/2/2018 14:00	7.1	28.2	Y
5/2/2018 9:00	10.4	17.2	Y	5/2/2018 14:15	--	--	N
5/2/2018 9:15	13.6	17.4	Y	5/2/2018 14:30	7.7	9.3	Y
5/2/2018 9:30	11.8	17.5	Y	5/2/2018 14:45	--	--	N
5/2/2018 9:45	11.8	17.7	Y	5/2/2018 15:00	7.0	6.9	N
5/2/2018 10:00	10.7	17.7	Y	5/2/2018 15:15	7.8	21.8	Y
5/2/2018 10:15	11.3	17.4	Y	5/2/2018 15:30	7.2	10.6	Y
5/2/2018 10:30	10.5	17.7	Y	5/2/2018 15:45	7.7	12.4	Y
5/2/2018 10:45	11.2	17.8	Y	5/2/2018 16:00	8.7	7.9	N
5/2/2018 11:00	11.1	17.8	Y	5/2/2018 16:15	9.6	18.0	Y
5/2/2018 11:15	10.7	--	Y	5/2/2018 16:30	9.3	24.0	Y
5/2/2018 11:30	11.7	--	Y	5/2/2018 16:45	9.3	13.6	Y
5/2/2018 11:45	--	--	N	5/2/2018 17:00	10.3	14.6	Y
5/2/2018 12:00	--	--	N				
Average	9.2	17.2	Y				
Maximum	13.6	28.2	Y				

**Notes:**

No exceedances to rolling average threshold criteria during reporting period  
 Values highlighted in green are greater than 20 NTU above the ambient buoy reading  
 Values highlighted in blue are greater than 40 NTU above the ambient buoy reading



**2.5 Friday, May 4<sup>th</sup>, 2018**

Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel >Ambient (Y/N)	Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel >Ambient (Y/N)
5/4/2018 7:00	4.7	4.7	N	5/4/2018 12:15	7.6	12.3	Y
5/4/2018 7:15	4.4	3.6	N	5/4/2018 12:30	7.6	11.2	Y
5/4/2018 7:30	5.2	7.3	Y	5/4/2018 12:45	7.2	11.8	Y
5/4/2018 7:45	5.2	8.2	Y	5/4/2018 13:00	8.7	13.1	Y
5/4/2018 8:00	4.9	10.8	Y	5/4/2018 13:15	7.4	14.6	Y
5/4/2018 8:15	5.2	13.3	Y	5/4/2018 13:30	7.9	14.5	Y
5/4/2018 8:30	5.4	10.0	Y	5/4/2018 13:45	7.7	17.9	Y
5/4/2018 8:45	7.5	10.9	Y	5/4/2018 14:00	7.5	14.4	Y
5/4/2018 9:00	7.1	8.2	Y	5/4/2018 14:15	6.8	7.7	Y
5/4/2018 9:15	7.7	12.5	Y	5/4/2018 14:30	5.7	24.4	Y
5/4/2018 9:30	10.1	8.0	N	5/4/2018 14:45	6.0	16.0	Y
5/4/2018 9:45	10.6	9.1	N	5/4/2018 15:00	5.6	6.4	Y
5/4/2018 10:00	9.9	10.5	Y	5/4/2018 15:15	6.9	6.5	N
5/4/2018 10:15	10.9	16.5	Y	5/4/2018 15:30	6.6	7.5	Y
5/4/2018 10:30	11.8	13.2	Y	5/4/2018 15:45	7.6	5.8	N
5/4/2018 10:45	9.9	13.8	Y	5/4/2018 16:00	7.8	7.2	N
5/4/2018 11:00	9.0	13.8	Y	5/4/2018 16:15	9.1	8.2	N
5/4/2018 11:15	8.7	13.7	Y	5/4/2018 16:30	8.9	8.9	N
5/4/2018 11:30	9.1	15.0	Y	5/4/2018 16:45	11.2	9.3	N
5/4/2018 11:45	7.3	12.9	Y	5/4/2018 17:00	10.2	14.7	Y
5/4/2018 12:00	8.9	11.8	Y				
Average	7.7	11.2	Y				
Maximum	11.8	24.4	Y				
<b>Notes:</b>							
No exceedances to rolling average threshold criteria during reporting period							
Values highlighted in green are greater than 20 NTU above the ambient buoy reading							
Values highlighted in blue are greater than 40 NTU above the ambient buoy reading							

### 3. HANDHELD MEASUREMENTS

No handheld measurements were collected for this reporting period.

### 4. SUMMARY OF VISUAL OBSERVATIONS

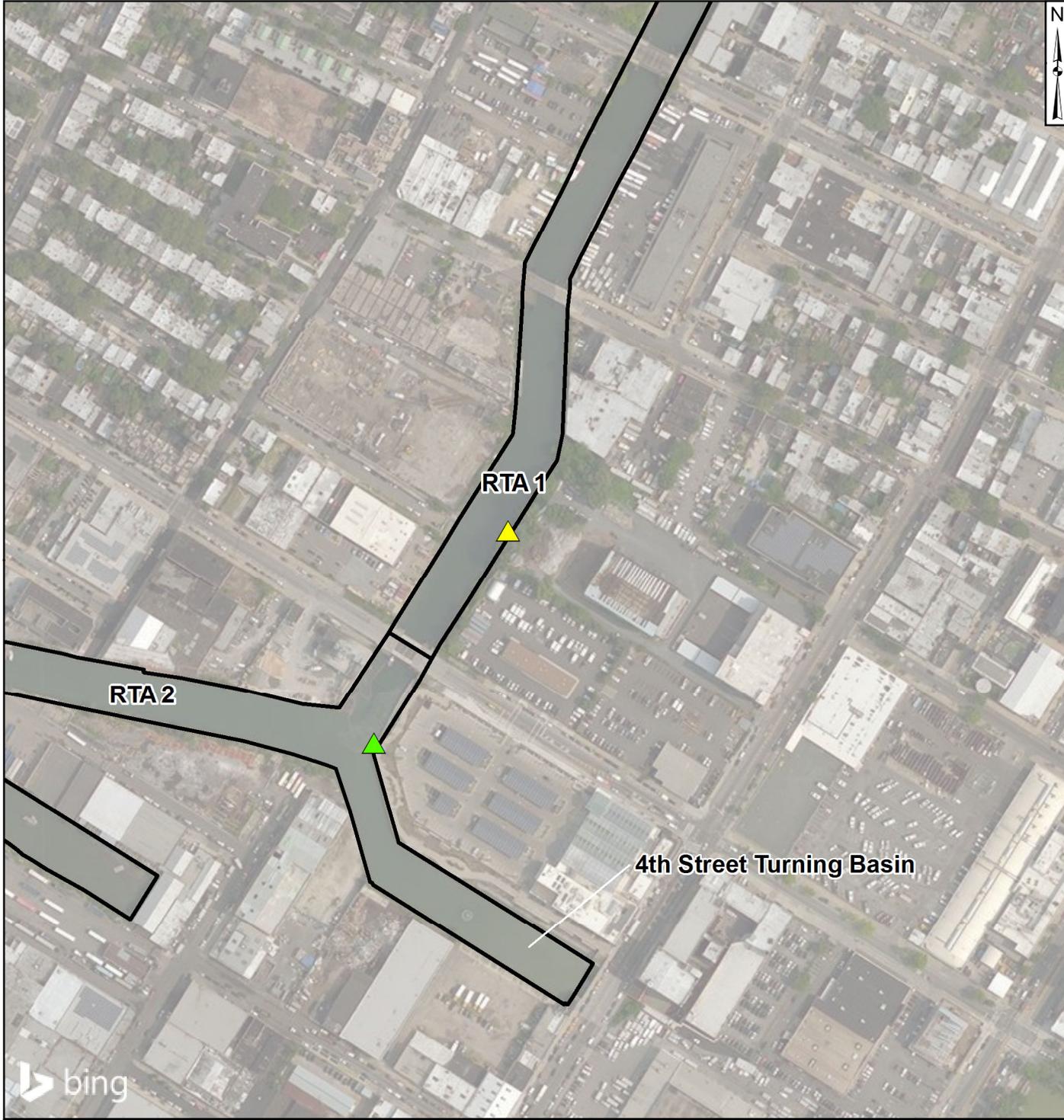
Visual observations are consistent with background conditions of the turning basin.

### 5. REPORT OF EXCEEDANCES

No exceedances of the water quality monitoring threshold criteria were met during the reporting period. Refer to the Water Quality Monitoring Plan for In-waterway Construction Activities (Geosyntec 2017) for further information regarding the Trigger and Action Criteria. Threshold criteria are summarized as follows:

- **Trigger criterion** – Any of the following:
  - The rolling average of the sentinel buoy turbidity measurements over a one-hour period exceeds the rolling average of the ambient buoy turbidity measurements by 20 NTU excluding any eliminated outlier measurements; or
  - Either an oil sheen or a turbidity plume is visually observed outside of engineering controls and in-waterway construction activities cannot be immediately excluded as the source.
- **Action criterion** – Any of the following:
  - The rolling average of the sentinel buoy turbidity measurements over a one-hour period exceeds the rolling average of the ambient buoy turbidity measurements by 40 NTU excluding any eliminated outlier measurements; or
  - Either an oil sheen or a turbidity plume is visually observed outside of engineering controls and in-waterway construction activities are readily identified as the source.

# **FIGURES**



X:\03\_GIS\mxd\Canal\_Wide\_Turbidity\_Buoy\_Locations.mxd; acarnes; 10/19/2017

**Legend**

-  Ambient Buoy
-  Sentinel Buoy
-  RTA Boundary



**Turbidity Buoy Locations**

Gowanus Canal, Brooklyn, NY

Gowanus Canal Remedial Design Group Geosyntec consultants Beech and Bonaparte engineering p.c. an affiliate of Geosyntec Consultants

Figure

1

Ewing, NJ

October 2017

**APPENDIX A**  
**PRE-DREDGE TURBIDITY BUOY DATA**

Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel> Ambient (Y/N)	Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel> Ambient (Y/N)	Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel> Ambient (Y/N)
10/3/2017 15:00	7.4	2.7	N	10/4/2017 4:30	4.8	7.1	Y	10/4/2017 18:00	6.9	2.7	N
10/3/2017 15:15	6.6	2.4	N	10/4/2017 4:45	5	6.3	Y	10/4/2017 18:15	7.2	2.7	N
10/3/2017 15:30	6.4	2.7	N	10/4/2017 5:00	4.7	6	Y	10/4/2017 18:30	7.8	3.4	N
10/3/2017 15:45	6.9	2	N	10/4/2017 5:15	5.1	6.4	Y	10/4/2017 18:45	8.2	4.4	N
10/3/2017 16:00	6.3	2.1	N	10/4/2017 5:30	5	7.3	Y	10/4/2017 19:00	7.5	3.1	N
10/3/2017 16:15	6.5	2.4	N	10/4/2017 5:45	5.4	7.8	Y	10/4/2017 19:15	8.7	3.6	N
10/3/2017 16:30	7.1	2.9	N	10/4/2017 6:00	5.5	8.3	Y	10/4/2017 19:30	8.7	4.5	N
10/3/2017 16:45	6.1	2.8	N	10/4/2017 6:15	5.2	9	Y	10/4/2017 19:45	9.4	4.1	N
10/3/2017 17:00	7	2.8	N	10/4/2017 6:30	5.8	7.2	Y	10/4/2017 20:00	8.4	4	N
10/3/2017 17:15	7	4.4	N	10/4/2017 6:45	5.4	8.8	Y	10/4/2017 20:15	8.2	4	N
10/3/2017 17:30	7	4.7	N	10/4/2017 7:00	5.5	8	Y	10/4/2017 20:30	9	3.6	N
10/3/2017 17:45	6.3	4	N	10/4/2017 7:15	5.6	7.5	Y	10/4/2017 20:45	8.4	3.5	N
10/3/2017 18:00	6.5	6.9	Y	10/4/2017 7:30	6.9	7.2	Y	10/4/2017 21:00	9.5	4.7	N
10/3/2017 18:15	7.8	6.7	Y	10/4/2017 7:45	6.8	6.1	N	10/4/2017 21:15	10.2	3.9	N
10/3/2017 18:30	7.9	6.5	N	10/4/2017 8:00	6.7	7.4	Y	10/4/2017 21:30	9.5	3.5	N
10/3/2017 18:45	8.5	5.9	N	10/4/2017 8:15	7.3	6.1	N	10/4/2017 21:45	8.9	3.6	N
10/3/2017 19:00	7.9	6	N	10/4/2017 8:30	7.2	4.6	N	10/4/2017 22:00	8.6	2.9	N
10/3/2017 19:15	7.4	6.3	N	10/4/2017 8:45	6.6	9	Y	10/4/2017 22:15	8.7	3.6	N
10/3/2017 19:30	7.4	4.3	N	10/4/2017 9:00	9.2	14.1	Y	10/4/2017 22:30	8.4	6.3	N
10/3/2017 19:45	8.3	4.6	N	10/4/2017 9:15	7.9	4.8	N	10/4/2017 22:45	7.3	3.3	N
10/3/2017 20:00	8.9	5.2	N	10/4/2017 9:30	9.3	4.6	N	10/4/2017 23:00	7.4	3.8	N
10/3/2017 20:15	8.6	4.5	N	10/4/2017 9:45	7.6	5.1	N	10/4/2017 23:15	7.1	4.5	N
10/3/2017 20:30	8	4.9	N	10/4/2017 10:00	8.1	3.9	N	10/4/2017 23:30	7	3.8	N
10/3/2017 20:45	10.6	4.3	N	10/4/2017 10:15	7.8	3.1	N	10/4/2017 23:45	8.3	5.3	N
10/3/2017 21:00	11.1	4.6	N	10/4/2017 10:30	7.3	4.5	N	10/5/2017 0:00	7.7	6.2	N
10/3/2017 21:15	9.8	4.7	N	10/4/2017 10:45	7.5	3.9	N	10/5/2017 0:15	7.8	5.1	N
10/3/2017 21:30	8.8	4.6	N	10/4/2017 11:00	7.6	9	Y	10/5/2017 0:30	7.2	5.7	N
10/3/2017 21:45	9	4.7	N	10/4/2017 11:15	6.5	16.7	Y	10/5/2017 0:45	7	5.4	N
10/3/2017 22:00	8.3	4.8	N	10/4/2017 11:30	7.4	6	N	10/5/2017 1:00	7.5	4.9	N
10/3/2017 22:15	7.3	6.1	N	10/4/2017 11:45	6.8	5.3	N	10/5/2017 1:15	7	8.2	Y
10/3/2017 22:30	7	4.7	N	10/4/2017 12:00	7.7	5.1	N	10/5/2017 1:30	8.1	4.9	N
10/3/2017 22:45	6.6	5.3	N	10/4/2017 12:15	6.6	6.1	N	10/5/2017 1:45	9.1	6.5	N
10/3/2017 23:00	7.1	6.1	N	10/4/2017 12:30	7.6	4	N	10/5/2017 2:00	9.2	5.2	N
10/3/2017 23:15	6.5	6	N	10/4/2017 12:45	7.7	3.9	N	10/5/2017 2:15	8.5	3.7	N
10/3/2017 23:30	6.6	6.9	Y	10/4/2017 13:00	8.3	4.8	N	10/5/2017 2:30	10.2	5.2	N
10/3/2017 23:45	7.2	5.2	N	10/4/2017 13:15	8.5	3.9	N	10/5/2017 2:45	10.1	4.2	N
10/4/2017 0:00	6.8	6.3	N	10/4/2017 13:30	9.2	5.5	N	10/5/2017 3:00	10.3	4.9	N
10/4/2017 0:15	7.2	5.6	N	10/4/2017 13:45	9.4	4.5	N	10/5/2017 3:15	9	6.3	N
10/4/2017 0:30	7.4	6.4	N	10/4/2017 14:00	11.1	3.1	N	10/5/2017 3:30	9.2	4.5	N
10/4/2017 0:45	7.1	5	N	10/4/2017 14:15	10	2.5	N	10/5/2017 3:45	8.4	4.1	N
10/4/2017 1:00	7.1	4.3	N	10/4/2017 14:30	9.8	2	N	10/5/2017 4:00	7.4	4.4	N
10/4/2017 1:15	8.3	4.6	N	10/4/2017 14:45	9.7	2.1	N	10/5/2017 4:15	7.3	4.4	N
10/4/2017 1:30	9	5.1	N	10/4/2017 15:00	9.3	2.4	N	10/5/2017 4:30	6.4	4.6	N
10/4/2017 1:45	7.9	4.5	N	10/4/2017 15:15	8.5	2.1	N	10/5/2017 4:45	6.2	5.1	N
10/4/2017 2:00	9.1	4	N	10/4/2017 15:30	8.5	1.8	N	10/5/2017 5:00	5.3	5.2	N
10/4/2017 2:15	7	5.3	N	10/4/2017 15:45	7.2	1.8	N	10/5/2017 5:15	5.3	5.3	N
10/4/2017 2:30	7.2	5.5	N	10/4/2017 16:00	7.3	1.6	N	10/5/2017 5:30	4.8	5	Y
10/4/2017 2:45	6.6	4.8	N	10/4/2017 16:15	6.4	1.8	N	10/5/2017 5:45	5.7	5	N
10/4/2017 3:00	6.6	5.7	N	10/4/2017 16:30	7	1.6	N	10/5/2017 6:00	5.6	4.8	N
10/4/2017 3:15	6.2	5.1	N	10/4/2017 16:45	7.5	2.6	N	10/5/2017 6:15	5.4	4.9	N
10/4/2017 3:30	5.9	4.7	N	10/4/2017 17:00	6.4	2.7	N	10/5/2017 6:30	6.1	5.7	N
10/4/2017 3:45	5.5	5.9	N	10/4/2017 17:15	6.5	2	N	10/5/2017 6:45	5.9	6.4	Y
10/4/2017 4:00	4.9	6.4	Y	10/4/2017 17:30	6.7	2.3	N	10/5/2017 7:00	6.1	7.8	Y
10/4/2017 4:15	5.1	7	Y	10/4/2017 17:45	6.6	2.1	N				
Average	7.5	6.0	N								
Maximum	11.1	16.7	Y								

**TRC WEEKLY COMMUNITY AIR MONITORING PROJECT REPORT**





**Gowanus Canal Superfund Site  
TB-4 Dredging and Capping Pilot Study  
Brooklyn, New York  
Weekly Report  
(TRC Project No.274286-0000-00000)**

**Community Air Monitoring Project  
30<sup>th</sup> Weekly Monitoring Period  
Summary Report:**

April 30<sup>th</sup> through May 4<sup>th</sup>, 2018

**Report Contents**

- Executive Summary
- Daily Data Summary Report – PM<sub>10</sub>/TVOC
  - Daily Meteorological Summary Report
    - Periodic Monitoring Results
- Volatile Organic Compounds (USEPA Method TO-15)

# **Gowanus Canal Superfund Site TB-4 Dredging and Capping Pilot Study Brooklyn, New York**

## **Executive Summary – Week 30 Monitoring Period April 30<sup>th</sup> through May 4<sup>th</sup>, 2018**

The following report summarizes site air monitoring activities for the Week 30 monitoring period from April 30<sup>th</sup> through May 4<sup>th</sup>, 2018. The start and stop times associated with each daily monitoring period are listed on the respective daily reports.

TRC continued to operate two (2) air monitoring stations on the Citizen Property or Staging Area, and five (5) air monitoring stations in the 4<sup>th</sup> St Turning Basin Area using the equipment specified previously in the *Gowanus Canal TB-4 Dredging and Pilot Study Executive Summary – Background Monitoring Period Report*. During the Week 30 monitoring period there were no PM<sub>10</sub> or TVOC exceedances of the action level of 150 ug/m<sup>3</sup> or 1,000 ppb respectively as defined in the *Community Air Monitoring Plan for the Gowanus Canal TB-4 Dredging and Pilot Study Project Brooklyn, NY, August 2017*.

Figure 1 depicts Total Volatile Organics (TVOC) daily averages and maximums. Figure 2 depicts particulate monitoring (PM<sub>10</sub>) daily averages and maximums. Figure 3 depicts the station locations along the Gowanus Canal.

Additional monitoring for hydrogen sulfide, ammonia, and formaldehyde took place at all stations throughout the Week 30 monitoring period twice daily. The results of these measurements are shown in Table 1.

During the Week 30 monitoring period of April 30<sup>th</sup> through May 4<sup>th</sup>, 2018 TRC conducted Volatile Organic Compounds (USEPA Method TO-15) sampling at Stations 1 and 3. The ST-1 sample was collected on April 30<sup>th</sup>, through May 1<sup>st</sup>, 2018 and the ST-3 sample was collected on May 1<sup>st</sup>, through May 2<sup>nd</sup>, 2018. The samples were collected over a 23-hour period and shipped to Con-Test Analytical Laboratory for analyses. The results of the summa canister sampling are pending lab analyses.

Table 2 presents the analytical results for 23-hour samples collected at Station 3 and 7 during the Week 28 monitoring period. The ST-3 sample was collected on April 17<sup>th</sup> through 18<sup>th</sup>, 2018 and the ST-7 sample was collected on April 19<sup>th</sup> through 20<sup>th</sup>, 2018. Sampling results were either not detected above the laboratory detection limit or consistent with concentrations detected during background monitoring conducted between August 28<sup>th</sup> and 31<sup>st</sup>, 2017.

Site activities which were conducted at the Citizen Property on April 30<sup>th</sup> through May 4<sup>th</sup>, 2018 included the following:

- Material and equipment deliveries on Citizen Property
- General vehicular traffic site-wide throughout the monitoring period
- Maintenance of the barges and equipment
- De-watering of dredging sediment
- Transfer dredged material to larger scow for shipment to Clean Earth Claremont
- Off load and stage sheet piling removed for replacement with Giken Silent Press

Site activities which were conducted at the 4<sup>th</sup> St Turning Basin Area of the Canal on April 30<sup>th</sup> through May 4<sup>th</sup>, 2018 included the following:

- Resumed Phase I dredging on 05/01/18
- Dredged approximately 2,080 cubic yards of soft sediments

**Gowanus Canal Superfund Site**  
**TB-4 Dredging and Capping Pilot Study**  
**Brooklyn, New York**  
Daily Station Report – TVOC/PM<sub>10</sub>  
(TRC Project No.274286-0000-00000)  
04/30/2018 06:30 AM - 04/30/2018 23:45 PM

**Station 1 (Citizen Property near Construction Trailers)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 2 (Citizen Property near Pad Area)**

TVOC			PM <sub>10</sub>		
Max.	3	ppb	Max.	11	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	6	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 3 (Whole Foods Property NW Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	54	ppb	Max.	32	ug/m <sup>3</sup>
Avg.	13	ppb	Avg.	8	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 4 (Whole Foods Property Central Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	8	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	4	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 5 (Whole Foods Property near 3rd Avenue Bridge)**

TVOC			PM <sub>10</sub>		
Max.	20	ppb	Max.	9	ug/m <sup>3</sup>
Avg.	10	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 6 (Maritime Estates Property along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 7 (386 3rd Avenue along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds

PM<sub>10</sub> – Particulates as PM<sub>10</sub>

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m<sup>3</sup> - PM<sub>10</sub>)

**Gowanus Canal Superfund Site**  
**TB-4 Dredging and Capping Pilot Study**  
**Brooklyn, New York**  
Daily Station Report – TVOC/PM<sub>10</sub>  
(TRC Project No.274286-0000-00000)  
05/01/2018 00:00 AM - 05/01/2018 23:45 PM

**Station 1 (Citizen Property near Construction Trailers)**

TVOC			PM <sub>10</sub>		
Max.	33	ppb	Max.	13	ug/m <sup>3</sup>
Avg.	18	ppb	Avg.	6	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 2 (Citizen Property near Pad Area)**

TVOC			PM <sub>10</sub>		
Max.	11	ppb	Max.	32	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	5	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 3 (Whole Foods Property NW Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	3	ppb	Max.	23	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	6	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 4 (Whole Foods Property Central Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 5 (Whole Foods Property near 3rd Avenue Bridge)**

TVOC			PM <sub>10</sub>		
Max.	23	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	7	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 6 (Maritime Estates Property along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 7 (386 3rd Avenue along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds

PM<sub>10</sub> – Particulates as PM<sub>10</sub>

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m<sup>3</sup> - PM<sub>10</sub>)

**Gowanus Canal Superfund Site**  
**TB-4 Dredging and Capping Pilot Study**  
**Brooklyn, New York**  
Daily Station Report – TVOC/PM<sub>10</sub>  
(TRC Project No.274286-0000-00000)  
05/02/2018 00:00 AM - 05/02/2018 23:45 PM

**Station 1 (Citizen Property near Construction Trailers)**

TVOC			PM <sub>10</sub>		
Max.	60	ppb	Max.	55	ug/m <sup>3</sup>
Avg.	29	ppb	Avg.	9	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 2 (Citizen Property near Pad Area)**

TVOC			PM <sub>10</sub>		
Max.	44	ppb	Max.	18	ug/m <sup>3</sup>
Avg.	15	ppb	Avg.	8	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 3 (Whole Foods Property NW Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	54	ppb	Max.	31	ug/m <sup>3</sup>
Avg.	9	ppb	Avg.	10	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 4 (Whole Foods Property Central Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	14	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	5	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 5 (Whole Foods Property near 3rd Avenue Bridge)**

TVOC			PM <sub>10</sub>		
Max.	33	ppb	Max.	2	ug/m <sup>3</sup>
Avg.	21	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 6 (Maritime Estates Property along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 7 (386 3rd Avenue along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	8	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	5	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds

PM<sub>10</sub> – Particulates as PM<sub>10</sub>

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m<sup>3</sup> - PM<sub>10</sub>)

**Gowanus Canal Superfund Site**  
**TB-4 Dredging and Capping Pilot Study**  
**Brooklyn, New York**  
Daily Station Report – TVOC/PM<sub>10</sub>  
(TRC Project No.274286-0000-00000)  
05/03/2018 00:00 AM - 05/03/2018 23:45 PM

**Station 1 (Citizen Property near Construction Trailers)**

TVOC			PM <sub>10</sub>		
Max.	43	ppb	Max.	17	ug/m <sup>3</sup>
Avg.	11	ppb	Avg.	5	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 2 (Citizen Property near Pad Area)**

TVOC			PM <sub>10</sub>		
Max.	33	ppb	Max.	29	ug/m <sup>3</sup>
Avg.	12	ppb	Avg.	11	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 3 (Whole Foods Property NW Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	29	ppb	Max.	20	ug/m <sup>3</sup>
Avg.	8	ppb	Avg.	13	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 4 (Whole Foods Property Central Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	28	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	11	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 5 (Whole Foods Property near 3rd Avenue Bridge)**

TVOC			PM <sub>10</sub>		
Max.	47	ppb	Max.	17	ug/m <sup>3</sup>
Avg.	18	ppb	Avg.	6	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 6 (Maritime Estates Property along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 7 (386 3rd Avenue along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	8	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	5	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds

PM<sub>10</sub> – Particulates as PM<sub>10</sub>

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m<sup>3</sup> - PM<sub>10</sub>)

**Gowanus Canal Superfund Site  
TB-4 Dredging and Capping Pilot Study  
Brooklyn, New York  
Daily Station Report – TVOC/PM<sub>10</sub>  
(TRC Project No.274286-0000-00000)  
05/04/2018 00:00 AM - 05/04/2018 18:00 PM**

**Station 1 (Citizen Property near Construction Trailers)**

TVOC			PM <sub>10</sub>		
Max.	33	ppb	Max.	17	ug/m <sup>3</sup>
Avg.	6	ppb	Avg.	2	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 2 (Citizen Property near Pad Area)**

TVOC			PM <sub>10</sub>		
Max.	54	ppb	Max.	26	ug/m <sup>3</sup>
Avg.	16	ppb	Avg.	16	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 3 (Whole Foods Property NW Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	10	ppb	Max.	23	ug/m <sup>3</sup>
Avg.	1	ppb	Avg.	7	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 4 (Whole Foods Property Central Riverwalk Location)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	22	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	15	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 5 (Whole Foods Property near 3rd Avenue Bridge)**

TVOC			PM <sub>10</sub>		
Max.	34	ppb	Max.	20	ug/m <sup>3</sup>
Avg.	17	ppb	Avg.	13	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 6 (Maritime Estates Property along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	<1	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	<1	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

**Station 7 (386 3rd Avenue along Canal Fencing)**

TVOC			PM <sub>10</sub>		
Max.	8	ppb	Max.	<1	ug/m <sup>3</sup>
Avg.	6	ppb	Avg.	<1	ug/m <sup>3</sup>
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds

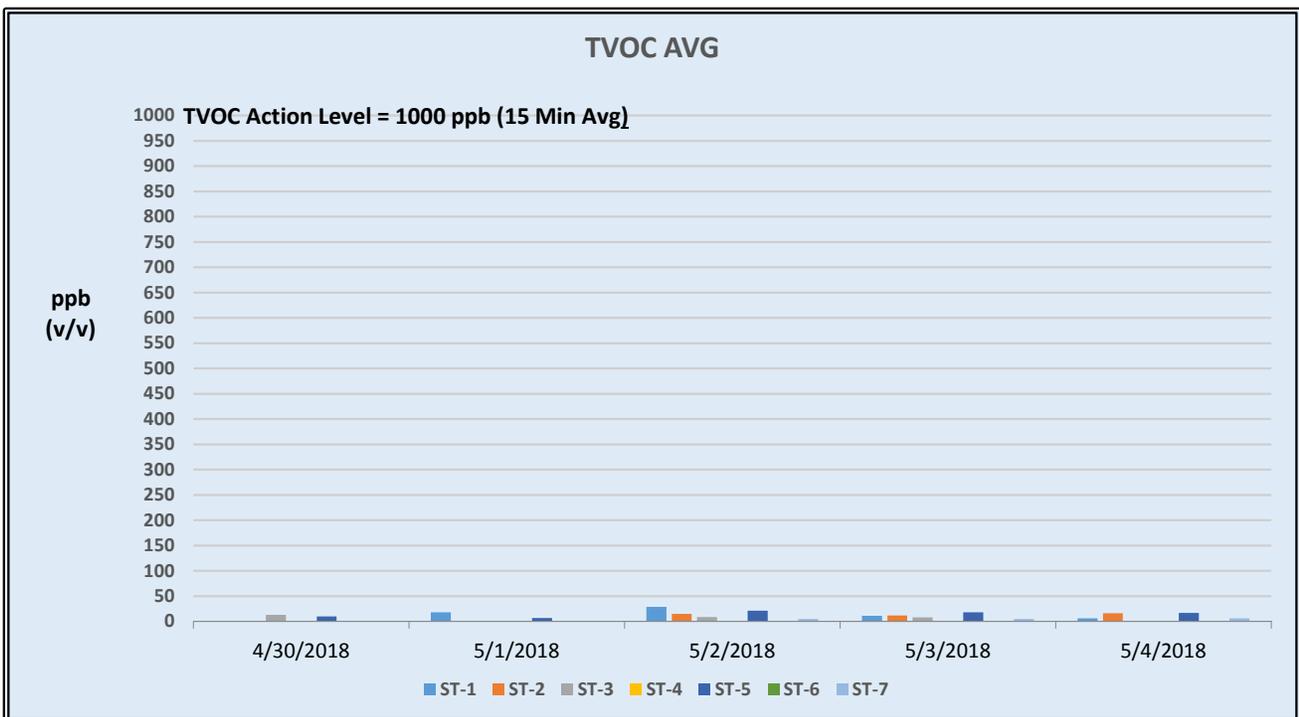
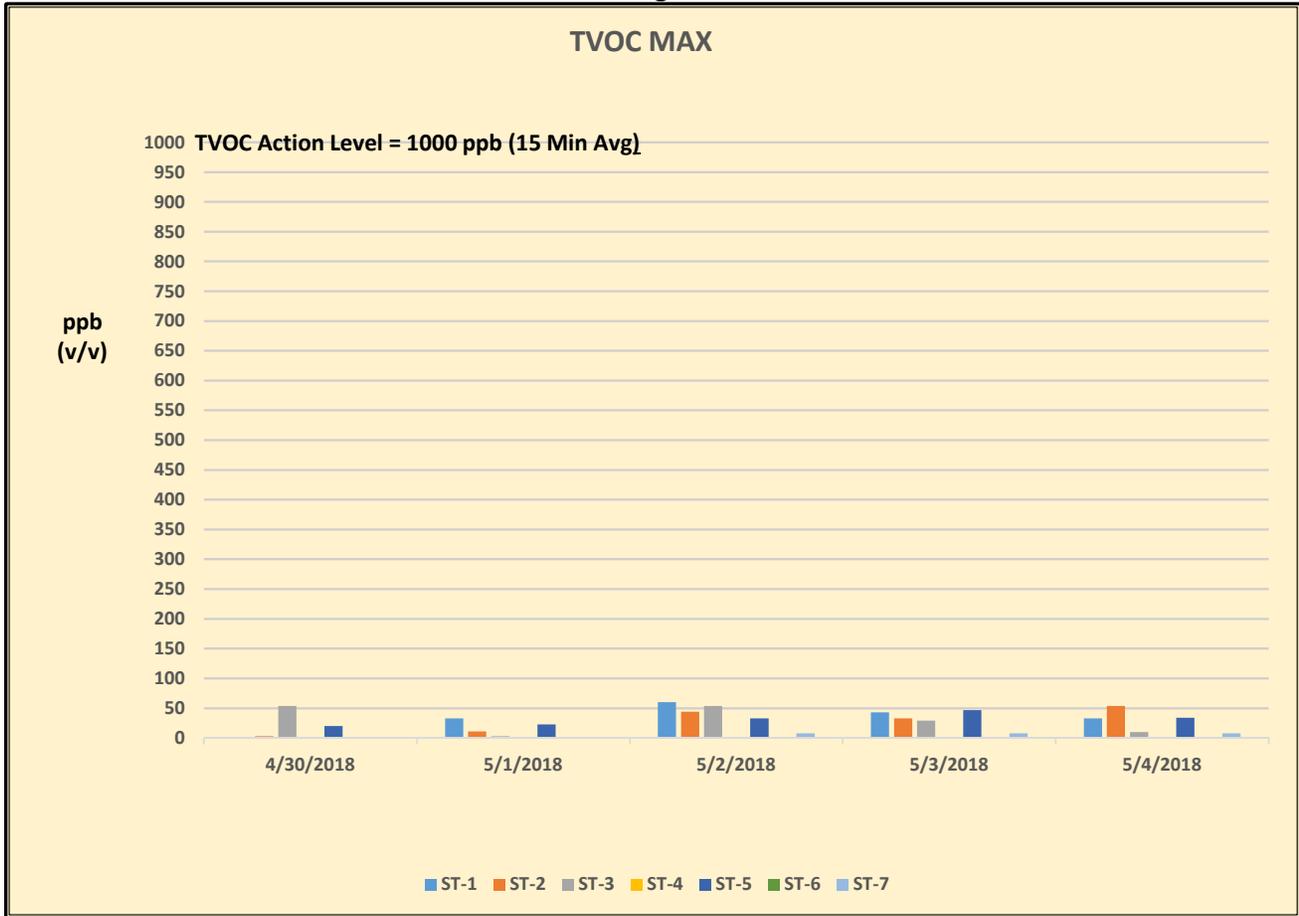
PM<sub>10</sub> – Particulates as PM<sub>10</sub>

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

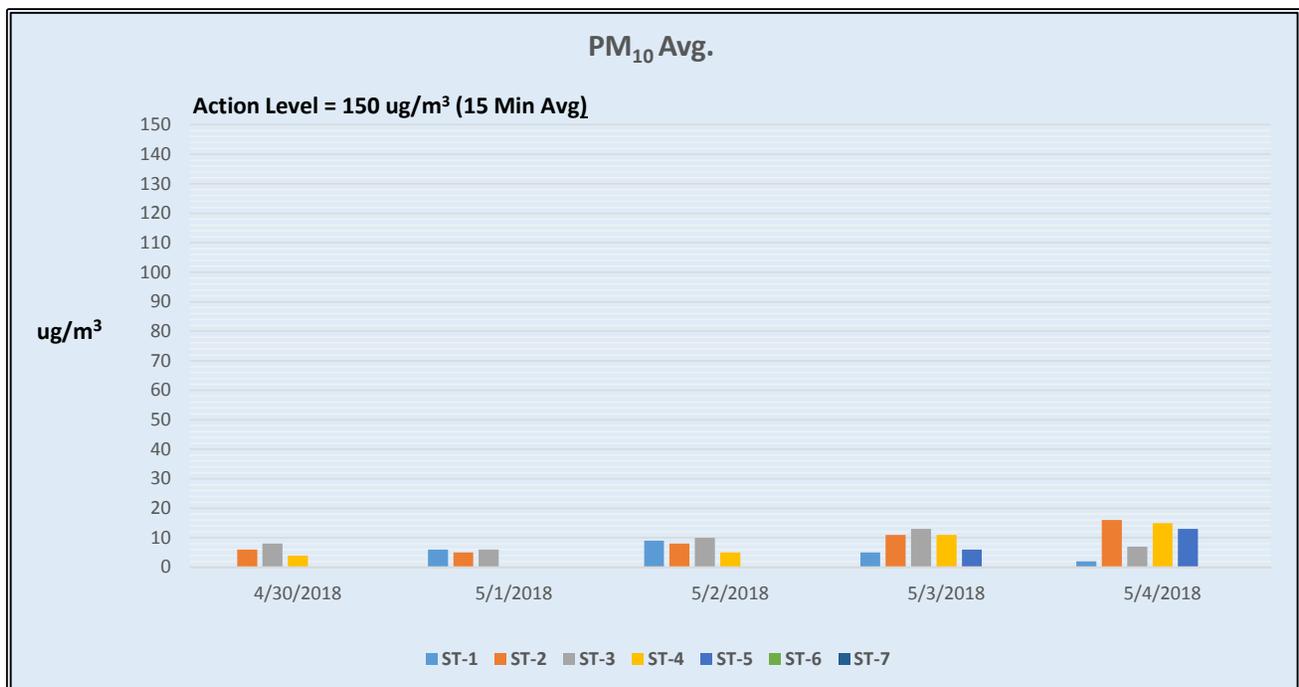
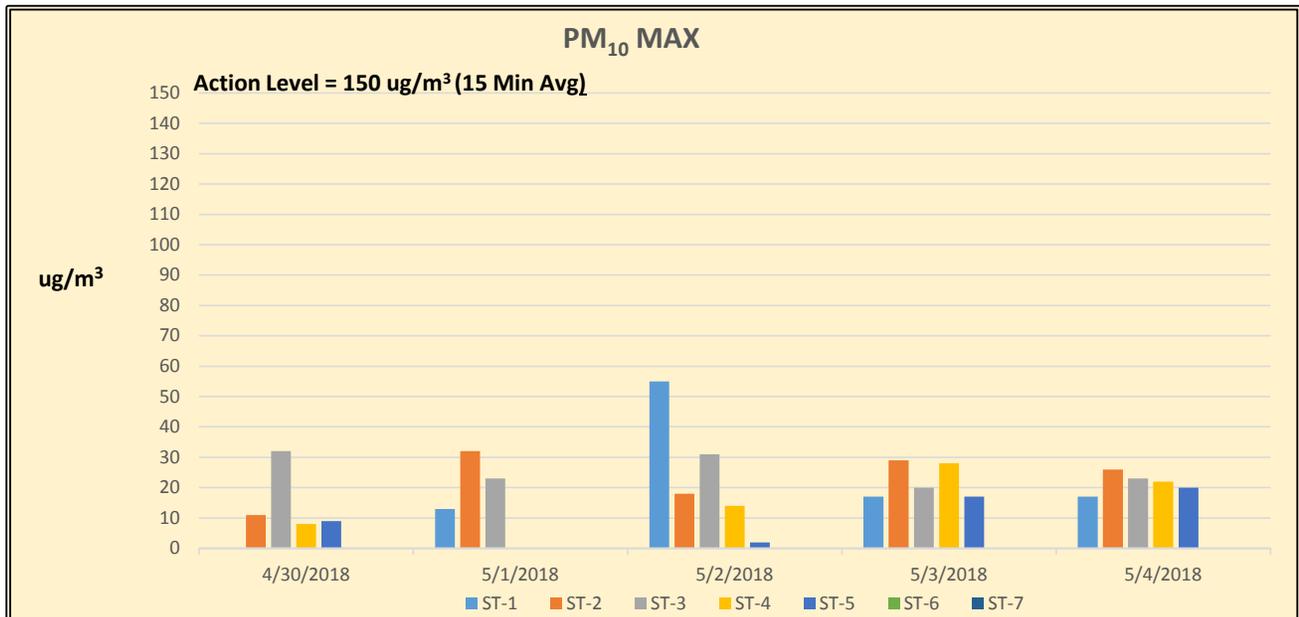
Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM<sub>10</sub>)

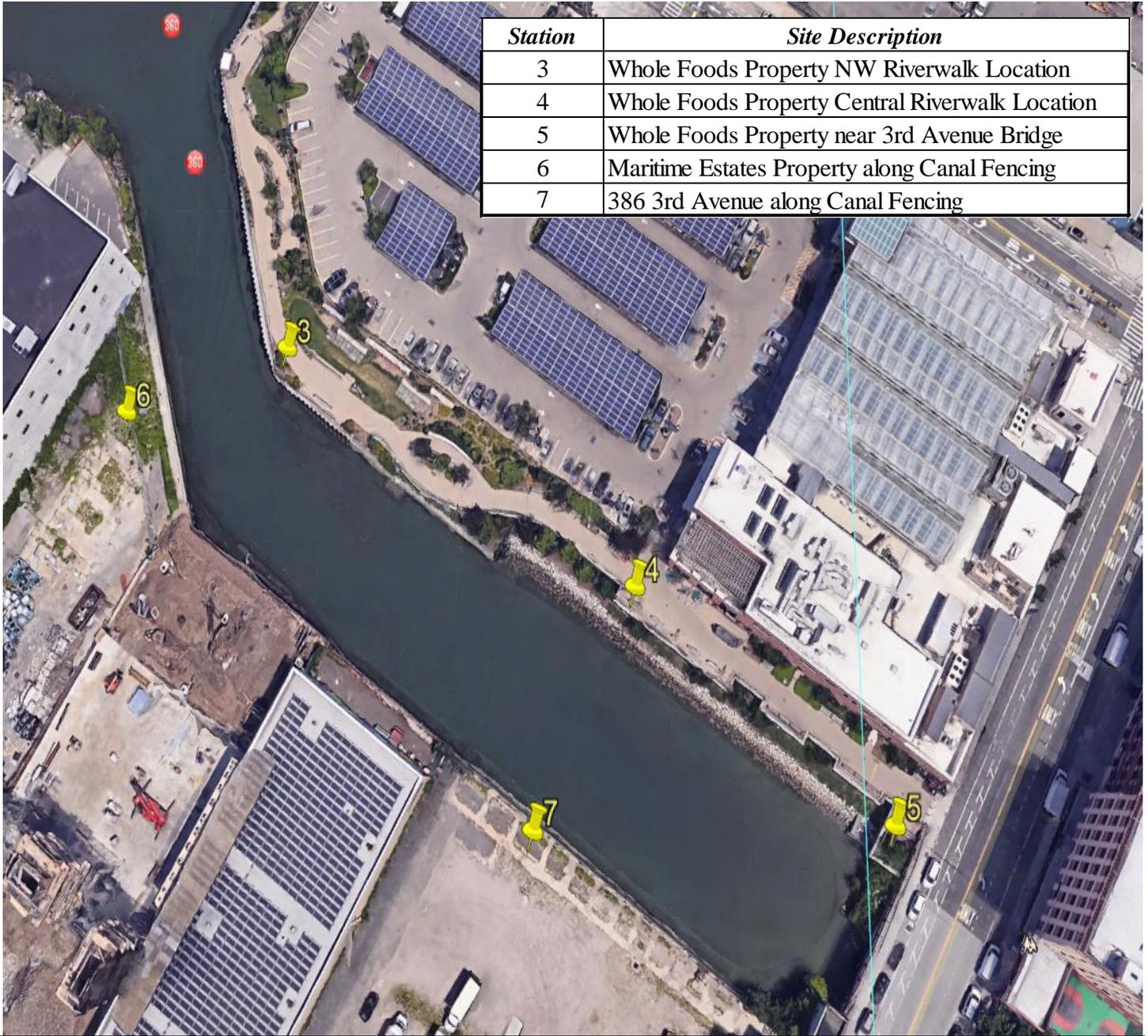
Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m<sup>3</sup> - PM<sub>10</sub>)

**Figure 1**  
**Gowanus Canal Superfund Site -TB4 Dredging and Capping Pilot Program**  
**TVOC Monitoring Data - Week 30**



**Figure 2**  
**Gowanus Canal Superfund Site - TB4 Dredging and Capping Pilot Program**  
**TRC CAMP PM<sub>10</sub> Monitoring Data - Week 30**





**FIGURE 3**  
**Gowanus Canal Superfund Site-TB4**  
**Dredging and Capping Pilot Program**

**Table 1**

**Week 30**

**Summary of Additional Periodic (Daily) Monitoring Data**

April 30 <sup>th</sup> , 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H <sub>2</sub> S) (ppb)*	Ammonia (NH <sub>3</sub> ) (ppm)**
ST-1	9:25	<50	<3	<1.0
	14:30	<50	<3	<1.0
ST-2	9:30	<50	<3	<1.0
	14:35	<50	<3	<1.0
ST-3	9:50	<50	<3	<1.0
	14:50	<50	<3	<1.0
ST-4	10:00	<50	<3	<1.0
	14:55	<50	<3	<1.0
ST-5	10:15	<50	<3	<1.0
	15:00	<50	<3	<1.0
ST-6	10:45	<50	<3	<1.0
	15:15	<50	<3	<1.0
ST-7	11:15	<50	<3	<1.0
	15:30	<50	<3	<1.0
May 1 <sup>st</sup> , 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H <sub>2</sub> S) (ppb)*	Ammonia (NH <sub>3</sub> ) (ppm)**
ST-1	8:10	<50	<3	<1.0
	15:00	<50	<3	<1.0
ST-2	8:15	<50	<3	<1.0
	15:05	<50	<3	<1.0
ST-3	8:30	<50	<3	<1.0
	15:15	<50	<3	<1.0
ST-4	8:35	<50	<3	<1.0
	15:20	<50	<3	<1.0
ST-5	8:40	<50	<3	<1.0
	15:30	<50	<3	<1.0
ST-6	8:55	<50	<3	<1.0
	15:50	<50	<3	<1.0
ST-7	9:10	<50	<3	<1.0
	16:30	<50	<3	<1.0

**Table 1**

**Week 30**

**Summary of Additional Periodic (Daily) Monitoring Data**

May 2 <sup>nd</sup> , 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H <sub>2</sub> S) (ppb)*	Ammonia (NH <sub>3</sub> ) (ppm)**
ST-1	10:00	<50	<3	<1.0
	14:50	<50	<3	<1.0
ST-2	10:05	<50	<3	<1.0
	14:55	<50	<3	<1.0
ST-3	10:30	<50	<3	<1.0
	15:10	<50	<3	<1.0
ST-4	10:35	<50	<3	<1.0
	15:20	<50	<3	<1.0
ST-5	10:40	<50	<3	<1.0
	15:25	<50	<3	<1.0
ST-6	10:55	<50	<3	<1.0
	15:40	<50	<3	<1.0
ST-7	11:15	<50	<3	<1.0
	15:55	<50	<3	<1.0
May 3 <sup>rd</sup> , 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H <sub>2</sub> S) (ppb)*	Ammonia (NH <sub>3</sub> ) (ppm)**
ST-1	9:00	<50	<3	<1.0
	14:35	<50	<3	<1.0
ST-2	9:05	<50	<3	<1.0
	14:40	<50	<3	<1.0
ST-3	9:55	<50	<3	<1.0
	14:55	<50	<3	<1.0
ST-4	10:05	<50	<3	<1.0
	15:15	<50	<3	<1.0
ST-5	10:15	<50	<3	<1.0
	15:20	<50	<3	<1.0
ST-6	10:25	<50	<3	<1.0
	15:55	<50	<3	<1.0
ST-7	10:45	<50	<3	<1.0
	16:10	<50	<3	<1.0

Table 1

Week 30

Summary of Additional Periodic (Daily) Monitoring Data

May 4 <sup>th</sup> , 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H <sub>2</sub> S) (ppb)*	Ammonia (NH <sub>3</sub> ) (ppm)**
ST-1	9:00	<50	<3	<1.0
	13:00	<50	<3	<1.0
ST-2	9:05	<50	<3	<1.0
	13:05	<50	<3	<1.0
ST-3	9:15	<50	<3	<1.0
	13:30	<50	<3	<1.0
ST-4	9:20	<50	<3	<1.0
	13:35	<50	<3	<1.0
ST-5	9:25	<50	<3	<1.0
	13:40	<50	<3	<1.0
ST-6	9:40	<50	<3	<1.0
	13:45	<50	<3	<1.0
ST-7	10:00	<50	<3	<1.0
	14:00	<50	<3	<1.0

\*(ppb) Indicates results reported in parts per billion

\*\* (ppm) Indicates results reported in parts per million

**Table 1:**  
**Gowanus Canal Superfund Site - TB4 Dredging and Capping Pilot Program**  
**Week 28 VOCs Results: April 17th through 18th and April 19th through 20th**

Sample ID	ST-3-VOC-041718		ST-7-VOC-041918	
Laboratory ID	18D1233-01		18D1233-02	
Date Sampled	4/17/18 10:00 - 4/18/18 09:00		4/19/18 13:00 - 4/20/18 12:00	
Location	Station 3		Station 7	
	ppbV	ug/m3	ppbV	ug/m3
<b>VOCs - TO-15</b>				
<b>Acetone</b>	<b>4</b>	<b>9.4</b>	<b>5.2</b>	<b>12</b>
<b>Benzene</b>	<b>0.17</b>	<b>0.54</b>	<b>0.18</b>	<b>0.58</b>
<b>Benzyl chloride</b>	<0.040	<0.21	<0.030	<0.16
<b>Bromodichloromethane</b>	<0.040	<0.27	<0.030	<0.20
<b>Bromoform</b>	<0.040	<0.41	<0.030	<0.31
<b>Bromomethane</b>	<0.040	<0.16	<0.030	<0.12
<b>1,3-Butadiene</b>	<0.040	<0.088	<0.030	<0.066
<b>2-Butanone (MEK)</b>	<1.6	<4.7	<1.2	<3.5
<b>Carbon Disulfide</b>	<0.40	<1.2	<0.30	<0.93
<b>Carbon Tetrachloride</b>	<b>0.08</b>	<b>0.5</b>	<b>0.078</b>	<b>0.49</b>
<b>Chlorobenzene</b>	<0.040	<0.18	<0.030	<0.14
<b>Chloroethane</b>	<0.040	<0.11	<0.030	<0.079
<b>Chloroform</b>	<0.040	<0.20	<b>0.033</b>	<b>0.16</b>
<b>Chloromethane</b>	<b>0.86</b>	<b>1.8</b>	<b>0.84</b>	<b>1.7</b>
<b>Cyclohexane</b>	<0.040	<0.14	<0.030	<0.10
<b>Dibromochloromethane</b>	<0.040	<0.34	<0.030	<0.26
<b>1,2-Dibromoethane (EDB)</b>	<0.040	<0.31	<0.030	<0.23
<b>1,2-Dichlorobenzene</b>	<0.040	<0.24	<0.030	<0.18
<b>1,3-Dichlorobenzene</b>	<0.040	<0.24	<0.030	<0.18
<b>1,4-Dichlorobenzene</b>	<b>0.053</b>	<b>0.32</b>	<b>0.046</b>	<b>0.28</b>
<b>Dichlorodifluoromethane (Freon 12)</b>	<b>0.34</b>	<b>1.7</b>	<b>0.25</b>	<b>1.2</b>
<b>1,1-Dichloroethane</b>	<0.040	<0.16	<0.030	<0.12
<b>1,2-Dichloroethane</b>	<0.040	<0.16	<0.030	<0.12
<b>1,1-Dichloroethylene</b>	<0.040	<0.16	<0.030	<0.12
<b>cis-1,2-Dichloroethylene</b>	<0.040	<0.16	<0.030	<0.12
<b>trans-1,2-Dichloroethylene</b>	<0.040	<0.16	<0.030	<0.12
<b>1,2-Dichloropropane</b>	<0.040	<0.18	<0.030	<0.14
<b>cis-1,3-Dichloropropene</b>	<0.040	<0.18	<0.030	<0.14
<b>trans-1,3-Dichloropropene</b>	<0.040	<0.18	<0.030	<0.14
<b>1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)</b>	<0.040	<0.28	<0.030	<0.21
<b>1,4-Dioxane</b>	<0.40	<1.4	<0.30	<1.1
<b>Ethanol</b>	<b>5.8</b>	<b>11</b>	<b>6.2</b>	<b>12</b>
<b>Ethyl Acetate</b>	<b>0.11</b>	<b>0.39</b>	<b>0.13</b>	<b>0.46</b>
<b>Ethylbenzene</b>	<b>0.054</b>	<b>0.24</b>	<b>0.059</b>	<b>0.26</b>
<b>4-Ethyltoluene</b>	0.053	0.26	0.038	0.19
<b>Heptane</b>	<b>0.054</b>	<b>0.22</b>	<b>0.068</b>	<b>0.28</b>
<b>Hexachlorobutadiene</b>	<0.040	<0.43	<0.030	<0.32
<b>Hexane</b>	<1.6	<5.6	<1.2	<4.2
<b>2-Hexanone (MBK)</b>	<0.040	<0.16	<b>0.064</b>	<b>0.26</b>
<b>Isopropanol</b>	<b>1.7</b>	<b>4.1</b>	<b>1.9</b>	<b>4.6</b>
<b>Methyl tert-Butyl Ether (MTBE)</b>	<0.040	<0.14	J- <0.030	<0.11
<b>Methylene Chloride</b>	<b>0.59</b>	<b>2.1</b>	<b>0.7</b>	<b>2.4</b>
<b>4-Methyl-2-pentanone (MIBK)</b>	<b>0.09</b>	<b>0.37</b>	J <b>0.085</b>	<b>0.35</b>
<b>Naphthalene</b>	<b>0.089</b>	<b>0.47</b>	<b>0.065</b>	<b>0.34</b>
<b>Propene</b>	<1.6	<2.8	<1.2	<0.21
<b>Styrene</b>	<0.040	<0.17	<0.030	<0.13
<b>1,1,1,2-Tetrachloroethane</b>	<0.040	<0.27	<0.030	<0.21
<b>Tetrachloroethylene</b>	<b>0.61</b>	<b>4.1</b>	<b>0.62</b>	<b>4.2</b>
<b>Tetrahydrofuran</b>	<0.040	<0.12	<0.030	<0.088
<b>Toluene</b>	<b>0.98</b>	<b>3.7</b>	<b>1</b>	<b>3.9</b>
<b>1,2,4-Trichlorobenzene</b>	<0.16	<1.2	<0.12	<0.89
<b>1,1,1-Trichloroethane</b>	<0.040	<0.22	<0.030	<0.16
<b>1,1,2-Trichloroethane</b>	<0.040	<0.22	<0.030	<0.16
<b>Trichloroethylene</b>	<0.040	<0.21	<0.030	<0.16
<b>Trichlorofluoromethane (Freon 11)</b>	<b>0.24</b>	<b>1.4</b>	<b>0.25</b>	<b>1.4</b>
<b>1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)</b>	<0.16	<1.2	<0.12	<0.92
<b>1,2,4-Trimethylbenzene</b>	<b>0.21</b>	<b>1</b>	<b>0.13</b>	<b>0.66</b>
<b>1,3,5-Trimethylbenzene</b>	<b>0.054</b>	<b>0.26</b>	<b>0.037</b>	<b>0.18</b>
<b>Vinyl Acetate</b>	<0.80	<2.8	<0.60	<2.1
<b>Vinyl Chloride</b>	<0.040	<0.10	<0.030	<0.077
<b>m&amp;p-Xylene</b>	<b>0.18</b>	<b>0.76</b>	<b>0.18</b>	<b>0.8</b>
<b>o-Xylene</b>	<b>0.068</b>	<b>0.3</b>	<b>0.071</b>	<b>0.31</b>

Notes:

Values in **bold** indicate detected concentrations

Results for the following compounds may be influenced by laboratory derived contamination:

acetone, ethanol, methylene chloride and isopropanol

J: The result 4-methyl-2-pentanone (MIBK) are estimated quantities. The associated numerical value is the approximate concentration of the analyte in the sample.

J-: The results for methyl tert-butyl ether (MTBE) are estimated and may be biased low.



**Gowanus Canal Superfund Site  
TB-4 Dredging and Capping Pilot Study  
Brooklyn, New York  
Meteorological Summary  
April 30<sup>th</sup> through May 4<sup>th</sup>, 2018**

April 30 <sup>th</sup> , 2018 *		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
<b>W</b>	<b>4.02</b>	<b>50.0</b>

May 1 <sup>st</sup> , 2018 **		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
<b>WSW</b>	<b>1.79</b>	<b>64.0</b>

May 2 <sup>nd</sup> , 2018 **		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
<b>SW</b>	<b>1.22</b>	<b>75.7</b>

May 3 <sup>rd</sup> , 2018 **		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
<b>SW</b>	<b>1.37</b>	<b>79.5</b>

May 4 <sup>th</sup> , 2018 **		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
<b>SSE</b>	<b>1.77</b>	<b>76.0</b>

\* Monday's meteorological data represents an average for the time period of 06:30 to 23:45.

\*\* Tuesday's Wednesday and Thursday's meteorological data represents averages for the time period of 00:00 to 23:45.

\*\*\* Friday's meteorological data represents an average for the time period of 00:00 to 18:00.

**WILSON IHRIG WEEKLY NOISE AND VIBRATION MONITORING REPORT**





WI #15-081

**MEMORANDUM**

May 7, 2018

To: William Lee/ de maximis, inc.  
Kirsten Meyers / TRC

From: Silas Bensing, Ani Toncheva / Wilson Ihrig

Subject: Gowanus Canal 4th Street Turning Basin Dredging and Capping Pilot Study, Weekly Noise and Vibration Monitoring Report, 30 April – 4 May, 2018

**Noise Monitoring Locations**

Figure 1 shows the noise monitoring locations. NM-1 is installed at a light pole on the north side of TB4 and is approximately 25 feet from the north edge of the canal. NM-2 is installed at the existing guard rail on the south side of TB4, approximately 4 feet from the south edge of the canal. NM-3 is installed at a light pole on the north side of TB4 near 3rd Avenue, approximately 50 feet from the north edge of the canal. Photos 1, 2, and 3 show the recent field conditions at the monitors.

**Vibration Monitoring Locations**

Figure 1 shows the vibration monitoring locations. Vibration monitor VM-1 is installed at the parking lot curb on the north side of TB4, approximately 45 feet from the north edge of the canal. Vibration monitor VM-2 is installed near the corner of an existing building on the south side of TB4, approximately 24 feet from the south edge of the canal. Photos 4 and 5 show the recent field conditions at the monitors.

**Noise Monitoring Results**

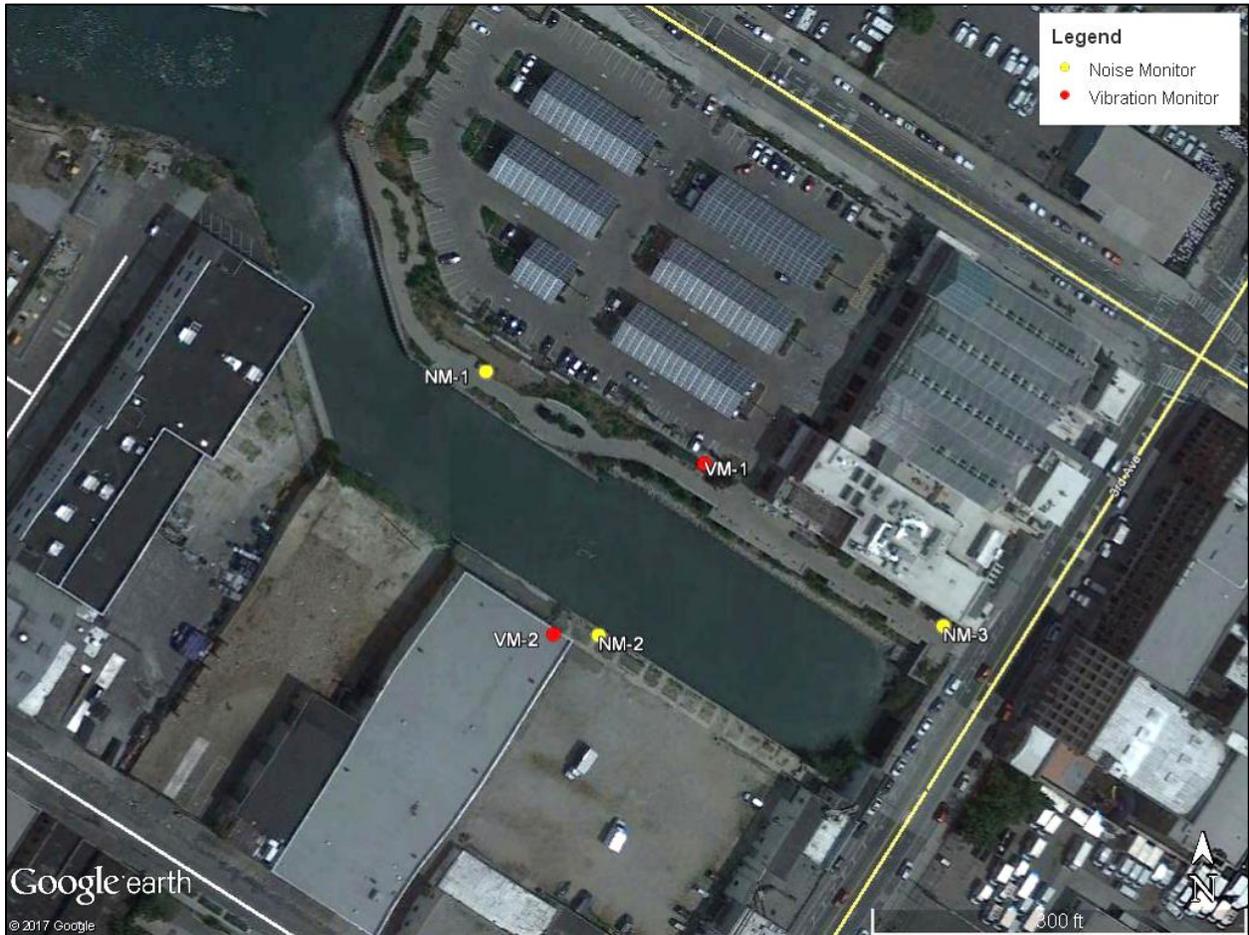
Figures 2 through 16 present the hourly Leq noise levels compared with the noise thresholds discussed in the noise monitoring plan<sup>1</sup>. Commercial and Industrial land uses are assigned an hourly Leq noise limit of 80 dBA for Daytime and Evening time periods. The average baseline noise measured in the project area in 2015 are also shown for reference<sup>2</sup>. Noise monitoring at Northeast Monitor NM-3 ended on Monday, April 30.

<sup>1</sup> Wilson Ihrig. *Gowanus Canal 4<sup>th</sup> Street Turning Basin Dredging and Capping Pilot Study Noise and Vibration Monitoring Plan*. California: prepared for Gowanus Canal Remedial Design Group, DRAFT May 2017

<sup>2</sup> Wilson Ihrig. *Gowanus Canal Remedial Design Project RTA-1 Noise and Vibration Baseline Report*. California: prepared for Geosyntec Consultants Inc., October 2015.

### Vibration Monitoring Results

Figures 17 through 26 present the maximum peak particle velocity (PPV) vibration events compared with the thresholds discussed in the vibration monitoring plan<sup>3</sup>. Commercial and Industrial structures are assigned a PPV vibration criterion of 2.0 inches/second. Vibration monitoring ended on Monday April 30.



**Figure 1: Long-term Noise and Vibration Monitoring Locations for Gowanus TB4 Dredging and Capping Pilot Study**

<sup>3</sup> Wilson Ihrig. *Gowanus Canal 4<sup>th</sup> Street Turning Basin Dredging and Capping Pilot Study Noise and Vibration Monitoring Plan*. California: prepared for Gowanus Canal Remedial Design Group, DRAFT May 2017



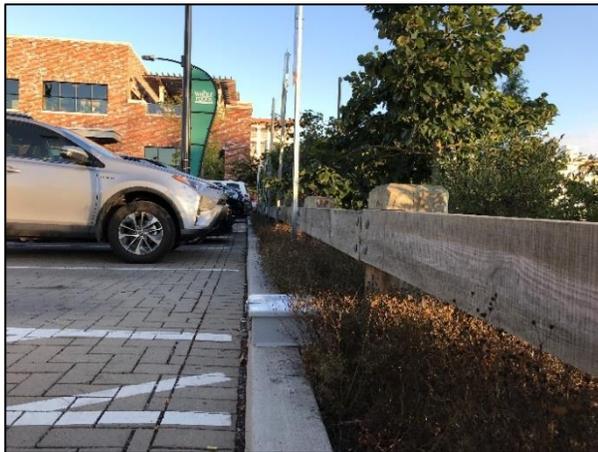
**Photo 1: Noise Monitoring Location NM-1  
(26 September 2017)**



**Photo 2: Noise Monitoring Location NM-2  
(25 September 2017)**



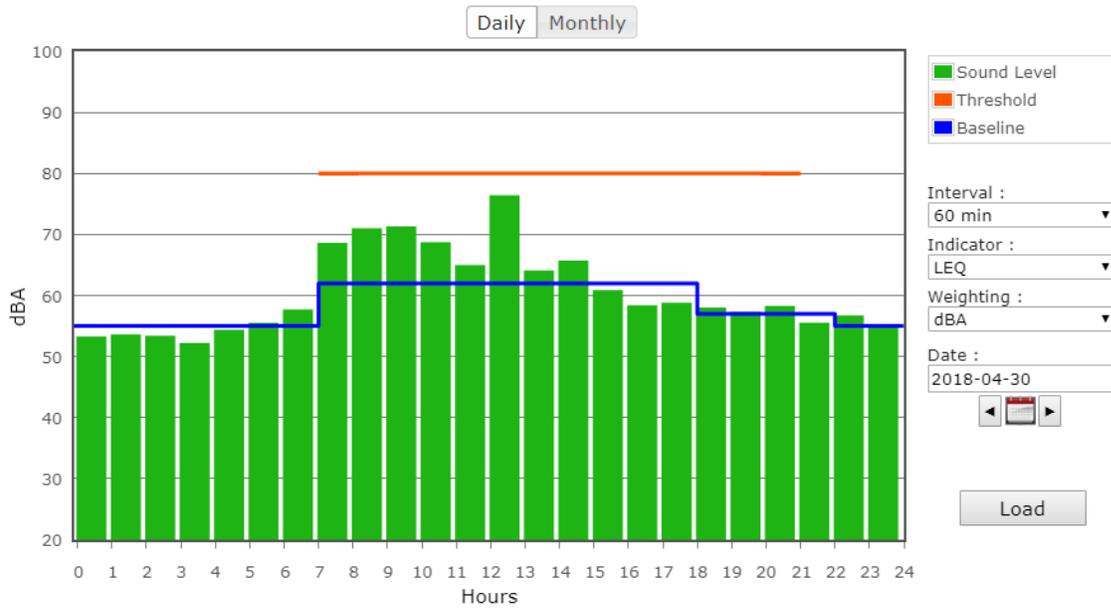
**Photo 3: Noise Monitoring Location NM-3  
(29 October 2017)**



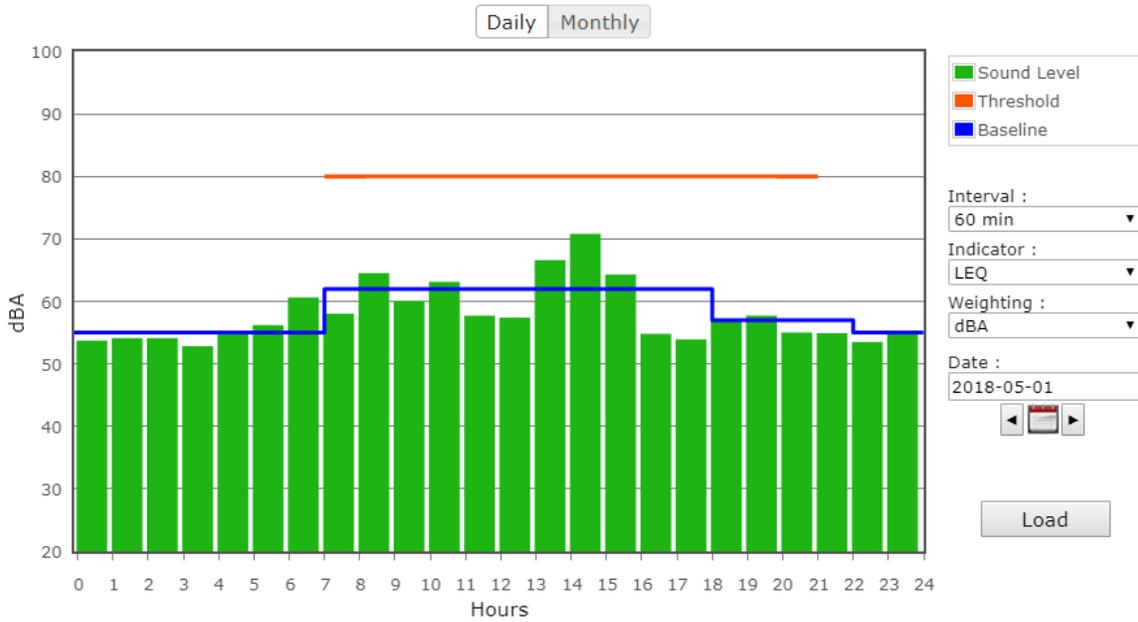
**Photo 4: Vibration Monitoring Location VM-1  
(12 October 2017)**



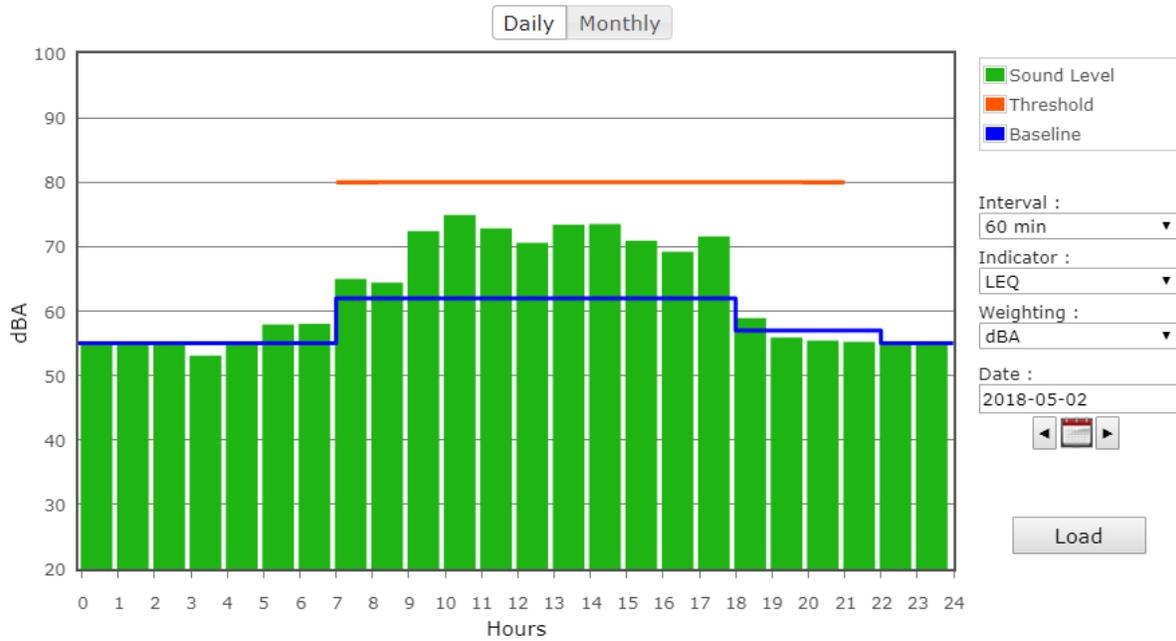
**Photo 5: Vibration Monitoring Location VM-2  
(12 October 2017)**



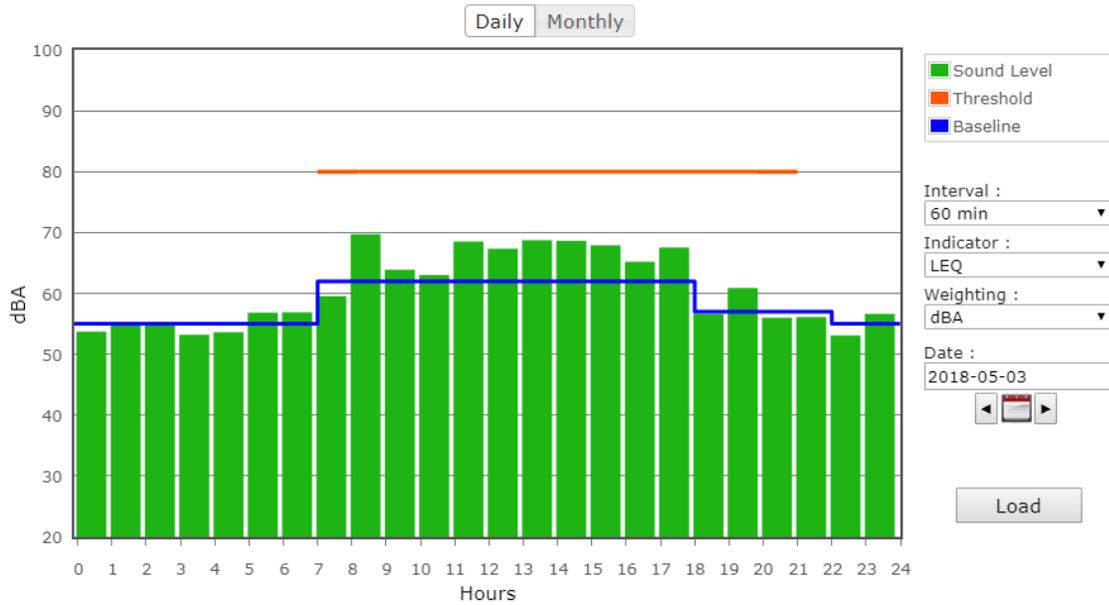
**Figure 2: North Monitor NM-1 on Monday**



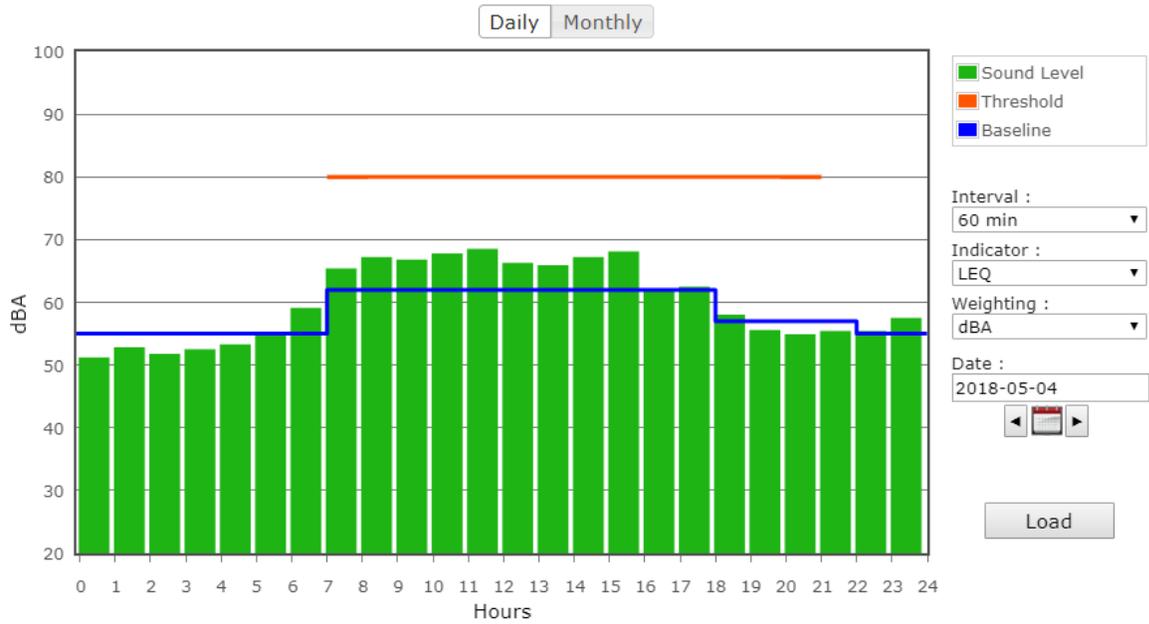
**Figure 3: North Monitor NM-1 on Tuesday**



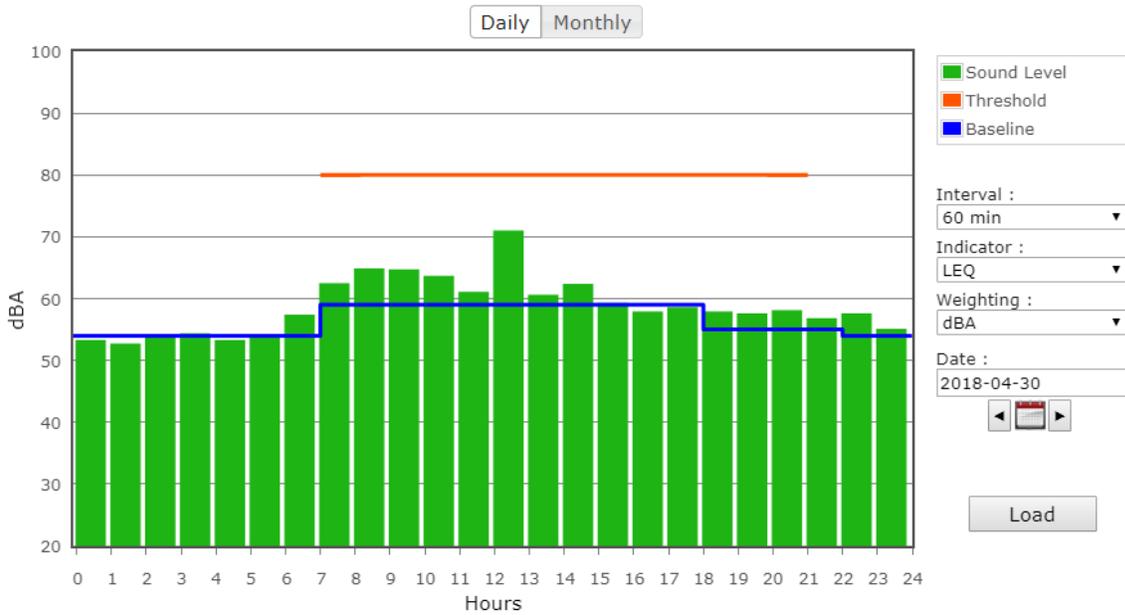
**Figure 4: North Monitor NM-1 on Wednesday**



**Figure 5: North Monitor NM-1 on Thursday**



**Figure 6: North Monitor NM-1 on Friday**



**Figure 7: South Monitor NM-2 on Monday**

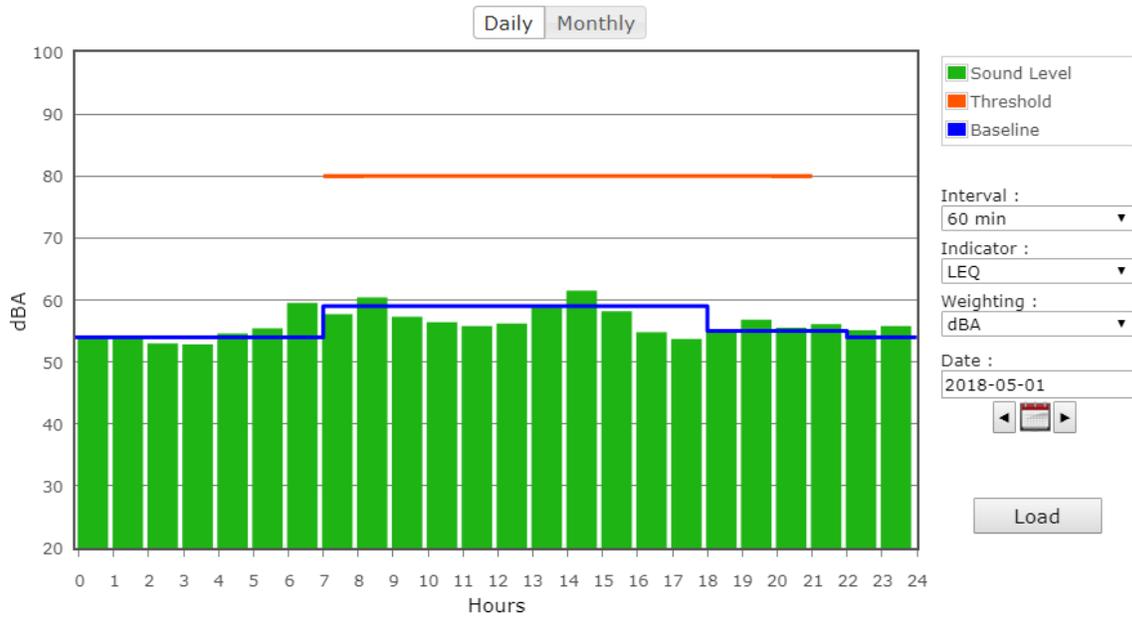


Figure 8: South Monitor NM-2 on Tuesday

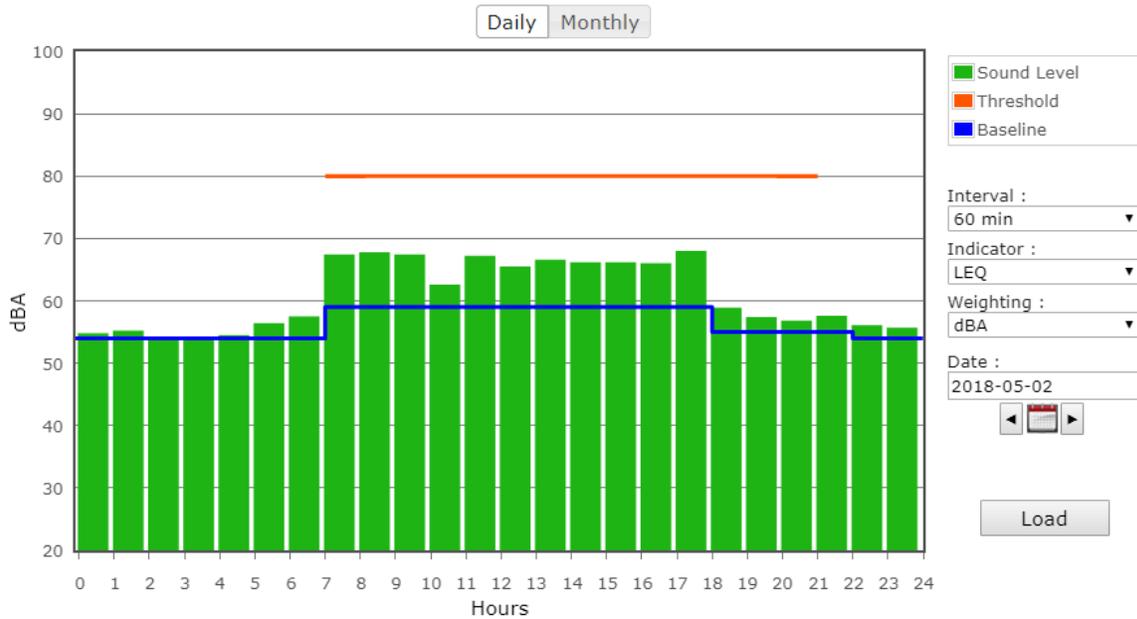
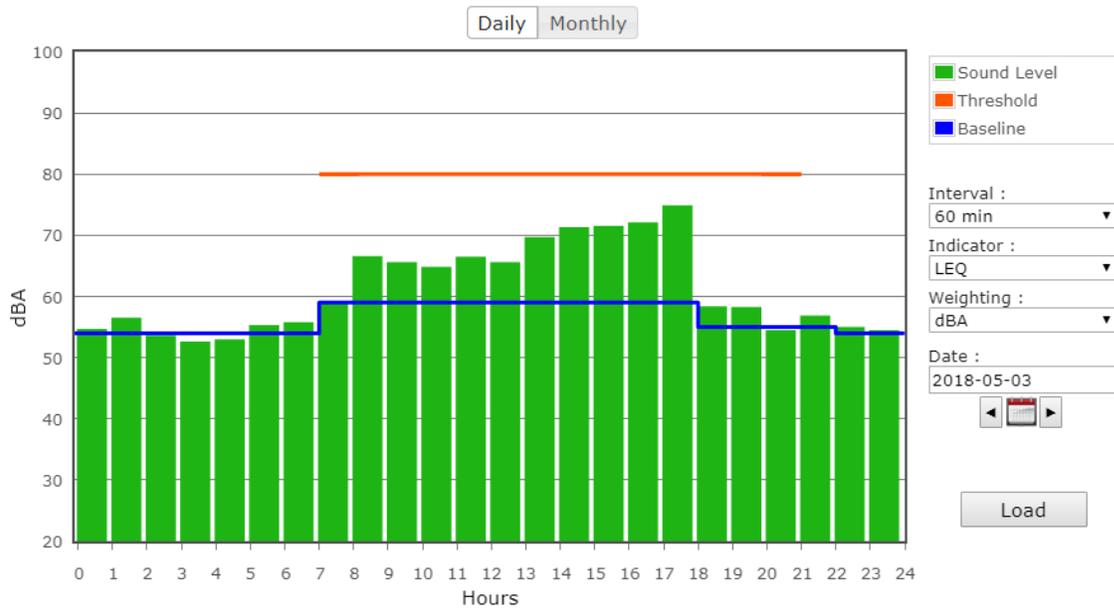
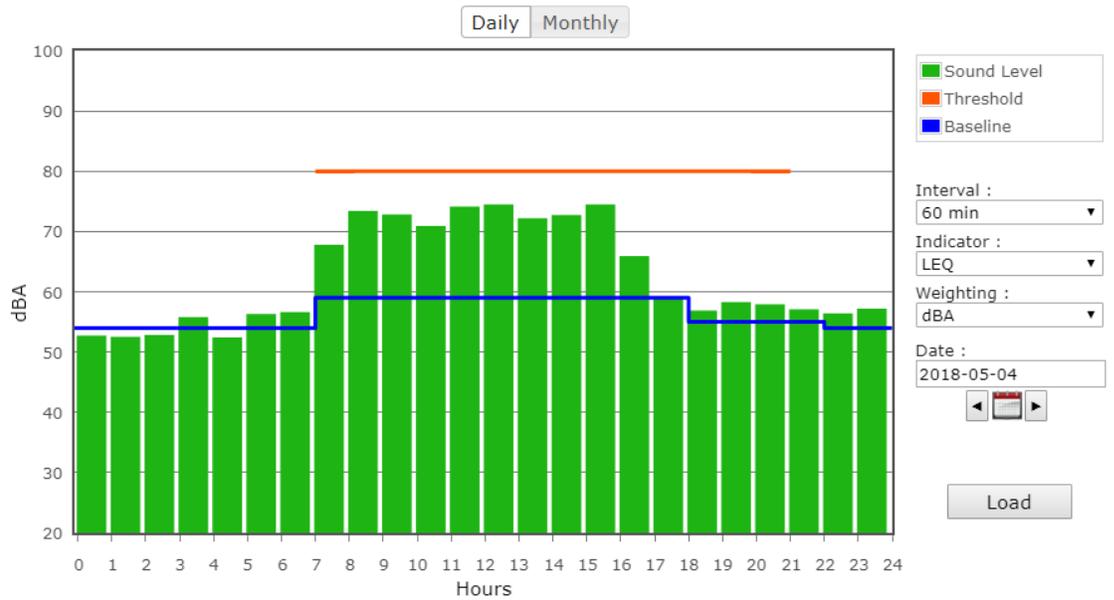


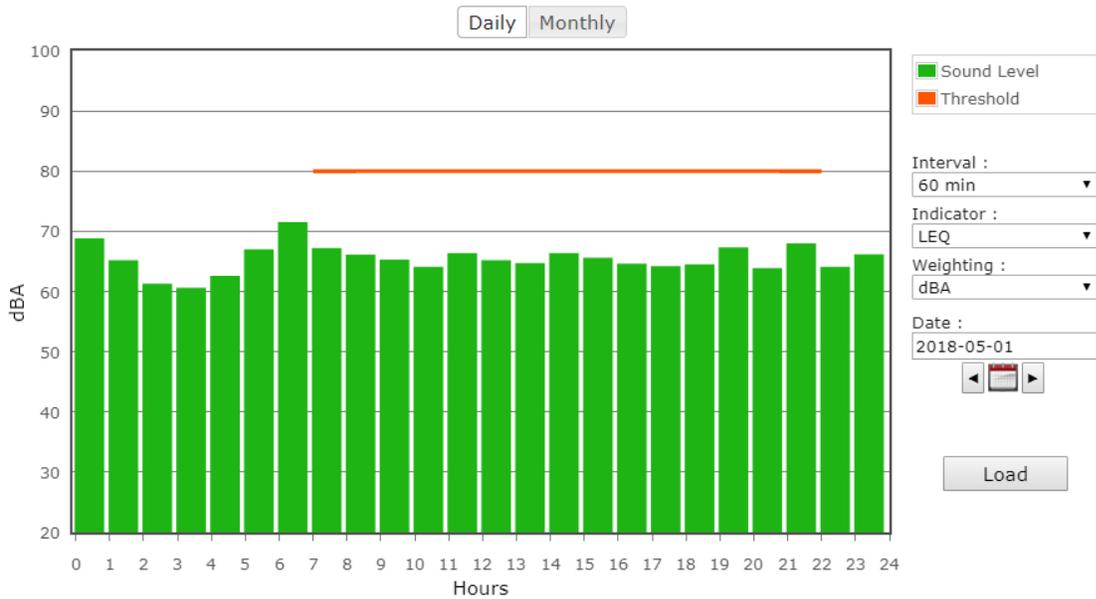
Figure 9: South Monitor NM-2 on Wednesday



**Figure 10: South Monitor NM-2 on Thursday**

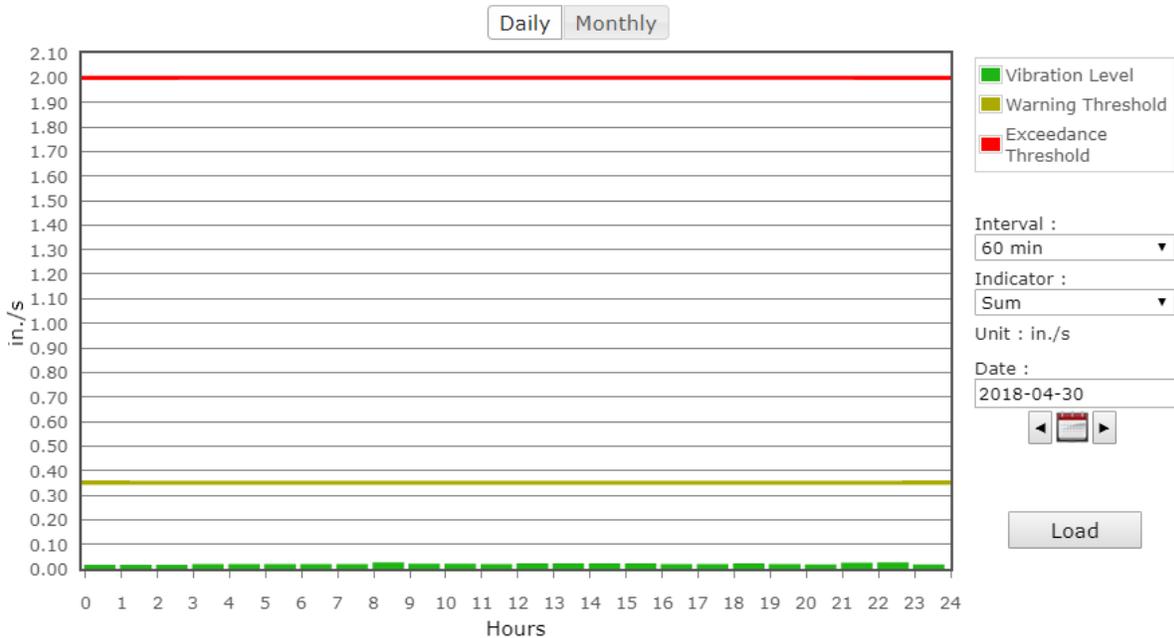


**Figure 11: South Monitor NM-2 on Friday**



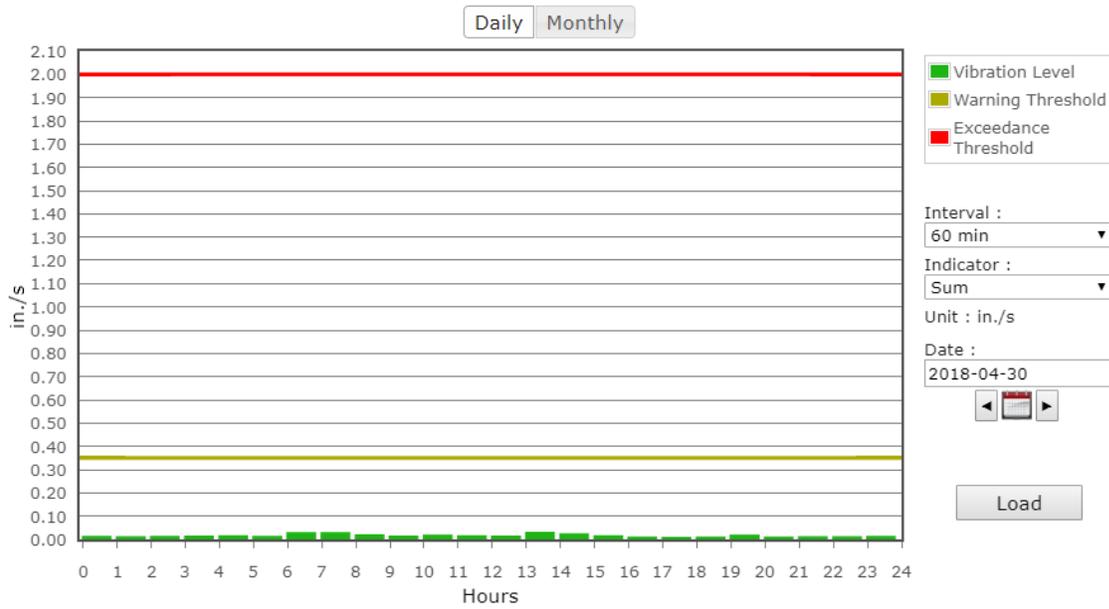
**Figure 12: Northeast Monitor NM-3 on Monday\***

\*Noise monitoring at Northeast Monitor NM-3 ended on Monday, April 30.



**Figure 17: North Vibration Monitor VM-1 on Monday\***

\*Vibration Monitoring at North Vibration Monitor VM-1 ended on Monday, April 30.



**Figure 22: South Vibration Monitor VM-2 on Monday\***

*\*Vibration Monitoring at South Vibration Monitor VM-2 ended on Monday, April 30.*

20180430 Wilson Ihrig Weekly Noise and Vibration Report 30 Apr - 4 May 2018

**AHRS WEEKLY REPORT**





ARCHAEOLOGY & HISTORIC RESOURCE SERVICES

## Cultural Resource Consultants

### ARCHAEOLOGY MONITORING REPORT

PROJECT	DATES	PROJECT LOCATION	AHRS PERSONNEL IN FIELD
Turning Basin 4 Pilot Capping and Dredging	4/30-5/4	TB4/Citizens Site	N/A

#### Week Overview

AHRS is conducting Level 1 archaeological monitoring program in coordination with soft sediment dredging. AHRS reviewed artifacts of large debris staged at Citizens Site. No photos from Clean Earth posted this week.

#### Monday, April 30

AHRS archaeologist Katie French conducted cultural resource training at Citizens Site for 3 new project personnel (Sevenson & TRC).

#### Tuesday, May 1

No monitoring.

#### Wednesday, May 2

Reviewed photos from Citizens Site. Nothing of archaeological significant noted.

#### Thursday, May 3

Reviewed photos from Citizens Site. Nothing of archaeological significant noted.

#### Friday, May 4

Reviewed photos from Citizens Site. Three wood beams recovered that will require additional recording and measurements during the next archaeological site visit.

#### NEXT WEEK

Continue to review daily pictures from Citizens Site and Clean Earth. Archaeologist site visits may resume depending on amount of debris recovered and staged for review.

**WATER TREATMENT SYSTEM MONITORING LABORATORY ANALYTICAL DATA  
(NO ACTIVITIES DURING CURENT WEEK)**



**CUMULATIVE DREDGED MATERIAL CHART**



Gowanus Canal TB4 Pilot Study  
Cumulative Material Dredged  
Weekly Report Update

