WEEKLY PROGRESS REPORT – TRC SOLUTIONS

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

Project number: 283126

Period: June 11 to 15, 2018

Date of Report: June 20, 2018

Rev: 0

Prepared For: Gowanus Environmental Remediation Trust

On-Site Activities Conducted During Week:

Sevenson Environmental Services (SES)

Phase II Dredging:

- Approximately 740 cubic yards of native alluvial sediment dredged:
  - Remove sediment within targeted native alluvial removal area (TNARA) #1 to design grade and backfill with sand following acceptance of hydrographic survey
  - Remove sediment within TNARA #4 slots #1 and 2 to design grade
  - Place low permeability backfill within TNARA #4 slot 1 and 15' adjacent to bulkhead in slot 2

Water Treatment and Monitoring

- Discharged 45,893 gallons of treated decant water on 06/14/18.
- No exceedances of continuous monitoring.

Turbidity Monitoring

- Turbid water not observed migrating from the 4th Street Turning Basin.

Debris Screening Activities

- Level 2 debris screening performed by AHRS at Citizens Site.

Sediment Stabilization Activities

- Approximately 1,559 tons of stabilized material were disposed off-site as daily cover. An approximate total of 13,017 tons of Phase I stabilized material has been shipped to Waste Management Fairless Hills.

Capping Activities

- Produce low permeability backfill.

Quality Assurance and Control – Geosyntec

- Water treatment system sampling performed on 06/14/18. Laboratory turnaround time is 10 business days.
- No exceedance of the turbidity trigger or action criteria
- Measurements for 6/11/18:
  - Daily average for ambient buoy – -1.2 NTU
  - Daily average for sentinel buoy – 4.3 NTU
  - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 11.6 NTU at 1030.
- Measurements for 6/12/18:
  - Daily average for ambient buoy – 2.5 NTU
  - Daily average for sentinel buoy – 8.3 NTU
  - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 31.4 NTU at 1445.
- Measurements for 6/13/18:
  - Daily average for ambient buoy – 1.4 NTU
  - Daily average for sentinel buoy – 8.5 NTU
  - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 46.2 NTU at 1145.

- Measurements for 6/14/18:
    - Daily average for ambient buoy – 4.8 NTU
    - Daily average for sentinel buoy – 12.3 NTU
    - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 71.1 NTU at 1530.
- Measurements for 6/15/18:
    - Daily average for ambient buoy – 4.5 NTU
    - Daily average for sentinel buoy – 8.1 NTU
    - Greatest difference between ambient and sentinel buoy during 15-minute interval with sentinel buoy exceeding ambient buoy – 12.2 NTU at 1015.

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 4th Street Turning Basin Area.
- No exceedances of particulate matter of 10 microns in diameter or smaller (PM_{10}) 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_{10} in $\mu g/m^3$
    - Station 1 – 22 $\mu g/m^3$ recorded on 06/13/18
    - Station 2 – 23 $\mu g/m^3$ recorded on 06/13/18
    - Station 3 – 6 $\mu g/m^3$ recorded on 06/15/18
    - Station 4 – 14 $\mu g/m^3$ recorded on 06/13/18
    - Station 5 – 41 $\mu g/m^3$ recorded on 06/14/18
    - Station 6 – 10 $\mu g/m^3$ recorded on 06/12/18
    - Station 7 – <1 $\mu g/m^3$ recorded throughout the week
- Maximum weekly measurements of TVOC in ppb
    - Station 1 – 100 ppb recorded on 06/01/18
    - Station 2 – 58 ppb recorded on 06/15/18
    - Station 3 – 108 ppb recorded on 06/14/18
    - Station 4 – <1 ppb recorded throughout the week
    - Station 5 – 115 ppb recorded on 06/04/18
    - Station 6 – 120 ppb recorded on 06/14/18
    - Station 7 – <1 ppb recorded throughout the week
- All real-time readings of formaldehyde, hydrogen sulfide, or ammonia less than instrument reporting limit.
- 23-hour samples collected at ST-1 on 06/14 through 06/15 and ST-7 on 06/14 through 06/15. Laboratory turnaround time is 10 business days.
- Tabulated laboratory analytical results for 23-hour sample collected at ST-5 on 05/15 through 05/16 and ST-6 on 05/17 through 05/18 presented in weekly CAMP report.

Noise and Vibration Monitoring – Wilson Ihrig

- Operated and maintained two (2) noise monitors: NM-1 (north side of canal on Whole Foods promenade) and NM-2 (south side of canal on southeast corner of 386 3rd Avenue).
- No exceedance of the hourly Leq noise limit of 80 dBA.
- Greatest hourly Leq noise measurements
    - Northern monitor (NM-1) – 72 dBA during 1000-1100 and 1100-1200 on 06/13/18
    - Southern monitor (NM-2) – 74.1 dBA during 0800-0900 on 06/15/18

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

- Perform Level 2 monitoring of native alluvium at Citizens Site. No potentially significant archaeological debris identified.

Two-Week Look Ahead:

Sevenson:

- Complete Phase I dredging as necessary based on evaluation of sampling conducted on 06/08.
- Continue and complete Phase II dredging.
- Screen native alluvium at Citizens Site prior to shipment to Clean Earth Claremont for and stabilization or stabilization at Citizens Site prior to shipment to Waste Management Fairless Hills for beneficial reuse.
- Treatment and discharge of water decanted from dredged sediment.
- Produce low permeability backfill with mixing plant.
- Perform optical monitoring of bulkheads and surrounding structures with autonomous total survey stations. Along with weekly optical surveys conducted by subcontractor.
- Mobilize equipment and materials in preparation of capping activities.

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

TRC CAMP Monitoring – Perform community air monitoring.

Wilson Ihrig – Perform noise monitoring,

AHRS:

- Review photographs and perform inspection of screened debris from Phase I and II dredging at Clean Earth Claremont and Citizens Site.
- Perform Level 2 monitoring of native alluvium at Citizens Site.

Key Milestones

- Commence Phase II dredging on 06/11/18.

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 week)
6. Cumulative Dredged Material Chart

Client Name:	Site Location:	Project No.:
Gowanus ERT	TB-4 Pilot Study	283126.0000.0001

Photo No.	Date
001	06-11-2018

Description
Sand stockpile and produced low permeability (bentonite/sand mixture) stockpile.

Photo No.	Date
002	06-11-2018

Description
PC-800 excavating Phase II material using the conventional digging bucket.

Client Name:	Site Location:	Project No.:
Gowanus ERT	TB-4 Pilot Study	283126.0000.0001

Photo No.	Date
003	06-12-2018

Description
Empty scow ready for transport to TB-4 for loading.

Photo No.	Date
004	06-12-2018

Description
Survey boat at TB-4, surveying slot #1 in Area 4.

Client Name:	Site Location:	Project No.:
Gowanus ERT	TB-4 Pilot Study	283126.0000.0001

Photo No.	Date
005	06-13-2018

Description
Lead lining in the sheet pile webs to ensure excavation to the proper grade.

Photo No.	Date
006	06-13-2018

Description
Placing low permeability backfill into slot #1 of Area 4.

Client Name:	Site Location:	Project No.:
Gowanus ERT	TB-4 Pilot Study	283126.0000.0001

Photo No.	Date
007	06-14-2018

Description
Collecting bottom sample from Area 1 prior to backfilling the approved excavation.

Photo No.	Date
008	06-14-2018

Description
First bucket removed from slot #2 excavation. Some sand/bentonite visible in the bucket.

Client Name:	Site Location:	Project No.:
Gowanus ERT	TB-4 Pilot Study	283126.0000.0001

Photo No.	Date
009	06-15-2018

Description
Lead lining the webs and around the sheet pile in slot #2.

Photo No.	Date
010	06-15-2018

Description
Placing low permeability backfill along the bulkhead at 386 Third Ave.

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 June 11th, 2018

Report Contents

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

Prepared by

Geosyntec consultants
engineers | scientists | innovators

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

7 Graphics Drive, Suite 106
Ewing, NJ 08628
Project Number HPH106A (52)

1. SCOPE OF MONITORING

The following report summarizes water quality monitoring data collected during the week of June 11th, 2018. Two turbidity buoys were deployed to monitor turbidity during the pilot study. One turbidity buoy was deployed just outside of the 4th 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 June 11th. 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.

Legend

- Ambient Buoy
- Sentinel Buoy
- RTA Boundary

300 150 0 300 Feet

Turbidity Buoy Locations

Gowanus Canal, Brooklyn, NY

Gowanus Canal Remedial Design Group

Geosyntec consultants

Beech and Bourgarie engineering p.c.

Figure 1

Ewing, NJ | October 2017

2. TURBIDITY BUOY DATA

The following section provides turbidity data for the sentinel and ambient turbidity buoys from 7 AM to 5 PM from June 11th to June 15th, 2018. Background data prior to the start of dredging is provided in Appendix A. No exceedances to the numerical rolling average threshold criteria were observed during the reporting period. A spike in turbidity of 35.1 NTU at 14:45 was observed at the sentinel buoy on June 12th. A spike in turbidity of 46.3 NTU at 11:45 was observed at the sentinel buoy on June 13th. Spikes in turbidity of 77.5 NTU at 15:30 and of 27.6 NTU at 16:00 were observed at the sentinel buoy on June 14th. Buoys were serviced due to the negative values the buoys recorded since the last calibration of the turbidity meters. Since the numerical criteria is based on the difference between the ambient and sentinel turbidity buoy measurements, these negative values do not impact monitoring. Negative values have not been recorded since the servicing conducted on June 13th.

2.1 Monday, June 11th, 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)
6/11/2018 7:00	-6.3	-1.1	Y	6/11/2018 12:15	0.4	8.8	Y
6/11/2018 7:15	-4.6	-0.3	Y	6/11/2018 12:30	-0.6	5.2	Y
6/11/2018 7:30	-3.1	8.0	Y	6/11/2018 12:45	0.6	5.3	Y
6/11/2018 7:45	-1.3	0.2	Y	6/11/2018 13:00	2.6	4.0	Y
6/11/2018 8:00	-2.7	2.4	Y	6/11/2018 13:15	1.0	3.8	Y
6/11/2018 8:15	-1.3	1.7	Y	6/11/2018 13:30	-1.2	2.6	Y
6/11/2018 8:30	-1.4	1.2	Y	6/11/2018 13:45	-1.1	2.9	Y
6/11/2018 8:45	-1.6	1.0	Y	6/11/2018 14:00	-4.0	2.8	Y
6/11/2018 9:00	-1.6	1.8	Y	6/11/2018 14:15	-1.9	1.9	Y
6/11/2018 9:15	0.8	7.4	Y	6/11/2018 14:30	-1.3	4.2	Y
6/11/2018 9:30	1.3	2.5	Y	6/11/2018 14:45	-2.7	3.9	Y
6/11/2018 9:45	1.1	3.2	Y	6/11/2018 15:00	-0.9	1.0	Y
6/11/2018 10:00	1.7	4.3	Y	6/11/2018 15:15	-0.1	5.0	Y
6/11/2018 10:15	-0.1	4.3	Y	6/11/2018 15:30	-2.4	3.6	Y
6/11/2018 10:30	-2.2	9.4	Y	6/11/2018 15:45	-4.2	4.6	Y
6/11/2018 10:45	-1.8	6.1	Y	6/11/2018 16:00	-3.1	2.8	Y
6/11/2018 11:00	2.5	10.2	Y	6/11/2018 16:15	-3.2	3.8	Y
6/11/2018 11:15	-1.5	4.8	Y	6/11/2018 16:30	-2.4	4.6	Y
6/11/2018 11:30	1.3	12.4	Y	6/11/2018 16:45	-0.5	4.7	Y
6/11/2018 11:45	0.4	8.9	Y	6/11/2018 17:00	-2.1	5.8	Y
6/11/2018 12:00	0.1	6.2	Y				

Average	-1.2	4.3	Y
Maximum	2.6	12.4	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

2.2 Tuesday, June 12th, 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)
6/12/2018 7:00	-4.0	-0.9	Y	6/12/2018 12:15	3.0	17.9	Y
6/12/2018 7:15	-3.1	-0.5	Y	6/12/2018 12:30	2.6	14.8	Y
6/12/2018 7:30	-3.9	-0.2	Y	6/12/2018 12:45	2.1	14.0	Y
6/12/2018 7:45	-6.7	-0.8	Y	6/12/2018 13:00	4.8	12.7	Y
6/12/2018 8:00	-6.4	-1.1	Y	6/12/2018 13:15	6.1	9.7	Y
6/12/2018 8:15	-3.8	2.5	Y	6/12/2018 13:30	6.3	11.8	Y
6/12/2018 8:30	-0.5	4.2	Y	6/12/2018 13:45	8.6	8.5	N
6/12/2018 8:45	5.4	2.9	N	6/12/2018 14:00	8.9	16.0	Y
6/12/2018 9:00	5.5	4.7	N	6/12/2018 14:15	6.2	12.8	Y
6/12/2018 9:15	6.7	4.1	N	6/12/2018 14:30	4.1	11.8	Y
6/12/2018 9:30	5.5	4.1	N	6/12/2018 14:45	3.7	35.1	Y
6/12/2018 9:45	8.0	7.0	N	6/12/2018 15:00	1.3	13.5	Y
6/12/2018 10:00	6.1	6.8	Y	6/12/2018 15:15	0.9	7.7	Y
6/12/2018 10:15	4.8	7.0	Y	6/12/2018 15:30	4.4	4.3	N
6/12/2018 10:30	4.8	8.9	Y	6/12/2018 15:45	4.7	6.3	Y
6/12/2018 10:45	4.5	14.8	Y	6/12/2018 16:00	1.1	10.6	Y
6/12/2018 11:00	1.4	7.9	Y	6/12/2018 16:15	0.7	9.2	Y
6/12/2018 11:15	3.0	9.1	Y	6/12/2018 16:30	-0.3	7.7	Y
6/12/2018 11:30	2.5	9.1	Y	6/12/2018 16:45	-1.8	3.1	Y
6/12/2018 11:45	5.4	8.9	Y	6/12/2018 17:00	-1.8	3.1	Y
6/12/2018 12:00	1.5	9.3	Y				

Average	2.5	8.3	Y
Maximum	8.9	35.1	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

2.3 Wednesday, June 13th, 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)
6/13/2018 7:00	-4.6	0.3	Y	6/13/2018 12:15	-1.3	18.3	Y
6/13/2018 7:15	-4.0	0.0	Y	6/13/2018 12:30	1.2	11.7	Y
6/13/2018 7:30	-2.1	2.6	Y	6/13/2018 12:45	--	16.1	N
6/13/2018 7:45	-3.4	-0.2	Y	6/13/2018 13:00	--	--	N
6/13/2018 8:00	-2.2	0.3	Y	6/13/2018 13:15	--	--	N
6/13/2018 8:15	-2.6	0.0	Y	6/13/2018 13:30	--	--	N
6/13/2018 8:30	-4.8	-0.2	Y	6/13/2018 13:45	--	--	N
6/13/2018 8:45	5.5	5.3	N	6/13/2018 14:00	--	--	N
6/13/2018 9:00	-5.3	3.2	Y	6/13/2018 14:15	--	--	N
6/13/2018 9:15	-3.2	16.3	Y	6/13/2018 14:30	--	--	N
6/13/2018 9:30	0.2	3.4	Y	6/13/2018 14:45	--	--	N
6/13/2018 9:45	0.9	5.0	Y	6/13/2018 15:00	--	--	N
6/13/2018 10:00	2.8	4.3	Y	6/13/2018 15:15	--	--	N
6/13/2018 10:15	3.8	7.9	Y	6/13/2018 15:30	--	--	N
6/13/2018 10:30	3.0	9.1	Y	6/13/2018 15:45	--	--	N
6/13/2018 10:45	3.4	6.9	Y	6/13/2018 16:00	--	--	N
6/13/2018 11:00	1.6	9.8	Y	6/13/2018 16:15	--	--	N
6/13/2018 11:15	0.5	6.6	Y	6/13/2018 16:30	--	--	N
6/13/2018 11:30	0.3	6.1	Y	6/13/2018 16:45	22.2	9.9	N
6/13/2018 11:45	0.1	46.3	Y	6/13/2018 17:00	2.1	11.8	Y
6/13/2018 12:00	20.3	19.0	N				

Average	1.4	8.5	Y
Maximum	22.2	46.3	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

2.4 Thursday, June 14th, 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)
6/14/2018 7:00	1.7	3.1	Y	6/14/2018 12:15	6.5	13.8	Y
6/14/2018 7:15	2.2	2.7	Y	6/14/2018 12:30	4.4	13.2	Y
6/14/2018 7:30	1.6	5.2	Y	6/14/2018 12:45	5.2	11.2	Y
6/14/2018 7:45	1.8	5.4	Y	6/14/2018 13:00	4.5	8.6	Y
6/14/2018 8:00	2.3	5.4	Y	6/14/2018 13:15	4.5	8.8	Y
6/14/2018 8:15	2.7	5.4	Y	6/14/2018 13:30	4.8	9.2	Y
6/14/2018 8:30	2.5	5.7	Y	6/14/2018 13:45	4.7	9.2	Y
6/14/2018 8:45	2.9	5.6	Y	6/14/2018 14:00	4.9	8.5	Y
6/14/2018 9:00	3.7	5.9	Y	6/14/2018 14:15	5.4	14.3	Y
6/14/2018 9:15	3.2	7.2	Y	6/14/2018 14:30	4.9	17.3	Y
6/14/2018 9:30	1.8	7.9	Y	6/14/2018 14:45	7.7	18.1	Y
6/14/2018 9:45	3.6	6.7	Y	6/14/2018 15:00	9.4	27.9	Y
6/14/2018 10:00	3.6	6.6	Y	6/14/2018 15:15	8.2	16.3	Y
6/14/2018 10:15	3.7	8.4	Y	6/14/2018 15:30	6.4	77.5	Y
6/14/2018 10:30	4.2	10.0	Y	6/14/2018 15:45	7.4	23.6	Y
6/14/2018 10:45	5.0	7.6	Y	6/14/2018 16:00	5.6	27.6	Y
6/14/2018 11:00	6.2	7.3	Y	6/14/2018 16:15	5.5	18.8	Y
6/14/2018 11:15	8.6	8.1	N	6/14/2018 16:30	5.6	9.1	Y
6/14/2018 11:30	8.2	11.1	Y	6/14/2018 16:45	4.3	11.6	Y
6/14/2018 11:45	8.4	12.3	Y	6/14/2018 17:00	4.1	8.7	Y
6/14/2018 12:00	5.9	13.0	Y				

Average	4.8	12.3	Y
Maximum	9.4	77.5	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, June 15th, 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)
6/15/2018 7:00	1.8	3.3	Y	6/15/2018 12:15	8.1	14.8	Y
6/15/2018 7:15	2.0	2.7	Y	6/15/2018 12:30	7.3	11.7	Y
6/15/2018 7:30	2.0	4.2	Y	6/15/2018 12:45	7.3	13.5	Y
6/15/2018 7:45	2.8	4.6	Y	6/15/2018 13:00	6.1	11.2	Y
6/15/2018 8:00	3.0	3.8	Y	6/15/2018 13:15	5.5	10.6	Y
6/15/2018 8:15	2.1	4.0	Y	6/15/2018 13:30	5.3	8.9	Y
6/15/2018 8:30	2.5	4.3	Y	6/15/2018 13:45	4.3	9.1	Y
6/15/2018 8:45	1.9	4.4	Y	6/15/2018 14:00	3.6	7.6	Y
6/15/2018 9:00	2.8	5.6	Y	6/15/2018 14:15	3.1	7.1	Y
6/15/2018 9:15	1.8	13.2	Y	6/15/2018 14:30	4.1	7.7	Y
6/15/2018 9:30	2.4	4.8	Y	6/15/2018 14:45	3.6	7.6	Y
6/15/2018 9:45	4.1	4.6	Y	6/15/2018 15:00	3.6	7.1	Y
6/15/2018 10:00	2.6	5.6	Y	6/15/2018 15:15	5.3	7.4	Y
6/15/2018 10:15	2.8	15.0	Y	6/15/2018 15:30	4.7	8.6	Y
6/15/2018 10:30	2.3	9.5	Y	6/15/2018 15:45	5.8	7.4	Y
6/15/2018 10:45	3.1	6.9	Y	6/15/2018 16:00	5.7	6.8	Y
6/15/2018 11:00	6.1	12.3	Y	6/15/2018 16:15	4.7	8.5	Y
6/15/2018 11:15	6.0	9.5	Y	6/15/2018 16:30	5.1	6.2	Y
6/15/2018 11:30	8.3	10.1	Y	6/15/2018 16:45	5.2	9.5	Y
6/15/2018 11:45	8.5	12.5	Y	6/15/2018 17:00	5.6	7.6	Y
6/15/2018 12:00	11.4	13.0	Y				

Average	4.5	8.1	Y
Maximum	11.4	15.0	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

3. HANDHELD MEASURMENTS

Handheld measurements were collected on Monday, 6/11/2018 during the start of Phase II dredging. The following table provides a summary of the handheld measurements.

Reading Collected During Active Dredging:

Time	Turbidity (NTU)	Depth (ft)	Distance from Dredging (ft)
14:17	19.5	7	20
14:18	19	7	20
14:19	19.2	7	15
14:20	21.2	7	15
14:21	46.9	7	15
14:22	19.8	7	20
14:23	18.7	7	20
14:25	31/4	1	35
14:26	26.8	1	35
14:27	29.5	1	35
14:28	21.2	7	35
14:30	23.2	7	35
14:32	25.7	7	35
14:33	28.5	7	130
14:35	30	7	130
14:36	27.2	6	130
14:37	25.1	1	130
14:38	25.1	1	130
14:47	26.1	6	25
14:48	27.1	6	25
14:49	40.6	1	25
14:50	39.2	1	25
14:52	26.3	1	25
14:53	25.7	1	25
14:54	24.9	1	25
14:55	23.5	1	25
14:56	24.1	1	25
14:57	25.5	1	25
14:58	22.6	6	25
14:59	22.5	6	25
15:00	24.8	6	25
Maximum:	46.9		
Average:	26.0		

4. SUMMARY OF VISUAL OBSERVATIONS

During the start of Phase II dredging with the excavator bucket an increased occurrence of sheen was observed. This sheen was localized in the area of dredging and did not migrate outside 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

PRELIMINARY DATA
NOT YET SUBJECT TO QC REVIEW

Geosyntec consultants

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

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

APPENDIX A
PRE-DREDGE TURBIDITY BUOY DATA

PRELIMINARY DATA
NOT YET SUBJECT TO QC REVIEW

Geosyntec consultants

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

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
36th Weekly Monitoring Period
Summary Report:

June 11th, through June 15th, 2018

Report Contents

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

Executive Summary – Week 36 Monitoring Period
June 11th through June 15th, 2018

The following report summarizes site air monitoring activities for the Week 36 monitoring period from June 11th through June 15th, 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 4th 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 36 monitoring period there were no PM_{10} or TVOC exceedances of the action level of 150 ug/m^3 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_{10}) 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 36 monitoring period twice daily. The results of these measurements are shown in Table 1.

During the Week 36 monitoring period of June 11th through June 15th, 2018 TRC conducted Volatile Organic Compounds (USEPA Method TO-15) sampling at Stations 1 and 7. Both samples were collected on June 14th, through June 15th, 2018. 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 Stations 5 and 6 during Week 32. The ST-5 sample was collected on May 15th through 16th, 2018 and ST-6 sample was collected on May 17th through 18th, 2018. Results for the Station 6 sample included concentrations for a number of aromatic hydrocarbons that were slightly elevated above background levels. These included a number of compounds commonly associated with Manufactured Gas Plant (MGP) residuals (naphthalene, toluene, benzene, 1, 2, 4 - trimethyl benzene, and xylene isomers (o,m,p)).

Site activities which were conducted at the Citizen Property on June 11th through June 15th, 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
- Produce low permeability backfill by mixing sand and bentonite

Site activities which were conducted at the 11th St Turning Basin Area of the Canal on June 15th through June 8th, 2018 included the following:

- Approximately 740 cubic yards of native alluvial sediment dredged
- Remove material in targeted native alluvial removal area (TNARA) #1 and place sand backfill following hydrographic survey
- Remove material in TNARA #4 slots 1 and 2
- Placed low permeability backfill in slot #1 to a width of 15’ adjacent to bulkhead in slot #2 following hydrographic surveys

Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Daily Station Report – TVOC/PM_{10}
(TRC Project No.274286-0000-00000)
06/11/2018 06:30 AM - 06/11/2018 23:45 PM

Station 1 (Citizen Property near Construction Trailers)

TVOC			PM_{10}		
Max.	38	ppb	Max.	7	ug/m^3
Avg.	12	ppb	Avg.	4	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 2 (Citizen Property near Pad Area)

TVOC			PM_{10}		
Max.	6	ppb	Max.	17	ug/m^3
Avg.	<1	ppb	Avg.	7	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 3 (Whole Foods Property NW Riverwalk Location)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 4 (Whole Foods Property Central Riverwalk Location)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

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

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 6 (Maritime Estates Property along Canal Fencing)

TVOC			PM_{10}		
Max.	47	ppb	Max.	8	ug/m^3
Avg.	22	ppb	Avg.	3	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 7 (386 3rd Avenue along Canal Fencing)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds PM_{10} – Particulates as PM_{10}

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m3 - PM_{10})

Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Daily Station Report – TVOC/PM_{10}
(TRC Project No.274286-0000-00000)
06/12/2018 00:00 AM - 06/12/2018 23:45 PM

Station 1 (Citizen Property near Construction Trailers)

TVOC			PM_{10}		
Max.	66	ppb	Max.	11	ug/m^3
Avg.	24	ppb	Avg.	4	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 2 (Citizen Property near Pad Area)

TVOC			PM_{10}		
Max.	8	ppb	Max.	21	ug/m^3
Avg.	<1	ppb	Avg.	7	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 3 (Whole Foods Property NW Riverwalk Location)

TVOC			PM_{10}		
Max.	43	ppb	Max.	<1	ug/m^3
Avg.	3	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 4 (Whole Foods Property Central Riverwalk Location)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

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

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 6 (Maritime Estates Property along Canal Fencing)

TVOC			PM_{10}		
Max.	43	ppb	Max.	10	ug/m^3
Avg.	25	ppb	Avg.	2	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 7 (386 3rd Avenue along Canal Fencing)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds PM_{10} – Particulates as PM_{10}

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m3 - PM_{10})

Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Daily Station Report – TVOC/PM_{10}
(TRC Project No.274286-0000-00000)
6/13/2018 00:00 AM - 06/13/2018 23:45 PM

Station 1 (Citizen Property near Construction Trailers)

TVOC			PM_{10}		
Max.	35	ppb	Max.	22	ug/m^3
Avg.	27	ppb	Avg.	10	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 2 (Citizen Property near Pad Area)

TVOC			PM_{10}		
Max.	12	ppb	Max.	23	ug/m^3
Avg.	<1	ppb	Avg.	12	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 3 (Whole Foods Property NW Riverwalk Location)

TVOC			PM_{10}		
Max.	81	ppb	Max.	<1	ug/m^3
Avg.	16	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 4 (Whole Foods Property Central Riverwalk Location)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	14	ug/m^3
Avg.	<1	ppb	Avg.	6	ug/m^3
Exc.	0	total	Exc.	0	Total

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

TVOC			PM_{10}		
Max.	73	ppb	Max.	16	ug/m^3
Avg.	10	ppb	Avg.	7	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 6 (Maritime Estates Property along Canal Fencing)

TVOC			PM_{10}		
Max.	30	ppb	Max.	<1	ug/m^3
Avg.	23	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 7 (386 3rd Avenue along Canal Fencing)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds PM_{10} – Particulates as PM_{10}

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m3 - PM_{10})

Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Daily Station Report – TVOC/PM_{10}
(TRC Project No.274286-0000-00000)
06/14/2018 00:00 AM - 06/14/2018 23:45 PM

Station 1 (Citizen Property near Construction Trailers)

TVOC			PM_{10}		
Max.	100	ppb	Max.	11	ug/m^3
Avg.	36	ppb	Avg.	4	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 2 (Citizen Property near Pad Area)

TVOC			PM_{10}		
Max.	12	ppb	Max.	16	ug/m^3
Avg.	1	ppb	Avg.	5	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 3 (Whole Foods Property NW Riverwalk Location)

TVOC			PM_{10}		
Max.	108	ppb	Max.	<1	ug/m^3
Avg.	28	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 4 (Whole Foods Property Central Riverwalk Location)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

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

TVOC			PM_{10}		
Max.	120	ppb	Max.	41	ug/m^3
Avg.	36	ppb	Avg.	6	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 6 (Maritime Estates Property along Canal Fencing)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 7 (386 3rd Avenue along Canal Fencing)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds PM_{10} – Particulates as PM_{10}

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m3 - PM_{10})

Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Daily Station Report – TVOC/PM_{10}
(TRC Project No.274286-0000-00000)
06/15/2018 00:00 AM - 06/15/2018 20:00 PM

Station 1 (Citizen Property near Construction Trailers)

TVOC			PM_{10}		
Max.	62	ppb	Max.	6	ug/m^3
Avg.	17	ppb	Avg.	2	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 2 (Citizen Property near Pad Area)

TVOC			PM_{10}		
Max.	58	ppb	Max.	7	ug/m^3
Avg.	5	ppb	Avg.	3	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 3 (Whole Foods Property NW Riverwalk Location)

TVOC			PM_{10}		
Max.	16	ppb	Max.	6	ug/m^3
Avg.	1	ppb	Avg.	1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 4 (Whole Foods Property Central Riverwalk Location)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	2	ug/m^3
Avg.	<1	ppb	Avg.	1	ug/m^3
Exc.	0	total	Exc.	0	Total

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

TVOC			PM_{10}		
Max.	33	ppb	Max.	3	ug/m^3
Avg.	19	ppb	Avg.	1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 6 (Maritime Estates Property along Canal Fencing)

TVOC			PM_{10}		
Max.	23	ppb	Max.	6	ug/m^3
Avg.	12	ppb	Avg.	1	ug/m^3
Exc.	0	total	Exc.	0	Total

Station 7 (386 3rd Avenue along Canal Fencing)

TVOC			PM_{10}		
Max.	<1	ppb	Max.	<1	ug/m^3
Avg.	<1	ppb	Avg.	<1	ug/m^3
Exc.	0	total	Exc.	0	Total

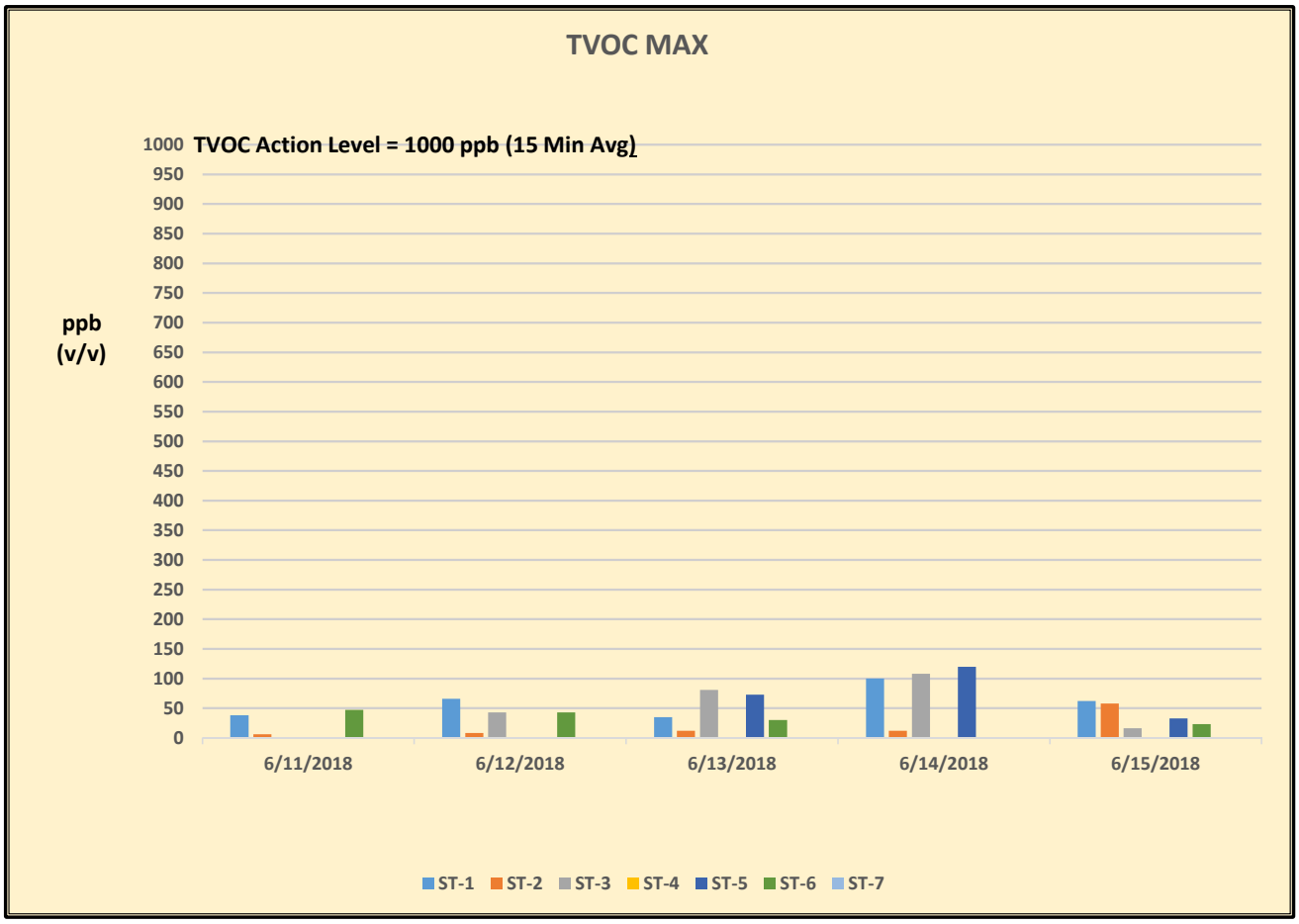
TVOC – Total Volatile Organic Compounds PM_{10} – Particulates as PM_{10}

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM_{10})

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m3 - PM_{10})

Figure 1
Gowanus Canal Superfund Site -TB4 Dredging and Capping Pilot Program
TVOC Monitoring Data - Week 36



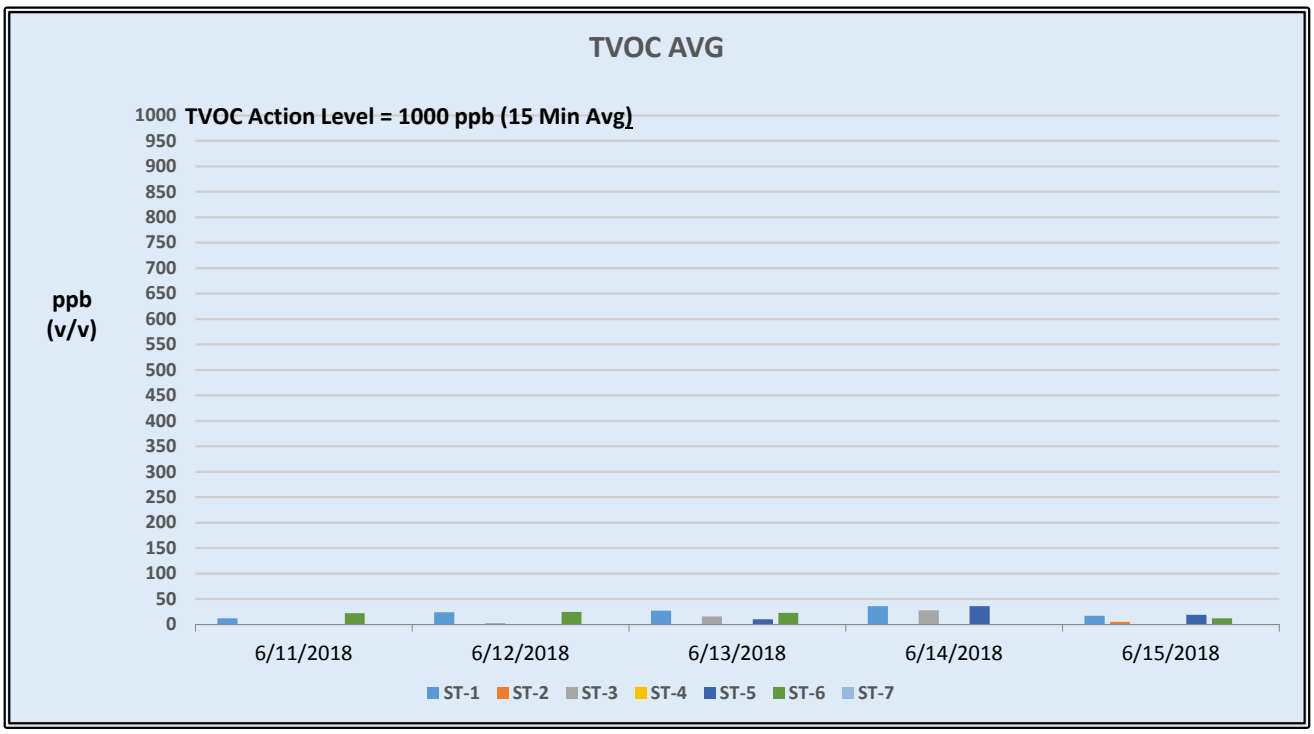
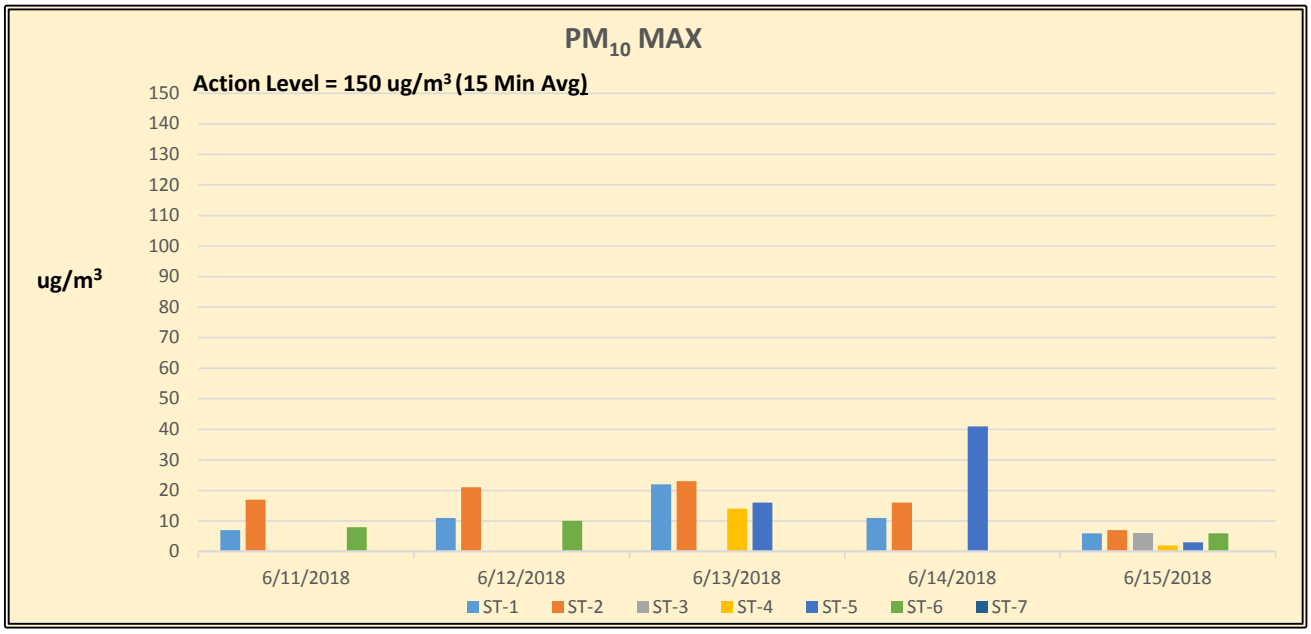
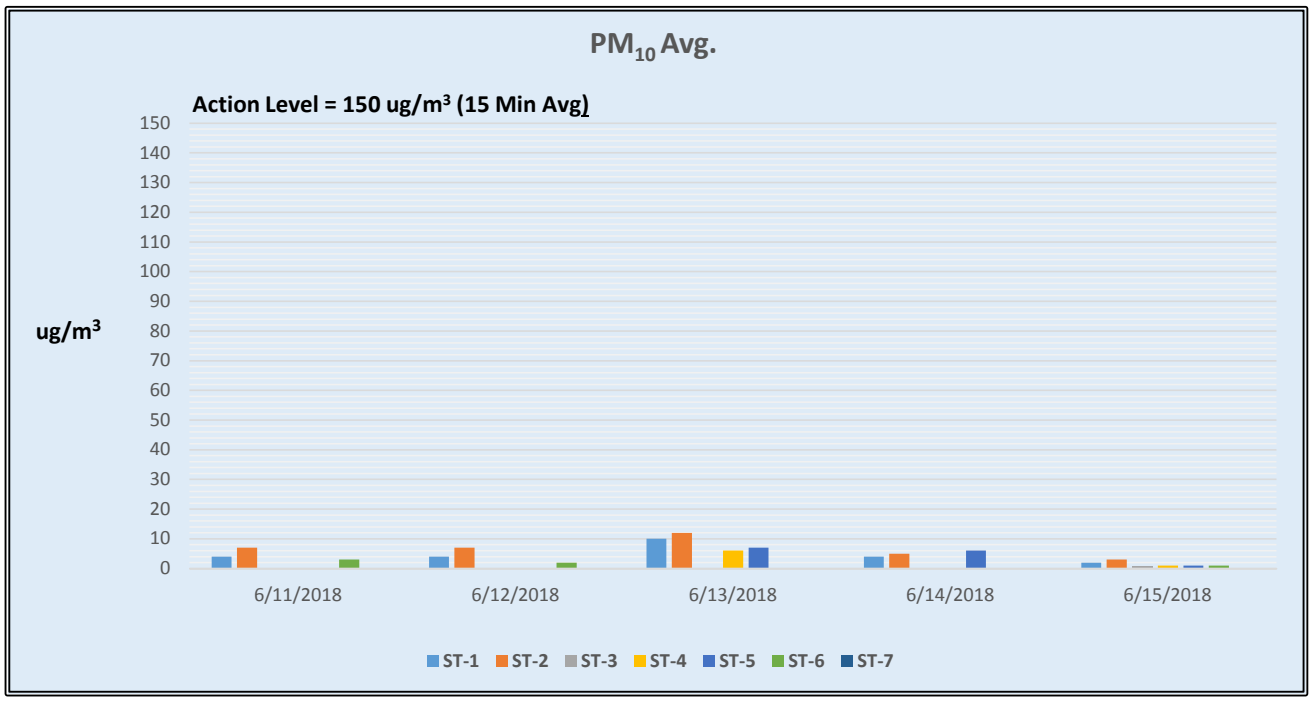
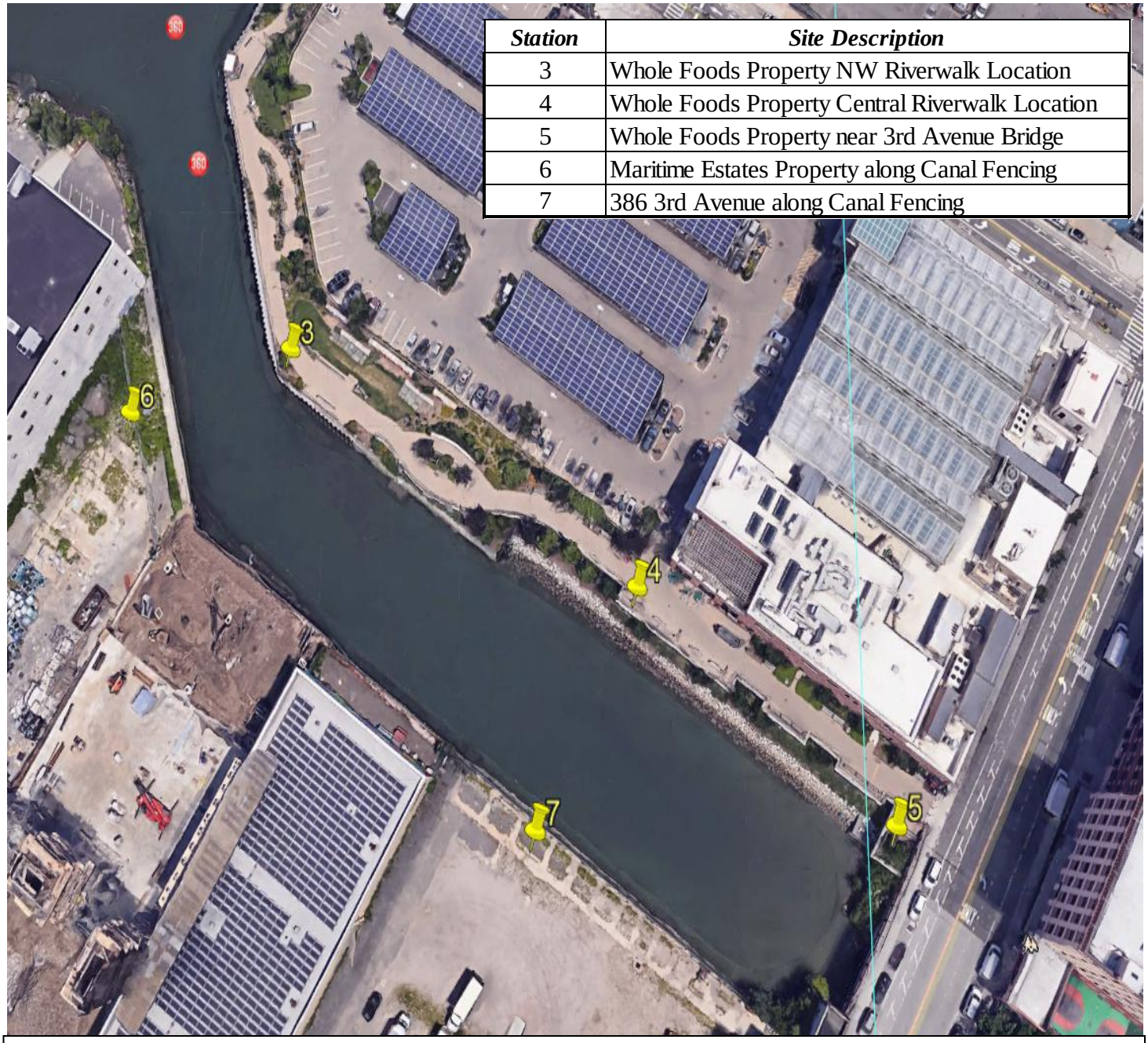


Figure 2
Gowanus Canal Superfund Site - TB4 Dredging and Capping Pilot Program
TRC CAMP PM_{10} Monitoring Data - Week 36







Station	*Site Description*
3	Whole Foods Property NW Riverwalk Location
4	Whole Foods Property Central Riverwalk Location
5	Whole Foods Property near 3rd Avenue Bridge
6	Maritime Estates Property along Canal Fencing
7	386 3rd Avenue along Canal Fencing

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

Table 1

Week 36
Summary of Additional Periodic (Daily) Monitoring Data

June 11th, 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H_2S) (ppb)*	Ammonia (NH_3) (ppm)**
ST-1	9:00	<50	<3	<1.0
	14:30	<50	<3	<1.0
ST-2	9:05	<50	<3	<1.0
	14:35	<50	<3	<1.0
ST-3	9:15	<50	<3	<1.0
	15:00	<50	<3	<1.0
ST-4	9:20	<50	<3	<1.0
	15:05	<50	<3	<1.0
ST-5	9:25	<50	<3	<1.0
	15:10	<50	<3	<1.0
ST-6	9:40	<50	<3	<1.0
	15:25	<50	<3	<1.0
ST-7	10:00	<50	<3	<1.0
	15:50	<50	<3	<1.0

June 12th, 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H_2S) (ppb)*	Ammonia (NH_3) (ppm)**
ST-1	7:30	<50	<3	<1.0
	15:00	<50	<3	<1.0
ST-2	7:35	<50	<3	<1.0
	15:05	<50	<3	<1.0
ST-3	8:00	<50	<3	<1.0
	15:25	<50	<3	<1.0
ST-4	8:05	<50	<3	<1.0
	15:30	<50	<3	<1.0
ST-5	8:10	<50	<3	<1.0
	15:35	<50	<3	<1.0
ST-6	8:20	<50	<3	<1.0
	15:45	<50	<3	<1.0
ST-7	8:30	<50	<3	<1.0
	16:00	<50	<3	<1.0

Table 1

Week 36
Summary of Additional Periodic (Daily) Monitoring Data

June 13th, 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H_2S) (ppb)*	Ammonia (NH_3) (ppm)**
ST-1	9:00	<50	<3	<1.0
	15:15	<50	<3	<1.0
ST-2	9:05	<50	<3	<1.0
	15:20	<50	<3	<1.0
ST-3	9:20	<50	<3	<1.0
	15:40	<50	<3	<1.0
ST-4	9:25	<50	<3	<1.0
	15:45	<50	<3	<1.0
ST-5	9:35	<50	<3	<1.0
	15:50	<50	<3	<1.0
ST-6	9:50	<50	<3	<1.0
	16:05	<50	<3	<1.0
ST-7	10:10	<50	<3	<1.0
	16:15	<50	<3	<1.0

June 14th, 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H_2S) (ppb)*	Ammonia (NH_3) (ppm)**
ST-1	8:30	<50	<3	<1.0
	14:40	<50	<3	<1.0
ST-2	8:35	<50	<3	<1.0
	14:45	<50	<3	<1.0
ST-3	8:45	<50	<3	<1.0
	15:00	<50	<3	<1.0
ST-4	9:00	<50	<3	<1.0
	15:05	<50	<3	<1.0
ST-5	9:05	<50	<3	<1.0
	15:10	<50	<3	<1.0
ST-6	9:25	<50	<3	<1.0
	15:30	<50	<3	<1.0
ST-7	9:40	<50	<3	<1.0
	15:45	<50	<3	<1.0

Table 1

Week 36
Summary of Additional Periodic (Daily) Monitoring Data

June 15th, 2018				
Station Id	**Time**	**Formaldehyde (CHO) (ppb)***	**Hydrogen Sulfide (H_2S) (ppb)***	**Ammonia (NH_3) (ppm)****
ST-1	9:00	<50	<3	<1.0
	14:30	<50	<3	<1.0
ST-2	9:05	<50	<3	<1.0
	14:35	<50	<3	<1.0
ST-3	9:15	<50	<3	<1.0
	14:50	<50	<3	<1.0
ST-4	9:10	<50	<3	<1.0
	14:55	<50	<3	<1.0
ST-5	9:15	<50	<3	<1.0
	15:05	<50	<3	<1.0
ST-6	9:25	<50	<3	<1.0
	15:25	<50	<3	<1.0
ST-7	9:40	<50	<3	<1.0
	15:45	<50	<3	<1.0

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

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

Table 2:
Gowanus Canal Superfund Site - TB4 Dredging and Capping Pilot Program
Week 32 VOCs Results: May 15th through 16th and May 17th through 18th

Sample ID	ST-5-VOC-051518			ST-6-VOC-051718		
Laboratory ID	18E1203-01			18E1203-02		
Date Sampled	5/15/18 13:30 - 5/16/18 12:30			5/17/18 11:00 - 5/18/18 10:00		
Location	Station 5			Station 6		
VOCs - TO-15	ppbV	ug/m3		ppbV	ug/m3	
Acetone	**6.6**	**16**		**8.6**	**20**	
Benzene	**0.18**	**0.56**		**0.38**	**1.2**	
Benzyl chloride	<0.035	<0.18		<0.035	<0.18	
Bromodichloromethane	<0.035	<0.24		<0.035	<0.24	
Bromoform	<0.035	<0.36		<0.035	<0.36	
Bromomethane	<0.035	<0.14		<0.035	<0.14	
1,3-Butadiene	<0.035	<0.078		<0.035	<0.078	
2-Butanone (MEK)	<1.4	<4.1		<1.4	<4.1	
Carbon Disulfide	<0.35	<1.1		<0.35	<1.1	
Carbon Tetrachloride	**0.078**	**0.49**		**0.074**	**0.46**	
Chlorobenzene	<0.035	<0.16		<0.035	<0.16	
Chloroethane	<0.035	<0.0093		<0.035	<0.0093	
Chloroform	<0.035	< 0.17		**0.073**	**0.36**	
Chloromethane	**0.85**	**1.8**	**J+**	**0.78**	**1.6**	**J+**
Cyclohexane	<0.035	<0.12		**0.2**	**0.7**	
Dibromochloromethane	<0.035	<0.30		<0.035	<0.30	
1,2-Dibromoethane (EDB)	<0.035	<0.27		<0.035	<0.27	
1,2-Dichlorobenzene	<0.035	<0.21		<0.035	<0.21	
1,3-Dichlorobenzene	<0.035	<0.21		<0.035	<0.21	
1,4-Dichlorobenzene	<0.035	<0.21		**0.079**	**0.47**	
Dichlorodifluoromethane (Freon 12)	**0.47**	**2.3**	**J+**	**0.38**	**1.9**	**J+**
1,1-Dichloroethane	<0.035	<0.14		<0.035	<0.14	
1,2-Dichloroethane	<0.035	<0.14		<0.035	<0.14	
1,1-Dichloroethylene	<0.035	<0.14		<0.035	<0.14	
cis-1,2-Dichloroethylene	<0.035	<0.14		<0.035	<0.14	
trans-1,2-Dichloroethylene	<0.035	<0.14		<0.035	<0.14	
1,2-Dichloropropane	<0.035	<0.16		<0.035	<0.16	
cis-1,3-Dichloropropene	<0.035	<0.16		<0.035	<0.16	
trans-1,3-Dichloropropene	<0.035	<0.16		<0.035	<0.16	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	<0.035	<0.25		<0.035	<0.25	
1,4-Dioxane	<0.35	<1.3		<0.35	<1.3	
Ethanol	**7.5**	**14**		**21**	**40**	
Ethyl Acetate	<0.070	<0.25		**0.61**	**2.2**	
Ethylbenzene	**0.1**	**0.45**		**0.22**	**0.94**	
4-Ethyltoluene	<0.035	<0.17		**0.067**	**0.33**	
Heptane	**0.11**	**0.44**		**0.27**	**1.1**	
Hexachlorobutadiene	<0.035	<0.37		<0.035	<0.37	
Hexane	<1.4	<4.9		<1.4	<4.9	
2-Hexanone (MBK)	<0.035	<0.14		<0.035	<0.14	
Isopropanol	**1.5**	**3.7**		**2**	**4.9**	
Methyl tert-Butyl Ether (MTBE)	<0.035	<0.13		<0.035	<0.13	
Methylene Chloride	**0.43**	**1.5**		**0.69**	**2.4**	
4-Methyl-2-pentanone (MIBK)	<0.035	<0.14		**0.099**	**0.41**	
Naphthalene	<0.035	<0.18		**0.24**	**1.2**	
Propene	<1.4	<2.4		<1.4	<2.4	
Styrene	<0.035	<0.15		<0.035	<0.15	
1,1,2,2-Tetrachloroethane	<0.035	<0.24		<0.035	<0.24	
Tetrachloroethylene	**0.45**	**3.1**		**0.5**	**3.4**	
Tetrahydrofuran	<0.070	<0.21		<0.070	<0.21	
Toluene	**0.69**	**2.6**		**1.6**	**5.9**	
1,2,4-Trichlorobenzene	<0.035	<0.26		<0.035	<0.26	
1,1,1-Trichloroethane	<0.035	<0.19		<0.035	<0.19	
1,1,2-Trichloroethane	<0.035	<0.19		<0.035	<0.19	
Trichloroethylene	<0.035	<0.19		<0.035	<0.19	
Trichlorofluoromethane (Freon 11)	**0.28**	**1.6**		**0.34**	**1.9**	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<0.14	<1.1		<0.14	<1.1	
1,2,4-Trimethylbenzene	**0.14**	**0.67**		**0.22**	**1.1**	
1,3,5-Trimethylbenzene	**0.051**	**0.25**		**0.072**	**0.36**	
Vinyl Acetate	<0.70	<2.5		<0.70	<2.5	
Vinyl Chloride	<0.035	<0.090		<0.035	<0.090	
m&p-Xylene	**0.29**	**1.3**		**0.72**	**3.1**	
o-Xylene	**0.11**	**0.49**		**0.25**	**1.1**	

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 results for chloromethane and dichlorodifluoromethane are estimated quantities, but may be biased high.

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

Meteorological Summary
June 11th through June 15th, 2018

June 11th, 2018 *		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
E	**5.92**	**64.3**

June 12th, 2018 **		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
SE	**2.95**	**65.7**

June 13th , 2018 **		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
S	**1.47**	**70.6**

June 14th 2018 **		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
SW	**2.55**	**77.1**

June 15th 2018 ***		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
WSW	**3.39**	**71.1**

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

** Tuesday's, Wednesday's, 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 20:00.

WILSON IHRIG WEEKLY NOISE AND VIBRATION MONITORING REPORT

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

WI #15-081

MEMORANDUM

June 18, 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 Monitoring Report, 11 June – 15 June, 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. Photos 1 and 2 show the recent field conditions at the monitors.

Noise Monitoring Results

Figures 2 through 11 present the hourly Leq noise levels compared with the noise thresholds discussed in the noise monitoring plan[1]. 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[2].

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

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

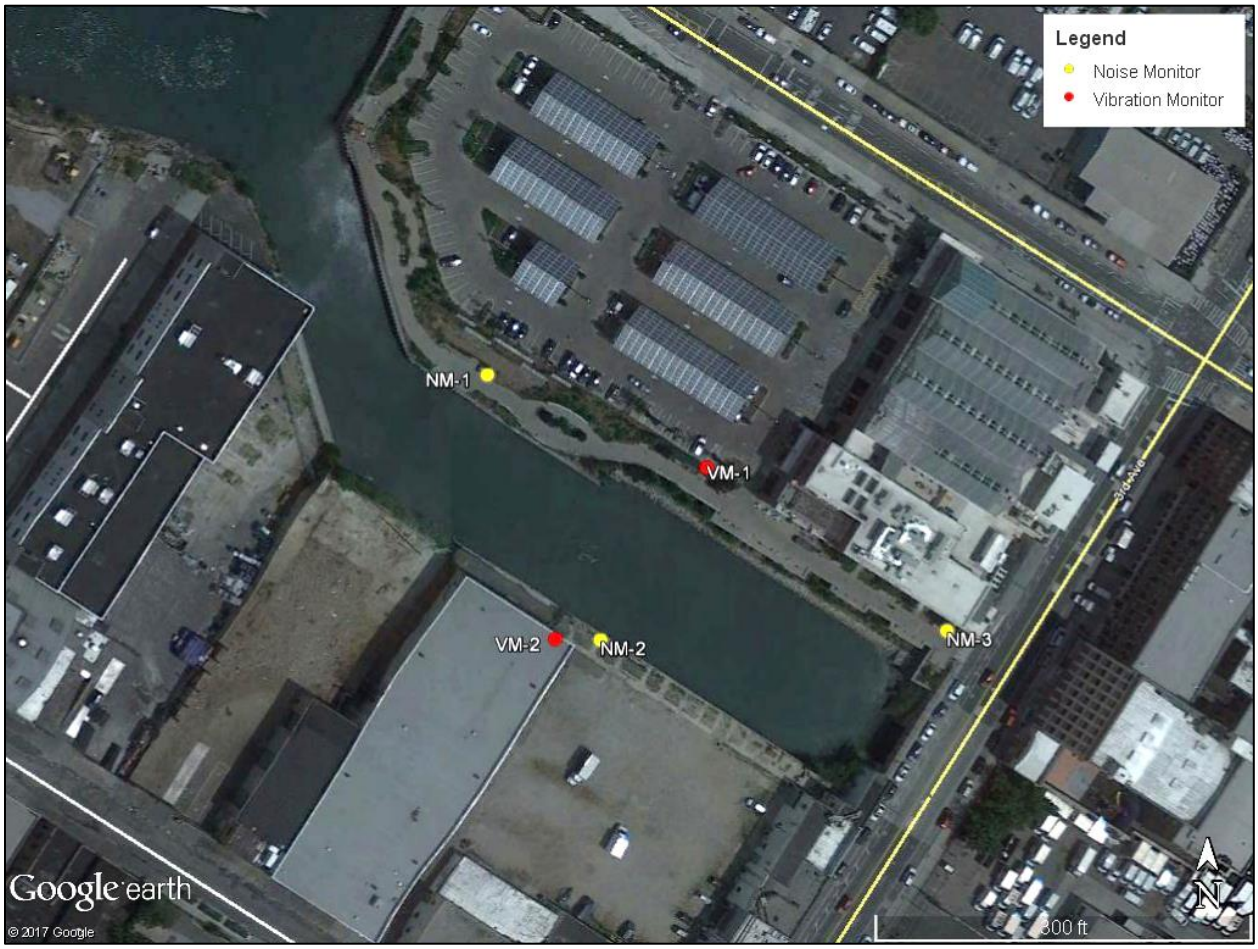


Figure 1: Long-term Noise and Vibration Monitoring Locations for Gowanus TB4 Dredging and Capping Pilot Study

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

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

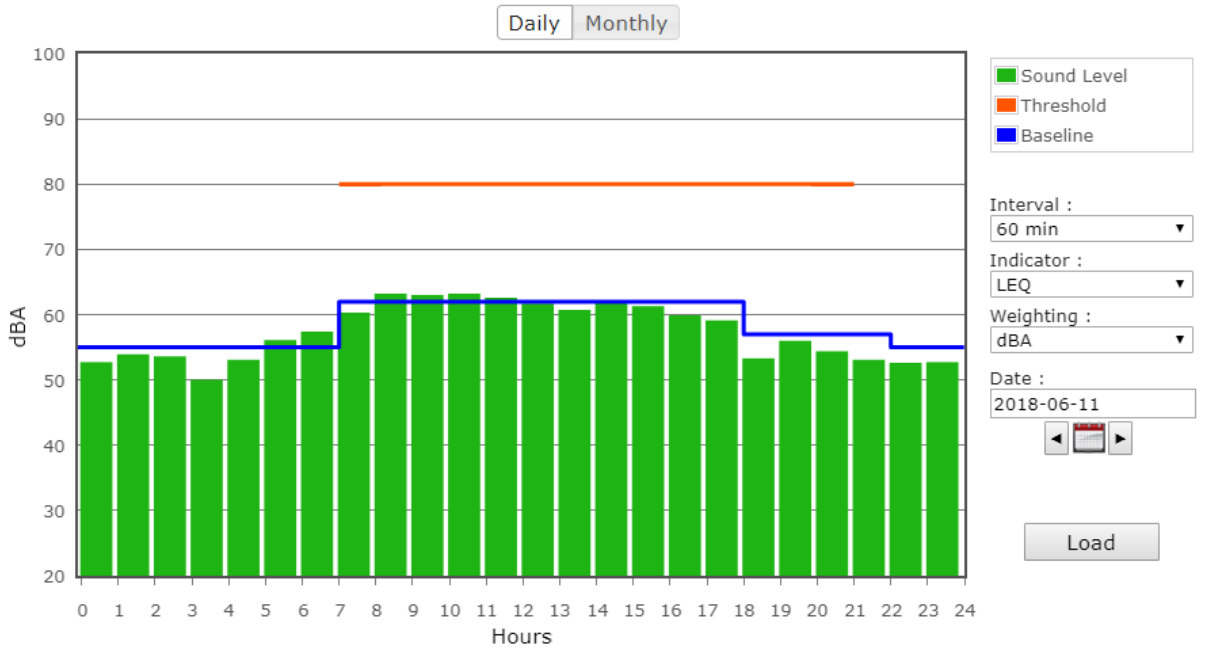


Figure 2: North Monitor NM-1 on Monday

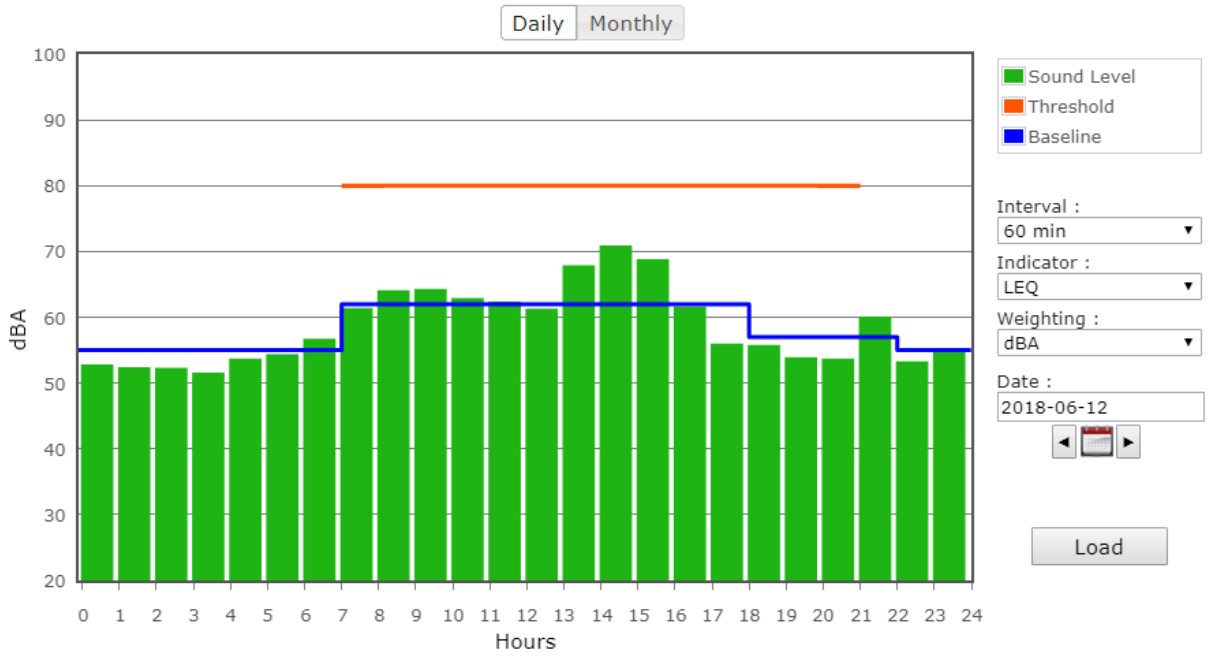


Figure 3: North Monitor NM-1 on Tuesday

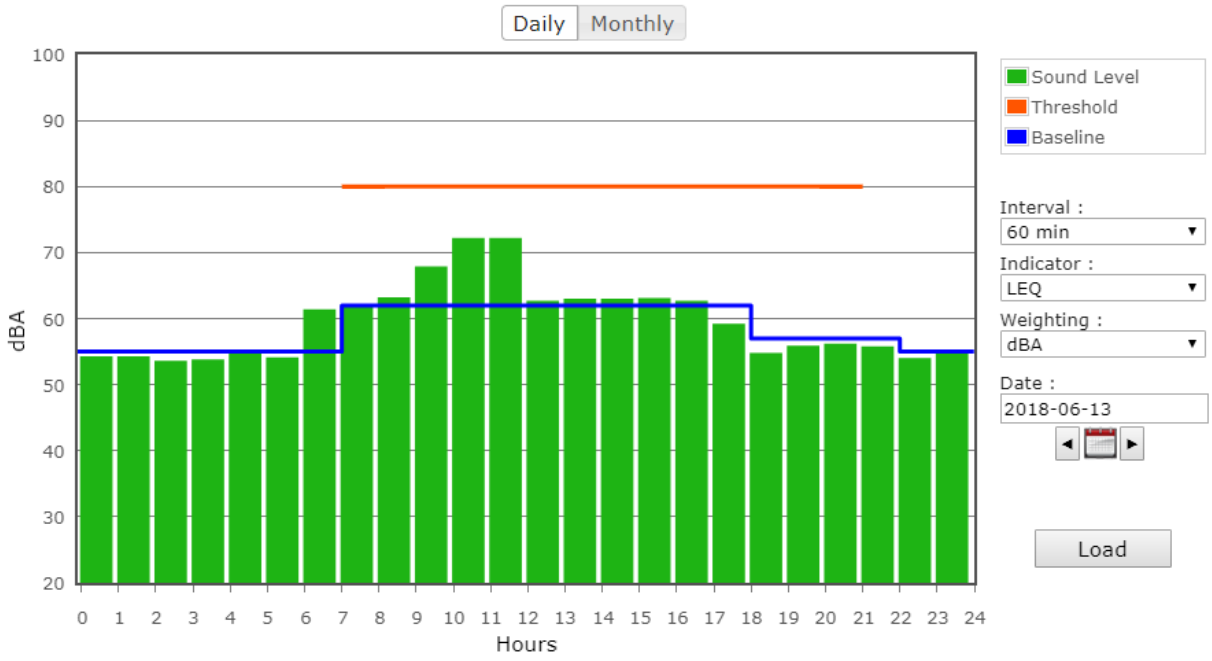


Figure 4: North Monitor NM-1 on Wednesday

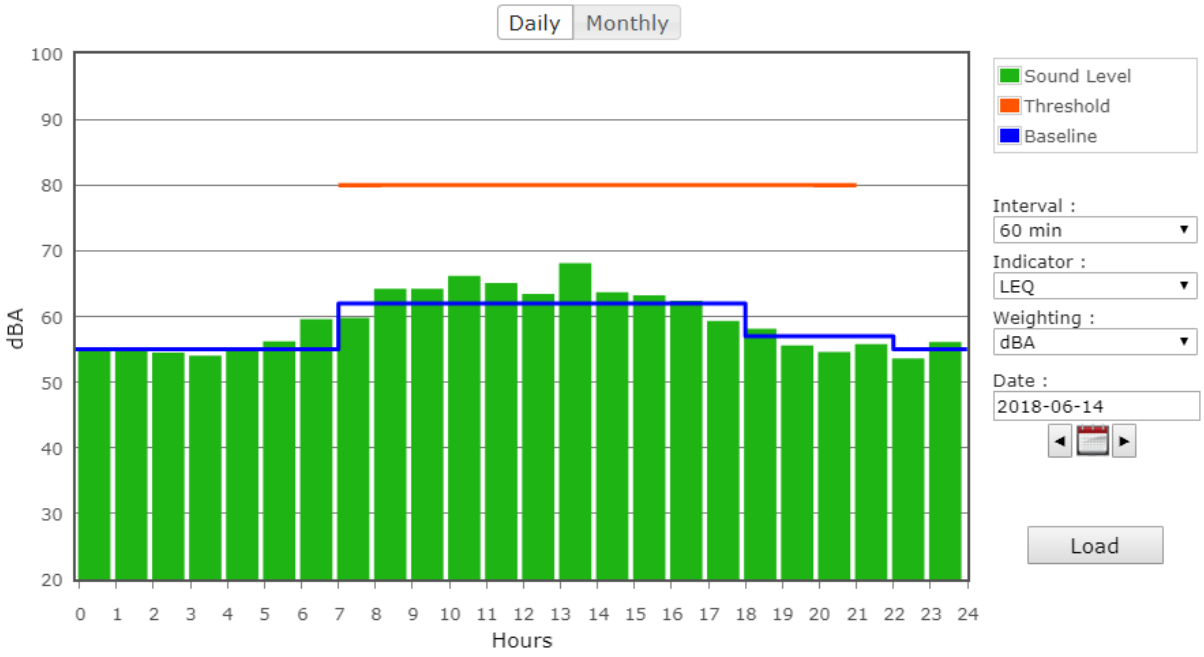


Figure 5: North Monitor NM-1 on Thursday

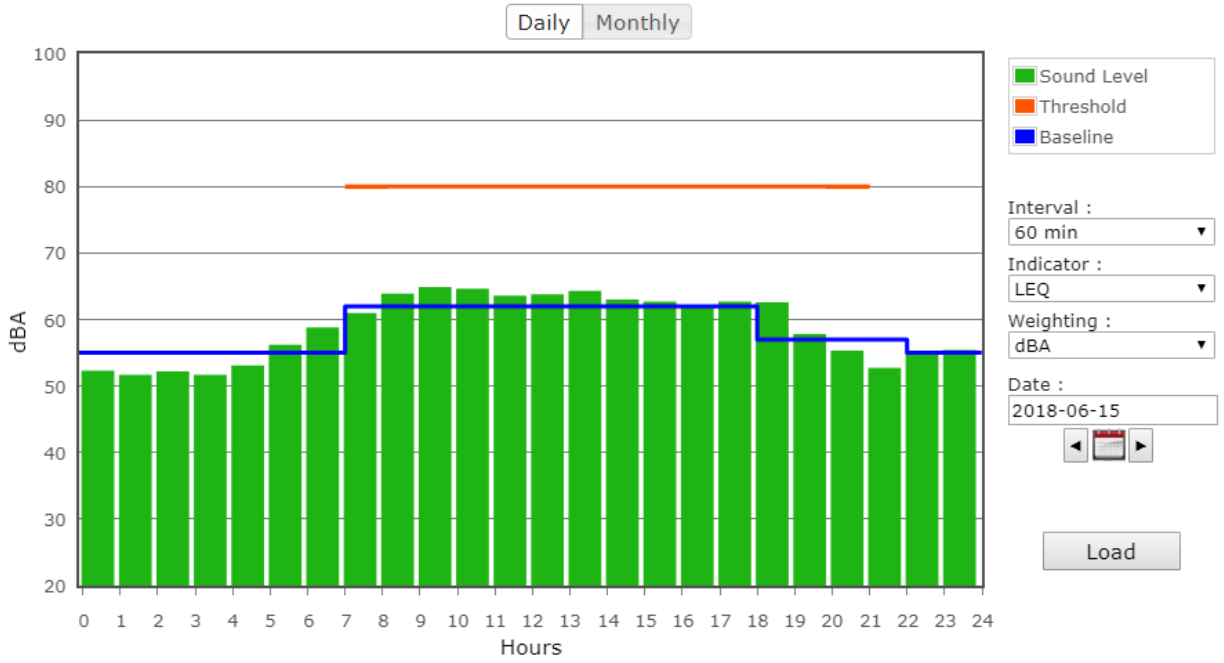


Figure 6: North Monitor NM-1 on Friday

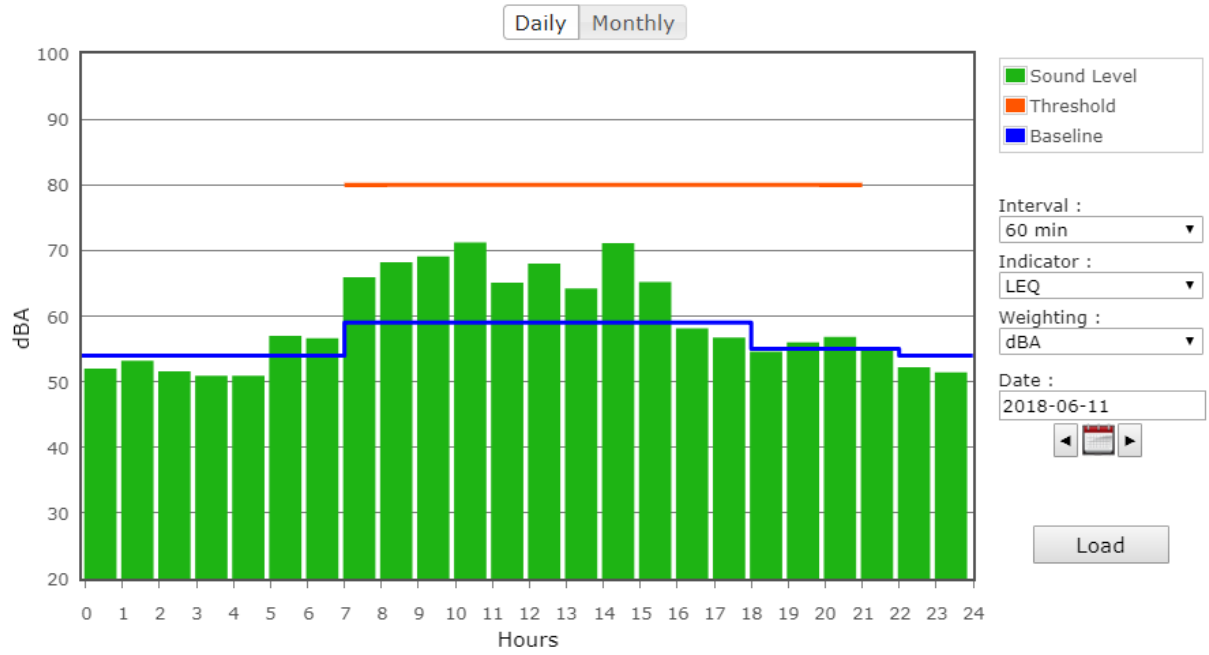


Figure 7: South Monitor NM-2 on Monday

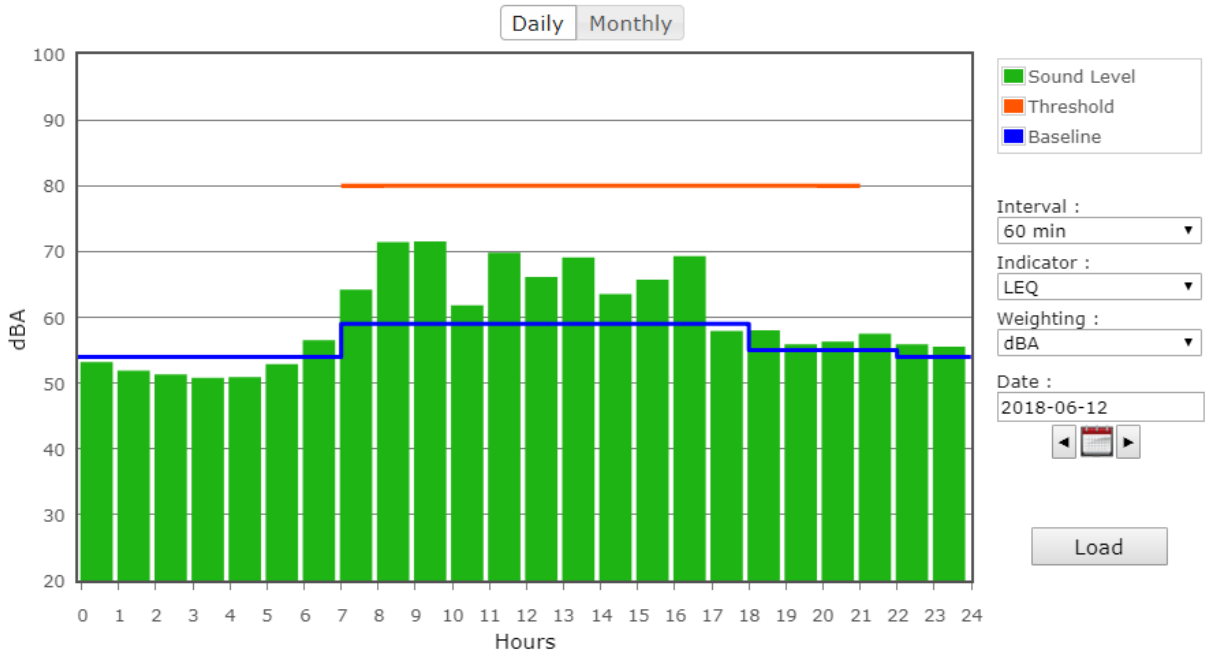


Figure 8: South Monitor NM-2 on Tuesday

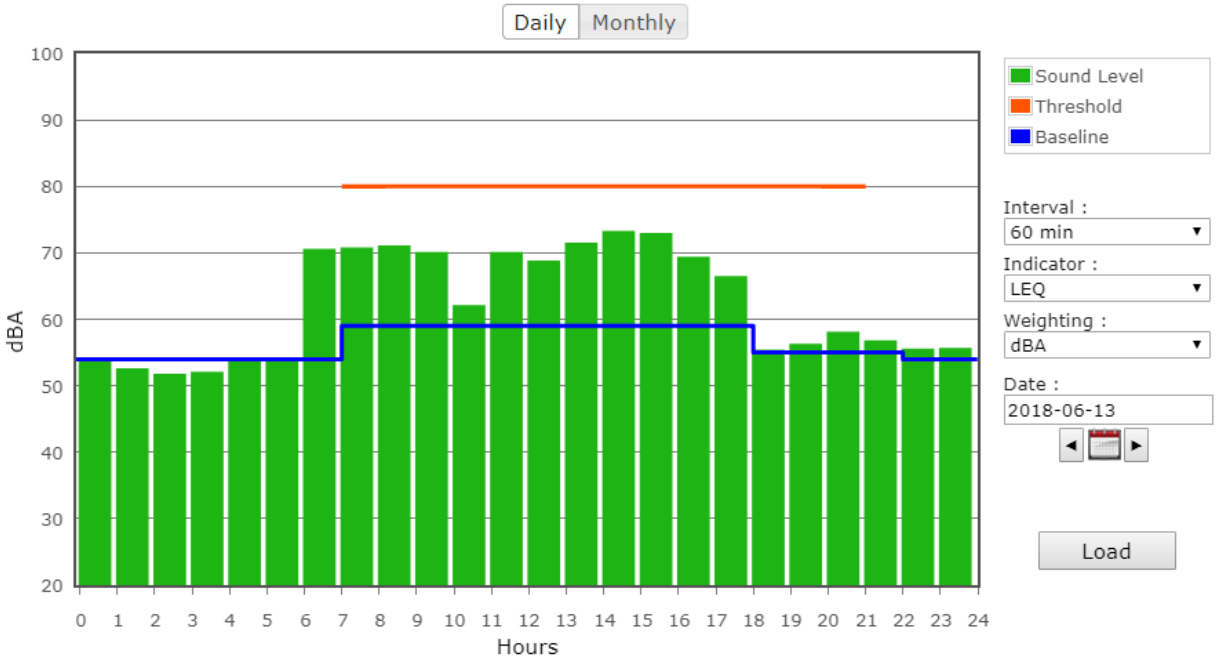


Figure 9: South Monitor NM-2 on Wednesday

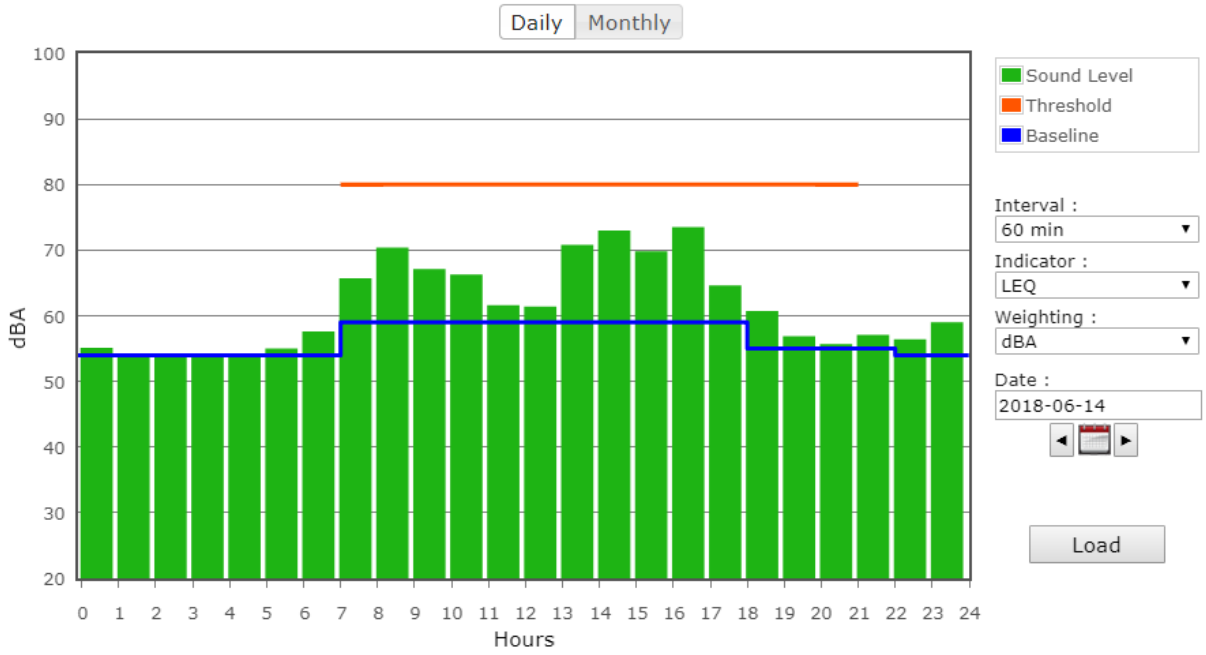


Figure 10: South Monitor NM-2 on Thursday

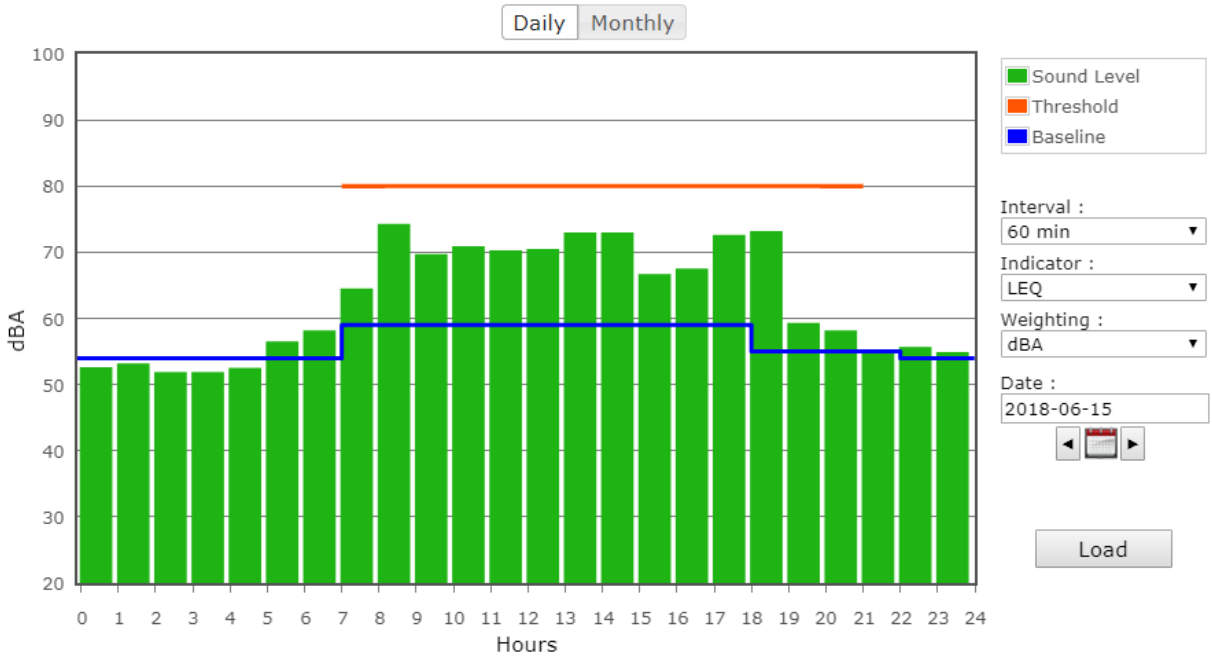


Figure 11: South Monitor NM-2 on Friday

AHRS WEEKLY REPORT

ARCHAEOLOGY MONITORING REPORT

PROJECT	DATES	PROJECT LOCATION	AHRS PERSONNEL IN FIELD
Turning Basin 4 Pilot Capping and Dredging	6/11 to 6/15/18	TB4/Citizens Site	Jonathan Bream & Rosita Tirado

Week Overview
AHRS is conducting Level 2 monitoring in coordination with native alluvium dredging in TB4 (Citizens). Clean Earth did not post any photos of debris from Level 1 monitoring to review this week.

For Level 2 monitoring, AHRS archaeologists J. Bream or Rosita Tirado were on site to monitor screening of dredged material at the Citizens site.

Monday, June 11
J. Bream conducted Level 2 monitoring of screening dredged native alluvial sediments at Citizens Site. No potentially significant archaeological debris identified. Minimal screening occurred due to malfunction with motorized screen at 11 am.

Tuesday, June 12
J. Bream conducted Level 2 monitoring of screening dredged native alluvial sediments at Citizens Site. A stationary grizzly bar set-up was used while the shaker screen was still down. No potentially significant archaeological debris identified.

Wednesday, June 13
J. Bream conducted Level 2 monitoring of screening dredged native alluvial sediments at Citizens Site. No potentially significant archaeological debris identified.

Thursday, June 14
J. Bream conducted Level 2 monitoring of screening dredged native alluvial sediments at Citizens Site. No potentially significant archaeological debris identified.

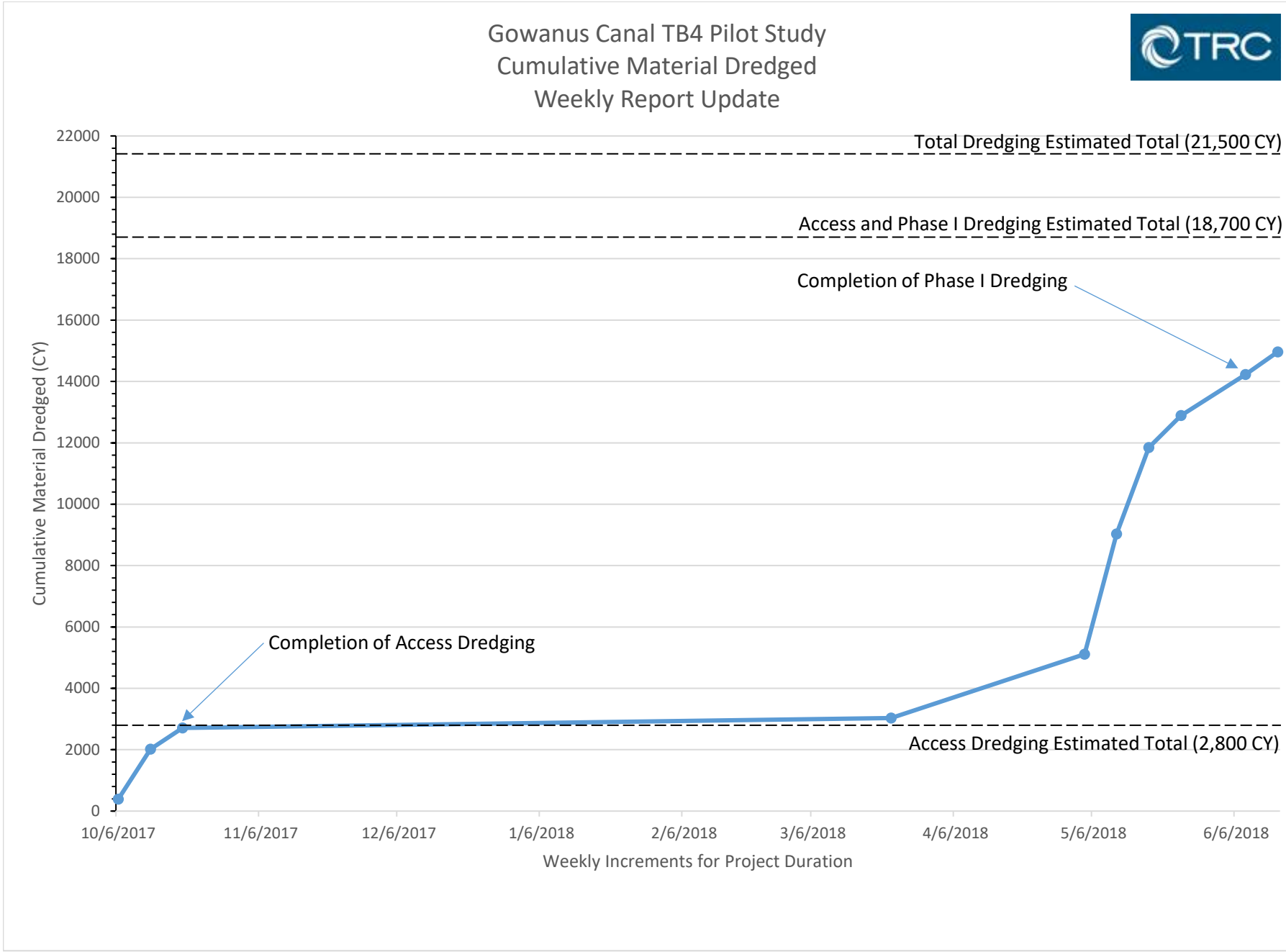
Friday, June 15
R. Tirado was on site for Level 2 dredging and screening. Tire, stone, and wood debris noted. No potentially significant archaeological debris identified.

NEXT WEEK
Level 2 monitoring of native alluvium continues. Screening will take place at the Citizens site and an AHRS monitor will be onsite. Jonathan Bream is tentatively scheduled back at Clean Earth June 25 for additional Level 1 monitoring.

WATER TREATMENT SYSTEM MONITORING LABORATORY ANALYTICAL DATA

(NO ACTIVITIES DURING WEEK)

CUMULATIVE DREDGED MATERIAL CHART


Gowanus Canal TB4 Pilot Study
Cumulative Material Dredged
Weekly Report Update
TRC
Total Dredging Estimated Total (21,500 CY)
Access and Phase I Dredging Estimated Total (18,700 CY)
Completion of Phase I Dredging
Completion of Access Dredging
Access Dredging Estimated Total (2,800 CY)
Cumulative Material Dredged (CY)
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
10/6/2017
11/6/2017
12/6/2017
1/6/2018
2/6/2018
3/6/2018
4/6/2018
5/6/2018
6/6/2018
Weekly Increments for Project Duration