SITE OBSERVATION REPORT

PROJECT No.: 170381202		**DATE:**	Thursday, February 24, 2022
PROJECT: 250 Water Street	**CLIENT:** 250 Seaport District, LLC	**WEATHER:**	Partly Cloudy, 31.1-33.4 °F Wind: S @ 1.0-10.2 mph
LOCATION: New York, NY		**TIME:**	6:00 am – 7:00 pm
BCP SITE ID: C231127			
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Laura Grose

EQUIPMENT:
Geoprobe® 7822DT Drill Rig
Geoprobe® 8140LC Drill Rig
MiniRAE 3000 PID
DustTrak II
Jerome J405®
Jerome J505®

PRESENT AT SITE: **Remedial Design Investigation Day 6**

Langan
Laura Grose, Kaitlyn Gioia, Paul McMahon, Yaskira Mota Diaz, Ellie Seery, Ali Reach, Lauren Roper

AARCO
Jose Garcia, Julio Cahyeya, Ron Dixon

New York State Department of Environmental Conservation (NYSDEC)
Rafi Alam, Aaron Fischer

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan continued implementation of the NYSDEC-approved February 11, 2022 Remedial Design Investigation Work Plan (RDIWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- AARCO used a Geoprobe® 7822DT direct-push drill rig and a Geoprobe® 8140LC sonic drill rig with 4-foot-long Macro-Core® samplers and plastic liners to advance 12 soil borings for waste characterization soil sampling in the southeast and central parts of the site. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples:
    - **WC03A** was advanced to a depth of about 15 feet below grade surface (bgs). Material was screened for odors, staining and organic vapors using a photoionization detector (PID). No evidence of impacts were observed.
    - **WC03B** was advanced to a depth of about 17 feet bgs. Material was neither logged nor sampled due to time constraints. The excess soil/fill was containerized in a sealed and labeled 55-gallon steel drum staged in the southern part of the site pending off-site disposal to an appropriate facility.
    - **WC03C** was advanced to a depth of about 17 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. Impacts were observed (petroleum-like odor and a maximum PID reading of 60.3 parts per million [ppm]) from about 9 to 10 feet bgs.
    - **WC03D** was advanced to a depth of about 17 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. No evidence of impacts were observed.
    - **WC05A** was advanced to a depth of about 19 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. Impacts were observed (petroleum-like odor, staining, and a maximum PID reading of 49 ppm) from about 19 to 26 feet bgs.
    - **WC05D** was advanced to a depth of about 26 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. Impacts were observed (a maximum PID reading of 85.9 ppm) from 10 to 19 feet bgs.

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- **WC06A** was advanced to a depth of about 15 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. Impacts were observed (creosote-like odor, staining and a maximum PID reading of 13 ppm) from about 8 to 13.5 feet bgs.
- **WC06B** was advanced to a depth of about 16 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. Impacts were observed (petroleum-like odor, staining and a maximum PID reading of 79 ppm) from about 9.5 to 12.5 feet bgs.
- **WC06C** was advanced to a depth of about 15 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. No evidence of impacts were observed.
- **WC06D** was advanced to a depth of about 15 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. No evidence of impacts were observed.
- **WCM1** was advanced to a depth of about 26 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. No evidence of impacts were observed.
- **WCM2** was advanced to a depth of about 26 feet bgs. Material was screened for odors, staining, and organic vapors using a PID. Impacts were observed (petroleum-like odor, staining and a maximum PID reading of 67.8 ppm) from about 15 to 26 feet bgs.

- Soil borings were backfilled with clean drill cuttings or clean sand and patched with concrete and/or cold patch asphalt after sampling was completed. Excess soil exhibiting evidence of impacts was containerized in a sealed and labeled, 55-gallon drum and staged in the eastern part of the site pending off-site disposal to an appropriate facility.

Material Tracking

- No material was imported to the site.
- No material was exported from the site.

Sampling

- Langan collected 6 composite soil samples for laboratory analysis of Target Compound List (TCL) and NYSDEC Part 375-list semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, herbicides, NYSDEC Part 375-list and target analyte list (TAL) metals, toxicity characteristic leaching procedure (TCLP) metals, hexavalent chromium, trivalent chromium, total cyanide, and Resource Conservation and Recovery Act (RCRA) characteristics.
- Langan collected 12 grab soil samples for laboratory analysis of TCL and NYSDEC Part 375-list volatile organic compounds (VOCs) and New Jersey Department of Environmental Protection (NJDEP)-list Extractable Petroleum Hydrocarbons (EPH).
- Langan collected 68 grab soil samples for laboratory analysis of total and TCLP metals, pending the analytical results of sampling.
- Samples were relinquished to Alpha Analytical, Inc., an Environmental Laboratory Accredited Program (ELAP)-certified laboratory under standard chain-of-custody protocols.

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CAMP Activities

Langan performed air monitoring during field activities. Fifteen-minute average concentrations of particulate matter less than 10 microns in diameter (PM10), mercury vapor and VOCs did not exceed action levels for the duration of work activities.

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.013	0.2	0.0
PM-2	0.010	0.0	0.0
PM-3	0.014	0.0	0.0
PM-4	0.005	0.0	0.0
PM-5	0.006	0.0	0.0
PM-6	0.012	0.0	0.0
WZ-1	0.003	0.0	0.0
WZ-2	0.014	0.1	0.0

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.018	0.2	0.0
PM-2	0.017	0.0	0.4
PM-3	0.016	0.0	0.0
PM-4	0.006	0.0	0.0
PM-5	0.010	0.0	0.4
PM-6	0.014	0.0	0.2
WZ-1	0.005	0.0	0.0
WZ-2	0.036	0.1	0.0

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●$\mu g/m^3$ = micrograms per cubic meter

- Instantaneous mercury vapor readings were detected at concentrations ranging from 0.0 $\mu g/m^3$ to 3.4 $\mu g/m^3$ at perimeter station PM-2, from 0.0 $\mu g/m^3$ to 3.2 $\mu g/m^3$ at perimeter station PM-5 and from 0.0 $\mu g/m^3$ to 3.4 $\mu g/m^3$ at perimeter station PM-6. The elevated readings were determined to be erroneous high readings and not a result of ground-intrusive activities associated with drilling activities.
    - The 15-minute-average mercury vapor concentrations did not exceed the action level established in the CAMP.
    - Instantaneous mercury vapor readings within the work zones during this time were collected using the handheld Jerome® J505 mercury analyzer and readings ranged from 0.00 $\mu g/m^3$ to 0.08 $\mu g/m^3$ throughout these time periods.
- The Jerome® J405 unit at perimeter station PM-5 was not operational between 10:46am to 11:11am due to an equipment malfunction resulting in depletion of the battery. The Jerome® J405 unit from work zone station WZ-1 was used in perimeter station PM-5 and a handheld Jerome® J505 unit was used within the work zone for the remainder of the operation. NYSDEC and the New York State Department of Health (NYSDOH) were notified of the equipment change and no exception was taken.
- Langan used a Jerome® J505 mercury analyzer to monitor ambient air conditions in two work zones and throughout the site. Instantaneous mercury vapor concentrations ranged from 0.00 $\mu g/m^3$ to 0.24 $\mu g/m^3$.
- Perimeter air monitoring station PM-3 was relocated to the southern sidewalk of Water Street from 7:25am to 8:13am during advancement of soil borings WC06B and WC06D.

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- Perimeter air monitoring station PM-1 was relocated to the western sidewalk of Beekman Street from 12:28pm to 1:33pm during advancement of soil boring WC03A.
- Perimeter air monitoring station PM-6 was relocated to the southern sidewalk of Water Street from 12:57pm to 1:50pm during advancement of soil boring WC03B.
- Prior to discontinuing the CAMP at the conclusion of ground-intrusive activities, VOC and mercury vapor concentrations were confirmed to return to background conditions at each perimeter station.

Anticipated Activities

- Langan and AARCO will continue to advance soil borings and collect soil samples in the western part of the site.

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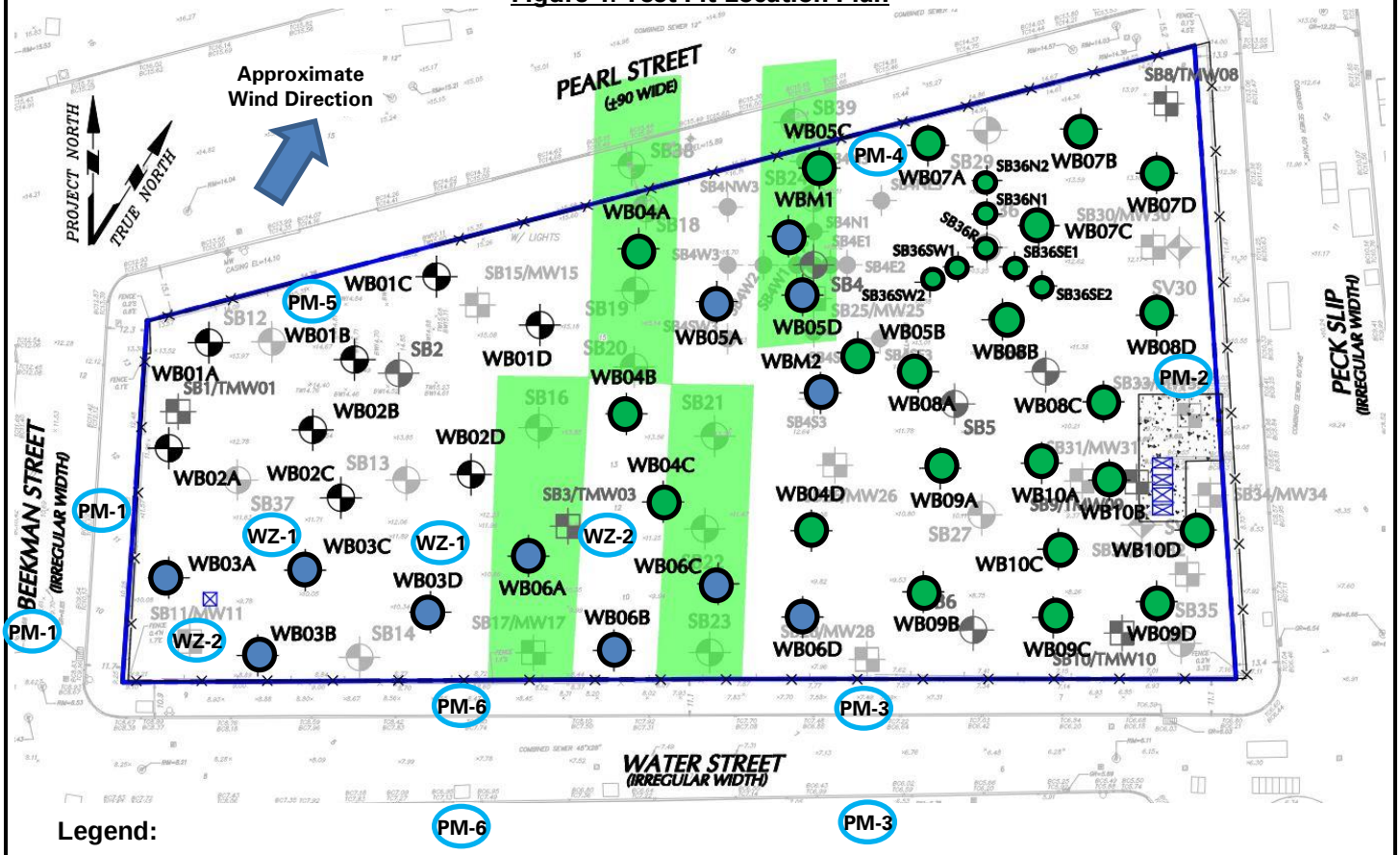
Figure 1: Test Pit Location Plan



Legend:

- Approximate location of soil borings completed today
- Approximate location of previously completed soil borings
- PM-1 Approximate location of air monitoring station (on-site)
- WZ-1 Approximate locations of work zone air monitoring station

Notes:

1) Air monitoring stations were relocated based on work area and wind direction. Locations shown above identify the predominant area of the air monitoring station.

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Select Site Photographs:

Photo 1: View of AARCO advancing a soil boring in the southeast part of the site (facing south).

Photo 2: View of soil/fill recovered from waste characterization soil boring WC06B.

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