LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202		**DATE:**	Tuesday, July 28, 2020
PROJECT: 250 Water Street	**CLIENT:** 250 Seaport District, LLC	**WEATHER:**	Sunny, 85-95 ^{0}F Wind: S @ 0.8 mph (9:03am) to S @ 5.9 mph (13:40pm)
LOCATION: New York, NY		**TIME:**	6:00 am – 4:30 pm
BCP SITE ID: C231127			
CONTRACTOR: AARCO Environmental Services Corp.		**LANGAN REP. :**	Ashley Stappenbeck Adrian Heath

EQUIPMENT:	**PRESENT AT SITE:** **RI Day 6**
Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	Ashley Stappenbeck, Adrian Heath, Mimi Raygorodetsky – Langan Rick Lin – NYSDEC Brian Ehalt – EXCEL Environmental Resources Nick Turro, Jose Romoro – AARCO Environmental Services Corp.

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan continued implementing Phase 3 of the May 13, 2020 Remedial Investigation Work Plan (RIWP) for New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site No. C231127 located at 250 Water Street (Manhattan Block 98, Lot 1).

Site Activities

- AARCO used a Geoprobe 7822 DT drill rig with 4-foot-long Macro-Core® samplers to advance three soil borings to about 30 feet below grade surface (bgs). Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples.
  - Boring SB25: No petroleum-like odors, staining, or elevated photoionization detector (PID) readings were observed. Visual evidence of elemental mercury was not identified. Mercury vapor concentrations above background were identified with a Jerome J405 or J505 unit at a maximum concentration of 1.72 micrograms per cubic meter (µg/m^3) from 4 to 6 feet bgs. Total mercury concentrations evaluated with the Niton XL3t XRF (XRF) were less than the limit of detection (LOD).
  - Boring SB4N1: No petroleum-like odors, staining, or elevated PID readings were observed. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.23 µg/m^3 was identified with a Jerome J505 unit from 0 to 2 feet bgs. Total mercury concentrations evaluated with the XRF were identified at a maximum concentrations of 63 parts per million (ppm) from 0 to 2 feet bgs.
  - Boring SB4E2: No petroleum-like odors, staining, or elevated PID readings were observed. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.13 µg/m^3 was identified with a Jerome J505 unit from 4 to 6 feet bgs. Total mercury concentrations evaluated with the XRF were less than the LOD.
- All soil borings were backfilled with drill cuttings from the borehole, clean sand, and/or bentonite and then patched with cold patch asphalt after sampling was completed.
- AARCO used a Geoprobe 7822 DT drill rig to install monitoring well MW25 with the following construction:
  - MW25 consists of a 2-inch diameter polyvinyl chloride (PVC) monitoring well with 20-slot well screen from about 12 to 22 feet bgs. MW25 will be developed at a future date.

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Material Tracking

- No material was imported to the site.
- No material was exported from the site.
- No investigation derived waste (i.e. soil cutting or groundwater) was generated during site activities.

Sampling

The following samples were collected and relinquished to Eurofins Lancaster Laboratories Environmental, Inc. (Eurofins) a New York State Department of Environmental Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory in Lancaster, Pennsylvania (ELAP No. 10670) for analyses proposed in the RIWP:

- The following sample depths were submitted for analysis of total mercury:
  - SB25: 0-2, 2-4, 4-6, 6-8, 8-10,10-12, 12-14, 14-16, 16-18, and 18-20 feet bgs
  - SB4N1: 0-2, 2-4, 4-6, 6-8, 8-10, 10-12, 12-14, 14-16, 16-18, and 18-20 feet bgs.
  - SB4E2: 0-2, 2-4, 4-6, 6-8, 8-10, 12-14, 14-16, 16-18, and 18-20 feet bgs

  Due to low soil recovery, a sample could not be collected in soil boring SB4E2 from 10 to 12 feet bgs.
- Select samples will be additionally analyzed for mercury selective sequential extraction, pending total mercury results.
- Four quality assurance/quality control soil samples (two mercury field blanks, one trip blank, and one duplicate) were collected and submitted for analysis.
- The following samples were placed on hold pending total mercury results from 0 to 20 feet bgs:
  - SB25: 20-22, 22-24, 24-26, 26-28, and 28-30 feet bgs
  - SB4N1: 20-22, 22-24, 24-26, 26-28, and 28-30 feet bgs
  - SB4E2: 20-22, 22-24, 24-26, 26-28, and 28-30 feet bgs
- The following sample depths were submitted for analysis of volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polychlorinated biphenyls (PCB), pesticides, herbicides, metals including hexavalent and trivalent chromium, total cyanide, 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS):
  - SB25: 0-2, 6-8, and 28-30 feet bgs

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CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of mercury vapor, particulate matter smaller than 10 microns in diameter (PM10), and VOCs did not exceed action levels for the duration of work activities. Daily background concentrations for PM10, VOCs, and mercury vapor based on the June 16, 2020 baseline air monitoring event were 0.025 milligrams per cubic meter (mg/m^3) for PM10, 0.5 ppm for VOCs, and 0.0 $\mu g/m^3$ for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.023	0.0	0.0
PM-2	0.035	0.0	0.2
PM-3	0.027	0.0	0.0
PM-4	0.018	0.1	0.0
PM-5	0.015	0.1	0.0
PM-6	0.018	0.0	0.0
WZ-1	0.013	0.3	0.1

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

Max 15 Minute Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.045	0.0	0.6
PM-2	0.051	0.0	0.7
PM-3	0.067	0.2	0.0
PM-4	0.041	0.4	0.0
PM-5	0.038	0.3	0.0
PM-6	0.051	0.0	0.0
WZ-1	0.045	3.2	0.5

Anticipated Activities

- AARCO and Langan will continue to advance and sample soil borings and install monitoring wells within the Phase 3 work area.

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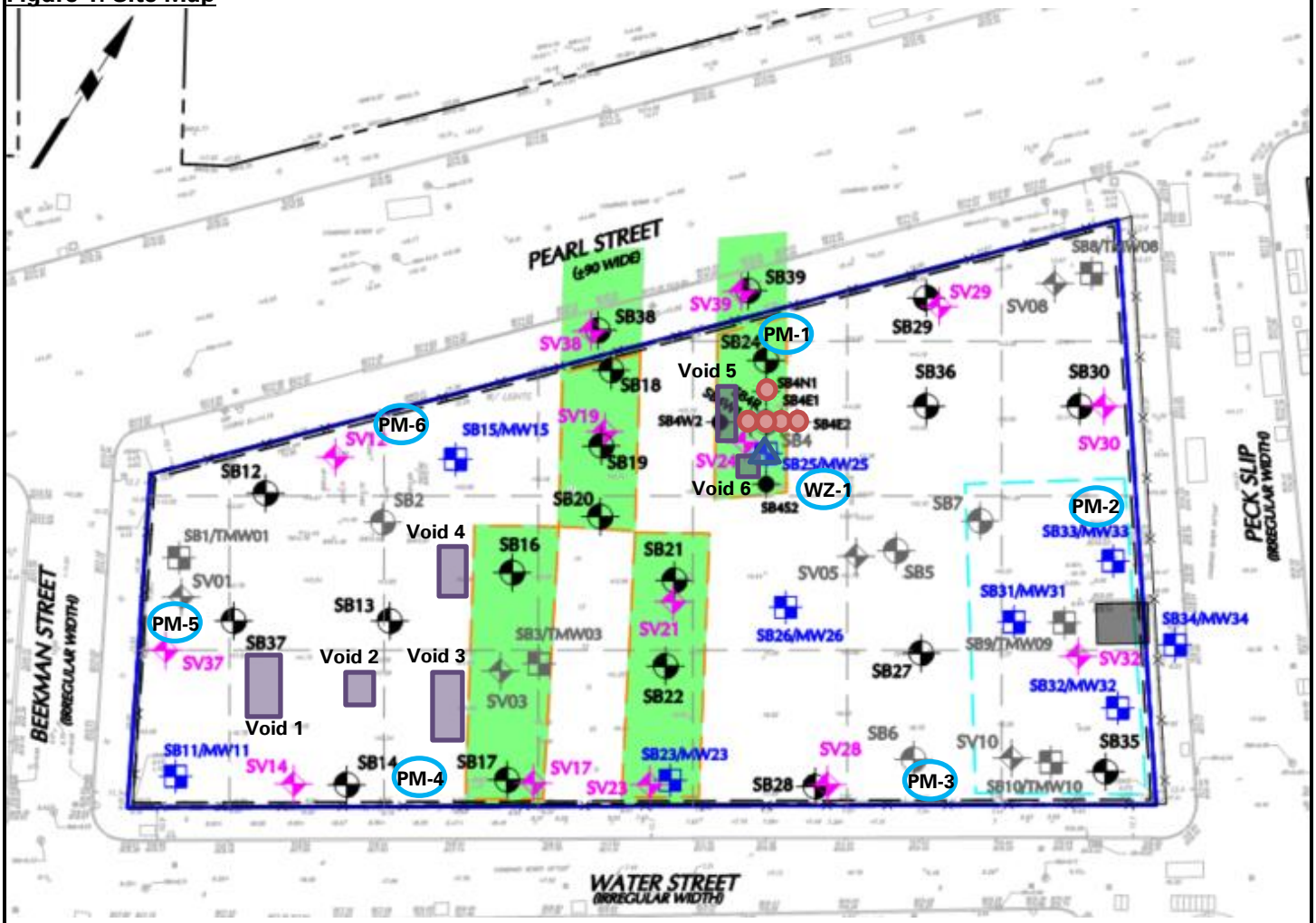
Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- Approximate location of soil borings sampled and monitoring well installed
- PM-1 — Approximate location of air monitoring station (on-site)
- PM-1 — Approximate location of air monitoring station (off-site)
- WZ-1 — Approximate locations of work zone air monitoring station

Notes:

1) Air monitoring station 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: AARCO advancing soil boring SB4E2 in the northern part of the site (facing north)

Photo 2: Monitoring well MW25 installed by AARCO

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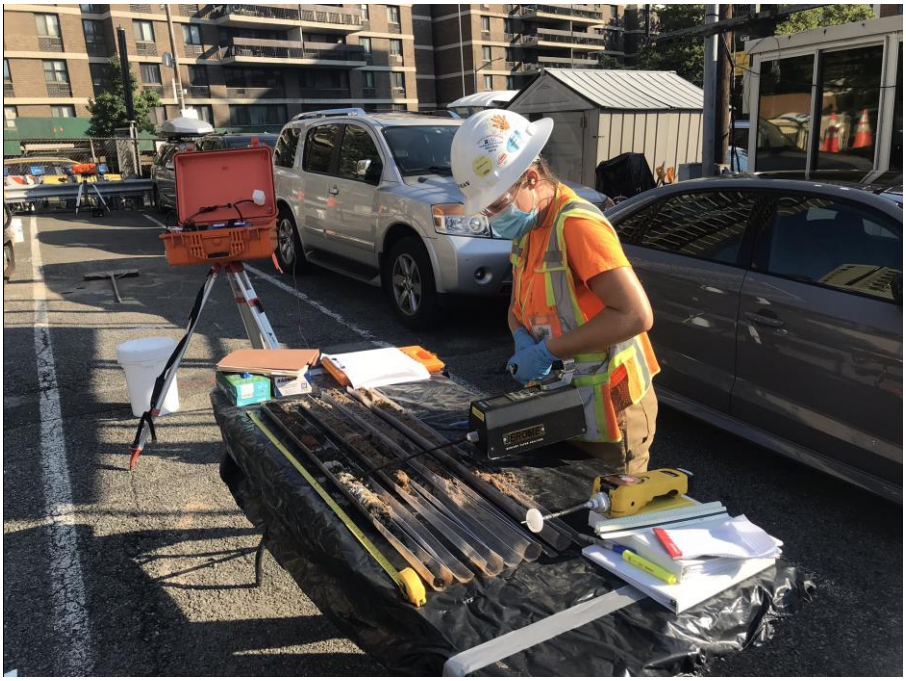

Photo 3: Langan collecting mercury vapor readings from a soil boring (facing north)

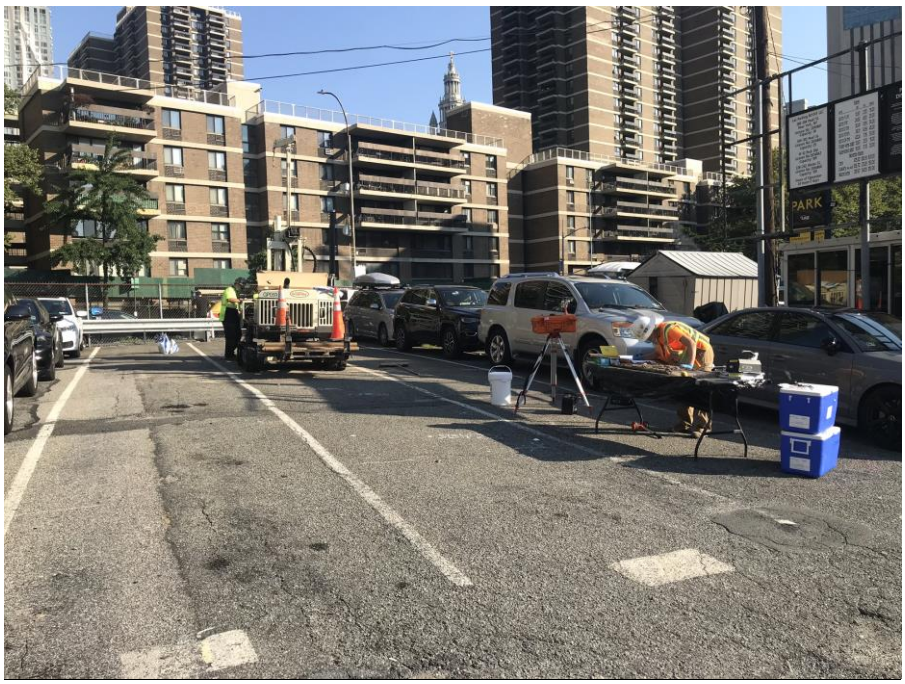

Photo 4: AARCO advancing soil boring SB4N1 and Langan sampling soil in the northern part of the site (facing north)

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