SITE OBSERVATION REPORT

PROJECT No.: 170381202		**DATE:**	Friday, August 21, 2020
PROJECT: 250 Water Street	**CLIENT:** 250 Seaport District, LLC	**WEATHER:**	Sunny, 69-82 ^{0}F Wind: SW @ 4.5 mph (3:13 pm) to N @ 10.1 mph (2:08 pm)
LOCATION: New York, NY		**TIME:**	6:00 am – 17:00 pm
BCP SITE ID: C231127			
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Lexi Haley

EQUIPMENT:	**PRESENT AT SITE:** **RI Day 15**
Geoprobe 7822 DT Hand Auger Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	Tyler Zorn, Lexi Haley – Langan Rohn Dixon, Alex Pothemont – AARCO Environmental Services Corp.

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan continued implementing Phase 4 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 two soil borings. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples for laboratory analysis.
    - Boring SB32: Boring was advanced to 28 feet below grade surface (bgs). Four step-off borings were attempted around the original boring location after refusal was encountered at the original boring location. Petroleum-like odors, staining, and photoionization detector (PID) readings up to 740.1 parts per million (ppm) were observed from about 10 to 22 feet bgs. Visual evidence of elemental mercury was not identified. Total mercury concentrations evaluated with the Niton XL3t XRF (XRF) were less than the limit of detection (LOD).
    - Boring SB33: Boring was advanced to 20 feet bgs. Petroleum-like odors, staining, and PID readings up to 6.6 ppm were observed from about 11 to 16 feet bgs. Visual evidence of elemental mercury was not identified. Total mercury concentrations evaluated with the XRF were less than the LOD.
- AARCO installed monitoring wells MW33 and MW32.
- AARCO attempted to advance off-site soil boring SB34/MW34 using a hand augur but encountered refusal. Two additional step-off borings were attempted around the original boring location. Concrete or utility piping was encountered at the refusal depths.
- All soil borings were backfilled with clean drill cuttings from the borehole, clean sand, and/or bentonite and then patched with cold patch asphalt or concrete after sampling was completed.

Material Tracking

- No material was imported to the site.

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- No material was exported from the site.
- Impacted soil cuttings from soil borings SB32 and SB33 were containerized in sealed 55-gallon drums. The drums were stored on-site for future off-site disposal.

Sampling

Soil 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 volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polychlorinated biphenyls (PCB), pesticides, herbicides, metals including mercury and hexavalent and trivalent chromium, total cyanide, 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS):
  - SB32: 0-2, 11-13, and 18-20 feet bgs
  - SB33: 0-2, 14-16, and 26-28 feet bgs
- The following sample depths were submitted an placed on hold for analysis of mercury:
  - SB33: 6-8 feet bgs
- Three quality assurance/quality control soil samples (a trip blank, equipment blank, and field blanks) were collected and submitted for analysis.

Soil samples were collected and relinquished to Alpha Analytical Labs, a New York State Department of Environmental Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory in Mahwah, New Jersey (ELAP No. 11148) for analyses proposed in the RIWP:

- The following sample depths were submitted for analysis of Total petroleum hydrocarbon (TPH) diesel range organics (DRO) and gasoline range organics (GRO), nitrite, nitrate, ammonia, sulfate, phosphate, iron and manganese, total organic carbon (TOC), chemical oxygen demand (COD), biological oxygen demand (BOD), and alkalinity:
  - SB32: 14-16 feet bgs
  - SB32: 26-28 feet bgs

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CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of mercury vapor, VOCs, and particulate matter smaller than 10 microns in diameter (PM10) 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	0.018	0.0	0.0
PM-2	0.032	0.0	0.0
PM-3	0.019	0.0	0.0
PM-4	0.011	0.2	0.0
PM-5	0.014	0.3	0.0
PM-6	0.014	0.6	0.0
WZ-1	0.010	0.0	0.0

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

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.031	0.0	0.0
PM-2	0.045	0.0	0.0
PM-3	0.040	0.0	0.0
PM-4	0.013	2.4	0.0
PM-5	0.024	0.6	0.1
PM-6	0.021	1.7	0.0
WZ-1	0.025	0.0	0.0

Anticipated Activities

- AARCO and Langan will continue to advance and sample soil borings and install monitoring wells at the site.

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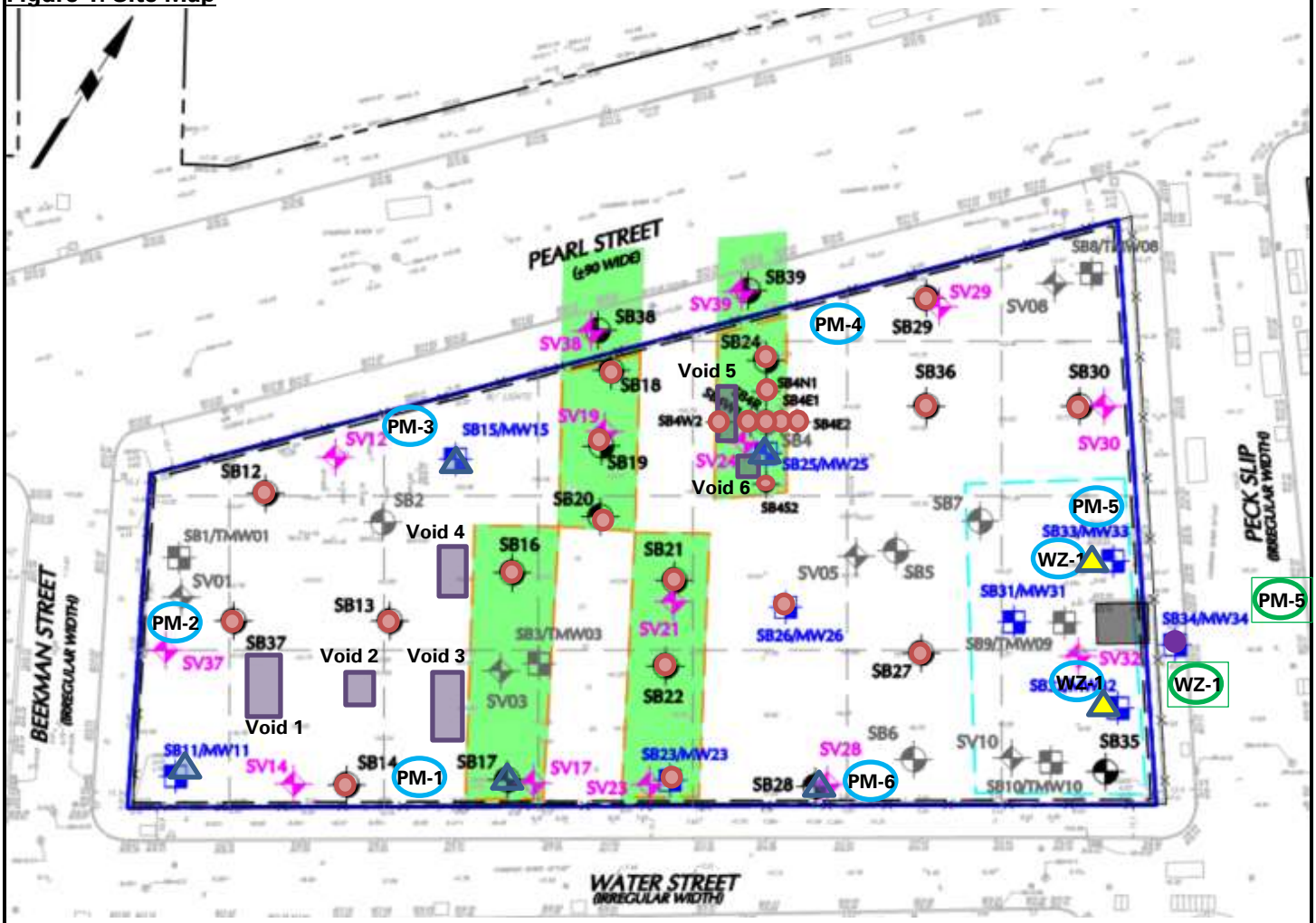
Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- Approximate location of soil borings advanced to refusal
- Approximate location of previously sampled soil borings
- Approximate location of completed soil borings and monitoring well
- Approximate location of previously completed soil borings and monitoring well
- 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: View of soil from boring SB33

Photo 2: Perimeter CAMP station WZ-1 and off-site CAMP station PM-5 along Peck Slip during the attempted drilling of boring SB34 (facing northeast)

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Photo 3: AARCO drilling boring SB32 (facing southeast)

Photo 4: AARCO attempting to hand clear boring SB34 (facing west)

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