SITE OBSERVATION REPORT

PROJECT No.: 170381202		**DATE:**	Monday, August 17, 2020
PROJECT: 250 Water Street	**CLIENT:** 250 Seaport District, LLC	**WEATHER:**	Sunny, 72-79 ^{0}F Wind: WNW @ 0-3 mph
LOCATION: New York, NY		**TIME:**	6:45 am – 3:30 pm
BCP SITE ID: C231127			
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Thomas Schiefer

EQUIPMENT:
Geoprobe 7822 DT
Niton XL3t XRF
Jerome J505 and J405
MiniRAE 3000
Dusttrak DRX

PRESENT AT SITE: **RI Day 11**
Tyler Zorn, Thomas Schiefer, Giuliana Frizzi, Paul McMahon – Langan
Rohn Dixon, Jose Garcia – AARCO Environmental Services Corp.

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan began 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- or 5-foot-long Macro-Core® samplers to advance three soil borings. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples for laboratory analysis.
    - Boring SB26: Boring was advanced to refusal at about 6 feet below grade surface (bgs). Concrete was identified in the cutting shoe at the refusal depth. Five step-off borings were attempted around the original boring location. No petroleum-like odors, staining, or photoionization detector (PID) readings above background were observed. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.20 micrograms per cubic meter (µg/m^3) was identified with a Jerome J505 unit from 4 to 6 feet bgs. A maximum total mercury concentration of 18 parts per million (ppm) was identified with the Niton XL3t XRF (XRF) from 4 to 6 feet bgs.
    - Boring SB29: Boring was advanced to refusal at about 15 feet bgs. Three step-off borings were attempted around the original boring location. Petroleum-like odors, staining, and PID readings up to 162 ppm were observed from about 0 to 4 feet bgs. Visual evidence of elemental mercury was not identified. Mercury vapor concentrations were not identified above background with the Jerome J505. Total mercury concentrations evaluated with the XRF were less than the limit of detection (LOD).
    - Boring SB36: Boring was advanced to refusal at 5 feet bgs. Concrete was identified in the cutting shoe at the refusal depth. Five step-off borings were attempted around the original boring location. Petroleum-like odors, staining, and PID readings up to 50.1 ppm were observed from about 0 to 5 feet bgs. Visual evidence of elemental mercury was not identified. Mercury vapor concentrations were not identified above background with the Jerome J505. Total mercury concentrations evaluated with the XRF were less than the LOD.

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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

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):
    - SB26: 0-2 feet bgs
    - SB29: 0-2, 2-4, and 13-15 feet bgs
    - SB36: 2-4 feet bgs
- The following sample depths were submitted for analysis of VOCs, SVOCs, and Part 375/TAL metals:
    - SB29: 7-9 feet bgs
- The following sample depths were submitted for analysis of total mercury:
    - SB26: 4-6 feet bgs
- One quality assurance/quality control soil sample (one equipment blank) was collected and submitted for analysis.

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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. Due to a faulty charging cable and/or broken charging port, one of the Jerome J405 mercury vapor analyzer was malfunctioning. The NYSDEC was contacted and approved intrusive work without a Jerome J405 at the air monitoring station farthest from the work area (PM-2). The equipment provider was contacted to repair or replace the Jerome J405 mercury vapor analyzer and associated cables at the PM-2 air monitoring station.

Daily 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	0.025	0.1	NA
PM-3	0.021	0.0	0.0
PM-4	0.011	0.0	0.0
PM-5	0.010	0.8	0.0
PM-6	0.020	0.3	0.0
WZ-1	0.011	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
NA = Not Applicable

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.032	3.0	0.0
PM-2	0.033	1.6	NA
PM-3	0.043	0.1	0.0
PM-4	0.017	0.0	0.2
PM-5	0.012	1.1	0.0
PM-6	0.024	2.7	0.0
WZ-1	0.025	0.1	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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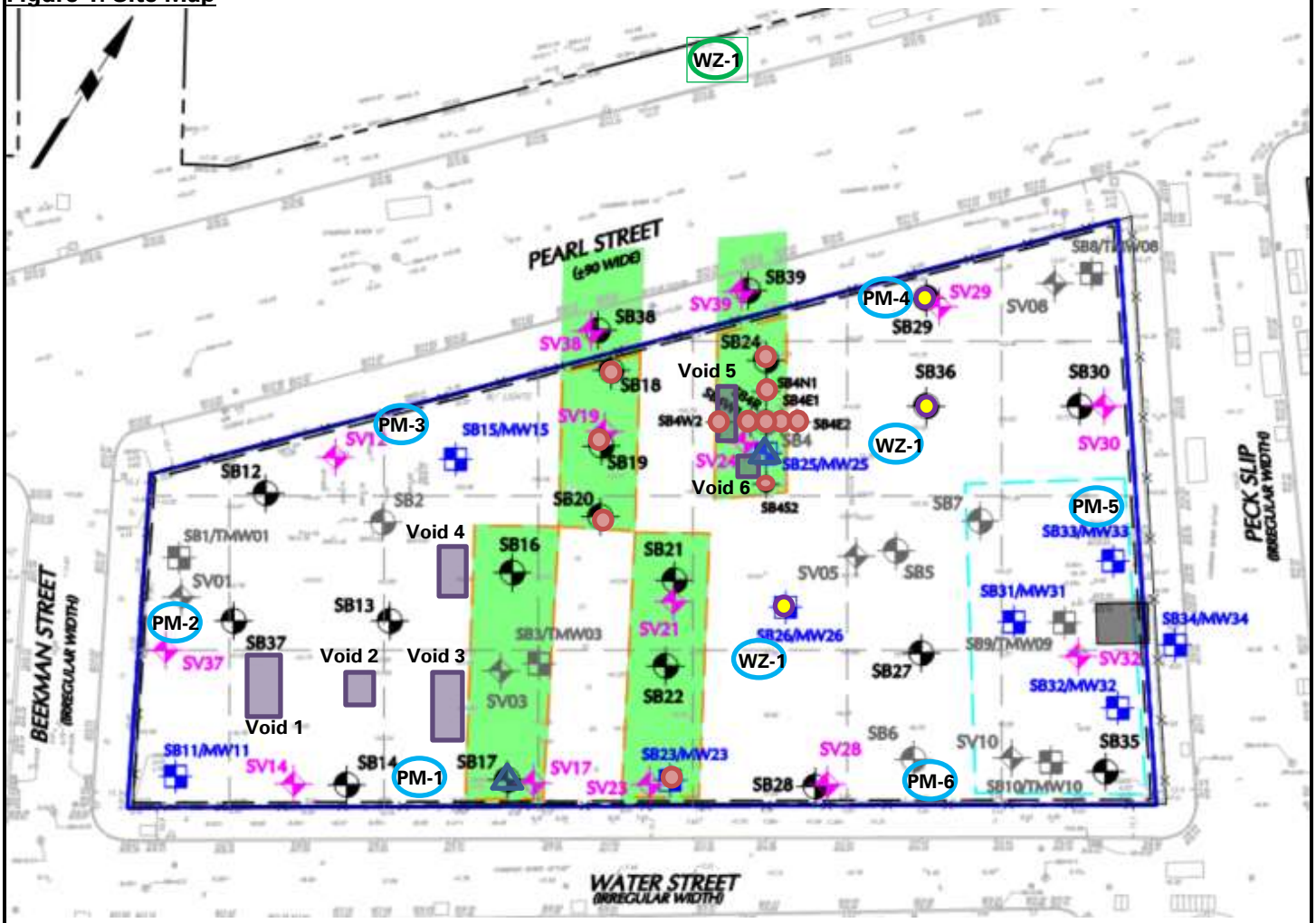
Figure 1: Site Map



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
- 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 SB29.

Photo 2: Perimeter CAMP station PM-4 and off-site CAMP station WZ-1 along Pearl Street during the drilling of boring SB29 (facing west).

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Photo 3: AARCO drilling boring SB36 (facing northwest).

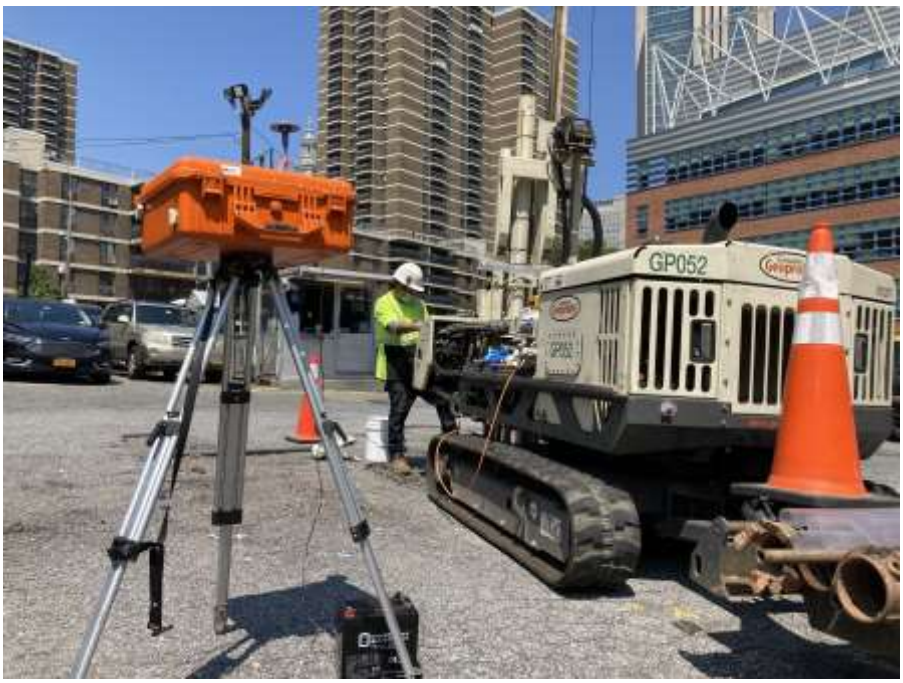

Photo 4: AARCO drilling boring SB29 (facing north).

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