LANGAN

SITE OBSERVATION REPORT

PROJECT No.:	170381202		**DATE:**	Monday, June 15, 2020
PROJECT:	250 Water Street	**CLIENT:** 250 Seaport District, LLC	**WEATHER:**	Sunny, 65-75 ^{0}F Wind: NE @ 9 mph (2:51 pm) to NE @ 17 mph (7:51 am)
LOCATION:	New York, NY		**TIME:**	6:45 am – 2:20 pm
BCP SITE ID:	C231127			
CONTRACTOR:	Hager-Richter Geosciences, Inc (Hager-Richter)		**LANGAN REP. :**	Thomas Schiefer

CONTRACTOR'S EQUIPMENT:
GSSI Ground Penetrating Radar (GPR) Scanner
RD7000 Utility Locator
EM61-MK2A Metal Detector

PRESENT AT SITE: **RI Day 1**
Thomas Schiefer, Mimi Raygorodetsky – Langan
Alexis Martinez, Amanda Fabian, Ariana Martinez – Hager-Richter
Brian Ehalt – EXCEL Environmental Resources, Inc.

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to implement 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 (Block 98, Lot 1). Activities were as follows:

Site Activities

- Hager-Richter performed a geophysical survey on the eastern (Water Street) side of the site using an EM61-MK2A Metal Detector, GPR Scanner, and RD7000 Utility Locator. Hager-Richter will analyze the data collected and prepare a geophysical survey report documenting the findings of the survey.
- Langan marked out locations of proposed borings and historical thermometer workshops in the eastern part of the site. Langan confirmed with Brian Ehalt/EXCEL that the historical thermometer workshop was marked out correctly.
- Langan photographed buildings adjoining the site and evaluated the buildings for possible ambient air intakes.

Material Tracking

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

Sampling

- No sample were collected.

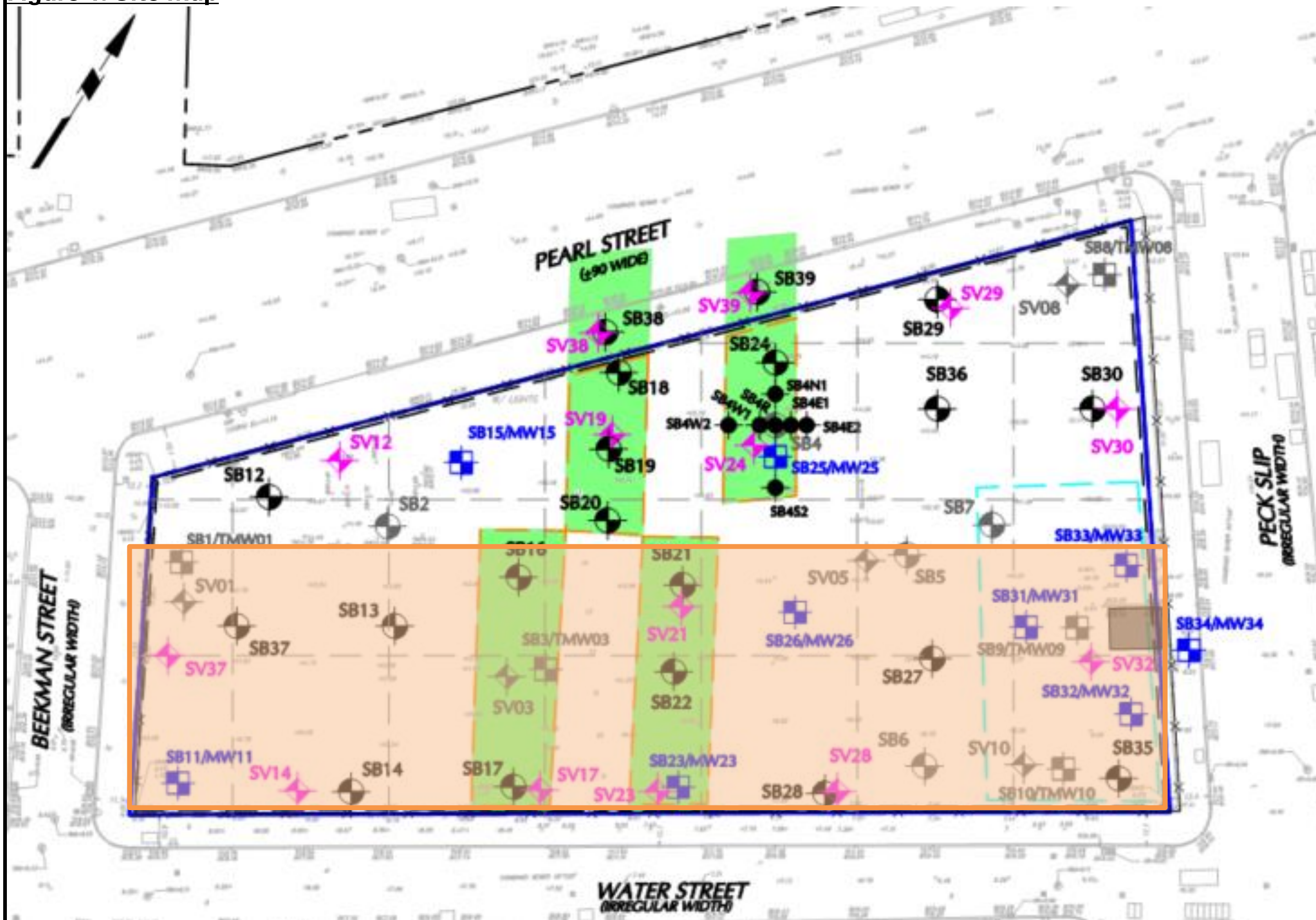
Anticipated Activities

- Hager-Richter will complete the geophysical survey.
- Langan will complete a baseline air monitoring event.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

Site Boundary

Approximate area of geophysical survey

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Thomas Schiefer
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SITE OBSERVATION REPORT

Select Site Photographs:

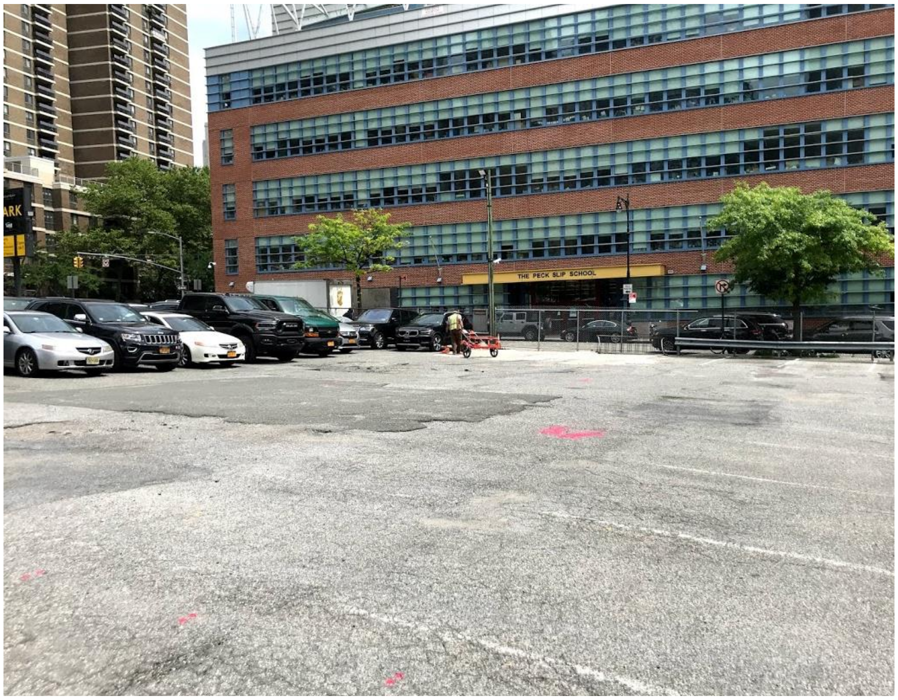

Photo 1: Hager-Richter using an EM61-MK2A Metal Detector in the northeastern part of site (facing northeast)

Photo 2: Hager-Richter using a GPR Scanner in the southeastern part of the site (facing southwest)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Thomas Schiefer
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SITE OBSERVATION REPORT

PROJECT No.: 170381202	**CLIENT:** 250 Seaport District, LLC	**DATE:**	Tuesday, June 16, 2020
PROJECT: 250 Water Street		**WEATHER:**	Sunny, 70.1-77.7 ^{0}F Wind: SE @ 1.3 mph (3:08pm) to SSW @ 10.4 mph (11:47am)
LOCATION: New York, NY		**TIME:**	6:45 am – 6:00 pm
BCP SITE ID: C231127			
CONTRACTOR: Hager-Richter Geosciences, Inc (Hager-Richter)		**LANGAN REP. :**	Thomas Schiefer

CONTRACTOR'S EQUIPMENT: GSSI Ground Penetrating Radar (GPR) Scanner RD7000 Utility Locator EM61-MK2A Metal Detector	**PRESENT AT SITE:** **RI Day 2** Thomas Schiefer – Langan Alexis Martinez, Amanda Fabian, Ariana Martinez – Hager-Richter Carey Wu – Emilcott Environmental

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to implement 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 (Block 98, Lot 1). Activities were as follows:

Site Activities

- Hager-Richter performed a geophysical survey on the western (Pearl Street) side of the site and the adjoining sidewalks surrounding the site using an EM61-MK2A Metal Detector, GPR Scanner, and RD7000 Utility Locator.
- Langan marked out locations of proposed borings and the historical thermometer factory/workshops in the western part of the site.
- Langan performed an 8-hour baseline air monitoring event for dust particulates 10 micrometers or less in diameter (PM10), volatile organic compounds (VOCs), and mercury vapor. Langan used seven air monitoring stations equipped with a DustTrak II Aerosol Monitor, a MiniRAE 3000 photoionization detector (PID), and a Jerome J405 mercury vapor analyzer.

Material Tracking

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

Sampling

- No sample were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

Baseline Air Monitoring Activities

Baseline Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.011	0.5	0.0
PM-2	0.026	0.0	0.0
PM-3	0.009	0.0	0.0
PM-4	0.005	0.0	0.0
PM-5	0.002	0.2	0.0
PM-6	0.006	0.0	0.0
WZ-1	0.000	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

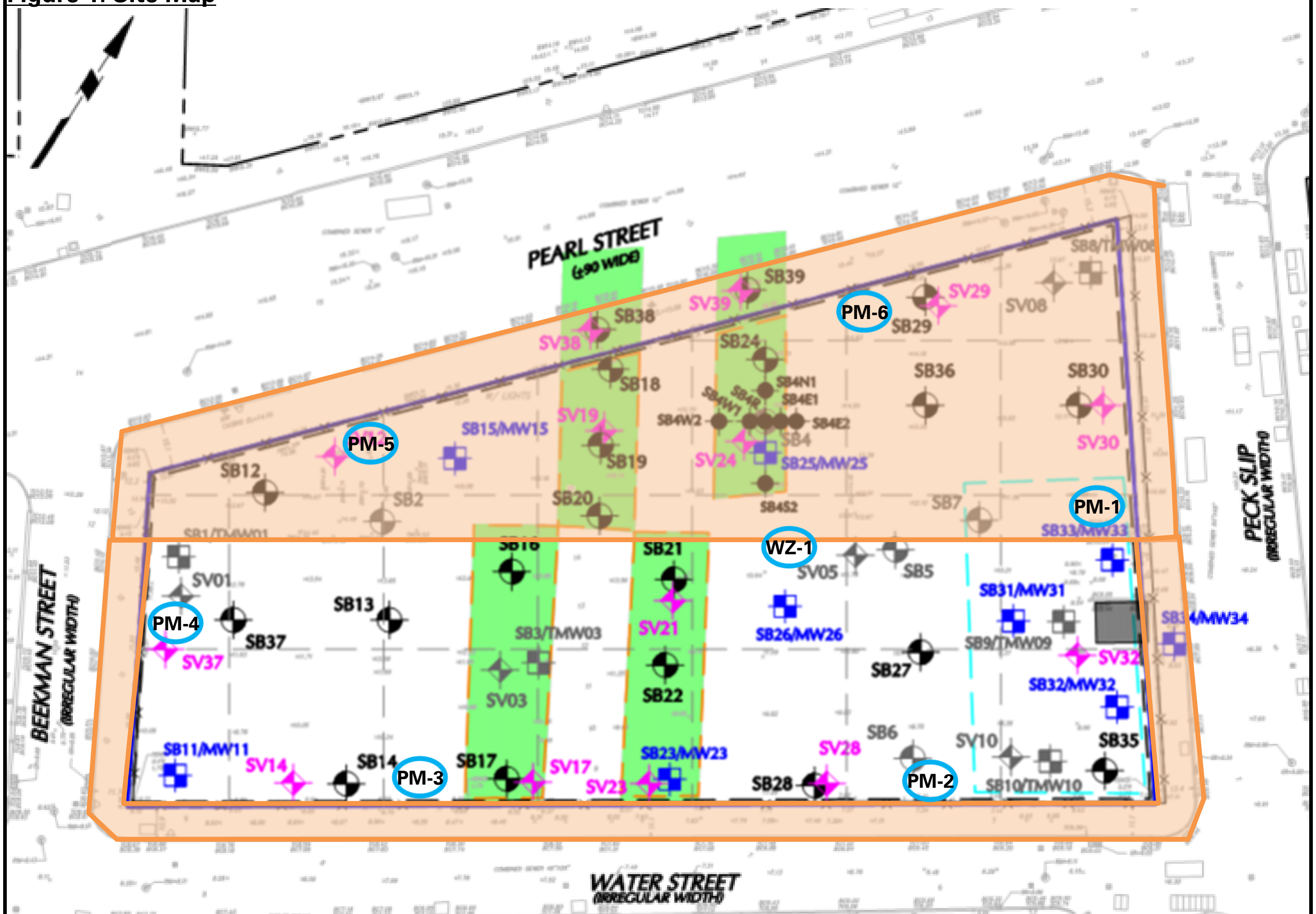
Anticipated Activities

- The results of the geophysical survey and baseline air monitoring event will be evaluated and interpreted alongside available information from historical maps and other data sources.
- No field work is scheduled at this time. Phase 2 of the RIWP (soil vapor sampling) is anticipated to be initiated during the week of June 29, 2020 or July 6, 2020 after the results are evaluated, interpreted and shared.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of geophysical survey
- PM-2 Approximate location of air monitoring station ID

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: Hager-Richter using a GPR Scanner in the northern part of site (facing northwest)

Photo 2: Air Monitoring Station PM-5 along Pearl Street in the western part of site (facing northwest)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Thomas Schiefer **LANGAN**

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SITE OBSERVATION REPORT

PROJECT No.: 170381202		**DATE:**	Wednesday, July 8, 2020
PROJECT: 250 Water Street	**CLIENT:** 250 Seaport District, LLC	**WEATHER:**	Cloudy, 79-87 ^{0}F Wind: SSE @ 1.1 mph (10:33 am) to E @ 6.2 mph (12:28 pm)
LOCATION: New York, NY		**TIME:**	6:45 am – 3:45 pm
BCP SITE ID: C231127			
CONTRACTOR: AARCO Environmental Services Corp.		**LANGAN REP. :**	Thomas Schiefer Adrian Heath Mimi Raygorodetsky

EQUIPMENT:	**PRESENT AT SITE:** **RI Day 3**
Geoprobe 7720 DT Bosch RH540M Hammer Drill Jerome J505 and J405 MultiRAE MiniRAE 3000 Dusttrak DRX	Thomas Schiefer, Adrian Heath, Mimi Raygorodetsky – Langan Nick Turro, Jose Romoro – AARCO Environmental Services Corp. Rick Lin – NYSDEC Brian Ehalt -- EXCEL Environmental Resources Carey Wu – Emilcott Environmental

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan continued implementing 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 (Block 98, Lot 1).

Site Activities

- AARCO used a Bosch RH540M Hammer Drill to probe six suspected void spaces that were identified by the geophysical survey.
  - The top of the void spaces were encountered between 1 and 1.5 feet below grade surface (bgs).
  - Langan used a Jerome J505 and MultiRae unit to measure mercury vapor and total volatile organic compound (VOC) concentrations, respectively, within the void spaces. No VOC readings above background were identified in the void spaces. Mercury vapor concentrations are summarized below.
    - Void 1: 0.08 to 0.23 micrograms per cubic meter (µg/m^3)
    - Void 2: 0.00 µg/m^3
    - Void 3: 0.00 to 0.07 µg/m^3
    - Void 4: 0.02 to 0.05 µg/m^3
    - Void 5: 1.87 to 2.32 µg/m^3
    - Void 6: 0.03 to 0.09 µg/m^3

    Based on these data, additional soil vapor probes will be installed in Voids 1, 3, and 5. See site map for void locations.
  - Initial mercury vapor readings in Void 1 ranged from 0.5 to 0.7 ug/m^3, but after evaluation with a separate J405 unit from the community monitor, and ambient monitoring with the J505, it became clear that the J505 required recalibration/flushing. The Void Space 1 readings above reflect readings after recalibration.
- AARCO used a Geoprobe 7720 DT drill rig with a closed point sampler to install the following soil vapor probes:
  - Sub-slab soil vapor probe V8 was installed to about 1.5 feet bgs in Void 5. No petroleum-like odors or elevated photoionization detector (PID) readings above background were observed. A maximum mercury vapor concentration of to 2.32 µg/m^3 was observed.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

  - Soil vapor probe SV19 was installed to about 7 feet bgs. No PID readings or mercury vapor concentrations above background were observed.
  - Soil vapor probe SV21 was advanced to about 7 feet bgs. No PID readings or mercury vapor concentrations above background were observed.
  - Soil vapor probe SV24 was advanced to about 7 feet bgs. No PID readings or mercury vapor concentrations above background were observed.
- AARCO installed all soil vapor probes by backfilling with one foot of No.2 sand, followed by backfilling to grade with bentonite, before finishing the boring with a bentonite seal.

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

- No samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

SITE OBSERVATION REPORT

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 volatile organic compounds (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 parts per million (ppm) for VOCs, and 0.0 micrograms per cubic meter (μg/m^3) for mercury vapor.

- Intrusive work was performed between about 10AM and 3PM. Due to a connection issue at perimeter station PM6, air monitoring data was not recorded from PM6 during investigation of Voids 1, 2, 3, and 4. The work zone was monitored by the work zone air monitoring station, and the dedicated CAMP personnel during intrusive work, and no exceedances of action levels were observed. An elevated instantaneous mercury vapor reading of 5.05 μg/m^3 occurred at a PM6 at 11:08 AM. No intrusive work was occurring at this time and the issue was investigated by the dedicated CAMP personnel. The dedicated CAMP personnel used a handheld Jerome J505 to collect mercury readings next to the PM6 station, and re-ran an air sample of the Jerome J405 that produced the elevated reading. Both air samples were non-detect. Langan determined the cause of the elevated reading to be a power surge from the unit or the telemetry system turning off and on. Due to a faulty battery connection, the Jerome J405 unit lost power and turned back on, causing initial elevated readings to be recorded when the unit turned back on. A representative from the equipment rental company was on site at 11:35, and repaired the connection. Intrusive work was not performed until the connection was repaired.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/m^3)
PM-1	0.023	0.0	0.0
PM-2	0.038	0.0	0.0
PM-3	0.031	0.2	0.1
PM-4	0.022	0.0	0.0
PM-5	0.016	0.0	0.0
PM-6	0.020	0.0	0.1
WZ-1	0.009	0.0	0.1

Max 15 Minute Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/m^3)
PM-1	0.035	0.0	0.1
PM-2	0.043	0.0	0.0
PM-3	0.052	0.5	0.2
PM-4	0.040	0.0	0.1
PM-5	0.024	0.0	0.0
PM-6	0.025	0.0	0.0
WZ-1	0.022	0.0	0.3

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

Anticipated Activities

- AARCO will install the remaining on-site soil vapor probes.
- Langan will collect soil vapor samples from soil vapor probes installed for mercury vapor and VOCs.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
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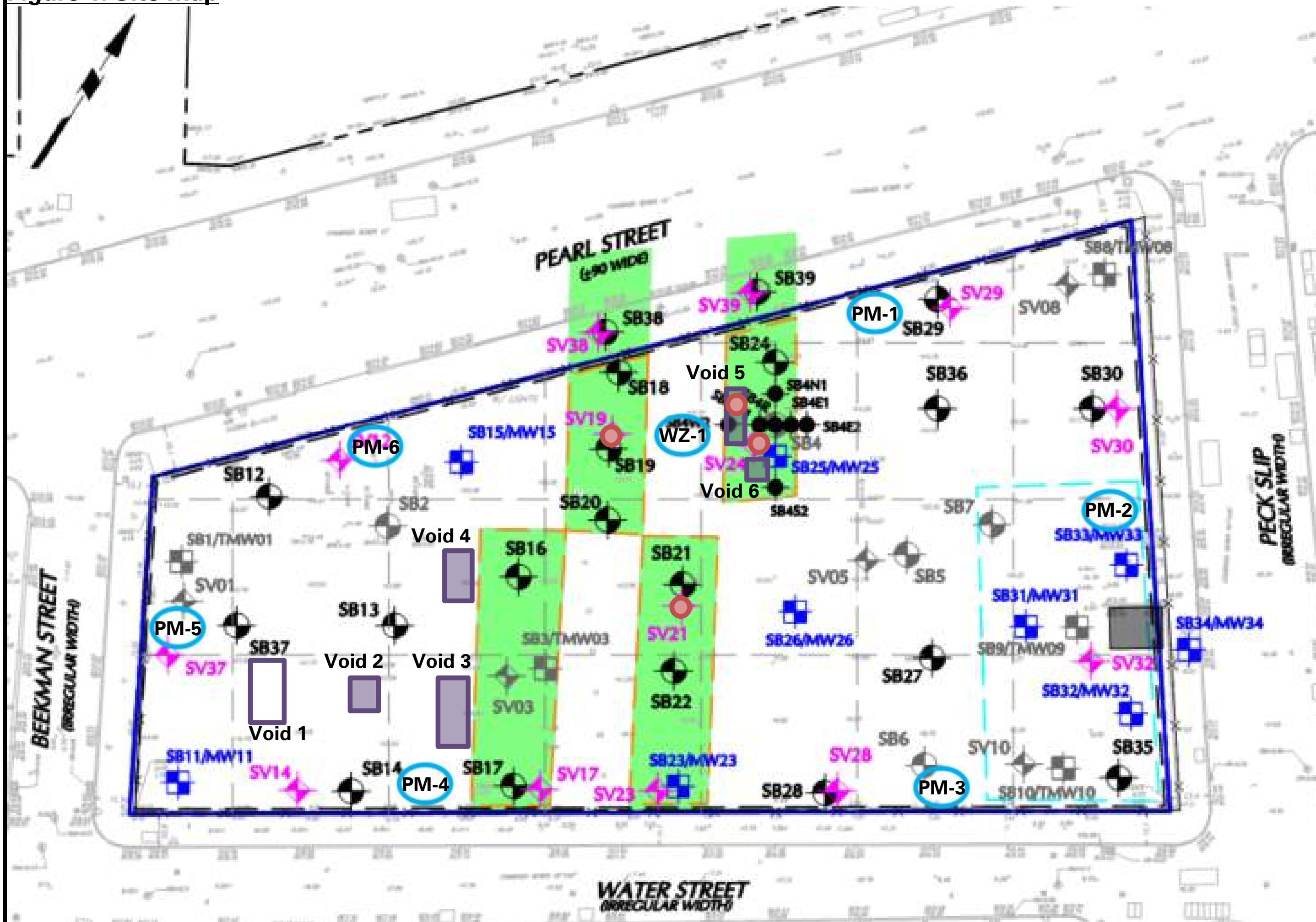
SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

Site Boundary

Approximate area of suspected void space

Approximate location of soil vapor probes installed today

PM-1 Approximate location of air monitoring station

WZ-1 Approximate location of wok zone air monitoring station

Notes:

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
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SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: AARCO advancing a handheld hammer drill into a suspected void space (facing west)

Photo 2: AARCO installing sub-slab vapor probe at Void 5 (facing north)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Thursday, July 9, 2020 Sunny, 76-88 ^{0}F Wind: SSE @ 1.1 mph (7:33am) to S @ 7.0 mph (5:45pm) 6:00 am – 7:35 pm
CONTRACTOR: AARCO Environmental Services Corp.		**LANGAN REP. :**	Thomas Schiefer Adrian Heath

EQUIPMENT:	**PRESENT AT SITE:** **RI Day 4**
Geoprobe 7720 DT Bosch RH540M Hammer Drill Jerome J505 and J405 MultiRAE MiniRAE 3000 Dusttrak DRX	Thomas Schiefer, Adrian Heath – Langan Nick Turro, Jose Romoro – AARCO Environmental Services Corp.

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan continued implementing 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 (Block 98, Lot 1).

Site Activities

- AARCO used a Bosch RH540M Hammer Drill to install to soil vapor points in Voids 1 and 3. After installation and prior to sampling, the sample tubing was purged with a MultiRAE and mercury vapor readings were taken with a Jerome J505.
  - Sub-slab soil vapor probe V1 (Void 1) was installed to about 1.5 feet bgs in Void 1. No PID readings above background were observed. A maximum mercury vapor concentration of 0.23 micrograms per cubic meter ($\mu g/m^3$) was observed.
  - Sub-slab soil vapor probe V3 (Void 3) was installed to about 1.5 feet bgs in Void 3. No PID readings or mercury vapor concentrations above background were observed.
- Sub-slab soil vapor probe V5 (Void 5) was purged with a MultiRAE and a mercury vapor readings were taken with a Jerome J505. No PID readings above background were observed. A maximum mercury vapor concentration of 0.12 $\mu g/m^3$ was observed.
- AARCO used a Geoprobe 7720 DT drill rig with a closed point sampler to install nine soil vapor probes. After installation and prior to sampling, the sample tubing was purged with a MultiRAE and a mercury vapor reading was taken with a Jerome J505
  - Soil vapor probe SV12 was installed to about 8 feet bgs. No PID readings or mercury vapor concentrations above background were observed.
  - Soil vapor probe SV14 was installed to about 7 feet bgs. No PID readings above background were observed. A maximum mercury vapor concentration of 0.55 micrograms per cubic meter ($\mu g/m^3$) was observed.
  - Soil vapor probe SV17 was installed to about 7 feet bgs. No PID readings above background were observed. A maximum mercury vapor concentration of 0.17 $\mu g/m^3$ was observed.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

- Soil vapor probe SV23 was installed to about 7 feet bgs. No PID readings above background were observed. A maximum mercury vapor concentration of 0.23 μg/m³ was observed.
- Soil vapor probe SV28 was installed to about 7 feet bgs. No PID readings above background were observed. A maximum mercury vapor concentration of 0.16 μg/m³ was observed.
- Soil vapor probe SV29 was installed to about 8 feet bgs. No PID readings or mercury vapor concentrations above background were observed. No PID readings above background were observed. A maximum mercury vapor concentration of 0.08 μg/m³ was observed
- Soil vapor probe SV30 was installed to about 7 feet bgs. No PID readings or mercury vapor concentrations above background were observed.
- Soil vapor probe SV32 was installed to about 7 feet bgs. No PID readings or mercury vapor concentrations above background were observed.
- Soil vapor probe SV37 was installed to about 7 feet bgs. No PID readings above background were observed. A maximum mercury vapor concentration of 1.13 μg/m³ was observed in the tubing after installation, prior to purging. After purging, and prior to sampling, no mercury vapor concentrations above background were observed.

- Soil vapor point SV19 was purged with a MultiRAE and a mercury vapor readings were taken with a Jerome J505. No PID readings or mercury vapor concentrations above background were observed.
- Soil vapor point SV21 was purged with a MultiRAE and a mercury vapor readings were taken with a Jerome J505. No PID readings above background were observed. A maximum mercury vapor concentration of 0.31 μg/m³ was observed.
- Soil vapor point SV24 was purged with a MultiRAE and a mercury vapor readings were taken with a Jerome J505. No PID readings above background were observed. A maximum mercury vapor concentration of 0.10 μg/m³ was observed.
- AARCO installed all soil vapor probes by backfilling with one foot of No.2 sand, followed by backfilling to grade with bentonite, before finishing the boring with a bentonite seal.
- All areas of intrusive work were patched with cold patch asphalt after sampling was completed.

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 Alpha Analytical, Inc, a New York State Department of Environmental Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory in Westborough, Massachusetts (ELAP No. 11148) for analyses proposed in the RIWP.
  - SV12, SV14, SV17, SV19, SV21, SV23, SV24, SV28, SV29, SV30, SV32, and SV37: Twelve, two-hour soil vapor samples were collected in 6-liter summa canisters and in sorbent tubes for analyses by Alpha Analytical, Inc. for volatile organic compounds (VOCs) by USEPA Method TO-15 and for mercury vapor by NIOSH Method 6009.
  - V1, V3, and V5: Three, two-hour void space soil vapor samples were collected in sorbent tubes for mercury vapor by NIOSH Method 6009.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

- AA02: One ambient air sample was in a 6-liter summa canister and sorbent tube for analyses by Alpha Analytical, Inc. for VOCs by USEPA Method TO-15 and for mercury vapor by NIOSH Method 6009.
- Quality Assurance/Quality Control (QA/QC): One, two-hour soil vapor duplicate was collected in a 6-liter summa canister and sorbent tube for analyses by Alpha Analytical, Inc. for VOCs by USEPA Method TO-15 (air canister) and for mercury vapor by NIOSH Method 6009. Additionally, one field blank was collected in a sorbent tube for analysis of mercury vapor by NIOSH Method 6009.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

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 volatile organic compounds (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 parts per million (ppm) for VOCs, and 0.0 micrograms per cubic meter ($\mu g/m^3$) 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	0.1
PM-2	0.035	0.0	0.0
PM-3	0.019	0.1	0.0
PM-4	0.013	0.0	0.2
PM-5	0.012	0.0	0.0
PM-6	0.013	0.3	0.0
WZ-1	0.008	0.0	0.0

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	0.029	0.0	0.4
PM-2	0.041	0.0	0.0
PM-3	0.038	0.5	0.0
PM-4	0.027	0.0	0.5
PM-5	0.025	0.0	0.0
PM-6	0.029	1.6	0.0
WZ-1	0.028	0.0	0.0

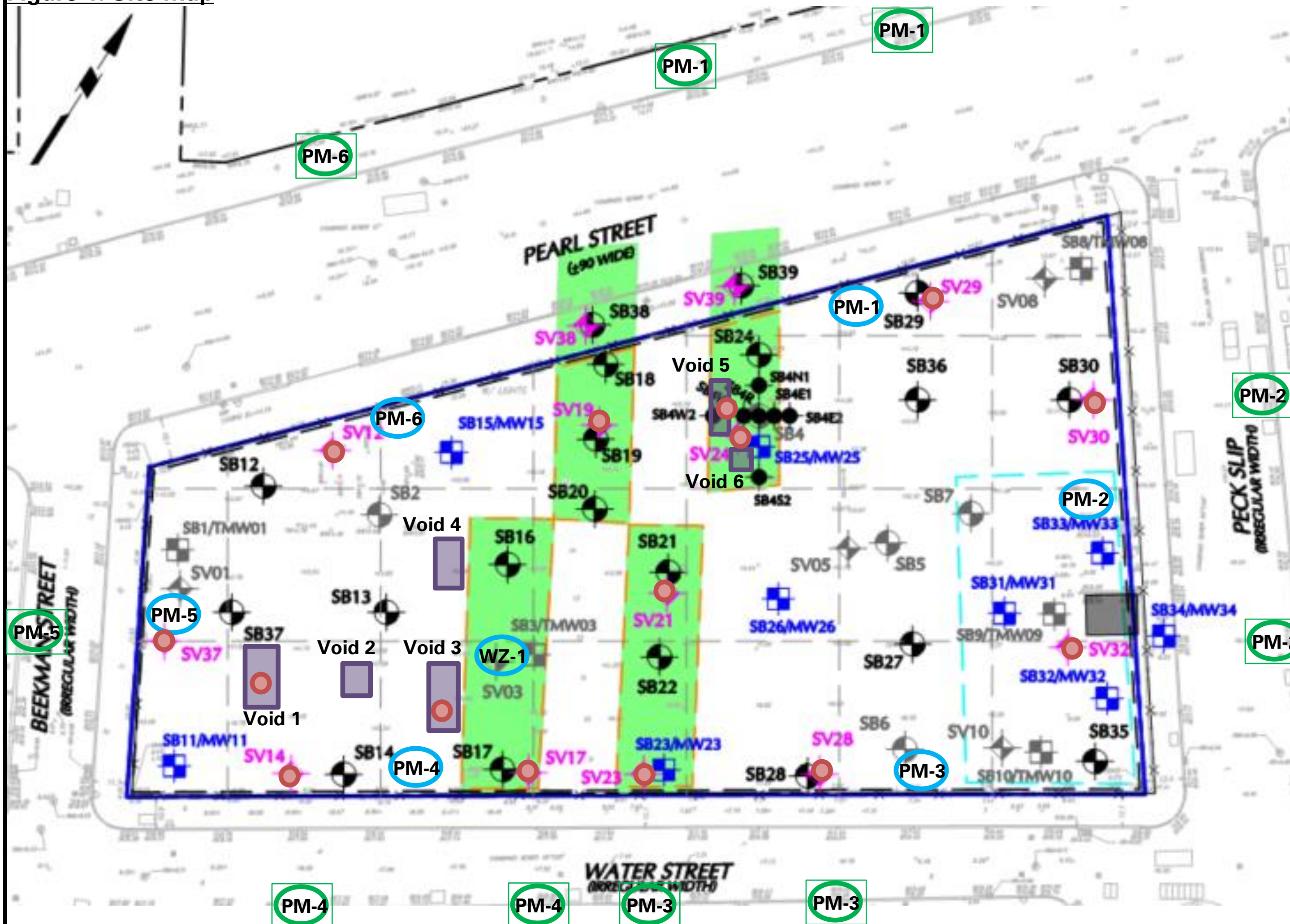
Anticipated Activities

- The results of the soil vapor sampling will be evaluated and interpreted alongside previously collected data and available information from historical maps and other data sources.
- No field work is scheduled at this time. Phase 3 of the RIWP (soil vapor sampling) is anticipated to be initiated during the week of July 27, 2020 after the results are evaluated, interpreted and shared

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

Site Boundary

Approximate area of suspected void space

Approximate location of soil vapor probes installed and/or sampled today

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 wok 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: AARCO installing a soil vapor probe at SV-28 (facing north)

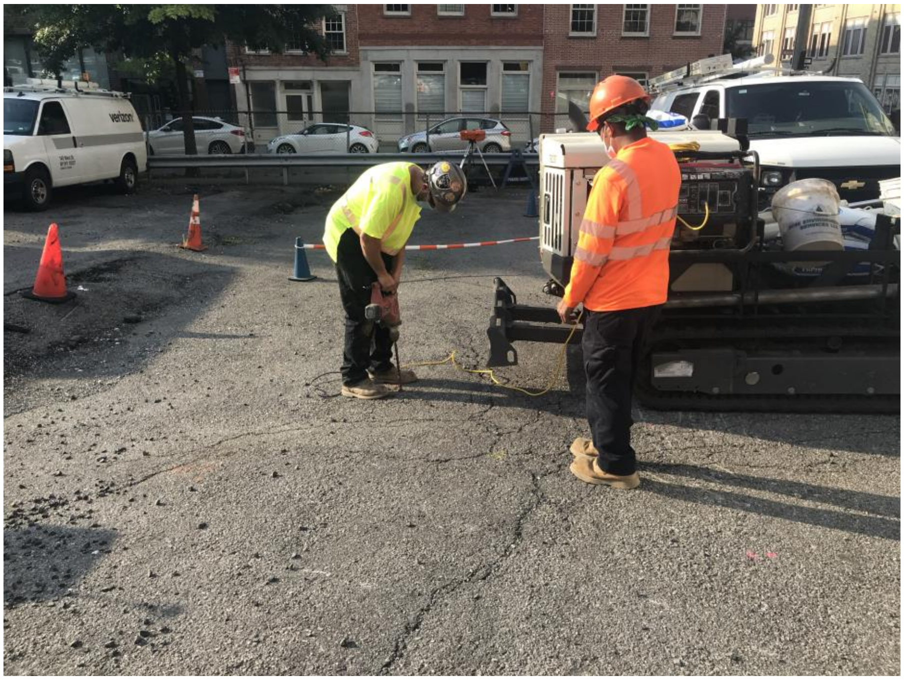


Photo 2: AARCO installing sub-slab vapor probe at Void 1 (facing south)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
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SITE OBSERVATION REPORT

Photo 3: View of helium tracer test at SV-17

Photo 3: View of soil vapor sampling equipment at SV-37 (facing south)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Monday, July 27, 2020 Sunny, 80-97 ^{0}F Wind: SE @ 0.9 mph (10:29am) to S @ 6.4 mph (12:05pm) 6:00 am – 5:00 pm
CONTRACTOR: AARCO Environmental Services Corp.		**LANGAN REP. :**	Ashley Stappenbeck Adrian Heath

EQUIPMENT:	**PRESENT AT SITE:** **RI Day 5**
Geoprobe 7720 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	Ashley Stappenbeck, Adrian Heath, Giuliana Frizzi, Mimi Raygorodetsky – Langan Brian Ehalt -- EXCEL Environmental Resources Nick Turro, Jose Romoro – AARCO Environmental Services Corp.

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan initiated 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 (Block 98, Lot 1).

Site Activities

- AARCO used a Geoprobe 7720 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 SB4R: 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 6.63 micrograms per cubic meter (µg/m^3) from 10 to 12 feet bgs. Total mercury concentrations detected with the Niton XL3t XRF (XRF) were identified at a maximum concentrations of 42 parts per million (ppm) from 2 to 4 feet bgs.
  - Boring SB4E1: 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 2.48 µg/m^3 was identified with a Jerome J405 or J505 unit from 2 to 4 feet bgs. Total mercury concentrations detected with the XRF were less than the limit of detection (LOD).
  - Boring SB4W1: 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 0.15 µg/m^3 was identified with a Jerome J405 or J505 unit from 0 to 2 feet bgs. Total mercury concentrations detected with the XRF were less than the LOD.
- All soil borings were backfilled with drill cuttings from the borehole and then patched with cold patch asphalt after sampling was completed.

Material Tracking

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

- 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. 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:
    - SB4R: 0-2, 2-4, 4-6, 6-8, 10-12, 14-16, and 18-20 feet bgs
    - SB4E1: 0-2, 2-4, 6-8, 10-12, 14-16, 16-18, and 18-20 feet bgs.
    - SB4W1: 0-2, 2-4, 4-6, 6-8, 8-10, 10-12, 12-14, 14-16, 16-18, and 18-20 feet bgs
- Two quality assurance/quality control soil sample (duplicate and matrix spike/matrix spike duplicate [MS/MSD]) were collected and submitted for analysis.
- Due to low soil recovery samples could not be collected in soil boring SB4R from 8 to 10, 12 to 14, and 16-18 feet bgs and in soil boring SB4E1 from 4 to 6, 8 to 10, and 12 to 14 feet bgs.
- The following samples were collected and relinquished to Eurofins, and were placed on hold pending total mercury results from 0 to 20 feet bgs:
    - SB4R: 20-22, 22-24, 24-26, 26-28, and 28-30 feet bgs
    - SB4E1: 20-22, 22-24, 24-26, 26-28, and 28-30 feet bgs
    - SB4W1: 20-22, 22-24, 24-26, 26-28, and 28-30 feet bgs
- Select samples will be additionally analyzed for mercury selective sequential extraction, pending total mercury results.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10) and volatile organic compounds (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 µg/m^3 for mercury vapor.

- An instantaneous mercury vapor reading of 20.6 µg/m^3 occurred at the CAMP station PM1 at 13:40. The instantaneous reading caused the fifteen-minute average concentration to exceed the action level (readings are collected every minute). Work was stopped and the dedicated CAMP personnel used a handheld Jerome J505 to collect readings next to the PM1 station. The Jerome J505 air samples were non-detect. Instantaneous mercury vapor readings at the PM1 CAMP station from before and after the instantaneous spike were all below the detection limit. Mercury vapor was not observed in soil borings at concentrations approaching the elevated instantaneous mercury vapor concentration. The elevated reading may have resulted from interference or a power surge from the CAMP station battery.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.025	0.0	0.0
PM-2	0.036	0.0	0.0
PM-3	0.025	0.4	0.0
PM-4	0.019	0.3	0.0
PM-5	0.017	0.4	0.0
PM-6	0.021	0.0	0.0
WZ-1	0.011	0.0	0.1

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Max 15 Minute Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.034	0.0	1.4
PM-2	0.041	0.2	0.1
PM-3	0.045	0.7	0.1
PM-4	0.036	0.4	0.0
PM-5	0.035	2.1	0.2
PM-6	0.037	0.3	0.1
WZ-1	0.031	0.7	0.4

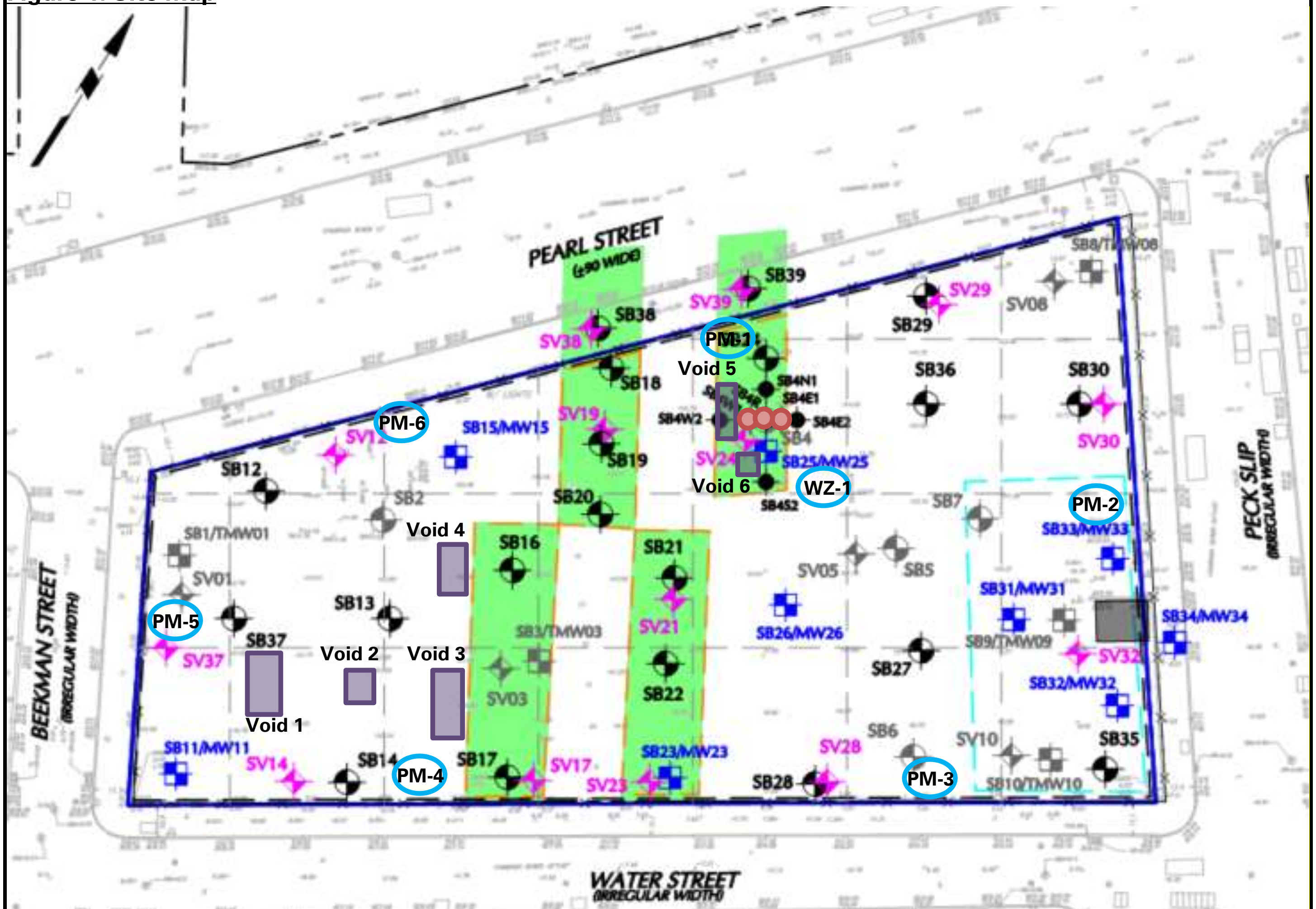
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: AARCO advancing soil boring SB4W1 (facing southwest)

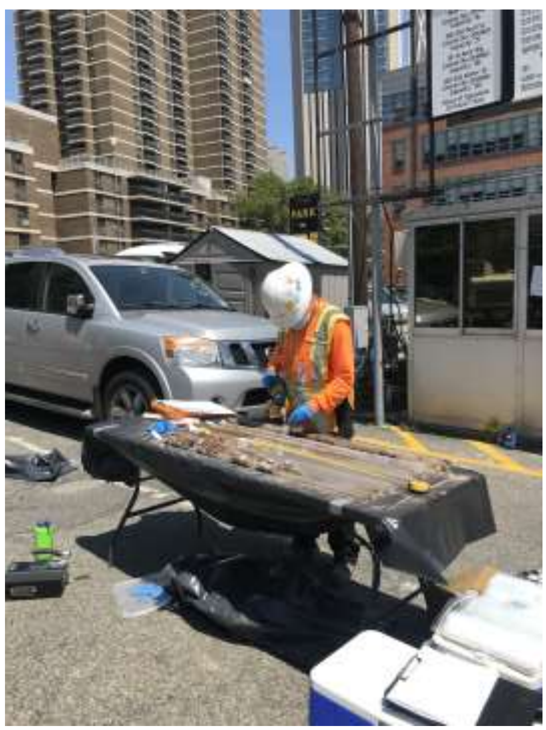


Photo 2: Langan collecting VOC readings from a soil boring (facing northeast)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

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

Photo 4: Perimeter CAMP station PM-4 in the southern part of the site (facing south)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Tuesday, July 28, 2020 **WEATHER:** Sunny, 85-95 ^{0}F Wind: S @ 0.8 mph (9:03am) to S @ 5.9 mph (13:40pm) **TIME:** 6:00 am – 4:30 pm
CONTRACTOR: AARCO Environmental Services Corp.		**LANGAN REP. :** Ashley Stappenbeck Adrian Heath
EQUIPMENT: Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 6** 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

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 μg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/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
μg/m^3 = micrograms per cubic meter

Max 15 Minute Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/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

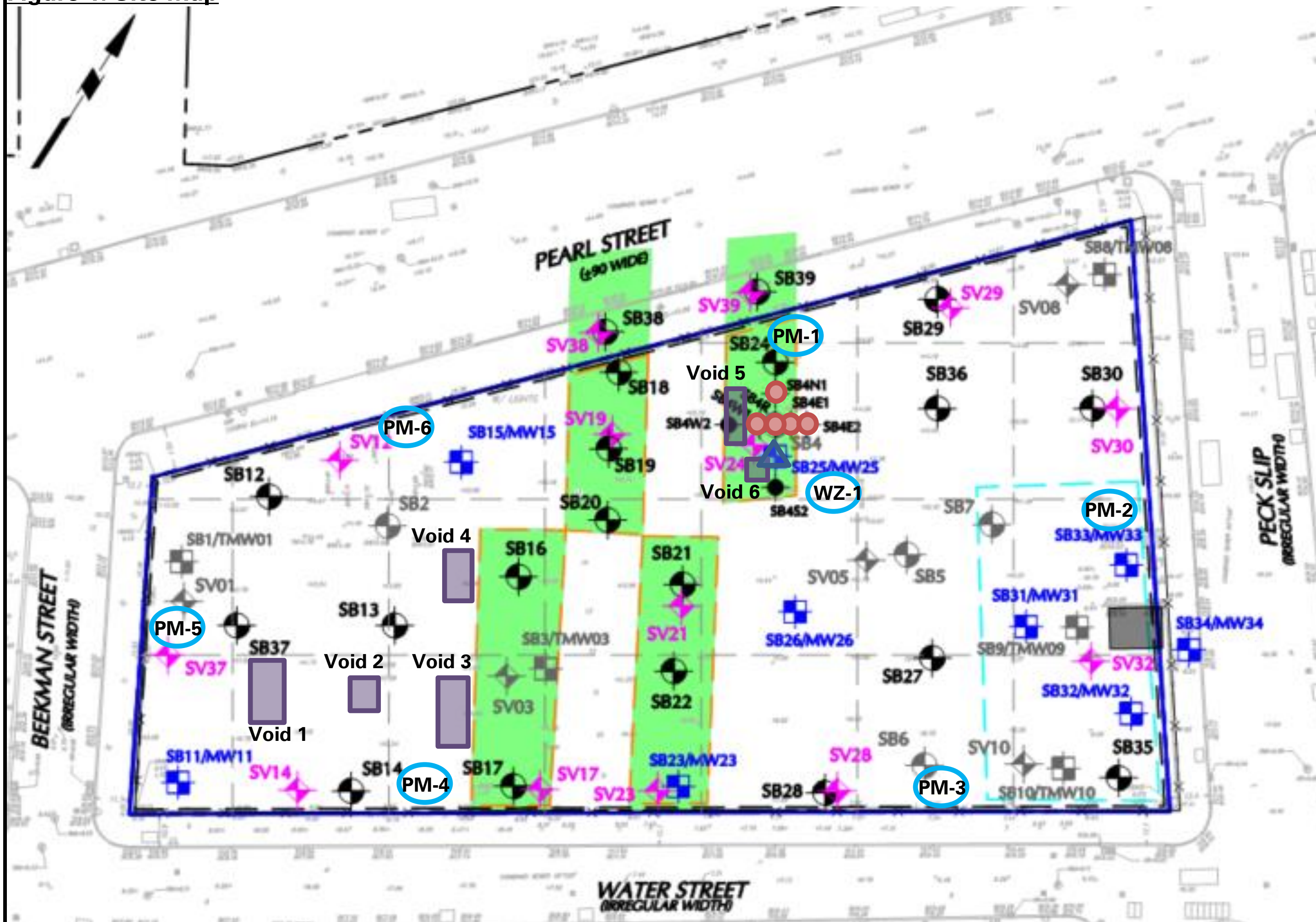
- AARCO and Langan will continue to advance and sample soil borings and install monitoring wells within the Phase 3 work area.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

LANGAN

SITE OBSERVATION REPORT

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

SITE OBSERVATION REPORT

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

SITE OBSERVATION REPORT

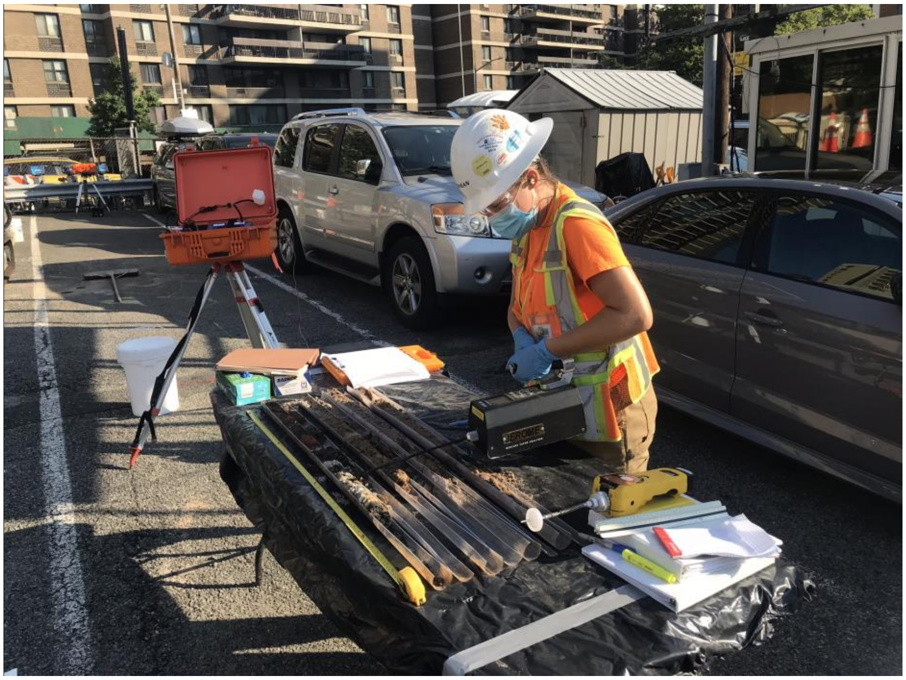


Photo 3: Langan collecting mercury vapor readings from a soil boring (facing north)

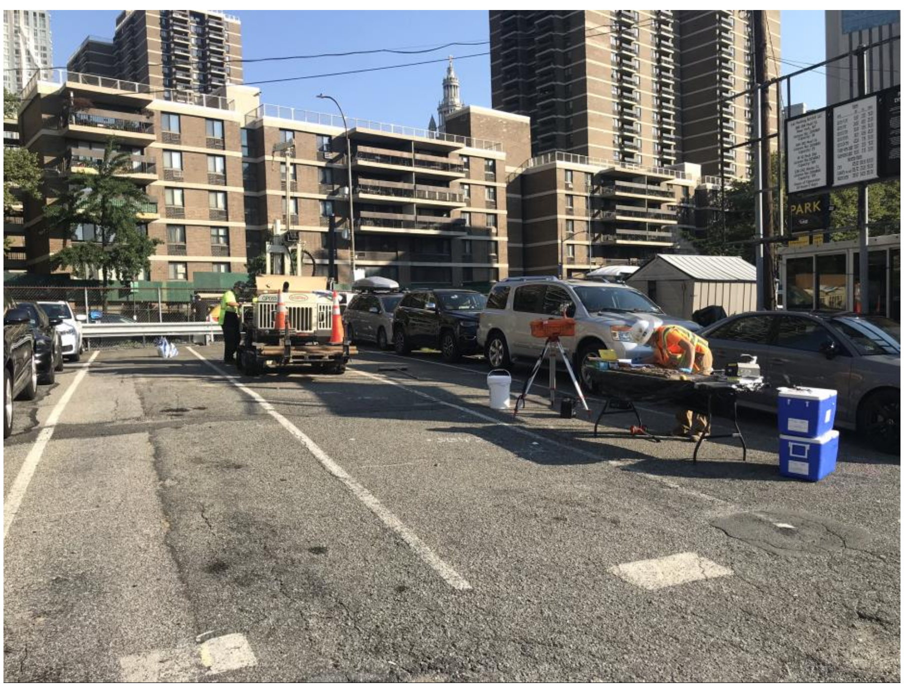


Photo 4: AARCO advancing soil boring SB4N1 and Langan sampling soil in the northern part of the site (facing north)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Wednesday, July 29, 2020 Sunny, 80-90 ^{0}F Wind: SE @ 0.6 mph (6:56 am) to S @ 6.6 mph (2:52 pm) 5:45 am – 5:45 pm
CONTRACTOR: AARCO Environmental Services Corp.		**LANGAN REP. :**	Ashley Stappenbeck Adrian Heath
EQUIPMENT: Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 7** Ashley Stappenbeck, Adrian Heath, Paul McMahon – Langan Nick Turro, Sergio Magana – 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 four soil borings. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples.
  - Boring SB4S2: Boring was advanced to 30 feet below grade surface (bgs). Petroleum-like odors, staining, and photoionization detector (PID) readings up to 42 parts per million (ppm) were observed at 17 to 21 feet bgs. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.88 micrograms per cubic meter (µg/m^3) was identified with a Jerome J505 unit from 4 to 6 feet bgs. Total mercury concentrations evaluated with the Niton XL3t XRF (XRF) were identified at a maximum concentration of 23 ppm from 4 to 6 feet bgs.
  - Boring SB4W2: Boring was advanced to 30 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 1.72 µg/m^3 was identified with a Jerome J505 unit from 14 to 16 feet bgs. Total mercury concentrations evaluated with the XRF were identified at a maximum concentration of 179 ppm from 2 to 4 feet bgs.
  - Boring SB24: Boring was advanced to 30 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.75 µg/m^3 was identified with a Jerome J505 unit from 6 to 8 feet bgs. Total mercury concentrations evaluated with the XRF were identified at a maximum concentration of 257 ppm from 2 to 4 feet bgs.
  - Boring SB19: Boring was advanced to 20 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.10 µg/m^3 was identified with a Jerome J505 unit from 14 to 16 feet bgs. Total mercury concentrations evaluated with the XRF were less than limit of detection (LOD).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

- 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.

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:
    - SB4S2: 0-2, 2-4, 4-6, 6-8, 8-10,10-12, 12-14, 14-16, 16-18, and 18-20 feet bgs
    - SB4W2: 0-2, 2-4, 4-6, 6-8, 8-10,10-12, 12-14, 14-16, 16-18, and 18-20 feet bgs
    - SB24: 0-2, 2-4, 4-6, 6-8, 8-10,10-12, 12-14, 14-16, 16-18, and 18-20 feet bgs
- Select samples will be additionally analyzed for mercury selective sequential extraction, pending total mercury results.
- Twelve quality assurance/quality control soil samples (five mercury field blanks, four mercury duplicates, four matrix spike/matrix spike duplicate, one trip blank, and one equipment blank) were collected and submitted for analysis.
- The following samples were placed on hold pending total mercury results from 0 to 20 feet bgs:
    - SB4S2: 20-22, 22-24, 24-26, 26-28, and 28-30 feet bgs
    - SB4W2: 20-22, 22-24, 24-26, 26-28, and 28-30 feet bgs
    - SB24: 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):
    - SB19: 0-2, 6-8, and 18-20 feet bgs
    - SB24: 0-2, 6-8, and 10-12 feet bgs
- The following sample depths were submitted for analysis of VOCs, SVOCs, and metals including hexavalent and trivalent chromium:
    - SB4S2: 18-19 and 22-23 feet bgs

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

SITE OBSERVATION REPORT

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 µg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.022	0.2	0.1
PM-2	0.032	0.0	0.0
PM-3	0.022	0.0	0.0
PM-4	0.019	0.0	0.0
PM-5	0.015	0.5	0.0
PM-6	0.017	0.0	0.0
WZ-1	0.011	0.0	0.1

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.028	1.9	0.8
PM-2	0.039	0.0	0.2
PM-3	0.038	0.1	0.1
PM-4	0.027	0.0	0.0
PM-5	0.023	2.4	0.0
PM-6	0.031	1.5	0.0
WZ-1	0.038	0.0	0.4

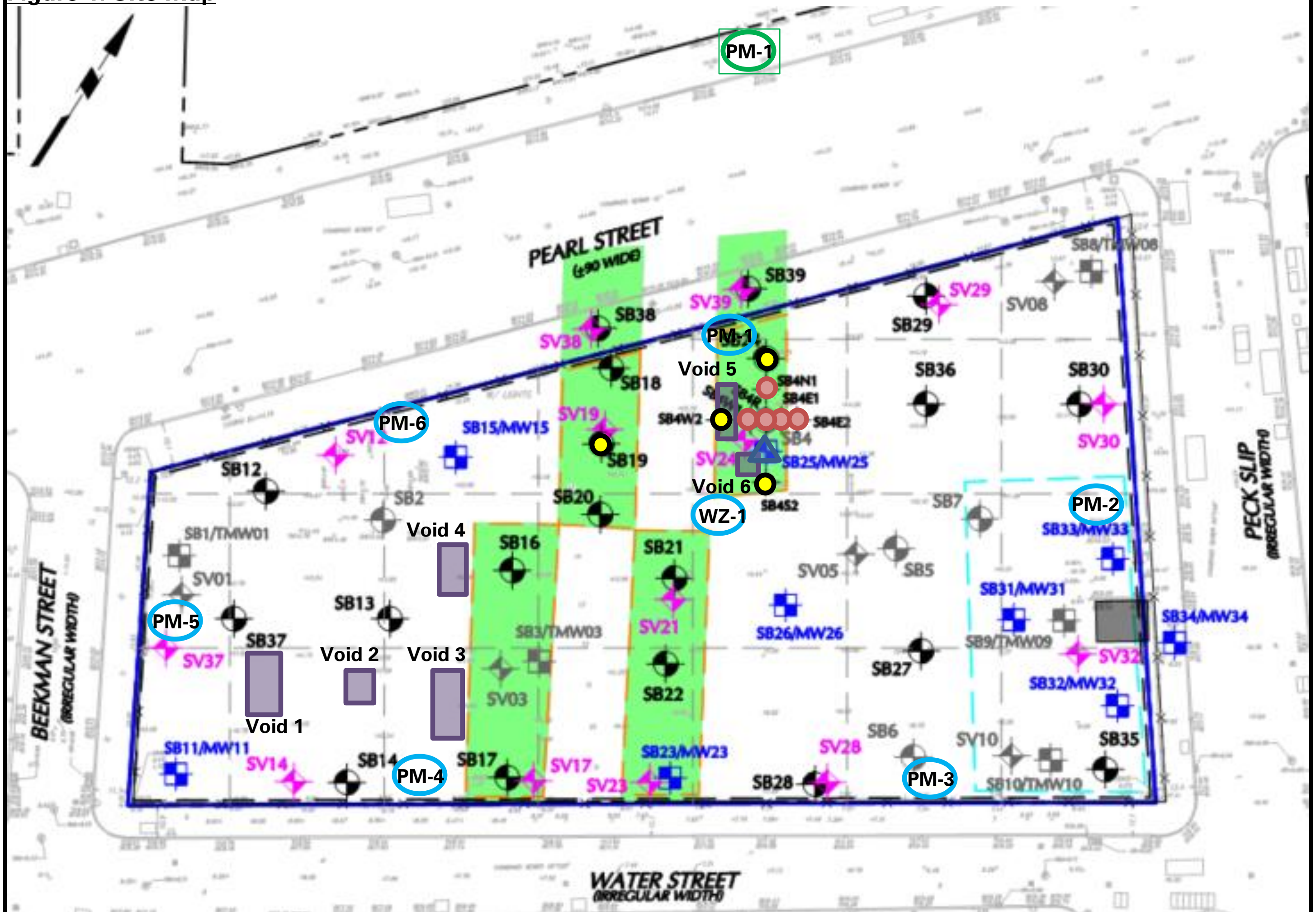
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- Approximate location of previously sampled soil borings
- 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

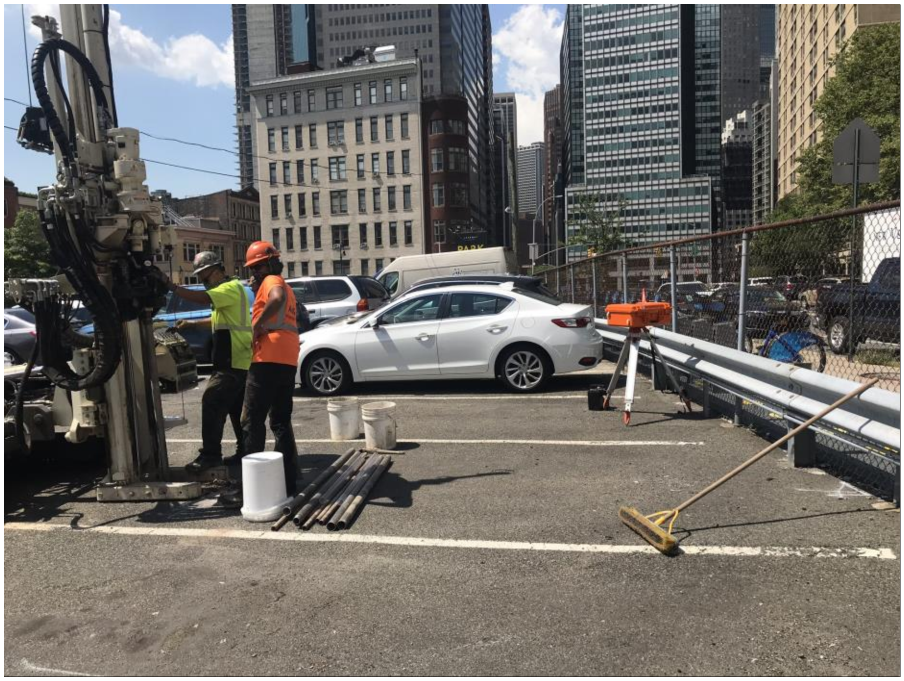


Photo 1: AARCO advancing soil boring SB24 in the northern part of the site (facing southwest)

Photo 2: View of soil from boring SB4S2

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

SITE OBSERVATION REPORT

Photo 3: View of air monitoring station PM-1 while AARCO advances soil boring SB-24 (facing north)

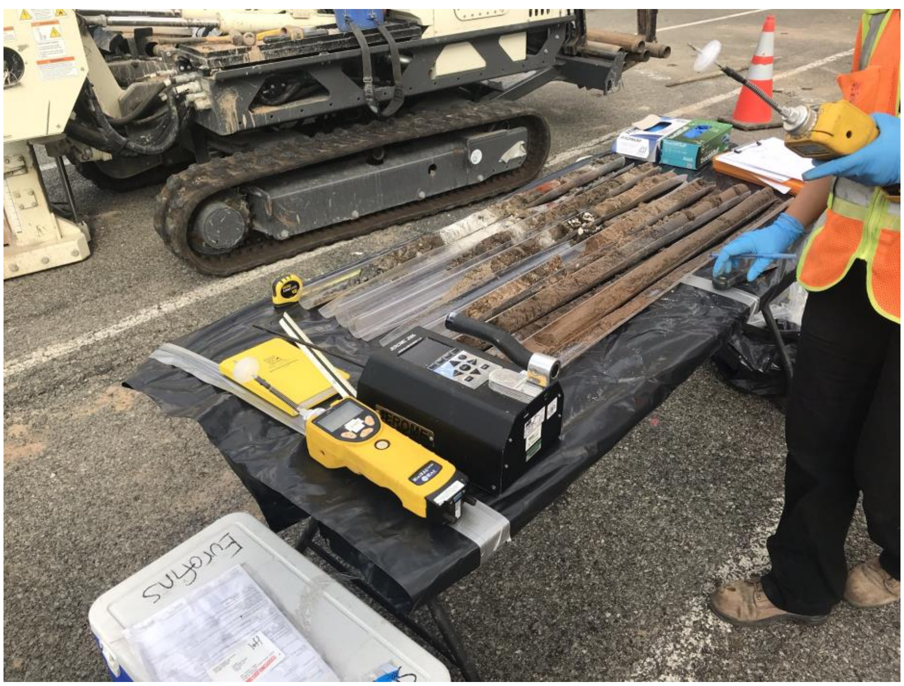


Photo 4: Langan preparing to screen soil for VOCs (facing northwest)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202	**CLIENT:** 250 Seaport District, LLC	**DATE:**	Thursday, July 30, 2020
PROJECT: 250 Water Street		**WEATHER:**	Sunny, 80-92 ^{0}F Wind: SSW @ 1.0 mph (9:16am) to S @ 5.6 mph (10:21am)
LOCATION: New York, NY		**TIME:**	5:45 am – 4:30 pm
BCP SITE ID: C231127			
CONTRACTOR: AARCO Environmental Services Corp.		**LANGAN REP. :**	Ashley Stappenbeck Adrian Heath

EQUIPMENT: Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 8** Ashley Stappenbeck, Adrian Heath – Langan Sergio Magana, Jose Romero – 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 five soil borings. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples.
  - Boring SB18: Boring was advanced to 20 feet below grade surface (bgs). 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 0.21 micrograms per cubic meter (µg/m^3) was identified with a Jerome J505 unit from 8 to 10 feet bgs. Total mercury concentrations evaluated with the Niton XL3t XRF (XRF) were less than the limit of detection (LOD).
  - Boring SB20: Boring was advanced to 32 feet bgs. Petroleum-like odors, staining, and PID readings up to 370.4 parts per million (ppm) were observed from 17 to 24 feet bgs. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.03 µg/m^3 was identified with a Jerome J505 unit from 6 to 8 feet bgs. Total mercury concentrations evaluated with the XRF were less than the LOD.
  - Boring SB16: Boring was advanced to refusal at 10 feet bgs. Wood with a creosote-like odor was identified in the cutting shoe at the refusal depth. Four step-off borings were attempted around the original boring location. No petroleum-like odors, staining, or PID readings above background were observed in soil. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.07 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.
  - Boring SB21: Boring was advanced to refusal 10 feet bgs. Wood with a creosote-like odor was identified in the cutting shoe at the refusal depth. Four step-off borings were attempted around the original boring location. Petroleum-like odors, staining, and PID readings up to 42.9 ppm were observed from 6 to 8 feet bgs. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration

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SITE OBSERVATION REPORT

above background of 0.08 μg/m^3 was identified with a Jerome J505 unit from 8 to 10 feet bgs. Total mercury concentrations evaluated with the XRF were less than the LOD.

- Boring SB22: Boring was advanced to refusal at 9.5 feet bgs. Wood with a creosote-like odor was identified in the cutting shoe at the refusal depth. Three step-off borings were attempted around the original boring location. No petroleum-like odors, staining, or PID readings above background were observed in soil. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.14 μg/m^3 was identified with a Jerome J505 unit from 2 to 4 feet bgs. Total mercury concentrations evaluated with the XRF were less than 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.

Material Tracking

- No material was imported to the site.
- No material was exported from the site.
- Impacted soil cutting from borings SB20 and SB21 were containerized and sealed in a 55-gallon drum; the drum was stored on site for future off-site disposal.

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 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):
  - SB18: 0-2, 7-8, and 18-20 feet bgs
  - SB20: 0-2, 10-12, and 20-22 feet bgs
- The following sample depths were submitted for analysis of VOCs, SVOCs, and metals including mercury and hexavalent and trivalent chromium:
  - SB20: 30-32 feet bgs
- Three quality assurance/quality control soil samples (one field blank, one trip blank, and one equipment blank) were collected and submitted for analysis.

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SITE OBSERVATION REPORT

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 µg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.027	0.4	0.1
PM-2	0.036	0.0	0.0
PM-3	0.030	0.0	0.0
PM-4	0.019	0.0	0.0
PM-5	0.018	0.5	0.0
PM-6	0.020	0.0	0.0
WZ-1	0.018	0.3	0.1

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.035	0.7	0.6
PM-2	0.043	0.0	0.0
PM-3	0.048	0.0	0.1
PM-4	0.030	0.3	0.0
PM-5	0.026	1.6	0.0
PM-6	0.034	0.0	0.0
WZ-1	0.030	0.7	0.3

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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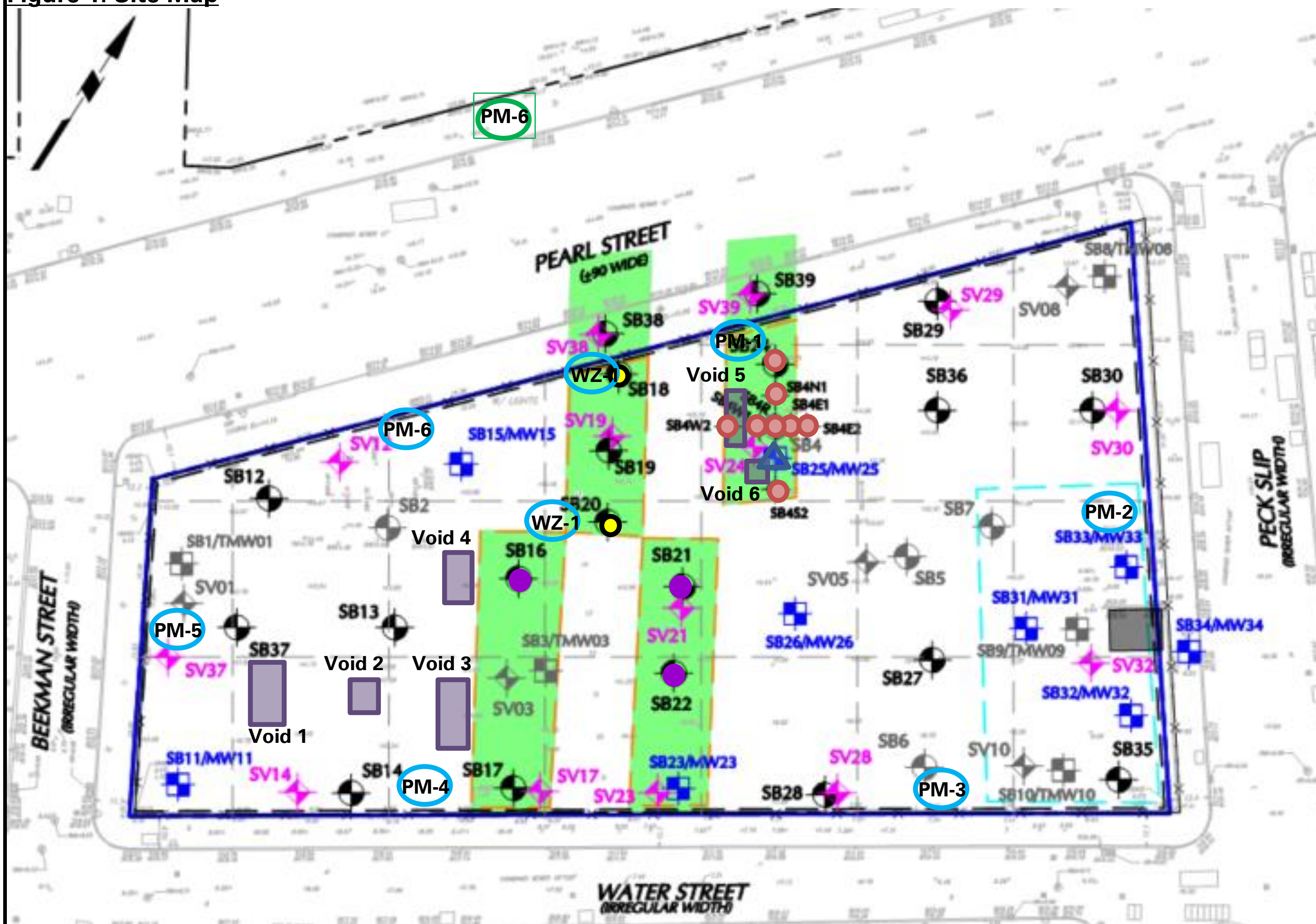
SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- Approximate location of previously sampled soil borings
- Approximate location of soil borings advanced to refusal
- 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: AARCO advancing soil boring SB20 in the northern part of the site (facing north)

Photo 2: View of soil from boring SB18

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			LANGAN

SITE OBSERVATION REPORT

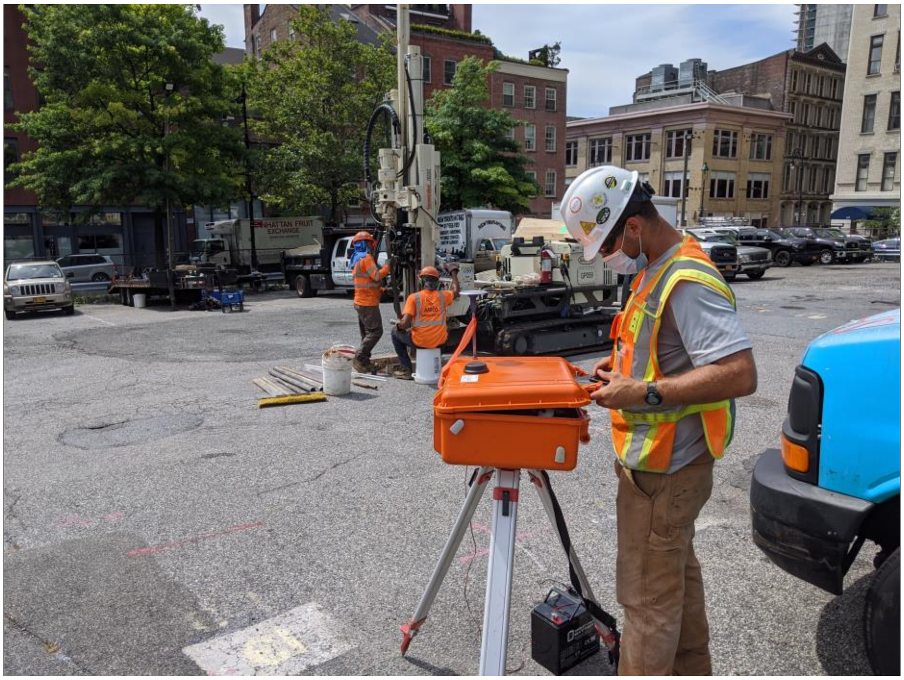

Photo 3: View of Langan checking air monitoring station WZ-1 while AARCO advances soil boring SB16 (facing south)

Photo 4: View of wood found at refusal depth at boring SB16 (facing northwest)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck
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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Friday, July 31, 2020 **WEATHER:** Rain/Overcast, 70-85 ^{0}F Wind: SSE @ 0.4 mph (7:40am) to E @ 4.0 mph (1:40pm) **TIME:** 6:00 am – 4:30 pm	
CONTRACTOR: AARCO Environmental Services Corp.		**LANGAN REP. :** Ashley Stappenbeck Adrian Heath	
EQUIPMENT: Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 9** Ashley Stappenbeck, Adrian Heath – Langan Sergio Magana, Jose Romero – 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. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples for laboratory analysis.
  - Boring SB17: Boring was advanced to 32 feet below grade surface (bgs). Petroleum-like odors, staining, and photoionization detector (PID) readings up to 57.1 parts per million (ppm) were observed from about 9.5 feet to 28 feet bgs. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.14 micrograms per cubic meter (µg/m^3) was identified with a Jerome J505 unit from 12 to 14 feet bgs. Total mercury concentrations evaluated with the Niton XL3t XRF (XRF) were less than the limit of detection (LOD).
  - Boring SB23: Boring was advanced to 28 feet bgs. Petroleum-like odors, staining, and PID readings up to 93 ppm were observed from about 6 to 24 feet bgs. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.04 µg/m^3 was identified with a Jerome J505 unit from 2 to 4 feet bgs. Total mercury concentrations evaluated with the XRF were less than the LOD.
  - Boring SB22 Re-drill: Additional step-off borings were attempted, and refusal was encountered at 10 feet bgs. Wood or concrete were encountered in the cutting shoe at refusal depths. No petroleum-like odors, staining, or PID readings above background were observed in soil. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.05 µg/m^3 was identified with a Jerome J505 unit from 2 to 4 feet bgs. Total mercury concentrations evaluated with the XRF were less than the LOD.
- AARCO used a Geoprobe 7822 DT drill rig to install monitoring well MW17.
  - MW17 consists of a 2-inch diameter polyvinyl chloride (PVC) monitoring well with 20-slot well screen from about 7 to 17 feet bgs. MW17 will be developed on Monday August 3, 2020.

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SITE OBSERVATION REPORT

- 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.

Material Tracking

- No material was imported to the site.
- No material was exported from the site.
- Impacted soil cutting from borings SB17 and SB23 were containerized and sealed in a 55-gallon drum; the drum was stored on site for future off-site disposal.

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 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):
  - SB17: 0-2, 14-16, and 30-32 feet bgs
  - SB23: 0-2, 9-11, and 26-28 feet bgs
- Four quality assurance/quality control soil samples (one equipment blank, one trip blank, one equipment blank, and soil duplicate) were collected and submitted for analysis.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck
			LANGAN

SITE OBSERVATION REPORT

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 μg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/m^3)
PM-1	0.014	0.0	0.0
PM-2	0.023	0.0	0.0
PM-3	0.016	0.0	0.0
PM-4	0.010	0.0	0.0
PM-5	0.011	0.8	0.0
PM-6	0.009	0.0	0.0
WZ-1	0.010	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
μg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/m^3)
PM-1	0.018	0.0	0.0
PM-2	0.032	0.0	0.0
PM-3	0.021	0.0	0.3
PM-4	0.021	1.1	0.0
PM-5	0.017	1.7	0.0
PM-6	0.020	0.0	0.0
WZ-1	0.023	0.0	0.0

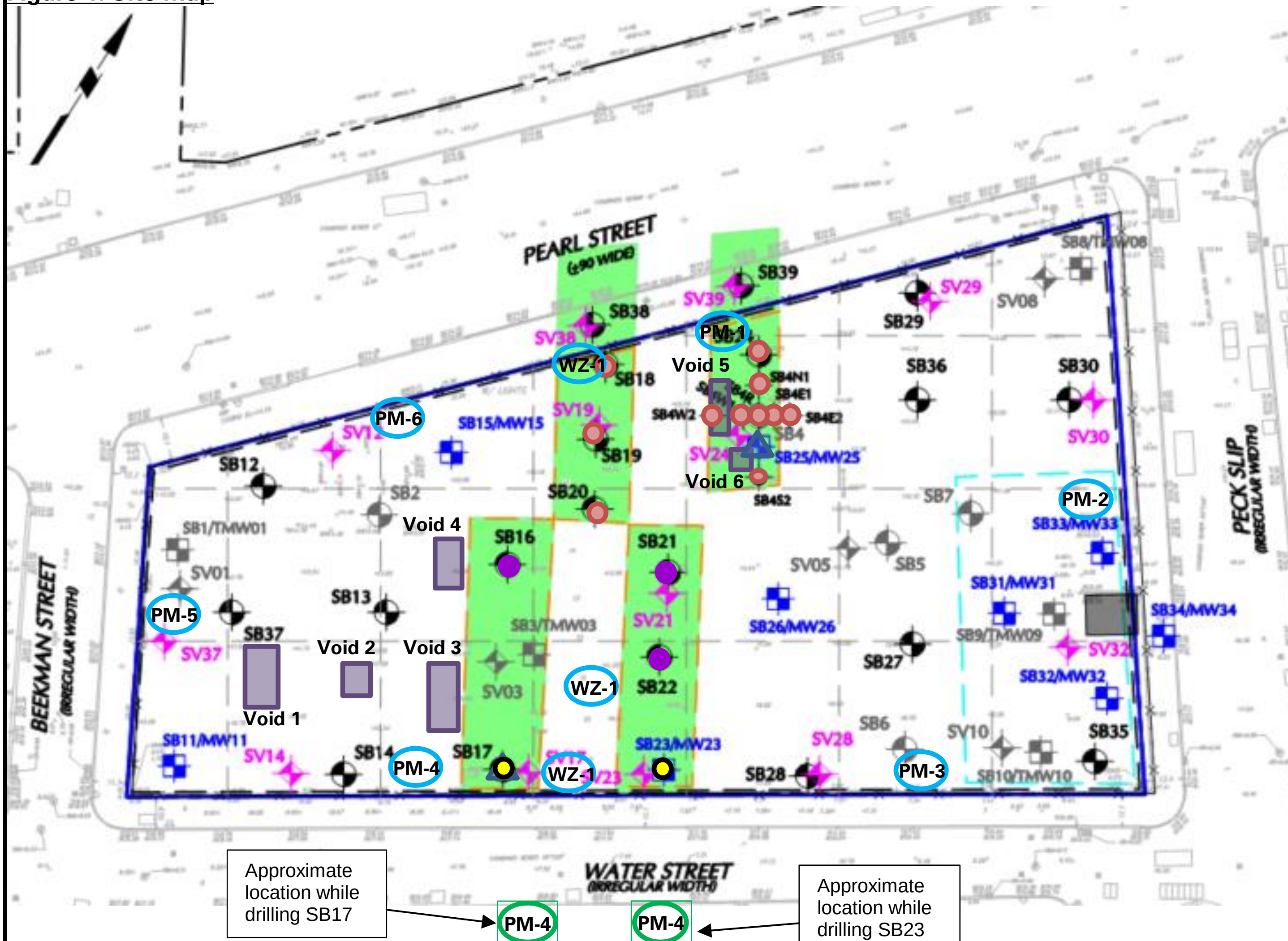
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck
			LANGAN

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- Approximate location of previously sampled soil borings
- Approximate location of soil borings advanced to refusal
- Approximate location of completed 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck
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SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: AARCO advancing soil boring SB17 in the southern part of the site (facing south)


Photo 2: AARCO installing monitoring well MW17 (facing northwest)

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SITE OBSERVATION REPORT

Photo 3: Work zone station WZ-1 and perimeter station PM-4 while AARCO advances boring SB-23 (facing south)

Photo 4: AARCO advancing SB-23 (facing southeast)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck **LANGAN**

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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Monday, August 3, 2020 Sunny, 80-92 ^{0}F Wind: E @ 0.6 mph (8:50am) to E @ 7.6 mph (2:11pm) 6:00 am – 5:30 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Ashley Stappenbeck Adrian Heath
EQUIPMENT: Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX Post Hole Digger	**PRESENT AT SITE:** **RI Day 10** Ashley Stappenbeck, Adrian Heath, Michael Aldoroty – Langan Sergio Magana, William Edom – AARCO Environmental Services Corp. Brian Ehalt -- EXCEL Environmental Resources		

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan completed 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 core drill and post hole digger to drill through the Pearl Street sidewalk and hand clear two borings to 5 feet below grade surface (bgs). AARCO then 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.
    - Boring SB38: Boring was advanced to 24 feet bgs. No petroleum-like odors, staining, or photoionization detector (PID) readings above background were observed in soil. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.51 micrograms per cubic meter (µg/m^3) was identified with a Jerome J505 unit from 2 to 4 feet bgs. Total mercury concentrations evaluated with the Niton XL3t XRF (XRF) were less than the limit of detection (LOD).
    - Boring SB39: Boring was advanced to 28 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed in soil. Visual evidence of elemental mercury was not identified. A maximum mercury vapor concentration above background of 0.57 µg/m^3 was identified with a Jerome J505 unit from 6 to 8 feet bgs. Total mercury concentrations were detected with the XRF at concentrations of 22 parts per million (ppm) from 6 to 8 feet bgs and 24 ppm from 8 to 10 feet bgs.
- AARCO installed soil vapor probes in predrilled soil borings. After installation and prior to sampling, the sample tubing was purged with a MultiRAE and a mercury vapor reading was taken with a Jerome J505:
    - Soil vapor probe SV38 was installed to about 15 feet bgs. A maximum PID reading of 0.9 ppm and a maximum mercury vapor concentration of 0.09 µg/m^3 were observed.
    - Soil vapor probe SV39 was installed to about 15 feet bgs. A maximum PID reading of 2.5 ppm and a maximum mercury vapor concentration of 0.07 µg/m^3 were observed.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Adrian Heath **LANGAN**

SITE OBSERVATION REPORT

- 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 developed previously installed monitoring wells MW17 and MW25.

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):
  - SB38: 0-2, 6-8, and 22-24 feet bgs
  - SB39: 0-2, 8-10, and 18-20 feet bgs
- Four quality assurance/quality control soil samples (one PFAS equipment blank, one trip blank, one matrix spike/matrix spike duplicate [MS/MSD], and soil duplicate) were collected and submitted for analysis.

Soil vapor samples were collected and relinquished to Alpha Analytical, Inc, a NYSDOH ELAP-certified laboratory in Westborough, Massachusetts (ELAP No. 11148) for analyses proposed in the RIWP.

- SV38 and SV39: Two, two-hour soil vapor samples were collected in 6-liter summa canisters and in sorbent tubes for analyses by Alpha Analytical, Inc. for VOCs by USEPA Method TO-15 and for mercury vapor by NIOSH Method 6009.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck
			LANGAN

SITE OBSERVATION REPORT

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 µg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.012	0.3	0.1
PM-2	0.024	0.0	0.0
PM-3	0.010	0.1	0.0
PM-4	0.009	0.0	0.0
PM-5	0.008	0.8	0.0
PM-6	0.008	0.0	0.0
WZ-1	0.001	0.4	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.016	0.7	0.3
PM-2	0.034	0.0	0.0
PM-3	0.018	0.2	0.1
PM-4	0.042	0.0	0.0
PM-5	0.019	1.4	0.1
PM-6	0.013	0.0	0.0
WZ-1	0.009	0.7	0.1

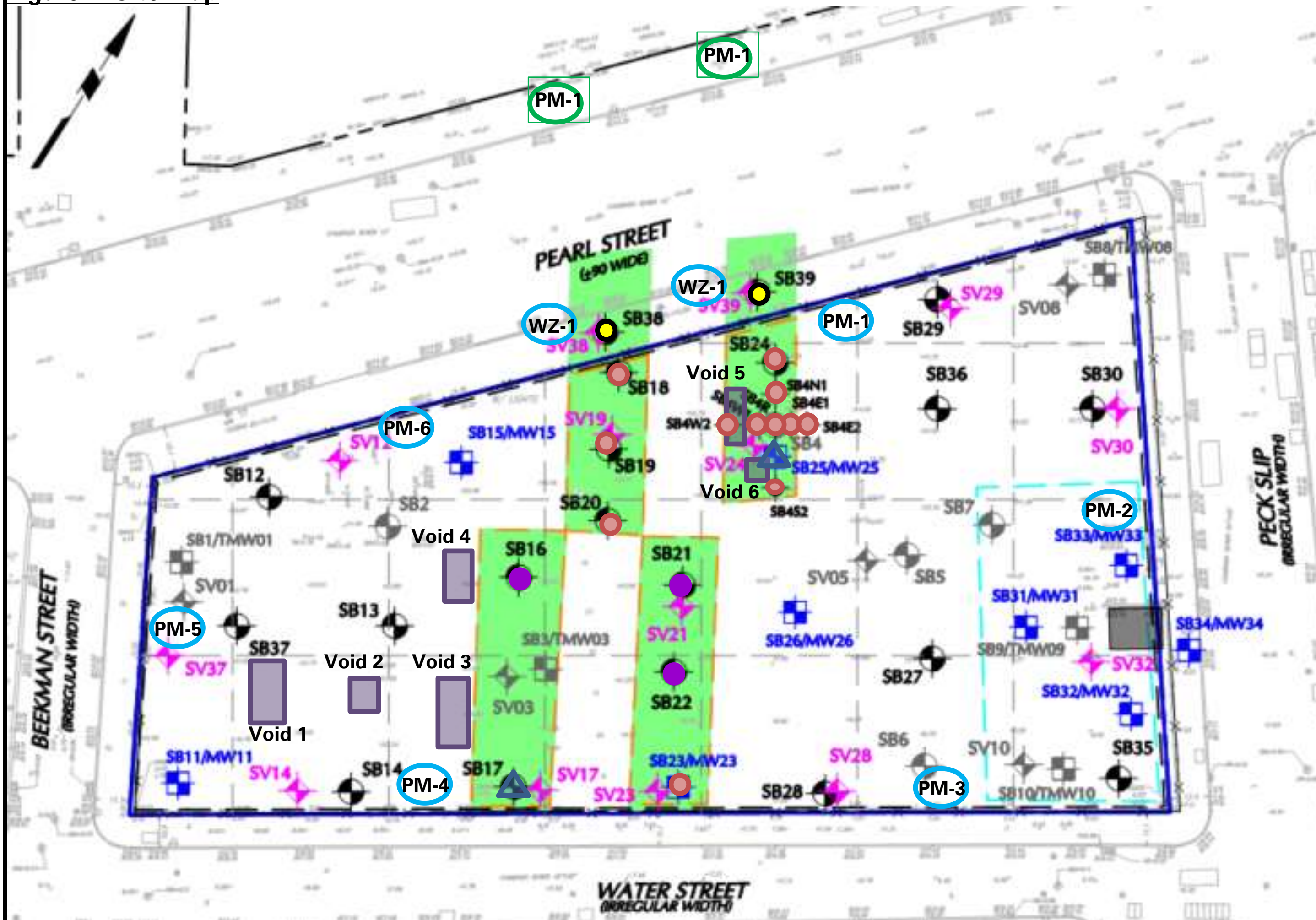
Anticipated Activities

- Tomorrow, AARCO will cement patch soil vapor points SV38 and SV39.
- Phase 4 of the RIWP (soil sampling) is anticipated to be scheduled and initiated after the Phase 3 results are evaluated.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck
			LANGAN

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

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

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: AARCO developing monitoring well MW17 in the southern part of the site (facing south)

Photo 2: AARCO hand clearing soil boring SB38 (facing northwest)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck
			LANGAN

SITE OBSERVATION REPORT

Photo 3: View of Langan collecting a mercury vapor sample at SV39 (facing south)

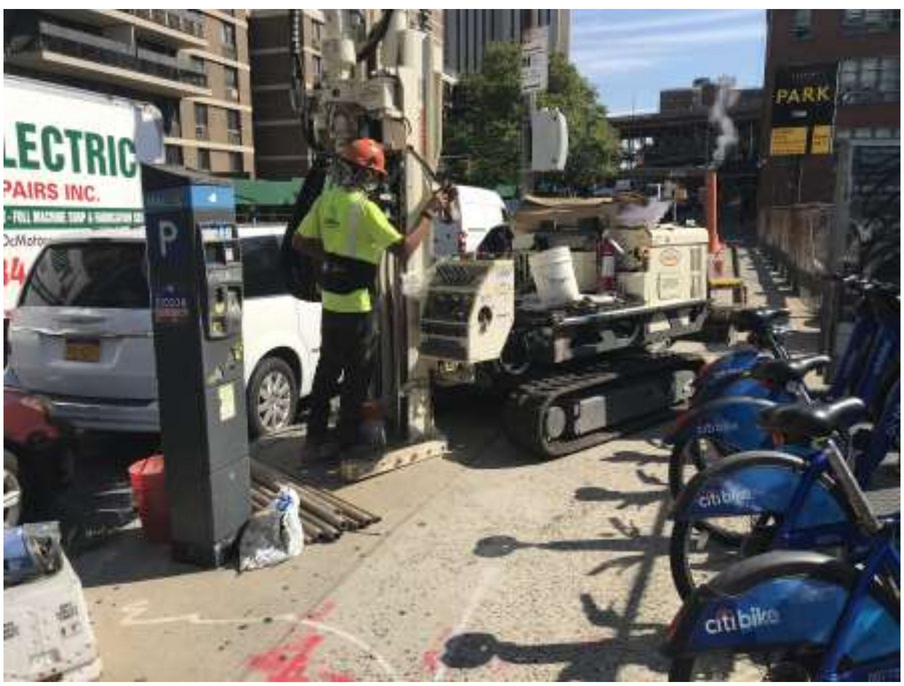


Photo 4: AARCO advancing boring SB39 (facing east)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Ashley Stappenbeck
			LANGAN

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SITE OBSERVATION REPORT

PROJECT No.: 170381202	**CLIENT:** 250 Seaport District, LLC	**DATE:**	Monday, August 17, 2020
PROJECT: 250 Water Street		**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 ($\mu g/m^3$) 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

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 µg/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 (µg/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
µg/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 (µg/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

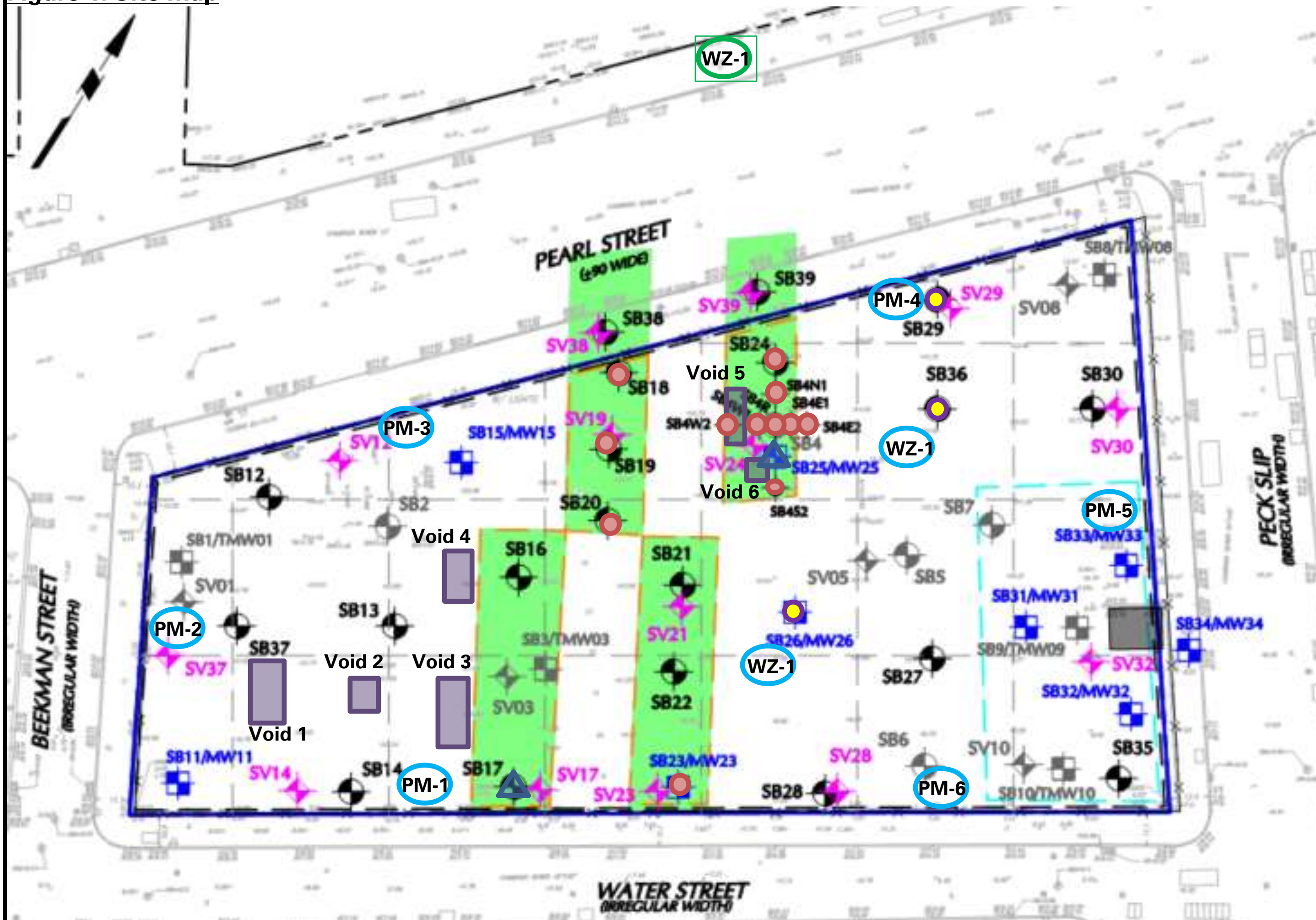
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer
			LANGAN

SITE OBSERVATION REPORT

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).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer
			LANGAN

SITE OBSERVATION REPORT

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

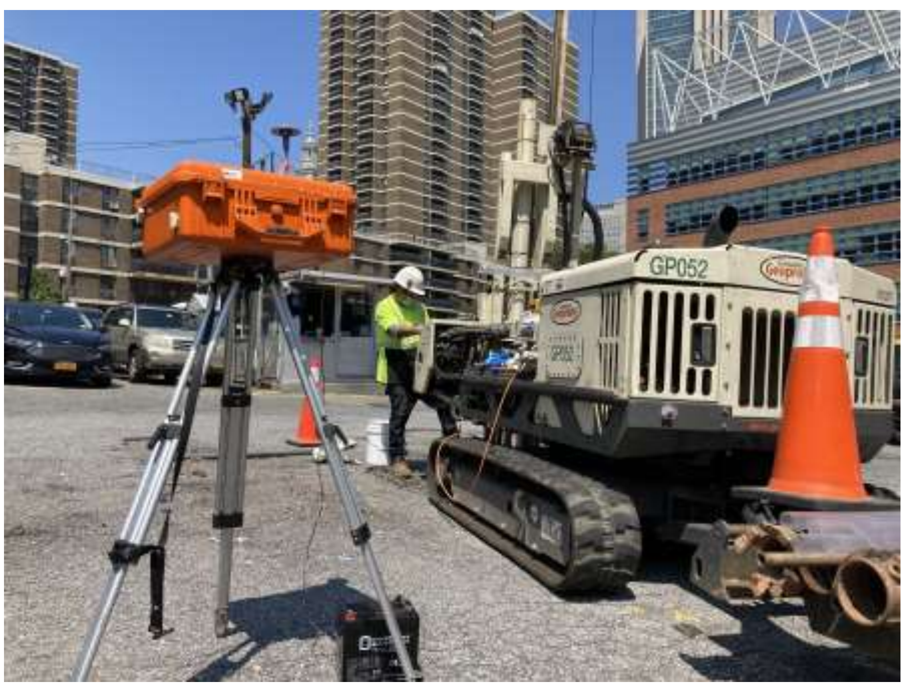


Photo 4: AARCO drilling boring SB29 (facing north).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202		**DATE:**	Tuesday, August 18, 2020
PROJECT: 250 Water Street	**CLIENT:** 250 Seaport District, LLC	**WEATHER:**	Sunny, 66-84 ^{0}F Wind: WNW @ 0-7 mph
LOCATION: New York, NY			
BCP SITE ID: C231127		**TIME:**	6:45 am – 3:45 pm
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 12** Tyler Zorn, Thomas Schiefer – 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).

<u>Site Activities</u>

- AARCO used a Geoprobe 7822 DT drill rig with 4- foot-long Macro-Core® samplers to advance five soil borings. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples for laboratory analysis.
  - Boring SB13: Boring was advanced to 20 feet below grade surface (bgs). No petroleum-like odors, staining, or photoionization detector (PID) readings above background were observed. 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 Niton XL3t XRF (XRF) were less than the limit of detection (LOD).
  - Boring SB16: Boring was advanced to refusal at about 12 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. 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.
  - Boring SB21: Boring was advanced to refusal at 11 feet bgs. Wood was identified in the cutting shoe at the refusal depth. Petroleum-like odors, staining, and PID readings up to 68.2 ppm were observed from about 6 to 8 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.
  - Boring SB22: Boring was advanced to refusal at 10 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer **LANGAN**

- Boring SB28: Boring was advanced to 20 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. 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.

- AARCO used a Geoprobe 7822 DT drill rig to install monitoring well MW28.
    - MW28 consists of a 2-inch diameter polyvinyl chloride (PVC) monitoring well with 20-slot well screen from about 4 to 14 feet bgs. MW28 will be developed at a future date.
- All soil borings were backfilled with clean drill cuttings from the borehole, clean sand, and/or bentonite and then patched with cold patch asphalt after sampling was completed

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):
    - SB13: 0-2, 4-6, and 12-14 feet bgs
    - SB16: 0-2, 6-8, and 10-12 feet bgs
    - SB21: 0-2, 6-8, and 9-11 feet bgs
    - SB22: 0-2, 4-6, and 8-10 feet bgs
    - SB28: 0-2, 4-6, and 12-14 feet bgs
- The following sample depths were placed on hold for analysis of total mercury:
    - SB21: 4-6 feet bgs
    - SB22: 2-4 feet bgs
- Six quality assurance/quality control soil sample (a trip blank, equipment blank, field blank, duplicate, and MS/MSD) was collected and submitted for analysis.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of mercury vapor 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 µg/m^3 for mercury vapor.

- The fifteen-minute average concentration of particulate matter smaller than 10 microns in diameter (PM10) exceeded action levels from 9:18 am to 9:33 am at air monitoring station PM-6. Air monitoring station PM-6 was being used as the work zone air monitoring station during this time because work was being conducted within 20 feet of the site boundary. Air monitoring station WZ-1 was located on the southern Water Street sidewalk. The fifteen-minute average concentration action level for PM10 was not exceeded at air monitoring station WZ-1. Work was stopped and the source of the exceedance was identified. The exceedance was caused by cutting asphalt to install a monitoring well cover for monitoring well MW28. Work resumed with increased dust suppression after the fifteen-minute average concentration at PM-6 dropped below the CAMP action level.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.016	0.0	0.0
PM-2	0.031	0.1	0.0
PM-3	0.017	0.0	0.0
PM-4	0.010	0.0	0.0
PM-5	0.010	0.8	0.0
PM-6	0.039	0.0	0.0
WZ-1	0.011	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.035	0.0	0.0
PM-2	0.106	0.2	0.0
PM-3	0.026	0.0	0.0
PM-4	0.014	0.0	0.0
PM-5	0.019	1.9	0.9
PM-6	0.526	0.0	0.1
WZ-1	0.034	0.0	0.2

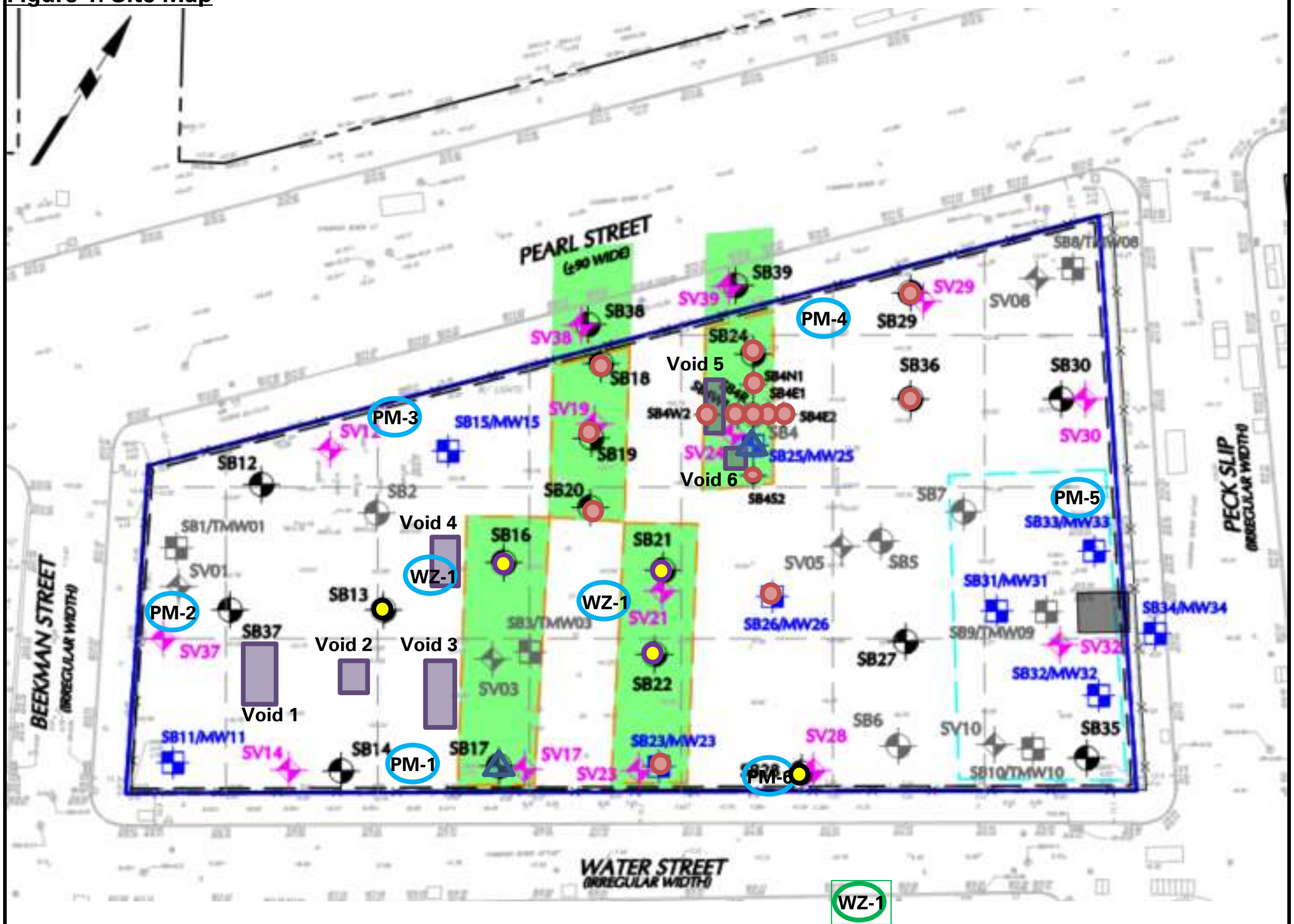
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer **LANGAN**

SITE OBSERVATION REPORT

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of soil from boring SB21.

Photo 2: Perimeter CAMP station PM-6 and off-site CAMP station WZ-1 along Water Street during the drilling of boring SB28 (facing east).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer
			LANGAN

SITE OBSERVATION REPORT

Photo 3: AARCO drilling boring SB16 (facing east).

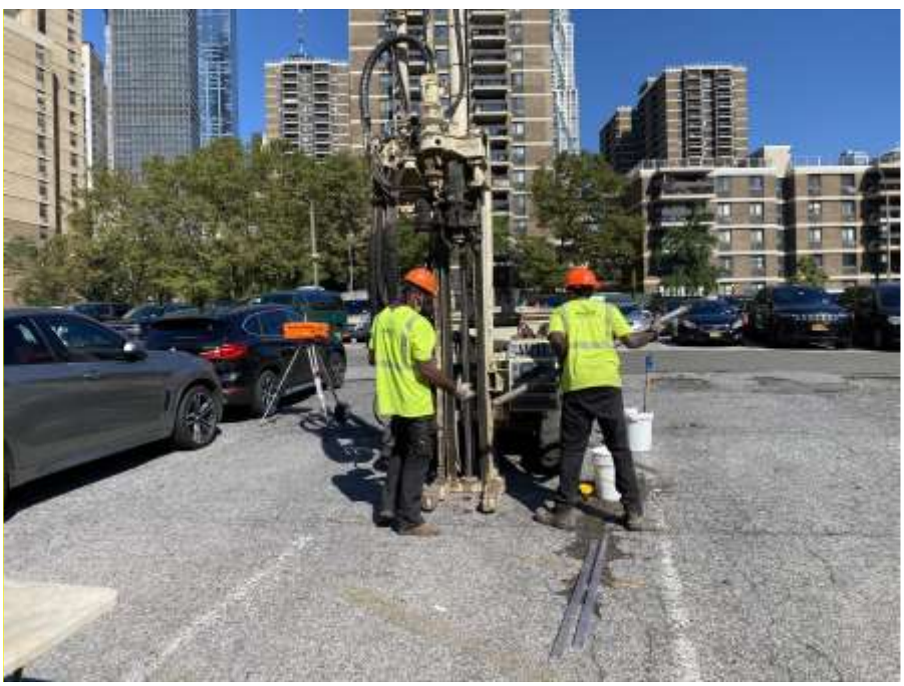


Photo 4: AARCO drilling boring SB22 (facing northeast).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Thomas Schiefer
			LANGAN

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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Wednesday, August 19, 2020 Sunny, 66-72 ^{0}F Wind: 0.0 mph (10:28 am) to N @ 5.8 mph (9:48 am) 6:45 am – 16:45 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Lexi Haley
EQUIPMENT: Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 13** 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 three soil borings. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples for laboratory analysis.
  - Boring SB11: Boring was advanced to 20 feet below grade surface (bgs). No petroleum-like odors, staining, or photoionization detector (PID) readings above background were observed. 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 SB14: Boring was advanced to 20 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified. Total mercury concentrations evaluated with the XRF were less than the LOD.
  - Boring SB15: Boring was advanced to 20 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified. Total mercury concentrations evaluated with the XRF were less than the LOD.
- AARCO used a Geoprobe 7822 DT drill rig to install monitoring wells MW11 and MW15.
  - MW11 consists of a 2-inch-diameter polyvinyl chloride (PVC) monitoring well with 20-slot well screen from about 12 to 22 feet bgs. MW11 will be developed at a future date.
  - MW15 consists of a 2-inch-diameter PVC monitoring well with 20-slot well screen from about 5 to 15 feet bgs. MW15 will be developed at a future date.
- All soil borings were backfilled with clean drill cuttings from the borehole, clean sand, and/or bentonite and then patched with cold patch asphalt after sampling was completed

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

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):
  - SB11: 0-2, 6-8, and 18-20 feet bgs
  - SB14: 0-2, 8-10, and 18-20 feet bgs
  - SB15: 0-2, 8-10, and 14-16 feet bgs
- Four quality assurance/quality control soil sample (a trip blank, equipment blank, field blank, and duplicate) was collected and submitted for analysis.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of mercury vapor 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 µg/m^3 for mercury vapor.

- The fifteen-minute average concentration of particulate matter smaller than 10 microns in diameter (PM10) exceeded action levels from 14:38 am to 14:52 am at work zone air monitoring station. Intrusive work for the day was previously completed and the exceedance was caused by sweeping excess quick-dry cement used to set monitoring well covers. Housekeeping activities were stopped and the fifteen-minute average concentration dropped below the CAMP action level.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.017	0.3	0.0
PM-2	0.026	0.0	0.0
PM-3	0.022	0.0	0.0
PM-4	0.012	0.0	0.0
PM-5	0.014	0.5	0.0
PM-6	0.019	0.0	0.0
WZ-1	0.023	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.045	0.0	0.0
PM-2	0.040	0.0	0.0
PM-3	0.029	0.0	0.0
PM-4	0.017	0.0	0.0
PM-5	0.020	1.0	0.0
PM-6	0.038	0.4	0.0
WZ-1	0.206	0.0	0.1

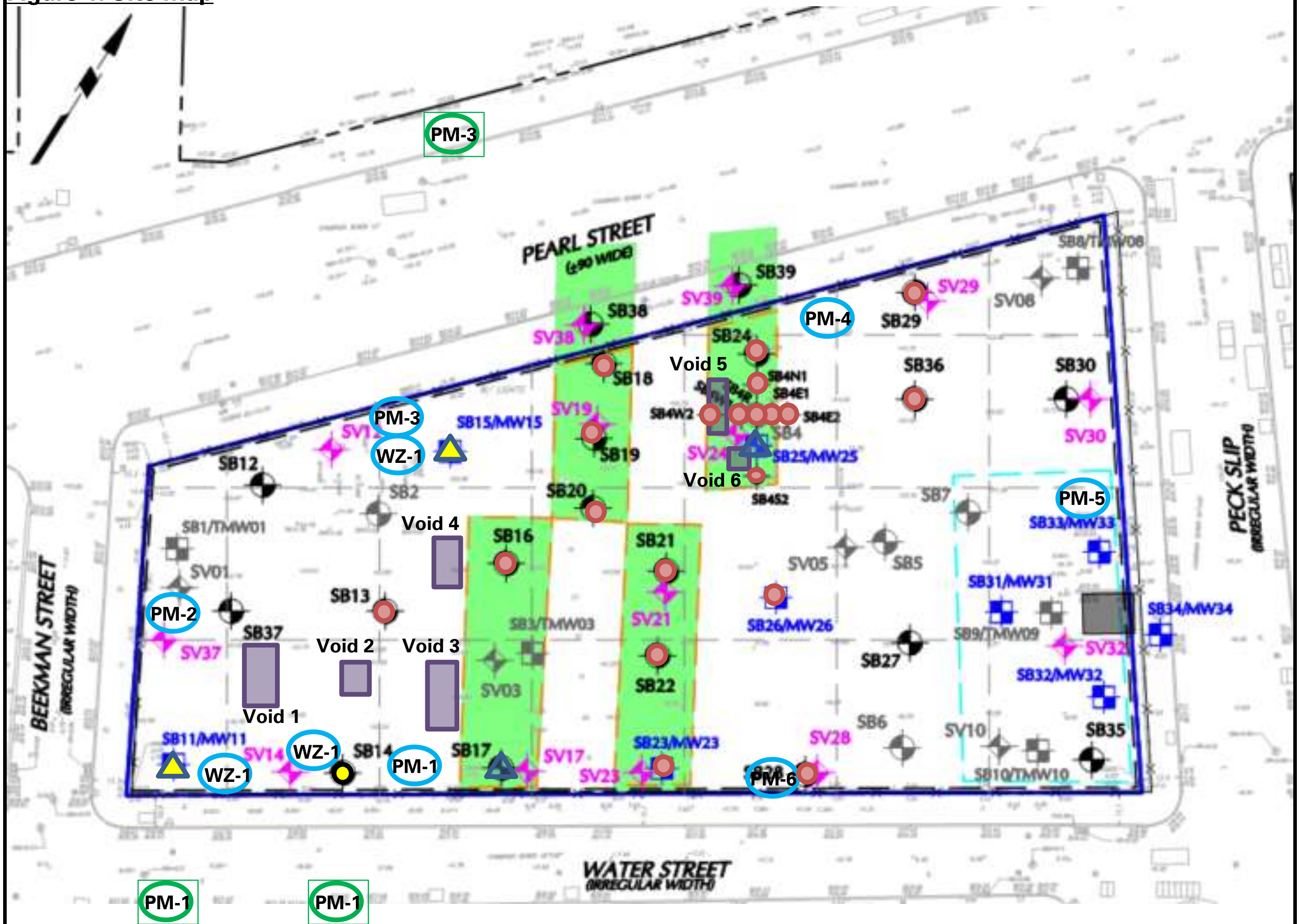
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of soil from boring SB15.

Photo 2: Perimeter CAMP station WZ-1 and off-site CAMP station PM-1 along Water Street during the drilling of boring SB28 (facing east).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Photo 3: AARCO drilling boring SB15 (facing northwest).

Photo 4: View of monitoring well MW11.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Thursday, August 20, 2020 Sunny, 68-82 ^{0}F Wind: 0.0 mph (7:43 am) to NE @ 6.9 mph (10:13 am) 6:45 am – 16:15 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Lexi Haley
EQUIPMENT: Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 14** 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 four soil borings. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples for laboratory analysis.
  - Boring SB12: Boring was advanced to 20 feet below grade surface (bgs). No petroleum-like odors, staining, or photoionization detector (PID) readings above background were observed. 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 SB27: Boring was advanced to 24 feet bgs. Petroleum-like odors, staining, and PID readings up to 3.0 parts per million (ppm) were observed from about 18 to 20 feet bgs. Visual evidence of elemental mercury was not identified. Total mercury concentrations evaluated with the XRF were less than the LOD.
  - Boring SB30: Boring was advanced to 32 feet bgs. Petroleum-like odors, staining, and PID readings ranging from 1.4 to 15,000 ppm were observed from about 13 to 28 feet bgs. Visual evidence of elemental mercury was not identified. Total mercury concentrations evaluated with the XRF were less than the LOD.
  - Boring SB37: Boring was advanced to 20 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified. Total mercury concentrations evaluated with the XRF were less than the LOD.
- AARCO developed previously installed monitoring wells MW11, MW15, and MW28.
- All soil borings were backfilled with clean drill cuttings from the borehole, clean sand, and/or bentonite and then patched with cold patch asphalt after sampling was completed.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was imported to the site.
- No material was exported from the site.
- Impacted soil cuttings from soil borings SB27 and SB30 and purged groundwater from monitoring wells MW11, MW15, and MW28 were containerized and sealed in 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):
  - SB12: 1-3, 6-8, and 14-16 feet bgs
  - SB27: 0-2, 10-12, and 18-20 feet bgs
  - SB30: 0-2, 16-18, and 30-32 feet bgs
  - SB37: 2-4, 6-8, and 12-14 feet bgs
- The following sample depths were submitted for analysis of VOCs and SVOCs and Part 375/TAL Metals:
  - SB27: 20-22 feet bgs
- The following sample depths were submitted an placed on hold for analysis of mercury:
  - SB27: 2-4
- Three quality assurance/quality control soil samples (a trip blank, equipment blank, and field blank) were collected and submitted for analysis.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

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 µg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.008	0.0	0.0
PM-2	0.023	0.1	0.0
PM-3	0.008	0.0	0.0
PM-4	0.005	0.0	0.0
PM-5	0.005	0.4	0.0
PM-6	0.006	0.1	0.0
WZ-1	0.005	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.014	0.0	0.0
PM-2	0.030	0.2	0.0
PM-3	0.021	0.0	0.0
PM-4	0.010	0.0	0.3
PM-5	0.010	1.0	0.0
PM-6	0.010	0.8	0.0
WZ-1	0.018	0.0	0.0

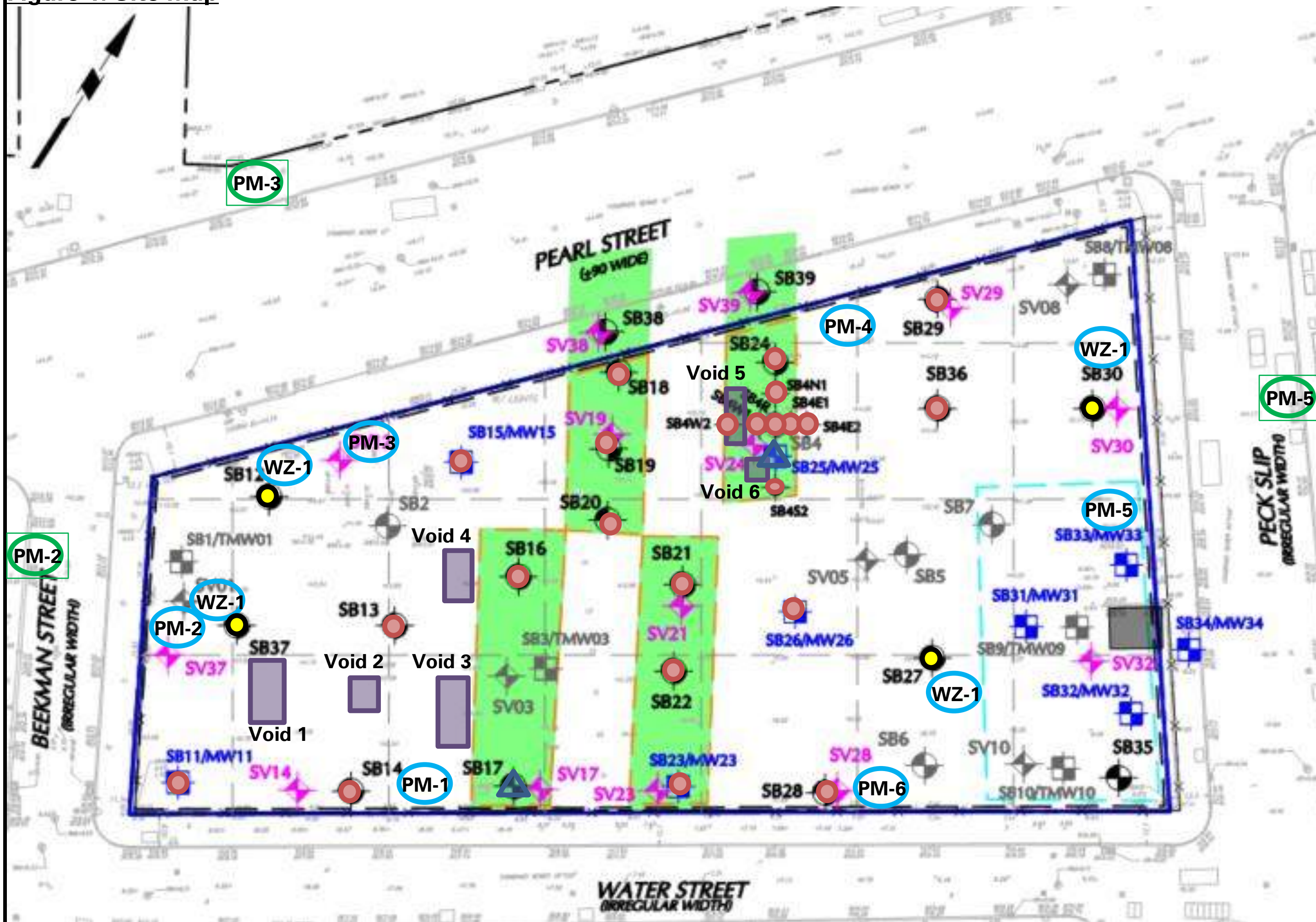
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

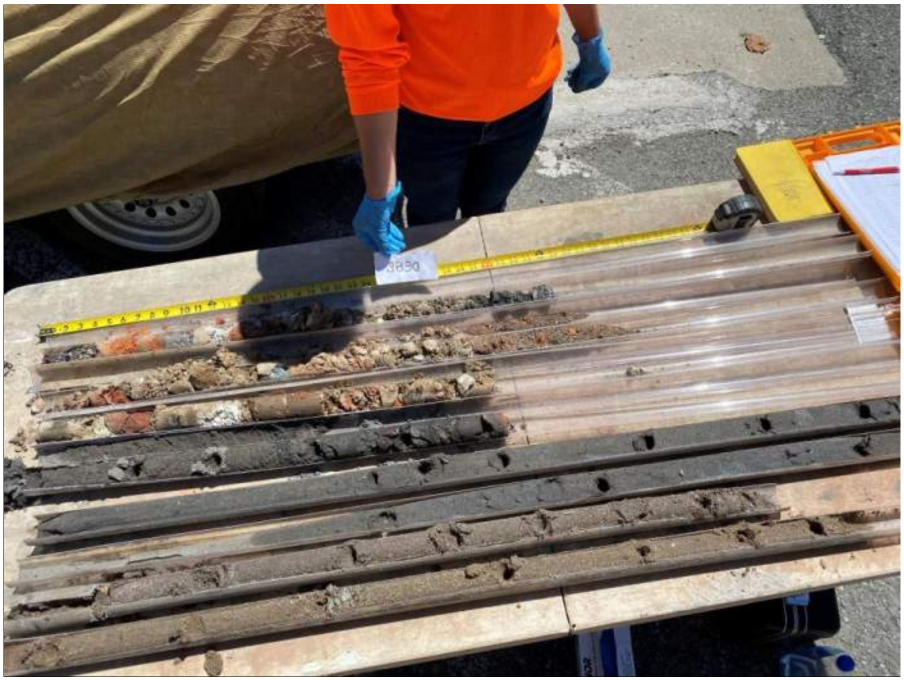


Photo 1: View of soil from boring SB30

Photo 2: Perimeter CAMP station WZ-1 and off-site CAMP station PM-2 along Beekman Street during the drilling of boring SB37 (facing southwest)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Photo 3: AARCO drilling boring SB30 (facing southeast)

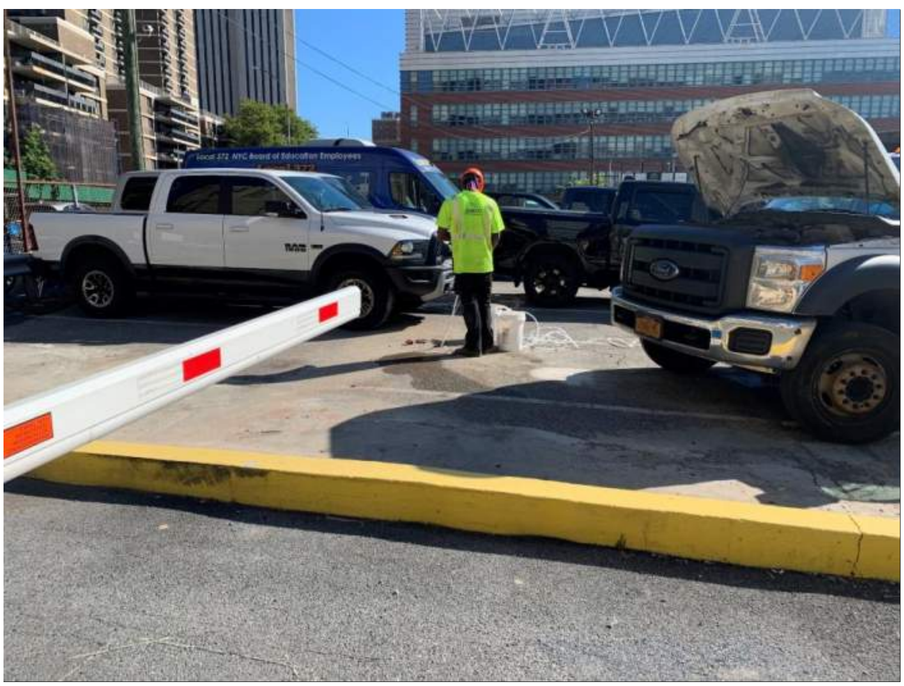


Photo 4: AARCO developing monitoring well MW15 (facing north)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Friday, August 21, 2020 **WEATHER:** Sunny, 69-82 ^{0}F Wind: SW @ 4.5 mph (3:13 pm) to N @ 10.1 mph (2:08 pm) **TIME:** 6:00 am – 17:00 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :** Tyler Zorn Lexi Haley
EQUIPMENT: Geoprobe 7822 DT Hand Auger Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 15** 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

- 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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

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 µg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/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
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/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

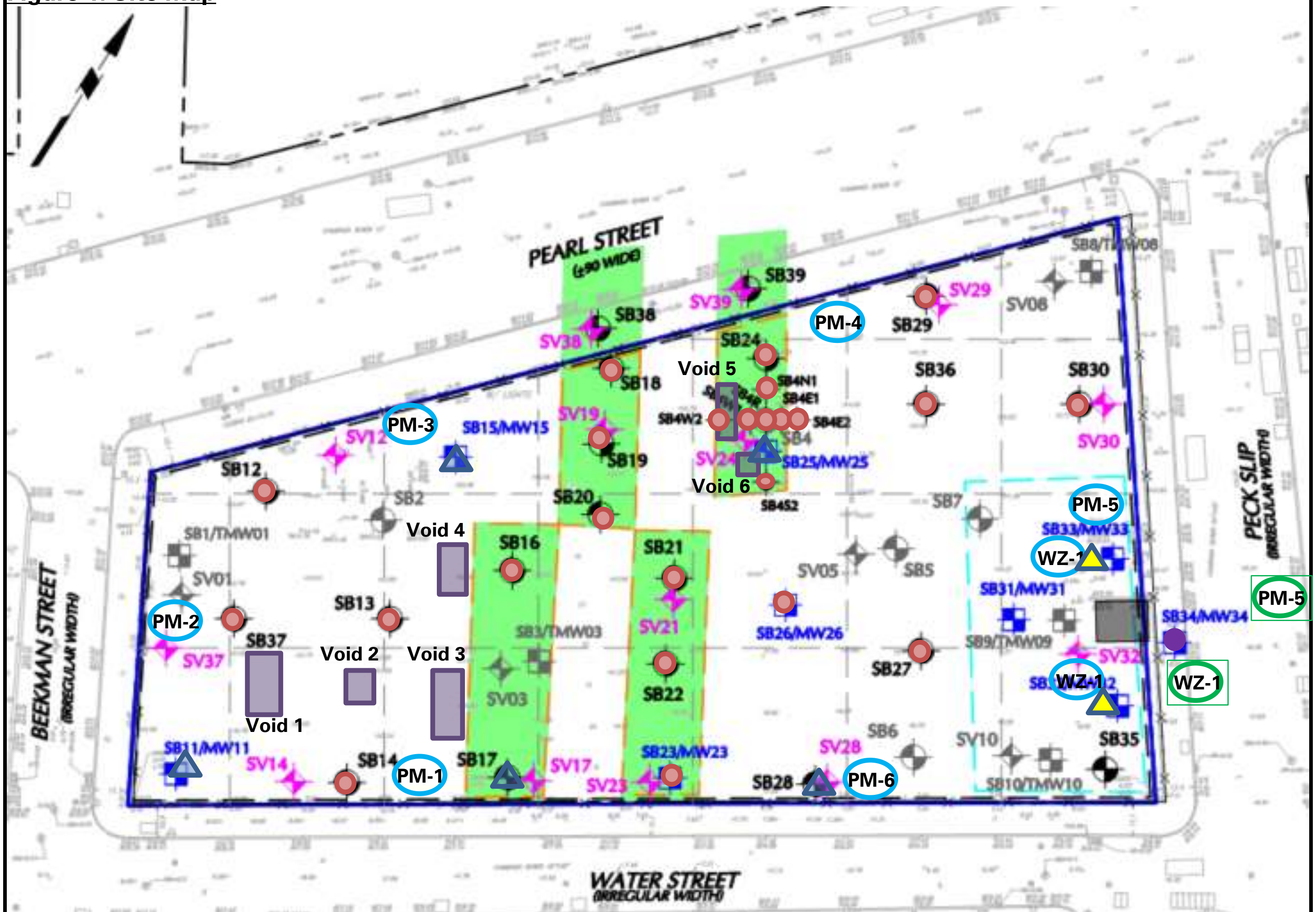
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

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)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Photo 3: AARCO drilling boring SB32 (facing southeast)

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Monday, August 24, 2020 Sunny, 80-89 ^{0}F Wind: 0 mph to SW @ 6.9 mph (3:09 pm) 6:00 am – 16:45 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Lexi Haley
EQUIPMENT: Geoprobe 7822 DT Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 16** 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).

<u>Site Activities</u>

- AARCO used an AMS Power Probe 9580-VT drill rig with 4-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 20 feet below grade surface (bgs). No petroleum-like odors, staining, or photoionization detector (PID) readings above background were observed. 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 SB31: Boring was advanced to refusal at 32 feet bgs. Petroleum-like odors, staining, and PID readings up to 1,202 parts per million (ppm) were observed from about 10 to 24 feet bgs. Visual evidence of elemental mercury was not identified. Total mercury concentrations evaluated with the XRF were less than the LOD.
  - Boring SB36: Boring was advanced to 24 feet bgs. Petroleum-like odors, staining, and PID readings up to 26.2 ppm were observed from about 2 to 6 feet and 16 to 20 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 MW26 and MW31.
  - MW26 consists of a 2-inch-diameter polyvinyl chloride (PVC) monitoring well with 20-slot well screen from about 11 to 21 feet bgs. MW26 will be developed at a future date.
  - MW31 consists of a 2-inch-diameter PVC monitoring well with 20-slot well screen from about 8 to 18 feet bgs. MW31 will be developed at a future date.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

- 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.
- No material was exported from the site.
- Impacted soil cuttings from soil borings SB31 and SB36 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):
  - SB26: 0-2, 6-8, and 13-15 feet bgs
  - SB31: 0-2, 18-20, and 26-28 feet bgs
  - SB36: 0-2, 16-18, and 30-32 feet bgs
- The following sample depths were submitted an placed on hold for analysis of mercury:
  - SB36: 2-4 feet bgs
- Three quality assurance/quality control soil samples (a trip blank, equipment blank, and a duplicate) 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:
  - SB31: 18-20 and 30-32 feet bgs

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of mercury vapor 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 μg/m^3 for mercury vapor.

- The fifteen-minute average concentration of particulate matter smaller than 10 microns in diameter (PM10) exceeded action levels from 12:09 pm to 12:23 pm at the work zone air monitoring station. The fifteen-minute average concentration action level for PM10 was not exceeded at any perimeter air monitoring station. Work was stopped and the source of the exceedance was identified. The exceedance was caused by cutting asphalt to install a monitoring well cover for monitoring well MW26. Work was resumed with increased dust suppression after the fifteen-minute average concentration at work zone dropped below the CAMP action level.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/m^3)
PM-1	0.016	0.0	0.0
PM-2	0.032	0.0	0.1
PM-3	0.017	0.0	0.0
PM-4	0.013	0.5	0.0
PM-5	0.011	0.6	0.0
PM-6	0.012	0.0	0.0
WZ-1	0.015	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
μg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/m^3)
PM-1	0.027	0.0	0.0
PM-2	0.049	0.0	0.3
PM-3	0.035	0.0	0.2
PM-4	0.024	3.8	0.0
PM-5	0.024	0.9	0.0
PM-6	0.030	0.6	0.0
WZ-1	0.203	0.0	0.0

Anticipated Activities

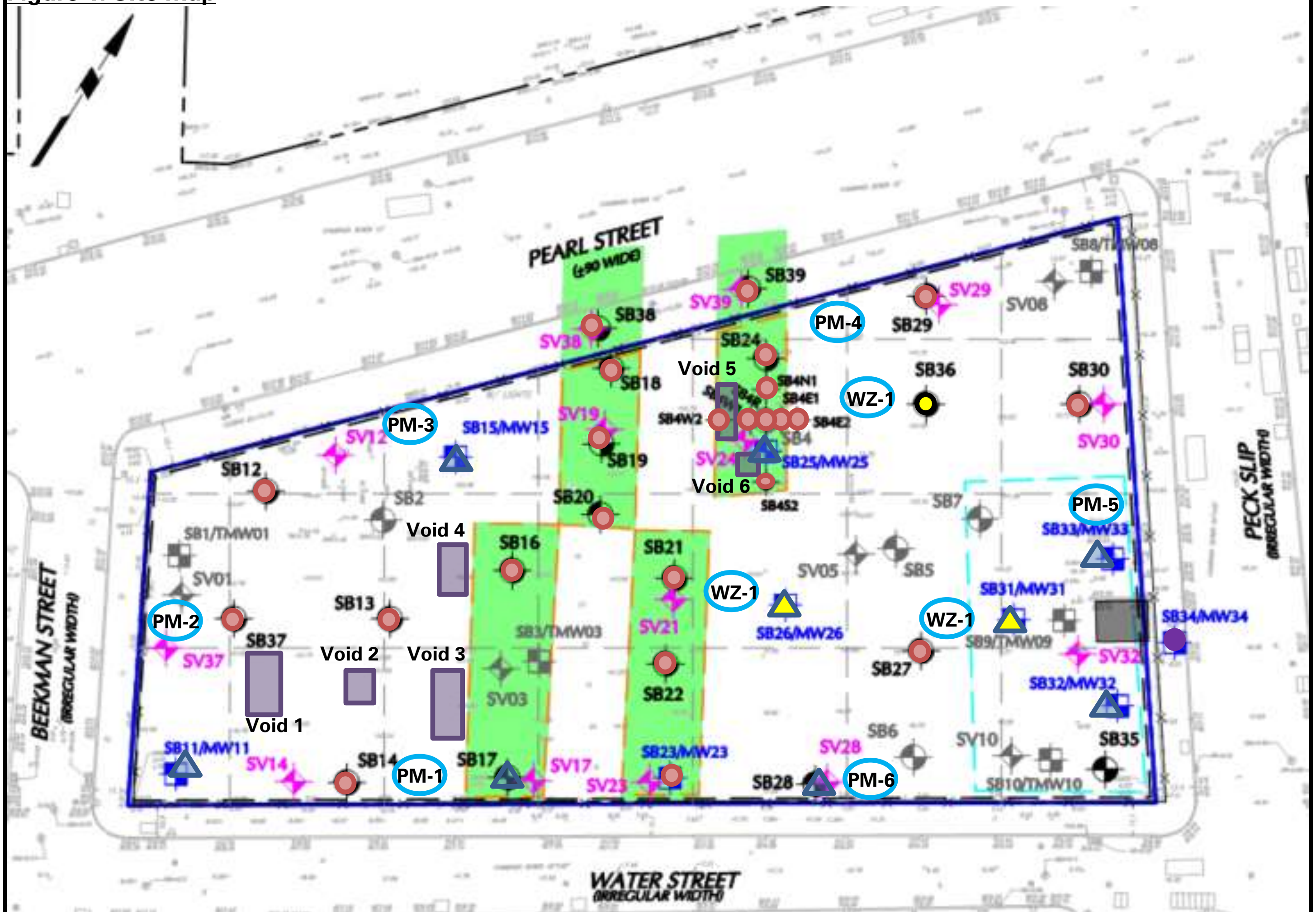
- AARCO and Langan will continue to advance and sample soil borings and install monitoring wells at the site.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

LANGAN

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- Approximate location of soil borings previously 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of soil from boring SB36

Photo 2: CAMP station WZ-1 and perimeter CAMP station PM-4 along Pearl Street during the drilling of boring SB36 (facing northwest)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

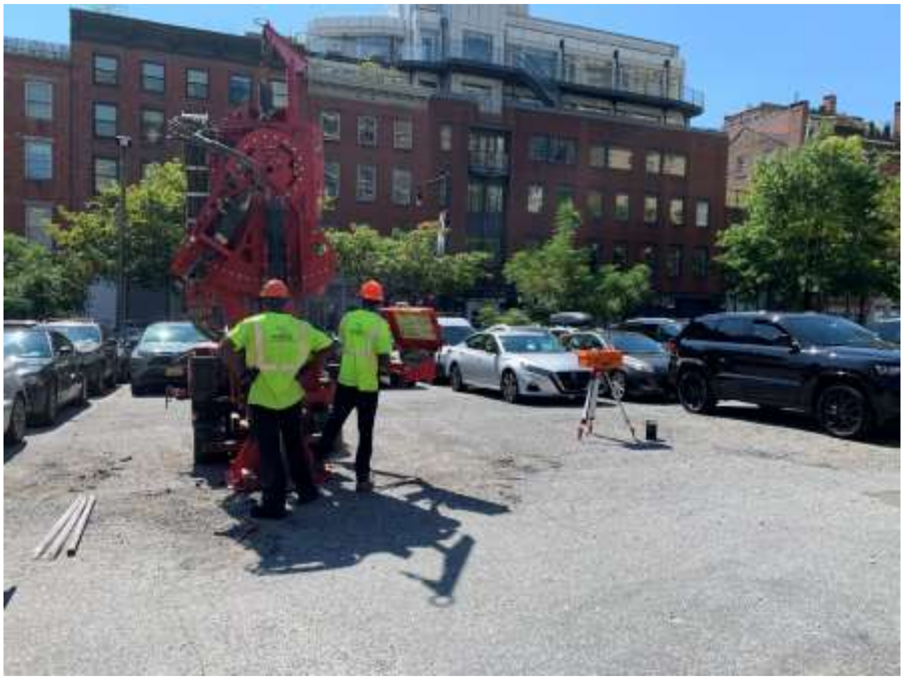


Photo 3: AARCO drilling boring SB26 (facing southeast)

Photo 4: View of installed MW26 (facing southwest)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Tuesday, August 25, 2020 Sunny, 75-88 ^{0}F Wind: 0 mph to W @ 9.2 mph (1:05 pm) 5:45 am – 15:45 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Lexi Haley
EQUIPMENT: AMS Power Probe 9580-VTR Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 17** 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 an AMS Power Probe 9580-VTR 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 SB34: Boring was advanced to 20 feet below grade surface (bgs). A void space was encountered from 0 to 4 feet bgs. Petroleum-like odors, staining, and PID readings up to 4.2 parts per million (ppm) were observed from about 11 to 16 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 SB35: Boring was advanced to refusal at 28 feet bgs. Petroleum-like and creosote-like odors, staining, and PID readings up to 21.0 ppm were observed from about 9 to 24 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 well MW34.
  - MW34 consists of a 2-inch-diameter polyvinyl chloride (PVC) monitoring well with 20-slot well screen from about 9 to 19 feet bgs. MW34 will be developed at a future date.
- 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.
- No material was exported from the site.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

- Impacted soil cuttings from soil borings SB34 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):
  - SB34: 4-6, 10-12, and 12-14 feet bgs
  - SB35: 0-2, 8-10, and 26-28 feet bgs
- The following sample depths were submitted for analysis of VOCs, SVOCs, and Part 375/TAL metals:
  - SB34: 18-20 feet bgs
- One quality assurance/quality control soil samples (an equipment blank) was collected and submitted for analysis.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, 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 µg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.026	0.0	0.0
PM-2	0.035	0.0	0.0
PM-3	0.032	0.0	0.0
PM-4	0.018	0.0	0.0
PM-5	0.022	0.6	0.0
PM-6	0.024	0.0	0.0
WZ-1	0.023	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.035	0.0	0.0
PM-2	0.050	0.0	0.0
PM-3	0.039	0.0	0.0
PM-4	0.025	0.0	0.1
PM-5	0.029	1.4	0.0
PM-6	0.030	0.0	0.0
WZ-1	0.062	0.0	0.0

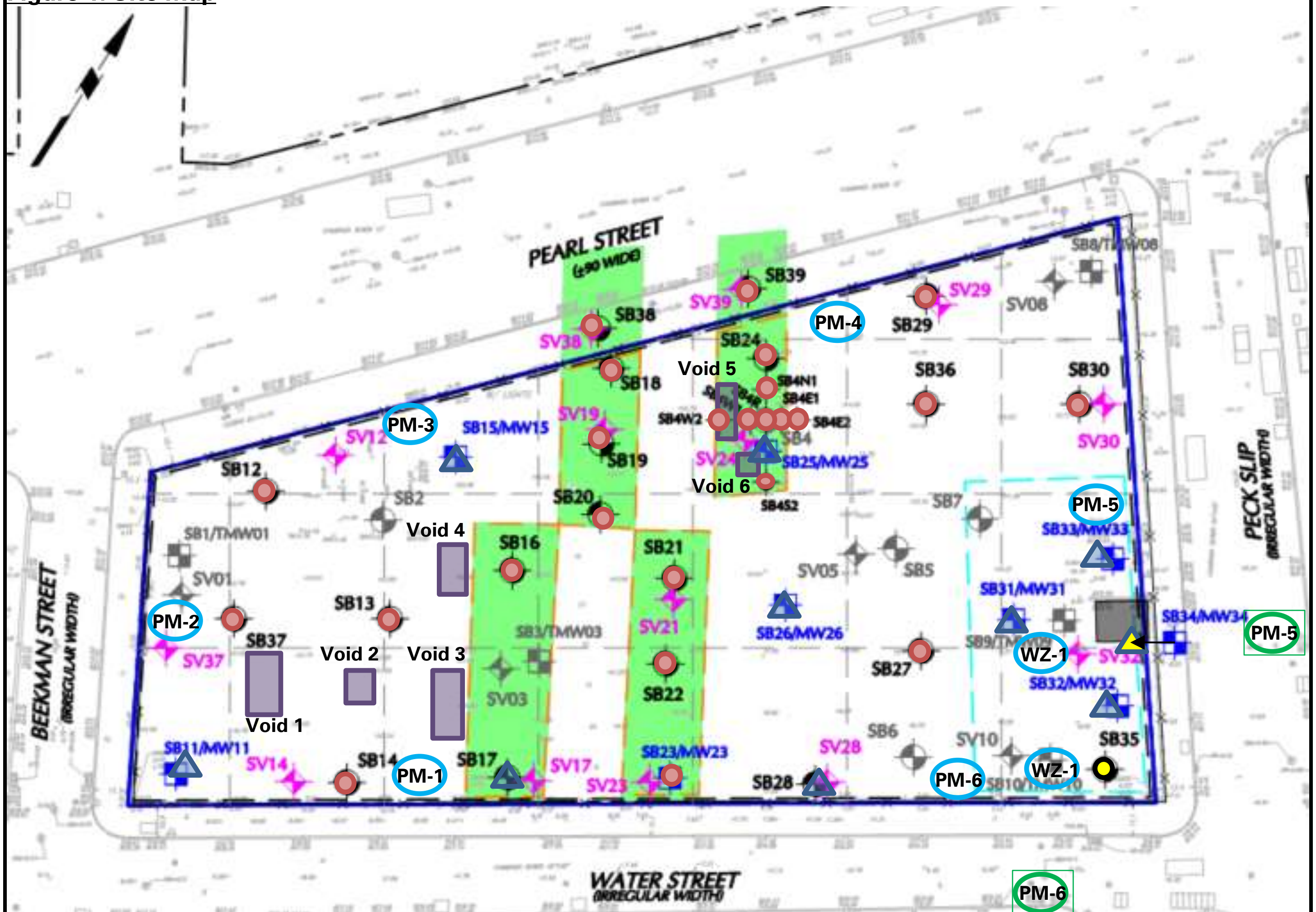
Anticipated Activities

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

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

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SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of soil from boring SB35

Photo 2: Perimeter CAMP station WZ-1 and off-site CAMP station PM-6 along Water Street during the drilling of boring SB35 (facing southeast)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Photo 3: AARCO drilling boring SB34 (facing east)

Photo 4: AARCO troubleshooting drill rig track (facing north)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Wednesday, August 26, 2020 Sunny, 70-82 ^{0}F Wind: NW @ 3.5 mph (7:51 am) to WNW @ 10.4 mph (12:07 pm) 5:45 am – 15:00 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Lexi Haley
EQUIPMENT: AMS Power Probe 9580-VTR Niton XL3t XRF Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **RI Day 18** 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 an AMS Power Probe 9580-VTR drill rig with 4-foot-long Macro-Core® samplers to advance seven additional soil borings requested by the NYSDEC. Langan documented the work, screened the soil samples for environmental impacts, and collected soil samples for laboratory analysis.
  - Boring SB4N3: Boring was advanced to 12 feet below grade surface (bgs). No petroleum-like odors, staining, or photoionization detector (PID) readings above background were observed. Visual evidence of elemental mercury was not identified.
  - Boring SB4NE3: Boring was advanced to 16 feet bgs. Petroleum-like odors, staining, and PID readings up to 9.2 ppm were observed from about 12 to 14 feet bgs. Visual evidence of elemental mercury was not identified.
  - Boring SB4SE3: Boring was advanced to 16 feet bgs. Petroleum-like odors, staining, and PID readings up to 218.0 parts per million (ppm) were observed from about 12 to 16 feet bgs. Visual evidence of elemental mercury was not identified.
  - Boring SB4S3: Boring was advanced to 16 feet bgs. Petroleum-like odors, staining, and PID readings up to 102.8 ppm were observed from about 14 to 16 feet bgs. Visual evidence of elemental mercury was not identified.
  - Boring SB4SW3: Boring was advanced to 12 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified.
  - Boring SB4W3: Boring was advanced to 12 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified.
  - Boring SB4NW3: Boring was advanced to 16 feet bgs. No petroleum-like odors, staining, or PID readings above background were observed. Visual evidence of elemental mercury was not identified.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

- AARCO installed monitoring well MW30.
  - MW30 consists of a 2-inch-diameter polyvinyl chloride (PVC) monitoring well with 20-slot well screen from about 9 to 19 feet bgs. MW34 was developed after installation.
- AARCO developed monitoring wells MW26, MW30, MW31, MW32, MW33, and MW34.
- 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.
- No material was exported from the site.
- Impacted soil cuttings from soil borings SB4NE3, SB4SE3, and SB4S3 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 total mercury
  - SB4N3: 0-2, 2-3, 6-8, 9-10, and 10-12 feet bgs
  - SB4NE3: 0-2, 2-4, 5-6, 6-8, 9-10, 10-12, 13-14, and 14-16 feet bgs
  - SB4SE3: 0-2, 2-4, 4-6, 6-8, 8-10, 10-12, 12-14, and 14-16 feet bgs
  - SB4S3: 0-2, 2-3, 5-6, 6-8, 8-10, 10-12, 13-14, and 14-16 feet bgs
  - SB4SW3: 0-2, 2-3, 4-6, 6-8, 8-10, and 10-12 feet bgs
  - SB4W3: 0-2, 2-4, 4-6, 6-8, 8-10, and 10-12 feet bgs
  - SB4NW3: 0-2, 2-3, 4-6, 6-8, 9-10, 10-12. 12-14, and 14-16 feet bgs
- The following sample depths were submitted and placed on hold for analysis of TCLP mercury:
  - SB4N3: 2-3 feet bgs
  - SB4NE3: 2-4 feet bgs
  - SB4SE3: 2-4 feet bgs
  - SB4S3: 2-3 feet bgs
  - SB4SW3: 2-3 feet bgs
  - SB4W3: 2-4 feet bgs
  - SB4NW3: 2-3 feet bgs
- Twelve quality assurance/quality control soil samples (three field blanks, three MS/MSD, and three duplicates) were collected and submitted for analysis.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, 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 μg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/m^3)
PM-1	0.005	0.0	0.0
PM-2	0.016	0.0	0.0
PM-3	0.005	0.0	0.0
PM-4	0.004	1.1	0.0
PM-5	0.004	0.6	0.0
PM-6	0.000	0.0	0.0
WZ-1	0.001	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
μg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (μg/m^3)
PM-1	0.007	0.0	0.0
PM-2	0.024	0.0	0.0
PM-3	0.009	0.0	0.0
PM-4	0.015	2.4	0.2
PM-5	0.009	1.0	0.0
PM-6	0.006	0.0	0.0
WZ-1	0.006	0.2	0.0

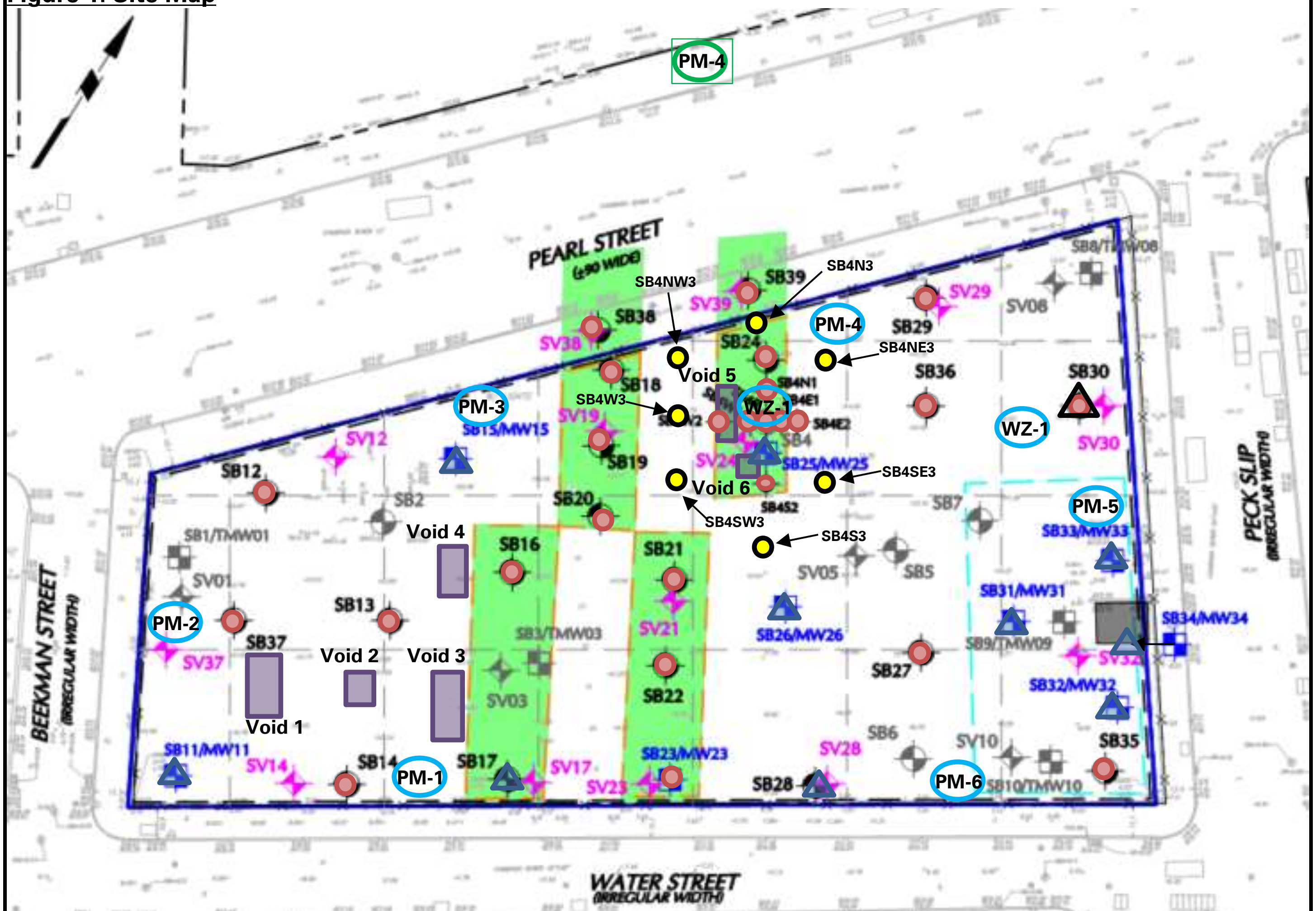
Anticipated Activities

- Phase 5 of the RIWP (groundwater sampling) is anticipated to be begin on August 31, 2020.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of soil borings sampled
- Approximate location of previously sampled soil borings
- Approximate location of completed 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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of soil from boring SB4SE3

Photo 2: Perimeter CAMP station WZ-1 and off-site CAMP station PM-4 along Pearl Street during the drilling of boring SB4N3 (facing north)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Photo 3: AARCO drilling boring SB4W3 (facing southwest)

Photo 4: AARCO developing monitoring well MW30 (facing north)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Tuesday, September 1, 2020 Cloudy, 70-81 ^{0}F Wind: E @ 3 to 13 mph 5:30 am – 15:30 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Lexi Haley
EQUIPMENT: Jerome J505 MiniRAE 3000 Peristaltic Pump Horiba U52-2 Water Quality Meter Solinst Interface Probe	**PRESENT AT SITE:** **RI Day 19** Tyler Zorn, Lexi Haley – Langan Brian Ehalt – EXCEL Environmental Resources, Inc.		

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan began implementing Phase 5 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).

<u>Site Activities</u>

- Langan used a peristaltic pump to conduct low flow groundwater sampling of previously installed monitoring wells. Water quality readings were recorded with a Horiba U52-2 Water Quality Meter prior to sample collection.
  - MW11: Groundwater was observed after sampling at about 11 feet below grade surface (bgs). No petroleum-like odor was observed emanating from the monitoring well. No photoionization detector (PID) or Jerome J505 mercury vapor headspace readings above background were observed.
  - MW15: Groundwater was observed after sampling at about 18 feet bgs. No petroleum-like odor was observed emanating from the monitoring well. No PID or Jerome J505 mercury vapor headspace readings above background were observed.
  - MW17: Groundwater was observed after sampling at about 10 feet bgs. No petroleum-like odor was observed emanating from the monitoring well. No PID or Jerome J505 mercury vapor headspace readings above background were observed.
  - MW25: Groundwater was observed after sampling at about 16 feet bgs. No petroleum-like odor was observed emanating from the monitoring well. No PID or Jerome J505 mercury vapor headspace readings above background were observed.
  - MW28: Groundwater was observed after sampling at about 15 feet bgs. No petroleum-like odor was observed emanating from the monitoring well. No PID or Jerome J505 mercury vapor headspace readings above background were observed.

<u>Material Tracking</u>

- No material was imported to the site.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

- No material was exported from the site.
- All purged groundwater was containerized in a 55-gallon drum. The drums were stored on-site for future off-site disposal.

Sampling

Groundwater 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 samples were submitted for Part 375/TCL volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polychlorinated biphenyls (PCB), pesticides, herbicides, Parts 375/TAL metals (total and dissolved) including hexavalent and trivalent chromium, total cyanide, 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS)
  - MW11_090120
  - MW15_090120
  - MW17_090120
  - MW25_090120
  - MW28_090120
- Five quality assurance/quality control soil samples (one field blank, one equipment blank, one trip blank, and one MS/MSD) were collected and submitted for analysis.

CAMP Activities

Continuous air monitoring was not conducted because ground-intrusive activities were not performed at the site. Langan conducted periodic monitoring for VOCs and mercury vapor upon arrival and departure and periodically during sampling at the sampled monitoring well locations. VOC and mercury vapor concentrations above background were not observed on monitoring well headspace readings.

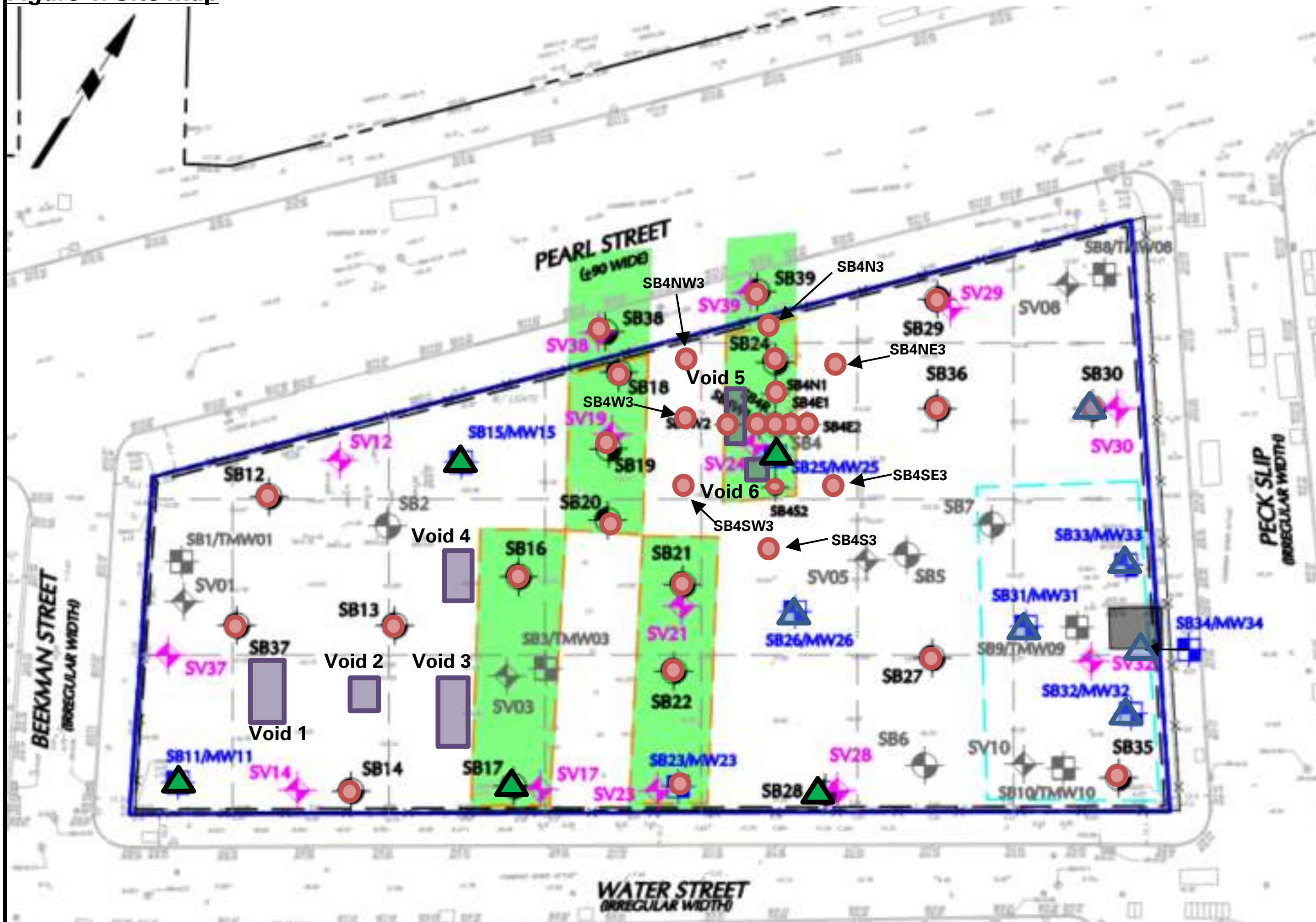
Anticipated Activities

- Langan will continue groundwater sampling on September 2, 2020.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of previously sampled soil borings
- Approximate location of sampled monitoring well
- Approximate location of previously completed soil borings and monitoring well

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: Monitoring well MW17

Photo 2: PID screening of monitoring well MW15

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Photo 3: Typical Jerome screening at monitoring well


Photo 4: Typical groundwater sampling set up

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Wednesday, September 2, 2020 Cloudy/Rainy, 74-84 ^{0}F Wind: E @ 3 to 13 mph 6:30 am – 16:00 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Tyler Zorn Lexi Haley
EQUIPMENT: Jerome J505 MiniRAE 3000 Peristaltic Pump Horiba U52-2 Water Quality Meter Solinst Interface Probe	**PRESENT AT SITE:** Tyler Zorn, Lexi Haley – Langan		**RI Day 20**

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan continued implementing Phase 5 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

- Langan used a peristaltic pump to purge and conduct low-flow groundwater sampling of previously installed monitoring wells. Water quality readings were recorded using a Horiba U52-2 Water Quality Meter prior to sample collection.
    - MW26: No petroleum-like odor was observed emanating from the monitoring well. Photoionization detector (PID) headspace readings were observed up to 12.7 parts per million (ppm). No Jerome J505 mercury vapor headspace readings above background were observed. After sampling, groundwater was gauged at about 17 feet below grade surface (bgs).
    - MW30: Petroleum-like odors were observed emanating from the monitoring well. No PID or Jerome J505 mercury vapor headspace readings were observed above background. After sampling, groundwater was gauged at about 18 feet bgs.
    - MW31: Petroleum-like odors were observed emanating from the monitoring well. PID headspace readings were observed up to 360.9 ppm. Jerome J505 mercury vapor headspace readings were observed up to 2.79 micrograms per meter cubed (µg/m^3). After sampling, groundwater was gauged at about 15 feet bgs.
    - MW32: Petroleum-like odors were observed emanating from the monitoring well. PID headspace readings were observed up to 32.0 ppm. No Jerome J505 mercury vapor headspace readings were observed above background. After sampling, groundwater was gauged at about 15 feet bgs.
    - MW33: Petroleum-like odors were observed emanating from the monitoring well. No PID or Jerome J505 mercury vapor headspace readings were observed above background. After sampling, groundwater was gauged at about 15 feet bgs.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

- MW34: Petroleum-like odors were observed emanating from the monitoring well. No PID or Jerome J505 mercury vapor headspace readings were observed above background. After sampling, groundwater was gauged at about 15 feet bgs.

Material Tracking

- No material was imported to the site.
- No material was exported from the site.
- All purged groundwater was containerized in a 55-gallon drum. The drum was stored on-site for future off-site disposal.

Sampling

Groundwater samples were collected and relinquished to Alpha Analytical, Inc., 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 samples were submitted for Part 375/TCL volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polychlorinated biphenyls (PCB), pesticides, herbicides, Parts 375/TAL metals (total and dissolved) including hexavalent and trivalent chromium, total cyanide, 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS)
  - MW26_090220
  - MW30_090220
  - MW31_090220
  - MW32_090220
  - MW33_090220
  - MW34_090220
- Four quality assurance/quality control soil samples (one field blanks, one equipment blank, one trip blank, and one duplicate) were collected and submitted for analysis.

CAMP Activities

Continuous air monitoring was not conducted because ground-intrusive activities were not performed at the site. Langan conducted periodic monitoring for VOCs and mercury vapor upon arrival and departure and during sampling at the sampled monitoring well locations. VOC and/or mercury vapor concentrations were observed above background during monitoring well headspace monitoring, however ambient air monitoring concentrations near sampled monitoring wells were below background.

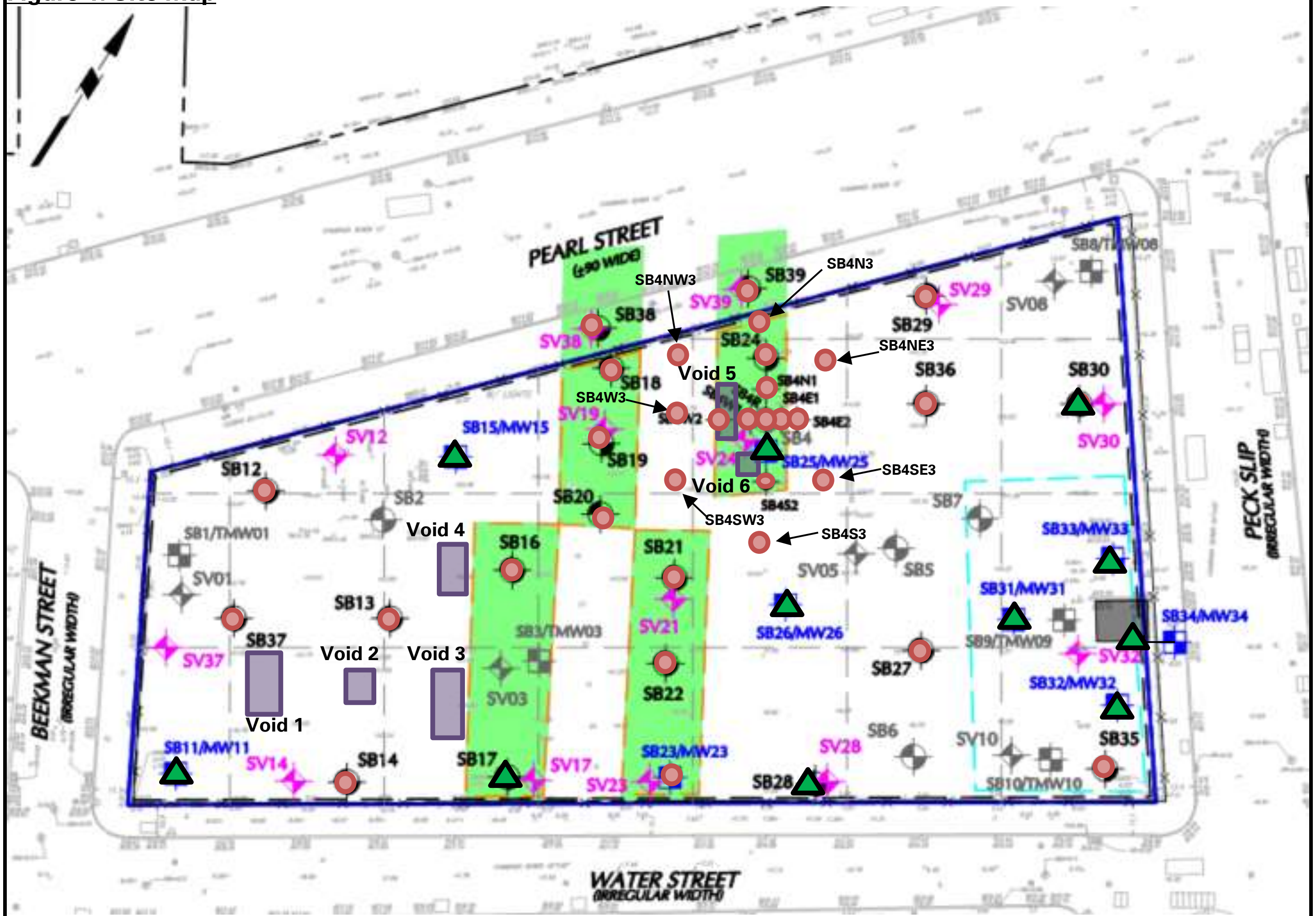
Anticipated Activities

- Langan will conduct a synoptic monitoring well gauging event on September 3, 2020.
- The monitoring well survey is scheduled for the third week of September, 2020.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

- Site Boundary
- Approximate area of suspected void space
- Approximate location of previously sampled soil borings
- Approximate location of sampled monitoring well
- Approximate location of previously completed soil borings and monitoring well

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of downwind ambient air monitoring while groundwater sampling

Photo 2: PID screening of monitoring well MW33

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

SITE OBSERVATION REPORT

Photo 3: Jerome screening at monitoring well MW34

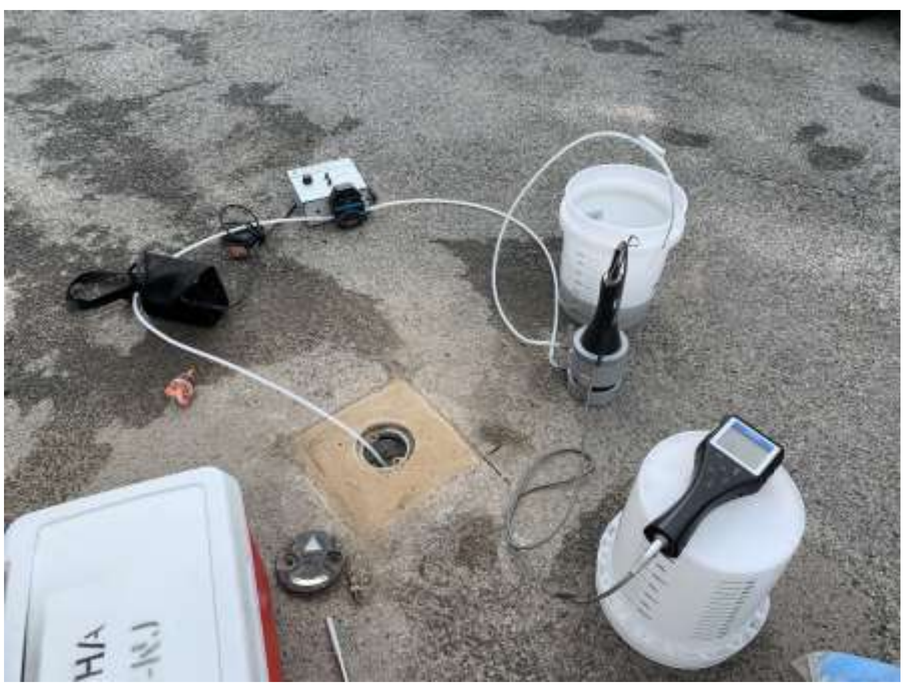


Photo 4: Typical groundwater sampling set up

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn, Lexi Haley
			LANGAN

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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:**	Thursday, September 3, 2020
		WEATHER:	Sunny, 75-85 ^{0}F Wind: WNW @ 1 to 8 mph
		TIME:	7:00 am – 08:30 am
CONTRACTOR: None		**LANGAN REP. :**	Tyler Zorn
EQUIPMENT: Solinst Interface Probe	**PRESENT AT SITE:** Tyler Zorn – Langan	**RI Day 21**	

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan completed the implementation of Phase 5 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

- Langan used an oil water interface probe to conduct a synoptic gauging event of previously installed monitoring wells. Depth to water (DTW) and depth to bottom (DTB) of each well was measured from the top of casing. Wells were also gauged for the presence of free product; free product was not identified in any monitoring wells.
  - MW11: DTW = 9.62’. DTB = 14.63’.
  - MW15: DTW = 15.39’. DTB = 22.39’.
  - MW17: DTW = 9.53’. DTB = 16.90’.
  - MW25: DTW = 15.18’. DTB = 21.80’.
  - MW26: DTW = 12.24’. DTB = 20.94’.
  - MW28: DTW = 8.12’. DTB = 13.85’.
  - MW30: DTW = 12.52’. DTB = 20.78’.
  - MW31: DTW = 10.21’. DTB = 17.66’.
  - MW32: DTW = 8.65’. DTB = 17.20’.
  - MW33: DTW = 10.39’. DTB = 17.68’.
  - MW34: DTW = 9.43’. DTB = 18.66’.

Material Tracking

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

Sampling

- No samples were taken.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Continuous air monitoring was not conducted because ground-intrusive activities were not performed at the site.

Anticipated Activities

- The monitoring well survey is scheduled for the third week of September, 2020.
- Langan will compile and evaluate the results from investigation phases 1 through 5 to determine if supplemental soil borings, soil vapor points, groundwater monitoring wells, test pits, and media sampling are required to satisfy the objectives of the RIWP.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn
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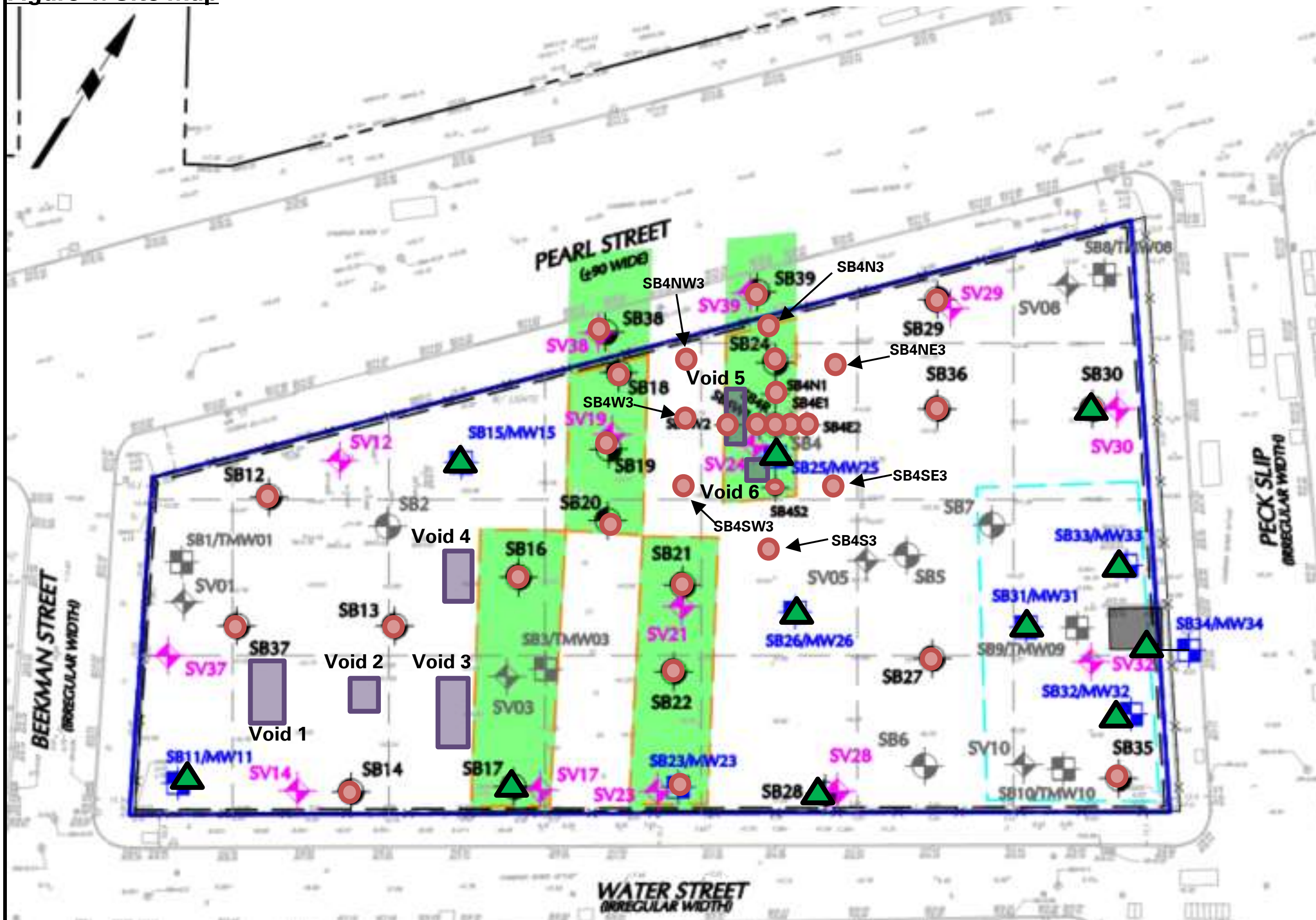
SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

Site Boundary

Approximate area of suspected void space

Approximate location of previously completed soil borings

Approximate location of previously completed soil borings and monitoring wells

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

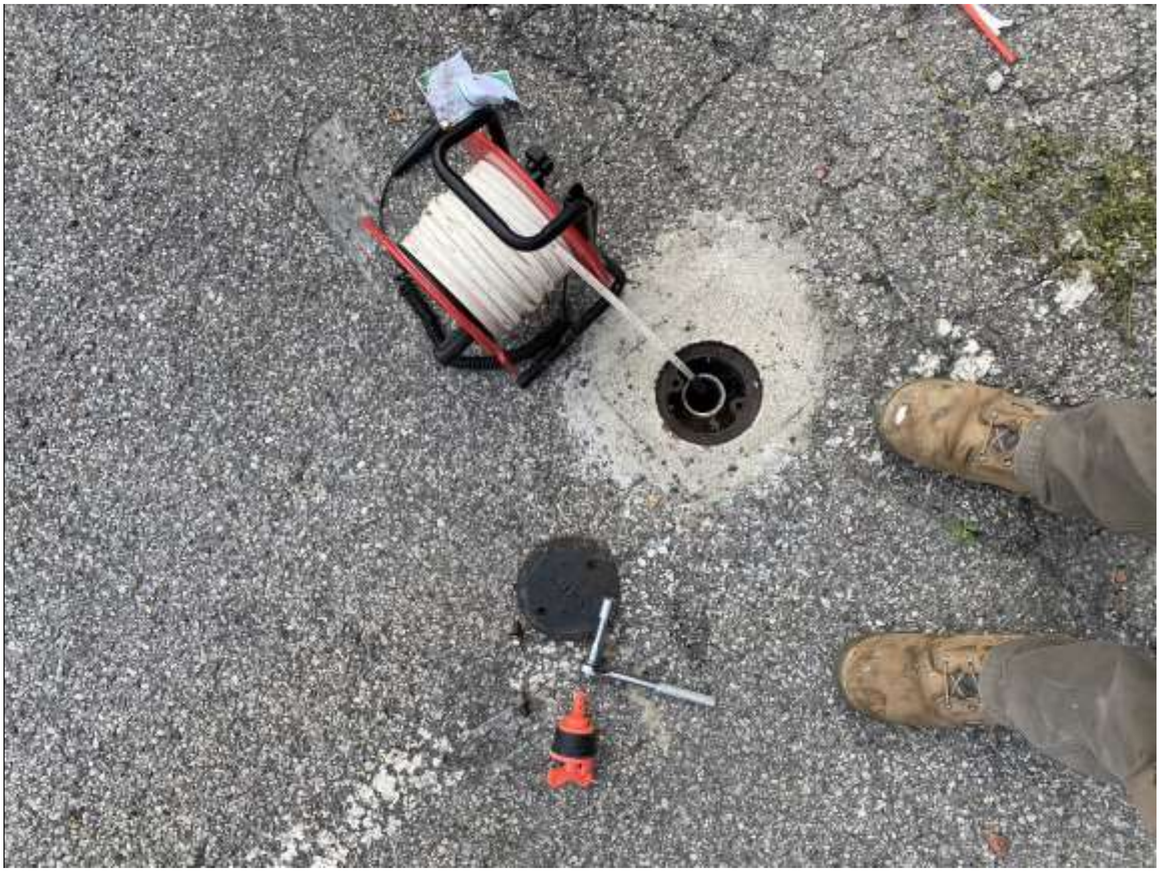


Photo 1: View of typical monitoring well gauging.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn
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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Saturday, September 26, 2020 **WEATHER:** Overcast, 68-75 ^{0}F Wind: SE @ 0 to 7 mph **TIME:** 6:00 am – 15:45 pm	
CONTRACTOR: ConeTec		**LANGAN REP. :** Tyler Zorn	
EQUIPMENT: CPT Rig Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** Tyler Zorn, Maedeh Tavakoli – Langan	**Geotechnical Investigation Day 1**	

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- ConeTec used a Cone Penetration Test (CPT) truck rig to test five CPT locations. ConeTec encountered refusal at all five CPT locations from 6-10 feet below grade surface (bgs).

Material Tracking

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

Sampling

- No samples were taken.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, 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 µg/m^3 for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.028	0.0	0.0
PM-2	0.034	0.0	0.0
PM-3	0.012	0.0	0.0
PM-4	0.024	0.0	0.0
PM-5	0.017	0.0	0.0
PM-6	0.023	0.0	0.0
WZ-1	0.024	0.0	0.0

mg/m^3 = milligrams per cubic meter
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.062	0.0	0.0
PM-2	0.063	0.0	0.0
PM-3	0.036	0.0	0.0
PM-4	0.053	0.0	0.0
PM-5	0.064	0.0	0.0
PM-6	0.052	0.0	0.0
WZ-1	0.057	0.0	0.0

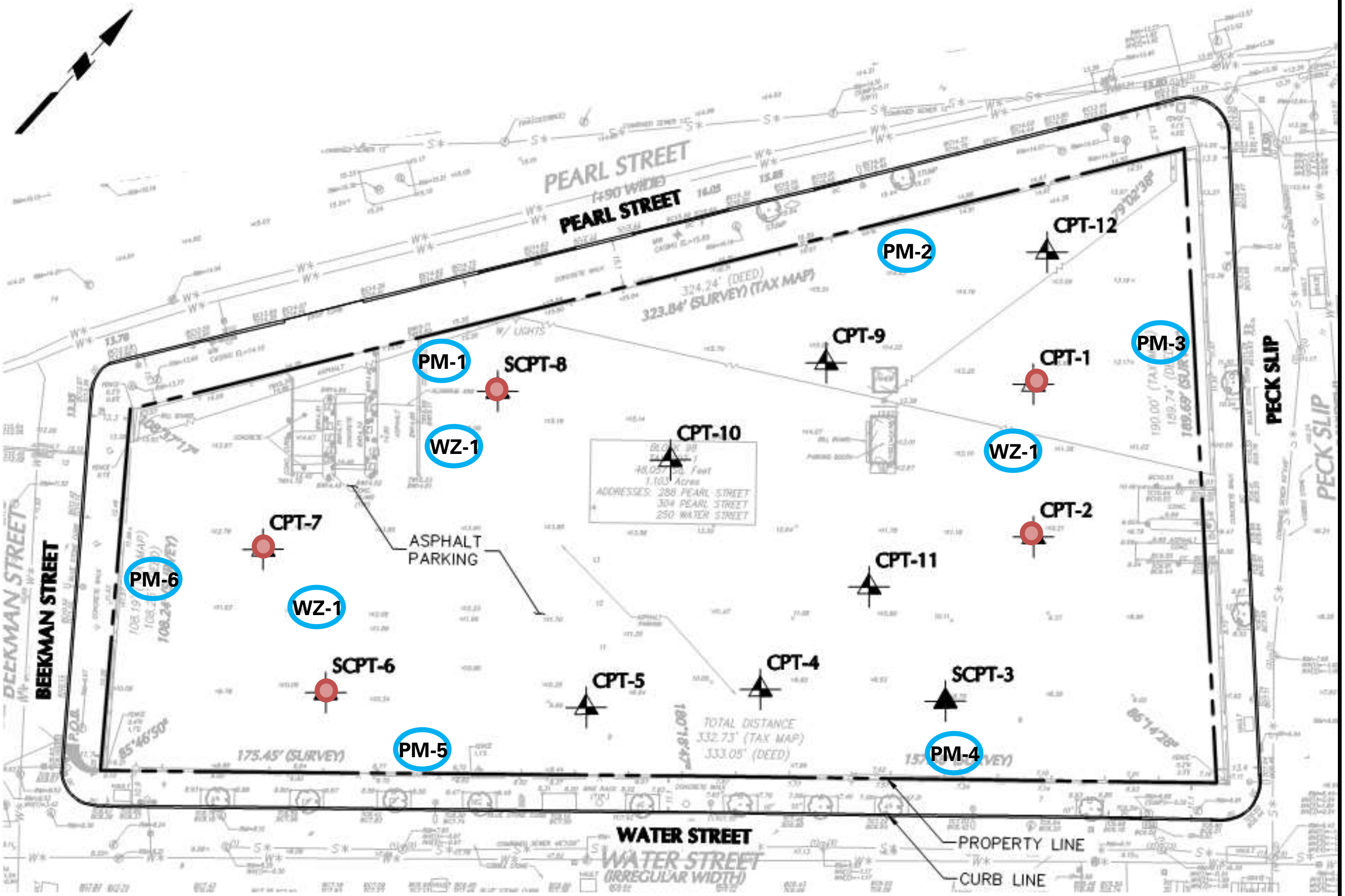
Anticipated Activities

- None.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Site Map



Legend:

Site Boundary

Approximate location of attempted CPT

PM-1 Approximate location of air monitoring station (on-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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of ConeTec testing at SCPT-6 (facing south).

Photo 2: View of ConeTec testing at SCPT-7.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn **LANGAN**

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Saturday, October 10, 2020 **WEATHER:** Partly cloudy, 63-69 ˚F Wind: E @ 2.1 to 7.3 mph **TIME:** 6:00 am – 3:30 pm	
CONTRACTOR: Warren George, Inc.		**LANGAN REP. :** Vinicius De Paula	
EQUIPMENT: Truck-mounted drilling rig Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** Vinicius De Paula, Maedeh Tavakoli – Langan Jake Harris – Warren George, Inc.	**Geotechnical Investigation Day 2**	

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

<u>Site Activities</u>

- Warren George, Inc. predrilled seven Cone Penetration Test (CPT) locations with a mud rotary, truck-mounted drilling rig to about 15 feet below grade surface (bgs) and backfilled with clean sand (No. 2 Filpro®).
- Langan installed depth data loggers (TD-Diver™) and collected depth to water (DTW) readings using an oil water interface probe at each of previously installed monitoring wells. Depth to water (DTW) of each well was measured from the top of casing. Wells were also gauged for the presence of free product; a 0.01-foot-thick layer of light non-aqueous phase liquid (LNAPL) was measured at monitoring well MW31.
  - MW11: DTW = 9.85’
  - MW15: DTW = 15.48’
  - MW17: DTW = 9.82’
  - MW25: DTW = 15.45’
  - MW26: DTW = 12.49’
  - MW28: DTW = 8.42’
  - MW30: DTW = 12.82’
  - MW31: DTW = 10.47’
  - MW32: DTW = 8.94’
  - MW33: DTW = 10.69’
  - MW34: DTW = 9.74’

<u>Material Tracking</u>

- Impacted drilling mud from CPT location CPT-12 was recovered and containerized in a sealed 55-gallon drum.
- No material was imported to the site.
- No material was exported from the site.

<u>Sampling</u>

- No samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 parts per million (ppm) for VOCs, and 0.0 micrograms per cubic meter ($\mu g/m^3$) for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.000	0.1	0.0
PM-2	0.018	0.5	0.0
PM-3	0.014	0.0	0.0
PM-4	0.002	0.0	0.0
PM-5	0.019	0.1	0.0
PM-6	0.019	0.0	0.0
WZ-1	0.019	0.0	0.0

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.000	0.5	0.0
PM-2	0.026	0.7	0.0
PM-3	0.018	0.3	0.0
PM-4	0.009	0.0	0.0
PM-5	0.035	0.2	0.0
PM-6	0.028	0.0	0.0
WZ-1	0.070	0.1	0.0

Anticipated Activities

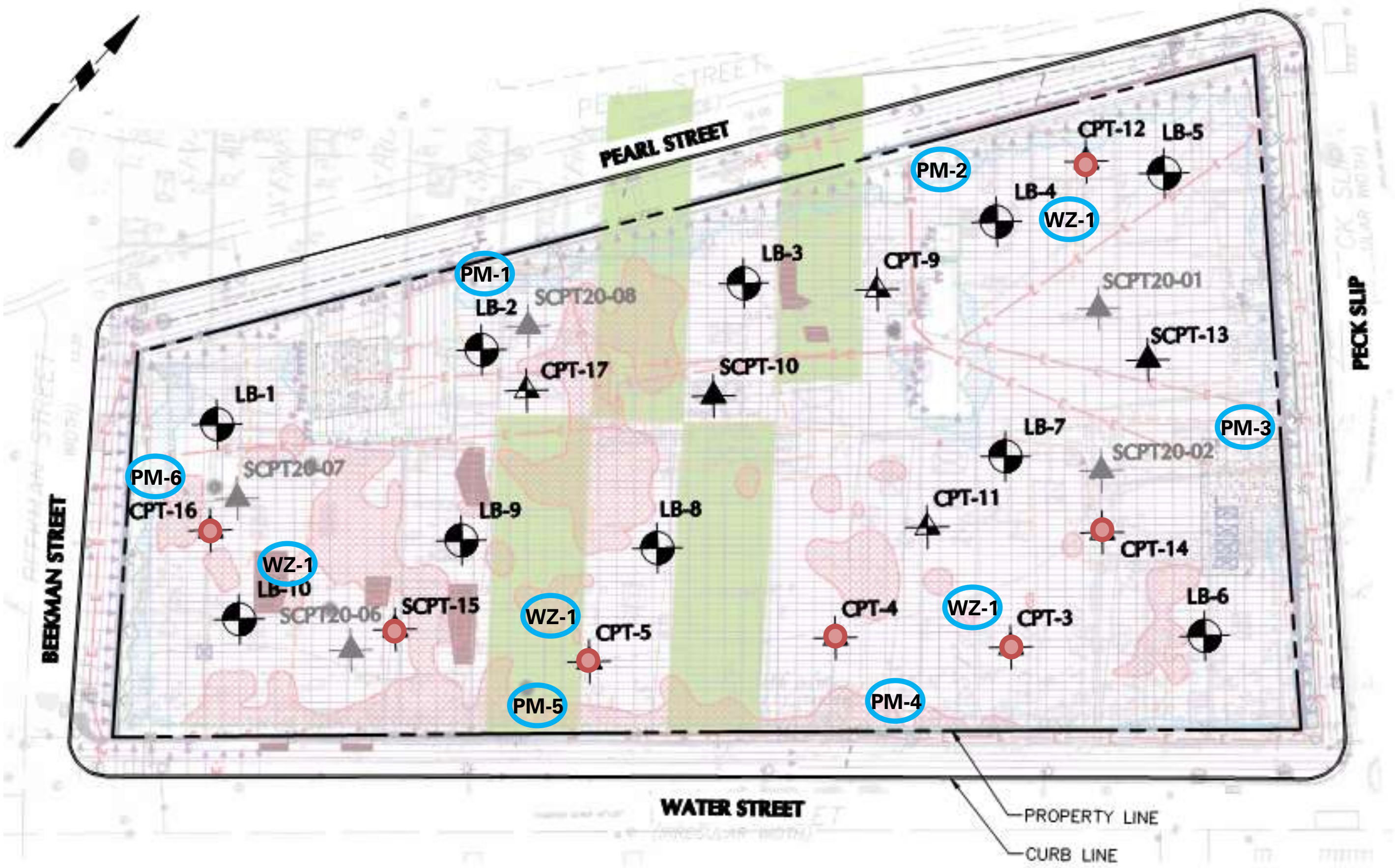
- Warren George, Inc. will continue to predrill CPT locations.
- ConTec will mobilize to begin CPT testing.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula **LANGAN**

LANGAN

SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



Legend:

- Approximate location of predrilled CPT location
- PM-1 Approximate location of air monitoring station (on-site)
- WZ-1 Approximate locations of work zone air monitoring station

Notes:

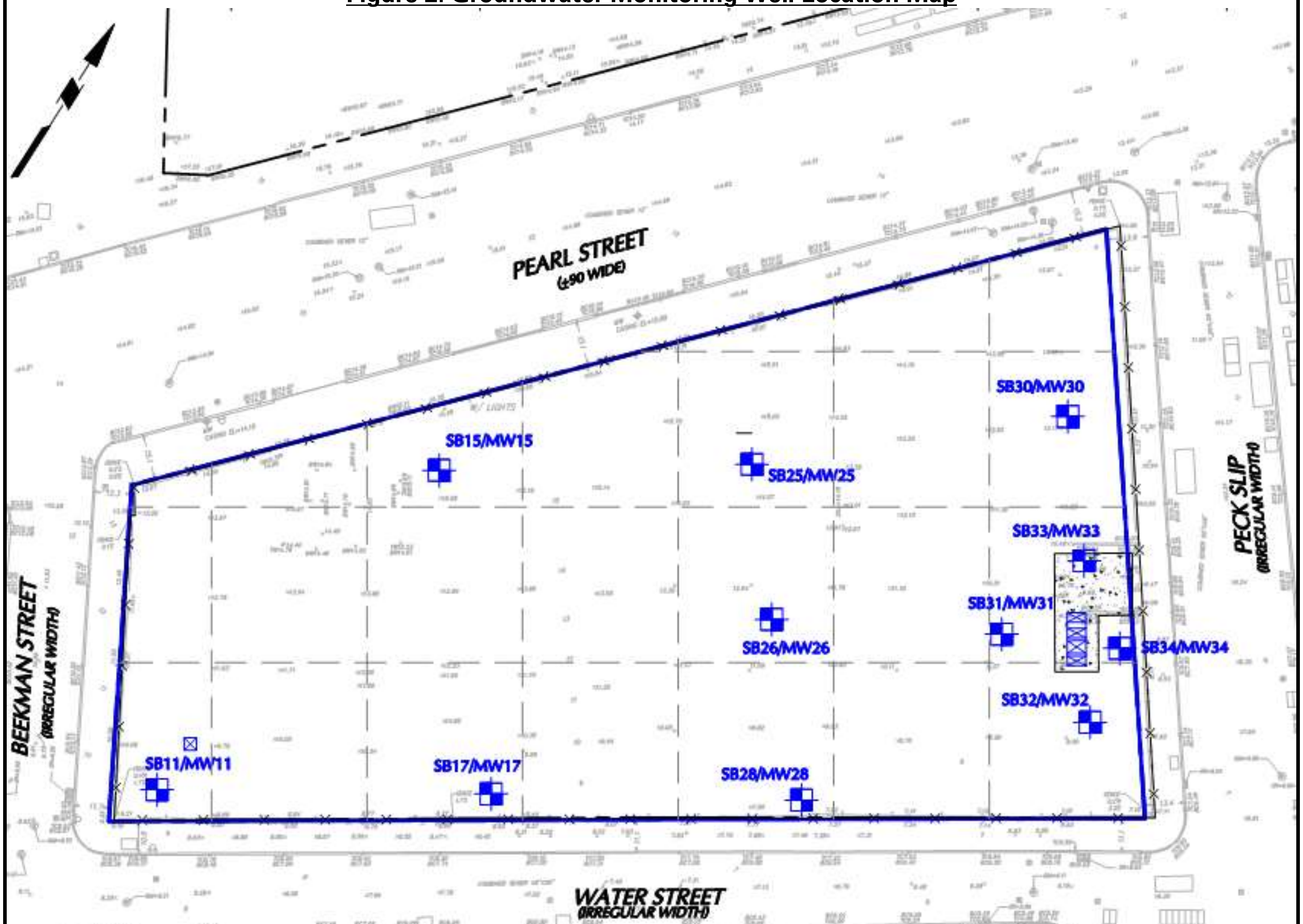
1) Air monitoring station were relocated based on work area and wind direction. Locations shown above identify the predominant area of the air monitoring station.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula
			LANGAN

LANGAN

SITE OBSERVATION REPORT

Figure 2: Groundwater Monitoring Well Location Map



Legend:

- Approximate site boundary
- SB30/MW30 Approximate location of groundwater monitoring well

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of submersible datalogger

Photo 2: View of Warren George, Inc. predrilling CPT location CPT-12 (facing east).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202		**DATE:**	Sunday, October 11, 2020
PROJECT: 250 Water Street	**CLIENT:** 250 Seaport District, LLC	**WEATHER:**	Partly cloudy, 65-68 °F Wind: NNE @ 0.8 to 7.8 mph
LOCATION: New York, NY		**TIME:**	6:00 am – 6:30 pm
BCP SITE ID: C231127			
CONTRACTOR: Warren George, Inc.		**LANGAN REP. :**	Vinicius De Paula

EQUIPMENT:	**PRESENT AT SITE:** **Geotechnical Investigation Day 3**
Two truck-mounted drilling rigs Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	Vinicius De Paula, Maedeh Tavakoli – Langan Jake Harris – Warren George, Inc. Tyler McCallion -- ConeTec

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- Warren George, Inc. predrilled five Cone Penetration Test (CPT) locations with a mud rotary, truck-mounted drilling rig to about 15 feet below grade surface (bgs) and backfilled with clean sand (No. 2 Filpro®).
- ConeTec completed three CPT locations to depths ranging from about 75 to 100 feet bgs with a CPT truck rig. CPT locations were backfilled with No. 2 Filpro® sand. Soil cuttings were not generated during CPT testing.

Material Tracking

- Impacted drilling mud from CPT location CPT-13 was recovered and containerized in a sealed 55-gallon drum.
- No material was imported to the site.
- No material was exported from the site.

Sampling

- No samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 parts per million (ppm) for VOCs, and 0.0 micrograms per cubic meter ($\mu g/m^3$) 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	0.025	0.0	0.0
PM-3	0.021	0.0	0.0
PM-4	0.012	0.0	0.0
PM-5	0.023	0.0	0.0
PM-6	0.028	0.1	0.0
WZ-1	0.024	0.0	0.0

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.027	0.0	0.0
PM-2	0.048	0.6	0.0
PM-3	0.033	0.4	0.0
PM-4	0.024	0.0	0.0
PM-5	0.030	0.1	0.0
PM-6	0.038	0.2	0.0
WZ-1	0.042	0.2	0.0

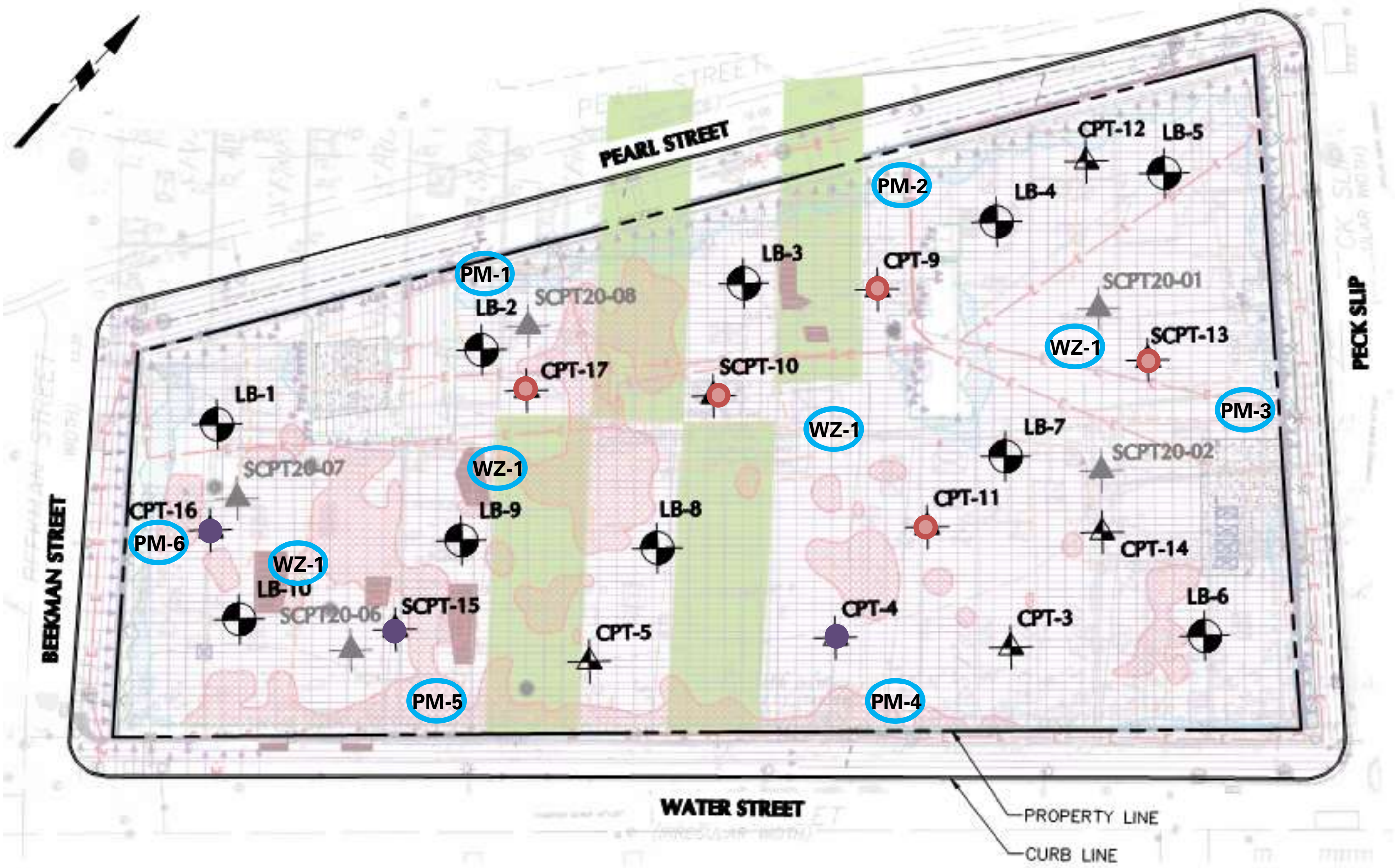
Anticipated Activities

- Warren George, Inc. will start advancing Standard Penetration Test (SPT) locations.
- ConTec will continue CPT testing.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



Legend:

- Approximate location of predrilled CPT location
- Approximate location of completed CPT location
- PM-1 Approximate location of air monitoring station (on-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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of Warren George, Inc. predrilling CPT location CPT-17 (facing southwest).

Photo 2: View of ConeTec advancing CPT location CPT-15 (facing east).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Vinicius De Paula **LANGAN**

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Monday, October 12, 2020 **WEATHER:** Rainy, 50-55 °F Wind: NW @ 1.9 mph (11:28am) to NNW @ 13.2 mph (4:08pm) **TIME:** 6:00 am – 7:00 pm
CONTRACTOR: Warren George, Inc.		**LANGAN REP. :** Tyler Zorn
EQUIPMENT: CPT Truck Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** Tyler Zorn, Maedeh Tavakoli – Langan Tyler McCallion, Jenna Griggs – ConeTec	**Geotechnical Exploration Day 4**

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical exploration at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- ConeTec completed five Cone Penetration Test (CPT) locations to depths ranging from about 75 to 100 feet below grade surface (bgs) with a CPT truck rig. CPT locations were backfilled with 3/8" bentonite pellets.
- ConeTec patched the five completed and three previously completed CPT locations with asphalt. Four pre-drilled CPT locations (to be completed) were patched with a bentonite seal at the surface.

Material Tracking

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

Sampling

- No samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 parts per million (ppm) for VOCs, and 0.0 micrograms per cubic meter (µg/m^3) for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.007	0.0	0.0
PM-2	0.007	0.0	0.0
PM-3	0.006	0.0	0.0
PM-4	0.007	0.0	0.0
PM-5	0.007	0.0	0.0
PM-6	0.012	0.0	0.0
WZ-1	0.010	0.0	0.0

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.013	0.0	0.0
PM-2	0.012	0.0	0.0
PM-3	0.011	0.0	0.0
PM-4	0.017	0.0	0.0
PM-5	0.016	0.0	0.0
PM-6	0.018	0.0	0.2
WZ-1	0.036	0.0	0.0

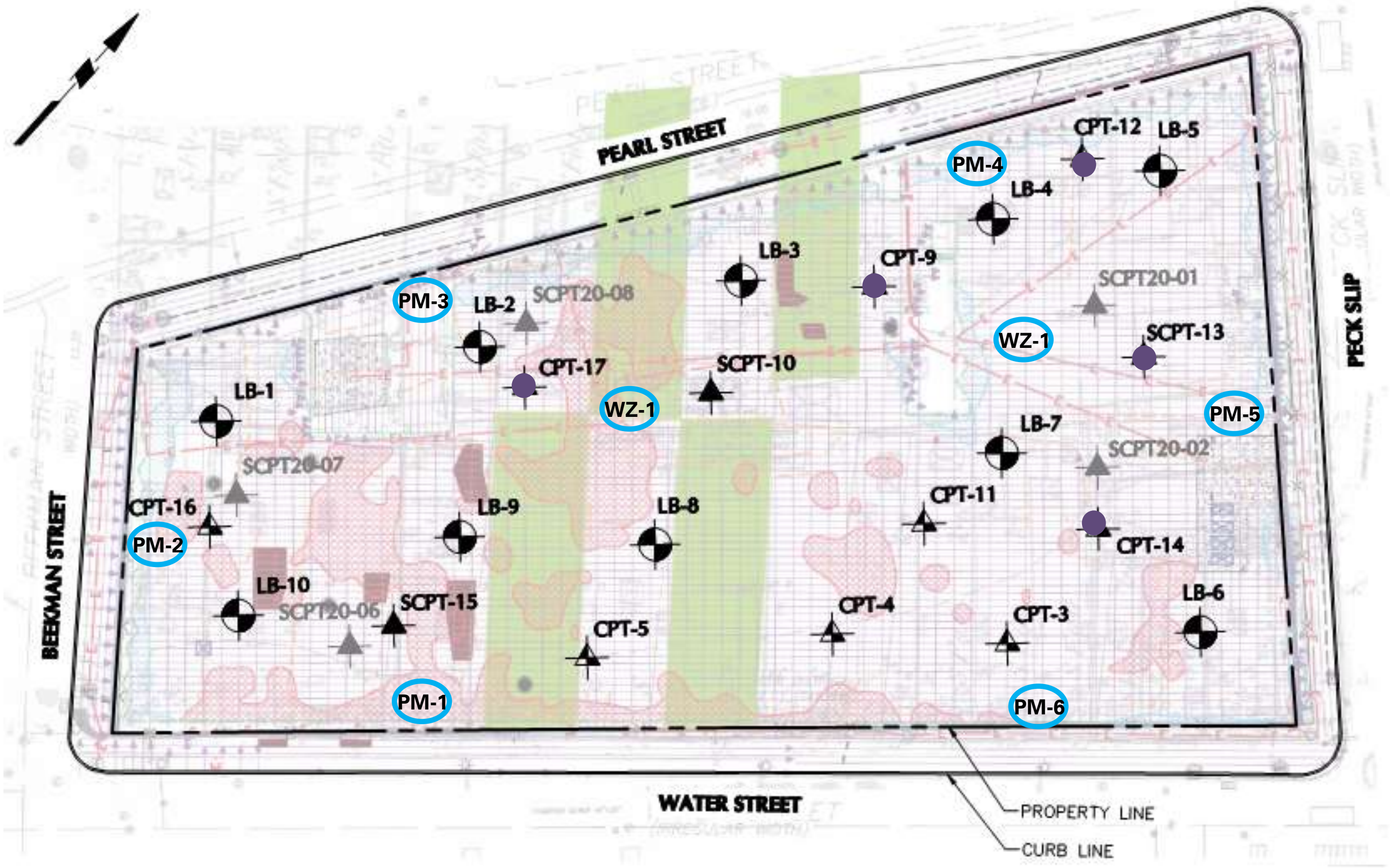
Anticipated Activities

- None.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



Legend:

- Approximate location of completed CPT location
- PM-1 Approximate location of air monitoring station (on-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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of perimeter CAMP station PM-2 (facing southwest).

Photo 2: View of ConeTec advancing CPT location CPT-13 (facing northeast).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tyler Zorn **LANGAN**

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Monday, June 14, 2021 Rain, 65-74 ˚F Wind: SSE @ 0.7 mph (9:30am) to SW @ 6.9 mph (11:44am) 9:00 am – 3:00 pm
CONTRACTOR: La Life Paving, Inc. (La Life Paving)		**LANGAN REP. :**	Tomas Monti, Adrian Heath

EQUIPMENT:	**PRESENT AT SITE:**
Bobcat S770 Plate Compactor Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	Tomas Monti, Adrian Heath – Langan Antonio Agro – La Life Paving

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan began the parking lot repairs in accordance with the New York State Department of Environmental Conservation (NYSDEC)-approved June 8, 2021 Parking Lot Repair Work Plan for NYSDEC Brownfield Cleanup Program (BCP) Site No. C231127 located at 250 Water Street (Block 98, Lot 1).

Site Activities

- La Life Paving backfilled the depressed area near the corner of Water Street and Beekman Street with recycled concrete aggregate (RCA) Item 4 from Hunters Point Recycling in Long Island City, NY. The depressed area was backfilled and compacted in 4-inch lifts to about three inches below the site grade.
- La Life Paving cut edges in the existing asphalt around the perimeter of the depressed area and cleaned and removed loose asphalt.

Material Tracking

- Two truckloads of approved RCA Item 4 (about 40 cubic yards) were imported to the site from Hunters Point Recycling located in Long Island City, New York.
- No material was exported from the site.

Sampling

- No samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during parking lot repair activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 parts per million (ppm) for VOCs, and 0.0 micrograms per cubic meter (µg/m^3) for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.000	0.0	0.0
PM-2	0.010	0.0	0.0
PM-3	0.015	0.2	0.0
PM-4	0.012	0.1	0.0
PM-5	0.015	0.0	0.0
PM-6	0.007	0.0	0.0
WZ-1	0.016	0.1	0.0

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.002	0.0	0.0
PM-2	0.017	0.0	0.0
PM-3	0.050	0.0	0.0
PM-4	0.025	0.2	0.0
PM-5	0.045	0.0	0.0
PM-6	0.012	0.0	0.0
WZ-1	0.025	0.0	0.0

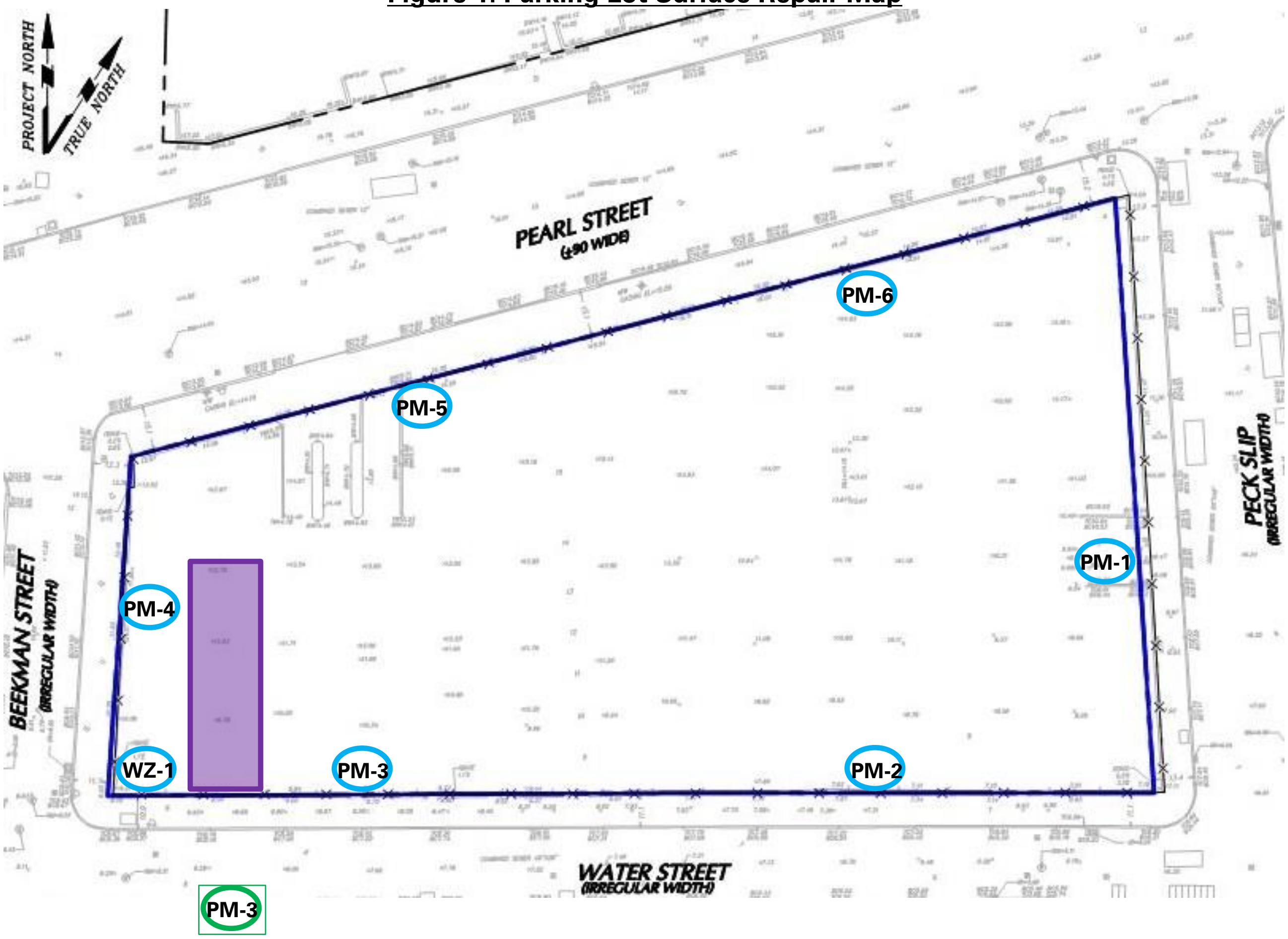
Anticipated Activities

- La Life Paving will repair the weathered asphalt on the eastern part of the site and pave the depressed area with asphalt.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti
			LANGAN

SITE OBSERVATION REPORT

Figure 1: Parking Lot Surface Repair Map



Legend:

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

Approximate location of parking lot surface repair

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

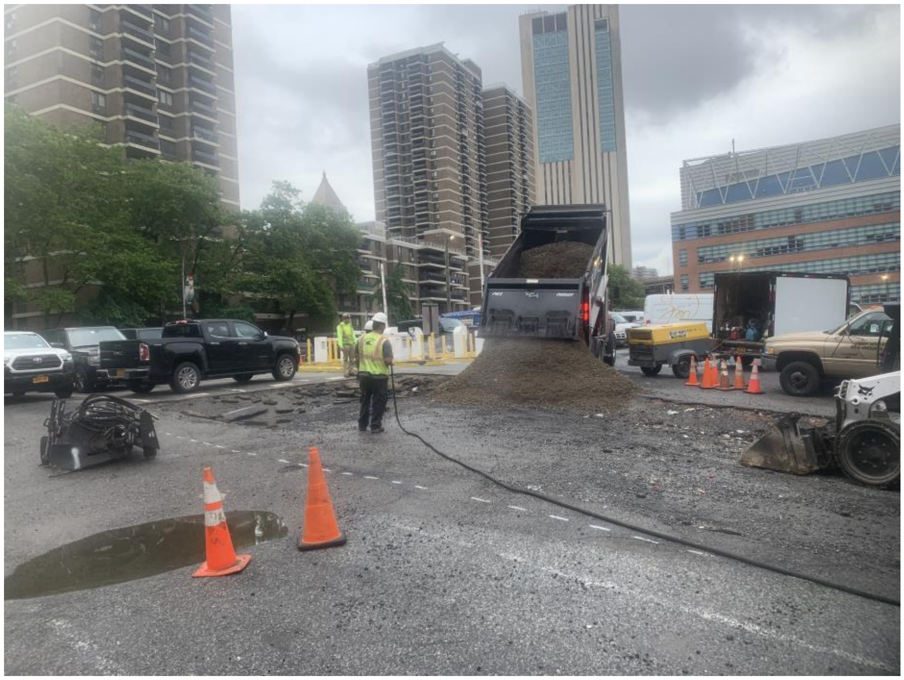


Photo 1: View of RCA import and dust suppression (facing project northwest).

Photo 2: View of parking lot surface repair and CAMP station PM-4 and PM-5 (facing project north).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** **WEATHER:** **TIME:**	Tuesday, June 15, 2021 Clear, 70-80 ˚F Wind: WSW @ 0.8 mph (9:16am) to SSW @ 6.2 mph (11:45am) 8:30 am – 3:00 pm
CONTRACTOR: La Life Paving, Inc. (La Life Paving)		**LANGAN REP. :**	Tomas Monti, Adrian Heath
EQUIPMENT: Bobcat S770 Compactor Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** Tomas Monti, Adrian Heath – Langan Antonio Agro – La Life Paving		

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan continued documenting the parking lot repairs in accordance with the New York State Department of Environmental Conservation (NYSDEC)-approved June 8, 2021 Parking Lot Repair Work Plan for NYSDEC Brownfield Cleanup Program (BCP) Site No. C231127 located at 250 Water Street (Block 98, Lot 1).

Site Activities

- La Life Paving cut edges in the existing asphalt around the perimeter of the weathered areas in the eastern part of the site.
- La Life Paving cleaned and removed loose asphalt and placed asphalt cement (AC-5) at the weathered areas in the eastern part of the site.
- La Life Paving placed and compacted a 1.5-inch layer of asphalt in the weathered areas in the eastern part of the site.

Material Tracking

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

Sampling

- No samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during parking lot repair activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 parts per million (ppm) for VOCs, and 0.0 micrograms per cubic meter ($\mu g/m^3$) for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.013	0.0	0.0
PM-2	0.019	0.0	0.0
PM-3	0.018	0.0	0.0
PM-4	0.035	0.1	0.0
PM-5	0.027	0.0	0.0
PM-6	0.013	0.0	0.0
WZ-1	0.042	0.4	0.0

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.035	0.0	0.0
PM-2	0.067	0.1	0.0
PM-3	0.044	0.0	0.0
PM-4	0.110	0.2	0.0
PM-5	0.068	0.0	0.0
PM-6	0.027	0.0	0.8
WZ-1	0.100	1.9	0.0

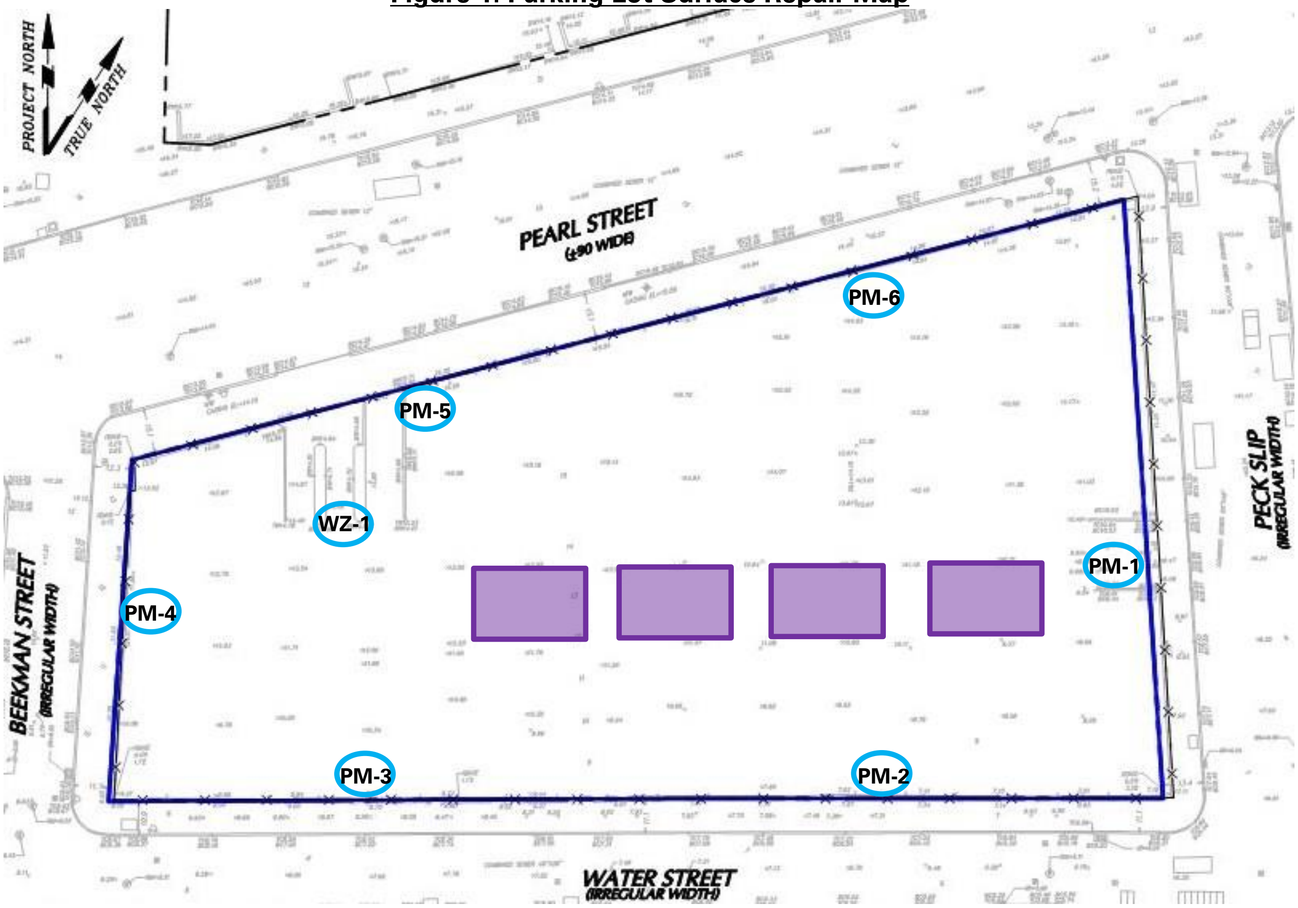
Anticipated Activities

- La Life Paving will pave the depressed areas with asphalt.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Parking Lot Surface Repair Map



Legend:

- 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
- Approximate location of parking lot surface repair

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of cut edges in the existing asphalt and placement of AC-5 (facing project southwest)

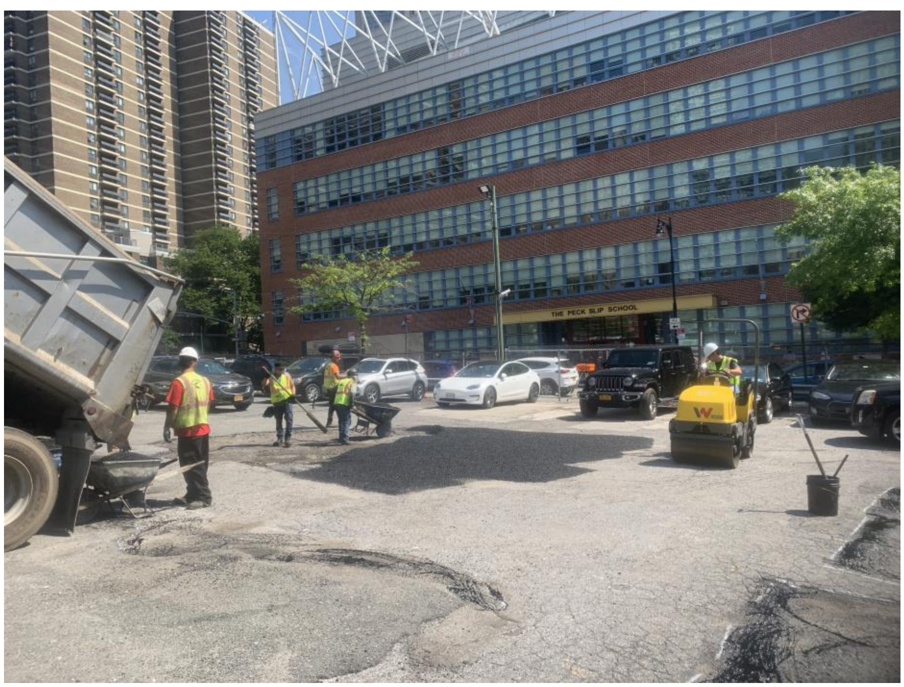


Photo 2: View of backfilling and compaction of a 1.5-inch asphalt layer (facing project northeast)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Wednesday, June 16, 2021 **WEATHER:** Clear, 65-74 ˚F Wind: SSE @ 0.7 mph (9:30am) to SW @ 6.9 mph (11:44am) **TIME:** 8:30 am – 3:00 pm
CONTRACTOR: La Life Paving, Inc. (La Life Paving)		**LANGAN REP. :** Tomas Monti, Adrian Heath
EQUIPMENT: Bobcat S770 Compactor Jerome J505 and J405 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** Tomas Monti, Adrian Heath – Langan Antonio Agro – La Life Paving	

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan continued documenting the parking lot repairs in accordance with the New York State Department of Environmental Conservation (NYSDEC)-approved June 8, 2021 Parking Lot Repair Work Plan for NYSDEC Brownfield Cleanup Program (BCP) Site No. C231127 located at 250 Water Street (Block 98, Lot 1).

Site Activities

- La Life Paving cut edges in the existing asphalt around the perimeter of the two additional depressed areas in the western part of the site.
- La Life Paving cleaned and removed loose asphalt and placed asphalt cement (AC-5).
- La Life Paving backfilled and compacted a two 1.5-inch layers (3-inches total) of asphalt within the two additional depressed areas and at the larger depressed area near the corner of Water Street and Beekman Street.

Material Tracking

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

Sampling

- No samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during parking lot repair activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 parts per million (ppm) for VOCs, and 0.0 micrograms per cubic meter ($\mu g/m^3$) for mercury vapor.

Daily Average Concentrations			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.000	0.0	0.0
PM-2	0.010	0.0	0.0
PM-3	0.015	0.2	0.0
PM-4	0.012	0.1	0.0
PM-5	0.015	0.0	0.0
PM-6	0.007	0.0	0.0
WZ-1	0.016	0.1	0.0

Maximum 15-Minute-Average Concentration			
Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu g/m^3$)
PM-1	0.002	0.0	0.0
PM-2	0.017	0.0	0.0
PM-3	0.050	0.0	0.0
PM-4	0.025	0.2	0.0
PM-5	0.045	0.0	0.0
PM-6	0.012	0.0	0.0
WZ-1	0.025	0.0	0.0

Anticipated Activities

- None.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti
			LANGAN

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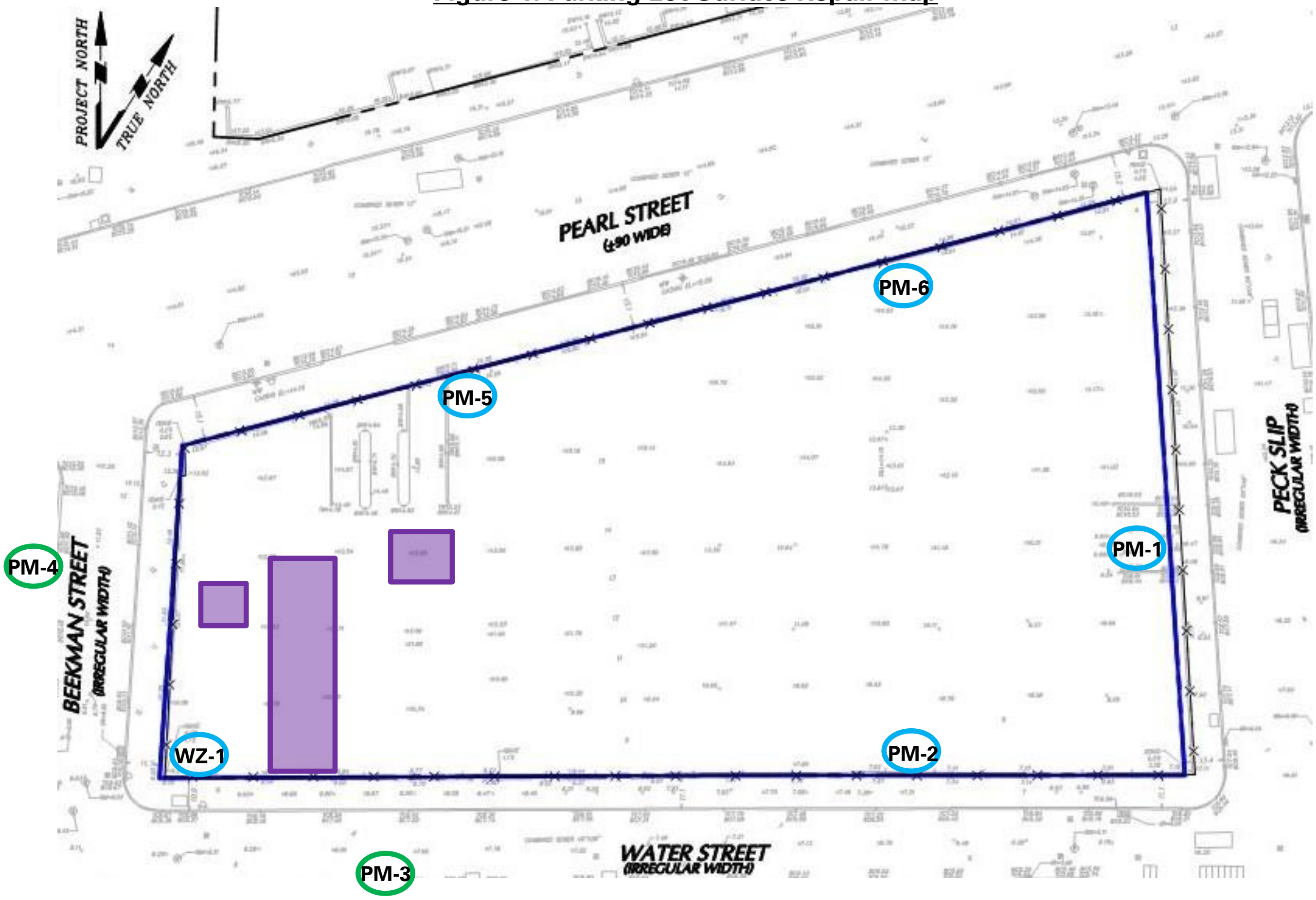
SITE OBSERVATION REPORT

Figure 1: Parking Lot Surface Repair Map



Legend:

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
	Approximate location of parking lot surface repair

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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of the infilled depressed areas near the corner of Water Street and Beekman Street at the end of the day (facing project southwest)

Photo 2: View of the infilled depressed areas near the site entrance at the end of the day (facing project east)

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Tomas Monti **LANGAN**

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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Saturday, December 4, 2021 **WEATHER:** Partly cloudy, 44-48 ˚F Wind: ESE @ 1.7 to 6.7 mph **TIME:** 7:00 am – 4:45 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :** Lamees Esmail
EQUIPMENT: CME75 and Geoprobe 7822DT Jerome J405/J505 and Lumex 915+ MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **Geotechnical Investigation Day 4** Lamees Esmail, Thomas Keane, Paul McMahon – Langan Daybi Pacheco – AARCO Brian Ehalt – Excel Environmental	

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- AARCO used a truck-mounted CME75 drill rig and a track-mounted Geoprobe 7822 DT drill rig to advance four geotechnical soil borings using mud rotary with split-spoon samplers.
  - Borings LB-1 and LB-10 were advanced to 62 feet below grade surface (bgs).
  - Boring LB-2 was advanced to 17 feet bgs.
  - Boring LB-9 was advanced to 25 feet bgs.

Material Tracking

- Soil cuttings were containerized in sealed 55-gallon drums.
- No material was imported to the site.
- No material was exported from the site.

Sampling

- No environmental samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lamees Esmail **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) did not exceed action levels for the duration of work activities.

- The PM10 monitoring at work station WZ-1 was not running because of a calibration error. PM-10 concentrations at the perimeter stations did not exceed action levels.

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.009	0.0	0.0
PM-2	0.004	0.1	0.0
PM-3	0.012	0.0	0.0
PM-4	0.004	0.3	0.0
PM-5	0.000	0.0	0.0
PM-6	0.000	1.8	0.0
WZ-1	N/A	0.0	0.0
WZ-2	0.008	0.0	0.0

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.025	0.3	0.1
PM-2	0.018	0.3	0.0
PM-3	0.044	0.3	0.0
PM-4	0.016	0.7	0.0
PM-5	0.006	0.2	0.0
PM-6	0.016	2.0	0.0
WZ-1	N/A	0.0	0.0
WZ-2	0.039	0.1	0.0

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

- Langan used a handheld MultiRAE to monitor VOCs in the work zone and in between the work zone and CAMP stations. Instantaneous VOC readings did not exceed background concentrations.
- Langan used a handheld Lumex 915+ to monitor mercury vapor in the work zone and in between the work zone and CAMP stations. Instantaneous mercury vapor readings did not exceed background concentrations.

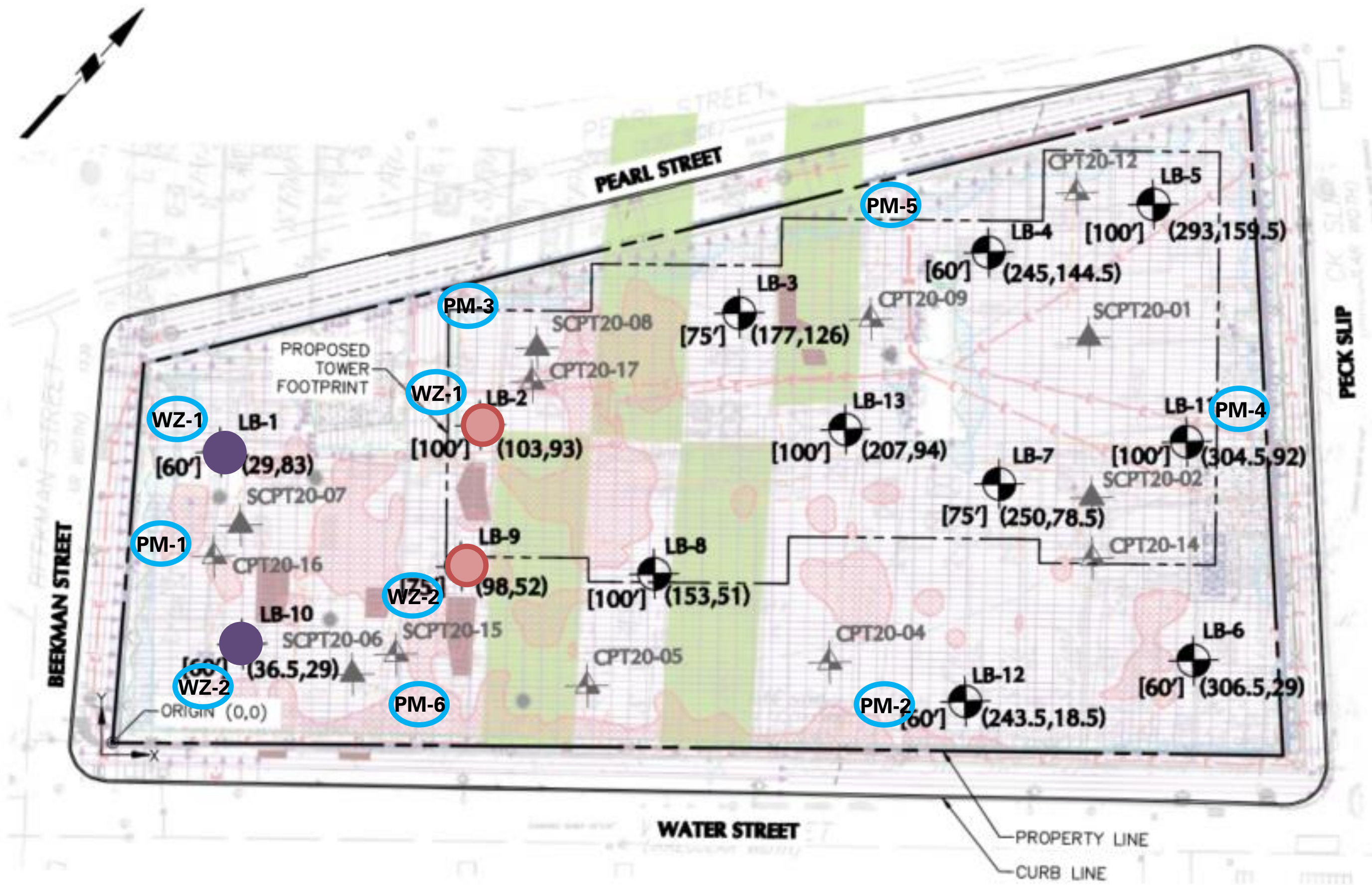
Anticipated Activities

- AARCO will continue drilling soil borings as part of the geotechnical investigation tomorrow.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lamees Esmail
			LANGAN

SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



Legend:

Approximate location of in-progress soil boring location

Approximate location of completed soil boring location

PM-1 Approximate location of air monitoring station (on-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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lamees Esmail
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of AARCO drilling LB-10 (facing northwest).

Photo 2: View of air monitoring station PM-6 (facing south).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lamees Esmail **LANGAN**

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Sunday, December 5, 2021 **WEATHER:** Partly cloudy, 45-48 °F Wind: ESE @ 1.4 to 5.3 mph **TIME:** 7:00 am – 3:00 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :** Joe Yanowitz
EQUIPMENT: CME75 and Geoprobe 7822DT Jerome J405/J505 and Lumex 915+ MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **Geotechnical Investigation Day 5** Joe Yanowitz, Thomas Keane, Paul McMahon – Langan Daybi Pacheco – AARCO	

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- AARCO used a truck-mounted CME75 drill rig and a track-mounted Geoprobe 7822 DT drill rig to advance three geotechnical soil borings using mud rotary with split-spoon samplers.
  - Boring LB-2 was advanced to 100 feet below grade surface (bgs).
  - Boring LB-4 was advanced to 60 feet bgs.
  - Boring LB-9 was advanced to 75 feet bgs.

Material Tracking

- Soil cuttings were containerized in sealed 55-gallon drums.
- No material was imported to the site.
- No material was exported from the site.

Sampling

- No environmental samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Joe Yanowitz **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) did not exceed action levels for the duration of work activities.

- The PM10 monitoring at work station WZ-1 was not running because of a calibration error. PM-10 concentrations at the perimeter stations did not exceed action levels.

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.006	0.1	0.0
PM-2	0.006	0.0	0.0
PM-3	0.012	0.0	0.0
PM-4	0.005	0.1	0.0
PM-5	0.000	0.0	0.0
PM-6	0.000	0.1	0.0
WZ-1	N/A	0.0	0.0
WZ-2	0.002	0.0	0.0

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.014	0.2	0.0
PM-2	0.015	0.1	0.0
PM-3	0.028	0.1	0.0
PM-4	0.013	0.3	0.0
PM-5	0.003	0.1	0.0
PM-6	0.008	0.2	0.0
WZ-1	N/A	0.2	0.0
WZ-2	0.021	0.0	0.0

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

- Langan used a handheld MultiRAE to monitor VOCs in the work zone and in between the work zone and CAMP stations. Instantaneous VOC readings did not exceed background concentrations.
- Langan used a handheld Lumex 915+ to monitor mercury vapor in the work zone and in between the work zone and CAMP stations. Instantaneous mercury vapor readings did not exceed background concentrations.

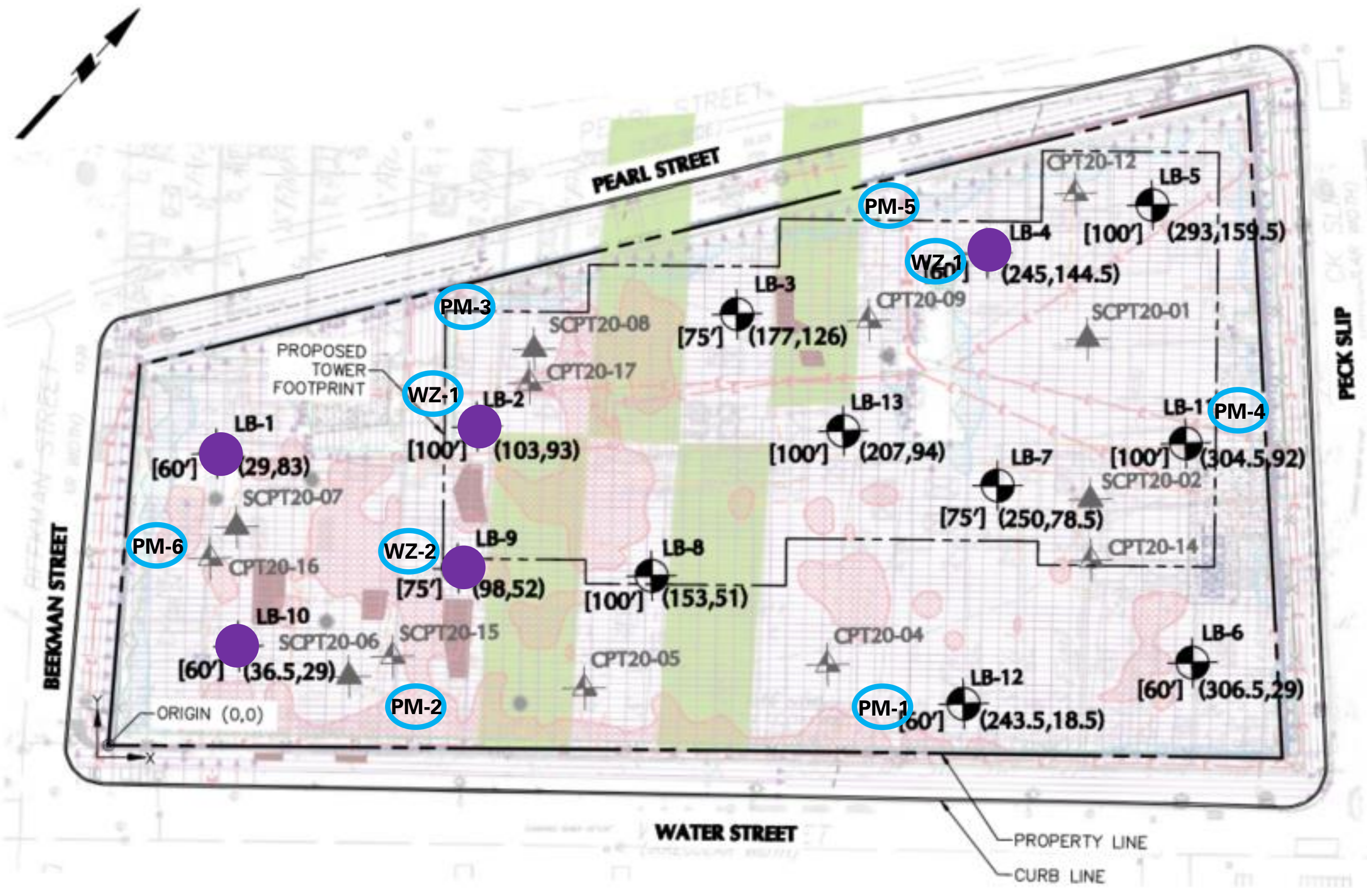
Anticipated Activities

- AARCO will continue drilling soil borings as part of the geotechnical investigation on December 11 and 12.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Joe Yanowitz
			LANGAN

SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



Legend:

- Approximate location of in progress soil boring location
- Approximate location of completed soil boring location
- PM-1 Approximate location of air monitoring station (on-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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Joe Yanowitz
			LANGAN

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of AARCO drilling LB-2 and LB-9 (facing northwest).

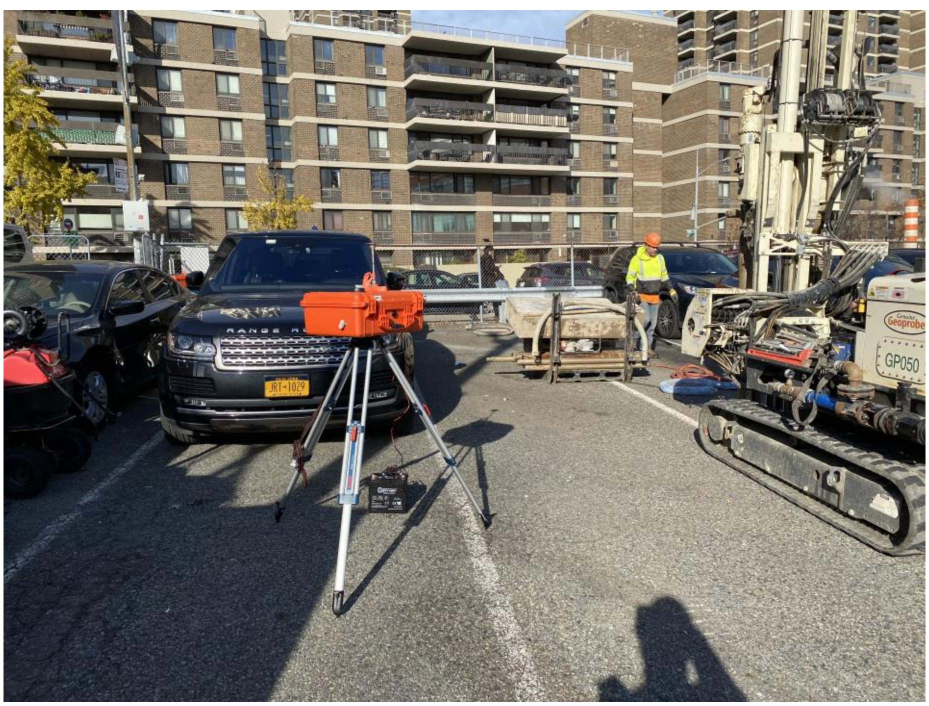


Photo 2: View of AARCO setting up to drill LB-4 (facing south).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Joe Yanowitz
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Saturday, December 11, 2021 **WEATHER:** Partly cloudy, 52-62 °F Wind: SE @ 1.4 to 7.7 mph **TIME:** 7:00 am – 3:00 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :** Lauren Roper
EQUIPMENT: CME75 and Geoprobe 7822DT Jerome J405/J505 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **Geotechnical Investigation Day 6** Lauren Roper, Kevin Ieong, Paul McMahon – Langan Juilio Gelerza – AARCO	

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- AARCO used a truck-mounted CME75 drill rig and a track-mounted Geoprobe 7822 DT drill rig to advance three geotechnical soil borings using mud rotary with split-spoon samplers.
  - Boring LB-3 was advanced to 75 feet below grade surface (bgs). A petroleum-like odor and photoionization detector (PID) reading of 16.3 parts per million (ppm) were observed from 20 to 22 feet bgs.
  - Boring LB-7 was advanced to 27 feet bgs.
  - Boring LB-8 was advanced to 100 feet bgs.

Material Tracking

- Soil cuttings were containerized in sealed 55-gallon drums.
- No material was imported to the site.
- No material was exported from the site.

Sampling

- No environmental samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lauren Roper **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 (µg/m^3)
PM-1	0.020	0.7	0.0
PM-2	0.013	0.1	0.0
PM-3	0.000	0.0	0.0
PM-4	0.019	0.0	0.0
PM-5	0.000	0.0	0.0
PM-6	0.006	0.0	0.0
WZ-1	0.000	0.0	0.0
WZ-2	0.005	0.0	0.0

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.026	1.3	0.1
PM-2	0.024	0.4	0.0
PM-3	0.009	0.0	0.0
PM-4	0.031	0.3	0.0
PM-5	0.004	0.1	0.0
PM-6	0.014	0.0	0.0
WZ-1	0.044	0.2	0.0
WZ-2	0.028	0.0	0.0

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

- Langan used a handheld MultiRAE to monitor VOCs in the work zone and in between the work zone and CAMP stations. Instantaneous VOC readings did not exceed background concentrations.
- Langan used a handheld Jerome J505 to monitor mercury vapor in the work zone and in between the work zone and CAMP stations. Instantaneous mercury vapor readings did not exceed background concentrations.

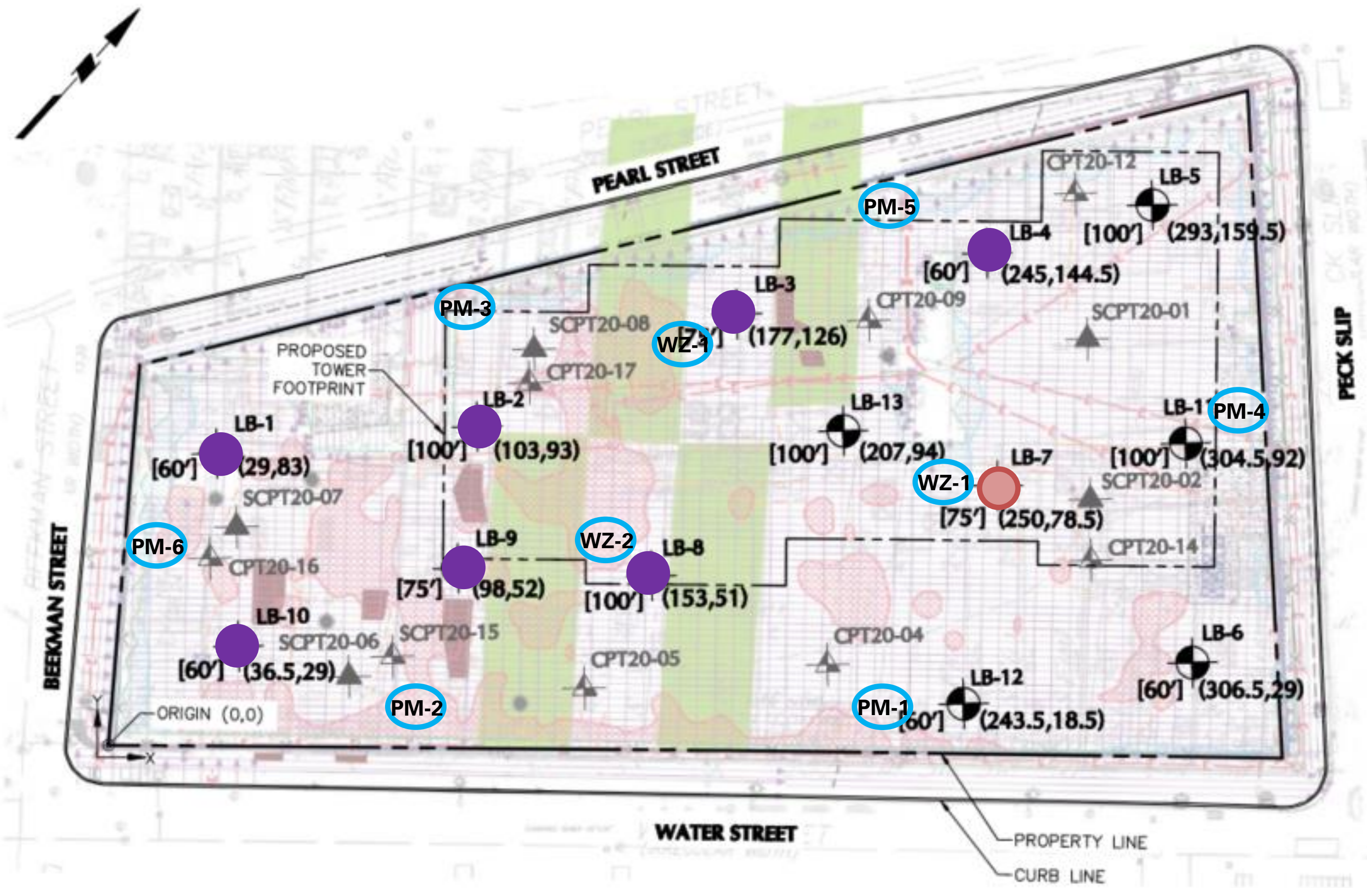
Anticipated Activities

- AARCO will continue drilling soil borings as part of the geotechnical investigation on December 12.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lauren Roper **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



Legend:

- Approximate location of in progress soil boring location
- Approximate location of completed soil boring location
- PM-1 Approximate location of air monitoring station (on-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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lauren Roper **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of AARCO drilling at LB-3 (facing northeast).

Photo 2: View of AARCO drilling at LB-8 (facing northeast).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lauren Roper
			LANGAN

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Sunday, December 12, 2021 **WEATHER:** Partly cloudy, 53-51 ˚F Wind: ENE @ 0.9 to 6.5 mph **TIME:** 7:00 am – 3:00 pm	
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :** Lauren Roper	
EQUIPMENT: CME75 and Geoprobe 7822DT Jerome J405/J505 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** **Geotechnical Investigation Day 7** Lauren Roper, Kevin Ieong, Joe Yanowitz – Langan Julio Gelerza – AARCO		

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- AARCO used a truck-mounted CME75 drill rig and a track-mounted Geoprobe 7822 DT drill rig to advance three geotechnical soil borings using mud rotary with split-spoon samplers.
  - Boring LB-7 was advanced to 75 feet below grade surface (bgs).
  - Boring LB-12 was advanced to 60 feet bgs.
  - Boring LB-13 was advanced to 100 feet bgs. A petroleum-like odor and photoionization detector (PID) reading of 35.5 parts per million (ppm) were observed from 15 to 17 feet bgs.

Material Tracking

- Soil cuttings were containerized in sealed 55-gallon drums.
- No material was imported to the site.
- No material was exported from the site.

Sampling

- No environmental samples were collected.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lauren Roper **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 (µg/m^3)
PM-1	0.003	0.3	0.0
PM-2	0.000	0.0	0.0
PM-3	0.001	0.0	0.0
PM-4	0.000	0.0	0.0
PM-5	0.000	0.0	0.0
PM-6	0.000	0.1	0.0
WZ-1	0.001	0.0	0.0
WZ-2	0.000	0.0	0.0

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.008	0.8	0.0
PM-2	0.003	0.0	0.0
PM-3	0.006	0.0	0.0
PM-4	0.003	0.1	0.0
PM-5	0.000	0.1	0.1
PM-6	0.002	0.2	0.0
WZ-1	0.007	0.1	0.0
WZ-2	0.009	0.0	0.0

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

- Langan used a handheld MultiRAE to monitor VOCs in the work zone and in between the work zone and CAMP stations. Instantaneous VOC readings did not exceed background concentrations.
- Langan used a handheld Jerome J505 to monitor mercury vapor in the work zone and in between the work zone and CAMP stations. Instantaneous mercury vapor readings did not exceed background concentrations.

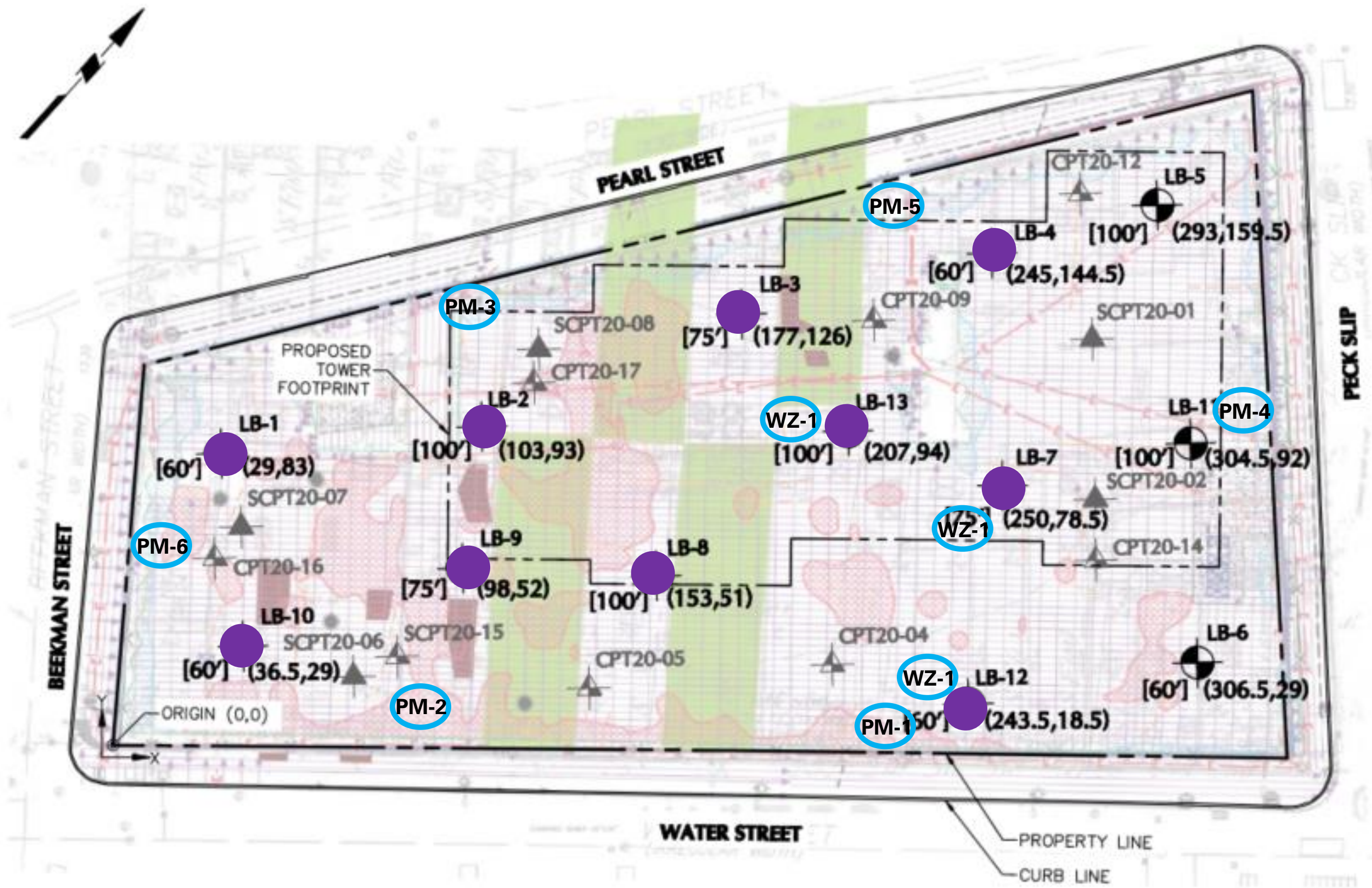
Anticipated Activities

- AARCO will continue drilling soil borings as part of the geotechnical investigation on December 18 and 19.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lauren Roper **LANGAN**

SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



Legend:

- Approximate location of in progress soil boring location
- Approximate location of completed soil boring location
- PM-1 Approximate location of air monitoring station (on-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.

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lauren Roper **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of AARCO drilling at LB-7 and LB-13 (facing east).

Photo 2: View of AARCO drilling at LB-13 (facing north).

Cc:	J. Yanowitz, P. McMahon, M. Raygorodetsky	By:	Lauren Roper **LANGAN**

LANGAN

SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:**	Saturday, December 18, 2021
		WEATHER:	Rain, 40-44 ˚F Wind: N @ 0.8 to 5.5 mph
		TIME:	7:00 am – 4:00 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :**	Lauren Roper

EQUIPMENT:	**PRESENT AT SITE:**	**Geotechnical Investigation Day 8**
CME75 and Geoprobe 7822DT Jerome J405/J505 MiniRAE 3000 Dusttrak DRX	Lauren Roper, Thomas Keane – Langan Julio Gelerza – AARCO	

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- AARCO used a truck-mounted CME75 drill rig and a track-mounted Geoprobe 7822 DT drill rig to advance two geotechnical soil borings using mud rotary with split-spoon samplers.
    - Boring LB-6 was advanced to 60 feet below grade surface (bgs).
    - Boring LB-11 was advanced to 100 feet bgs.

Material Tracking

- Soil cuttings were containerized in sealed 55-gallon drums.
- No material was imported to the site.
- No material was exported from the site.

Sampling

- No environmental samples were collected.

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SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) did not exceed action levels for the duration of work activities.

Daily Average Concentrations

Station ID	Particulate (mg/m³)	Organic Vapor (ppm)	Mercury Vapor (µg/m³)
PM-1	0.010	0.2	0.0
PM-2	0.009	0.0	0.0
PM-3	0.000	0.0	0.0
PM-4	0.010	0.4	0.0
PM-5	0.000	0.2	0.2
PM-6	0.003	0.0	0.0
WZ-1	0.000	0.0	0.0
WZ-2	0.013	0.0	0.0

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m³)	Organic Vapor (ppm)	Mercury Vapor (µg/m³)
PM-1	0.021	0.3	0.1
PM-2	0.021	0.0	0.0
PM-3	0.006	0.0	0.0
PM-4	0.021	1.7	0.0
PM-5	0.009	0.3	0.5
PM-6	0.015	0.0	0.0
WZ-1	0.020	0.2	0.0
WZ-2	0.019	0.0	0.0

●mg/m³ = milligrams per cubic meter ●ppm = parts per million ●µg/m³ = micrograms per cubic meter

- Langan used a handheld MultiRAE to monitor VOCs in the work zone and in between the work zone and CAMP stations. Instantaneous VOC readings did not exceed background concentrations.
- Langan used a handheld Jerome J505 to monitor mercury vapor in the work zone and in between the work zone and CAMP stations. Instantaneous mercury vapor readings did not exceed background concentrations.

Anticipated Activities

- AARCO will continue drilling soil borings as part of the geotechnical investigation on December 19.

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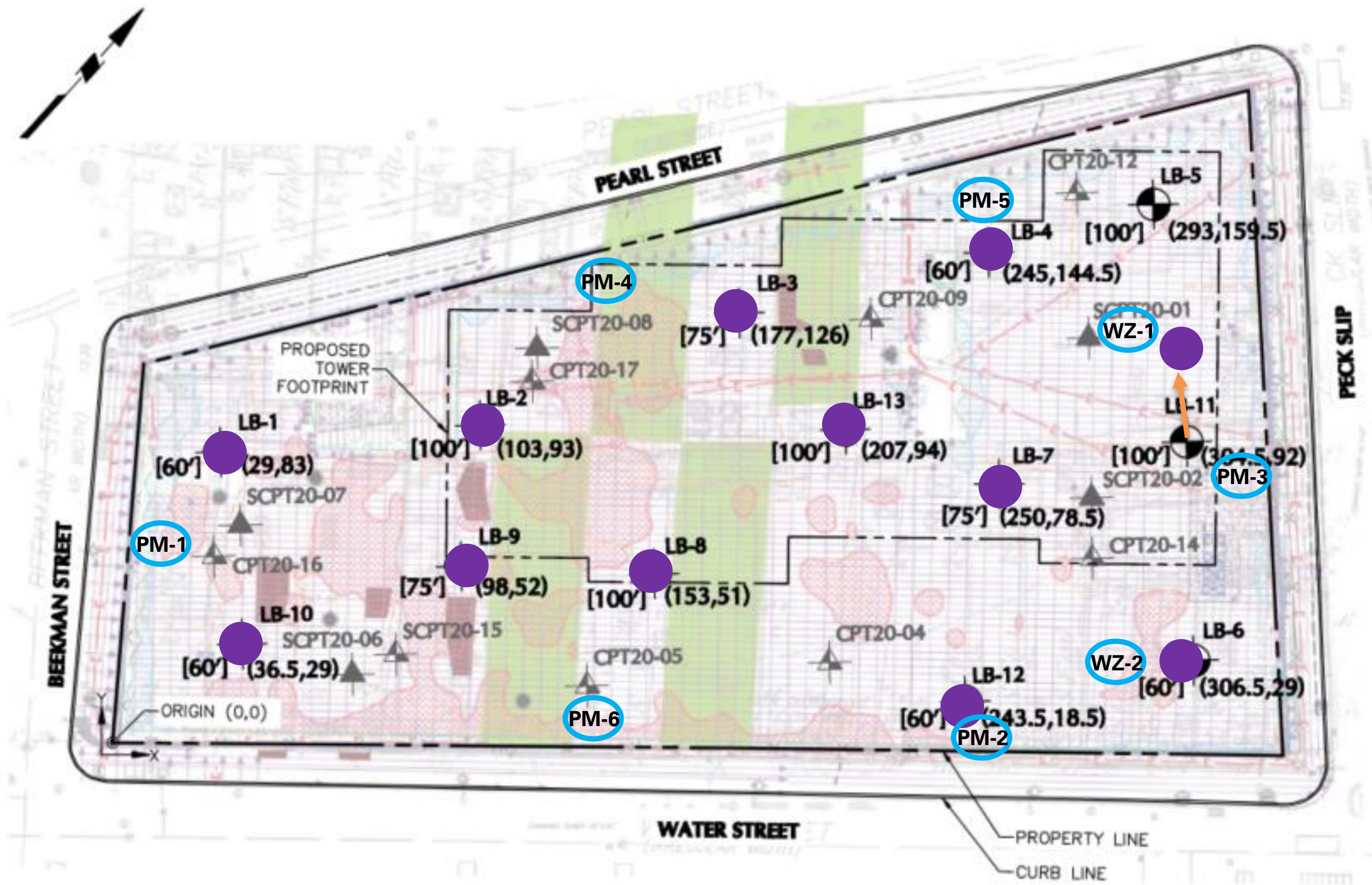
SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



Legend:

- Approximate location of in progress soil boring location
- Approximate location of completed soil boring location
- PM-1 Approximate location of air monitoring station (on-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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SITE OBSERVATION REPORT

Select Site Photographs:

Photo 1: View of AARCO drilling at LB-6 and LB-11 (facing northeast).

Photo 2: View of AARCO drilling at LB-6 (facing southwest).

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SITE OBSERVATION REPORT

PROJECT No.: 170381202 **PROJECT:** 250 Water Street **LOCATION:** New York, NY **BCP SITE ID:** C231127	**CLIENT:** 250 Seaport District, LLC	**DATE:** Sunday, December 19, 2021 **WEATHER:** Rain, 39-42 ˚F Wind: SSE @ 1.5 to 7.6 mph **TIME:** 7:00 am – 3:00 pm
CONTRACTOR: AARCO Environmental Services Corp. (AARCO)		**LANGAN REP. :** Lauren Roper
EQUIPMENT: CME75 and Geoprobe 7822DT Jerome J405/J505 MiniRAE 3000 Dusttrak DRX	**PRESENT AT SITE:** Lauren Roper, Thomas Keane – Langan Julio Gelerza – AARCO	**Geotechnical Investigation Day 9**

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan implemented the Community Air Monitoring Plan (CAMP) during a geotechnical investigation at the 250 Water Street site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site No. C231127).

Site Activities

- AARCO used a track-mounted Geoprobe 7822 DT drill rig to advance one geotechnical soil boring using mud rotary with split-spoon samplers.
  - Boring LB-5 was advanced to 100 feet below grade surface (bgs).

Material Tracking

- Soil cuttings were containerized in sealed 55-gallon drums.
- No material was imported to the site.
- No material was exported from the site.

Sampling

- No environmental samples were collected.

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SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring during ground-intrusive activities. Fifteen-minute average concentrations of particulate matter smaller than 10 microns in diameter (PM10), mercury vapor, and volatile organic compounds (VOC) 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 (µg/m^3)
PM-1	0.005	0.1	0.0
PM-2	0.003	0.0	0.0
PM-3	0.000	0.0	0.0
PM-4	0.005	0.0	0.0
PM-5	0.000	0.0	0.0
PM-6	0.001	0.0	0.0
WZ-1	0.000	0.0	0.0
WZ-2	N/A	N/A	N/A

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.011	0.2	0.1
PM-2	0.007	0.0	0.0
PM-3	0.003	0.0	0.0
PM-4	0.019	0.0	0.0
PM-5	0.000	0.2	0.0
PM-6	0.005	0.1	0.0
WZ-1	0.006	0.0	0.1
WZ-2	N/A	N/A	N/A

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

- Langan used a handheld MultiRAE to monitor VOCs in the work zone and in between the work zone and CAMP stations. Instantaneous VOC readings did not exceed background concentrations.
- Langan used a handheld Jerome J505 to monitor mercury vapor in the work zone and in between the work zone and CAMP stations. Instantaneous mercury vapor readings did not exceed background concentrations.

Anticipated Activities

- None.

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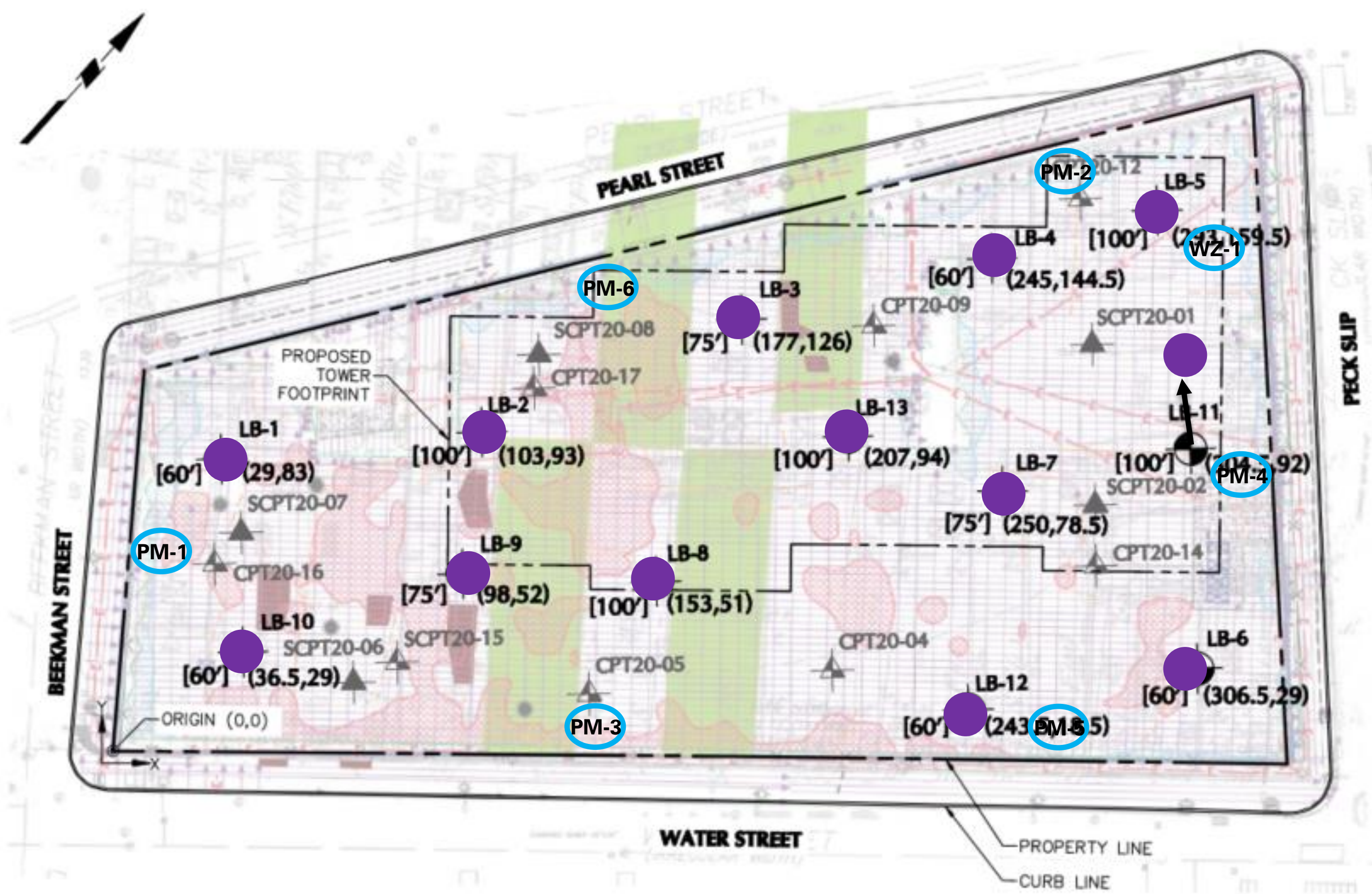
SITE OBSERVATION REPORT

Figure 1: Geotechnical Investigation Location Map



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SITE OBSERVATION REPORT

Select Site Photographs:

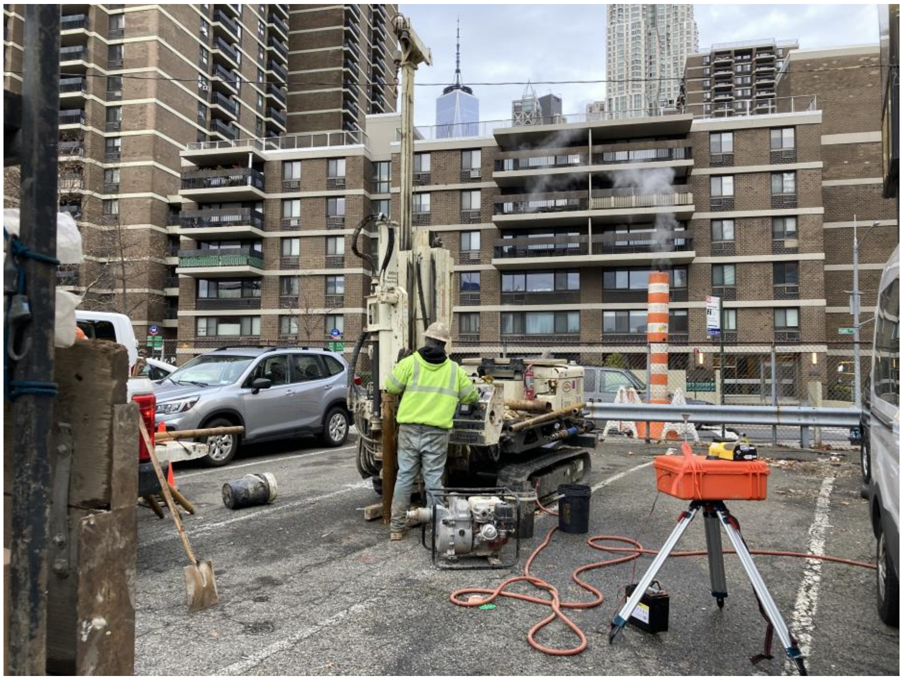

Photo 1: View of AARCO drilling at LB-5 (facing north).

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