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SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
EPA CONTRACT NO.: 68HE0319D0004

July 22, 2022

Ms. Sandra Richards, On-Scene Coordinator
U.S. Environmental Protection Agency
Superfund and Emergency Management Division
2890 Woodbridge Avenue
Edison, New Jersey 08837

EPA CONTRACT No: 68HE0319D0004
TD No: TO-0031-0030
DC No: STARTV-04-D-0008
SUBJECT: REMOVAL ASSESSMENT SAMPLING REPORT
PORT REFINERY SITE
RYE BROOK, WESTCHESTER COUNTY, NEW YORK

Dear Ms. Richards,

Enclosed please find the Removal Assessment Sampling Report which summarizes the multimedia sampling and Site documentation activities conducted by the U.S. Environmental Protection Agency, Region II (EPA) with the support of Weston Solutions, Inc., Superfund Technical Assessment & Response Team V (START V) at the Port Refinery Site (the Site) located in Rye Brook, Westchester County, New York between June 13 and 15, 2022.

If you have any questions or comments, please contact me at (908) 565-2980.

Sincerely,

WESTON SOLUTIONS, INC.

Alexandria Petrosh
START V Site Project Manager

Enclosure
cc: TD File: TO-0031-0030

REMOVAL ASSESSMENT SAMPLING REPORT

PORT REFINERY SITE

Rye Brook, Westchester County, New York

Site Code: 027T
CERCLIS Code: NYD986954048

Prepared by:

Superfund Technical Assessment & Response Team V
Weston Solutions, Inc.
Federal East Division
Edison, New Jersey 08837

Prepared for:

U.S. Environmental Protection Agency, Region II
Superfund and Emergency Management Division
2890 Woodbridge Avenue
Edison, New Jersey 08837

DC No: STARTV-04-D-0008
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July 2022

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1.0 Introduction

From June 13 through 15, 2022, the U.S. Environmental Protection Agency, Region II (EPA) Superfund and Emergency Management Division (SEMD) with the support of Weston Solutions, Inc., Superfund Technical Assessment & Response Team V (START V), conducted an indoor air, surface water, sump pump water and sediment sampling event as part of the Removal Assessment within the Site. In addition, indoor air samples were collected from one residential property located in the Area of Concern (AOC) at the Site. The indoor air samples were submitted to the assigned laboratory for total mercury analysis. Indoor air sampling was conducted due to elevated air monitoring readings for mercury vapors identified within the residence basement sump.

In addition, START V collected surface water samples from six properties and sump pump water samples from four properties located within AOCs of the Site. The surface water and sump pump water samples were submitted to the assigned laboratory for total and dissolved mercury analysis. Sediment samples were collected from eight properties located within AOCs of the Site and were submitted to the assigned laboratory for total mercury analysis. The purpose of the surface water and sediment sampling event was to determine the extent of mercury contamination at the Site and further delineate the AOCs within the Site.

1.1 Site Location and Description

The Site is situated on a residential property located at 55 Hillandale Road in the Village of Rye Brook, Westchester County, New York. The geographic coordinates of the Site are 41° 1’ 42" north latitude and 73° 40' 26" west longitude. The Site includes adjacent residential properties on both sides (51 and 57 Hillandale Road) and is situated in an affluent neighborhood. The Site also includes a common area of an adjacent condominium complex, The Arbors, as well as sections of a storm drainage system consisting of underground pipes, an open stream channel, and four small ponds situated on three additional residential properties down-gradient from Hillandale Road.

Refer to Attachment A, Figure 1: Site Location Map

1.2 Site History and Background

On February 20, 1991, the Westchester County Department of Health (WCDH) notified the EPA of a release of elemental mercury at 55 Hillandale Road. On May 1, 1991, the New York State Department of Environmental Conservation (NYSDEC) requested that EPA take appropriate actions at the Site under Section 104 of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9604. The Site was subsequently added to the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database under CERCLIS identification (ID) number (No.) NYD986954048.

From September 1991 to mid-1996, EPA conducted a Removal Action at the Site. This action included excavation, removal, and off-Site disposal of 5,300 tons of mercury-contaminated soil from the 55 Hillandale Road property. Included with the excavation and removal of mercury-contaminated soil was the demolition of an on-Site garage, swimming pool, and associated cabana along with removal of mercury-contaminated sediment from three small ponds that were

associated with the storm drainage system located at the Site. This Removal Action also addressed contaminated sediment and debris from two drainage sumps and associated piping at the 55 Hillandale Road property which was removed and consolidated into 78 drums for off-Site disposal.

On April 29, 2004, the Village of Rye Brook Police Department received a report of a release of elemental mercury that appeared to come from a rock pile along a paved walkway owned by The Arbors. The point of the release was adjacent to, and northwest of the property located at 55 Hillandale Road. With notification and verification of the release of mercury by WCDH and EPA, a verbal authorization for $250,000 was granted by the Acting Regional Administrator on April 29, 2004, to initiate an Emergency Response to address threats associated with the release of mercury.

On April 30, 2004, EPA mobilized its Emergency and Rapid Response Services (ERRS) contractor to address the release of elemental mercury. Approximately 1 ton of soil containing elemental mercury was excavated and loaded into drums and temporarily staged inside the Village of Rye Brook Police Department storage shed pending disposal. Post-excavation soil samples collected at the base of the excavation identified mercury at concentrations greater than the previously established Site-Specific Action Level of 10 milligrams per kilogram (mg/kg).

From May through July 2004, EPA, with support from Weston Solutions, Inc., Removal Support Team (RST) contractor, currently START V, collected surface soil samples near the area where mercury-contaminated soil was discovered in May 2004 to evaluate any additional areas of contamination. Analytical results of the soil samples indicated that mercury-contaminated soil, above the Site-Specific Action Level of 10 mg/kg, was present in areas south and southeast of the paved walkway, following the surface drainage pathway toward the storm drainage system that flows to the southeast from the area. Sampling results confirmed that the mercury contamination extended beyond the rock pile area and onto adjoining properties. Based on these results, EPA expanded its soil investigation onto several properties adjacent to the original spill area. On August 31, 2004, a 6-foot temporary chain-link fence with warning signs was erected around the known contaminated areas on The Arbors property to restrict access from the paved walkway that connects the neighborhood with the Blind Brook High School.

On September 30, 2004, a verbal authorization for a ceiling increase of $787,000 was granted by the Acting Regional Administrator to continue the Emergency Response action at the Site. From September 15 through December 17, 2004, EPA, with the support of RST, conducted sampling to fully delineate the horizontal and vertical extent of mercury contamination, a comprehensive investigation of surface and subsurface soils, storm water drainage sediment, groundwater, and indoor air at the Site. The results of this comprehensive investigation determined that mercury contamination was prevalent throughout the 55 Hillandale Road property, adjacent properties, as well as residential properties hydrologically downgradient. Water samples collected from a basement sump located at 55 Hillandale Road revealed elevated concentrations of mercury. This water, which was collecting from within the sump, was found to be a contributing source of mercury detected within the indoor air of the residence. The sump was very active due to the high-water table. To mitigate the elevated mercury contamination entering the sump a Kinetic Degradation Fluxion filter was installed to treat the sump water prior to being discharged from the residence.

On June 20, 2005, an Action Memorandum for the Site was approved that documented the two verbal authorizations, as well as approving the requests for a change-in-scope, ceiling increase, and 12-month and $2 million exemption. The additional funding was for the excavation and off-Site disposal of mercury-contaminated soil from The Arbors and adjoining properties, including the residence at 55 Hillandale Road. These costs also included compensation to the property owners of 55 Hillandale Road for the demolition of their home and to cover temporary relocation expenses until excavation activities were completed and a replacement structure could be built.

On June 24, 2005, EPA received approval from the Director of the Office of Emergency Management to offer compensation in the form of a financial settlement to the owner of the residence located at 55 Hillandale Road.

Due to the extensive mercury-contaminated soil identified during excavation and sampling activities, a mitigation ceiling increase was requested to continue mitigation efforts. On September 29, 2005, an EPA Action Memorandum was approved by the Deputy Assistant Administrator for the Office of Solid Waste and Emergency Response (OSWER) for a ceiling increase of $2,105,000 bringing EPA's total project ceiling to $8,084,000.

From May 2005 through September 2007, EPA conducted a Removal Action at 55 Hillandale Road and the surrounding areas at the Site.

On February 5, 2019, EPA, with the support of RST 3, performed indoor air sampling at the 55 Hillandale Road property. The owner of the property planned to sell the house and asked EPA to conduct a sampling event to confirm that interior air conditions remained at acceptable levels. A total of eight air samples, including one field duplicate, were collected from seven locations identified on-Site by the EPA On-Scene Coordinator (OSC). The air samples were submitted to the assigned laboratory for mercury analysis. It was determined from the validated analytical results of the eight air samples that mercury was not detected in concentration above the laboratory reporting limits and EPA's Regional Screening Level of 0.31 micrograms per cubic meter ($\mu g/m^3$).

2.0 Scope of Work

START V was tasked by EPA with the collection of air samples, from one residential property located within the Site. The air samples were collected from locations in the residence basement selected on-site by the EPA OSC, after air monitoring readings with the Lumex RA-915M mercury vapor analyzer (MVA) indicated mercury concentrations at half the suggested residential occupancy level of 1 $\mu g/m^3$ from the basement sump pump. Air samples were submitted to the assigned laboratory for total mercury analysis.

In addition, START V was tasked with the collection of sump pump and surface water samples, including Quality Assurance/ Quality Control (QA/QC) samples, from nine properties located within AOCs of the Site. The water samples were collected from various sources including residential sump pumps, French drains, sections of a storm drainage system consisting of an open stream channel, and two ponds located on Property P051. The samples were submitted to the assigned laboratory for total and dissolved mercury analysis. START V also collected sediment samples from eight properties located within the AOCs of the Site, at locations corresponding to

sump and surface water samples, when enough sample volume was available. The sediment samples were submitted to the assigned laboratory for total mercury analysis. The purpose of the water and sediment sampling event was to determine the extent of mercury contamination at the Site and further delineate the AOCs within the Site.

START V was responsible for providing support for photographic documentation, notation in the Site logbook of all Site activities, and entering sampling information into the EPA Scribe database, an environmental data management system.

3.0 On-Site Personnel

Name	Affiliation	Duties On-Site
Sandra Richards	EPA, Region II	Lead On-Scene Coordinator
David Rosoff	EPA, Region II	On-Scene Coordinator
Alexandria Petrosh	Weston Solutions, Inc. START V	Site Project Manager, Site H&S, Site QA/QC, Sample Collection, Sample Management
Sean Quinn	Weston Solutions, Inc. START V	Sample Collection, Sample Management
Michael Morris	Weston Solutions, Inc. START V	Sample Collection, Sample Management

EPA: U.S. Environmental Protection Agency
H&S: Health and Safety
START V: Superfund Technical Assessment & Response Team V
QA/QC: Quality Assurance / Quality Control

4.0 Site Activities and Observations

From June 13 through 15, 2022, EPA and START V performed an air, surface water, sump pump water, and sediment sampling event at eight residences and one community park (Properties RMP, P012, P014, P022, P024, P047, P051, P055, and P057) located within AOCs at the Site. A total of 14 sump pump water samples were collected at four residences. A total of 60 surface water samples, including QA/QC samples, were collected from six properties and a total of 33 sediment samples, including QA/QC samples, were collected from eight properties. All the samples were submitted to the assigned laboratory for mercury analysis.

During the surface water, sump pump water, and sediment sampling collection at the Site, sediment samples were generally collected at locations where surface water or sump pump water samples were taken. However, sediment sample were not taken at sump pump locations of Property P047, P051, P055, and P057 due to the lack of volume. Similarly, sump pump water samples were not collected at Property P057 due to lack of volume. In addition, a surface water sample was not collected from the sump pump discharge hose, location of sediment sample P051-SD002-01 at Property P051, as directed by the EPA OSC.

During the sump pump and sediment sampling within residence basements, START V conducted continuous air monitoring utilizing a Lumex RA-915M MVA of the ambient air and a Jerome 505 MVA for discrete monitoring of sump pumps and French drains in the basement of four residential properties (P047, P051, P055, and P057). The air monitoring equipment was set to alarm at 0.500 microgram per cubic meter ($\mu g/m^3$), the actionable mercury concentration to conduct air sampling at a property, as directed by the EPA OSC.

On June 14, 2022, START V utilized air sampling pumps and sampling media to collect air samples from three locations determined by the EPA OSC at property P051 within the on-site AOC. The selected sampling locations were all in the residence basement, including one inside a sump pump (AS001), one adjacent to the back stairwell, in the basement, leading up to the kitchen (AS002), and one in the basement HVAC room (AS003). It should be noted that the air sampling pump deployed at AS002 stopped operating shortly after starting sample collection earlier in the morning. Upon observing the failed pump, a replacement pump was utilized to continue sample collection. Throughout the sampling event, Site conditions and activities were documented with digital photographs and noted in the Site logbook.

Refer to Attachment C: Photographic Documentation Log.

5.0 Sampling Methodology

All on-site field work was performed in accordance with the START V Site-Specific Health and Safety Plan (HASP), Site-Specific Uniform Federal Policy (UFP) Quality Assurance Project Plan (QAPP), and EPA ERT SOP No. 2001 – *General Field Sampling Guidelines.*

5.1 Air Monitoring/Sampling Methodology

Air monitoring was performed in accordance with EPA's ERT SOP Nos. 1729: *Operation of Lumex RA-915 Mercury Analyzer* and 2136: *Jerome Mercury Vapor Analyzer*. Constant air monitoring was conducted utilizing a Lumex RA-915 MVA and discrete air monitoring was conducted utilizing a Jerome 505 MVA of French drains and sump pumps at the Site and adjacent residential properties (P047, P051, P057). With EPA OSC direction, START V proceeded to conduct air sampling, at Property P051, when mercury concentrations at half the suggested residential occupancy level of 1 $\mu g/m^3$ were detected within the basement sump pump.

Air samples were collected in accordance with EPA ERT SOP No. 2008 – *General Air Sampling Guidelines* and the National Institute for Occupational Safety and Health (NIOSH) Method 6009. Air samples were collected using air sampling media consisting of sorbent tubes [6 x 70-millimeter (mm) size, 200 milligram (mg) sorbent] and GilAir pumps with flow rates set between 0.15 and 0.25 liters per minute (L/min) for a period of eight hours. A total of three air samples were collected from three indoor locations during the sampling event. No field duplicates were collected as directed by the EPA OSC. In addition, one field blank and one lot blank sample were collected. Each sample sorbent tube was placed in a labeled poly bag prior to being stored in a shipping cooler. All air samples were submitted to the assigned laboratory for total mercury analysis.

5.2 Surface Water and Sump Pump Water Sampling Methodology

Surface water and sump pump water sampling was performed in accordance with EPA's ERT SOP No. 2013: *Surface Water Sampling.* Surface water samples were collected using dedicated sampling dippers lined with poly bags or directly into the sample container. Surface water and sump pump water was collected into two 250 mL poly sample containers. The unfiltered surface water and sump pump water was collected directly into one 250 mL poly sample container. The filtered sample was collected by pumping water from one of the collection containers into one

different 250 mL poly container using a peristaltic pump equipped with a disposable 0.45-micron filter. A different 0.45-micron filter was used at each sample location. The water samples analyzed for total and dissolved mercury, were preserved with nitric acid to a pH less than or equal to two.

5.3 Sediment Sampling Methodology

Sediment sampling was performed in accordance with EPA's ERT SOP No. 2016-r10: *Sediment Sampling*. Sediment samples were collected using dedicated plastic sampling scoops and were collected at the surface of each location. The samples collected from sump pumps and French drains were collected directly into a 4-ounce (oz) glass sample jar. The sediment samples were collected from the ponds and stream using dedicated plastic sampling scoops, placed into poly bags at each sample location, homogenized and then transferred into 4 oz glass sample jars. Sediment samples were sent to the assigned laboratory for total mercury analysis.

Throughout the sampling event, fresh nitrile gloves were donned between sample locations. Field duplicates and additional volumes of field samples designated as matrix spike/ matrix spike duplicates (MS/MSD) were collected at a rate of one per 20 samples per matrix. All surface water and sediment sample locations were documented using Global Positioning System (GPS) technology. All sample information was entered into the EPA Scribe data management system from which sample labels and the chain of custody (COC) records were generated. The sample labels were affixed to the sample containers and then stored on ice in sample coolers prior to delivery to the assigned laboratory.

6.0 Laboratory Receiving Samples

The following laboratories were utilized during the June 2022 sampling event.

Laboratory	Sample Matrix	Analyses
LSASD 2890 Woodbridge Ave Edison, NJ 08837 **Project # P-2206012**	Aqueous/ Sediment	Total/Dissolved Mercury
EMSL Analytical, Inc. (Non-CLP) 200 Route 130 North Cinnaminson, NJ 08077 **RFP# 796**	Air	Mercury

LSASD: Laboratory Services & Applied Science Division

7.0 Sampling Collection and Dispatch

From June 13 through 15, 2022, START V collected a total of five (including one filed blank and one lot blank) air samples, 14 sump pump water samples, 60 surface water samples, and 33 sediment samples, including six field duplicate samples, from AOCs at the Site.

On June 13, 2022, a total of 30 surface water samples, including two field duplicate samples, and 19 sediment samples, including one field duplicate sample, were collected for total and dissolved mercury analysis.

On June 14, 2022, a total of three indoor air samples were collected at one residential property (P051), eight sump pump water samples, 32 surface water samples, including two field duplicate samples, and 14 sediment samples, were collected, including one field duplicate sample, for total and dissolved mercury analysis.

On June 15, 2022, a total of four sump pump water samples were collected from property P055, for total and dissolved mercury analysis.

On June 15, 2022, START V hand delivered a total of 74 water and 33 sediment samples under Chain of Custody (COC) record number (No.) 2-061322-100701-0002 to LSASD laboratory located in Edison, New Jersey for total and dissolved mercury analysis.

On June 15, 2022, START V hand delivered a total of five indoor air samples, including one field blank sample and one lot blank sample, under COC record No. 2-061522-123948-0003 to EMSL Analytical Inc. laboratory located in Cinnaminson, New Jersey for total mercury analysis.

Refer to Attachment B, Table 1A: Air Sample Collection Summary Table and Table 1B: Surface Water, Sump Pump Water, and Sediment Sample Collection Summary Table, Table 4: GPS Coordinate Sample Location Table and Attachment D, Chain of Custody Records.

8.0 Analytical Results Summary

The validated analytical results of the air samples collected from Property P051 located within the AOCs of the Site, during the June 2022 sampling event, were compared with the Agency for Toxic Substances and Disease Registry (ATSDR) suggested Residential Occupancy level of 1 µg/m^3.

The validated analytical results of the total mercury water samples collected from Property RMP, P012, P014, P022, P024, P047, P051, P055, and P057 located within the AOCs of the Site, during the June 2022 sampling event, were compared with the NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values Source of Drinking Water H(WS), June 1998.

The validated analytical results of the dissolved mercury water samples collected from Property RMP, P012, P014, P022, P024, P047, P051, P055, and P057 located within the AOCs of the Site, during the June 2022 sampling event, were compared with NYSDEC TOGS 1.1.1 Source of Wildlife Protection (W), June 1998.

The validated analytical results of the sediment samples collected from Property RMP, P012, P014, P022, P024, P047, P051, and P057 during the June 2022 sampling event within the AOCs of the Site were compared with the NYSDEC Part 375 Environmental Remediation Programs Unrestricted Residential and Protection of Ecology, December 2006.

8.1 Air Analytical Results Summary

Based on the validated analytical results of the three indoor air samples collected from Property P051, concentrations of mercury were detected in one air sample, P051-AS001-220614-01, located

in the basement adjacent to the sump pump, at a concentration of 2.2 µg/m^3, above the ATSDR standard for residential air of 1 µg/m^3. Concentrations of mercury were not detected in the other two air samples collected at Property P051.

Refer to Attachment A, Figure 2: Property P051 Air Sample Location Map, Attachment B, Table 2: Validated Air Analytical Results Summary Table – Mercury and Attachment E: Validated Laboratory Analytical Data.

8.2 Surface and Sump Pump Water Analytical Results Summary

Based on the validated analytical results of the seven sump pump water samples collected for total mercury analysis from residential properties P047, P051, P055, and P057, concentrations of total mercury exceeded the TOGS 1.1.1 Source of Drinking Water of 0.7 µg/L in two sump pump water samples, P051-WS001-01 (Property P051), at a concentration of 8.4 µg/L and sample P055-WS002-01 (Property P055), at a concentration of 13.2 µg/L. Total mercury concentrations were not detected in the remaining five sump pump water samples collected during the June 2022 sampling event.

Based on the validated analytical results of the seven sump pump water samples collected for dissolved mercury analysis from four residential properties (P047, P051, P055, and P057), concentrations of dissolved mercury exceeded the TOGS 1.1.1 Wildlife Protection of 0.0026 µg/L in one sump pump water sample, P055-WS002-D-01 (Property P055), at a concentration of 8.3 µg/L. Dissolved mercury concentration were not detected in the remaining six sump pump water samples collected during the June 2022 sampling event.

Based on the validated analytical results of the 30 surface water samples collected for total mercury analysis from six properties (RMP, P012, P014, P022, P024 and P051), concentrations of total mercury exceeded the TOGS 1.1.1 Source of Drinking Water of 0.7 µg/L in six surface water samples collected from properties P024 and P051. The concentrations of total mercury ranged from 1.76 µg/L to 1.8 µg/L (Property P051).

Based on the validated analytical results of the 30 surface water samples collected for dissolved mercury analysis from the stream and two ponds of six properties (RMP, P012, P014, P022, P024 and P051), concentrations were not detected in any of the surface water samples.

Refer to Attachment A, Figure 3: Surface and Sump Pump Water Sample Location Extent Map, Figure 3A through 3I: Property Surface and Sump Pump Water Sample Location Map, Attachment B, Table 1B: Sample Collection Summary Table, Table 3A through 3I: Property Surface Water and Sediment Analytical Results Summary Table, and Attachment E: Validated Laboratory Analytical Data.

8.3 Sediment Analytical Results Summary

Based on the validated analytical results of the 33 sediment samples collected for total mercury analysis from eight properties (RMP, P012, P014, P022, P024, P047, P051, and P057), concentrations of total mercury exceeded both the NYSDEC Part 375 Soil Standards Unrestricted

Residential of 0.81 mg/kg and NYSDEC Part 375 Soil Standards Protection of Ecology of 0.18 mg/kg in 12 sediment samples, including two field duplicate samples, collected from properties RMP, P051 and P057. The concentrations of mercury ranged from 0.842 mg/kg to 1.6 mg/kg (Property P051).

Based on the validated analytical results of the 33 sediment samples collected for total mercury analysis from eight properties (RMP, P012, P014, P022, P024, P047, P051, and P057) concentrations of total mercury exceeded only the NYSDEC Part 375 Soil Standards Protection of Ecology of 0.18 mg/kg in eight sediment samples collected from properties RMP, P022, and P024. The concentrations of mercury ranged from 0.306 mg/kg to as high as 0.63 mg/kg (Property P022).

Based on the validated analytical results of the 33 sediment samples collected for total mercury analysis from eight properties (RMP, P012, P014, P022, P024, P047, P051, and P057) total mercury concentrations were either not detected or detected at concentrations below both NYSDEC values in 13 of the 33 sediment samples collected from Property RMP, P012, P014, P047, and P051 during the June 2022 sampling event.

Refer to Attachment A, Figure 4: Sediment Sample Location Extent Map, Figure 4A through 4I: Property Sediment Sample Location Map, Attachment B, Table 1B: Sample Collection Summary Table, Table 3A through 3I: Property Surface Water and Sediment Analytical Results Summary Table, and Attachment E: Validated Laboratory Analytical Data.

9.0 Conclusion

From June 13 through 15, 2022, EPA and START V conducted an air, surface water, sump pump water, and sediment sampling event at nine properties located within the AOCs at Site. START V collected three air samples at one residential property (P051), 14 sump pump water samples at four residential properties (P047, P051, P055, and P057), 60 surface water samples, including four field duplicate samples, at six properties (RMP, P012, P014, P022, P024, P051), and 33 sediment samples, including two field duplicate samples, at eight properties (RMP, P012, P014, P022, P024, P047, P051, and P057).

Air samples collected from Property P051 during the June 2022 sampling event were submitted to ESML Analytical Inc. laboratory located in Cinnaminson, NJ. Air samples were submitted for total mercury analysis. The analytical results were compared with ATSDR residential occupancy levels. Based on the validated analytical results, mercury concentrations exceeded the ATSDR level in one of the three samples collected in the sump pump at the residential Property P051.

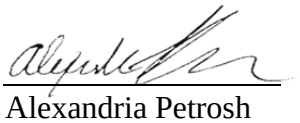
All the surface water, sump pump water, and sediment samples collected during the June 2022 sampling event were submitted to the EPA LSASD laboratory located in Edison, NJ. Sump pump water and surface water samples were submitted for total mercury and dissolved mercury analyses. Sediment samples were submitted for total mercury analysis.

Based on the validated analytical results, the concentration of mercury exceeded the NYSDEC TOGS 1.1.1 Source of Drinking Water of 0.7 µg/L in two of the sump pump water samples and six of the surface water samples collected during the June 2022 sampling event. In addition, the

concentration of dissolved mercury exceeded the NYSDEC TOGS 1.1.1 Source of Wildlife Protection of 0.0026 µg/L in one of the 30 sump pump water samples collected during the June 2022 sampling event. The concentrations of mercury exceedances ranged from 1.76 µg/L to 1.8 µg/L (Property P051).

Based on the validated analytical results, the concentration of mercury either equaled or exceeded the NYSDEC Part 375 Environmental the Remediation Programs Protection of Ecology values of 0.18 mg/kg, or equaled or exceeded both the NYSDEC Part 375 Environmental the Remediation Programs Unrestricted Residential of 0.81 mg/kg and Protection of Ecology values in 12 of the sediment samples collected during the June 2022 sampling event. The concentrations of mercury exceedances ranged from 0.306 mg/kg to 1.6 mg/kg (Property P051).

EPA may utilize the results from this investigation to determine if further Site investigations may be necessary or determine if a Removal Action is warranted based on elevated concentrations of mercury in the sump pump air/water, surface water and sediment located within AOCs at the Site.

Report prepared by:  07/22/2022
Alexandria Petrosh — Date
START V Site Project Manager

Report reviewed by:  07/22/2022
Michael Lang — Date
START V Team Leader

ATTACHMENT A

Figure 1: Site Location Map
Figure 2: Property P051 Air Sample Location Map
Figure 3: Surface and Sump Pump Water Sample Location Extent Map
Figure 3A: Property RMP Surface Water Sample Location Map
Figure 3B: Property P012 Surface Water Sample Location Map
Figure 3C: Property P014 Surface Water Sample Location Map
Figure 3D: Property P022 Surface Water Sample Location Map
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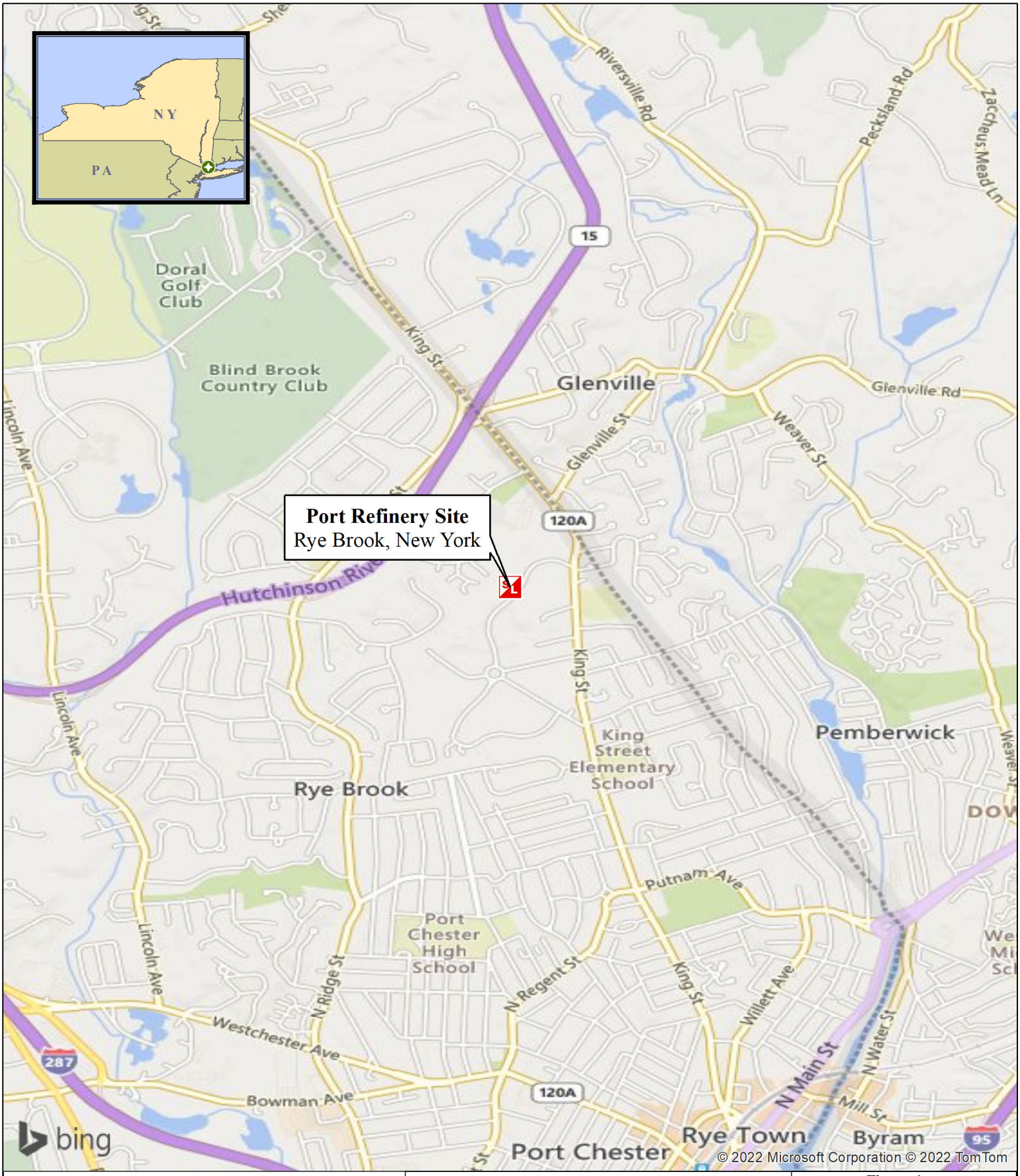
Figure 4D: Property P022 Sediment Sample Location Map
Figure 4E: Property P024 Sediment Sample Location Map
Figure 4F: Property P047 Sediment Sample Location Map
Figure 4G: Property P051 Sediment Sample Location Map
Figure 4H: Property P057 Sediment Sample Location Map



Legend

Site Location

N

0 0.125 0.25 0.5 0.75 1 Miles

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 1:
Site Location Map

Port Refinery Site
Rye Brook, NY

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
RST SPM:	A. PETROSH
CHARGE #::	40200.041.031.4030

DATE MODIFIED: 7/11/2022

Y:\START_V\00310030\MXD\PORT_REFINERY_SLM.MXD

Legend

Air Sample Location

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per cubic meter (µg/m^3)

Sources:
1. Nearmap. Aerial Imagery. 3/22/2022. www.nearmap.com.

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 2: P051
Air Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT #68HE0319D0004

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
RST SPM:	A. PETROSH
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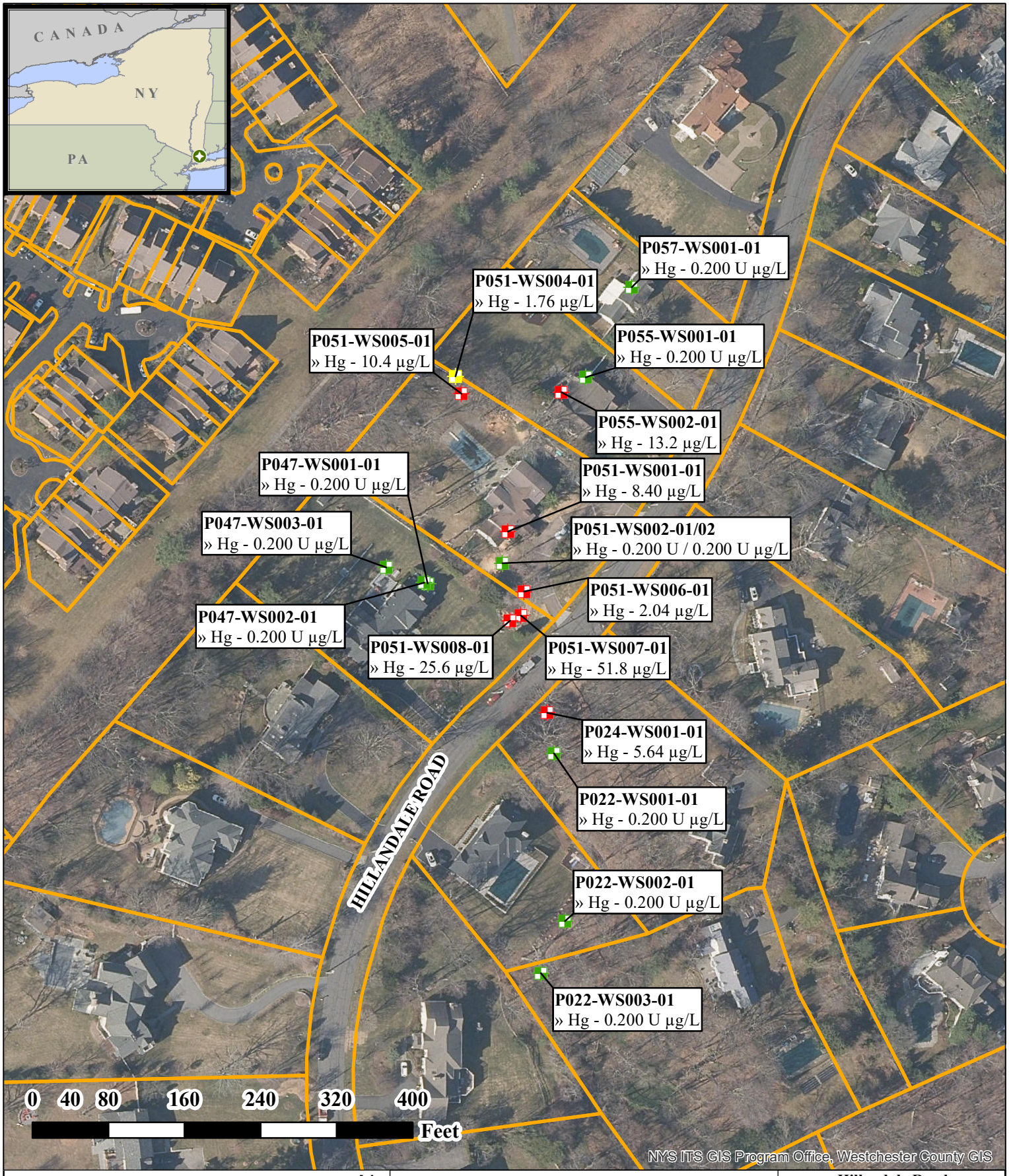

Legend

Aqueous Sample Location

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Tax Parcel Boundaries

N

Notes:
Hg - Mercury
U - Not detected
µg/L - Micrograms per liter

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Hillandale Road
Aqueous Mercury Results

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/12/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220712_Port_Refinery_Sampling_Area_Overview

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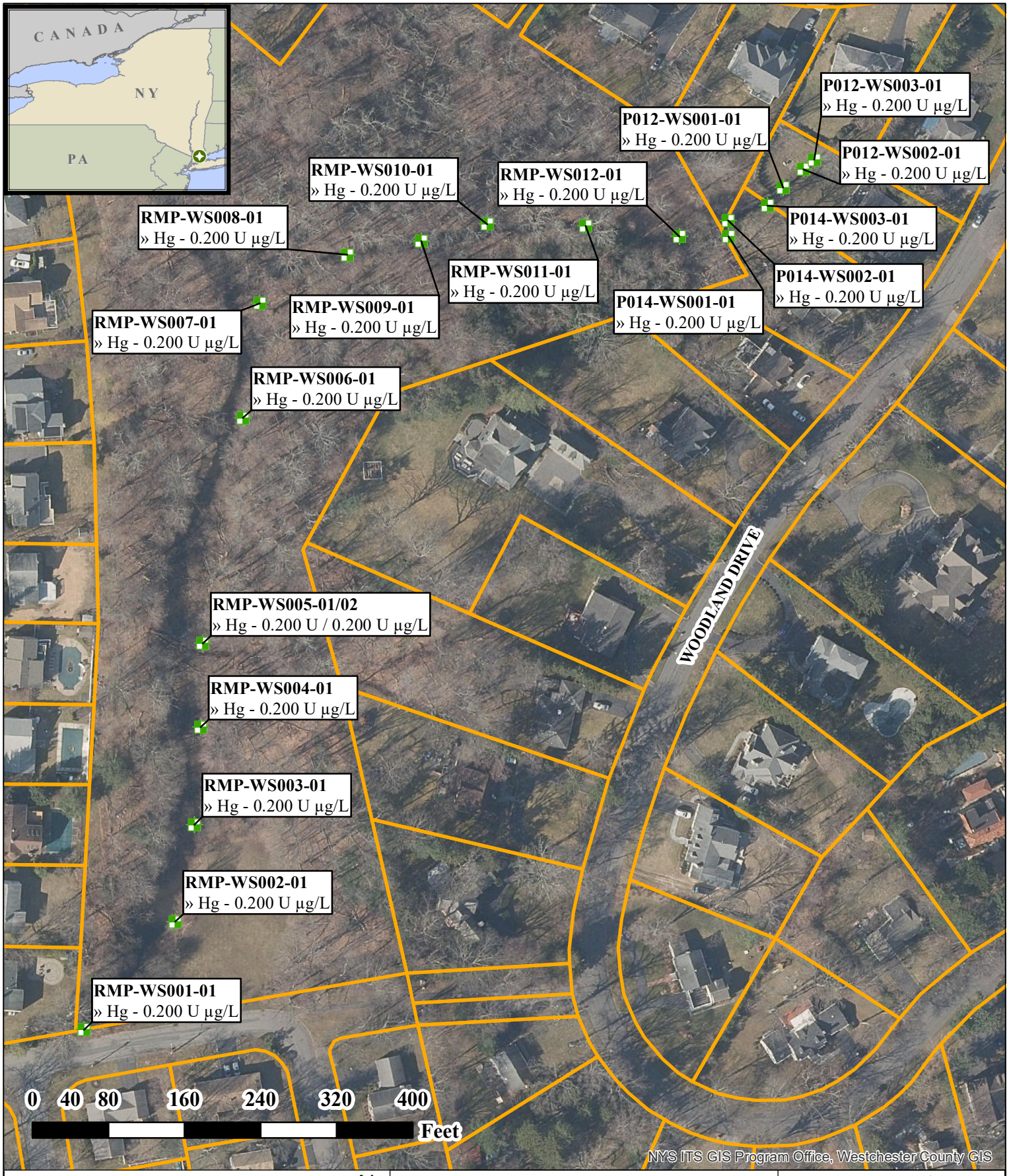

Legend

Aqueous Sample Location

< 0.7 µg/L

Tax Parcel Boundaries

Notes:
Hg - Mercury
U - Not detected
µg/L - Micrograms per liter

N

Weston Solutions, Inc.
Federal East Division

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Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Woodland Drive
Aqueous Mercury Results

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220712_Port_Refinery_Sampling_Area_Overview

DATE MODIFIED: 7/12/2022

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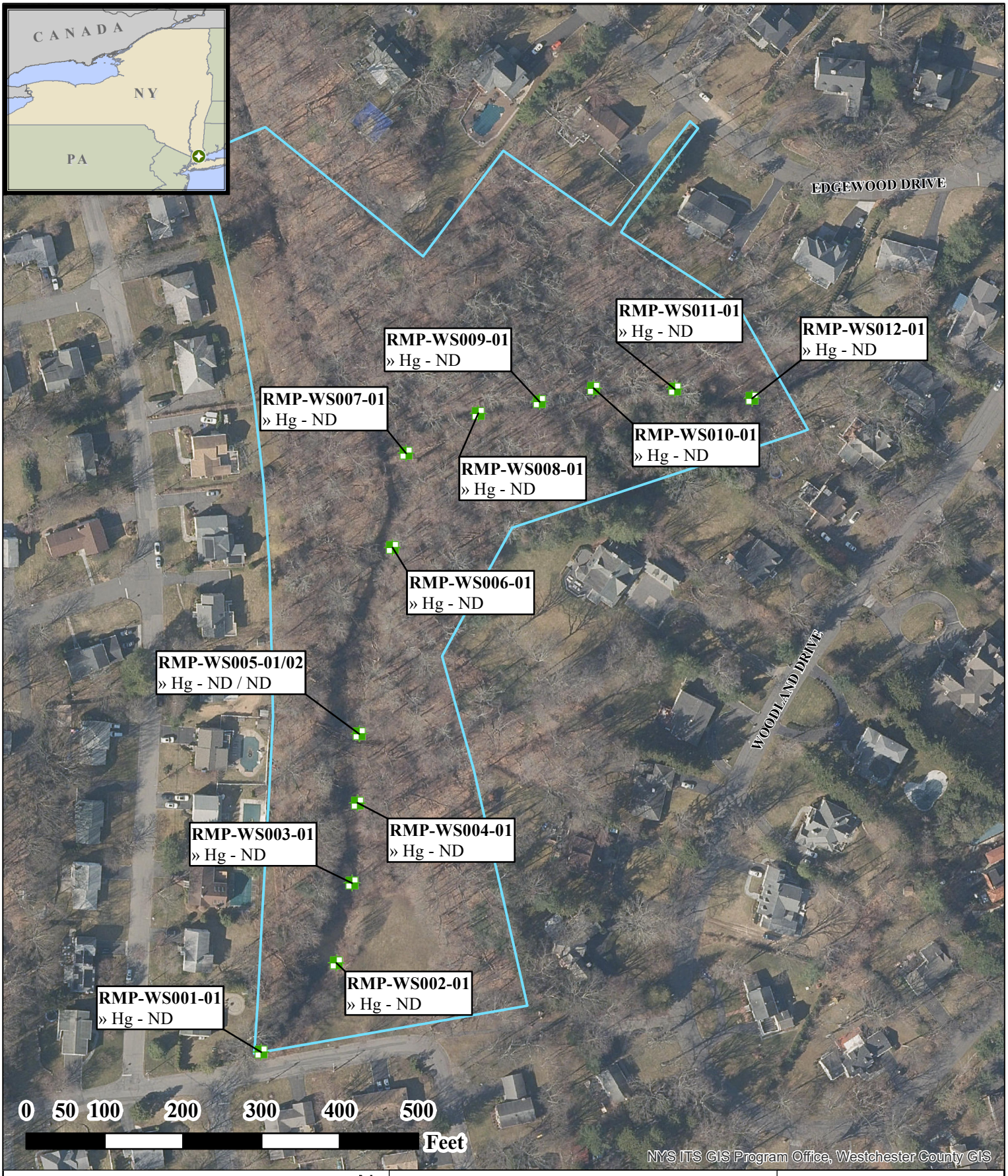

Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

Weston Solutions, Inc.
Federal East Division

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Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3A: Property RMP Surface Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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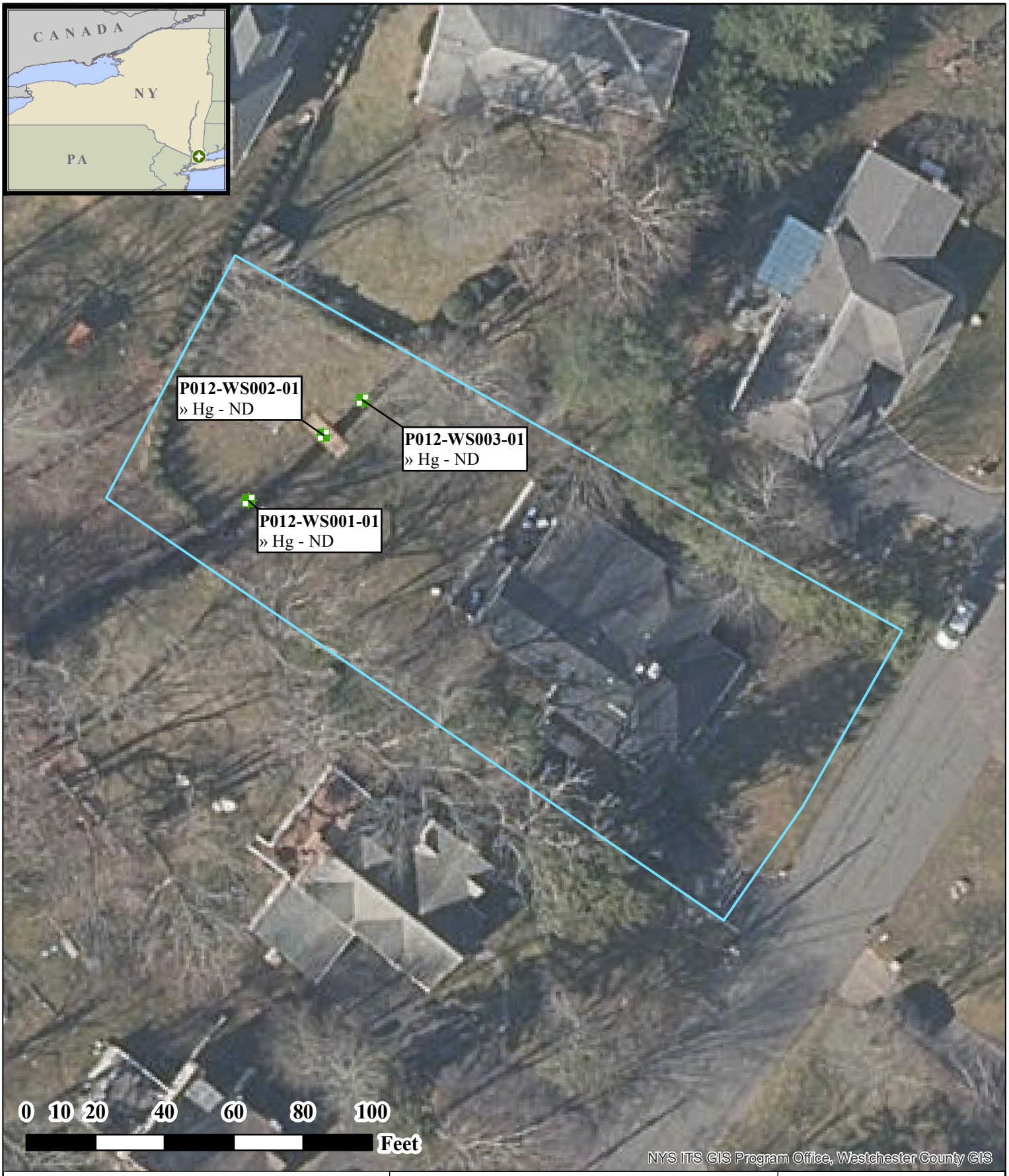

Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

Weston Solutions, Inc.
Federal East Division

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Eco-Risk; Avatar Environmental, LLC;
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Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3B: Property P012 Surface Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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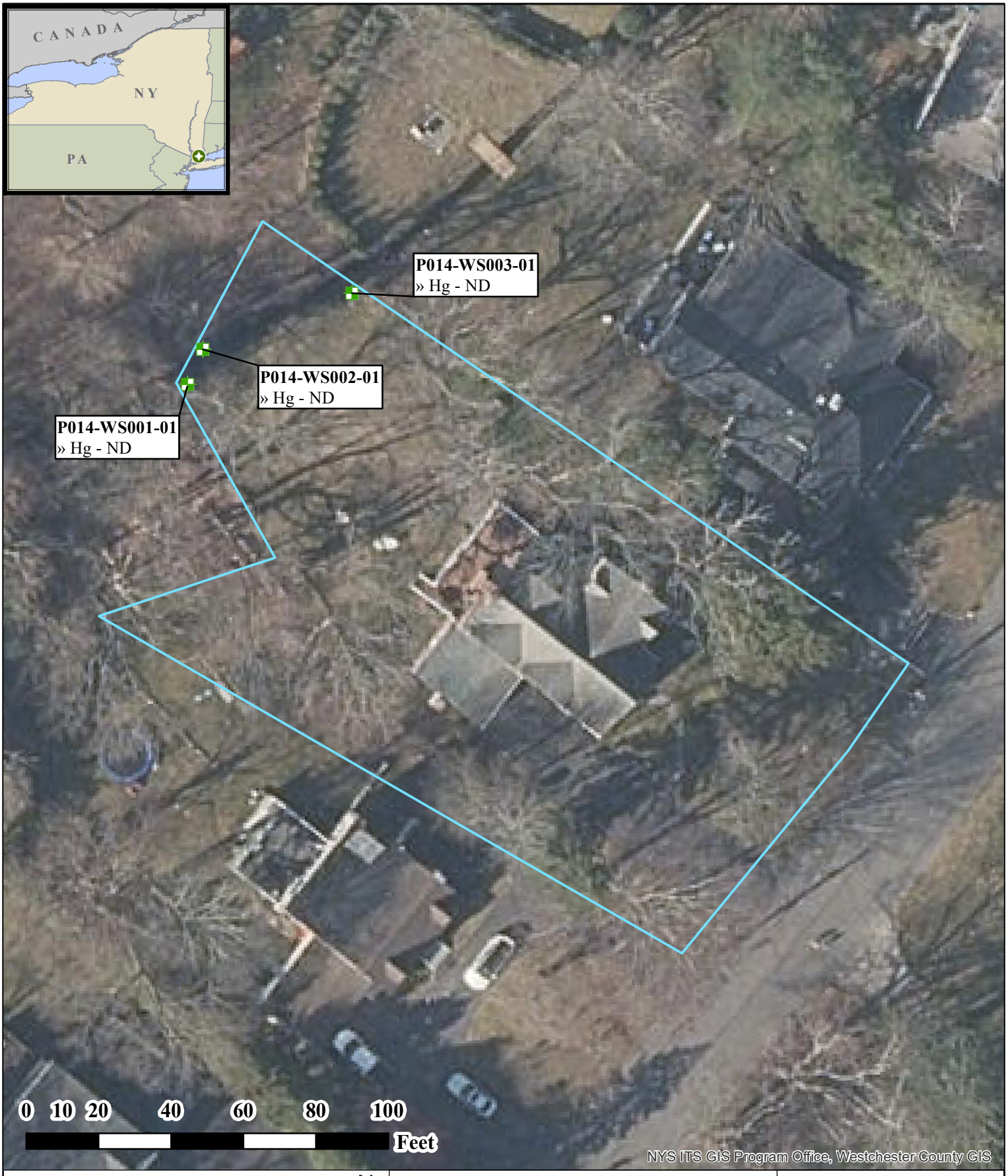

Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

Weston Solutions, Inc.
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Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3C: Property P014 Surface Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

DATE MODIFIED: 7/18/2022

Y:\START_V\00310030\MXD\220718_Port_Refinery_Sampling_Area_Overview.mxd

Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

Weston Solutions, Inc.
Federal East Division

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Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3D: Property P022 Surface Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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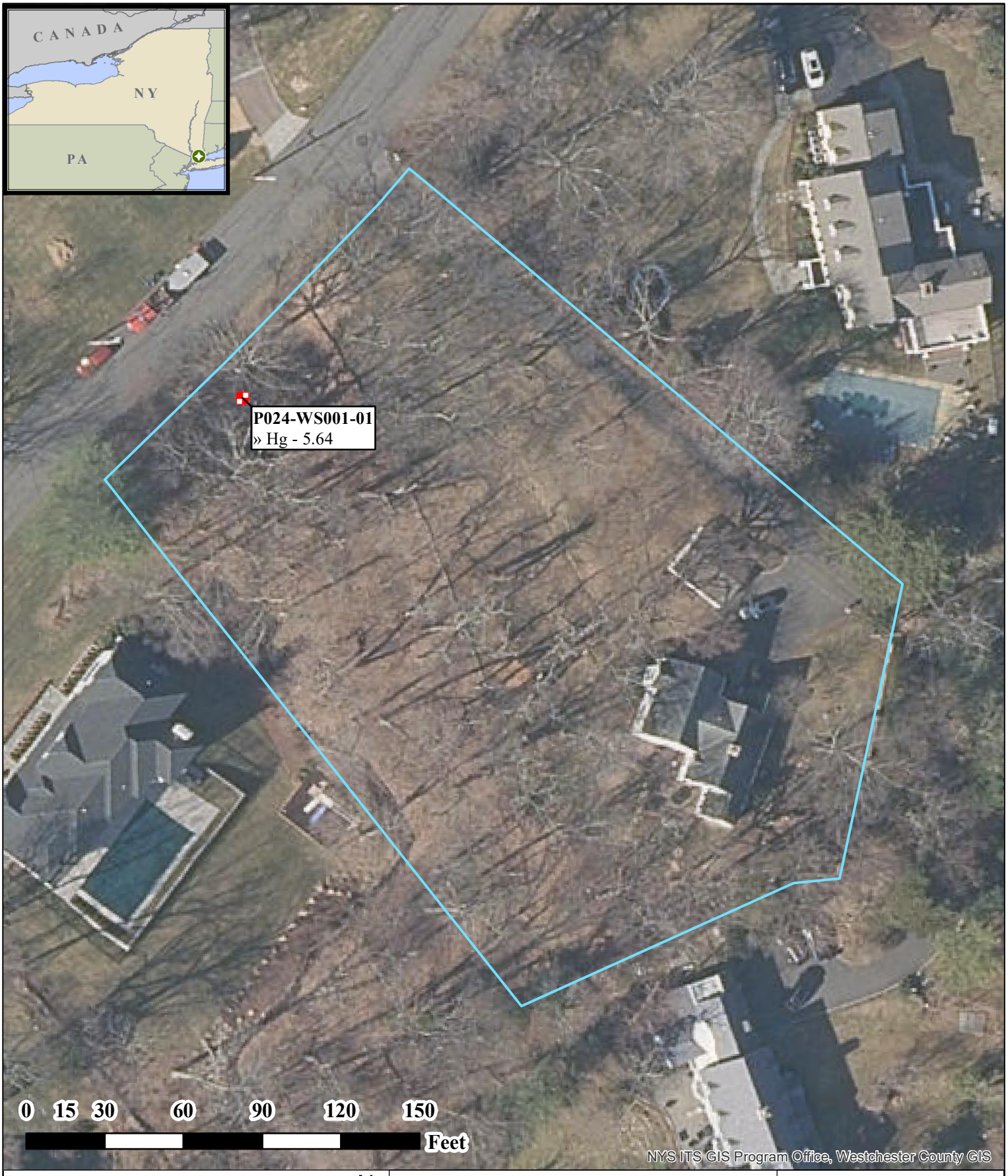

Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

Weston Solutions, Inc.
Federal East Division

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Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3E: Property P024 Surface Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

Weston Solutions, Inc.
Federal East Division

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Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3F: Property P047 Sump Pump Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3G: Property P051 Surface and Sump Pump Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
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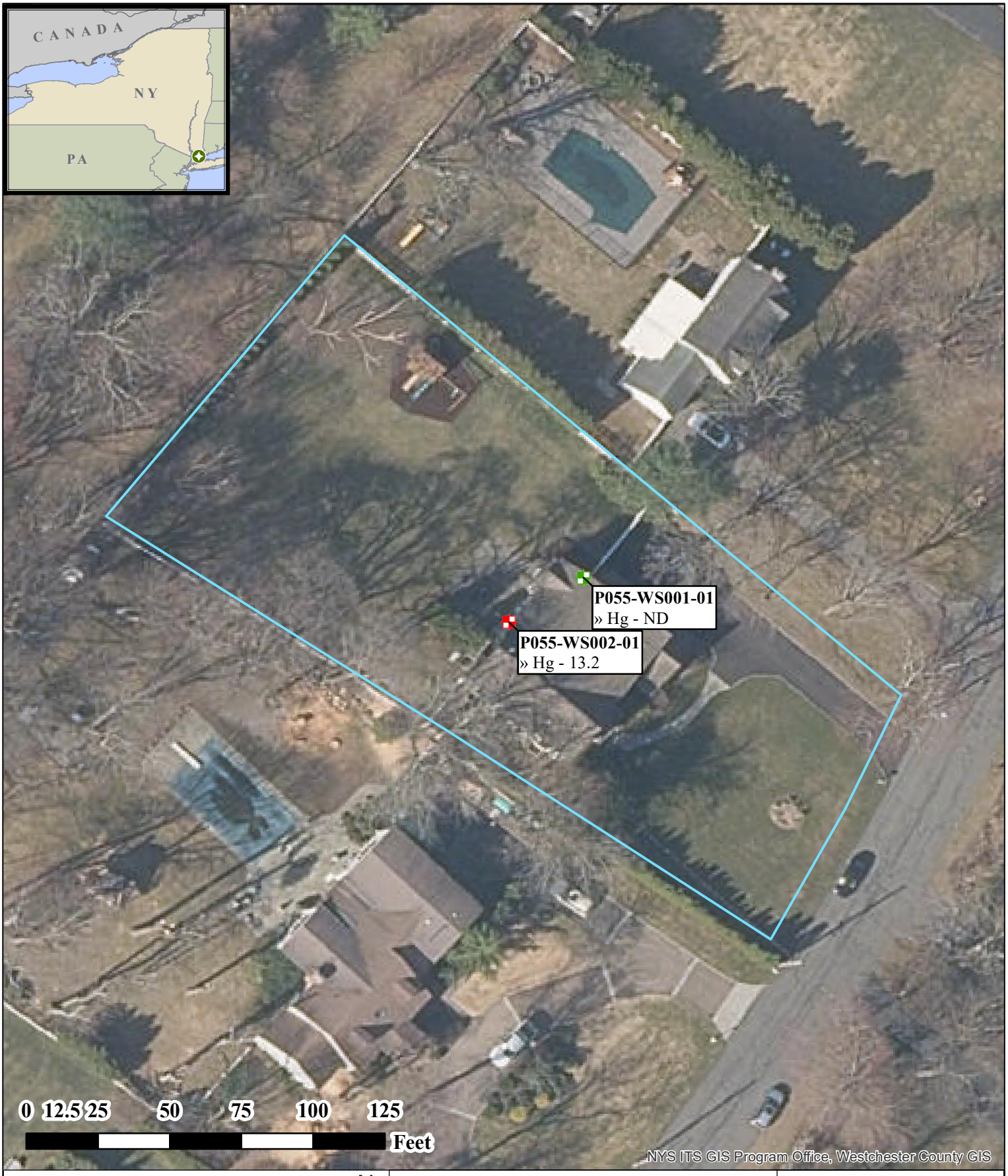

Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

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Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3H: Property P055 Sump Pump Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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Legend

Aqueous Sample Location - Hg

- < 0.7 µg/L
- 0.7 µg/L - 2 µg/L
- > 2 µg/L
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in micrograms per liter (µg/L)

Weston Solutions, Inc.
Federal East Division

In Association With
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Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 3I: Property P057 Sump Pump Water Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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Legend

Sediment Sample Location

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Tax Parcel Boundaries

N

Notes:
Hg - Mercury
U - Not detected
mg/kg - Milligrams per kilogram

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Hillandale Road
Sediment Mercury Results

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/12/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220712_Port_Refinery_Sampling_Area_Overview

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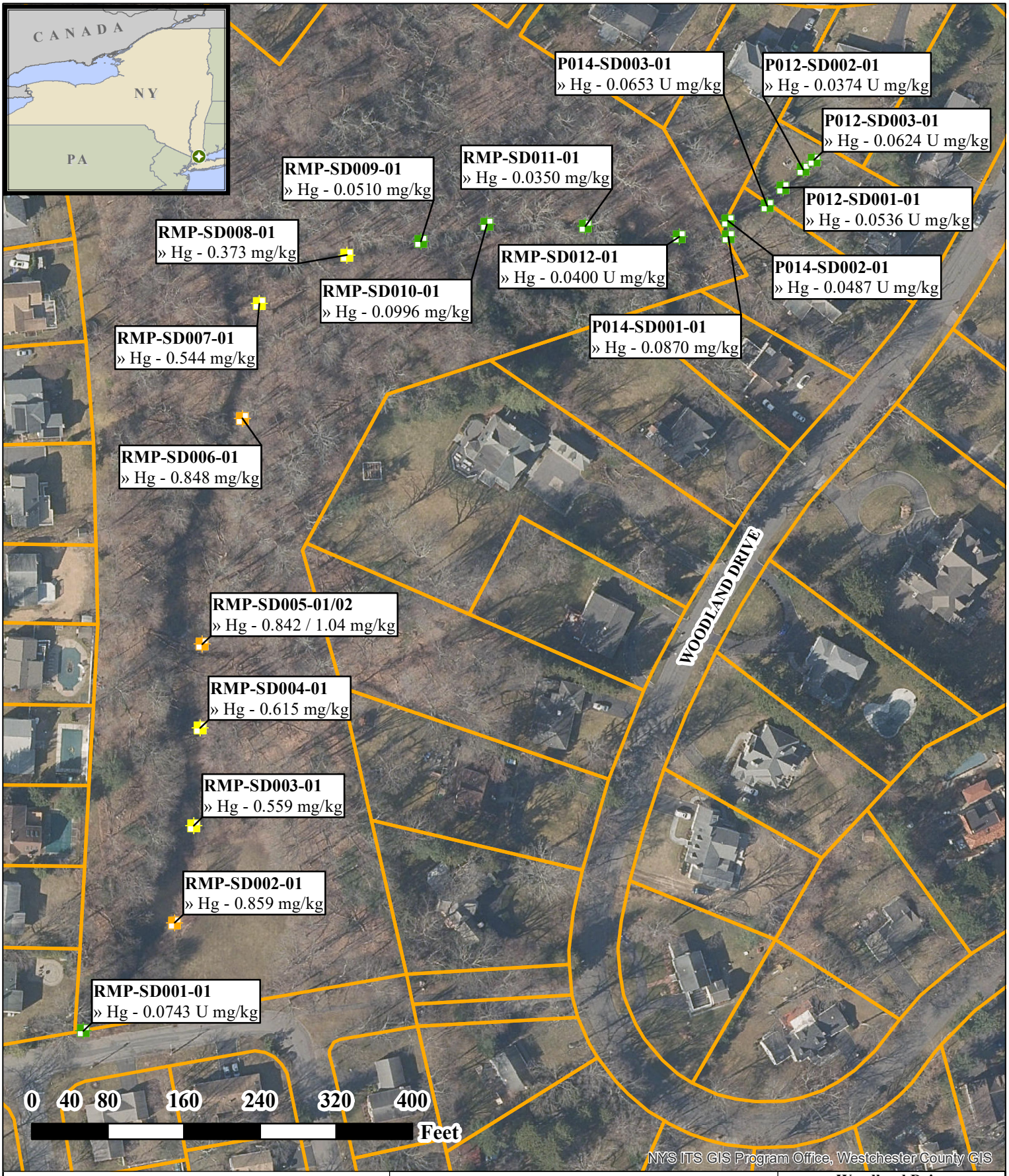

Legend

Sediment Sample Location

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Tax Parcel Boundaries

N

Notes:
Hg - Mercury
U - Not detected
mg/kg - Milligrams per kilogram

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Woodland Drive
Sediment Mercury Results

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220712_Port_Refinery_Sampling_Area_Overview

DATE MODIFIED: 7/12/2022

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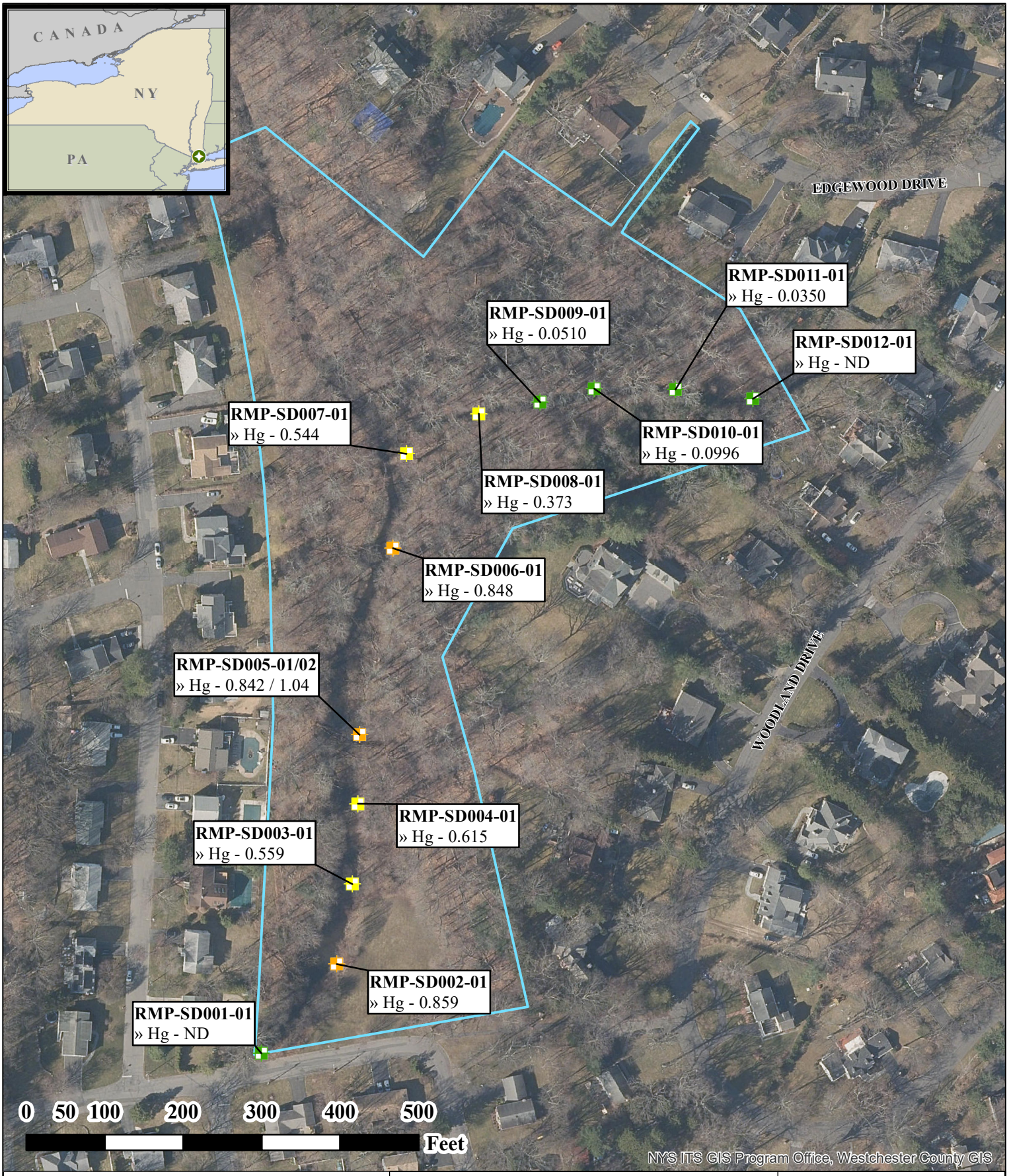

Legend

Sediment Sample Location - Hg

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in milligrams per kilogram (mg/kg)

Weston Solutions, Inc.
Federal East Division

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Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 4A: Property RMP Sediment Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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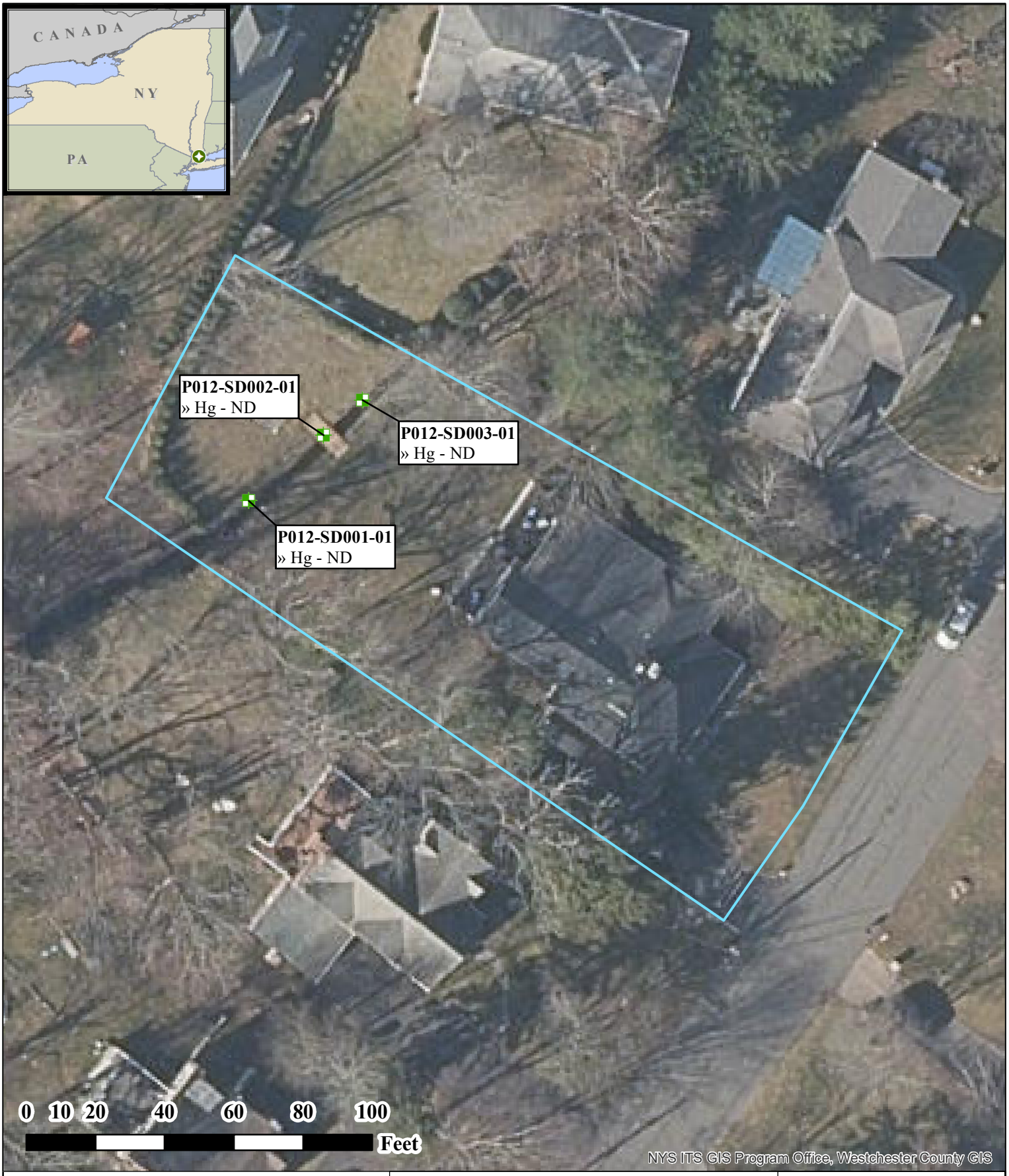

Legend

Sediment Sample Location - Hg

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in milligrams per kilogram (mg/kg)

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 4B: Property P012 Sediment Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
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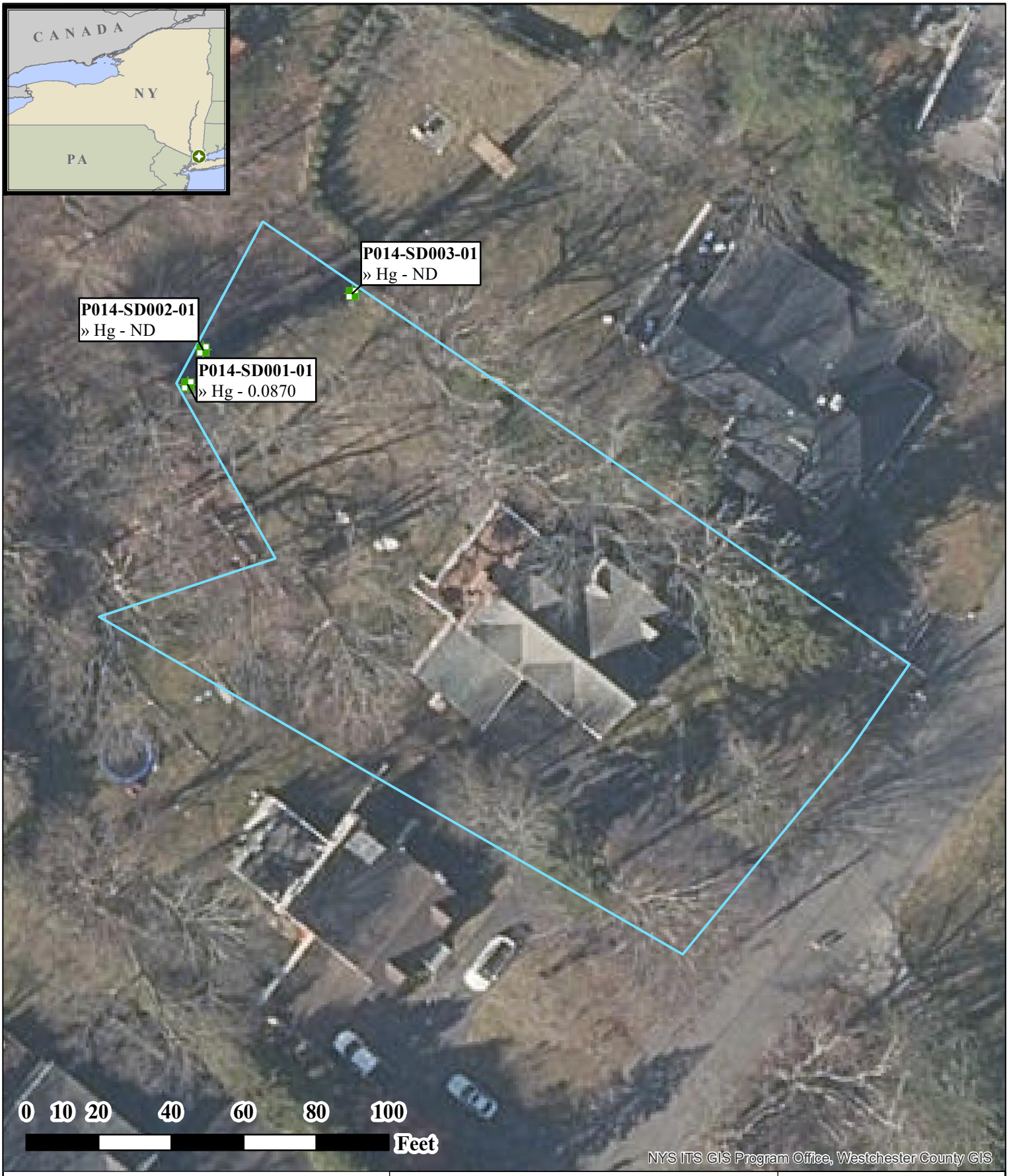

Legend

Sediment Sample Location - Hg

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in milligrams per kilogram (mg/kg)

Weston Solutions, Inc.
Federal East Division

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Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 4C: Property P014 Sediment Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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Legend

Sediment Sample Location - Hg

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in milligrams per kilogram (mg/kg)

Weston Solutions, Inc.
Federal East Division

In Association With
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Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 4D: Property P022 Sediment Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT
& RESPONSE TEAM V
CONTRACT # 68HE0319D0004

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

DATE MODIFIED: 7/18/2022

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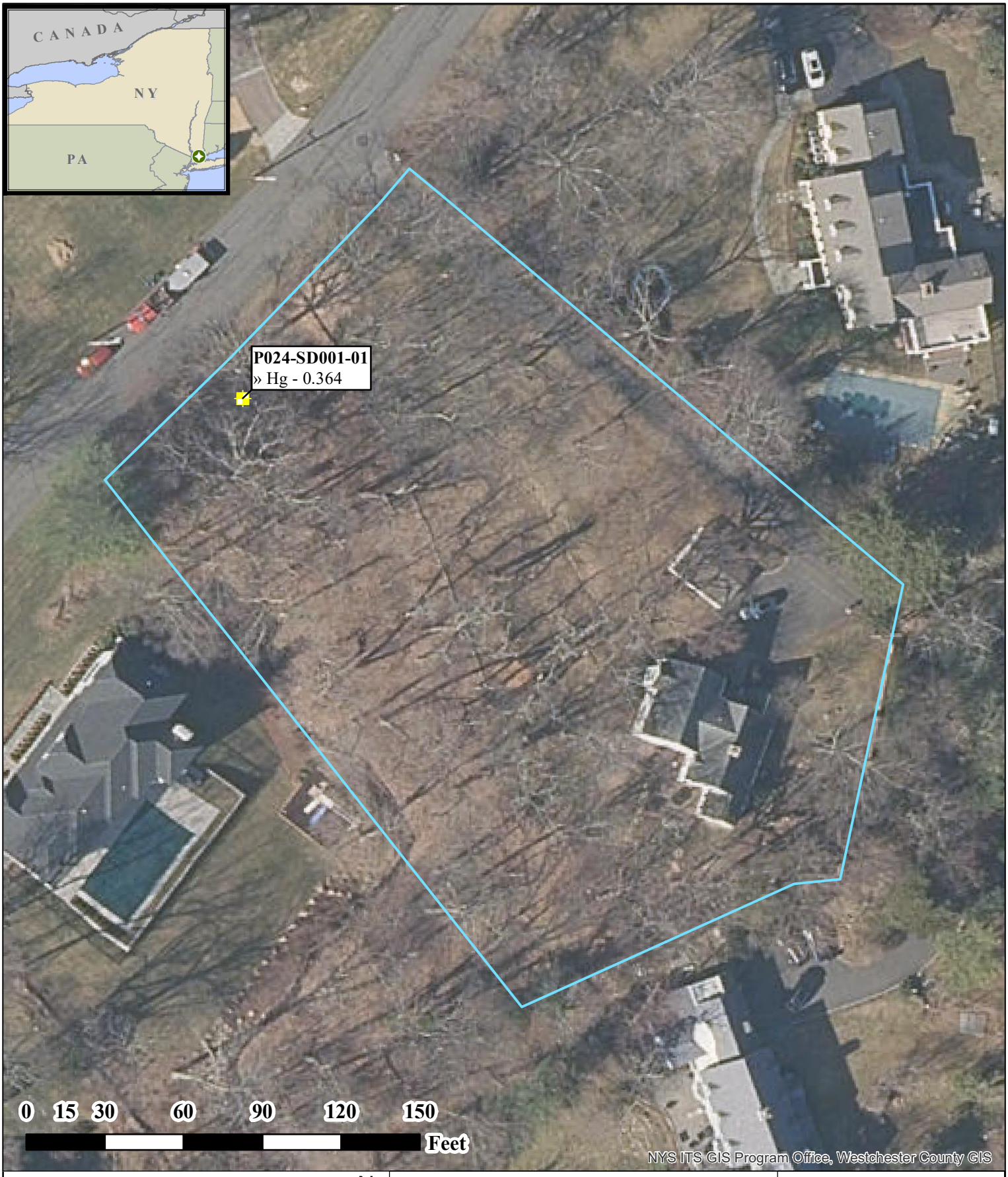

Legend

Sediment Sample Location - Hg

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in milligrams per kilogram (mg/kg)

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 4E: Property P024 Sediment Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

Y:\START_V\00310030\MXD\220718_Port_Refinery_Sampling_Area_Overview.mxd

Legend

Sediment Sample Location - Hg

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in milligrams per kilogram (mg/kg)

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 4F: Property P047 Sediment Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

Y:\START_V\00310030\MXD\220718_Port_Refinery_Sampling_Area_Overview.mxd

Legend

Sediment Sample Location - Hg

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in milligrams per kilogram (mg/kg)

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 4G: Property P051 Sediment Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

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Legend

Sediment Sample Location - Hg

- < 0.18 mg/kg
- 0.18 - 0.81 mg/kg
- 0.81 - 10 mg/kg
- > 10 mg/kg
- Parcel Boundary

N

Notes:
Hg - Mercury
ND - Not detected
Mercury results presented in milligrams per kilogram (mg/kg)

Weston Solutions, Inc.
Federal East Division

In Association With
Eco-Risk; Avatar Environmental, LLC;
Pro-West & Associates, Inc.; On-Site Environmental, Inc.;
Sovereign Consulting, Inc.; and TechLaw Consultants, Inc.

Figure 4H: Property P057 Sediment Sample Location Map

Port Refinery Site
Rye Brook, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
CONTRACT # 68HE0319D0004

DATE MODIFIED: 7/18/2022

GIS ANALYST:	M. LANG
EPA OSC:	S. RICHARDS
START V SPM:	A. PETROSH
FILENAME:	220718_Port_Refinery_Sampling_Area_Overview

Y:\START_V\00310030\MXD\220718_Port_Refinery_Sampling_Area_Overview.mxd

ATTACHMENT B

Table 1A: Air Sample Collection Summary Table
Table 1B: Surface Water, Sump Pump Water, and Sediment Sample Collection Summary Table
Table 2: Validated Air Analytical Results Summary Table - Mercury
Table 3A: Property RMP Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 3B: Property P012 Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 3C: Property P014 Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 3D: Property P022 Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 3E: Property P024 Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 3F: Property P047 Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 3G: Property P051 Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 3H: Property P055 Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 3I: Property P057 Validated Surface Water and Sediment Analytical Results Summary Table – Mercury
Table 4: Sample Collection GPS Coordinates

Table 1A: Air Sample Collection Summary Table
Port Refinery Site
Property P051
Rye Brook, Westchester County, New York
June 14, 2022

START V Sample Number	Location	Sub Location	Sample Type	Matrix	Analysis	Sample Media	Start			Stop			Total Volume (Liters)	Total Time (Minutes)
							Date	Time	Flow Rate (L/min)	Date	Time	Flow Rate (L/min)		
P051-AS001-220614-01	P051-AS001	Basement Adjacent to Sump Pump	Field Sample	Air	Mercury	Anasorb 200 mg tube	6/14/2022	11:27	0.204	6/14/2022	19:31	0.204	98.98	484
*P051-AS002-220614-01	P051-AS002	Basement Adjacent to Back Stairwell	Field Sample	Air	Mercury	Anasorb 200 mg tube	6/14/2022	11:25	0.209	6/14/2022	19:35	0.256	NA	NA
P051-AS003-220614-01	P051-AS003	Basement HVAC Room	Field Sample	Air	Mercury	Anasorb 200 mg tube	6/14/2022	11:31	0.201	6/14/2022	19:37	0.207	99.14	486
FB-220614	NA	NA	Field Blank	NA	Mercury	Anasorb 200 mg tube	NA	NA	NA	NA	NA	NA	NA	NA
LB-220614	NA	NA	Lot Blank	NA	Mercury	Anasorb 200 mg tube	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
START V - Superfund Tchnical Assessment & Response Team V
NA - Not Applicable
HVAC - Heating, Ventilation, and Air Conditioning
* Air sample encountered a pump fault at unknown time; 8 hour sample collection may not have occurred
L/min - Liters per minute
mg - milligram

Table 1B: Surface Water, Sump Pump Water, and Sediment Sample Collection Summary Table
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through 15, 2022

Sample Date	Property Number	START V Sample Number	Sample Location	Sample Matrix	Sample Time	Sample Type	Analyses
6/13/2022	P012	P012-WS001-01	Stream	Surface Water	14:13	Field Sample	Mercury CVAA
		P012-WS001-D-01			14:13	Field Sample	Mercury CVAA Dissolved
		P012-WS002-01			14:20	Field Sample	Mercury CVAA
		P012-WS002-D-01			14:20	Field Sample	Mercury CVAA Dissolved
		P012-WS003-01			14:26	Field Sample	Mercury CVAA
		P012-WS003-D-01			14:26	Field Sample	Mercury CVAA Dissolved
		P012-SD001-01		Sediment	14:15	Field Sample	Mercury CVAA
		P012-SD002-01			14:22	Field Sample	
		P012-SD003-01			14:29	Field Sample	
6/13/2022	P014	P014-WS003-01	Stream	Surface Water	14:04	Field Sample	Mercury CVAA
		P014-WS003-D-01			14:04	Field Sample	Mercury CVAA Dissolved
		P014-SD001-01		Sediment	13:54	Field Sample	Mercury CVAA
		P014-SD002-01			13:59	Field Sample	
		P014-SD003-01			14:04	Field Sample	
6/14/2022		P014-WS001-01		Surface Water	13:53	Field Sample	Mercury CVAA
		P014-WS001-D-01			13:53	Field Sample	Mercury CVAA Dissolved
		P014-WS002-01			13:57	Field Sample	Mercury CVAA
		P014-WS002-D-01			13:57	Field Sample	Mercury CVAA Dissolved
6/14/2022	P022	P022-WS001-01	Stream	Surface Water	15:09	Field Sample	Mercury CVAA
		P022-WS001-D-01			15:09	Field Sample	Mercury CVAA Dissolved
		P022-WS002-01			15:20	Field Sample	Mercury CVAA
		P022-WS002-D-01			15:20	Field Sample	Mercury CVAA Dissolved
		P022-WS003-01			15:25	Field Sample	Mercury CVAA
		P022-WS003-D-01			15:25	Field Sample	Mercury CVAA Dissolved
		P022-SD001-01		Sediment	15:10	Field Sample	Mercury CVAA
		P022-SD002-01			15:22	Field Sample	
		P022-SD003-01			15:25	Field Sample	
6/14/2022	P024	P024-WS001-01	Stream	Surface Water	15:15	Field Sample	Mercury CVAA
		P024-WS001-D-01			15:15	Field Sample	Mercury CVAA Dissolved
		P024-SD001-01		Sediment	15:17	Field Sample	Mercury CVAA
6/14/2022	P047	P047-WS001-01	Sump Pump 1	Surface Water	16:12	Field Sample	Mercury CVAA
		P047-WS001-D-01			16:12	Field Sample	Mercury CVAA Dissolved
		P047-WS002-01	Sump Pump 2		16:18	Field Sample	Mercury CVAA
		P047-WS002-D-01			16:18	Field Sample	Mercury CVAA Dissolved
		P047-WS003-01	French Drain		15:28	Field Sample	Mercury CVAA
		P047-WS003-D-01			15:28	Field Sample	Mercury CVAA Dissolved
		P047-SD003-01		Sediment	15:30	Field Sample	Mercury CVAA
6/14/2022	P051	P051-WS001-01	Sump Pump	Surface Water	11:07	Field Sample	Mercury CVAA
		P051-WS001-D-01			11:07	Field Sample	Mercury CVAA Dissolved
		P051-WS002-01*	Pond 2		11:54	Field Sample	Mercury CVAA
		P051-WS002-02			11:54	Field Duplicate of P051-WS002-01	Mercury CVAA
		P051-WS002-D-01*			11:54	Field Sample	Mercury CVAA Dissolved
		P051-WS002-D-02			11:54	Field Duplicate of P051-WS002-D-01	Mercury CVAA Dissolved
		P051-WS004-01	Pond 1		12:24	Field Sample	Mercury CVAA
		P051-WS004-D-01			12:24	Field Sample	Mercury CVAA Dissolved
		P051-WS005-01			12:33	Field Sample	Mercury CVAA
		P051-WS005-D-01			12:33	Field Sample	Mercury CVAA Dissolved
		P051-WS006-01	Pond 2		12:58	Field Sample	Mercury CVAA
		P051-WS006-D-01			12:58	Field Sample	Mercury CVAA Dissolved
		P051-WS007-01			13:12	Field Sample	Mercury CVAA
		P051-WS007-D-01			13:12	Field Sample	Mercury CVAA Dissolved
		P051-WS008-01			13:16	Field Sample	Mercury CVAA
		P051-WS008-D-01			13:16	Field Sample	Mercury CVAA Dissolved
		P051-SD002-01*		Sediment	11:54	Field Sample	Mercury CVAA
		P051-SD002-02			11:54	Field Duplicate of P051-SD002-01	Mercury CVAA

Notes:

START V - Superfund Technical Assessment & Response Team V

CVAA - Cold Vapor Atomic Absorption

* Field sample designated as matrix spike/matrix spike duplicate (MS/MSD)

Table 1B: Surface Water, Sump Pump Water, and Sediment Sample Collection Summary Table
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through 15, 2022

Sample Date	Property Number	START V Sample Number	Sample Location	Sample Matrix	Sample Time	Sample Type	Analyses
6/14/2022	P051	P051-SD003-01	Discharge Hose	Sediment	12:12	Field Sample	Mercury CVAA
		P051-SD004-01	Pond 1		12:26	Field Sample	Mercury CVAA
		P051-SD005-01			12:35	Field Sample	Mercury CVAA
		P051-SD006-01	Pond 2		13:03	Field Sample	Mercury CVAA
		P051-SD007-01			13:12	Field Sample	Mercury CVAA
		P051-SD008-01			13:18	Field Sample	Mercury CVAA
6/15/2022	P055	P055-WS001-01	Sump Pump 1	Surface Water	8:42	Field Sample	Mercury CVAA
		P055-WS001-D-01			8:42	Field Sample	Mercury CVAA Dissolved
		P055-WS002-01	Sump Pump 2		9:06	Field Sample	Mercury CVAA
		P055-WS002-D-01			9:06	Field Sample	Mercury CVAA Dissolved
6/14/2022	P057	P057-WS001-01	Sump Pump 1	Surface Water	10:07	Field Sample	Mercury CVAA
		P057-WS001-D-01			10:07	Field Sample	Mercury CVAA Dissolved
		P057-SD002-01	Sump Pump 2	Sediment	10:12	Field Sample	Mercury CVAA
6/13/2022	RMP	RMP-WS003-01	Stream	Surface Water	11:55	Field Sample	Mercury CVAA
		RMP-WS003-D-01			11:55	Field Sample	Mercury CVAA Dissolved
		RMP-WS004-01			12:04	Field Sample	Mercury CVAA
		RMP-WS004-D-01			12:04	Field Sample	Mercury CVAA Dissolved
		RMP-WS005-01*			12:08	Field Sample	Mercury CVAA
		RMP-WS005-02			12:08	Field Duplicate of RMP-WS005-01	Mercury CVAA
		RMP-WS005-D-01*			12:08	Field Sample	Mercury CVAA Dissolved
		RMP-WS005-D-02			12:08	Field Duplicate of RMP-WS005-D-01	Mercury CVAA Dissolved
		RMP-WS006-01			12:34	Field Sample	Mercury CVAA
		RMP-WS006-D-01			12:34	Field Sample	Mercury CVAA Dissolved
		RMP-WS007-01			12:44	Field Sample	Mercury CVAA
		RMP-WS007-D-01			12:44	Field Sample	Mercury CVAA Dissolved
		RMP-WS008-01			12:56	Field Sample	Mercury CVAA
		RMP-WS008-D-01			12:56	Field Sample	Mercury CVAA Dissolved
		RMP-WS009-01			13:07	Field Sample	Mercury CVAA
		RMP-WS009-D-01			13:07	Field Sample	Mercury CVAA Dissolved
		RMP-WS010-01			13:19	Field Sample	Mercury CVAA
		RMP-WS010-D-01			13:19	Field Sample	Mercury CVAA Dissolved
		RMP-WS011-01			13:30	Field Sample	Mercury CVAA
		RMP-WS011-D-01			13:30	Field Sample	Mercury CVAA Dissolved
6/13/2022	RMP	RMP-WS012-01	Stream	Surface Water	13:40	Field Sample	Mercury CVAA
		RMP-WS012-D-01			13:40	Field Sample	Mercury CVAA Dissolved
		RMP-SD001-01		Sediment	11:36	Field Sample	Mercury CVAA
		RMP-SD002-01			11:46	Field Sample	Mercury CVAA
		RMP-SD003-01			11:57	Field Sample	Mercury CVAA
		RMP-SD004-01			12:06	Field Sample	Mercury CVAA
		RMP-SD005-01*			12:12	Field Sample	Mercury CVAA
		RMP-SD005-02			12:12	Field Duplicate of RMP-SD005-01	Mercury CVAA
		RMP-SD006-01			12:36	Field Sample	Mercury CVAA
		RMP-SD007-01			12:48	Field Sample	Mercury CVAA
		RMP-SD008-01			12:58	Field Sample	Mercury CVAA
		RMP-SD009-01			13:09	Field Sample	Mercury CVAA
		RMP-SD010-01			13:21	Field Sample	Mercury CVAA
		RMP-SD011-01			13:30	Field Sample	Mercury CVAA
		RMP-SD012-01			13:42	Field Sample	Mercury CVAA
6/14/2022		RMP-WS001-01		Surface Water	17:10	Field Sample	Mercury CVAA
		RMP-WS001-D-01			17:10	Field Sample	Mercury CVAA Dissolved
		RMP-WS002-01			17:17	Field Sample	Mercury CVAA
		RMP-WS002-D-01			17:17	Field Sample	Mercury CVAA Dissolved

Notes:

START V - Superfund Technical Assessment & Response Team V

CVAA - Cold Vapor Atomic Absorption

* Field sample designated as matrix spike/matrix spike duplicate (MS/MSD)

Table 2: Validated Air Analytical Results Summary Table - Mercury
Port Refinery Site
Property P051
Rye Brook, Westchester County, New York
June 14, 2022

START V Sample Number	[1]ATSDR Residential Occupancy	P051-AS001-220614-01	P051-AS002-220614-01	P051-AS003-220614-01	FB-220614	LB-220614
Sample Stop Date		6/14/2014				
Sample Matrix		Air	Air	Air	NA	NA
Sample Location		Basement Adjacent to Sump Pump	Basement Adjacent to Back Stairwell	Basement HVAC Room	NA	NA
Sample Type		Field Sample	Field Sample	Field Sample	Field Blank	Lot Blank
Mercury (µg/m^3)					Mercury (µg/tube)	
Mercury	1	**2.2**	0.088 ND	0.10 ND	0.010 ND	0.010 ND

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not Detected; NA - Not Applicable

HVAC - Heating, Ventilation, and Air Conditioning

[1]Agency forToxic Substances and Disease Registry (ATSDR) suggested residential occupancy level

Analytical results and ATSDR residential occupancy level presented in micrograms per cubmic meter (ug/m^3)

Field Blank and Lot Blank analytical results presented in ug/m^3/tube

Bold result values are detections

Result values highlighted yellow equal or exceed the respective ATSDR residential occupancy level

Table 3A: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property RMP
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	RMP-WS001-01	RMP-WS002-01	RMP-WS003-01	RMP-WS004-01	*RMP-WS005-01	RMP-WS005-02	RMP-WS006-01
Matrix		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Sample Date		6/14/2022	6/14/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022
Sample Type		Field Sample	Field Sample	Field Sample	Field Sample	Field Sample	Field Duplicate of RMP-WS005-01	Field Sample
Mercury Total (µg/L)	0.7	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	RMP-WS001-D-01	RMP-WS002-D-01	RMP-WS003-D-01	RMP-WS004-D-01	*RMP-WS005-D-01	RMP-WS005-D-02	RMP-WS006-D-01
Matrix		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Sample Date		6/14/2022	6/14/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022
Sample Type		Field Sample	Field Sample	Field Sample	Field Sample	Field Sample	Field Duplicate of RMP-WS005-D-01	Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards		RMP-SD001-01	RMP-SD002-01	RMP-SD003-01	RMP-SD004-01	*RMP-SD005-01	RMP-SD005-02	RMP-SD006-01
Matrix			Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample Date			6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]	Field Sample	Field Sample	Field Sample	Field Sample	Field Sample	Field Duplicate of RMP-SD005-01	Field Sample
Mercury Total (mg/kg)	0.81	0.18	0.0743 ND	**0.859**	**0.559**	**0.615**	**0.842**	**1.04**	**0.848**

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H (WS) June 1998

[2]Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Equals or exceeds NYSDEC Part 375 Soil Standards Protection of Ecology

Equals or exceeds both NYSDEC Part 375 Soil Standards Unrestricted Residential and Protection of Ecology

Table 3A: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property RMP
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	RMP-WS007-01	RMP-WS008-01	RMP-WS009-01	RMP-WS010-01	RMP-WS011-01	RMP-WS012-01
Matrix		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Sample Date		6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022
Sample Type		Field Sample	Field Sample	Field Sample	Field Sample	Field Sample	Field Sample
Mercury Total (µg/L)	0.7	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	RMP-WS007-D-01	RMP-WS008-D-01	RMP-WS009-D-01	RMP-WS010-D-01	RMP-WS011-D-01	RMP-WS012-D-01
Matrix		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Sample Date		6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022
Sample Type		Field Sample	Field Sample	Field Sample	Field Sample	Field Sample	Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards		RMP-SD007-01	RMP-SD008-01	RMP-SD009-01	RMP-SD010-01	RMP-SD011-01	RMP-SD012-01
Matrix			Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample Date			6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]	Field Sample	Field Sample	Field Sample	Field Sample	Field Sample	Field Sample
Mercury Total (mg/kg)	0.81	0.18	**0.544**	**0.373**	**0.0510**	**0.0996**	**0.0350**	0.0400 ND

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Equals or exceeds NYSDEC Part 375 Soil Standards Protection of Ecology

Equals or exceeds both NYSDEC Part 375 Soil Standards Unrestricted Residential and Protection of Ecology

Table 3B: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P012
Port Refinery Site
Rye Brook, Westchester County, New York
June 13, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	P012-WS001-01	P012-WS002-01	P012-WS003-01
Matrix		Surface Water	Surface Water	Surface Water
Sample Date		6/13/2022	6/13/2022	6/13/2022
Sample Type		Field Sample	Field Sample	Field Sample
Mercury Total (µg/L)	0.7	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	P012-WS001-D-01	P012-WS002-D-01	P012-WS003-D-01
Matrix		Surface Water	Surface Water	Surface Water
Sample Date		6/13/2022	6/13/2022	6/13/2022
Sample Type		Field Sample	Field Sample	Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards		P012-SD001-01	P012-SD002-01	P012-SD003-01
Matrix			Sediment	Sediment	Sediment
Sample Date			6/13/2022	6/13/2022	6/13/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]	Field Sample	Field Sample	Field Sample
Mercury Total (mg/kg)	0.81	0.18	0.0536 ND	0.0374 ND	0.0624 ND

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operation Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H (WS) June 1998

[2]Division of TOGS 1.1.1; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]NYSDEC Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Table 3C: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P014
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	P014-WS001-01	P014-WS002-01	P014-WS003-01
Matrix		Surface Water	Surface Water	Surface Water
Sample Date		6/14/2022	6/14/2022	6/13/2022
Sample Type		Field Sample	Field Sample	Field Sample
Mercury Total (µg/L)	0.7	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	P014-WS001-D-01	P014-WS002-D-01	P014-WS003-D-01
Matrix		Surface Water	Surface Water	Surface Water
Sample Date		6/14/2022	6/14/2022	6/13/2022
Sample Type		Field Sample	Field Sample	Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards		P014-SD001-01	P014-SD002-01	P014-SD003-01
Matrix			Sediment	Sediment	Sediment
Sample Date			6/13/2022	6/13/2022	6/13/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]	Field Sample	Field Sample	Field Sample
Mercury Total (mg/kg)	0.81	0.18	**0.0870**	0.0487 ND	0.0653 ND

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operation Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of TOGS 1.1.1; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]NYSDEC Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Table 3D: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P022
Port Refinery Site
Rye Brook, Westchester County, New York
June 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]		P022-WS001-01	P022-WS002-01	P022-WS003-01
Matrix			Surface Water	Surface Water	Surface Water
Sample Date			6/14/2022	6/14/2022	6/14/2022
Sample Type			Field Sample	Field Sample	Field Sample
Mercury Total (µg/L)	0.7		0.200 ND	0.200 ND	0.200 ND

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]		P022-WS001-D-01	P022-WS002-D-01	P022-WS003-D-01
Matrix			Surface Water	Surface Water	Surface Water
Sample Date			6/14/2022	6/14/2022	6/14/2022
Sample Type			Field Sample	Field Sample	Field Sample
Mercury Dissolved (µg/L)	0.0026		0.200 ND	0.200 ND	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards		P022-SD001-01	P022-SD002-01	P022-SD003-01
Matrix			Sediment	Sediment	Sediment
Sample Date			6/14/2022	6/14/2022	6/14/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]	Field Sample	Field Sample	Field Sample
Mercury Total (mg/kg)	0.81	0.18	**0.576**	**0.630**	**0.306**

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operation Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of TOGS 1.1.1; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]NYSDEC Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Equals or exceeds NYSDEC Part 375 Soil Standards Protection of Ecology

Table 3E: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P024
Port Refinery Site
Rye Brook, Westchester County, New York
June 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	P024-WS001-01
Matrix		Surface Water
Sample Date		6/14/2022
Sample Type		Field Sample
Mercury Total (µg/L)	0.7	**5.64**

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	P024-WS001-D-01
Matrix		Surface Water
Sample Date		6/14/2022
Sample Type		Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards		P024-SD001-01
Matrix			Sediment
Sample Date			6/14/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]	Field Sample
Mercury Total (mg/kg)	0.81	0.18	**0.364**

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operation Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of TOGS 1.1.1; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]NYSDEC Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Equals or exceeds TOGS 1.1.1 Ambient Water Quality Standards Source of Drinking Water

Equals or exceeds NYSDEC Part 375 Soil Standards Protection of Ecology

Table 3F: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P047
Port Refinery Site
Rye Brook, Westchester County, New York
June 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	P047-WS001-01	P047-WS002-01	P047-WS003-01
Matrix		Sump Water	Sump Water	Sump Water
Sample Date		6/14/2022	6/14/2022	6/14/2022
Sample Type		Field Sample	Field Sample	Field Sample
Mercury Total (µg/L)	0.7	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	P047-WS001-D-01	P047-WS002-D-01	P047-WS003-D-01
Matrix		Sump Water	Sump Water	Sump Water
Sample Date		6/14/2022	6/14/2022	6/14/2022
Sample Type		Field Sample	Field Sample	Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND	0.200 ND	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards				P047-SD003-01
Matrix					Sediment
Sample Date					6/14/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]			Field Sample
Mercury Total (mg/kg)	0.81	0.18			0.0827 ND

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operation Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of TOGS 1.1.1; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]NYSDEC Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Columns highlighted grey indicate the matrix was not collected for that sample location

Table 3G: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P051
Port Refinery Site
Rye Brook, Westchester County, New York
June 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	P051-WS001-01	*P051-WS002-01	P051-WS002-02		P051-WS004-01	P051-WS005-01	P051-WS006-01
Matrix		Sump Water	Surface Water	Surface Water		Surface Water	Surface Water	Surface Water
Sample Date		6/14/2022	6/14/2022	6/14/2022		6/14/2022	6/14/2022	6/14/2022
Sample Type		Field Sample	Field Sample	Field Duplicate of P051-WS002-01		Field Sample	Field Sample	Field Sample
Mercury Total (µg/L)	0.7	**8.40**	0.200 ND	0.200 ND		**1.76**	**10.4**	**2.04**

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	P051-WS001-D-01	*P051-WS002-D-01	P051-WS002-D-02		P051-WS004-D-01	P051-WS005-D-01	P051-WS006-D-01
Matrix		Sump Water	Surface Water	Surface Water		Surface Water	Surface Water	Surface Water
Sample Date		6/14/2022	6/14/2022	6/14/2022		6/14/2022	6/14/2022	6/14/2022
Sample Type		Field Sample	Field Sample	Field Duplicate of P051-WS002-D-01		Field Sample	Field Sample	Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND	0.200 ND	0.200 ND		0.200 ND	0.200 ND	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards			*P051-SD002-01	P051-SD002-02	P051-SD003-01	P051-SD004-01	P051-SD005-01	P051-SD006-01
Matrix				Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample Date				6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]		Field Sample	Field Duplicate of P051-SD002-01	Field Sample	Field Sample	Field Sample	Field Sample
Mercury Total (mg/kg)	0.81	0.18		**5.08**	**9.08**	**1.32**	**2.72**	**0.943**	**21.6**

Notes:

START V - Superfund Technical Assessment & Response Team V

* - Sample designated as matrix spike/matrix spike duplicate (MS/MSD)

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Columns highlighted grey indicate the matrix was not collected for that sample location

Equals or exceeds TOGS 1.1.1 Ambient Water Quality Standards Source of Drinking Water

Equals or exceeds both NYSDEC Part 375 Soil Standards Unrestricted Residential and Protection of Ecology

Table 3G: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P051
Port Refinery Site
Rye Brook, Westchester County, New York
June 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	P051-WS007-01	P051-WS008-01
Matrix		Surface Water	Surface Water
Sample Date		6/14/2022	6/14/2022
Sample Type		Field Sample	Field Sample
Mercury Total (µg/L)	0.7	**51.8**	**25.6**

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	P051-WS007-D-01	P051-WS008-D-01
Matrix		Surface Water	Surface Water
Sample Date		6/14/2022	6/14/2022
Sample Type		Field Sample	Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND	0.200 ND

START V Sample Number	NYSDEC Part 375 Soil Standards		P051-SD007-01	P051-SD008-01
Matrix			Sediment	Sediment
Sample Date			6/14/2022	6/14/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]	Field Sample	Field Sample
Mercury Total (mg/kg)	0.81	0.18	**21.5**	**0.0873**

Notes:

START V - Superfund Technical Assessment & Response Team V

* - Sample designated as matrix spike/matrix spike duplicate (MS/MSD)

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Columns highlighted grey indicate the matrix was not collected for that sample location

Equals or exceeds TOGS 1.1.1 Ambient Water Quality Standards Source of Drinking Water

Equals or exceeds both NYSDEC Part 375 Soil Standards Unrestricted Residential and Protection of Ecology

Table 3H: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P055
Port Refinery Site
Rye Brook, Westchester County, New York
June 15, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	P055-WS001-01	P055-WS002-01
Matrix		Sump Water	Sump Water
Sample Date		6/15/2022	6/15/2022
Sample Type		Field Sample	Field Sample
Mercury Total (µg/L)	0.7	0.200 ND	**13.2**

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	P055-WS001-D-01	P055-WS002-D-01
Matrix		Sump Water	Sump Water
Sample Date		6/15/2022	6/15/2022
Sample Type		Field Sample	Field Sample
Mercury Dissolved (µg/L)	0.0026	0.200 ND	**8.3**

START V Sample Number	NYSDEC Part 375 Soil Standards			
Matrix				
Sample Date				
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]		
Mercury Total (mg/kg)	0.81	0.18		

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operation Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of TOGS 1.1.1; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]NYSDEC Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Columns highlighted grey indicate the matrix was not collected for that sample location

Equals or exceeds TOGS 1.1.1 Ambient Water Quality Standards Source of Drinking Water

Equals or exceeds TOGS 1.1.1 Ambient Water Quality Standards Wildlife Protection

Table 3I: Validated Surface Water and Sediment Analytical Results Summary Table - Mercury
Property P057
Port Refinery Site
Rye Brook, Westchester County, New York
June 14, 2022

START V Sample Number	TOGS 1.1.1 H(WS) Drinking Water[1]	P057-WS001-01	
Matrix		Sump Water	
Sample Date		6/14/2022	
Sample Type		Field Sample	
Mercury Total (µg/L)	0.7	0.200 ND	

START V Sample Number	TOGS 1.1.1 (W) Wildlife Protection[2]	P057-WS001-D-01	
Matrix		Sump Water	
Sample Date		6/14/2022	
Sample Type		Field Sample	
Mercury Dissolved (µg/L)	0.0026	0.200 ND	

START V Sample Number	NYSDEC Part 375 Soil Standards			P057-SD002-01
Matrix				Sediment
Sample Date				6/14/2022
Sample Type	Unrestricted Residential[3]	Protection of Ecology[4]		Field Sample
Mercury Total (mg/kg)	0.81	0.18		**1.31**

Notes:

START V - Superfund Technical Assessment & Response Team V

ND - Not detected

µg/L - micrograms per liter; mg/kg - milligrams per kilogram

[1]Division of Water Technical and Operation Guidance Series 1.1.1 (TOGS) Ambient Water Quality Standards and Guidance Values; Source of Drinking Water H(WS) June 1998

[2]Division of TOGS 1.1.1; Wildlife Protection (W) June 1998

[3]New York State Department of Environmental Conservation (NYSDEC) Part 375 Environmental Remediation Programs, Unrestricted Residential, December 14, 2006

[4]NYSDEC Part 375 Environmental Remediation Programs, Protection of Ecology, December 14, 2006

Bold result values are detections

Columns highlighted grey indicate the matrix was not collected for that sample location

Equals or exceeds both NYSDEC Part 375 Soil Standards Unrestricted Residential and Protection of Ecology

Table 4: Sample Collection GPS Coordinates
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through 15, 2022

Property Number	START V Sample Number	Sample Matrix	Latitude	Longitude
P012	P012-WS001-01	Surface Water	41.023480521	-73.675770046
	P012-WS001-D-01	Surface Water		
	P012-SD001-01	Sediment		
	P012-WS002-01	Surface Water	41.023531424	-73.675690743
	P012-WS002-D-01	Surface Water		
	P012-SD002-01	Sediment		
	P012-WS003-01	Surface Water	41.023558747	-73.675649526
	P012-WS003-D-01	Surface Water		
	P012-SD003-01	Sediment		
P014	P014-WS001-01	Surface Water	41.023340782	-73.675979512
	P014-WS001-D-01	Surface Water		
	P014-SD001-01	Sediment		
	P014-WS002-01	Surface Water	41.023387794	-73.675980668
	P014-WS002-D-01	Surface Water		
	P014-SD002-01	Sediment		
	P014-WS003-01	Surface Water	41.023428641	-73.675830467
	P014-WS003-D-01	Surface Water		
	P014-SD003-01	Sediment		
P022	P022-WS001-01	Surface Water	41.027323816	-73.674003517
	P022-WS001-D-01	Surface Water		
	P022-SD001-01	Sediment		
	P022-WS002-01	Surface Water	41.026838814	-73.673970960
	P022-WS002-D-01	Surface Water		
	P022-SD002-01	Sediment		
	P022-WS003-01	Surface Water	41.026689613	-73.674065983
	P022-WS003-D-01	Surface Water		
	P022-SD003-01	Sediment		
P024	P024-WS001-01	Surface Water	41.027440869	-73.674027766
	P024-WS001-D-01	Surface Water		
	P024-SD001-01	Sediment		
P047	P047-WS001-01	Surface Water		
	P047-WS001-D-01	Surface Water		
	P047-WS002-01	Surface Water		
	P047-WS002-D-01	Surface Water		
	P047-WS003-01	Surface Water	41.027867807	-73.674633435
	P047-WS003-D-01	Surface Water		
	P047-SD003-01	Sediment		

Notes:

START V - Superfund Technical Assessment & Response Team V

Table 4: Sample Collection GPS Coordinates
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through 15, 2022

Property Number	START V Sample Number	Sample Matrix	Latitude	Longitude
P051	P051-WS001-01	Surface Water		
	P051-WS001-D-01	Surface Water		
	P051-WS002-01*	Surface Water	41.027875525	-73.674190020
	P051-WS002-02	Surface Water		
	P051-WS002-D-01*	Surface Water		
	P051-WS002-D-02	Surface Water		
	P051-SD002-01*	Sediment		
	P051-SD002-02	Sediment		
	P051-SD003-01	Sediment	41.02791836	-73.67416466
	P051-WS004-01	Surface Water	41.028416913	-73.674357803
	P051-WS004-D-01	Surface Water		
	P051-SD004-01	Sediment		
	P051-WS005-01	Surface Water	41.028366296	-73.674336133
	P051-WS005-D-01	Surface Water		
	P051-SD005-01	Sediment		
	P051-WS006-01	Surface Water	41.027792686	-73.674108788
	P051-WS006-D-01	Surface Water		
	P051-SD006-01	Sediment		
	P051-WS007-01	Surface Water	41.027723624	-73.674121184
	P051-WS007-D-01	Surface Water		
	P051-SD007-01	Sediment		
	P051-WS008-01	Surface Water	41.027709142	-73.674163276
	P051-WS008-D-01	Surface Water		
	P051-SD008-01	Sediment		
P055	P055-WS001-01	Surface Water		
	P055-WS001-D-01	Surface Water		
	P055-WS002-01	Surface Water		
	P055-WS002-D-01	Surface Water		
P057	P057-WS001-01	Surface Water		
	P057-WS001-D-01	Surface Water		
	P057-SD002-01	Sediment		

Notes:

START V - Superfund Technical Assessment & Response Team V

Table 4: Sample Collection GPS Coordinates
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through 15, 2022

Property Number	START V Sample Number	Sample Matrix	Latitude	Longitude
RMP	RMP-WS001-01	Surface Water	41.021079216	-73.678483274
	RMP-WS001-D-01	Surface Water		
	RMP-SD001-01	Sediment		
	RMP-WS002-01	Surface Water	41.021387114	-73.678129141
	RMP-WS002-D-01	Surface Water		
	RMP-SD002-01	Sediment		
	RMP-WS003-01	Surface Water	41.021666615	-73.678050943
	RMP-WS003-D-01	Surface Water		
	RMP-SD003-01	Sediment		
	RMP-WS004-01	Surface Water	41.021947771	-73.678020984
	RMP-WS004-D-01	Surface Water		
	RMP-SD004-01	Sediment		
	RMP-WS005-01*	Surface Water	41.022188718	-73.678008419
	RMP-WS005-02	Surface Water		
	RMP-WS005-D-01*	Surface Water		
	RMP-WS005-D-02	Surface Water		
	RMP-SD005-01*	Sediment		
	RMP-SD005-02	Sediment		
	RMP-WS006-01	Surface Water	41.022838401	-73.677840853
	RMP-WS006-D-01	Surface Water		
	RMP-SD006-01	Sediment		
	RMP-WS007-01	Surface Water	41.023168334	-73.677771016
	RMP-WS007-D-01	Surface Water		
	RMP-SD007-01	Sediment		
	RMP-WS008-01	Surface Water	41.023305007	-73.677433856
	RMP-WS008-D-01	Surface Water		
	RMP-SD008-01	Sediment		
	RMP-WS009-01	Surface Water	41.023341567	-73.677150763
	RMP-WS009-D-01	Surface Water		
	RMP-SD009-01	Sediment		
	RMP-WS010-01	Surface Water	41.023386514	-73.676899111
	RMP-WS010-D-01	Surface Water		
	RMP-SD010-01	Sediment		
	RMP-WS011-01	Surface Water	41.023378088	-73.676524272
	RMP-WS011-D-01	Surface Water		
	RMP-SD011-01	Sediment		
	RMP-WS012-01	Surface Water	41.023342616	-73.676167166
	RMP-WS012-D-01	Surface Water		
	RMP-SD012-01	Sediment		

Notes:

START V - Superfund Technical Assessment & Response Team V

ATTACHMENT C

Photographic Documentation Log

Photographic Documentation Log
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through June 15, 2022

Photograph 1: From June 13 through 15 2022, the U.S. Environmental Protection Agency, Region II (EPA), with the support of Weston Solutions, Inc. Superfund Technical Assessment & Response Team V (START V), conducted a multimedia sampling event including air, surface water, sump pump water, and sediment, as part of the Removal Assessment at the Port Refinery Site (the Site). A total of three indoor air samples from one residential property (P051), 46 surface water samples, 14 sump pump water samples, and 33 sediment samples were collected from areas of concern (AOCs) within the Site. The photo above is a view of Property RMP, where 12 co-located surface water and sediment samples were collected for total and dissolved mercury analyses.

Photograph 2: View of the general stream conditions on Property RMP, during the June 2022 sampling event.

Photograph 3: View of START V collecting a surface water sample, utilizing a dedicated dip sampler lined with a poly bag, from Property RMP. Sample was transferred to two 250 mL poly bottles for total and dissolved mercury analysis.

Photograph 4: View of START V collecting a sediment sample, utilizing a dedicated plastic scoop, from Property RMP. Sample was placed in a poly bag, homogenized, and transferred to a 4-ounce (oz.) glass jar for total mercury analysis.

Photographic Documentation Log
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through June 15, 2022

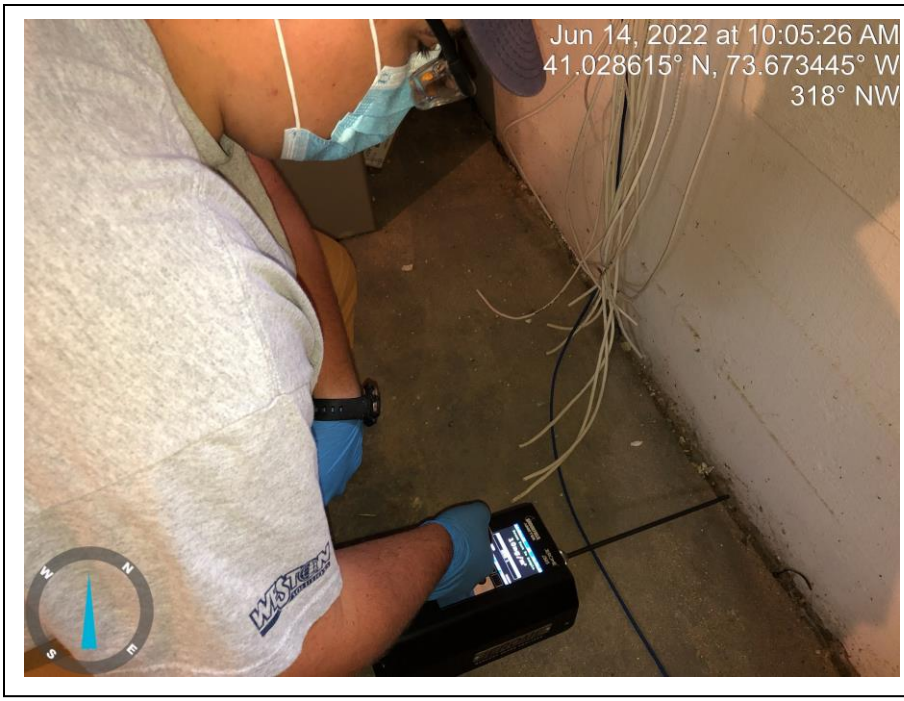
Photograph 5: View of a green frog in the steam on Property RMP. Many green frogs, tadpoles, and young fish were observed in the upstream regions on Property RMP, during the June 2022 sampling event.

Photograph 6: View of Property P014, facing downstream, where three surface water samples were collected for total mercury analysis, three surface water samples were collected for dissolved mercury analysis, and 3 sediment samples were collected for total mercury analysis.

Photograph 7: View of START V collecting sediment sample P014-SD003-01 near the discharge pipe on Property P014.

Photograph 8: View of Property P057 where START V conducted air monitoring and collected one sump pump water sample for total mercury analysis, one sump pump water sample for dissolved mercury analysis, and one sediment sample from sampling location P057-SD002 for total mercury analysis.

Photograph 9: View of START V conducting constant air monitoring, utilizing a Lumex RA-915M, of the ambient air in the basement of Property P057.

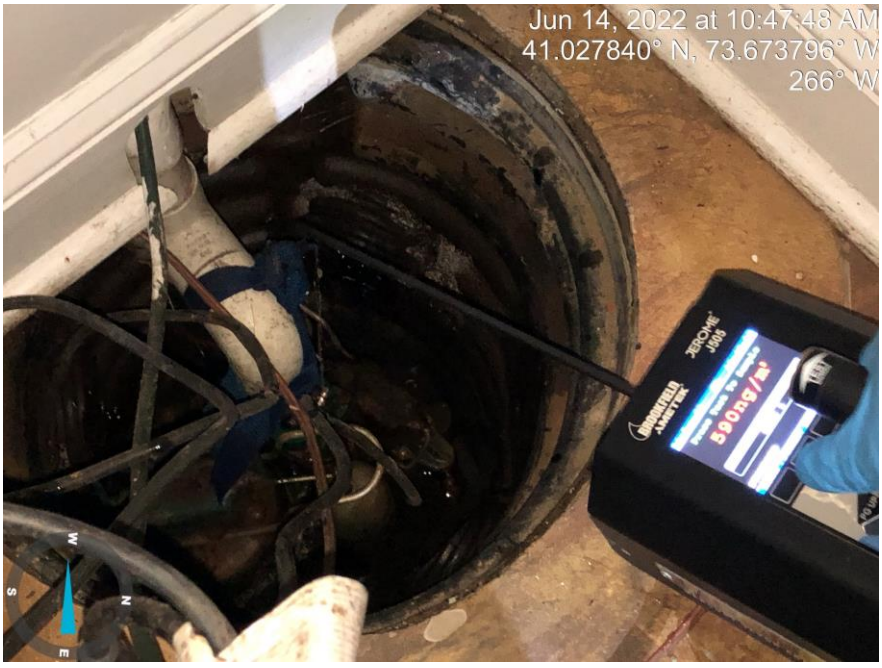


Photograph 10: View of START V conducting discrete air monitoring, utilizing a Jerome 505, of French drains at Property P057.

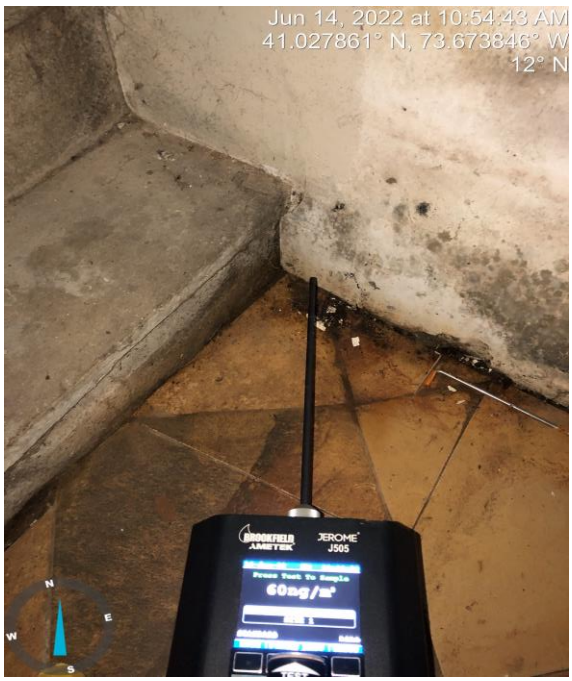
Photograph 11: View of sump pump location one, located in the newly converted basement section of Property P057. Sump pump water samples P057-WS001-01 and P057-WS001-D-01 were collected at this location for total and dissolved mercury analysis, respectively.

Photograph 12: View of sump pump location two, located in the old basement section of Property P057. Sump pump sediment sample P057-SD001-01 was collected at this location for total mercury analysis.

Photograph 13: View of Property P051, where START V collected a total of five air samples (including one filed blank and one lot blank) for mercury analysis, eight surface water samples (including one field duplicate) for total mercury analysis, eight surface water samples (including one field duplicate) for dissolved mercury analysis, and eight sediment samples (including one field duplicate), from a sump pump and two ponds located on the property for total and dissolved mercury analysis.

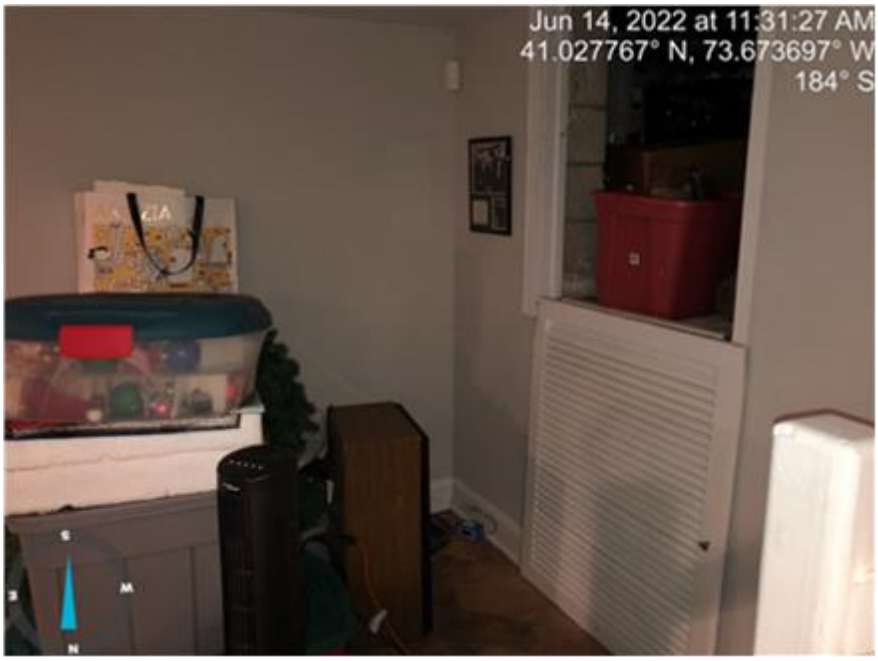


Photograph 14: View of air monitoring conducted with a Jerome 505. A reading of 590 nanograms per cubic meter (ng/m^3) was detected at Property P051 inside the basement sump pump.

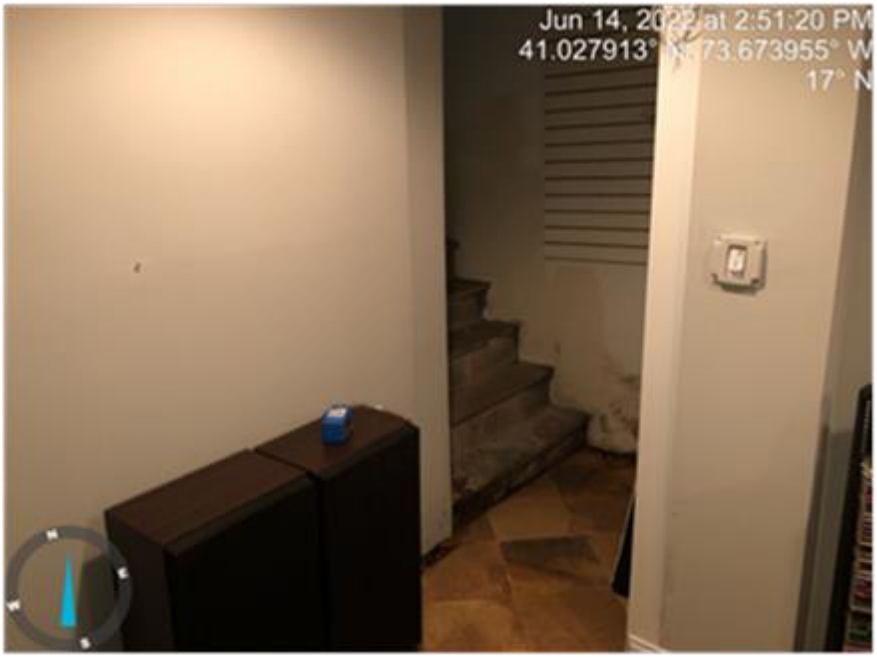


Photograph 15: View of air monitoring conducted with a Jerome 505. A reading of 60 ng/m^3 was detected at Property P051 in the basement back stairwell.

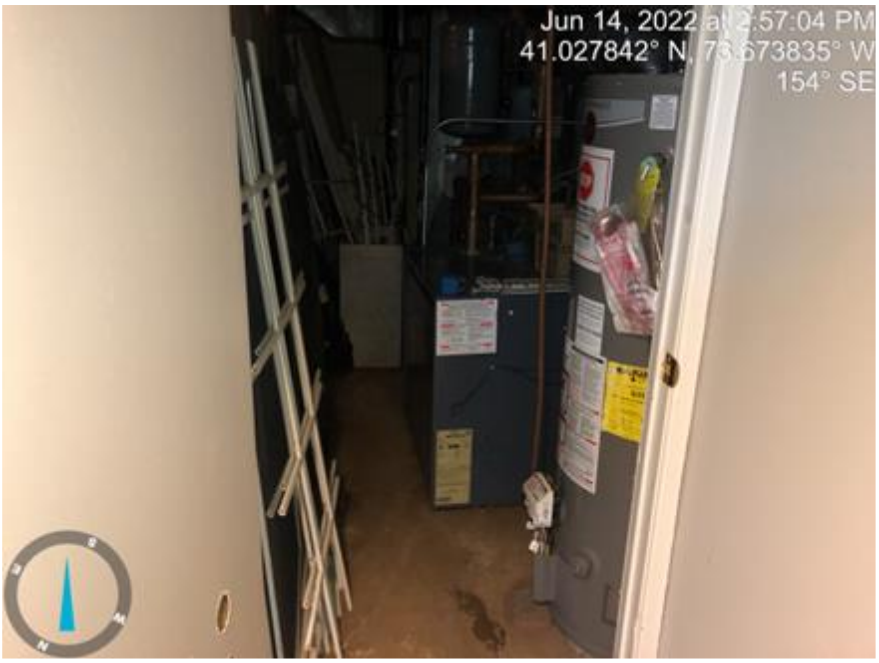
Photograph 16: View of START V calibrating air samplers for deployment at Property P051, consisting of sorbent tubes attached to GilAir pumps with flow rates set between 0.15 and 0.25 liters per minute (L/min). All air sampling was conducted at 51 Hillandale Road, Rye Brook, New York.



Photograph 17: View of air sampling location AS001 on the floor, with sorbent tube inside the sump pump. Air sample P051-AS001-220614-01 was collected at this location.



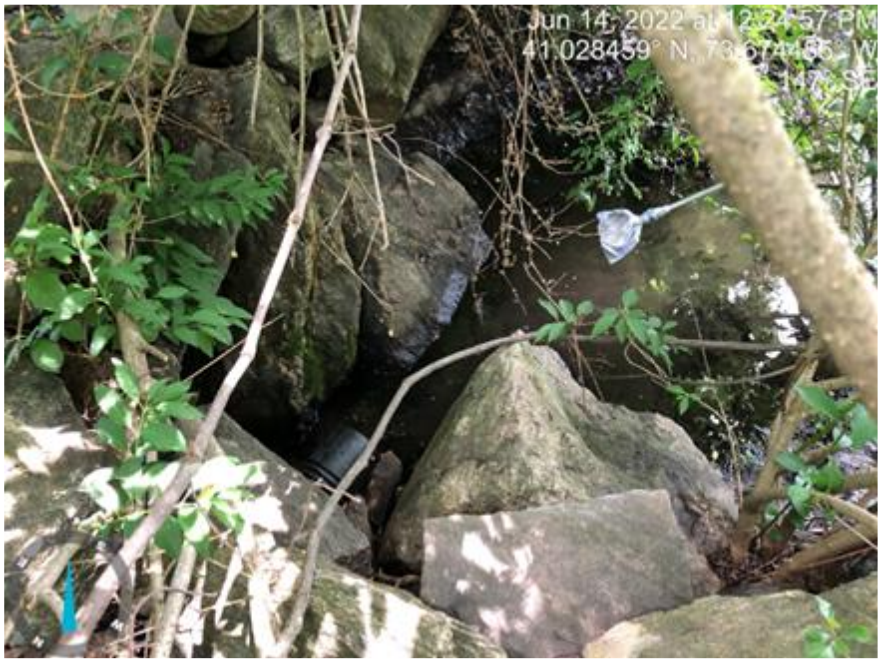
Photograph 18: View of air sampling location AS002 on a speaker, adjacent to the back stairwell in the basement of Property P051. Air sample P051-AS002-220614-01 was collected at this location. At this location, the GilAir pump failed at an unknown time after starting sample collection. Upon finding this, START V utilized a different GilAir pump.



Photograph 19: View of air sampling location AS003 on the furnace, in the basement HVAC room of Property P051. Air sample P051-AS003-220614-01 was collected at this location.

Photograph 20: View of START V collecting a sediment sample at location P051-SD003 from the sump pump discharge hose of Property P051.

Photograph 21: View of pond 1 (backyard pond) located on Property P051, where START V collected two surface water samples from locations P051-WS004 and P051-WS005 for total and dissolved mercury analysis, and two sediment samples from locations P051-SD004 and P051-SD005 for total mercury analysis.



Photograph 22: View of pipe leading into Pond 1 (backyard pond) at P051, which is part of the stormwater drainage system leading from the Arbors property.

Photograph 23: View of Pond 2 (front yard) located on Property P051, where START V collected five surface water samples (including one field duplicate) from locations P051-WS002, P051-WS006, P051-WS007, and P051-WS008 for total and dissolved mercury analysis and five sediment samples (including one field duplicate) from locations P051-SD002, P051-SD006, P051-SD007, and P051-SD008 for total mercury analysis.

Photograph 24: View of the stream area on Property P024 where START V collected one surface water sample from sampling location P024-WS001 for total and dissolved mercury analysis and one sediment sample from sampling location P024-SD001 for total mercury analysis.

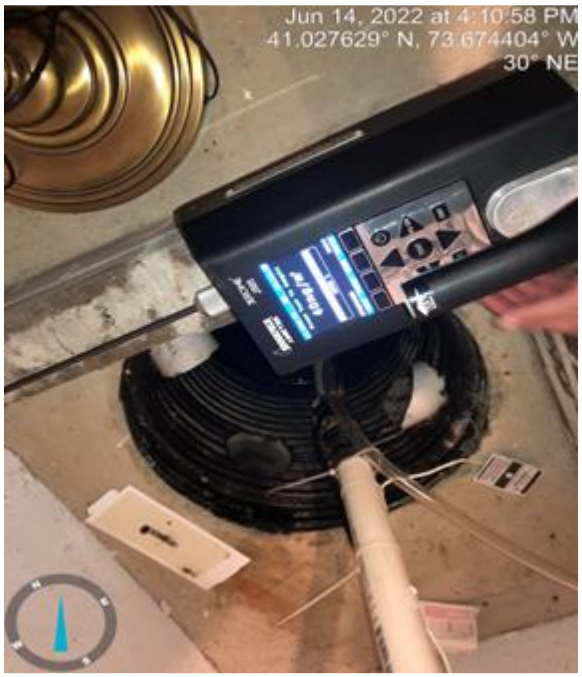
Photograph 25: View of Property P022 where START V collected three surface water samples from sampling locations P022-WS001, P022-WS002, and P022-WS003 for total and dissolved mercury analysis and three sediment sample from sampling locations P022-SD001, P022-SD002, and P022-SD003, in the stream system, for total mercury analysis.

Photograph 26: View of START V collecting a surface water sample directly into 250 mL poly bottles, from Property P022 sampling location P022-WS001, to be sent to the assigned laboratory for total and dissolved mercury analysis.

Photograph 27: View of START V preparing a peristaltic pump to filter surface water samples. The pump was equipped with a disposable 0.45-micron filter for dissolved mercury analysis.

Photograph 28: View of Property P047 where START V collected three sump pump water samples from sampling locations P047-WS001, P047-WS002, and P047-WS003 for total and dissolved mercury analysis and one sediment sample from sampling location P047-SD003 for total mercury analysis.

Photograph 29: View of air monitoring conducted with a Jerome 505. A reading of 0 ng/m^3 was detected at Property P047 in the basement utility room. No sampling was conducted at this location, due to lid being fastened to top of sump pump.



Photograph 30: View of air monitoring conducted with a Jerome 505. A reading of 40 ng/m^3 was detected at Property P047 inside sump pump one.

Photograph 31: View of sump pump location one, located at Property P047. Sump pump water samples P047-WS001-01 and P047-WS001-D-01 were collected at this location for total and dissolved mercury analysis respectively.

Photograph 32: View of air monitoring conducted with a Jerome 505. A reading of 30 ng/m^3 was detected at Property P047 inside sump pump two.

Photograph 33: View of sump pump location two, located at Property P047. Sump pump water samples P047-WS002-01 and P047-WS002-D-01 were collected at this location for total and dissolved mercury analysis respectively.

Photograph 34: View of air monitoring conducted with a Jerome 505. A reading of 0 ng/m^3 was detected at Property P047 near the rear entry to the basement. No sampling was conducted at this location, due to lid being fastened to top of sump pump.

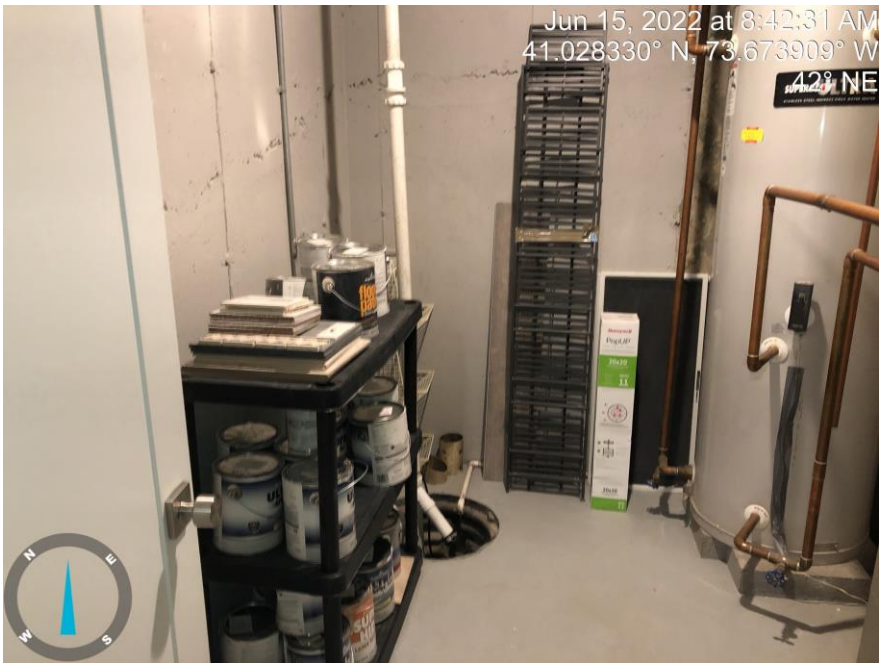
Photograph 35: View of air monitoring conducted with a Jerome 505. A reading of 20 ng/m^3 was detected at Property P047 inside the French drain, located near the back patio.

Photograph 36: View of French drain location three, located at Property P047. French drain water samples P047-WS003-01 and P047-WS003-D-01 were collected for total and dissolved mercury analysis respectively and sediment sample P047-SD003-01 was collected for total mercury analysis at this location.

Photographic Documentation Log
Port Refinery Site
Rye Brook, Westchester County, New York
June 13 through June 15, 2022

Photograph 37: View of Property P055 where START V collected two sump pump water samples from sampling locations P055-WS001 and P055-WS002 for total and dissolved mercury analysis.

Photograph 38: View of air monitoring conducted with a Jerome 505. A reading of 60 ng/m^3 was detected at Property P055 inside sump pump one.



Photograph 39: View of sump pump location one, located at Property P055. Sump pump water samples P055-WS001-01 and P055-WS001-D-01 were collected at this location for total and dissolved mercury analysis respectively.

Photograph 40: View of air monitoring conducted with a Jerome 505. A reading of 330 ng/m^3 was detected at Property P055 inside sump pump two.

Photograph 41: View of the exhaust system located above sump pump two at Property P055.

ATTACHMENT D

Chain of Custody Records

USEPA
DateShipped: 6/15/2022
Hand Delivered
AirbillNo:

CHAIN OF CUSTODY RECORD
Port Refinery/NY
Contact Name: Alexandria Petrosh
Contact Phone: (908) 565-2980

No: 2-061322-100701-0002
Cooler #: 1
Lab: EPA LSASD Region II
Lab Phone: (732) 321-4431

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	P012-SD001-01	SD001	Mercury CVAA	Sediment	6/13/2022	14:15	1	4 oz glass	4 C	N
	P012-SD002-01	SD002	Mercury CVAA	Sediment	6/13/2022	14:22	1	4 oz glass	4 C	N
	P012-SD003-01	SD003	Mercury CVAA	Sediment	6/13/2022	14:29	1	4 oz glass	4 C	N
	P012-WS001-01	WS001	Mercury, CVAA	Surface Water	6/13/2022	14:13	1	250 ml poly	HNO3 pH<2	N
	P012-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/13/2022	14:13	1	250 ml poly	HNO3 pH<2	N
	P012-WS002-01	WS002	Mercury, CVAA	Surface Water	6/13/2022	14:20	1	250 ml poly	HNO3 pH<2	N
	P012-WS002-D-01	WS002	Mercury CVAA Dissolved	Surface Water	6/13/2022	14:20	1	250 ml poly	HNO3 pH<2	N
	P012-WS003-01	WS003	Mercury, CVAA	Surface Water	6/13/2022	14:26	1	250 ml poly	HNO3 pH<2	N
	P012-WS003-D-01	WS003	Mercury CVAA Dissolved	Surface Water	6/13/2022	14:26	1	250 ml poly	HNO3 pH<2	N
	P014-SD001-01	SD001	Mercury CVAA	Sediment	6/13/2022	13:54	1	4 oz glass	4 C	N
	P014-SD002-01	SD002	Mercury CVAA	Sediment	6/13/2022	13:59	1	4 oz glass	4 C	N
	P014-SD003-01	SD003	Mercury CVAA	Sediment	6/13/2022	14:04	1	4 oz glass	4 C	N
	P014-WS001-01	WS001	Mercury, CVAA	Surface Water	6/14/2022	13:53	1	250 ml poly	HNO3 pH<2	N
	P014-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/14/2022	13:53	1	250 ml poly	HNO3 pH<2	N
	P014-WS002-01	WS002	Mercury, CVAA	Surface Water	6/14/2022	13:57	1	250 ml poly	HNO3 pH<2	N
	P014-WS002-D-01	WS002	Mercury CVAA Dissolved	Surface Water	6/14/2022	13:57	1	250 ml poly	HNO3 pH<2	N
	P014-WS003-01	WS003	Mercury, CVAA	Surface Water	6/13/2022	14:04	1	250 ml poly	HNO3 pH<2	N
	P014-WS003-D-01	WS003	Mercury CVAA Dissolved	Surface Water	6/13/2022	14:04	1	250 ml poly	HNO3 pH<2	N
	P022-SD001-01	SD001	Mercury CVAA	Sediment	6/14/2022	15:10	1	4 oz glass	4 C	N

Special Instructions: Please email results to s.sumbaly@westonsolutions.com and alexandria.petrosh@westonsolutions.com. Samples to be run for total/dissolved mercury via method EPA 245.1 SOP C-110 Rev 2.7. 21 day TAT, 35 day hard copy TAT.

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Samples All Analyses.	[signature] / weston START V	6/15/22; 1330	[signature]	6/15/22 1351	

USEPA
DateShipped: 6/15/2022
Hand Delivered
AirbillNo:

CHAIN OF CUSTODY RECORD
Port Refinery/NY
Contact Name: Alexandria Petrosh
Contact Phone: (908) 565-2980

No: 2-061322-100701-0002
Cooler #: 1
Lab: EPA LSASD Region II
Lab Phone: (732) 321-4431

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	P022-SD002-01	SD002	Mercury CVAA	Sediment	6/14/2022	15:22	1	4 oz glass	4 C	N
	P022-SD003-01	SD003	Mercury CVAA	Sediment	6/14/2022	15:25	1	4 oz glass	4 C	N
	P022-WS001-01	WS001	Mercury, CVAA	Surface Water	6/14/2022	15:09	1	250 ml poly	HNO3 pH<2	N
	P022-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/14/2022	15:09	1	250 ml poly	HNO3 pH<2	N
	P022-WS002-01	WS002	Mercury, CVAA	Surface Water	6/14/2022	15:20	1	250 ml poly	HNO3 pH<2	N
	P022-WS002-D-01	WS002	Mercury CVAA Dissolved	Surface Water	6/14/2022	15:20	1	250 ml poly	HNO3 pH<2	N
	P022-WS003-01	WS003	Mercury, CVAA	Surface Water	6/14/2022	15:23	1	250 ml poly	HNO3 pH<2	N
	P022-WS003-D-01	WS003	Mercury CVAA Dissolved	Surface Water	6/14/2022	15:23	1	250 ml poly	HNO3 pH<2	N
	P024-SD001-01	SD001	Mercury CVAA	Sediment	6/14/2022	15:17	1	4 oz glass	4 C	N
	P024-WS001-01	WS001	Mercury, CVAA	Surface Water	6/14/2022	15:17	1	250 ml poly	HNO3 pH<2	N
	P024-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/14/2022	15:15	1	250 ml poly	HNO3 pH<2	N
	P047-SD003-01	SD001	Mercury CVAA	Sediment	6/14/2022	15:30	1	4 oz glass	4 C	N
	P047-WS001-01	WS001	Mercury, CVAA	Surface Water	6/14/2022	16:12	1	250 ml poly	HNO3 pH<2	N
	P047-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/14/2022	16:12	1	250 ml poly	HNO3 pH<2	N
	P047-WS002-01	WS002	Mercury, CVAA	Surface Water	6/14/2022	16:18	1	250 ml poly	HNO3 pH<2	N
	P047-WS002-D-01	WS002	Mercury CVAA Dissolved	Surface Water	6/14/2022	16:18	1	250 ml poly	HNO3 pH<2	N
	P047-WS003-01	WS002	Mercury, CVAA	Surface Water	6/14/2022	15:28	1	250 ml poly	HNO3 pH<2	N
	P047-WS003-D-01	WS003	Mercury CVAA Dissolved	Surface Water	6/14/2022	15:28	1	250 ml poly	HNO3 pH<2	N
	P051-SD002-01	SD002	Mercury CVAA	Sediment	6/14/2022	11:54	2	4 oz glass	4 C	Y

Special Instructions: Please email results to s.sumbaly@westonsolutions.com and alexandria.petrosh@westonsolutions.com. Samples to be run for total/dissolved mercury via method EPA 245.1 SOP C-110 Rev 2.7. 21 day TAT, 35 day hard copy TAT.

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Samples All Analyses.	Weston START V	6/15/22; 1330		6/15/22 1351	

USEPA
DateShipped: 6/15/2022
Hand Delivered
AirbillNo:

CHAIN OF CUSTODY RECORD
Port Refinery/NY
Contact Name: Alexandria Petrosh
Contact Phone: (908) 565-2980

No: 2-061322-100701-0002
Cooler #: 1
Lab: EPA LSASD Region II
Lab Phone: (732) 321-4431

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	P051-SD002-02	SD002	Mercury CVAA	Sediment	6/14/2022	11:54	1	4 oz glass	4 C	Y
	P051-SD003-01	SD003	Mercury CVAA	Sediment	6/14/2022	12:12	1	4 oz glass	4 C	N
	P051-SD004-01	SD004	Mercury CVAA	Sediment	6/14/2022	12:26	1	4 oz glass	4 C	N
	P051-SD005-01	SD005	Mercury CVAA	Sediment	6/14/2022	12:35	1	4 oz glass	4 C	N
	P051-SD006-01	SD006	Mercury CVAA	Sediment	6/14/2022	13:03	1	4 oz glass	4 C	N
	P051-SD007-01	SD007	Mercury CVAA	Sediment	6/14/2022	13:12	1	4 oz glass	4 C	N
	P051-SD008-01	SD008	Mercury CVAA	Sediment	6/14/2022	13:18	1	4 oz glass	4 C	N
	P051-WS001-01	WS001	Mercury, CVAA	Surface Water	6/14/2022	11:07	1	250 ml poly	HNO3 pH<2	N
	P051-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/14/2022	11:07	1	250 ml poly	HNO3 pH<2	N
	P051-WS002-01	WS002	Mercury, CVAA	Surface Water	6/14/2022	11:54	3	250 ml poly	HNO3 pH<2	Y
	P051-WS002-02	WS002	Mercury, CVAA	Surface Water	6/14/2022	11:54	1	250 ml poly	HNO3 pH<2	Y
	P051-WS002-D-01	WS002	Mercury CVAA Dissolved	Surface Water	6/14/2022	11:54	3	250 ml poly	HNO3 pH<2	Y
	P051-WS002-D-02	WS002	Mercury CVAA Dissolved	Surface Water	6/14/2022	11:54	1	250 ml poly	HNO3 pH<2	Y
	P051-WS004-01	WS004	Mercury, CVAA	Surface Water	6/14/2022	12:24	1	250 ml poly	HNO3 pH<2	N
	P051-WS004-D-01	WS004	Mercury CVAA Dissolved	Surface Water	6/14/2022	12:24	1	250 ml poly	HNO3 pH<2	N
	P051-WS005-01	WS005	Mercury, CVAA	Surface Water	6/14/2022	12:33	1	250 ml poly	HNO3 pH<2	N
	P051-WS005-D-01	WS005	Mercury CVAA Dissolved	Surface Water	6/14/2022	12:33	1	250 ml poly	HNO3 pH<2	N
	P051-WS006-01	WS006	Mercury, CVAA	Surface Water	6/14/2022	12:58	1	250 ml poly	HNO3 pH<2	N
	P051-WS006-D-01	WS006	Mercury CVAA Dissolved	Surface Water	6/14/2022	12:58	1	250 ml poly	HNO3 pH<2	N

Special Instructions: Please email results to s.sumbaly@westonsolutions.com and alexandria.petrosh@westonsolutions.com.
Samples to be run for total/dissolved mercury via method EPA 245.1 SOP C-110 Rev 2.7. 21 day TAT, 35 day hard copy TAT.

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Samples All Analyses	[signature]/Weston START	6/15/22; 1330	[signature]	6/15/22 1331	

USEPA
DateShipped: 6/15/2022
Hand Delivered
AirbillNo:

CHAIN OF CUSTODY RECORD
Port Refinery/NY
Contact Name: Alexandria Petrosh
Contact Phone: (908) 565-2980

No: 2-061322-100701-0002
Cooler #: 1
Lab: EPA LSASD Region II
Lab Phone: (732) 321-4431

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	P051-WS007-01	WS007	Mercury, CVAA	Surface Water	6/14/2022	13:12	1	250 ml poly	HNO3 pH<2	N
	P051-WS007-D-01	WS007	Mercury CVAA Dissolved	Surface Water	6/14/2022	13:12	1	250 ml poly	HNO3 pH<2	N
	P051-WS008-01	WS008	Mercury, CVAA	Surface Water	6/14/2022	13:16	1	250 ml poly	HNO3 pH<2	N
	P051-WS008-D-01	WS008	Mercury CVAA Dissolved	Surface Water	6/14/2022	13:16	1	250 ml poly	HNO3 pH<2	N
	P055-WS001-01	WS001	Mercury, CVAA	Surface Water	6/15/2022	08:42	1	250 ml poly	HNO3 pH<2	N
	P055-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/15/2022	08:42	1	250 ml poly	HNO3 pH<2	N
	P055-WS002-01	WS002	Mercury, CVAA	Surface Water	6/15/2022	09:06	1	250 ml poly	HNO3 pH<2	N
	P055-WS002-D-01	WS002	Mercury CVAA Dissolved	Surface Water	6/15/2022	09:06	1	250 ml poly	HNO3 pH<2	N
	P057-SD002-01	SD002	Mercury CVAA	Sediment	6/14/2022	10:12	1	4 oz glass	4 C	N
	P057-WS001-01	WS001	Mercury, CVAA	Surface Water	6/14/2022	10:07	1	250 ml poly	HNO3 pH<2	N
	P057-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/14/2022	10:07	1	250 ml poly	HNO3 pH<2	N
	RMP-SD001-01	SD001	Mercury CVAA	Sediment	6/13/2022	11:36	1	4 oz glass	4 C	N
	RMP-SD002-01	SD002	Mercury CVAA	Sediment	6/13/2022	11:46	1	4 oz glass	4 C	N
	RMP-SD003-01	SD003	Mercury CVAA	Sediment	6/13/2022	11:57	1	4 oz glass	4 C	N
	RMP-SD004-01	SD004	Mercury CVAA	Sediment	6/13/2022	12:06	1	4 oz glass	4 C	N
	RMP-SD005-01	SD005	Mercury CVAA	Sediment	6/13/2022	12:12	2	4 oz glass	4 C	Y
	RMP-SD005-02	SD005	Mercury CVAA	Sediment	6/13/2022	12:12	1	4 oz glass	4 C	Y
	RMP-SD006-01	SD006	Mercury CVAA	Sediment	6/13/2022	12:36	1	4 oz glass	4 C	N
	RMP-SD007-01	SD007	Mercury CVAA	Sediment	6/13/2022	12:48	1	4 oz glass	4 C	N

Special Instructions: Please email results to s.sumbaly@westonsolutions.com and alexandria.petrosh@westonsolutions.com.
Samples to be run for total/dissolved mercury via method EPA 245.1 SOP C-110 Rev 2.7. 21 day TAT, 35 day hard copy TAT.

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All samples All Analyses	/ weston START	6/15/22; 1330		6/15/22 1551	

USEPA
DateShipped: 6/15/2022
Hand Delivered
AirbillNo:

CHAIN OF CUSTODY RECORD
Port Refinery/NY
Contact Name: Alexandria Petrosh
Contact Phone: (908) 565-2980

No: 2-061322-100701-0002
Cooler #: 1
Lab: EPA LSASD Region II
Lab Phone: (732) 321-4431

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	RMP-SD008-01	SD008	Mercury CVAA	Sediment	6/13/2022	12:58	1	4 oz glass	4 C	N
	RMP-SD009-01	SD009	Mercury CVAA	Sediment	6/13/2022	13:09	1	4 oz glass	4 C	N
	RMP-SD010-01	SD010	Mercury CVAA	Sediment	6/13/2022	13:21	1	4 oz glass	4 C	N
	RMP-SD011-01	SD011	Mercury CVAA	Sediment	6/13/2022	13:30	1	4 oz glass	4 C	N
	RMP-SD012-01	SD012	Mercury CVAA	Sediment	6/13/2022	13:42	1	4 oz glass	4 C	N
	RMP-WS001-01	WS001	Mercury, CVAA	Surface Water	6/14/2022	17:10	1	250 ml poly	HNO3 pH<2	N
	RMP-WS001-D-01	WS001	Mercury CVAA Dissolved	Surface Water	6/14/2022	17:10	1	250 ml poly	HNO3 pH<2	N
	RMP-WS002-01	WS002	Mercury, CVAA	Surface Water	6/14/2022	17:17	1	250 ml poly	HNO3 pH<2	N
	RMP-WS002-D-01	WS002	Mercury CVAA Dissolved	Surface Water	6/14/2022	17:17	1	250 ml poly	HNO3 pH<2	N
	RMP-WS003-01	WS003	Mercury, CVAA	Surface Water	6/13/2022	11:55	1	250 ml poly	HNO3 pH<2	N
	RMP-WS003-D-01	WS003	Mercury CVAA Dissolved	Surface Water	6/13/2022	11:55	1	250 ml poly	HNO3 pH<2	N
	RMP-WS004-01	WS004	Mercury, CVAA	Surface Water	6/13/2022	12:04	1	250 ml poly	HNO3 pH<2	N
	RMP-WS004-D-01	WS004	Mercury CVAA Dissolved	Surface Water	6/13/2022	12:04	1	250 ml poly	HNO3 pH<2	N
	RMP-WS005-01	WS005	Mercury, CVAA	Surface Water	6/13/2022	12:08	3	250 ml poly	HNO3 pH<2	Y
	RMP-WS005-02	WS005	Mercury, CVAA	Surface Water	6/13/2022	12:08	1	250 ml poly	HNO3 pH<2	N
	RMP-WS005-D-01	WS005	Mercury CVAA Dissolved	Surface Water	6/13/2022	12:08	3	250 ml poly	HNO3 pH<2	Y
	RMP-WS005-D-02	WS005	Mercury CVAA Dissolved	Surface Water	6/13/2022	12:08	1	250 ml poly	HNO3 pH<2	Y
	RMP-WS006-01	WS006	Mercury, CVAA	Surface Water	6/13/2022	12:34	1	250 ml poly	HNO3 pH<2	N
	RMP-WS006-D-01	WS006	Mercury CVAA Dissolved	Surface Water	6/13/2022	12:34	1	250 ml poly	HNO3 pH<2	N

Special Instructions: Please email results to s.sumbaly@westonsolutions.com and alexandria.petrosh@westonsolutions.com. Samples to be run for total/dissolved mercury via method EPA 245.1 SOP C-110 Rev 2.7. 21 day TAT, 35 day hard copy TAT.

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Samples All Analyses	/ Weston START	6/15/22; 1330		6/15/22 1351	

USEPA
DateShipped: 6/15/2022
Hand Delivered
AirbillNo:

CHAIN OF CUSTODY RECORD
Port Refinery/NY
Contact Name: Alexandria Petrosh
Contact Phone: (908) 565-2980

No: 2-061322-100701-0002
Cooler #: 1
Lab: EPA LSASD Region II
Lab Phone: (732) 321-4431

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	RMP-WS007-01	WS007	Mercury, CVAA	Surface Water	6/13/2022	12:44	1	250 ml poly	HNO3 pH<2	N
	RMP-WS007-D-01	WS007	Mercury CVAA Dissolved	Surface Water	6/13/2022	12:44	1	250 ml poly	HNO3 pH<2	N
	RMP-WS008-01	WS008	Mercury, CVAA	Surface Water	6/13/2022	12:56	1	250 ml poly	HNO3 pH<2	N
	RMP-WS008-D-01	WS008	Mercury CVAA Dissolved	Surface Water	6/13/2022	12:56	1	250 ml poly	HNO3 pH<2	N
	RMP-WS009-01	WS009	Mercury, CVAA	Surface Water	6/13/2022	13:07	1	250 ml poly	HNO3 pH<2	N
	RMP-WS009-D-01	WS009	Mercury CVAA Dissolved	Surface Water	6/13/2022	13:07	1	250 ml poly	HNO3 pH<2	N
	RMP-WS010-01	WS010	Mercury, CVAA	Surface Water	6/13/2022	13:19	1	250 ml poly	HNO3 pH<2	N
	RMP-WS010-D-01	WS010	Mercury CVAA Dissolved	Surface Water	6/13/2022	13:19	1	250 ml poly	HNO3 pH<2	N
	RMP-WS011-01	WS011	Mercury, CVAA	Surface Water	6/13/2022	13:30	1	250 ml poly	HNO3 pH<2	N
	RMP-WS011-D-01	WS011	Mercury CVAA Dissolved	Surface Water	6/13/2022	13:30	1	250 ml poly	HNO3 pH<2	N
	RMP-WS012-01	WS012	Mercury, CVAA	Surface Water	6/13/2022	13:40	1	250 ml poly	HNO3 pH<2	N
	RMP-WS012-D-01	WS012	Mercury CVAA Dissolved	Surface Water	6/13/2022	13:40	1	250 ml poly	HNO3 pH<2	N

6/15/22

Special Instructions: Please email results to s.sumbaly@westonsolutions.com and alexandria.petrosh@westonsolutions.com. Samples to be run for total/dissolved mercury via method EPA 245.1 SOP C-110 Rev 2.7. 21 day TAT, 35 day hard copy TAT.

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Samples All Analyses	/ Weston START U	6/15/22; 1330		6/15/22 1330	

USEPA
DateShipped: 6/15/2022
Hand Delivered
AirbillNo: NA

CHAIN OF CUSTODY RECORD
~~Site #: 0271~~ RFP 796
Contact Name: Alexandria Petrosh
Contact Phone: 908-565-2980

No: 2-061522-123948-0003
Cooler #: 1
Lab: EMSL Analytical, Inc.
Lab Phone: 856-303-2532

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	FB-220614	NA	Mercury Total	Blank	6/14/2022	12:00	1	Anasorb 200 mg tube	None	N
	LB-220614	NA	Mercury Total	Blank	6/14/2022	12:00	1	Anasorb 200 mg tube	None	N
	P051-AS001-220614-01	AS001	Mercury Total	Air	6/14/2022	11:27	1	Anasorb 200 mg tube	None	N
	P051-AS002-220614-01	AS002	Mercury Total	Air	6/14/2022	11:25	1	Anasorb 200 mg tube	None	N
	P051-AS003-220614-01	AS003	Mercury Total	Air	6/14/2022	11:31	1	Anasorb 200 mg tube	None	N

6/15/22

RECEIVED
2022 JUN 15 PM 2:22
EMSL
CINNAMINSON, N.J.

Special Instructions: Please email results to s.sumbaly@westonsolutions.com. Samples to be run for mercury analysis via NIOSH method 6009. 7 day TAT, 14 day hardcopy TAT. Air sample # P051-AS002-220614-01 encountered a pump fault, 8 hour sample colleciton may not have occured.

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
ALL Sample ALL Analyses.	~~Alleno~~ Mike Mack Weston Solutions	6/15/22 1420	Daniel Stepp WJ EMSL	6-15-22	2:20pm

ATTACHMENT E

Validated Analytical Data Packages

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory
2890 Woodbridge Avenue
Edison , New Jersey 08837
732-906-6886 Phone
732-906-6165 Fax

July 06, 2022

Smita Sumbaly
Weston Solutions Inc.
205 Campus Drive
Edison, NJ 08837

RE: Port Refinery - 2206012

Enclosed are the results of analyses for samples received by the laboratory on 06/15/2022. The signature below reflects the laboratory's approval of the reported results. If you have any questions concerning this report, please refer to Project Number 2206012 and contact the laboratory.

Sincerely,

John R. Bourbon
Chief, LSASD/LB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

Project Narrative:

The National Environmental Laboratory Accreditation Conference Institute (TNI) is a voluntary environmental laboratory accreditation association of State and Federal agencies. TNI established and promoted a National Environmental Laboratory Accreditation Program (NELAP) that provides a uniform set of standards for the generation of environmental data that are of known and defensible quality. The EPA Region 2 Laboratory is NELAP accredited. The Laboratory tests that are accredited have met all the requirements established under the TNI Standards.

Condition Comments

None

Comment(s):

The "Sample Analysis Date and Time" is included in the results section for any analyte with a prescribed holding time of 72 hours or less.

Final report was resubmitted. Validation was incomplete for VOA analytes and sent to final reporting prior to final data assessment completion.

Data Qualifier(s):

U- The analyte was not detected at or above the Reporting Limit.
J- The identification of the analyte is acceptable; the reported value is an estimate.
K- The identification of the analyte is acceptable; the reported value may be biased high.
L- The identification of the analyte is acceptable; the reported value may be biased low.
NJ- There is presumptive evidence that the analyte is present; the analyte is reported as a tentative identification. The reported value is an estimate.

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

Reporting Limit(s):

The Laboratory was able to achieve the appropriate limit for each analyte requested.

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
P012-SD001-01	2206012-01	Solid	06/13/2022 14:15	06/15/2022 13:51
P012-SD002-01	2206012-02	Solid	06/13/2022 14:22	06/15/2022 13:51
P012-SD003-01	2206012-03	Solid	06/13/2022 14:29	06/15/2022 13:51
P014-SD001-01	2206012-04	Solid	06/13/2022 13:54	06/15/2022 13:51
P014-SD002-01	2206012-05	Solid	06/13/2022 13:59	06/15/2022 13:51
P014-SD003-01	2206012-06	Solid	06/13/2022 14:04	06/15/2022 13:51
P022-SD001-01	2206012-07	Solid	06/14/2022 15:10	06/15/2022 13:51
P022-SD002-01	2206012-08	Solid	06/14/2022 15:22	06/15/2022 13:51
P022-SD003-01	2206012-09	Solid	06/14/2022 15:25	06/15/2022 13:51
P024-SD001-01	2206012-10	Solid	06/14/2022 15:17	06/15/2022 13:51
P047-SD003-01	2206012-11	Solid	06/14/2022 15:30	06/15/2022 13:51
P051-SD002-01	2206012-12	Solid	06/14/2022 11:54	06/15/2022 13:51
P051-SD002-02	2206012-13	Solid	06/14/2022 11:54	06/15/2022 13:51
P051-SD003-01	2206012-14	Solid	06/14/2022 12:12	06/15/2022 13:51
P051-SD004-01	2206012-15	Solid	06/14/2022 12:26	06/15/2022 13:51
P051-SD005-01	2206012-16	Solid	06/14/2022 12:35	06/15/2022 13:51
P051-SD006-01	2206012-17	Solid	06/14/2022 13:03	06/15/2022 13:51
P051-SD007-01	2206012-18	Solid	06/14/2022 13:12	06/15/2022 13:51
P051-SD008-01	2206012-19	Solid	06/14/2022 13:18	06/15/2022 13:51
P057-SD002-01	2206012-20	Solid	06/14/2022 10:12	06/15/2022 13:51
RMP-SD001-01	2206012-21	Solid	06/13/2022 11:36	06/15/2022 13:51
RMP-SD002-01	2206012-22	Solid	06/13/2022 11:46	06/15/2022 13:51
RMP-SD003-01	2206012-23	Solid	06/13/2022 11:57	06/15/2022 13:51
RMP-SD004-01	2206012-24	Solid	06/13/2022 12:06	06/15/2022 13:51
RMP-SD005-01	2206012-25	Solid	06/13/2022 12:12	06/15/2022 13:51
RMP-SD005-02	2206012-26	Solid	06/13/2022 12:12	06/15/2022 13:51
RMP-SD006-01	2206012-27	Solid	06/13/2022 12:36	06/15/2022 13:51
RMP-SD007-01	2206012-28	Solid	06/13/2022 12:48	06/15/2022 13:51

NOTE: The results recorded in this report relate only to the samples as received on the date and at the time noted

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
RMP-SD008-01	2206012-29	Solid	06/13/2022 12:58	06/15/2022 13:51
RMP-SD009-01	2206012-30	Solid	06/13/2022 13:09	06/15/2022 13:51
RMP-SD010-01	2206012-31	Solid	06/13/2022 13:21	06/15/2022 13:51
RMP-SD011-01	2206012-32	Solid	06/13/2022 13:30	06/15/2022 13:51
RMP-SD012-01	2206012-33	Solid	06/13/2022 13:42	06/15/2022 13:51
P012-WS001-01	2206012-34	Aqueous	06/13/2022 14:13	06/15/2022 13:51
P012-WS002-01	2206012-35	Aqueous	06/13/2022 14:20	06/15/2022 13:51
P012-WS003-01	2206012-36	Aqueous	06/13/2022 14:26	06/15/2022 13:51
P014-WS001-01	2206012-37	Aqueous	06/14/2022 13:53	06/15/2022 13:51
P014-WS002-01	2206012-38	Aqueous	06/14/2022 13:57	06/15/2022 13:51
P014-WS003-01	2206012-39	Aqueous	06/13/2022 14:04	06/15/2022 13:51
P022-WS001-01	2206012-40	Aqueous	06/14/2022 15:09	06/15/2022 13:51
P022-WS002-01	2206012-41	Aqueous	06/14/2022 15:20	06/15/2022 13:51
P022-WS003-01	2206012-42	Aqueous	06/14/2022 15:23	06/15/2022 13:51
P024-WS001-01	2206012-43	Aqueous	06/14/2022 15:17	06/15/2022 13:51
P047-WS001-01	2206012-44	Aqueous	06/14/2022 16:12	06/15/2022 13:51
P047-WS002-01	2206012-45	Aqueous	06/14/2022 16:18	06/15/2022 13:51
P047-WS003-01	2206012-46	Aqueous	06/14/2022 15:28	06/15/2022 13:51
P051-WS001-01	2206012-47	Aqueous	06/14/2022 11:07	06/15/2022 13:51
P051-WS002-01	2206012-48	Aqueous	06/14/2022 11:54	06/15/2022 13:51
P051-WS002-02	2206012-49	Aqueous	06/14/2022 11:54	06/15/2022 13:51
P051-WS004-01	2206012-50	Aqueous	06/14/2022 12:24	06/15/2022 13:51
P051-WS005-01	2206012-51	Aqueous	06/14/2022 12:33	06/15/2022 13:51
P051-WS006-01	2206012-52	Aqueous	06/14/2022 12:58	06/15/2022 13:51
P051-WS007-01	2206012-53	Aqueous	06/14/2022 13:12	06/15/2022 13:51
P051-WS008-01	2206012-54	Aqueous	06/14/2022 13:16	06/15/2022 13:51
P055-WS001-01	2206012-55	Aqueous	06/15/2022 08:42	06/15/2022 13:51
P055-WS002-01	2206012-56	Aqueous	06/15/2022 09:06	06/15/2022 13:51
P057-WS001-01	2206012-57	Aqueous	06/14/2022 10:07	06/15/2022 13:51

NOTE: The results recorded in this report relate only to the samples as received on the date and at the time noted

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
RMP-WS001-01	2206012-58	Aqueous	06/14/2022 17:10	06/15/2022 13:51
RMP-WS002-01	2206012-59	Aqueous	06/14/2022 17:17	06/15/2022 13:51
RMP-WS003-01	2206012-60	Aqueous	06/13/2022 11:55	06/15/2022 13:51
RMP-WS004-01	2206012-61	Aqueous	06/13/2022 12:04	06/15/2022 13:51
RMP-WS005-01	2206012-62	Aqueous	06/13/2022 12:08	06/15/2022 13:51
RMP-WS005-02	2206012-63	Aqueous	06/13/2022 12:08	06/15/2022 13:51
RMP-WS006-01	2206012-64	Aqueous	06/13/2022 12:34	06/15/2022 13:51
RMP-WS007-01	2206012-65	Aqueous	06/13/2022 12:44	06/15/2022 13:51
RMP-WS008-01	2206012-66	Aqueous	06/13/2022 12:56	06/15/2022 13:51
RMP-WS009-01	2206012-67	Aqueous	06/13/2022 13:07	06/15/2022 13:51
RMP-WS010-01	2206012-68	Aqueous	06/13/2022 13:19	06/15/2022 13:51
RMP-WS011-01	2206012-69	Aqueous	06/13/2022 13:30	06/15/2022 13:51
RMP-WS012-01	2206012-70	Aqueous	06/13/2022 13:40	06/15/2022 13:51
P012-WS001-D-01	2206012-71	Aqueous	06/13/2022 14:13	06/15/2022 13:51
P012-WS002-D-01	2206012-72	Aqueous	06/13/2022 14:20	06/15/2022 13:51
P012-WS003-D-01	2206012-73	Aqueous	06/13/2022 14:26	06/15/2022 13:51
P014-WS001-D-01	2206012-74	Aqueous	06/14/2022 13:53	06/15/2022 13:51
P014-WS002-D-01	2206012-75	Aqueous	06/14/2022 13:57	06/15/2022 13:51
P014-WS003-D-01	2206012-76	Aqueous	06/13/2022 14:04	06/15/2022 13:51
P022-WS001-D-01	2206012-77	Aqueous	06/14/2022 15:09	06/15/2022 13:51
P022-WS002-D-01	2206012-78	Aqueous	06/14/2022 15:20	06/15/2022 13:51
P022-WS003-D-01	2206012-79	Aqueous	06/14/2022 15:23	06/15/2022 13:51
P024-WS001-D-01	2206012-80	Aqueous	06/14/2022 15:15	06/15/2022 13:51
P047-WS001-D-01	2206012-81	Aqueous	06/14/2022 16:12	06/15/2022 13:51
P047-WS002-D-01	2206012-82	Aqueous	06/14/2022 16:18	06/15/2022 13:51
P047-WS003-D-01	2206012-83	Aqueous	06/14/2022 15:28	06/15/2022 13:51
P051-WS001-D-01	2206012-84	Aqueous	06/14/2022 11:07	06/15/2022 13:51
P051-WS002-D-01	2206012-85	Aqueous	06/14/2022 11:54	06/15/2022 13:51

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
P051-WS002-D-02	2206012-86	Aqueous	06/14/2022 11:54	06/15/2022 13:51
P051-WS004-D-01	2206012-87	Aqueous	06/14/2022 12:24	06/15/2022 13:51
P051-WS005-D-01	2206012-88	Aqueous	06/14/2022 12:33	06/15/2022 13:51
P051-WS006-D-01	2206012-89	Aqueous	06/14/2022 12:58	06/15/2022 13:51
P051-WS007-D-01	2206012-90	Aqueous	06/14/2022 13:12	06/15/2022 13:51
P051-WS008-D-01	2206012-91	Aqueous	06/14/2022 13:16	06/15/2022 13:51
P055-WS001-D-01	2206012-92	Aqueous	06/15/2022 08:42	06/15/2022 13:51
P055-WS002-D-01	2206012-93	Aqueous	06/15/2022 09:06	06/15/2022 13:51
P057-WS001-D-01	2206012-94	Aqueous	06/14/2022 10:07	06/15/2022 13:51
RMP-WS001-D-01	2206012-95	Aqueous	06/14/2022 17:10	06/15/2022 13:51
RMP-WS002-D-01	2206012-96	Aqueous	06/14/2022 17:17	06/15/2022 13:51
RMP-WS003-D-01	2206012-97	Aqueous	06/13/2022 11:55	06/15/2022 13:51
RMP-WS004-D-01	2206012-98	Aqueous	06/13/2022 12:04	06/15/2022 13:51
RMP-WS005-D-01	2206012-99	Aqueous	06/13/2022 12:08	06/15/2022 13:51
RMP-WS005-D-02	2206012-AA	Aqueous	06/13/2022 12:08	06/15/2022 13:51
RMP-WS006-D-01	2206012-AB	Aqueous	06/13/2022 12:34	06/15/2022 13:51
RMP-WS007-D-01	2206012-AC	Aqueous	06/13/2022 12:44	06/15/2022 13:51
RMP-WS008-D-01	2206012-AD	Aqueous	06/13/2022 12:56	06/15/2022 13:51
RMP-WS009-D-01	2206012-AE	Aqueous	06/13/2022 13:07	06/15/2022 13:51
RMP-WS010-D-01	2206012-AF	Aqueous	06/13/2022 13:19	06/15/2022 13:51
RMP-WS011-D-01	2206012-AG	Aqueous	06/13/2022 13:30	06/15/2022 13:51
RMP-WS012-D-01	2206012-AH	Aqueous	06/13/2022 13:40	06/15/2022 13:51

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

SUMMARY REPORT FOR METHODS

Analysis	Method	Certification	Matrix
Mercury	EPA 245.1 SOP C-110 Rev 2.7	NELAP	Aqueous, Dissolved
Mercury	EPA 245.1 SOP C-110 Rev 2.7	NELAP	Aqueous
Mercury	EPA 245.1 SOP C-110 Rev 2.7	NELAP	Solid

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P012-SD001-01				**Sample ID: 2206012-01**		
Mercury CVAA						
Mercury	---	U	0.0536	mg/kg dry	B206096	
Field ID: P012-SD002-01				**Sample ID: 2206012-02**		
Mercury CVAA						
Mercury	---	U	0.0374	mg/kg dry	B206096	
Field ID: P012-SD003-01				**Sample ID: 2206012-03**		
Mercury CVAA						
Mercury	---	U	0.0624	mg/kg dry	B206096	
Field ID: P014-SD001-01				**Sample ID: 2206012-04**		
Mercury CVAA						
Mercury	0.0870		0.0395	mg/kg dry	B206096	
Field ID: P014-SD002-01				**Sample ID: 2206012-05**		
Mercury CVAA						
Mercury	---	U	0.0487	mg/kg dry	B206096	
Field ID: P014-SD003-01				**Sample ID: 2206012-06**		
Mercury CVAA						
Mercury	---	U	0.0653	mg/kg dry	B206096	
Field ID: P022-SD001-01				**Sample ID: 2206012-07**		
Mercury CVAA						
Mercury	0.576		0.0662	mg/kg dry	B206096	
Field ID: P022-SD002-01				**Sample ID: 2206012-08**		
Mercury CVAA						
Mercury	0.630		0.0433	mg/kg dry	B206096	
Field ID: P022-SD003-01				**Sample ID: 2206012-09**		
Mercury CVAA						
Mercury	0.306		0.0577	mg/kg dry	B206096	

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P024-SD001-01				**Sample ID: 2206012-10**		
Mercury CVAA						
Mercury	0.364		0.0656	mg/kg dry	B206096	
Field ID: P047-SD003-01				**Sample ID: 2206012-11**		
Mercury CVAA						
Mercury	---	U	0.0827	mg/kg dry	B206096	
Field ID: P051-SD002-01				**Sample ID: 2206012-12**		
Mercury CVAA						
Mercury	5.08		0.516	mg/kg dry	B206096	
Field ID: P051-SD002-02				**Sample ID: 2206012-13**		
Mercury CVAA						
Mercury	9.08		0.607	mg/kg dry	B206096	
Field ID: P051-SD003-01				**Sample ID: 2206012-14**		
Mercury CVAA						
Mercury	1.32		0.0866	mg/kg dry	B206096	
Field ID: P051-SD004-01				**Sample ID: 2206012-15**		
Mercury CVAA						
Mercury	2.72		0.278	mg/kg dry	B206096	
Field ID: P051-SD005-01				**Sample ID: 2206012-16**		
Mercury CVAA						
Mercury	0.943		0.0503	mg/kg dry	B206096	
Field ID: P051-SD006-01				**Sample ID: 2206012-17**		
Mercury CVAA						
Mercury	21.6		1.87	mg/kg dry	B206096	
Field ID: P051-SD007-01				**Sample ID: 2206012-18**		
Mercury CVAA						
Mercury	21.5		1.70	mg/kg dry	B206096	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P051-SD008-01				**Sample ID: 2206012-19**		
Mercury CVAA						
Mercury	0.0873		0.0406	mg/kg dry	B206096	
Field ID: P057-SD002-01				**Sample ID: 2206012-20**		
Mercury CVAA						
Mercury	1.31		0.188	mg/kg dry	B206096	
Field ID: RMP-SD001-01				**Sample ID: 2206012-21**		
Mercury CVAA						
Mercury	---	U	0.0743	mg/kg dry	B206096	
Field ID: RMP-SD002-01				**Sample ID: 2206012-22**		
Mercury CVAA						
Mercury	0.859		0.200	mg/kg dry	B206096	
Field ID: RMP-SD003-01				**Sample ID: 2206012-23**		
Mercury CVAA						
Mercury	0.559		0.111	mg/kg dry	B206096	
Field ID: RMP-SD004-01				**Sample ID: 2206012-24**		
Mercury CVAA						
Mercury	0.615		0.189	mg/kg dry	B206096	
Field ID: RMP-SD005-01				**Sample ID: 2206012-25**		
Mercury CVAA						
Mercury	0.842		0.133	mg/kg dry	B206096	
Field ID: RMP-SD005-02				**Sample ID: 2206012-26**		
Mercury CVAA						
Mercury	1.04		0.146	mg/kg dry	B206096	
Field ID: RMP-SD006-01				**Sample ID: 2206012-27**		
Mercury CVAA						
Mercury	0.848		0.105	mg/kg dry	B206096	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: RMP-SD007-01				**Sample ID: 2206012-28**		
Mercury CVAA						
Mercury	0.544		0.145	mg/kg dry	B206096	
Field ID: RMP-SD008-01				**Sample ID: 2206012-29**		
Mercury CVAA						
Mercury	0.373		0.0434	mg/kg dry	B206096	
Field ID: RMP-SD009-01				**Sample ID: 2206012-30**		
Mercury CVAA						
Mercury	0.0510		0.0423	mg/kg dry	B206096	
Field ID: RMP-SD010-01				**Sample ID: 2206012-31**		
Mercury CVAA						
Mercury	0.0996		0.0317	mg/kg dry	B206096	
Field ID: RMP-SD011-01				**Sample ID: 2206012-32**		
Mercury CVAA						
Mercury	0.0350		0.0345	mg/kg dry	B206096	
Field ID: RMP-SD012-01				**Sample ID: 2206012-33**		
Mercury CVAA						
Mercury	---	U	0.0400	mg/kg dry	B206096	
Field ID: P012-WS001-01				**Sample ID: 2206012-34**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P012-WS002-01				**Sample ID: 2206012-35**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P012-WS003-01				**Sample ID: 2206012-36**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P014-WS001-01			**Sample ID: 2206012-37**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P014-WS002-01			**Sample ID: 2206012-38**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P014-WS003-01			**Sample ID: 2206012-39**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P022-WS001-01			**Sample ID: 2206012-40**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P022-WS002-01			**Sample ID: 2206012-41**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P022-WS003-01			**Sample ID: 2206012-42**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P024-WS001-01			**Sample ID: 2206012-43**			
Mercury CVAA						
Mercury	5.64		0.400	ug/L	B206106	
Field ID: P047-WS001-01			**Sample ID: 2206012-44**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P047-WS002-01			**Sample ID: 2206012-45**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P047-WS003-01			**Sample ID: 2206012-46**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS001-01			**Sample ID: 2206012-47**			
Mercury CVAA						
Mercury	8.40		1.00	ug/L	B206106	
Field ID: P051-WS002-01			**Sample ID: 2206012-48**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS002-02			**Sample ID: 2206012-49**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS004-01			**Sample ID: 2206012-50**			
Mercury CVAA						
Mercury	1.76		0.200	ug/L	B206106	
Field ID: P051-WS005-01			**Sample ID: 2206012-51**			
Mercury CVAA						
Mercury	10.4		1.00	ug/L	B206106	
Field ID: P051-WS006-01			**Sample ID: 2206012-52**			
Mercury CVAA						
Mercury	2.04		0.200	ug/L	B206106	
Field ID: P051-WS007-01			**Sample ID: 2206012-53**			
Mercury CVAA						
Mercury	51.8		4.00	ug/L	B206106	
Field ID: P051-WS008-01			**Sample ID: 2206012-54**			
Mercury CVAA						
Mercury	25.6		2.00	ug/L	B206106	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P055-WS001-01				**Sample ID: 2206012-55**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P055-WS002-01				**Sample ID: 2206012-56**		
Mercury CVAA						
Mercury	13.2		1.00	ug/L	B206106	
Field ID: P057-WS001-01				**Sample ID: 2206012-57**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS001-01				**Sample ID: 2206012-58**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS002-01				**Sample ID: 2206012-59**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS003-01				**Sample ID: 2206012-60**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS004-01				**Sample ID: 2206012-61**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS005-01				**Sample ID: 2206012-62**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS005-02				**Sample ID: 2206012-63**		
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: RMP-WS006-01			**Sample ID: 2206012-64**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS007-01			**Sample ID: 2206012-65**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS008-01			**Sample ID: 2206012-66**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS009-01			**Sample ID: 2206012-67**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS010-01			**Sample ID: 2206012-68**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS011-01			**Sample ID: 2206012-69**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS012-01			**Sample ID: 2206012-70**			
Mercury CVAA						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P012-WS001-D-01			**Sample ID: 2206012-71**			
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P012-WS002-D-01			**Sample ID: 2206012-72**			
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P012-WS003-D-01				**Sample ID: 2206012-73**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P014-WS001-D-01				**Sample ID: 2206012-74**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P014-WS002-D-01				**Sample ID: 2206012-75**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P014-WS003-D-01				**Sample ID: 2206012-76**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P022-WS001-D-01				**Sample ID: 2206012-77**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P022-WS002-D-01				**Sample ID: 2206012-78**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P022-WS003-D-01				**Sample ID: 2206012-79**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P024-WS001-D-01				**Sample ID: 2206012-80**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P047-WS001-D-01				**Sample ID: 2206012-81**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P047-WS002-D-01				**Sample ID: 2206012-82**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P047-WS003-D-01				**Sample ID: 2206012-83**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS001-D-01				**Sample ID: 2206012-84**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS002-D-01				**Sample ID: 2206012-85**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS002-D-02				**Sample ID: 2206012-86**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS004-D-01				**Sample ID: 2206012-87**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS005-D-01				**Sample ID: 2206012-88**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS006-D-01				**Sample ID: 2206012-89**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P051-WS007-D-01				**Sample ID: 2206012-90**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: P051-WS008-D-01				**Sample ID: 2206012-91**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P055-WS001-D-01				**Sample ID: 2206012-92**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: P055-WS002-D-01				**Sample ID: 2206012-93**		
Mercury CVAA Dissolved						
Mercury	8.30		1.00	ug/L	B206106	
Field ID: P057-WS001-D-01				**Sample ID: 2206012-94**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS001-D-01				**Sample ID: 2206012-95**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS002-D-01				**Sample ID: 2206012-96**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS003-D-01				**Sample ID: 2206012-97**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS004-D-01				**Sample ID: 2206012-98**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS005-D-01				**Sample ID: 2206012-99**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	

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Project: Port Refinery - 2206012

Project Number: 2206012

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: RMP-WS005-D-02				**Sample ID: 2206012-AA**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS006-D-01				**Sample ID: 2206012-AB**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS007-D-01				**Sample ID: 2206012-AC**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS008-D-01				**Sample ID: 2206012-AD**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS009-D-01				**Sample ID: 2206012-AE**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS010-D-01				**Sample ID: 2206012-AF**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS011-D-01				**Sample ID: 2206012-AG**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	
Field ID: RMP-WS012-D-01				**Sample ID: 2206012-AH**		
Mercury CVAA Dissolved						
Mercury	---	U	0.200	ug/L	B206106	

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Project: Port Refinery - 2206012

Project Number: 2206012

Mercury CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B206096									
Blank (B206096-BLK1)									
Mercury	--- U	0.0500	mg/kg wet						
Blank (B206096-BLK2)									
Mercury	--- U	0.0500	mg/kg wet						
Matrix Spike (B206096-MS1)	**Source: 2206012-12**								
Mercury	5.67	0.525	mg/kg dry	0.5251	5.08	112	75-125		
Matrix Spike (B206096-MS2)	**Source: 2206012-25**								
Mercury	1.53	0.141	mg/kg dry	0.7056	0.842	97.7	75-125		
Reference (B206096-SRM1)									
Mercury	10.0	0.950	mg/kg wet	11.00		91.1	64.3-118.2		
Reference (B206096-SRM2)									
Mercury	9.67	0.855	mg/kg wet	11.00		87.9	64.3-118.2		
Reference (B206096-SRM3)									
Mercury	9.28	0.897	mg/kg wet	11.00		84.4	64.3-118.2		
Reference (B206096-SRM4)									
Mercury	9.61	0.890	mg/kg wet	11.00		87.4	64.3-118.2		
Batch B206106									
Blank (B206106-BLK1)									
Mercury	--- U	0.200	ug/L						

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Project: Port Refinery - 2206012

Project Number: 2206012

Mercury CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B206106									
Blank (B206106-BLK2)									
Mercury	--- U	0.200	ug/L						
Blank (B206106-BLK3)									
Mercury	--- U	0.200	ug/L						
Blank (B206106-BLK4)									
Mercury	--- U	0.200	ug/L						
LCS (B206106-BS1)									
Mercury	0.966	0.200	ug/L	1.000		96.6	80-120		
LCS (B206106-BS2)									
Mercury	0.881	0.200	ug/L	1.000		88.1	80-120		
LCS (B206106-BS3)									
Mercury	0.918	0.200	ug/L	1.000		91.8	80-120		
LCS (B206106-BS4)									
Mercury	0.899	0.200	ug/L	1.000		89.9	80-120		
LCS Dup (B206106-BSD1)									
Mercury	0.988	0.200	ug/L	1.000		98.8	80-120	2.25	20
LCS Dup (B206106-BSD2)									
Mercury	0.903	0.200	ug/L	1.000		90.3	80-120	2.47	20
LCS Dup (B206106-BSD3)									
Mercury	0.901	0.200	ug/L	1.000		90.1	80-120	1.87	20

NOTE: The results recorded in this report relate only to the samples as received on the date and at the time noted

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

Mercury CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B206106									
LCS Dup (B206106-BSD4)									
Mercury	0.911	0.200	ug/L	1.000		91.1	80-120	1.33	20
Matrix Spike (B206106-MS1)	**Source: 2206012-48**								
Mercury	1.08	0.200	ug/L	1.000	0.147	93.3	80-120		
Matrix Spike (B206106-MS2)	**Source: 2206012-62**								
Mercury	0.919	0.200	ug/L	1.000	0.0220	89.7	80-120		

NOTE: The results recorded in this report relate only to the samples as received on the date and at the time noted

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Project: Port Refinery - 2206012

Project Number: 2206012

Mercury CVAA Dissolved - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B206106									
Blank (B206106-BLK1)									
Mercury	--- U	0.200	ug/L						
Blank (B206106-BLK2)									
Mercury	--- U	0.200	ug/L						
Blank (B206106-BLK3)									
Mercury	--- U	0.200	ug/L						
Blank (B206106-BLK4)									
Mercury	--- U	0.200	ug/L						
LCS (B206106-BS1)									
Mercury	0.966	0.200	ug/L	1.000		96.6	80-120		
LCS (B206106-BS2)									
Mercury	0.881	0.200	ug/L	1.000		88.1	80-120		
LCS (B206106-BS3)									
Mercury	0.918	0.200	ug/L	1.000		91.8	80-120		
LCS (B206106-BS4)									
Mercury	0.899	0.200	ug/L	1.000		89.9	80-120		
LCS Dup (B206106-BSD1)									
Mercury	0.988	0.200	ug/L	1.000		98.8	80-120	2.25	20
LCS Dup (B206106-BSD2)									
Mercury	0.903	0.200	ug/L	1.000		90.3	80-120	2.47	20

Final Report

Project: Port Refinery - 2206012

Project Number: 2206012

Mercury CVAA Dissolved - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B206106									
LCS Dup (B206106-BSD3)									
Mercury	0.901	0.200	ug/L	1.000		90.1	80-120	1.87	20
LCS Dup (B206106-BSD4)									
Mercury	0.911	0.200	ug/L	1.000		91.1	80-120	1.33	20
Matrix Spike (B206106-MS3)	**Source: 2206012-85**								
Mercury	0.946	0.200	ug/L	1.000	0.0370	90.9	80-120		
Matrix Spike (B206106-MS4)	**Source: 2206012-99**								
Mercury	0.924	0.200	ug/L	1.000	ND	92.4	80-120		

NOTE: The results recorded in this report relate only to the samples as received on the date and at the time noted

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SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM V
EPA CONTRACT NO.: 68HE0319D0004

START V-04-F-0001

TRANSMITTAL MEMO

To:	Ms. Sandra Richards, On-Scene Coordinator Superfund and Emergency Management Division U.S. EPA, Region II
From:	Smita Sumbaly, Data Reviewer START V, Region II
Subject:	Port Refinery Site Data Validation Assessment
Date:	July 8, 2022

The purpose of this memo is to transmit the following information:

- Data validation results for the following parameters:

Mercury	5 Samples

- Matrices and Number of Samples

Air	3 Samples
Lot/Field Blanks	2 Samples

- Sampling Date: June 14, 2022

The final data assessment narrative and original analytical data package are attached.

cc:	START V SPM:	Alexandria Petrosh
	START V SITE FILE TD #:	TO-0043-0127/TO-0031-0030
	START V ANALYTICAL TD #:	TO-0043-0141
	TASK#:	3141

NARRATIVE

RFP#/Task No. 796/3141

SITE NAME: **Port Refinery Site**
Rye Brook,
Westchester County, New York

Laboratory Name: EMSL Analytical Inc., 200 Route 130 North, Cinnaminson, New Jersey.

INTRODUCTION:

The laboratory's portion of this case consisted of five air samples, including one lot blank and one field blank, for mercury analysis. The samples were collected on June 14, 2022. The EMSL Project Number is: 012209459.

The laboratory reported no problem(s) with the receipt of this samples:

The laboratory reported no quality control problems with the analysis of Mercury.

The evaluator has commented on the criteria specified under each fraction heading. All criteria have been assessed, but no discussion is given where the evaluator has determined that criteria were adequately performed or require no comment. Details relevant to these comments are given on the following forms.

Appropriate Form Is and Chain of Custody have been copied from the original data package and appended to the data assessment narrative for reference.

Inorganic:	_Y_ Holding Time	_Y_ Calibration, Initial
	_Y_ LCS/LCSD	_Y_ Calibration, Continuing
	_Y_ Blanks	_Y_ Data Completeness
	_Y_ Laboratory Control Sample	

Comments: Refer to Data Assessment Narrative.

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: July 8, 2022

TO: **Sandra Richards, On-Scene Coordinator**
U.S. EPA, Region II

FROM: **Smita Sumbaly**
START V Data Review Team

SUBJECT: **QA/QC Compliance Review Summary**

As requested, quality control and performance measures for the data packages noted have been examined and compared to the U.S. Environmental Protection Agency, Region II (EPA) standards for compliance. Measures for the following general areas were evaluated as applicable:

Data Completeness	Holding Time
Calibration, Initial	Calibration, Continuing
Initial/Continuing Calibration Blanks	Laboratory Control Sample
Method Blank	
Laboratory Control Sample (LCS)/LCS Duplicate (LCS/LCSD)	

Any statistical measures used to support the following conclusions are attached so that the information may be reviewed by others.

Summary of Results

	I Mercury
Acceptable as Submitted	X
Acceptable with Comments	
Unacceptable, Action Pending	
Unacceptable	

Data Reviewed by: Smita Sumbaly Date: 7/8/2022

Approved By: Date: 7/8/22

Area Code/Phone No.: (732) 585-4410

Title: Evaluation of Mercury Data
Data Assessment Narrative

NIOSH Method 6009

RFP #: 796/TASK #3141

Site: Port Refinery Site

Lab: EMSL Analytical, Inc.

EMSL Project Number: 012209459

ANALYSIS: Mercury

No. of Samples/Matrix: 5/Air

CONTRACTOR: Weston Solutions, Inc., Superfund Technical Assessment & Response Team V (START V)

The following table summarizes the analytical methods used for the requested analyses and the U.S. Environmental Protection Agency, Region II (EPA), data validation standard operating procedures (SOPs) used for data validation.

Analysis	Analytical Method	Data Validation SOP No.
Mercury	NIOSH Method 6009	SOP# QA-HWSS-A-011, Revision No.: 0 and Analytical Method

All data were found to be valid and acceptable except those analytes which have been rejected, "R" (unusable). Due to various quality control (QC) problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident, and the reported analyte concentration is unreliable.

Reviewers

Signature: Smita Sumbaly **Date:** 7/08/2022

Verified By: **Date:** 7/8/2022

On June 14, 2022, EPA and START V sampling personnel collected five air samples, including one field blank and one lot blank, for mercury analysis from the Port Refinery Site located in Rye Brook, Westchester County, New York. Samples for mercury analysis were hand delivered by START V Site Project Manager (SPM) under chain of custody to EMSL Analytical, Inc., located at 200 Route 130 North, Cinnaminson, New Jersey. EMSL received the samples on June 15, 2022 and verified that the samples were received intact and properly custody sealed.

Method Summary: Air samples were analyzed for mercury according to National Institute for Occupational Safety and Health (NIOSH) Method Number (No.) 6009, by cold vapor atomic absorption (CVAA) at 253.7 nanometers (nm). Air samples were collected using air samplers consisting of sorbent tubes [6 x 70-millimeter (mm) size, 200 milligram (mg) sorbent] and GilAir pumps with flow rates set between 0.15 and 0.25 liters per minute (L/min) for a period of 8hours.

Field sample identification (ID) and laboratory ID numbers are as follows:

Field Sample ID	Lab Sample ID	Matrix	Analysis	Sampling Date
EMSL Project#: 012209459				
FB-220614	012209459-0001	Air	Mercury	6/14/2022
LB-220614	012209459-0002	Air	Mercury	6/14/2022
P051-AS001-220614-01	012209459-0003	Air	Mercury	6/14/2022
P051-AS002-220614-01	012209459-0004	Air	Mercury	6/14/2022
P051-AS003-220614-01	012209459-0005	Air	Mercury	6/14/2022
FB – Field Blank LB – Lot Blank				

All samples were reviewed for the following quality control (QC) parameters. All QC results were evaluated, but only non-compliant QC observations, if any, are discussed in detail in this report.

- Holding Time
- Initial Calibration
- Initial Calibration Verification (ICVs), including Initial Calibration Blank (ICBs)
- Continuing Calibration Verification (CCVs), Including Continuing Calibration Blank (CCBs)
- Method Blank
- Reporting Limit Verification Sample (RLVS)
- Laboratory Control Sample /Laboratory Control Sample Duplicate (LCS/LCSD) and Relative Percent Difference (RPD)

HOLDING TIMES: For mercury analysis, the 30-day sample preparation holding time was used to evaluate air sample results. All samples were analyzed within 30 days of sample collection.

SAMPLE CONDITION: The laboratory received samples in good condition.

RAW DATA: The laboratory provided the supporting raw data for this package. This data package contains summary of analytical results, blank results, initial & continuing calibration recovery, method blank result, LS/LSD and RPD results, detection limit standard, and sample analysis run log.

INITIAL CALIBRATION VERIFICATION/CONTINUING CALIBRATION VERIFICATION: ICV/CCVs were run at appropriate intervals as noted on the Calibration Summary form. All ICV recoveries are within the acceptable range of 90 to 110% and CCV recoveries are within the acceptable range of 85 to 115%.

INITIAL CALIBRATION BLANK/CONTINUING CALIBRATION BLANKS: ICB/CCBs were reported below Practical Quantitation Limit (PQL).

LABORATORY CONTROL SAMPLE (LCS)/LCS Duplicate (LCSD): LCS/LCSD recoveries are within the lab established range of 80-120%. RPD was less than (<) 15%.

REPORTING LIMIT VERIFICATION SAMPLE (RLVS): RLVS recovery for mercury was within the acceptance criteria, no qualification was required.

FIELD BLANK (FB)/LOT BLANKS(LB): FB/LBs were reported below RL.

FIELD DUPLICATE: Not applicable.

For one sample (P051-AS001-220614-01) collected on June 14, 2022, mercury result was detected at a concentration of 2.2 ug/m^3. All QC results were acceptable for mercury analysis; none required qualifications.

All QC results were acceptable for mercury analysis; none required qualifications.

Contract Problem/Non-Compliance:

SPM did not provide sample volume in chain-of custody (COC) record, therefore, laboratory reported results in ug/tube. Data reviewer contacted SPM, obtained the air sample volumes, and forwarded to lab to convert results in ug/m^3. Data reviewer received the corrected analytical results from the lab.

Mercury Summary Table

Port Refinery Site

Rye Brook, Westchester County, New York

Sampling Date: 6/14/2022

Client Sample ID Number	Lab Sample Number	Sample Volume (L)	Reporting Limit (ug/tube)	Concentration (ug/m³ or ug/tube)
Project Number: 012209459				
FB-220614	012209459-0001	NA	0.010	ND (<0.010 ug/tube)
LB-220614	012209459-0002	NA	0.010	ND (<0.010 ug/tube)
P051-AS001-220614-01	012209459-0003	98.98 L	0.010	**2.2 ug/m³**
P051-AS002-220614-01	012209459-0004	113.83 L	0.010	ND (0.088 ug/m³)
P051-AS003-220614-01	012209459-0005	99.14 L	0.010	ND (0.10 ug/m³)

< - less than - Not Detected

ug - microgram

ug/m³ -microgram per cubic meter (ug/m³), results for the air matrix have been adjusted to reflect the sample volume.

L - Liter

FB - Field Blank

LB - Lot Blank

NA - Not Applicable

SAMPLE SUMMARY
FOR
WESTON SOLUTIONS
205 Campus Drive
Edison, NJ 08837

PROJECT: **RFD#: 796, No: 2-061522-123948-0003**

EMSL Project: 012209459

Field Sample No. & Location	Laboratory Sample ID	Matrix	Date of Collection	Date Received
FB-220614	**012209459-0001**	**Air**	**06/14/22 @ 12:00**	**06/15/22**
LB-220614	**012209459-0002**	**Air**	**06/14/22 @ 12:00**	**06/15/22**
P051-AS001-220614-01	**012209459-0003**	**Air**	**06/14/22 @ 11:27**	**06/15/22**
P051-AS002-220614-01	**012209459-0004**	**Air**	**06/14/22 @ 11:25**	**06/15/22**
P051-AS003-220614-01	**012209459-0005**	**Air**	**06/14/22 @ 11:31**	**06/15/22**

EMSL Analytical **Case Narrative**

Project Number 012209459

This report contains the analytical data for mercury analysis of three air samples and two blanks. The samples were received by EMSL on June 15, 2022, and analyzed in accordance with NIOSH Method 6009.

Sample Receipt
The samples were received intact and in good condition.

Hold Times
All digestions and analyses were performed within the method specified hold time requirement. No major issues were encountered during the analyses of samples.

Mercury by CVAA
Dilutions: None
Calibrations: The RVLS, ICV and bracketing CCV standards were within established control limits.
Blanks: Target analyte was not detected in the blanks.
LCS/LCSD: The laboratory control spike/spike duplicate percent recoveries and RPD result were within established control limits.

METHODOLOGY SUMMARY

Mercury, Air

NIOSH Method 6009 and EPA Method 245.1 (a cold-vapor atomic absorption method CVAA - based on the absorption of radiation at the 253.7-nm wavelength by mercury vapor). "Solid Sorbent Tubes" (Air sampling solid support materials) containing – (Hopcalite in single section, 200 mg or equivalent) are analyzed for elemental Hg after digestion/dissolution of the Hopcalite in HNO_3 and HCL acids. The prepared digest is analyzed using a mercury analyzer (CVAA technique). CVAA: Mercury is reduced to the elemental state, aerated from the digest solution (in a closed system) and the mercury concentration is determined using an atomic absorption spectrophotometer source – set at 253.7-nm. Results are reported as ug or mg /filter or as ug or mg /m3 (when the volume of Air passed through the filter is known).

METHODOLOGY

All analyses are adapted from one or more of the following reference methods:

- "Guidelines Establishing Test Procedures for the Analysis of Pollutants", Code of Federal Regulations Vol. 40, Part 136.
- "Test Methods for Evaluating Solid Waste", SW846 3rd Edition, 1996.
- "Appendix II-Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)". Code of Federal Regulations Vol. 40, Part 261.
- "Standard Methods for the Examination of Water and Wastewater", 18th and 19th edition.
- "Methods for the Chemical Analysis of Water and Wastes", EPA 600/4-79-020, 1983.
- "Annual Book of Standards, Section 11-Water", American Society for Testing and Materials (ASTM).
- "Methods for the Determination of Organic Compounds in Drinking Water", EPA 600R/95-131, 1995.
- "Official Methods of Analysis", Association of Official Analytical Chemists (AOAC), 15th Edition, 1990.
- NIOSH Manual of Analytical Methods, 4th Edition, 1994, DHHS Pub. No. 94-113.

DEFINITIONS OF ABBREVIATIONS

U:	Not Detected	**B:**	Compound found in method blank
E:	Estimated Concentration	**ND:**	Not Detected
NFL:	No Free Liquid	**D:**	Dilution
NR:	Not Requested	**RL:**	Reporting limit
NA:	Not Applicable	**MS/MSD:**	Matrix Spike/Matrix Spike Duplicate
<:	Less than minimum detection limit	**RPD:**	Relative Percent Difference
NC:	Not calculable	**RSD:**	Relative Standard Deviation
LCS:	Laboratory Control Sample	**ppb**	Parts per billion = µg/Kg, µg/L
NTU:	Nephelometric Turbidity Units	**ppm**	Parts per million = mg/Kg, µg/g
J:	Compound detected below reportable detection limit	**µmhos:**	Conductivity units; resistance is expressed in ohms
°F:	degrees Fahrenheit	**col/3:**	Colonies per volume of sample
°C:	degrees Celsius	**mg:**	milligram (1000 mg = 1 g)
µg:	microgram (1000 µg = 1 mg)	**ml:**	milliliter (1000 ml = 1L)
g:	gram (1000 g = 1 kg)	**L**	liter
µl:	microliter (1000 µl= 1 ml)	**Kg:**	Kilogram

COMMENTS: All soil samples are calculated on a dry weight basis except where noted.

EMSL Analytical **Sample Receiving Form**

Client: Weston	
Project Number: 012209459	
Temperature Upon Receipt: 22	Shipment Method:

	YES	NO	NA
Were custody seals on shipping containers intact? Check 'NA' if no seals, or if containers were hand delivered.			✓
Were Chain of Custody Forms included with the samples?	✓		
Were Chain of Custody Forms filled out completely?	✓		
Were all sample containers received in good condition?	✓		
Is there sufficient amount of sample for each test indicated?			✓
Was pH of the samples checked at the time of login?			✓
Were the sample containers properly preserved?			✓
HNO_3 pH <2 / HCL pH <2 / H_2SO_4 pH <2 / Pest/PCBs pH 5 - 9 / Sulfide pH >9 / Cyanide pH >12			✓
Were any sample pHs adjusted at the time of login? Document on COC.			✓
Were samples received within holding times?	✓		
If the sample holding time was outside regulatory limits, was the client informed? Date client contacted: _____ Initials: _____ Client comments: _____			✓
Were air bubbles present in any of the VOA bottles?			✓
Were samples in direct contact with ice? ____wet ____blue			✓
Was the sample cooler temperature 4°C ± 2° upon receipt at the laboratory?			✓
If the temperature was outside regulatory limits, was the client informed? Date client contacted: _____ Initials: _____ Client comments: _____			✓
Will samples be subcontracted to another lab? Subcontractor: _____ Date sent: _____ Analyses: _____			✓
Sample Custodian: CP			
Additional Comments:			

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 012209459
CustomerID: RFWE52
CustomerPO:
ProjectID:

Attn: **Smita Sumbaly**
Weston Solutions (Campus Drive)
205 Campus Drive
Edison, NJ 08837-3939

Phone: (732) 417-5839
Fax:
Received: 6/15/2022 02:20 PM

Project: **RFP: 796, 2-061522-123948-0003**

Analytical Results

Client Sample Description FB-220614 ***Collected:*** 6/14/2022 12:00:00 PM ***Lab ID:*** *012209459-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	ND	0.010	µg/tube	6/21/2022 PV	6/22/2022 13:28 PV

Client Sample Description LB-220614 ***Collected:*** 6/14/2022 12:00:00 PM ***Lab ID:*** *012209459-0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	ND	0.010	µg/tube	6/21/2022 PV	6/22/2022 13:30 PV

Client Sample Description P051-AS001-220614-01 AS001 ***Collected:*** 6/14/2022 11:27:00 AM ***Lab ID:*** *012209459-0003*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	2.2	0.10	µg/m³	6/21/2022 PV	6/22/2022 13:32 PV

Client Sample Description P051-AS002-220614-01 AS002 ***Collected:*** 6/14/2022 11:25:00 AM ***Lab ID:*** *012209459-0004*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	ND	0.088	µg/m³	6/21/2022 PV	6/22/2022 13:34 PV

Client Sample Description P051-AS003-220614-01 AS003 ***Collected:*** 6/14/2022 11:31:00 AM ***Lab ID:*** *012209459-0005*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	ND	0.10	µg/m³	6/21/2022 PV	6/22/2022 13:36 PV

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 012209459
CustomerID: RFWE52
CustomerPO:
ProjectID:

Attn: **Smita Sumbaly**
Weston Solutions (Campus Drive)
205 Campus Drive
Edison, NJ 08837-3939

Phone: (732) 417-5839
Fax:
Received: 6/15/2022 02:20 PM

Project: **RFP: 796, 2-061522-123948-0003**

Analytical Results

Client Sample Description FB-220614 ***Collected:*** 6/14/2022 12:00:00 PM ***Lab ID:*** *012209459-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	ND	0.010	µg/tube	6/21/2022 PV	6/22/2022 13:28 PV

Client Sample Description LB-220614 ***Collected:*** 6/14/2022 12:00:00 PM ***Lab ID:*** *012209459-0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	ND	0.010	µg/tube	6/21/2022 PV	6/22/2022 13:30 PV

Client Sample Description P051-AS001-220614-01 AS001 ***Collected:*** 6/14/2022 11:27:00 AM ***Lab ID:*** *012209459-0003*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	0.21	0.010	µg/tube	6/21/2022 PV	6/22/2022 13:32 PV

Client Sample Description P051-AS002-220614-01 AS002 ***Collected:*** 6/14/2022 11:25:00 AM ***Lab ID:*** *012209459-0004*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	ND	0.010	µg/tube	6/21/2022 PV	6/22/2022 13:34 PV

Client Sample Description P051-AS003-220614-01 AS003 ***Collected:*** 6/14/2022 11:31:00 AM ***Lab ID:*** *012209459-0005*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
Mercury by CVAA, NIOSH 6009	Mercury	ND	0.010	µg/tube	6/21/2022 PV	6/22/2022 13:36 PV

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012209459
CustomerID:	RFWE52
CustomerPO:	
ProjectID:	

Definitions:

MDL - method detection limit
J - Result was below the reporting limit, but at or above the MDL
ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)
D - Dilution Sample required a dilution which was used to calculate final results

01220459

USEPA
DateShipped: 6/15/2022
Hand Delivered
AirbillNo: NA

CHAIN OF CUSTODY RECORD
~~AED~~ Site #: ~~0271~~ 396
Contact Name: Alexandria Petrosh
Contact Phone: 908-565-2980

No: 2-061522-123948-0003
Cooler #: 1
Lab: EMSL Analytical, Inc.
Lab Phone: 856-303-2532

	Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
1		FB-220614	NA	Mercury Total	Blank	6/14/2022	12:00	1	Anasorb 200 mg tube	None	N
2		LB-220614	NA	Mercury Total	Blank	6/14/2022	12:00	1	Anasorb 200 mg tube	None	N
3		P051-AS001-220614-01	AS001	Mercury Total	Air	6/14/2022	11:27	1	Anasorb 200 mg tube	None	N
4		P051-AS002-220614-01	AS002	Mercury Total	Air	6/14/2022	11:25	1	Anasorb 200 mg tube	None	N
5		P051-AS003-220614-01	AS003	Mercury Total	Air	6/14/2022	11:31	1	Anasorb 200 mg tube	None	N

6/15/22

RECEIVED
EMSL
CINNAMINSON N.J.
2022 JUN 15 PM 2:21

Special Instructions: Please email results to s.sumbaly@westonsolutions.com. Samples to be run for mercury analysis via NIOSH method 6009. 7 day TAT, 14 day hardcopy TAT. Air sample # P051-AS002-220614-01 encountered a pump fault, 8 hour sample colleciton may not have occured.

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
ALL Sample ALL Analyses.	~~Alissa~~ Mike Mack Weston Solutions	6/15/22 1420	David Stepp WJ EMSL	6-15-22	2:20pm
			Colleen Palladino	6/15/22	2:20 PM

21°C