Appendix A-2

NJDEP Approval of Alternative Remediation Standard for Impact to Groundwater - Nickel and Nickel Exceedances in Fill Unrelated to CCPW Memo

Archived: Friday, March 12, 2021 8:54:31 AM
From: Overmyer, Jody
Sent: Thu, 25 Apr 2019 15:18:09
To: McLaughlin Jr., James (ARCADIS)
Cc: Feinberg, Richard [C] Terril, Mark
Subject: FW: RE: PPG - Site 107- Nickel Exceedance and COPR Signature Memo_107-010_F
Sensitivity: Normal

FYI

From: Toppin, Swati <Swati.Toppin@dep.nj.gov>
Sent: Thursday, April 25, 2019 11:00 AM
To: Doyle, David; Overmyer, Jody
Cc: Toppin, Swati
Subject: <EXT>RE: PPG - Site 107- Nickel Exceedance and COPR Signature Memo_107-010_F

As requested, a component review has been completed for the proposed Impact to Ground Water Soil Remediation Standard (IGWSRS) of 855 ppm for nickel. Providing the sampling is representative and the QA/QC acceptable, this proposed IGWSRS is acceptable.

Please note that the ARS form does not list a LSRP.

Swati Toppin, Ph.D
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From: Doyle, David
Sent: Tuesday, April 23, 2019 4:07 PM
To: Toppin, Swati <Swati.Toppin@dep.nj.gov>
Subject: FW: PPG - Site 107- Nickel Exceedance and COPR Signature Memo_107-010_F

FYI

From: Doyle, David
Sent: Thursday, March 21, 2019 10:20 AM
To: Rivera, Rafael <Rafael.Rivera@dep.nj.gov>
Cc: Schick, Kevin <Kevin.Schick@dep.nj.gov>; Amin, Prabal <Prabal.Amin@WestonSolutions.com>; McLaughlin Jr., James (ARCADIS) <James.S.McLaughlin@arcadis.com>
Subject: FW: PPG - Site 107- Nickel Exceedance and COPR Signature Memo_107-010_F

Rafael,

Please see attached application for BCAIN submittal and log-in purposes. The Alternative or New Remediation Standard and/or Screening Level Application Form starts at page 179.

Thank you,
Dave

David S. Doyle, Case Manager
New Jersey Department of Environmental Protection
Site Remediation and Waste Management Program
Division of Remediation Management
Remediation Oversight Element
401 East State Street
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New Jersey DEPARTMENT of ENVIRONMENTAL PROTECTION

Connect with us:

From: McLaughlin Jr., James (ARCADIS) <James.S.McLaughlin@arcadis.com>
Sent: Thursday, March 21, 2019 8:59 AM
To: Amin, Prabal <Prabal.Amin@WestonSolutions.com>; Amend-Babcock, Laura <Laura.Amend-Babcock@WestonSolutions.com>
Cc: Mastrocola, Krista <Krista.Mastrocola@arcadis.com>; Overmyer, Jody <overmyer@ppg.com>; Feinberg, Richard [C] <feinberg@ppg.com>; Dorothy.Laguzza@leclairryan.com; Doyle, David <David.Doyle@dep.nj.gov>; Costa, Ralph <Ralph.Costa@WestonSolutions.com>
Subject: [EXTERNAL] RE: PPG - Site 107- Nickel Exceedance and COPR Signature Memo_107-010_F

Prabal,

Thank you for your review and approval. Yes, it would be helpful if Dave Doyle could forward the attached *Alternative Remediation Standard for Impact to Groundwater- Nickel* package with signed Application Form to the appropriate person at BEERA.

Regards,
Jim McLaughlin

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From: Amin, Prabal <Prabal.Amin@WestonSolutions.com>
Sent: Thursday, March 21, 2019 8:50 AM
To: McLaughlin Jr., James (ARCADIS) <James.S.McLaughlin@arcadis.com>; Amend-Babcock, Laura <Laura.Amend-Babcock@WestonSolutions.com>
Cc: Mastrocola, Krista <Krista.Mastrocola@arcadis.com>; Overmyer, Jody <overmyer@ppg.com>; Feinberg, Richard [C] <feinberg@ppg.com>; Dorothy.Laguzza@leclairryan.com; David Doyle (David.Doyle@dep.nj.gov) <David.Doyle@dep.nj.gov>; Costa, Ralph <Ralph.Costa@WestonSolutions.com>
Subject: RE: PPG - Site 107- Nickel Exceedance and COPR Signature Memo_107-010_F

Jim,

We have discussed the final memorandum below with NJDEP and it is acceptable. Dave Doyle mentioned that he could forward (via your email below) the *Alternative Remediation Standard for Impact to Groundwater- Nickel* package to the appropriate person at BEERA if you would like. Please let us know if you would like Dave Doyle to do so.

Thanks.
Prabal

From: McLaughlin Jr., James (ARCADIS) [mailto:James.S.McLaughlin@arcadis.com]
Sent: Monday, March 4, 2019 7:53 PM
To: Amin, Prabal <Prabal.Amin@WestonSolutions.com>; Amend-Babcock, Laura <Laura.Amend-Babcock@WestonSolutions.com>
Cc: Mastrocola, Krista <Krista.Mastrocola@arcadis.com>; Overmyer, Jody <overmyer@ppg.com>; Feinberg, Richard [C] <feinberg@ppg.com>; Dorothy.Laguzza@leclairryan.com; David Doyle (David.Doyle@dep.nj.gov) <David.Doyle@dep.nj.gov>; Costa, Ralph <Ralph.Costa@WestonSolutions.com>
Subject: PPG - Site 107- Nickel Exceedance and COPR Signature Memo_107-010_F

**** External Email ****
Prabal,

Arcadis has prepared this Final *Nickel Exceedances in Fill Unrelated to CCPW Memo* for Non-Garfield Avenue Group (NGA) chromium Site 107 in Jersey City, Hudson County, New Jersey. This final memo incorporates response to reviewer's comments made during a teleconference on November 2, 2018.

Also attached is a *Alternative Remediation Standard for Impact to Groundwater- Nickel* package, which includes a signed Application Form.

Regards,
Jim McLaughlin

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ARCADIS Design & Consultancy for natural and built assets

From: Amin, Prabal <Prabal.Amin@WestonSolutions.com>
Sent: Friday, November 2, 2018 10:33 AM
To: Mastrocola, Krista <Krista.Mastrocola@arcadis.com>; Amend-Babcock, Laura <Laura.Amend-Babcock@WestonSolutions.com>
Cc: McLaughlin Jr., James (ARCADIS) <James.S.McLaughlin@arcadis.com>; Caballero, David <David.Caballero@arcadis.com>; Overmyer, Jody <overmyer@ppg.com>; Feinberg, Richard [C] <feinberg@ppg.com>; Dorothy.Laguzza@leclairryan.com; David Doyle (David.Doyle@dep.nj.gov) <David.Doyle@dep.nj.gov>; Costa, Ralph <Ralph.Costa@WestonSolutions.com>
Subject: RE: PPG - For Review - Nickel Exceedance and COPR Signature

Hello Krista,

We agree with the conclusions provided in this memorandum. As we discussed on our conference call this morning with Arcadis and Rich Feinberg, we understand that you will be updating the memorandum to reflect recent work performed to establish a site-specific impact to groundwater soil remediation standard for nickel.

Thank you.

Prabal N. Amin, P.E., LSRP
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From: Mastrocola, Krista [mailto:Krista.Mastrocola@arcadis.com]
Sent: Tuesday, October 9, 2018 3:16 PM
To: Amend-Babcock, Laura <Laura.Amend-Babcock@WestonSolutions.com>
Cc: McLaughlin Jr., James (ARCADIS) <James.S.McLaughlin@arcadis.com>; Caballero, David <David.Caballero@arcadis.com>; Overmyer, Jody <overmyer@ppg.com>; Feinberg, Richard [C] <feinberg@ppg.com>; Dorothy.Laguzza@leclairryan.com; Amin, Prabal <Prabal.Amin@WestonSolutions.com>; David Doyle (David.Doyle@dep.nj.gov) <David.Doyle@dep.nj.gov>
Subject: RE: PPG - For Review - Nickel Exceedance and COPR Signature

Hello Prabal and Laura,

Arcadis is submitting the attached Nickel Exceedance and COPR Signature memorandum for Site 107 Fashionland for Weston's review and comment.
If you have any questions, please do not hesitate to reach out.

Thanks.
-Krista

Krista Hankins Mastrocola PE | Project Civil Engineer
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From: Amend-Babcock, Laura <Laura.Amend-Babcock@WestonSolutions.com>
Sent: Wednesday, August 8, 2018 7:21 PM
To: Mastrocola, Krista <Krista.Mastrocola@arcadis.com>
Cc: McLaughlin Jr., James (ARCADIS) <James.S.McLaughlin@arcadis.com>; Caballero, David <David.Caballero@arcadis.com>; Overmyer, Jody <overmyer@ppg.com>; Feinberg, Richard [C] <feinberg@ppg.com>; Dorothy.Laguzza@leclairryan.com; Amin, Prabal <Prabal.Amin@WestonSolutions.com>; David Doyle (David.Doyle@dep.nj.gov) <David.Doyle@dep.nj.gov>
Subject: RE: PPG - For Review - Nickel Exceedance and COPR Signature

Hello, Krista.

Weston reviewed the *Elevated Concentrations and COPR Signature, Site 107 Fashionland* memorandum, dated August 6, 2018, from J. McLaughlin and K. Mastrocola of Arcadis to P. Amin of Weston (Nickel Memo) and discussed our review with the Department. Overall, Weston and the Department concur that the elevated nickel concentrations do not appear to be related to CCPW; however, the Nickel Memo did not provide sufficient evidence to wholly support this conclusion.

Weston did not perform a detailed analysis of the statistics presented in the Nickel Memo due to the absence of data used for those statistics. The Department recommends that, in lieu of statistical analysis, PPG present lines of evidence similar to what was provided in the 4/15/13 memorandum from Thomas Gibbons of CB&I to Prabal Amin of Weston in the *Hudson County Chromium (HCC) Site 107 – 18 Chapel Avenue; Vanadium Exceedances in Fill Unrelated to CCPW Fill* memorandum (Vanadium Memo). Suggested lines of evidence could be provided in a brief memo/letter report, and would include:

- Identification of the specific area(s) for which Arcadis is requesting a determination of non-correlation of nickel exceedances with CCPW impacts;
- Analytical results of sample(s) for which Arcadis is requesting a determination of non-correlation of nickel exceedances with CCPW impacts (i.e., Cr^{+6} and CCPW metals);
- Identification of the soil type(s) for which Arcadis is requesting a determination of non-correlation of nickel exceedances with CCPW impacts, supported by boring logs and descriptions of post-excavation sample soil textures;
- Cross section(s) for the area for which Arcadis is requesting a determination of non-correlation of nickel exceedances with CCPW impacts; and
- Aerial Photography/Historic Fill Mapping for the area for which Arcadis is requesting a determination of non-correlation of nickel exceedances with CCPW impacts.

Note that any presentation of statistical analysis would require an in-depth review of the statistics, including the entirety of the data set (e.g., Dresdner Robin-collected Remedial Investigation data, CB&I-collected Pre-Design Investigation data, Arcadis-collected post-excavation data) on which those statistics were based. This in-depth review could result in a delay in concurrence of the conclusions.

Regards,

Laura

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From: Mastrocola, Krista [mailto:Krista.Mastrocola@arcadis.com]
Sent: Monday, August 6, 2018 9:31 AM
To: Amin, Prabal <Prabal.Amin@WestonSolutions.com>; Amend-Babcock, Laura <Laura.Amend-Babcock@WestonSolutions.com>
Cc: McLaughlin Jr., James (ARCADIS) <James.S.McLaughlin@arcadis.com>; Caballero, David <David.Caballero@arcadis.com>;

Overmyer, Jody <overmyer@ppg.com>; Feinberg, Richard [C] <feinberg@ppg.com>; Dorothy.Laguzza@leclairryan.com
Subject: PPG - For Review - Nickel Exceedance and COPR Signature
Importance: High

Hello Prabal and Laura,

Arcadis is submitting the attached Nickel Exceedance and COPR Signature memorandum for Site 107 Fashionland for Weston's review and comment. Backfill in this area is being delayed until Weston's concurrence is received.

If you have any questions, please do not hesitate to reach out.

Thanks.
-Krista

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MEMO

ARCADIS Design & Consultancy for natural and built assets

To:

P. Amin, Weston

L. Amend-Babcock, Weston

Copies:

J. Overmyer, PPG

R. Feinberg, PPG

D. Doyle, NJDEP

D. Caballero, Arcadis

Arcadis U.S., Inc.
10 Friends Lane
Suite 100
Newtown
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From:

J. McLaughlin

Date:

March 4, 2019

Arcadis Project No.:

NP000770

Subject:

Nickel Exceedances in Fill Unrelated to CCPW
Non-Garfield Avenue Group Site 107 Fashionland
18 Chapel Avenue Jersey City, Hudson County, New Jersey
Site Remediation Program Interest No.: G000008728

Arcadis U.S., Inc. (Arcadis) has prepared this Nickel Exceedances in Fill Unrelated to Chromate Chemical Production Waste (CCPW) memo on behalf of PPG for the remedial action being performed at "Site 107," located at 18 Chapel Avenue (Block 27401, Lot 42), Jersey City, Hudson County, New Jersey (**Figure 1**) – Site Remediation Program Interest No. (SRP PI No.) G000008728. The objective of this memo is to present multiple lines of evidence demonstrating that fill encountered at Site 107 Excavation Areas D & E does not contain CCPW, and therefore, PPG is not required to remediate.

Elevated Nickel Concentrations – Areas D & E

Site 107 has been divided into excavation Areas A through H for ease of reference during planned remediation (**Figure 2**). Areas D & E are located on the northern portion of the Site where nickel exceeds the New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDC SRS). These concentrations are observed within a soil horizon encountered at depths greater than 8 feet below ground surface (8.0' bgs) (approximately 11.0-12.0 feet mean sea level

[~11.0-12.0' MSL]), which is below the CCPW-impacted soil currently being remediated via excavation (**Figure 3**).[1]

Post-excavation soil samples collected within Areas D & E identified elevated concentrations of nickel throughout the sidewalls of the excavation footprint (**Table 1**). Specifically, detections above the RDC SRS were observed in three contiguous sidewall samples at depths ranging between 10.0' bgs (~9.0' MSL) and 14.5' bgs (~4.0'MSL). The water table in this area is at approximately 12.0' bgs (~8.0' MSL) based on field measurements.

The proposed area of concern associated with elevated nickel concentration in fill unrelated to CCPW is shaded in blue on **Figure 3.**

Evaluation of Soil Boring Logs and Visual Observations During Excavation

Visual observations made during excavation identified a distinct visual separation of material types within the excavation footprint of Areas D & E (**Figure 4 – Cross-Section 2**)[2]:

- 0.0'-2.0' bgs interval consists of black sand and gravel fill containing asphalt and shingle debris.
- 2.0'-8.0' bgs interval consists of dark grayish brown and reddish-brown silt with little gravel, brick and cinder debris, and less than 1% chromite ore processing residue (COPR) nodules.
- 8.0'-12.0' bgs interval consists of brown clayey silt with trace gravel and no COPR nodules.
- Depths greater than 12.0' bgs consists of black ash with some silt, sand, gravel and slag. No COPR nodules observed.

Based on historical soil boring logs and analytical data associated with the Site, CCPW-impacted soil has also been observed in the adjacent Area B excavation footprint to an average depth of approximately 5.0' bgs (maximum of 7.5' bgs, **Attachment 1; and Figure 4– Cross-Section 1**). Based on visual observations during Areas D & E excavation and review of historical soil borings, soil types vary across the excavation footprints with the exception of the surficial soil (0.0'-2.0' bgs); however, CCPW-impacted soil was observed at similar elevations across the excavation footprints.

Review of Historic Fill Maps and Aerial Photography

The Areas D & E excavation is located adjacent to an area previously identified as "Vanadium Only Impacts" in the *Hudson County Chromium (HCC) Site 107 – 18 Chapel Avenue; Vanadium Exceedances in Fill Unrelated to CCPW Fill* memorandum (dated April 2013, Vanadium Memo)*;* therefore, the same historic fill maps and aerial photography utilized for the Vanadium memo apply for the Areas D & E excavation footprint (CB&I, 2013):

> *A review of the NJGS Historic Fill Map for the area of the Site indicates that much of the Site is in an area of Historic Fill. The areas where COPR and CCPW-related metals are located are concentrated in the areas identified by the New Jersey Geologic Service (NJGS) as Historic Fill.*

[1] Data presented on the Proposed Areas D & E Excavation Plan combines proposed limits of excavation with actual field measurements for sample locations. Final Excavation As-Builts have not yet been provided by a surveyor licensed in the State of New Jersey as remediation is on-going.

[2] Data presented in Cross-Sections 1 and 2 combine proposed limits of excavation with historical boring logs and field observations made during remediation, respectively. Final Excavation Limits have not yet been provided by a surveyor licensed in the State of New Jersey as remediation is on-going.

However, the north-northwest area of the Site is not identified by the NJGS as an area of Historic Fill.

Areas D & E are located within the north-northwest area of the Site adjacent to the Vanadium Only Impacts. Based on review of the NJGS Historic Fill Map, it does not appear that Areas D & E are within the area of mapped historic fill (**Attachment 2**). Therefore, Arcadis reviewed Sanborn Fire Insurance Maps (Sanborns), aerial photographs and the United States Geological Survey (USGS) Topographic Maps to identify a timeline for placement of the fill material in Areas D & E and how it correlates with the placement of fill across the Site.

Sanborns ranging from 1898 to 1979 and Aerial photographs ranging from 1933 to 2006 were reviewed. In addition, USGS Topographic Maps dated from 1947 to 1982 were extracted from the Preliminary Assessment Report prepared by Dresdner Robin (2012) and Vanadium Memo *(***Attachments 3 and 4**, respectively*)* to determine the timeline for the placement of fill*.* Following Arcadis review of these documents, the following conclusions have been developed:

- Prior to 1898, the Site was primarily vacant land (**Attachment 3 - Sanborns**).
- Between 1898 and 1912, railroad tracks are established along the western side of the Site (**Attachment 3 - Sanborns**).
- Between 1933 and 1943, land appears to be disturbed (**Attachment 4 – Aerial photographs)**.
- Between 1950 and 1966, the on-site railroad track has been removed (**Attachment 3 – Sanborns and Attachment 4 – Aerial photographs).**
- By 1966, there is evidence of fill placement and construction of a 1-story masonry building. The footprint associated with Areas D & E are located outside of the fill footprint **(Attachment 4 – Aerial photographs).**
- Between 1966 and 1985, there is evidence of fill placement and uniform grading in Areas D & E footprint, along with the remaining undeveloped portions of the Site; however, the elevation remains lower than the portion of the Site with the 1-story masonry building (**Attachment 4 – Aerial photographs**).
- Between 1995 and 2006, there is evidence of fill placement and paving to match the elevation at which the 1-story masonry building was constructed across the entire Site (**Attachment 4 – Aerial photographs**).

The 1947 USGS Topographic Map indicate that the elevation of Areas D & E are less than 20.0’ MSL (**Attachment 4 – USGS Topographic Maps**).[3] The USGS topographic maps from 1947 and 1955 show that some fill appears to have been added to the south-west corner of the Site, prior to installation of the 1-story masonry warehouse. Subsequent USGS Topographic Maps illustrate Site wide topography remain less than 20.0’ MSL (1955 – 1981). Based on overall review of the available maps, the portion of the Site associated with Areas D & E footprint was originally at a higher elevation and received less fill than other areas of the Site from 1898 to 2006.

[3] USGS topographic maps are limited to 10.0’ contours.

Supporting Analytical Data

The excavation of Areas D & E is being conducted to remove nickel exceeding the RDC SRS. Nickel exceedances were detected in two historical soil borings which defined the excavation footprint. The maximum detected nickel concentration was 7,020 milligrams per kilogram (mg/kg) and was collected from a boring with no visual CCPW (**Attachment 5**). Furthermore, no visual CCPW and no chromium or hexavalent chromium exceedances above the New Jersey Chromium Soil Cleanup Criteria (Cr SCC) were detected in samples collected from these two historical soil borings.

Post-excavation soil samples were collected at 2-foot intervals vertically along each sidewall spaced 30.0' on center, to the base of the excavation. In a series of samples below 8.0' bgs (~11.0-12.0' MSL), nickel concentrations exceeded the RDC SRS of 1,600 mg/kg and were identified at a maximum concentration of 12,600 mg/kg (**Table 1**). These elevated nickel concentrations below 8.0' bgs (~11.0-12.0' MSL) are detected in the absence of analytical exceedances for chromium, hexavalent chromium, and visual CCPW. In addition, only one post excavation soil sample collected below 8.0' bgs (~11.0-12.0' MSL) exhibited exceedance of applicable criteria for a CCPW-related metal (vanadium).

In general, the differences in nickel concentrations between recently collected Areas D & E post excavation soil samples and historical soil samples associated with CCPW-impacted soil investigation are presented in **Table 2.**

Table 2. Maximum Nickel and Associated Hexavalent Chromium Concentrations

	No. of Samples	Sample ID with highest nickel concentration	Highest Nickel Concentration (mg/kg)	Corresponding Hexavalent Chromium Concentration (mg/kg)
Post Excavation Soil Samples – All Samples	118	SW-D6(14.0-14.5)	12,600	<0.53
Post Excavation Soil Samples – Samples Associated with COPR Nodules	48	SW-D6(4.0-4.5) / DUP-5	279 / 521	2.4 / 0.8
Pre-Excavation Soil Sampling – All Samples	892	107_I044(11.5-12.0)	7,020	<3.1
Pre-Excavation Soil Sampling – Samples Associated with COPR Nodules	80	107_M028(0.0-0.5)	510	225

The arithmetic mean is a useful way to compare post-excavation soil sample data against the historical soil sample data for the Site (**Attachment 6**). The arithmetic mean for nickel concentrations is presented in **Table 3**.

Table 3. Arithmetic Mean for Nickel

	No. of Samples	Sample ID with highest nickel concentration	Highest Nickel Concentration (mg/kg)	Arithmetic Mean for Nickel (mg/kg)
Post Excavation Soil Samples – Nickel Only Samples	70	SW-D6(14.0-14.5)	12,600	705.2
Post Excavation Soil Samples – Samples Associated with COPR Nodules	48	SW-D6(4.0-4.5)	855	88.3
Pre-Excavation Soil Sampling – All Samples	892	107_I044(11.5-12.0)	7,020	55.2

The Nickel-Only soil has a significantly higher nickel concentration than the historical soil samples associated with CCPW fill. This is indicative that the material encountered at 8' bgs (~11.0-12.0' MSL) and deeper at Areas D & E originates from a different source.

Conclusions

This memo provides sufficient evidence to support the conclusion that nickel concentrations observed at depth (greater than 8.0' bgs [~11.0-12.0' MSL]) within excavation Areas D & E at Site 107 were in-place prior to placement of CCPW-impacted soil. Lines of evidence include the following:

- Review of historical soil borings and visual observations during excavation show COPR-nodules were observed between the elevation of 2.0'-8.0' bgs site-wide. No COPR-nodules were observed below 8′ bgs.
- Review of historic soil mapping and aerial photographs show this area receiving minimal fill prior to 1966 when much of the filling occurred on Site for development. This area was raised to its final grade with the remaining portion of the undeveloped Site between 1966 and 2006.
- Review of historical soil sampling analytical results and recent post-excavation soil sampling analytical results showed the arithmetic mean for nickel in recent post-excavation soil samples below 8′ bgs in Areas D & E is roughly 13 times greater than nickel in historical soil samples.

Based on review of these findings, the presence of the fill material below 8.0' bgs (~11.0-12.0' MSL) in Areas D & E is separate from the CCPW-impacted fill that PPG is responsible for remediating. Arcadis requests Weston's concurrence that this is a separate source and not associated with CCPW. Nickel at depths greater than 8.0' bgs (~11.0-12.0' MSL) in Areas D & E should be addressed as a stand-alone area of concern not associated with CCPW-impacted fill; and, no further investigation and/or remediation shall be required by PPG within this footprint.

TABLES

Table 1
Summary of Areas D and E Confirmation Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample ID	Sample Depth (ft)	Parmater Name	Sample Type	Antimony	Chromium	Chromium III	Chromium VI	Nickel	Thallium	Vanadium
			CAS Number		7440-36-0	7440-47-3	16065-83-1	18540-29-9	7440-02-0	7440-28-0	7440-62-2
			Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				RDC SRS	31	NA	NA	NA	1600	5	78
				CrSC	NA	NA	120000	20	NA	NA	NA
				IGWSRS***	6	NA	NA	NA	NA	3	NA
				SSSRS	NA	NA	NA	NA	855	NA	390
107 I044	107-I044_20180710	14.5-15.0	7/10/2018	N	2.7 U	12.8	12.0	0.83	37.3	1.4 U	17.5
BS-E29	BS-E29_20180625	15.5-16.0	6/25/2018	N	2.6 U	20.3	20.3	0.53 U	363	1.3 U	17.5
BS-E29	BS-E29_20180625	15.5-16.0	6/25/2018	N	--	--	--	0.53 U*	--	--	--
SW-D1	SW-D1 (0.0-0.5)_20180716	0-0.5	7/16/2018	N	2.1 U	28.5	28.1	0.43	30.4	1.1 U	69.2
SW-D1	SW-D1 (2.0-2.5)_20180716	2-2.5	7/16/2018	N	2.3 U	78.3	77.3	0.97	26.1	1.2 U	36.3
SW-D1	SW-D1 (4.0-4.5)_20180716	4-4.5	7/16/2018	N	2.3 U	23.7	22.7	1.0	16.1	1.2 U	25.2
SW-D1	SW-D1 (6.0-6.5)_20180716	6-6.5	7/16/2018	N	2.3 U	19.0	18.5	0.51	17.9	1.2 U	19.5
SW-D1	SW-D1 (8.0-8.5)_20180716	8-8.5	7/16/2018	N	2.2 U	18.8	18.8	0.44 U	57.6	1.1 U	19.8
SW-D1	SW-D1 (10.0-10.5)_20180716	10-10.5	7/16/2018	N	2.5 U	28.4	28.4	0.49 U	314	1.3 U	31.6
SW-D1	SW-D1 (12.0-12.5)_20180716	12-12.5	7/16/2018	N	2.3 U	20.1	20.1	0.46 U	47.2	1.1 U	23.3
SW-D1	SW-D1 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	2.5 U	43.5	42.7	0.76	49.3	1.2 U	25.0
SW-D1	SW-D1 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	2.8 U	29.2	29.2	0.56 U	830.0	1.4 U	32.7
SW-D1	SW-D1 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	3.4 U	21.2	19.6	1.6	22.6	1.7 U	33.6
SW-D1	SW-D1 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	3.7 U	15.4	13.8	1.6	120	1.9 U	23.3
SW-D10	SW-D10(0.0-0.5)_20180619	0-0.5	6/19/2018	N	2.1 U	17.0	15.8	1.2	25.0	1.1 U	49.3
SW-D10	SW-D10(0.0-0.5)_20180619	0-0.5	6/19/2018	N	--	--	--	0.43 U*	--	--	--
SW-D10	SW-D10(2.0-2.5)_20180619	2-2.5	6/19/2018	N	2.2 U	22.7	21.6	1.1	20.3	1.1 U	**83.8**
SW-D10	SW-D10(2.0-2.5)_20180619	2-2.5	6/19/2018	N	--	--	--	0.45 U*	--	--	--
SW-D10	SW-D10(4.0-4.5)_20180619	4-4.5	6/19/2018	N	2.2 U	18.4	17.3	1.1	12.8	1.1 U	24.0
SW-D10	DUP-1(20180619)	4-4.5	6/19/2018	FD	2.1 U	21 U	21 U	0.45 U	26.8	21 U	25.1
SW-D10	SW-D10(4.0-4.5)_20180619	4-4.5	6/19/2018	N	--	--	--	0.44 U*	--	--	--
SW-D10	DUP-1(20180619)	4-4.5	6/19/2018	FD	--	--	--	0.45 U*	--	--	--
SW-D10	SW-D10(6.0-6.5)_20180619	6-6.5	6/19/2018	N	2.2 U	15.4	15.4	0.46 U	18.5	1.1 U	22.1
SW-D10	SW-D10(6.0-6.5)_20180619	6-6.5	6/19/2018	N	--	--	--	0.46 U*	--	--	--
SW-D10	SW-D10(8.0-8.5)_20180619	8-8.5	6/19/2018	N	2.3 U	17.2	17.2	0.47 U	36.5	1.1 U	18.5
SW-D10	SW-D10(8.0-8.5)_20180619	8-8.5	6/19/2018	N	--	--	--	0.47 U*	--	--	--
SW-D10	SW-D10(10.0-10.5)_20180619	10-10.5	6/19/2018	N	2.5 U	19.0	19.0	0.50 U	31.9	1.3 U	21.7
SW-D10	SW-D10(10.0-10.5)_20180619	10-10.5	6/19/2018	N	--	--	--	0.50 U*	--	--	--
SW-D10	SW-D10(12.0-12.5)_20180625	12-12.5	6/25/2018	N	2.6 U	25.7	25.7	0.53 U	**5,190**	1.3 U	25.6
SW-D10	SW-D10(12.0-12.5)_20180625	12-12.5	6/25/2018	N	--	--	--	0.53 U*	--	--	--
SW-D10	SW-D10 (14.0-14.5)_20180628	14-14.5	6/28/2018	N	3.0 U	17.6	16.3	1.3	95.8	1.5 U	23.3
SW-D10	SW-D10(15.5-16.0)_20180710	15.5-16	7/10/2018	N	3.0 U	13.9	13.2	0.73	31.5	1.5 U	21.9
SW-D11	SW-D11(0.0-0.5)_20180717	0-0.5	7/17/2018	N	2.2 U	12.1	11.5	0.56	15.7	1.1 U	33.2
SW-D11	SW-D11(0.0-0.5)_20180717	0-0.5	7/17/2018	N	--	--	--	0.43 U*	--	--	--
SW-D11	SW-D11(2.0-2.5)_20180717	2-2.5	7/17/2018	N	2.2 U	25.5	24.3	1.2	41.8	1.1 U	49.7
SW-D11	SW-D11(2.0-2.5)_20180717	2-2.5	7/17/2018	N	--	--	--	0.44 U*	--	--	--
SW-D11	SW-D11(4.0-4.5)_20180717	4-4.5	7/17/2018	N	2.3 U	17.8	17.1	0.74	98.4	1.2 U	26.1
SW-D11	SW-D11(4.0-4.5)_20180717	4-4.5	7/17/2018	N	--	--	--	0.47 U*	--	--	--
SW-D11	SW-D11(6.0-6.5)_20180717	6-6.5	7/17/2018	N	2.2 U	20.3	19.7	0.63	73.8	1.1 U	23.2
SW-D11	SW-D11(6.0-6.5)_20180717	6-6.5	7/17/2018	N	--	--	--	0.45 U*	--	--	--
SW-D11	SW-D11(8.0-8.5)_20180717	8-8.5	7/17/2018	N	3.0 U	18.9	17.2	1.7	183	1.5 U	27.6
SW-D11	SW-D11(8.0-8.5)_20180717	8-8.5	7/17/2018	N	--	--	--	0.62 U*	--	--	--
SW-D11	SW-D11(10.0-10.5)_20180717	10-10.5	7/17/2018	N	2.5 U	19.0	18.0	0.99	900	1.2 U	21.8
SW-D11	SW-D11(10.0-10.5)_20180717	10-10.5	7/17/2018	N	--	--	--	0.50 U*	--	--	--
SW-D11	SW-D11 (12.0-12.5)_20180716	12-12.5	7/16/2018	N	2.7 U	22.0	21.3	0.67	457	1.3 U	25.7
SW-D11	SW-D11 (12.0-12.5)_20180716	12-12.5	7/16/2018	N	--	--	--	0.52 U*	--	--	--
SW-D11	SW-D11 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	2.8 U	17.3	16.7	0.61	244	1.4 U	24.7
SW-D11	SW-D11 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	--	--	--	0.58 U*	--	--	--
SW-D11	SW-D11 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	2.8 U	8.9	7.7	1.2	6.6	1.4 U	11.2
SW-D11	SW-D11 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	--	--	--	0.56 *	--	--	--
SW-D11	SW-D11 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	3.6 U	18.9	18.3	0.69 U	30.1	1.8 U	29.4
SW-D11	SW-D11 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	--	--	--	1.6 *	--	--	--
SW-D11	SW-D11 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	3.3 U	17.5	14.6	2.9	16.9	1.6 U	26.3
SW-D11	SW-D11 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	--	--	--	0.81 *	--	--	--
SW-D2	SW-D2(0.0-0.5)_20180626	0-0.5	6/26/2018	N	2.1 U	161	161	0.42 U	46.0	1.0 U	99.1
SW-D2	SW-D2(2.0-2.5)_20180626	2-2.5	6/26/2018	N	2.2 U	373	373	0.46 U	50.1	1.1 U	142
SW-D2	SW-D2(4.0-4.5)_20180626	4-4.5	6/26/2018	N	2.2 U	21.6	21.1	0.52	19.4	1.1 U	41.6
SW-D2	SW-D2(6.0-6.5)_20180626	6-6.5	6/26/2018	N	2.4 U	21.1	21.1	0.47 U	45.6	1.2 U	23.1
SW-D2	SW-D2(8.0-8.5)_20180626	8-8.5	6/26/2018	N	2.3 U	15.4	15.4	0.45 U	43.4	1.2 U	16.1
SW-D2	SW-D2(10.0-10.5)_20180626	10-10.5	6/26/2018	N	2.5 U	23.4	23.4	0.51 U	30.2	1.3 U	26.5
SW-D2	SW-D2(12.0-12.5)_20180626	12-12.5	6/26/2018	N	2.4 U	19.8	19.8	0.50 U	59.2	1.2 U	22.2
SW-D2	SW-D2 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	2.7 U	18.7	17.0	1.7	44.8	1.3 U	20.8
SW-D2	SW-D2 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	2.9 U	14.3	12.7	1.6	15.3	1.4 U	23.9
SW-D2	SW-D2 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	2.9 U	16.2	16.2	0.59 U	13.4	1.4 U	25.1
SW-D2	SW-D2 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	2.8 U	24.3	24.3	0.59 U	788	1.4 U	27.0
SW-D3	SW-D3(0.0-0.5)_20180625	0-0.5	6/25/2018	N	2.0 U	10.9	10.9	0.42 U	18.2	0.99 U	34.5
SW-D3	SW-D3(0.0-0.5)_20180625	0-0.5	6/25/2018	N	--	--	--	0.42 U*	--	--	--
SW-D3	SW-D3(2.0-2.5)_20180625	2-2.5	6/25/2018	N	2.2 U	26.6	26.6	0.43 U	34.6	1.1 U	**90.3**
SW-D3	SW-D3(2.0-2.5)_20180625	2-2.5	6/25/2018	N	--	--	--	0.43 U*	--	--	--
SW-D3	SW-D3(4.0-4.5)_20180625	4-4.5	6/25/2018	N	2.1 U	15.7	15.7	0.44 U	12.6	1.0 U	22.8
SW-D3	SW-D3(4.0-4.5)_20180625	4-4.5	6/25/2018	N	--	--	--	0.51 *	--	--	--
SW-D3	SW-D3(6.0-6.5)_20180625	6-6.5	6/25/2018	N	2.1 U	38.7	38.7	0.44 U	49.7	1.1 U	25.6
SW-D3	SW-D3(6.0-6.5)_20180625	6-6.5	6/25/2018	N	--	--	--	0.44 U*	--	--	--
SW-D3	SW-D3(8.0-8.5)_20180625	8-8.5	6/25/2018	N	2.2 U	18.3	18.3	0.47 U	41.8	1.1 U	19.3
SW-D3	SW-D3(8.0-8.5)_20180625	8-8.5	6/25/2018	N	--	--	--	0.47 U*	--	--	--
SW-D3	SW-D3(10.0-10.5)_20180625	10-10.5	6/25/2018	N	2.4 U	19.0	18.3	0.72	23.7	1.2 U	22.5
SW-D3	SW-D3(10.0-10.5)_20180625	10-10.5	6/25/2018	N	--	--	--	0.50 U*	--	--	--
SW-D3	SW-D3(12.0-12.5)_20180625	12-12.5	6/25/2018	N	3.9 U	201	201	0.80 U	77.4	2.0 U	76.4
SW-D3	SW-D3(12.0-12.5)_20180625	12-12.5	6/25/2018	N	--	--	--	0.80 U*	--	--	--
SW-D3	SW-D3(14.0-14.5)_20180625	14-14.5	6/25/2018	N	3.0 U	12.6	12.6	0.64 U	295	1.5 U	16.0
SW-D3	SW-D3(14.0-14.5)_20180625	14-14.5	6/25/2018	N	--	--	--	0.64 U*	--	--	--
SW-D3	SW-D3(16.0-16.5)_20180710	16-16.5	7/10/2018	N	2.8 U	14.5	14.5	0.55 U	112	1.4 U	20.6
SW-D4	SW-D4(0.0-0.5)_20180619	0-0.5	6/19/2018	N	2.1 U	17.1	16.5	0.56	19.8	1.0 U	43.4
SW-D4	DUP-2(20180619)	0-0.5	6/19/2018	FD	2.1 U	13.7	13.2	0.46	19.9	1.0 U	41.6
SW-D4	SW-D4(0.0-0.5)_20180619	0-0.5	6/19/2018	N	--	--	--	0.61 **	--	--	--
SW-D4	DUP-2(20180619)	0-0.5	6/19/2018	FD	--	--	--	0.79 **	--	--	--
SW-D4	SW-D4(2.0-2.5)_20180619	2-2.5	6/19/2018	N	2.2 U	44.3	42.9	1.4	18.4	1.1 U	30.6
SW-D4	SW-D4(2.0-2.5)_20180619	2-2.5	6/19/2018	N	--	--	--	0.97 **	--	--	--
SW-D4	SW-D4(4.0-4.5)_20180619	4-4.5	6/19/2018	N	2.2 U	15.3	14.2	1.1	15.4	1.1 U	22.3
SW-D4	SW-D4(4.0-4.5)_20180619	4-4.5	6/19/2018	N	--	--	--	0.47 U**	--	--	--
SW-D4	SW-D4(6.0-6.5)_20180619	6-6.5	6/19/2018	N	2.9	73.0	73.0	0.46 U	124	11 U	44.3
SW-D4	SW-D4(6.0-6.5)_20180619	6-6.5	6/19/2018	N	--	--	--	1.3 **	--	--	--
SW-D4	SW-D4(8.0-8.5)_20180619	8-8.5	6/19/2018	N	2.3 U	17.7	17.7	0.47 U	31.4	1.2 U	20.0
SW-D4	SW-D4(8.0-8.5)_20180619	8-8.5	6/19/2018	N	--	--	--	0.47 U**	--	--	--
SW-D4	SW-D4(10.0-10.5)_20180619	10-10.5	6/19/2018	N	2.5 U	25.3	25.3	0.50 U	64.0	1.2 U	21.2
SW-D4	SW-D4(10.0-10.5)_20180619	10-10.5	6/19/2018	N	--	--	--	0.50 U**	--	--	--
SW-D4	SW-D4(12.0-12.5)_20180625	12-12.5	6/25/2018	N	4.2 U	179	179	0.86 U	268	2.1 U	70.4
SW-D4	SW-D4(12.0-12.5)_20180625	12-12.5	6/25/2018	N	--	--	--	0.86 U*	--	--	--
SW-D4	SW-D4(14.0-14.5)_20180625	14-14.5	6/25/2018	N	2.7 U	11.0	11.0	0.56 U	35.8	1.3 U	65.1
SW-D4	SW-D4(14.0-14.5)_20180625	14-14.5	6/25/2018	N	--	--	--	0.56 U*	--	--	--
SW-D4	SW-D4(15.5-16.0)_20180710	15.5-16	7/10/2018	N	3.0 U	7.9	7.3	0.62 U	7.6	1.5 U	12.5
SW-D5	SW-D5(0.0-0.5)_20180717	0-0.5	7/17/2018	N	2.1 U	37.5	36.8	0.67	60.2	1.1 U	**92.1**
SW-D5	SW-D5(0.0-0.5)_20180717	0-0.5	7/17/2018	N	--	--	--	0.64 *	--	--	--
SW-D5	SW-D5(2.0-2.5)_20180717	2-2.5	7/17/2018	N	2.3 U	17.9	17.4	0.52	12.5	1.1 U	23.3
SW-D5	SW-D5(2.0-2.5)_20180717	2-2.5	7/17/2018	N	--	--	--	0.50 *	--	--	--
SW-D5	SW-D5(4.0-4.5)_20180717	4-4.5	7/17/2018	N	2.3 U	21.1	20.3	0.81	58.8	1.1 U	19.4
SW-D5	SW-D5(4.0-4.5)_20180717	4-4.5	7/17/2018	N	--	--	--	0.46 U*	--	--	--
SW-D5	SW-D5(6.0-6.5)_20180717	6-6.5	7/17/2018	N	2.4 U	24.9	23.7	1.2	257	1.2 U	26.9
SW-D5	SW-D5(6.0-6.5)_20180717	6-6.5	7/17/2018	N	--	--	--	0.48 U**	--	--	--
SW-D5	SW-D5(8.0-8.5)_20180717	8-8.5	7/17/2018	N	2.4 U	20.5	18.4	2.1	287	1.2 U	24.5
SW-D5	SW-D5(8.0-8.5)_20180717	8-8.5	7/17/2018	N	--	--	--	0.49 U**	--	--	--
SW-D5	SW-D5(10.0-10.5)_20180717	10-10.5	7/17/2018	N	83 U	672	672	0.50 U	**1,990**	41 U	**672**
SW-D5	SW-D5(10.0-10.5)_20180717	10-10.5	7/17/2018	N	--	--	--	0.50 U**	--	--	--
SW-D5	SW-D5(10.0-10.5)A_20180921	10-10.5	9/21/2018	N	--	--	--	0.01 U	--	--	24.8
SW-D5	SW-D5(12.0-12.5)_20180717	12-12.5	7/17/2018	N	2.4 U	6.4	5.7	0.72	446	1.2 U	11.1
SW-D5	SW-D5(12.0-12.5)_20180717	12-12.5	7/17/2018	N	--	--	--	0.48 U**	--	--	--

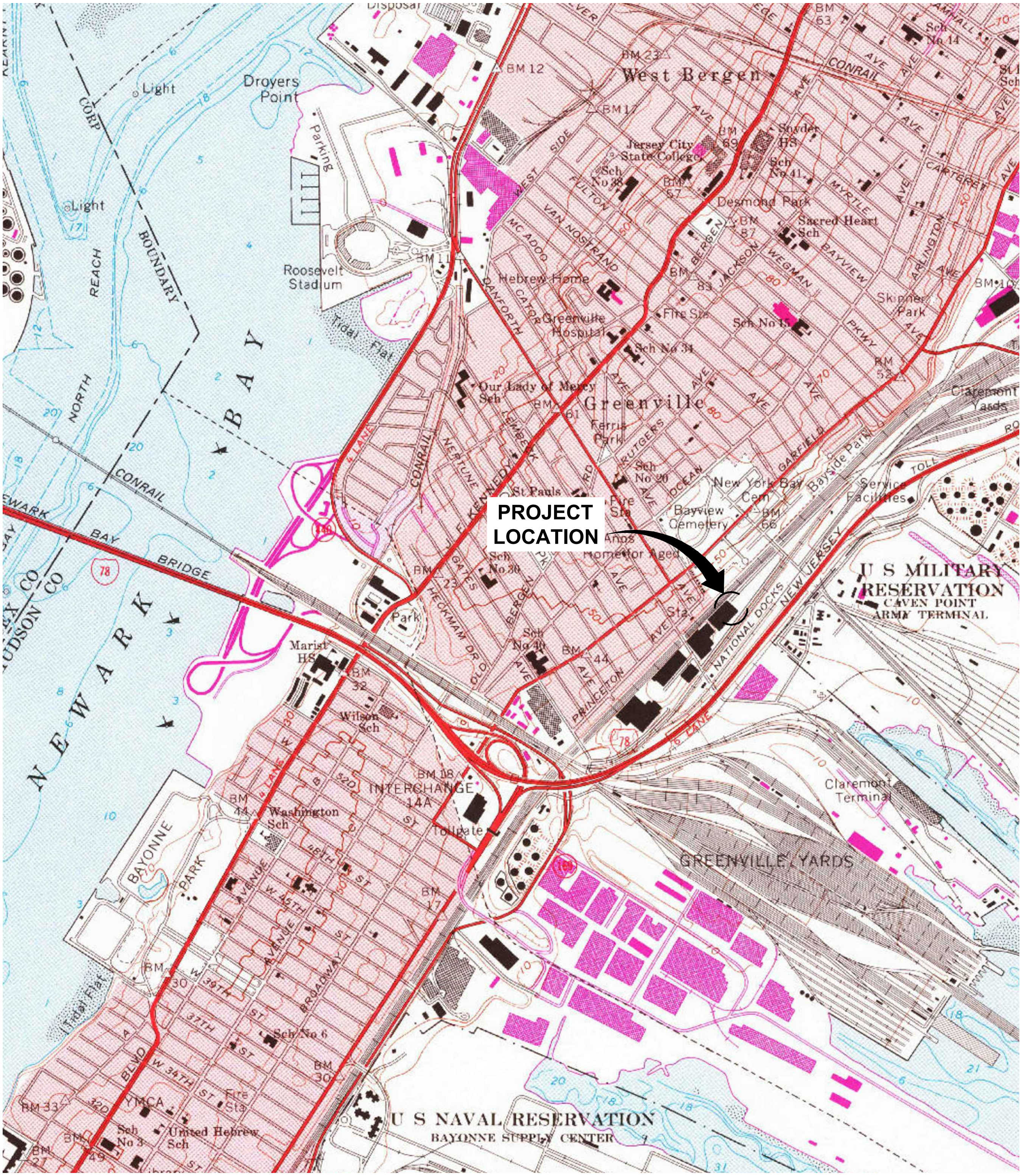
Table 1
Summary of Areas D and E Confirmation Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample ID	Sample Depth (ft)	Parmater Name / CAS Number / Units	Sample Type	Antimony 7440-36-0 mg/kg	Chromium 7440-47-3 mg/kg	Chromium III 16065-83-1 mg/kg	Chromium VI 18540-29-9 mg/kg	Nickel 7440-02-0 mg/kg	Thallium 7440-28-0 mg/kg	Vanadium 7440-62-2 mg/kg
			RDC SRS		31	NA	NA	NA	1600	5	78
			CrSC		NA	NA	120000	20	NA	NA	NA
			IGWSRS***		6	NA	NA	NA	NA	3	NA
			SSSRS		NA	NA	NA	NA	855	NA	390
SW-D5	SW-D5 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	2.3 U	15.5	15.0	0.49 U	231	1.2 U	19.2
SW-D5	SW-D5 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	--	--	--	0.49 U*	--	--	--
SW-D5	SW-D5 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	2.7 U	14.8	14.8	0.56 U	11.5	1.4 U	23.5
SW-D5	SW-D5 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	--	--	--	0.80 *	--	--	--
SW-D5	SW-D5 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	2.6 U	11.2	10.7	0.55	265	1.3 U	17.7
SW-D5	SW-D5 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	--	--	--	0.53 *	--	--	--
SW-D5	SW-D5 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	--	--	--	0.87	--	--	--
SW-D6	SW-D6 (0.0-0.5)_20180716	0-0.5	7/16/2018	N	2.3 U	28.4	27.8	0.59	96.1	1.2 U	46.2
SW-D6	SW-D6 (0.0-0.5)_20180716	0-0.5	7/16/2018	N	--	--	--	0.60 *	--	--	--
SW-D6	SW-D6(2.0-2.5)_20180717	2-2.5	7/17/2018	N	2.4 U	14.9	14.0	0.91	84.0	1.2 U	22.5
SW-D6	SW-D6(2.0-2.5)_20180717	2-2.5	7/17/2018	N	--	--	--	0.49 U**	--	--	--
SW-D6	SW-D6(4.0-4.5)_20180717	4-4.5	7/17/2018	N	2.5 U	19.3	16.9	2.4	276	1.3 U	25.2
SW-D6	DUP-5(20180717)	4-4.5	7/17/2018	FD	2.3 U	20.7	19.9	0.82	521	1.2 U	26.5
SW-D6	SW-D6(4.0-4.5)_20180717	4-4.5	7/17/2018	N	--	--	--	0.50 U*	--	--	--
SW-D6	DUP-5(20180717)	4-4.5	7/17/2018	FD	--	--	--	0.47 U**	--	--	--
SW-D6	SW-D6(6.0-6.5)_20180717	6-6.5	7/17/2018	N	2.5 U	19.9	18.2	1.7	676	1.2 U	27.7
SW-D6	DUP-6(20180717)	6-6.5	7/17/2018	FD	2.3 U	19.5	18.2	1.3	855	1.1 U	28.4
SW-D6	SW-D6(6.0-6.5)_20180717	6-6.5	7/17/2018	N	--	--	--	0.49 U**	--	--	--
SW-D6	DUP-6(20180717)	6-6.5	7/17/2018	FD	--	--	--	0.48 U**	--	--	--
SW-D6	SW-D6(8.0-8.5)_20180717	8-8.5	7/17/2018	N	2.4 U	16.4	15.9	0.52	60.3	1.2 U	19.3
SW-D6	SW-D6(8.0-8.5)_20180717	8-8.5	7/17/2018	N	--	--	--	0.49 U**	--	--	--
SW-D6	SW-D6 (10.0-10.5)_20180716	10-10.5	7/16/2018	N	24 U	22.5	15.4	7.1	**9,940**	1.2 U	25.4
SW-D6	SW-D6 (10.0-10.5)_20180716	10-10.5	7/16/2018	N	--	--	--	3.7 *	--	--	--
SW-D6	SW-D6 (12.0-12.5)_20180716	12-12.5	7/16/2018	N	2.7 U	5.3	5.3	0.51 U	**2,270**	1.3 U	9.8
SW-D6	SW-D6 (12.0-12.5)_20180716	12-12.5	7/16/2018	N	--	--	--	0.51 U*	--	--	--
SW-D6	SW-D6 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	28 U	19.3	19.3	0.53 U	**12,600**	1.4 U	19.7
SW-D6	SW-D6 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	--	--	--	0.53 U*	--	--	--
SW-D6	SW-D6 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	2.7 U	12.4	11.5	0.90	10	1.4 U	19.4
SW-D6	SW-D6 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	--	--	--	0.79 *	--	--	--
SW-D6	SW-D6 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	3.5 U	23.2	22.5	0.71	120	1.7 U	35.7
SW-D6	SW-D6 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	--	--	--	0.66 U*	--	--	--
SW-D6	SW-D6 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	2.4 U	14.5	13.3	1.2	23.2	1.2 U	21.4
SW-D6	SW-D6 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	--	--	--	1.0 *	--	--	--
SW-D7	SW-D7(0.0-0.5)_20180622	0-0.5	6/22/2018	N	2.0 U	18.1	17.7	--	24.7	0.98 U	48.9
SW-D7	SW-D7(0.0-0.5)_20180622	0-0.5	6/22/2018	N	--	--	--	0.57 **	--	--	--
SW-D7	SW-D7(0.0-0.5)_20180622	0-0.5	6/22/2018	N	--	--	--	0.44 *	--	--	--
SW-D7	SW-D7(2.0-2.5)_20180622	2-2.5	6/22/2018	N	2.2 U	28.9	28.3	--	30.2	1.1 U	32.3
SW-D7	SW-D7(2.0-2.5)_20180622	2-2.5	6/22/2018	N	--	--	--	0.64 *	--	--	--
SW-D7	SW-D7(2.0-2.5)_20180622	2-2.5	6/22/2018	N	--	--	--	0.50 **	--	--	--
SW-D7	SW-D7(4.0-4.5)_20180622	4-4.5	6/22/2018	N	2.4 U	28.6	28.1	--	20.3	1.2 U	31.6
SW-D7	SW-D7(4.0-4.5)_20180622	4-4.5	6/22/2018	N	--	--	--	0.72 **	--	--	--
SW-D7	SW-D7(4.0-4.5)_20180622	4-4.5	6/22/2018	N	--	--	--	0.48 U*	--	--	--
SW-D7	SW-D7(6.0-6.5)_20180622	6-6.5	6/22/2018	N	2.2 U	22.1	22.1	--	55.5	1.1 U	23.5
SW-D7	SW-D7(6.0-6.5)_20180622	6-6.5	6/22/2018	N	--	--	--	0.45 U*	--	--	--
SW-D7	SW-D7(6.0-6.5)_20180622	6-6.5	6/22/2018	N	--	--	--	0.45 U**	--	--	--
SW-D7	SW-D7(8.0-8.5)_20180622	8-8.5	6/22/2018	N	2.4 U	22.3	22.3	0.50 U	321	1.2 U	24.6
SW-D7	SW-D7 (10.0-10.5)_20180716	10-10.5	7/16/2018	N	2.5 U	37.6	36.8	0.82	69.4	2.5 U	53.4
SW-D7	SW-D7 (12.0-12.5)_20180716	12-12.5	7/16/2018	N	2.7 U	20.3	18.7	1.6	**4,560**	1.3 U	20.2
SW-D7	SW-D7 (14.0-14.5)_20180716	14-14.5	7/16/2018	N	2.8 U	30.7	30.7	0.57 U	398	2.8 U	38.6
SW-D7	SW-D7 (16.0-16.5)_20180716	16-16.5	7/16/2018	N	2.7 U	18.4	18.4	0.56 U	605	1.4 U	24.2
SW-D7	SW-D7 (18.0-18.5)_20180716	18-18.5	7/16/2018	N	2.8 U	21.4	21.4	0.54 U	885	1.4 U	31.8
SW-D7	SW-D7 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	2.6 U	11.8	10.9	--	14.6	1.3 U	21.9
SW-D7	SW-D7 (20.0-20.5)_20180716	20-20.5	7/16/2018	N	--	--	--	1.4 *	--	--	--
SW-D8	SW-D8(0.0-0.5)_20180622	0-0.5	6/22/2018	N	2.2 U	29.2	28.0	--	38.1	1.1 U	60.4
SW-D8	SW-D8(0.0-0.5)_20180622	0-0.5	6/22/2018	N	--	--	--	0.44 U**	--	--	--
SW-D8	SW-D8(0.0-0.5)_20180622	0-0.5	6/22/2018	N	--	--	--	1.2 *	--	--	--
SW-D8	SW-D8(2.0-2.5)_20180622	2-2.5	6/22/2018	N	2.2 U	16.4	15.6	--	14.8	1.1 U	19.8
SW-D8	SW-D8(2.0-2.5)_20180622	2-2.5	6/22/2018	N	--	--	--	0.85 *	--	--	--
SW-D8	SW-D8(2.0-2.5)_20180622	2-2.5	6/22/2018	N	--	--	--	0.46 U**	--	--	--
SW-D8	SW-D8(4.0-4.5)_20180622	4-4.5	6/22/2018	N	2.3 U	121	120	--	52.1	1.1 U	41.6
SW-D8	SW-D8(4.0-4.5)_20180622	4-4.5	6/22/2018	N	--	--	--	1.4 *	--	--	--
SW-D8	SW-D8(4.0-4.5)_20180622	4-4.5	6/22/2018	N	--	--	--	0.58 **	--	--	--
SW-D8	SW-D8(6.0-6.5)_20180622	6-6.5	6/22/2018	N	2.3 U	23.8	23.8	--	92.1	1.2 U	21.9
SW-D8	SW-D8(6.0-6.5)_20180622	6-6.5	6/22/2018	N	--	--	--	0.47 U**	--	--	--
SW-D8	SW-D8(6.0-6.5)_20180622	6-6.5	6/22/2018	N	--	--	--	0.47 U*	--	--	--
SW-D8	SW-D8(8.0-8.5)_20180622	8-8.5	6/22/2018	N	2.3 U	20.7	20.7	--	43.5	1.1 U	22.0
SW-D8	SW-D8(8.0-8.5)_20180622	8-8.5	6/22/2018	N	--	--	--	0.48 U*	--	--	--
SW-D8	SW-D8(8.0-8.5)_20180622	8-8.5	6/22/2018	N	--	--	--	0.48 U**	--	--	--
SW-D8	SW-D8(10.0-10.5)_20180625	10-10.5	6/25/2018	N	2.6 U	30.7	29.9	0.84	637	1.3 U	25.5
SW-D8	SW-D8(10.0-10.5)_20180625	10-10.5	6/25/2018	N	--	--	--	0.51 U*	--	--	--
SW-D8	SW-D8(12.0-12.5)_20180625	12-12.5	6/25/2018	N	2.7 U	23.3	23.3	0.53 U	1,160	1.4 U	15.7
SW-D8	SW-D8(12.0-12.5)_20180625	12-12.5	6/25/2018	N	--	--	--	0.53 U*	--	--	--
SW-D8	SW-D8 (14.0-14.5)_20180628	14-14.5	6/28/2018	N	2.8 U	16.3	16.3	0.59 U	93.2	1.4 U	21.4
SW-D8	DUP-3 (20180628)	14-14.5	6/28/2018	FD	2.7 U	21.3	21.3	0.55 U	394	1.4 U	25.1
SW-D8	SW-D8(16.0-16.5)_20180710	16-16.5	7/10/2018	N	3.1 U	15.9	14.9	1.0	204	1.5 U	20.7
SW-D9	SW-D9(0.0-0.5)_20180619	0-0.5	6/19/2018	N	2.0 U	20.4	20.0	0.42 U	23.6	1.0 U	51.0
SW-D9	SW-D9(0.0-0.5)_20180619	0-0.5	6/19/2018	N	--	--	--	0.42 U*	--	--	--
SW-D9	SW-D9(2.0-2.5)_20180619	2-2.5	6/19/2018	N	2.2 U	40.4	38.6	1.8	16.5	1.1 U	32.3
SW-D9	SW-D9(2.0-2.5)_20180619	2-2.5	6/19/2018	N	--	--	--	0.98 **	--	--	--
SW-D9	SW-D9(4.0-4.5)_20180619	4-4.5	6/19/2018	N	2.3 U	24.3	23.2	1.1	20.6	1.1 U	26.4
SW-D9	SW-D9(4.0-4.5)_20180619	4-4.5	6/19/2018	N	--	--	--	0.66 **	--	--	--
SW-D9	SW-D9(6.0-6.5)_20180619	6-6.5	6/19/2018	N	2.2 U	20.8	20.8	0.47 U	54.5	1.1 U	21.6
SW-D9	SW-D9(6.0-6.5)_20180619	6-6.5	6/19/2018	N	--	--	--	0.47 U**	--	--	--
SW-D9	SW-D9(8.0-8.5)_20180619	8-8.5	6/19/2018	N	2.3 U	19.3	19.3	0.48 U	42.9	1.2 U	21.0
SW-D9	SW-D9(8.0-8.5)_20180619	8-8.5	6/19/2018	N	--	--	--	0.48 U**	--	--	--
SW-D9	SW-D9(10.0-10.5)_20180619	10-10.5	6/19/2018	N	2.4 U	21.7	21.7	0.48 U	35.6	1.2 U	21.7
SW-D9	SW-D9(10.0-10.5)_20180619	10-10.5	6/19/2018	N	--	--	--	0.48 U**	--	--	--
SW-D9	SW-D9(12.0-12.5)_20180625	12-12.5	6/25/2018	N	2.8 U	4.5	4.5	0.55 U	71.4	1.4 U	8.3
SW-D9	SW-D9(12.0-12.5)_20180625	12-12.5	6/25/2018	N	--	--	--	0.55 U*	--	--	--
SW-D9	SW-D9 (14.0-14.5)_20180628	14-14.5	6/28/2018	N	2.7 U	8.4	8.4	0.54 U	72.4	1.3 U	19.3
SW-D9	SW-D9(15.5-16.0)_20180710	15.5-16	7/10/2018	N	3.2 U	18.6	18.6	0.65 U	83.9	1.6 U	31.8
SW-S10	SW-S10(12.0-12.5)A_20180710	12-12.5	7/10/2018	N	--	--	--	--	403.0	--	--

Notes:
* = Indicates re-analysis done at first time.
** = Indicates re-analysis done at the second time.
*** = IGWSRS applies to vadose zone soils. Groundwater table is at 8 feet mean sea level (approximately 12 feet below ground surface).
U = Compound was analyzed for but not detected above the laboratory detection limit.
31 = Constituent detected at concentrations above the Residential Direct Contact Soil Remediation Standard.
811 Constituent detected at concentrations above the Site Specific Impact to Groundwater Soil Remediation Standard using SPLP analysis. Results presented in November 2018 Proposed Alternative Soil Remedation Standard - Nickel.
390 Constituent detected at concentrations above the United States Environmental Protection Agency Default Regional Screening Level.
Sample point excavated as constituent deteched at concentration above the Soil Remediation standard or Regional Screening Level
FD = Field duplicate sample
CAS Number = Chemical Abstracts System Registration Number
mg/kg = milligrams per kilogram
Laboratory analytical results reported by SGS North America Inc. of Dayton, New Jersey (NJDEP Certification #12129)

FIGURES

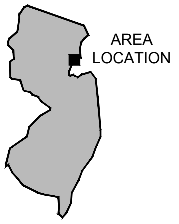
CITY:SYRACUSE-NY DIV/GROUP:ENVCAD DB:G.STEINBERGER LD: PIC: PM: TM: LYR:(Opt)ON=*;OFF=*REF*
C:\Users\gsteinberger\OneDrive - ARCADIS\BIM 360 Docs\PPG INDUSTRIES, INC\PPG - Site 107 Demo\Construction Mgmt\2018\NP000770.0001\01-DWG\NI-EXCEED-FIG01-VICMAP.dwg LAYOUT: 1 SAVED: 9/27/2018 10:18 AM ACADVER: 21.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE:
PLTFULL.CTB PLOTTED: 10/5/2018 11:31 AM BY: STEINBERGER, GEORGE



REFERENCE: BASE MAP USGS 7.5 MINUTE QUADRANGLE., JERSEY CITY, NJ., 1967, PHOTOREVISED 1981

0 1000' 2000'
GRAPHIC SCALE

XREFS: IMAGES: TEP-X-VICMAP.jpg PROJECTNAME: ----

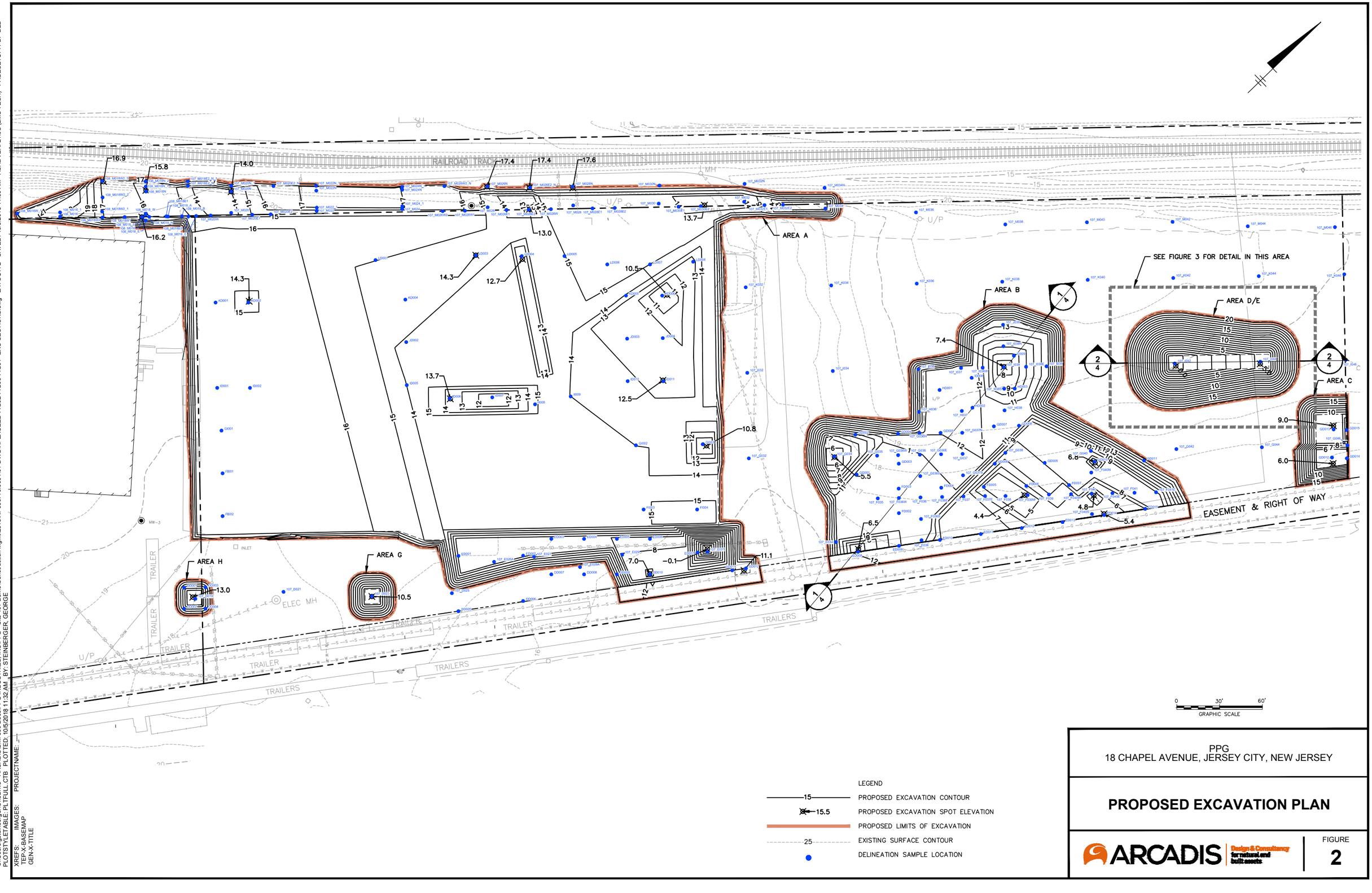


PPG
18 CHAPEL AVENUE, JERSEY CITY, NEW JERSEY

LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1



LEGEND

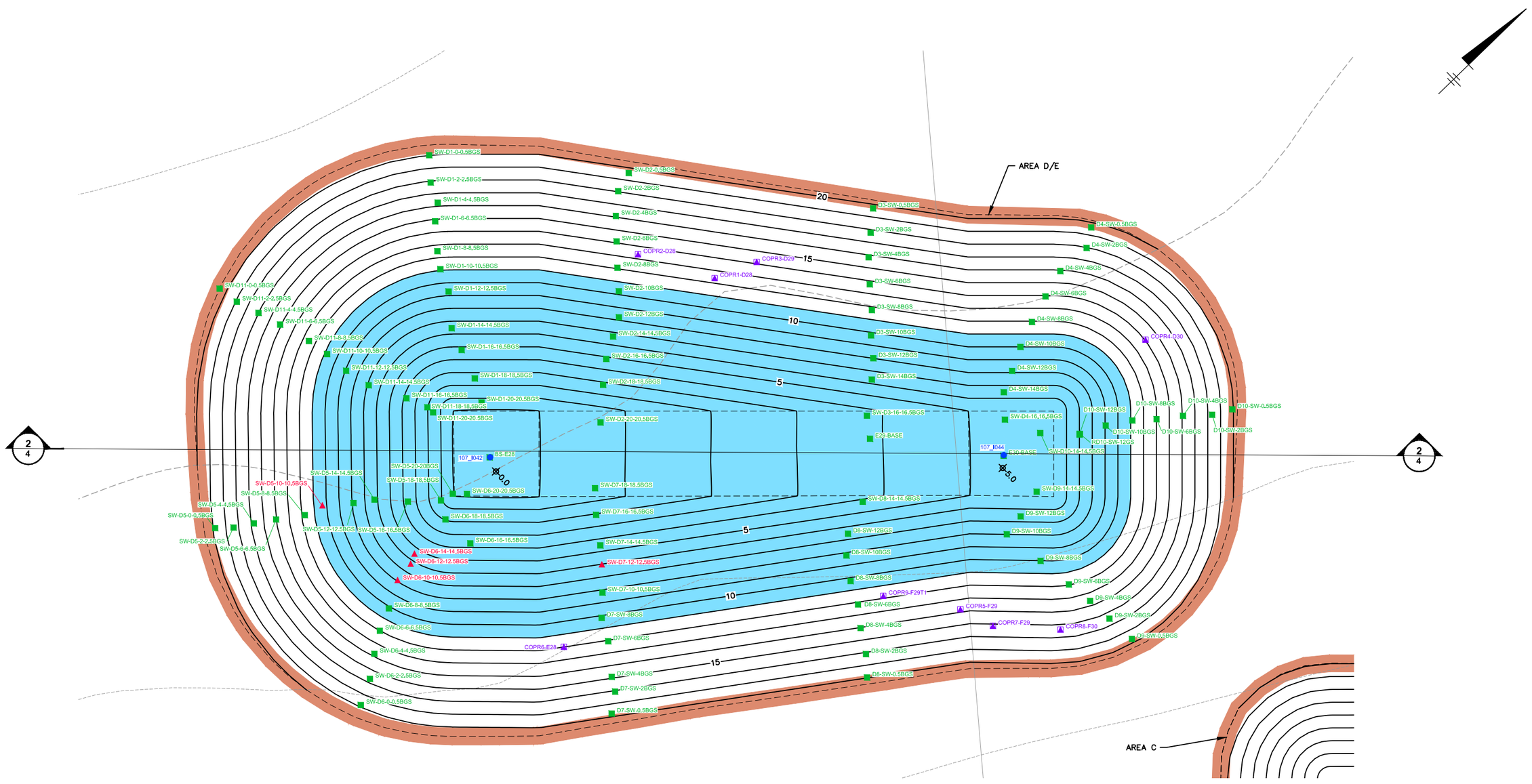
- PROPOSED EXCAVATION CONTOUR
- PROPOSED EXCAVATION SPOT ELEVATION
- PROPOSED LIMITS OF EXCAVATION
- EXISTING SURFACE CONTOUR
- DELINEATION SAMPLE LOCATION

PPG
18 CHAPEL AVENUE, JERSEY CITY, NEW JERSEY

PROPOSED EXCAVATION PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2



LEGEND

- NON–CCPW NICKEL AREA OF CONCERN
- 15 — PROPOSED EXCAVATION CONTOUR
- 15.5 — PROPOSED EXCAVATION SPOT ELEVATION
- PROPOSED LIMITS OF EXCAVATION
- 25 — EXISTING SURFACE CONTOUR
- DELINEATION SAMPLE LOCATION
- NICKEL ABOVE DIRECT CONTACT SOIL REMEDIATION STANDARD
- NICKEL BELOW DIRECT CONTACT SOIL REMEDIATION STANDARD
- COPR NODULES

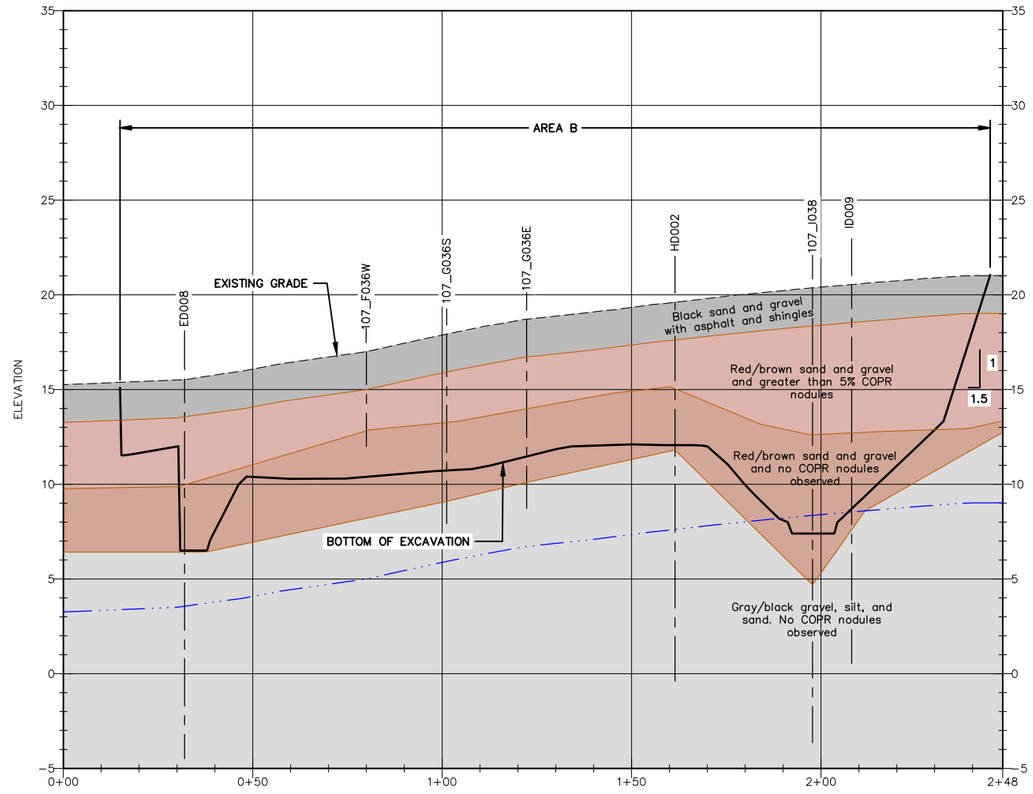
0 6' 12'
GRAPHIC SCALE

PPG
18 CHAPEL AVENUE, JERSEY CITY, NEW JERSEY

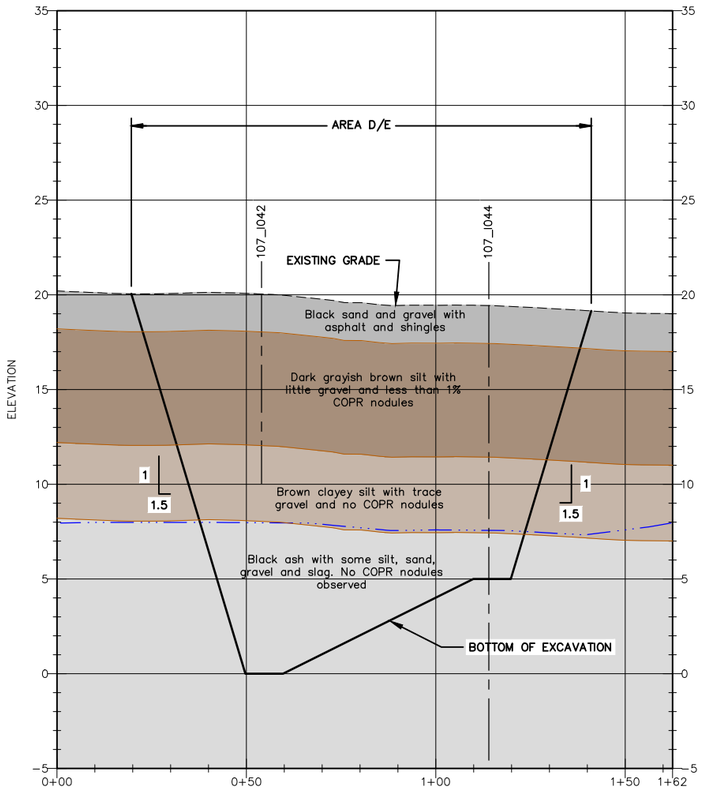
PROPOSED AREAS D AND E EXCAVATION PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3



CROSS SECTION 1



CROSS SECTION 2

0 20' 40'
HORIZONTAL GRAPHIC SCALE

0 4' 8'
VERTICAL GRAPHIC SCALE

NOTE:

1. GROUNDWATER ELEVATION IS BASED ON OBSERVATIONS FROM THE OPEN EXCAVATION OF AREAS D & E.

CROSS SECTION LEGEND

- EXISTING GRADE
- PROPOSED BASE OF EXCAVATION
- GROUNDWATER

PPG
18 CHAPEL AVENUE, JERSEY CITY, NEW JERSEY

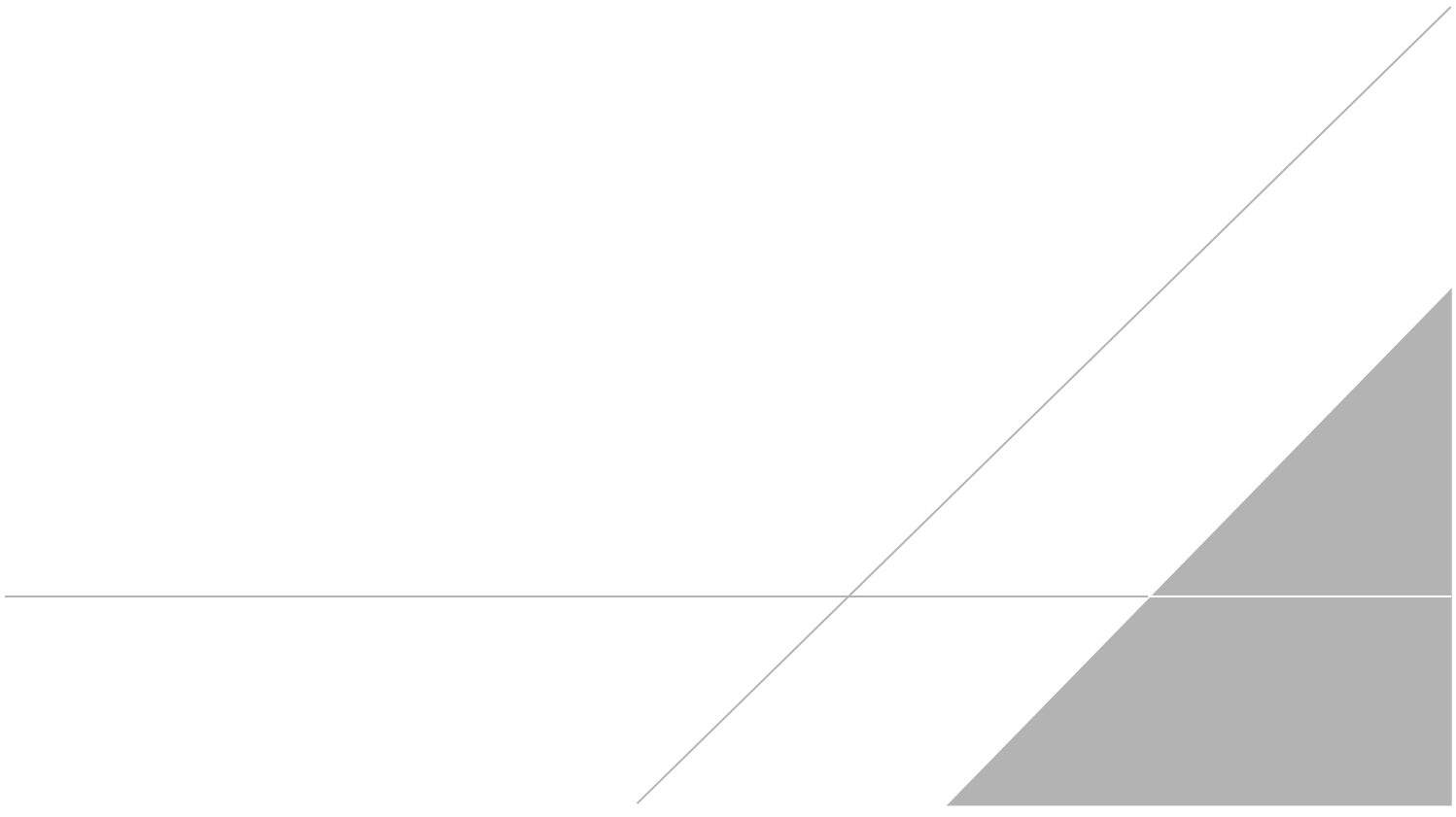
SOIL PROFILES

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

ATTACHMENT 1

Historical Boring Logs



200 Horizon Center Blvd
Trenton, NJ 08691
Phone: (609) 584 8900
Fax: (609) 689-7771

SOIL BORING LOG

PROJECT NUMBER: 146429 | **PP&G - SITE 107 - 18 Chapel Ave.**

SOIL BORING - ED008

	DATE STARTED: 12.03.2013	DATE COMPLETED: 12.03.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 25.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: Geoprobe with Hammer		PAGE:	1 of 2

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
	—	0.0-0.5	Asphalt - road base	NA			
		0.5-1.0					
	50%	1.0-1.5	Dark Brown fine-medium SAND, some small-large gravel	SP	1.0-1.5		voc
		1.5-2.0					
		2.0-2.5					
		2.5-3.0					
	50%	3.0-3.5	Brick material with COPR layer ~ 3-4' depth interval.	NA			40% COPR
		3.5-4.0					
		4.0-4.5					
5.0		4.5-5.0					
	70%	5.0-5.5	(Stepped off) Concrete debris, Red brown SILT, some gravel, moist	ML	5.0-5.5		
		5.5-6.0					
		6.0-6.5			6.0-6.5		
		6.5-7.0					
▼	30%	7.0-7.5	Brown fine SAND and gravel, concrete debris, wet	SP	7.0-7.5		
		7.5-8.0					
		8.0-8.5			8.0-8.5		
		8.5-9.0					
	10%	9.0-9.5	Brown fine SAND some black gravel, wet				
10.0		9.5-10.0					
	10%	10.0-10.5		SP			
		10.5-11.0					
	10%	11.0-11.5	Brown fine SAND some black gravel, wet				
		11.5-12.0					
		12.0-12.5					
		12.5-13.0					
	5%	13.0-13.5	Black GRAVEL, saturated, some silt	GP			
		13.5-14.0					
		14.0-14.5					
15.0		14.5-15.0					

200 Horizon Center Blvd
Trenton, NJ 08691
Phone: (609) 584 8900
Fax: (609) 689-7771

SOIL BORING LOG

PROJECT NUMBER: 146429 | **PP&G - SITE 107 - 18 Chapel Ave.**

SOIL BORING - ED008

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
	10%	15.0-15.5	Large angular GRAVEL	GP			
		15.5-16.0					
		16.0-16.5					
		16.5-17.0					
	80%	17.0-17.5	Gray Silty CLAY, mottled green and pale yellow	CH			
		17.5-18.0					
		18.0-18.5					
		18.5-19.0					
	100%	19.0-19.5	Red brown fine SAND	SP			
20.0		19.5-20.0					
	100%	20.0-20.5					
		20.5-21.0					
	40%	21.0-21.5	Red brown fine SILT, mottled yellow, some small gravel, saturated	ML			
		21.5-22.0					
		22.0-22.5					
		22.5-23.0					
	40%	23.0-23.5	Red brown fine SILT, mottled yellow, some small gravel, saturated	ML			
		23.5-24.0					
		24.0-24.5					
25.0		24.5-25.0					

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Geoprobe (Geotechnical)

Driller: Bob Fleming

▼ **Groundwater Level intercepted in Soil Boring.**

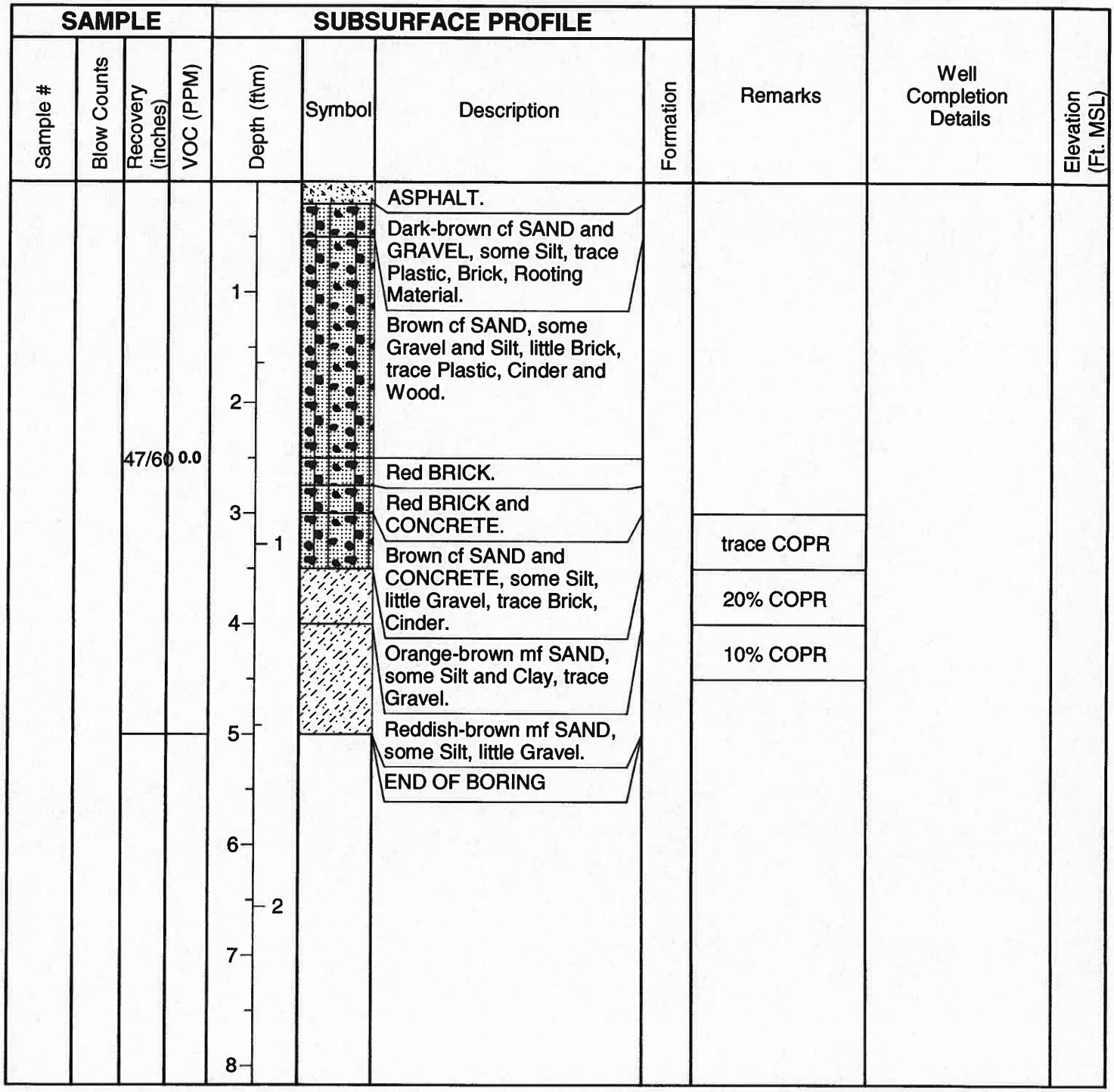
bgs = Below ground surface

Soil Boring/Well Details: 107_F036W

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 5.0

Water Level:
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By:



Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter:

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

Casing Diameter: NA
Date Start: 8/16/2011
Date Finish: 8/16/2011
Checked By: GG
Sheet 1 of 1

Soil Boring/Well Details: 107_G036S

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 10.0

Water Level:
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By:

SAMPLE				SUBSURFACE PROFILE						
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
		44	27.6	1		Black cf SAND and black ROOTING MATERIAL, some Silt and Gravel, trace Brick, Cinder.				
			25.4	2		Brown cf SAND, some Gravel and Silt, trace Brick, Glass, Cinder and Concrete.				
			2.3	3	1					
			1.5	4		Dark-brown cf SAND, some Gravel and Silt, trace Brick and Cinder.		10% COPR		
			14.0	5		Red BRICK, some brown cf Sand, little Silt and Concrete.		10% COPR		
		51	5.5	6		Brown cf SAND and GRAVEL, some Silt, trace Brick and Cinder.				
			11.1	7	2	Brown mf SAND, some brown c Sand and Silt, trace Brick, Concrete and Gravel.				
			4.8	8						
			7.3	9						
			5.4	10	3	Brown cf SAND and CONCRETE, some Silt.				
				11		END OF BORING				

Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter:

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

Casing Diameter: NA
Date Start: 6/7/2011
Date Finish: 6/7/2011
Checked By: GG
Sheet 1 of 1

Soil Boring/Well Details: 107_G036E

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 10.0

Water Level:
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By:

SAMPLE				SUBSURFACE PROFILE						
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ftm)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
		46	> 15,000	0–2		Black cf SAND and black ROOTING MATERIAL, some Gravel and Silt, trace Cinder.				
				2–3		Dark-brown cf SAND and GRAVEL, some Silt, trace Cinder, Brick and Seashells.				
				3–3.5		Red BRICK.				
			212.6	3.5–5		Dark-brown cf SAND and GRAVEL, some Silt, trace Cinder, Brick and Seashells.		10% COPR		
		45.5	1,343	5–6		Light-brown cf SAND and GRAVEL, some Concrete and Silt, trace Brick and Cinder.		10% COPR		
			181.5	6–7		CONCRETE and brown cf SAND, some Gravel and Silt, trace Wood and Brick.				
			116.7	7–8		Brown cf SAND, some Gravel and Silt, trace Wood, Brick and Concrete.				
			>1,000	8–8.5		Brown mf SAND, some Silt, little Gravel, trace Brick.				
			>500	8.5–9		CONCRETE.				
				9–10		Brown mf SAND, some Silt, trace Gravel.				
				10		END OF BORING				

Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter:

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

Casing Diameter: NA
Date Start: 06/07/2011
Date Finish: 06/07/2011
Checked By: GG
Sheet 1 of 1

200 Horizon Center Blvd
Trenton, NJ 08691
Phone: (609) 584 8900
Fax: (609) 689-7771

SOIL BORING LOG

PROJECT NUMBER: 146429	PP&G - SITE 107 - 18 Chapel Ave.		
SOIL BORING - HD002			
	DATE STARTED: 10.28.2013	DATE COMPLETED: 10.28.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 20.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE:	1 of 2

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		0.0-0.5	SILT and GRAVEL, dark gray dry.	ML/GP		0.0	
		0.5-1.0					
		1.0-1.5	Black roofing material/ SILT dry	ML		0.0	
		1.5-2.0					
		2.0-2.5	Red SILT			0.0	
	100	2.5-3.0					
		3.0-3.5	Gray SILT and GRAVEL, dry w/ trace COPR	ML/GP		0.0	10% COPR
		3.5-4.0					5% COPR
		4.0-4.5				0.0	5% COPR
5.0		4.5-5.0					5% COPR
		5.0-5.5	Light gray to brown SILT, dry	ML	5.0-5.5	0.0	
		5.5-6.0			5.5-6.0		
		6.0-6.5			6.0-6.5	0.0	
		6.5-7.0			6.5-7.0		
		7.0-7.5				0.0	
	100	7.5-8.0					
		8.0-8.5	Light gray to brown SILT moist			0.0	
		8.5-9.0					
		9.0-9.5				0.0	
10.0		9.5-10.0					
		10.0-10.5		ML		0.0	
		10.5-11.0					
		11.0-11.5				0.0	
		11.5-12.0					
	100	12.0-12.5				0.0	
		12.5-13.0					
▼		13.0-13.5	Black GRAVEL, wet, medium GRAVEL	GP		0.0	
		13.5-14.0					
		14.0-14.5				0.0	
15.0		14.5-15.0					

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Fax: (609) 689-7771

SOIL BORING LOG

PROJECT NUMBER: 146429 | **PP&G - SITE 107 - 18 Chapel Ave.**

SOIL BORING - HD002

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		15.0-15.5	Black GRAVEL, wet, medium gravel	GP		0.0	
		15.5-16.0					
		16.0-16.5				0.0	
		16.5-17.0					
	100	17.0-17.5	Dark gray SILT, moist	ML		0.0	
		17.5-18.0					
		18.0-18.5				0.0	
		18.5-19.0					
		19.0-19.5	Dark gray PEAT, moist, organic	Pt		0.0	
20.0		19.5-20.0					

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Truck Mounted Geoprobe

Driller: Kyle Cottrull

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface

Soil Boring/Well Details: 107_I038

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 24.0

Water Level: 12.0
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By: GG

SAMPLE				SUBSURFACE PROFILE						
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
I036-0.0		48		1 2 3		Black ASH, little Sand, little Gravel, trace Silt.				
I038-3.5				1 4 5		Gray/brown SILT and SAND, some Gravel, trace Brick, trace Concrete.				
I038-6.5		44		6 2 7		Red/black/gray CONCRETE, little Sand, little Silt.				
I038-7.0						Red-brown mf SAND and GRAVEL, trace Silt.		80 % COPR		
I038-8.0				8		CONCRETE.				
I038-10.0				9 3 10		Red-brown SILT, trace f Sand.		MOIST		
I038-11.0				11		Red-brown CONCRETE, some Sand, trace Silt.				
I036-12.0		40		12 13		Crushed CONCRETE. Red-brown f SAND and SILT.				

Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter:

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

Casing Diameter: NA
Date Start: 1/26/2011
Date Finish: 1/26/2011
Checked By: GG

Soil Boring/Well Details: 107_I038

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 24.0

Water Level: 12.0
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By: GG

SAMPLE				SUBSURFACE PROFILE						
Sample #	Blow Counts	Recovery	VOC (PPM)	Depth	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
I038-17.0		40		14–26		FILL (Ash, Cinder, Slag, Sand).		WET		
						Dark grey/brown silty CLAY, trace f Sand, trace Gravel.				
I036-21.0		48				Dark grey silty CLAY, some Gravel, trace Sand.				
						Red-brown f SAND, some Silt, trace Gravel.				
I038-25.0						Red-brown cf SAND, little Silt.				
						END OF BORING				

Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter: 3 inches

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

Casing Diameter: NA
Date Start: 1/26/2011
Date Finish: 1/26/2011
Checked By: GG
Sheet: 2 of 2

200 Horizon Center Blvd
Trenton, NJ 08691
Phone: (609) 584 8900
Fax: (609) 689-7771

SOIL BORING LOG

PROJECT NUMBER: 146429 | **PP&G - SITE 107 - 18 Chapel Ave.**

SOIL BORING - ID009

	DATE STARTED: 11.04.2013	DATE COMPLETED: 11.04.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 20.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE:	1 of 2

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100	0.0-0.5	Black fine SAND and GRAVEL, Roofing Material	SP/GP	0.0-0.5	0.0	
		0.5-1.0					
		1.0-1.5				0.0	
		1.5-2.0			1.5-2.0		
		2.0-2.5				0.0	
		2.5-3.0	BRICK material				
		3.0-3.5	Dark Gray SAND and GRAVEL	SW/GW		0.0	
		3.5-4.0					
		4.0-4.5				0.0	
		4.5-5.0	CONCRETE pieces				
10.0	100	5.0-5.5	CONCRETE			0.0	10%
		5.5-6.0	SAND and GRAVEL	SW/GW			
		6.0-6.5	COPR and Gravel and SAND			0.0	60%
		6.5-7.0	Brown fine SAND	SP	6.5-7.0		
		7.0-7.5				0.0	
		7.5-8.0			7.5-8.0		
		8.0-8.5				0.0	
		8.5-9.0			8.5-9.0		
		9.0-9.5				0.0	
		9.5-10.0			9.5-10.0		
15.0	100	10.0-10.5	Gray Silty SAND and GRAVEL	SM/GW		0.0	
		10.5-11.0					
		11.0-11.5				0.0	
		11.5-12.0					
		12.0-12.5				0.0	
		12.5-13.0					
▼		13.0-13.5	Black Gravel and SHELL fragments, wet	GW		0.0	
		13.5-14.0					
		14.0-14.5				0.0	
		14.5-15.0					

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Phone: (609) 584 8900
Fax: (609) 689-7771

SOIL BORING LOG

PROJECT NUMBER: 146429 | **PP&G - SITE 107 - 18 Chapel Ave.**

SOIL BORING - ID009

PAGE: 2 of 2

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		15.0-15.5	Black Gravel and SHELL fragments, wet	GW		0.0	
		15.5-16.0					
		16.0-16.5	Dark Gray SAND	SW		0.0	
		16.5-17.0					
	100	17.0-17.5	MEADOW MAT	Pt		0.0	
		17.5-18.0					
		18.0-18.5				0.0	
		18.5-19.0					
		19.0-19.5	Green gray Silty CLAY	CL		0.0	
20.0		19.5-20.0					

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Geoprobe

Driller: Warren

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface

Soil Boring/Well Details: 107_I042

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 24.0

Water Level: 15.0
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By: JSV

SAMPLE				SUBSURFACE PROFILE						
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
I042-0.0		48	0.4	1		Black GRAVEL, CINDERS, cf SAND.				
			0.1							
			0.4	2						
			1.8	3						
I042-3.5			0.4	4		Pale brown fm SAND, little Silt.				
			0.2	5		Brown cf SAND, little Brick.				
		60	0.0	6		Pale brown f SAND, some Silt.				
I042-7.5				7		WOOD.				
				8		Red BRICK mixed with brown m Sand and Gravel.				
				9		Red-brown silty mf SAND, trace Clay.				
I042-11.5		24	0.0	10		Red-brown CLAY, little Silt, little f Sand.				
				11						
				12						
				13						

1 2 3

Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter:

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

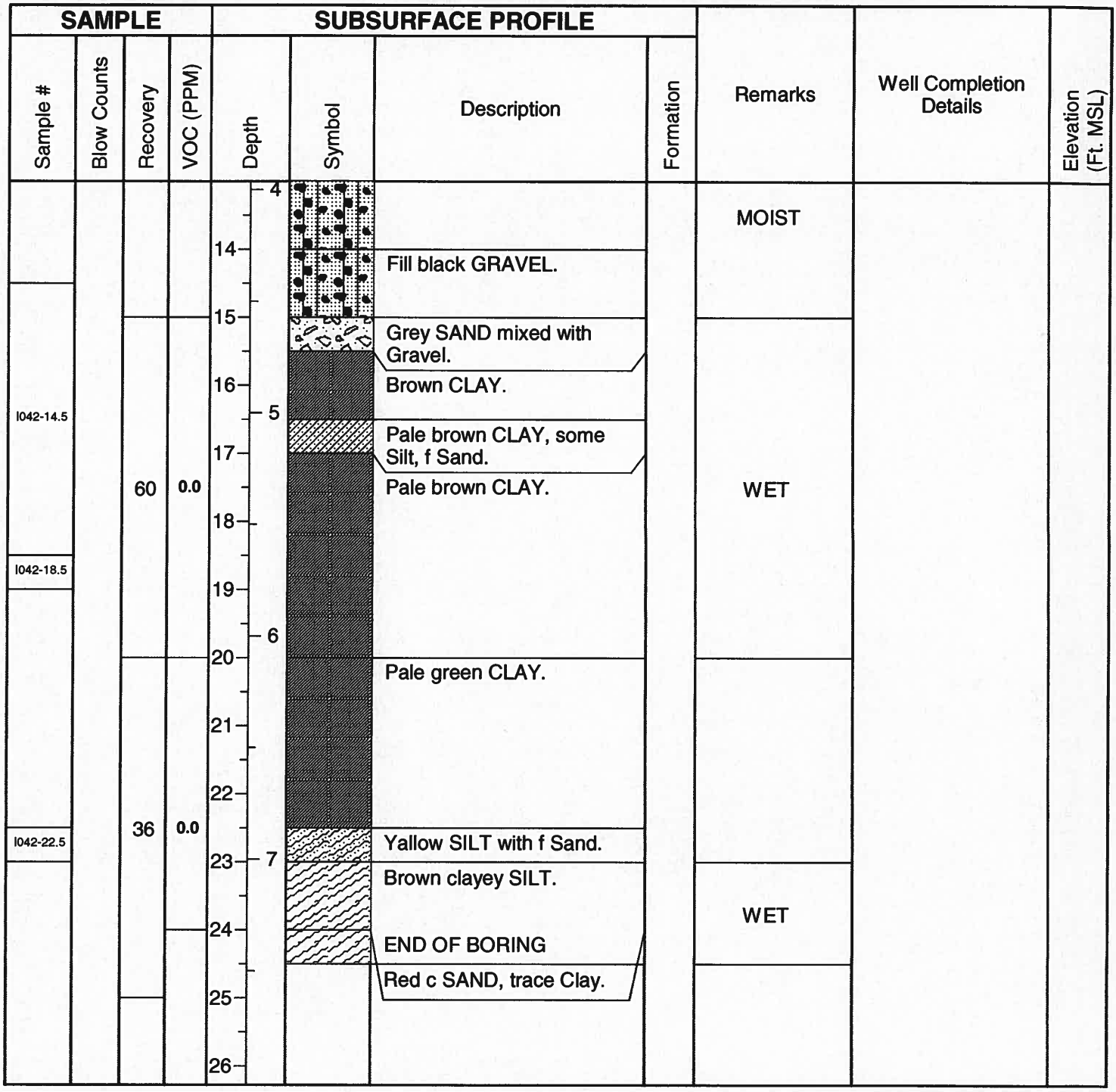
Casing Diameter: NA
Date Start: 1/28/2011
Date Finish: 1/28/2011
Checked By: GG
Sheet 1 of 2

Soil Boring/Well Details: 107_I042

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 24.0

Water Level: 15.0
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By: JSV



Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter: 3 inches

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

Casing Diameter: NA
Date Start: 1/28/2011
Date Finish: 1/28/2011
Checked By: GG
Sheet: 2 of 2

Soil Boring/Well Details: 107_I044

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 24.0

Water Level: 11.5
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By: GG

SAMPLE				SUBSURFACE PROFILE						
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
I044-0.0		44	0.0	1–3		Black cf SAND and GRAVEL, some Silt, some Cinder, little Rubber, trace Glass and Wood.				
I044-3.5			1.5	3–4		CONCRETE and GRAVEL.				
				4–5		Brown cf SAND, some Silt and Glass, little Gravel, trace Brick and Cinder.				
				5–6		WOOD.				
				6		CONCRETE.				
I044-7.5		24	0.0	6–10		Red/brown silty SAND, trace Gravel.				
I044-11.5		36	0.0	10–11		Red/brown silty CLAY, some cf Sand.		MOIST		
				11–13		Black GRAVEL and CINDER, some Silt and black cf Sand, trace Brick.		WET		

Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter:

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

Casing Diameter: NA
Date Start: 1/31/2011
Date Finish: 1/31/2011
Checked By: GG

Soil Boring/Well Details: 107_I044

Project No: 10236-1
Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0
Total Depth: 24.0

Water Level: 11.5
Sampling Method: Geoprobe
Sample Interval: See Log
Logged By: GG

SAMPLE				SUBSURFACE PROFILE						
Sample #	Blow Counts	Recovery	VOC (PPM)	Depth	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
I044-13.5				4						
				14		Brown SILT.				
				15						
				16		Brown silty CLAY.		MOIST		
				5						
I044-17.5		60	0.0	17		Gray/brown cilty CLAY.				
				18						
				19						
				6						
				20		Red-brown cf SAND and SILT, some Gravel.				
I044-21.5				21				WET		
				22						
		60	0.0	23		Red-brown cf SAND and GRAVEL, some Silt.				
				7						
				24		END OF BORING				
				25						
				26						

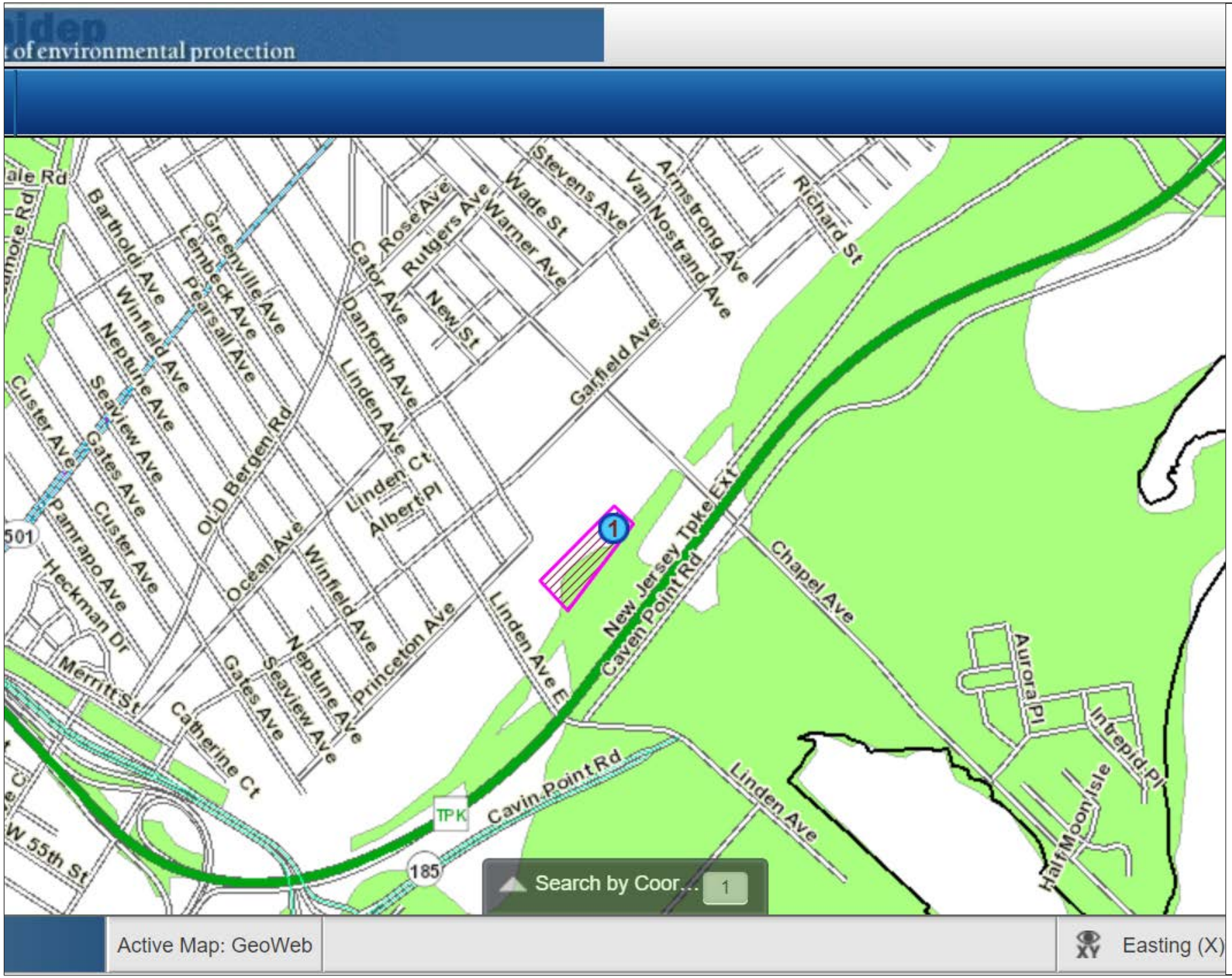
Drilling Company: EMC, Inc.
Driller: Ryan Zajak
Drilling Method: Geoprobe
Auger Size: NA
Hole Diameter: 3 inches

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, NJ 07302

Casing Diameter: NA
Date Start: 1/31/2011
Date Finish: 1/31/2011
Checked By: GG
Sheet: 2 of 2

ATTACHMENT 2

Historic Fill Map



ARCADIS Design & Consultancy for natural and built assets

Historic Fill Map
Areas D&E – Site 107

Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Notes

1. The Site is located on Block 27401, Lot 42 (refer to limits designated by diagonal hatch pattern).
2. Areas D & E are located in the North-Northwest corner of the property (refer to Number 1).

N 0 15,202.96ft

Project Number

ATTACHMENT 3

Excerpts from Preliminary Assessment Report

APPENDIX B- SANBORN FIRE INSURANCE MAP DISCUSSION

Copies of Sanborn Fire Insurance Maps were provided by Environmental Data Resources, Inc. Copies of the maps are included as **Attachment A**. Due to the scale and relative clarity of the maps, site features were not discernable on all maps. The following details regarding the Subject Property were discernible on the Sanborn Fire Insurance Maps:

Year	Block 1505, Lot Z.2 (Site 107), 18 Chapel Avenue, and Z.1 (Site 67)
1898	Site is vacant land, except for one (1) small structure in the southwest corner.
1912	Railroad tracks (Lehigh Valley RR) have appeared on the west side of the Site. The tracks curve slightly eastward in the southwest corner of the Site.
1950	No change.
1979	One (1) manufacturing and warehouse building of non-combustible construction has appeared at the Site on Lot Z.2. The building was constructed in 1963. A note on the building indicates there is storage of "2 Freon stge tnks", "4 Alchol" and 16 product st'ge tks. An easement is depicted on the east boundary of the Site. The Lehigh Valley RR spur is no longer present on the Site. Lot Z.1 remains vacant
1988-2006	No changes.

The following details regarding the surrounding properties were discernible on the Sanborn Fire Insurance Maps:

Year	North	East	South (Site 108)	West
1898	Land north of Chapel Ave. dominated by railroad tracks.	Hudson Railway and Morris Canal. Shoreline of Upper New York Bay is nearby to the Morris Canal.	Vacant land with cluster of small structures.	Railroad Station, dwellings, vacant land and cemetery.
1912	Vacant land with fewer railroad tracks. Switch tower.	Railroad track (now Lehigh Valley RR), and Morris Canal.	Small structures removed. Lehigh Valley RR crosses through diagonally from northeast to southwest.	Expanded Greenville railroad station with pedestrian cross over, no other changes.
1950	No change.	No change.	No change.	No change, except for two apartment buildings and a few more dwellings.
1979	Switch tower is "vacant and open".	The Canal is now a junk yard. The Hudson County Extension to the NJ Turnpike has been constructed. The shoreline of Upper New York Bay is no longer nearby.	One (1) manufacturing and warehouse building of non-combustible construction has appeared. The building was constructed in 1960, except an office on the NE corner in 1962 and a portion in the NW corner in 1976. Railroad tracks have been moved to a position west of the Site.	The railroad station has been removed. Three dwellings in the area of the former railroad station. The railroad track previously on the Site has been repositioned to west of the Site.
1988-2006	No change.	No change.	No change.	No change. Portion of old railroad station depicted in error. The HBLRT was not opened until April 2000.

APPENDIX C – HISTORICAL AERIAL PHOTOGRAPH DISCUSSION

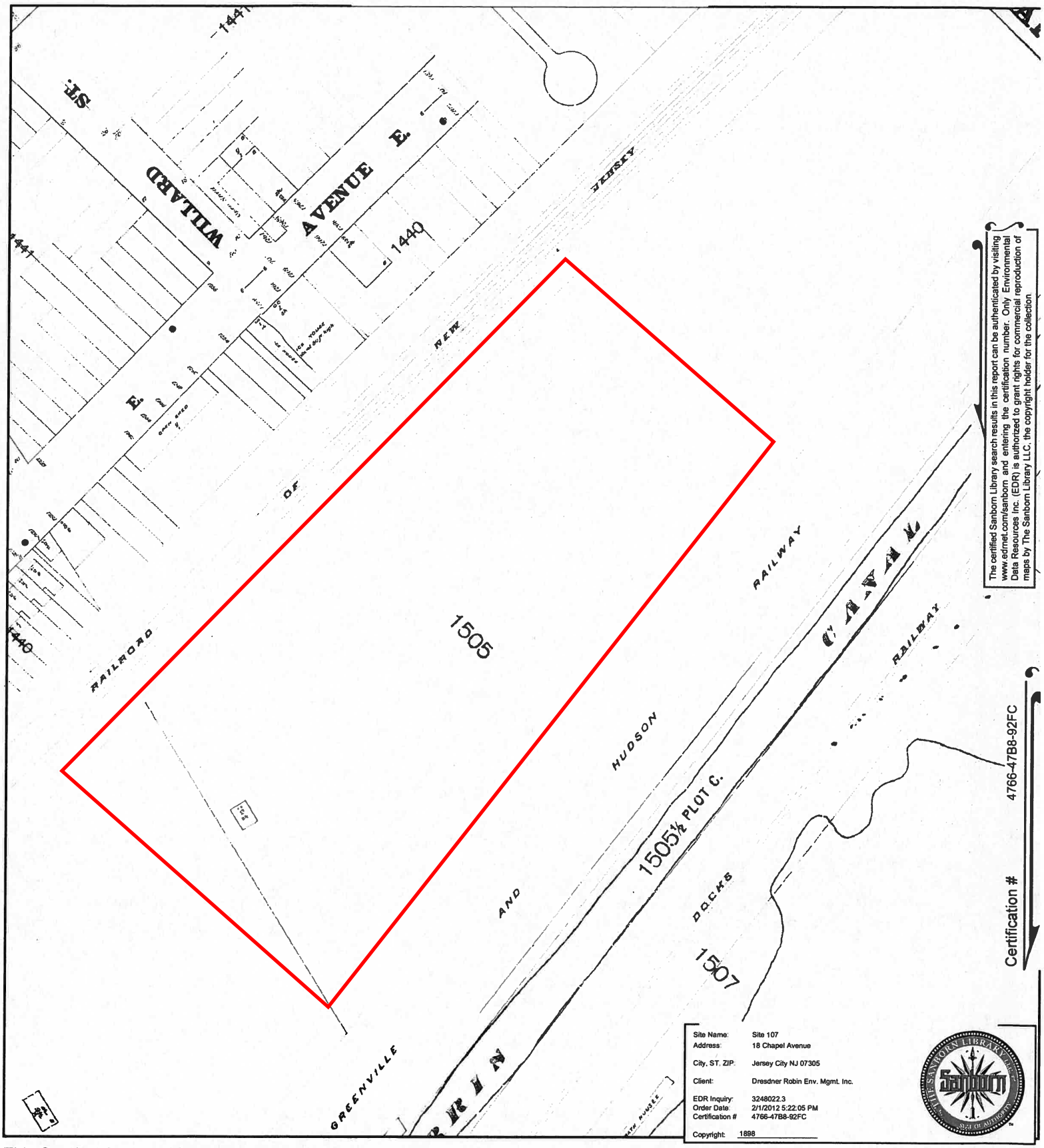
Historical aerial photographs were reviewed by DRESDNER ROBIN to identify past land use and conditions on and in the vicinity of the Site. Aerial photographs were provided by Robinson Aerial Services, except for the 1931 aerial photograph which was reviewed on http://www.historicaerials.com/ and the 1995 to 2011 aerial photographs which were reviewed on Google Earth. Copies of the aerial photographs provided by Robinson Aerial Service are included as **Attachment B**. The following is a description of the on-site and surrounding conditions depicted on these photographs:

Year	Site	North	East	South (Site 108)	West
1931	Site is vacant land with a railroad track across the western portion of the Site.	Vacant land and railroad tracks.	Lehigh Valley Railroad	Vacant land that appears to have been disturbed. Railroad track crosses diagonally from northeast to southwest.	Central Railroad of New Jersey, residential neighborhood and cemetery.
1940	Vacant land.	No change.	No change.	No change.	No change.
1947	Vacant land; appears to be disturbed.	No change.	No change.	Railroad track or rail grade remains.	No change. Old Greenville Railroad Station is discernible.
1951	No change.	No change.	No change.	No change.	No change.
1955	Site is vacant. Railroad track has been removed. A path is located on the south side of the Site. Appears to be a soil pile on the north side of the Site possibly related to the construction of the NJ Turnpike.	No change.	The Hudson County Extension of the New Jersey Turnpike is under construction. Appears to be a car sales lot on north side of Linden Avenue between two railroad right-of-ways.	A parking lot or automotive sales lot with numerous vehicles and one small structure are located on Site 108.	No change.
1959	No change.	No change.	Turnpike Extension has been opened.	Remains a parking lot or automotive sales lot.	No significant change.
1961	Site is vacant. Possible evidence of filling activities.	No change.	No change.	A portion of the Site 108 warehouse building has been constructed.	No significant change.
1963	Vacant land. Possible mounds from dump truck loads on north side of the Site.	No change.	No change.	No change.	No change.
1966	The warehouse building has been constructed on the south side of the Site. No north side of the Site remains vacant.	No change.	A junk yard is in evidence on the east adjacent property.	The northwest portion of the Site 108 warehouse building has been constructed.	No change.
1970	No change.	Appears to	No change.	No change.	No change.

& 1977		be a disturbed area between railroad tracks.			
1984	The vacant portion of the Site appears to have been paved.	Remains vacant. One railroad track has been removed.	No change.	No change.	No change.
1989	No change.	No change.	No change.	No change.	No change.
1995 & 2001-2003	No change, vacant portion of property not used for parking.	No change.	No change.	No change.	No change.
2004-2009	Vacant portion of Site in use for intensive parking of autos and trucks.	No change.	No change.	No change.	No change.
2010-2011	Vacant portion of Site not in use for parking.	No change.	No change.	No change.	No change.

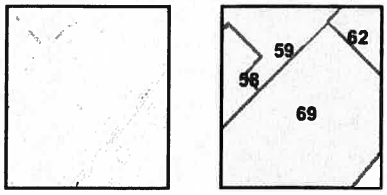
ATTACHMENT A

1898 Certified Sanborn Map



Certification # 4766-47B8-92FC

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.



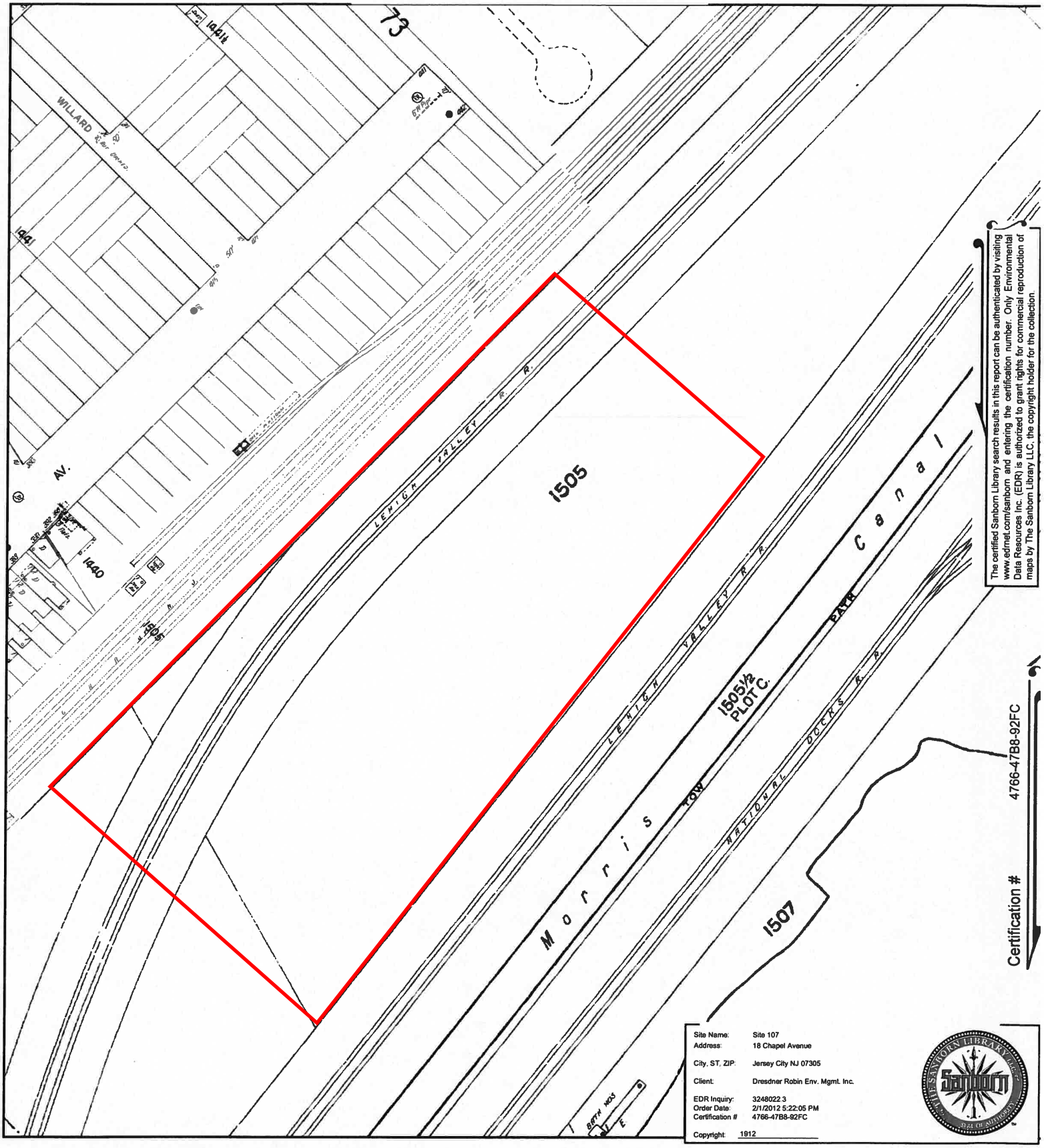
Volume 9, Sheet 58
Volume 9, Sheet 59
Volume 9, Sheet 69

0 Feet 165 330 660

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

N

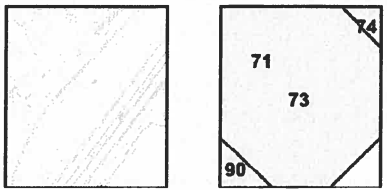
1912 Certified Sanborn Map



Certification # 4766-47B8-92FC

Site Name:	Site 107
Address:	18 Chapel Avenue
City, ST, ZIP:	Jersey City NJ 07305
Client:	Dresdner Robin Env. Mgmt. Inc.
EDR Inquiry:	3248022 3
Order Date:	2/1/2012 5:22:05 PM
Certification #	4766-47B8-92FC
Copyright:	1912

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.



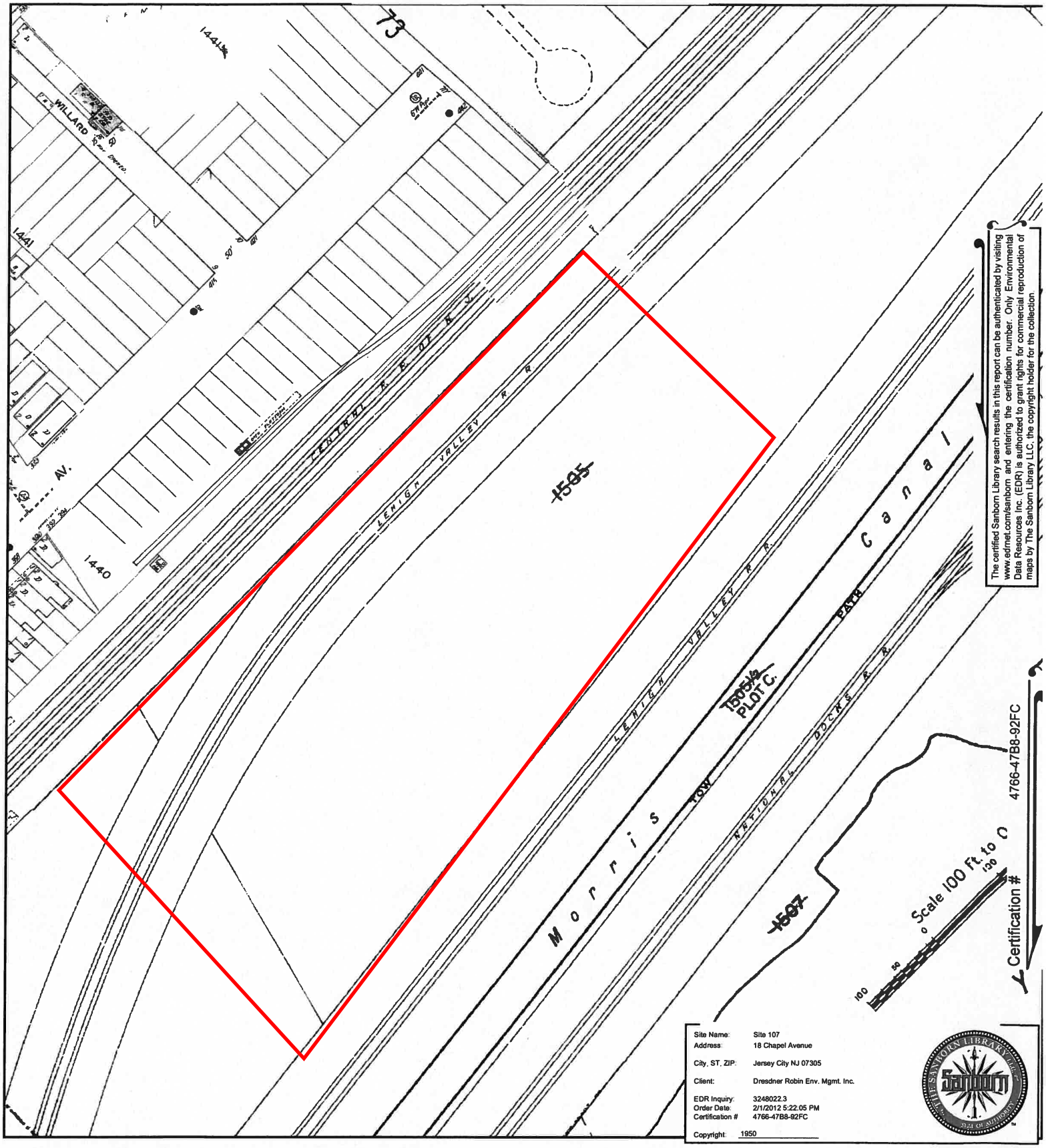
Volume 9, Sheet 71
Volume 9, Sheet 73

0 Feet 165 330 660

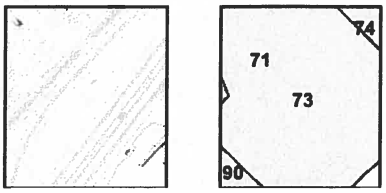
Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

N

1950 Certified Sanborn Map



This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.



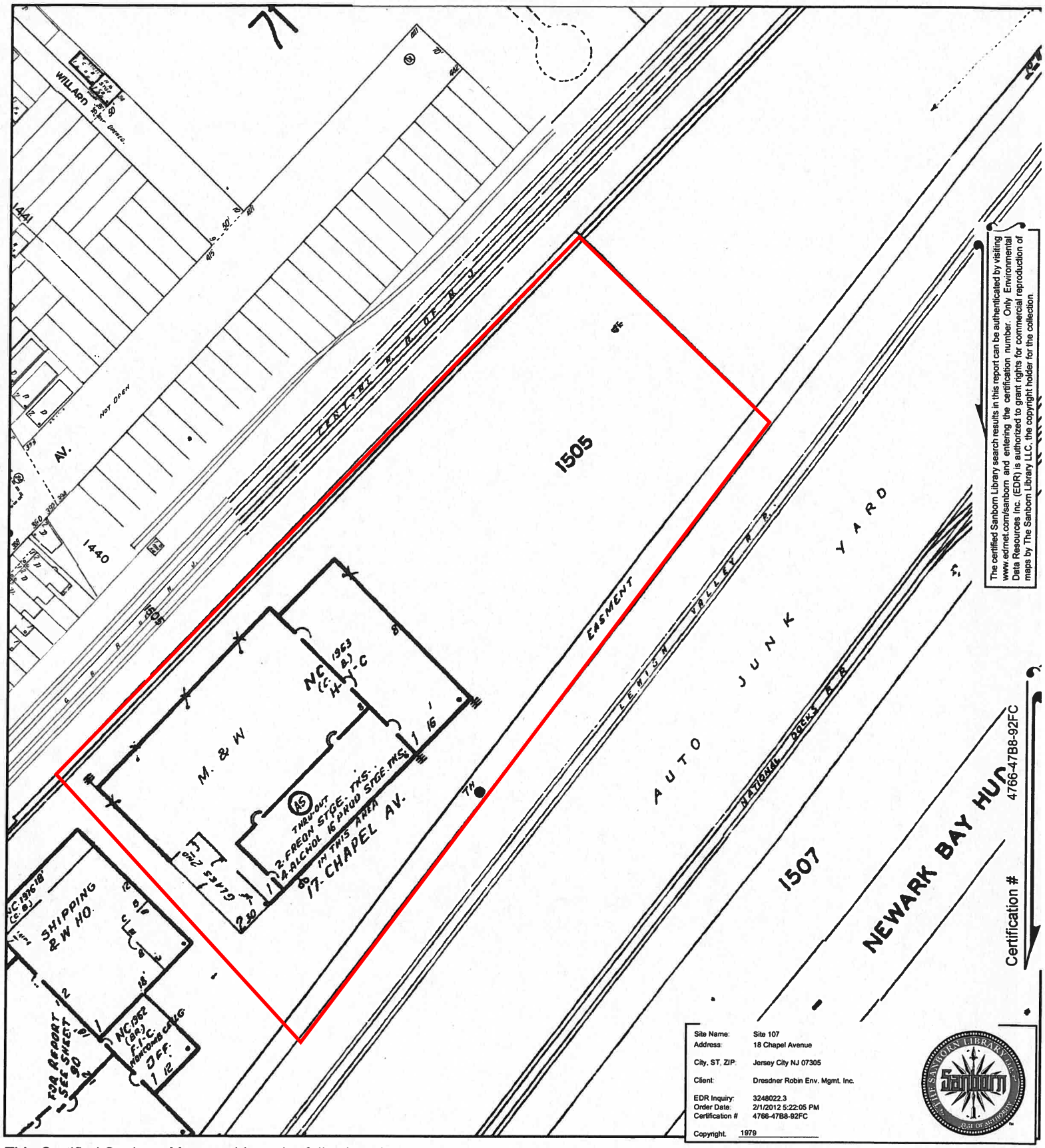
Volume 9, Sheet 71
Volume 9, Sheet 73

0 Feet 165 330 660

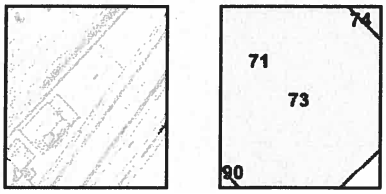
Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

N

1979 Certified Sanborn Map



This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.



Volume 9, Sheet 73
Volume 9, Sheet 71

0 Feet 165 330 660

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

N

ATTACHMENT 4

Excerpts from Vanadium Only Memo

roofing shingles and black ash. The boring logs from the CCPW fill area (Figure 3) indicate that the predominant materials are sand and gravel. This Figure also shows a three to four feet layer of clean soil above the CCPW fill. The boring logs from the Vanadium-only exceedance area are in Attachment Two. The boring logs from the CCPW fill area are in Attachment Three.

No Chromium Ore Processing Residue (COPR) was identified in any of the borings in the Vanadium-only exceedance area. COPR was identified generally at depths of three to seven feet in the area impacted by CCPW filling activities. Most of the Vanadium exceedances in the Vanadium-only exceedance area were in shallower soils, typically less than four feet.

The difference in the type of fill materials in the two areas is an indication that the fill materials come from different sources.

Review of Historic Fill Maps:

A review of the NJGS Historic Fill Map for the area of the Site indicates that much of the Site is in an area of Historic Fill. The areas where COPR and CCPW-related metals are located are concentrated in the areas identified by the NJGS as Historic Fill. However, the north-northwest area of the Site is not identified by the NJGS as an area of Historic Fill (Attachment Four). As the Historic Fill Maps are based on aerial photography from 1979 and supplemented in certain areas by aerial photography from 1991 and 1992, the NJGS Historic Fill Map is an indication that the fill in this area of the Site was placed after 1992 and is from a different source.

Review of Historical Aerial Photographs and USGA Topographic Maps:

Shaw reviewed Aerial Photographs dated 1931, 1954, 1966, 1979, 1987, 1995, 2002, 2006, and 2008; and USGS Topographic Maps dated 1947, 1958, 1964, 1969, and 1982 (Attachment Five).

The 1931 and 1954 Aerial Photographs show the Lehigh Valley Railroad line to the east of the Site and the Central Railroad of New Jersey to the north-northwest. Between these two railroads is the undeveloped area of the north-northwest portion of the Site, which appears to be at a lower elevation than the railroads. There also appears to be a surface water drainage feature in this area.

The 1947 USGS Topographic Map indicates that the elevation of the undeveloped area of the north-northwest portion of the Site is less than 20 feet above mean sea level (amsl).

The aerial photographs from 1931 and 1954 and the topographic maps from 1947 and 1958 show that some fill appears to have been added to the Site in the mid-1950s. Additional fill appears to have been added between 1964 and 1966. The building at the Site was constructed between 1964 and 1966. The 1979 aerial photograph shows that the building at the Site is at a higher elevation than the undeveloped area of the north-northwest portion of the Site. A visible drop-off from the location of the building to the adjoining undeveloped parcel is noted in the 1979, 1995, and 2002 aerial photographs. The 2006 aerial photograph shows that additional fill has been added to this area for construction of a parking lot. The undeveloped portion of the Site now appears to be at an elevation similar to the elevation of the portion of the Site where the building was constructed. The February 2011 Site Topographic Survey conducted by Greg S. Gloor for the Dresdner Robin Remedial Investigation Report indicates that this

Fashionland
18 Chapel Avenue
Jersey City, NJ 07305

Inquiry Number: 3552923.5
March 21, 2013

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography March 21, 2013

Target Property:

18 Chapel Avenue

Jersey City, NJ 07305

Year	***Scale***	***Details***	***Source***
1933	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/Flight Date: January 01, 1933	EDR
1943	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/Flight Date: December 22, 1943	EDR
1954	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/Flight Date: January 04, 1954	EDR
1966	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/Flight Date: February 23, 1966	EDR
1985	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/Flight Date: March 16, 1985	EDR
1995	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/DOQQ - acquisition dates: March 29, 1995	EDR
2006	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/Flight Year: 2006	EDR
2008	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/Flight Year: 2008	EDR
2010	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-F1, Jersey City, NJ;/Flight Year: 2010	EDR

INQUIRY #: 3552923.5

YEAR: 1933

= 500'

N

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

INQUIRY #: 3552923.5

YEAR: 1943

= 500'

N

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

INQUIRY #: 3552923.5

YEAR: 1954

= 500'

N

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

INQUIRY #: 3552923.5

YEAR: 1966

= 500'

N

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.


INQUIRY #: 3552923.5
YEAR: 1985
= 500'
N
Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

INQUIRY #: 3552923.5

YEAR: 1995

= 500'

N

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

INQUIRY #: 3552923.5

YEAR: 2006

= 500'

N

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

Fashionland
18 Chapel Avenue
Jersey City, NJ 07305

Inquiry Number: 3552923.2
March 21, 2013

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

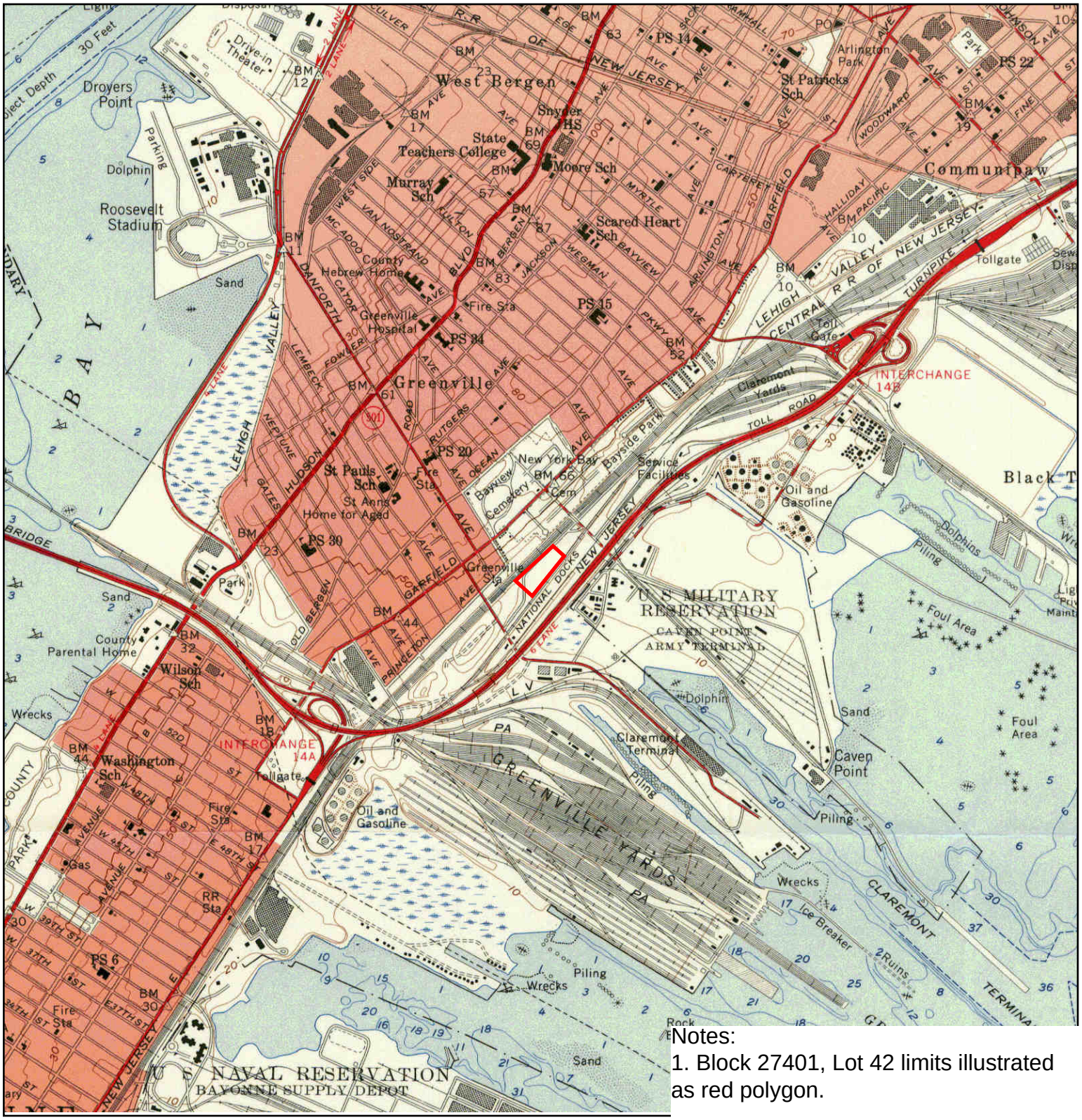
Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

N	TARGET QUAD NAME: JERSEY CITY MAP YEAR: 1947 SERIES: 7.5 SCALE: 1:25000	SITE NAME: Fashionland ADDRESS: 18 Chapel Avenue Jersey City, NJ 07305 LAT/LONG: 40.6932 / -74.0854	CLIENT: Shaw Environmental, Inc. CONTACT: William Moran INQUIRY#: 3552923.2 RESEARCH DATE: 03/21/2013

Historical Topographic Map



Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

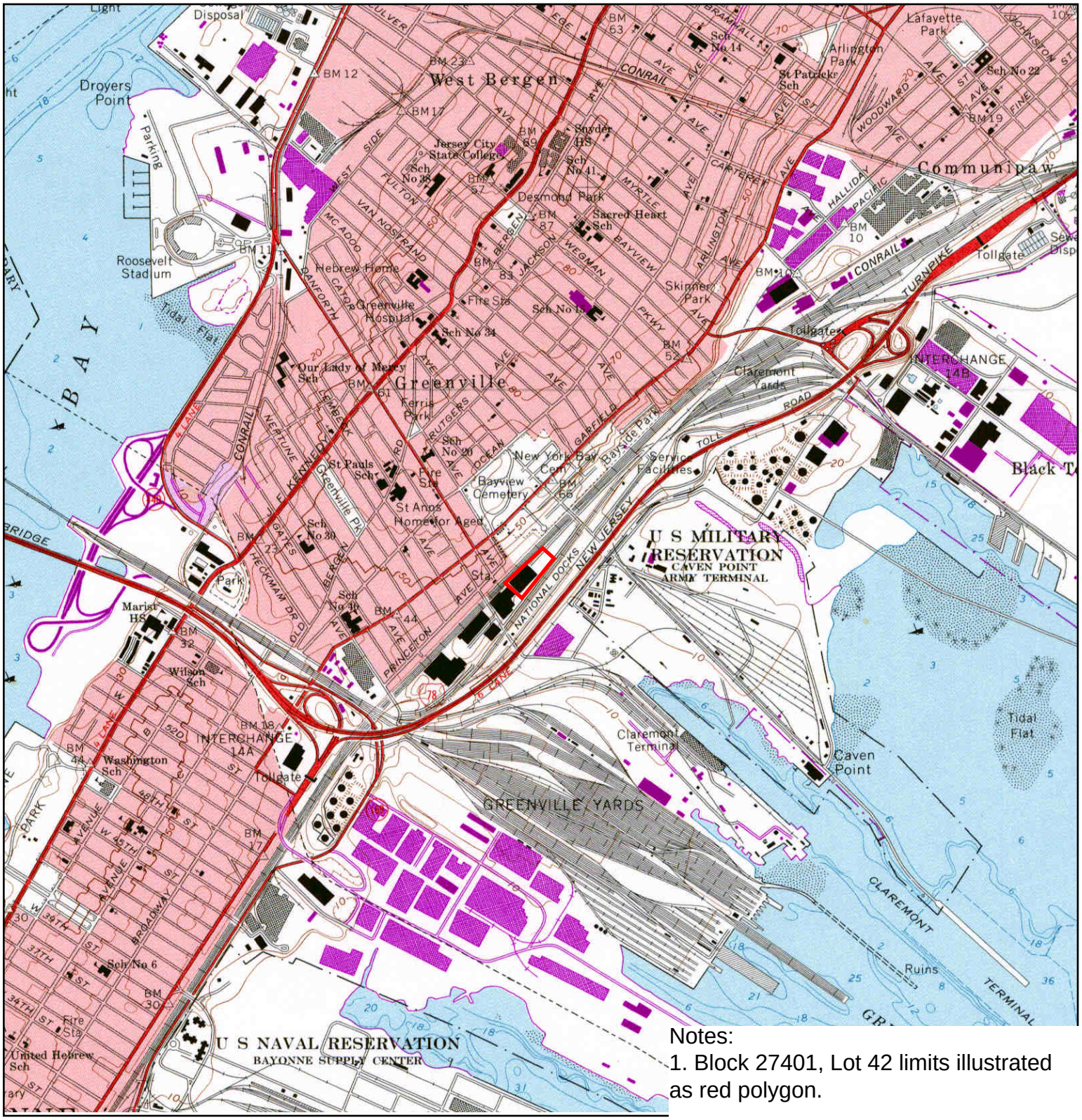
N	TARGET QUAD NAME: JERSEY CITY MAP YEAR: 1955 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Fashionland ADDRESS: 18 Chapel Avenue Jersey City, NJ 07305 LAT/LONG: 40.6932 / -74.0854	CLIENT: Shaw Environmental, Inc. CONTACT: William Moran INQUIRY#: 3552923.2 RESEARCH DATE: 03/21/2013

Historical Topographic Map

Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

N	TARGET QUAD NAME: JERSEY CITY MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Fashionland ADDRESS: 18 Chapel Avenue Jersey City, NJ 07305 LAT/LONG: 40.6932 / -74.0854	CLIENT: Shaw Environmental, Inc. CONTACT: William Moran INQUIRY#: 3552923.2 RESEARCH DATE: 03/21/2013

Historical Topographic Map



Notes:
1. Block 27401, Lot 42 limits illustrated as red polygon.

N	TARGET QUAD NAME: JERSEY CITY MAP YEAR: 1981 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Fashionland ADDRESS: 18 Chapel Avenue Jersey City, NJ 07305 LAT/LONG: 40.6932 / -74.0854	CLIENT: Shaw Environmental, Inc. CONTACT: William Moran INQUIRY#: 3552923.2 RESEARCH DATE: 03/21/2013

ATTACHMENT 5

Excerpts from Remedial Investigation Report

Table 5
PPG Site 107: Soil Sample Results and Exceedances of
NJDEP Impact to Groundwater Soil Screening Levels

NA= NOT ANALYZED, NC= NO CRITERIA
U= CONSTITUENT NOT DETECTED
ITALIC RESULT=EXCEEDS NJDEP IGWSSL
*=MDL EXCEEDS ONE OR MORE SOIL STANDARD
DF = Dilution Factor; TOC = Total Organic Carbon

DRESDNER ROBIN
Engineering, Environmental, Planning, Surveying & Landscape Architecture

						NJDEP Impact to Groundwater Soil Screening Levels															
						Antimony		Chromium		Hexavalent Chromium		Nickel		Thallium		Vanadium					
						6 mg/kg		No Criteria		No Criteria		31 mg/kg		3 mg/kg		No Criteria					
Sample ID	Laboratory ID	Sample Date	Depth (ft)	Depth (ft)	Depth to GW (ft.)	Result (mg/kg)	DF	Result (mg/kg)	DF	Result (mg/kg)	DF	Result (mg/kg)	DF	Result (mg/kg)	DF	Result (mg/kg)	DF	Ferrous Iron (mg/L)	ORP (mV)	pH	TOC (mg/kg)	Total Sulfide (mg/kg)
107_I038_0.0	460-22506-1	1/26/2011	0	0.5	12	1.1	4	53.9	4	0.63 U	1	52.0	4	1.2 U	4	82.4	4	NA	483	7.85	NA	NA
107_I038_3.5	460-22506-2	1/26/2011	3.5	4	12	1.3	4	22.7	4	0.57 U	1	38.2	4	1.1 U	4	29.8	4	NA	446	8.04	NA	NA
107_I038_6.5	460-22506-3	1/26/2011	6.5	7	12	1.7	4	106	4	0.58 U	1	47.5	4	1.1 U	4	29.9	4	NA	293	10.1	NA	NA
107_I038_7.0	460-22506-4	1/26/2011	7	7.5	12	69.8	10	5580	10	183	5	395	10	3 U*	10	528	10	NA	284	10.6	NA	NA
107_I038_8.0	460-22506-5	1/26/2011	8	8.5	12	1 U	4	52.4	4	31.1	1	35.8	4	1.1 U	4	21.4	4	NA	298	9.18	NA	NA
107_I038_10.0	460-22506-6	1/26/2011	10	10.5	12	0.99 U	4	54.0	4	9.5	1	54.0	4	1.1 U	4	19.8	4	NA	295	9.32	NA	NA
107_I038_12.0	460-22506-8	1/26/2011	12	12.5	12	171	4	286	4	13.3	1	31.9	4	1.1 U	4	23.2	4	NA	250	9.74	NA	NA
107_I040_7.5	460-22506-29	1/26/2011	7.5	8	12.5	0.97 U	4	19.5	4	0.58 U	1	47.0	4	1.1 U	4	18.2	4	NA	331	8.05	NA	NA
107_I040_11.5	460-22506-30	1/26/2011	11.5	12	12.5	1 U	4	18.8	4	0.61 U	1	41.5	4	1.1 U	4	20.7	4	NA	385	9.09	NA	NA
107_I042_7.5	460-22560-17	1/28/2011	7.5	8	12.5	1 U	4	19.5	4	0.57 U	1	41.1	4	1.1 U	4	20.7	4	NA	359	8.62	NA	NA
107_I042_11.5	460-22560-18	1/28/2011	11.5	12	12.5	1 U	4	22.1	4	0.61 U	1	57.5	4	1.1 U	4	21.8	4	NA	360	8.49	NA	NA
107_I044_7.5	460-22638-13	1/31/2011	7.5	8	11.5	1 U	4	17.8	4	0.58 U	1	33.6	4	1.1 U	4	20	4	NA	366	8.32	NA	NA
107_I044_11.5	460-22638-14	1/31/2011	11.5	12.0	11.5	2.9	4	62.1	4	0.77 U	1	7,020	25	1.4 U	4	38.9	4	NA	334	7.45	NA	NA
107_I046_7.5	460-22638-43	1/31/2011	7.5	8	20.5	1.1 U	4	27.5	4	0.61	1	49.1	4	1.2 U	4	19.5	4	NA	366	8.36	NA	NA
107_I046_11.5	460-22638-44	1/31/2011	11.5	12	20.5	1.3 U	4	14.8	4	0.77 U	1	85.7	4	1.5 U	4	15.6	4	NA	354	7.63	NA	NA
107_K038_3.5	460-22506-13	1/26/2011	3.5	4	15	1.2	4	32.6	4	0.6 U	1	31.6	4	1.1 U	4	78.3	4	NA	376	8.2	NA	NA
107_K038_7.5	460-22506-14	1/26/2011	7.5	8	15	1.1 U	4	21.7	4	0.6 U	1	33.5	4	1.2 U	4	23.1	4	NA	375	8.32	NA	NA
107_K040_11.5	460-22506-23	1/26/2011	11.5	12	14	1 U	4	24.0	4	0.61 U	1	56.8	4	1.1 U	4	23	4	NA	358	8.43	NA	NA
107_K042_7.5	460-22560-24	1/28/2011	7.5	8	15.34	1 U	4	21.3	4	0.58 U	1	45.7	4	1.1 U	4	24.3	4	NA	271	10.5	NA	NA
107_K042_15.0	460-22560-26	1/28/2011	15	15.5	15.34	1.2 U	4	10.2	4	0.68 U	1	47.6	4	1.3 U	4	17.7	4	NA	342	8.12	NA	NA
107_K044_7.5	460-22638-20	1/31/2011	7.5	8	12.3	1 U	4	22.1	4	0.57 U	1	45.1	4	1.1 U	4	20.1	4	NA	393	8.08	NA	NA
107_K046_0.0	460-22638-25	1/31/2011	0	0.5	12	1 U	4	28.2	4	0.59 U	1	32.5	4	1.1 U	4	153	4	NA	346	8.09	NA	NA
107_K046_3.5	460-22638-26	1/31/2011	3.5	4	12	1 U	4	32.3	4	0.59 U	1	35.9	4	1.1 U	4	147	4	NA	344	7.99	NA	NA
107_K046_11.5	460-22638-27	1/31/2011	11.5	12	12	1.7	4	46.1	4	0.76 U	1	38.7	4	1.5 U	4	27.8	4	NA	283	6.43	NA	NA
107_M020_0.0	460-23018-11	2/11/2011	0	0.5	9	1 U	4	158	4	0.58 U	1	38.6	4	1.1 U	4	104	4	NA	418	8.2	NA	NA
107_M020_1.0/1.2	460-23018-15	2/11/2011	1	1.5	9	1 U	4	2180	4	116	5	321	4	1.1 U	4	734	4	NA	414	9.14	NA	NA
107_M020_2.5	460-23018-16	2/11/2011	2.5	3	9	3.1 U	10	4600	10	239	5	457	10	3.4 U*	10	701	10	NA	296	11.6	NA	NA
107_M020_3.0	460-23018-17	2/11/2011	3	3.5	9	3.9	4	3450	10	158	5	123	4	1.4 U	4	217	4	NA	316	10.6	NA	NA
107_M022_0.0	460-23018-1	2/11/2011	0	0.5	7	1.1 U	4	449	4	0.72	1	68.0	4	1.2 U	4	130	4	NA	425	7.87	NA	NA
107_M022_1.0/2.0	460-23018-2	2/11/2011	1	1.5	7	0.96	4	210	4	1.4	1	41.8	4	1 U	4	99.1	4	NA	356	8.3	NA	NA
107_M024_0.5	460-22995-34	2/10/2011	0.5	2	21.5	0.96 U	4	458	4	16.7	1	76.7	4	1.1 U	4	128	4	NA	510	8.75	NA	NA
107_M026_0.5	460-22995-27	2/10/2011	0.5	3	17.8	1.1 U	4	4360	20	223	5	309	4	1.2 U	4	547	4	NA	303	9.7	NA	NA
107_M028_0.0	460-22995-21	2/10/2011	0	0.5	14	1.6	4	416	4	80.4	2	100	4	1 U	4	147	4	NA	444	8.7	NA	NA
107_M028_0.5	460-22995-22	2/10/2011	0.5	1	14	4.7	10	3950	10	225	5	510	10	3.3 U*	10	648	10	NA	407	10	NA	NA
107_M028_1.0	460-22995-23	2/10/2011	1	1.5	14	21.2	20	11600	20	160	5	673	20	7.3 U*	20	734	20	NA	301	11.6	NA	NA
107_M030_0.0	460-22995-15	2/10/2011	0	0.5	15	1.8	4	748	4	3.9	1	111	4	1.2 U	4	214	4	NA	355	8.07	NA	NA
107_M030_0.5	460-22995-16	2/10/2011	0.5	2	15	2.0	4	822	4	77.6	2	98.1	4	1.1 U	4	134	4	NA	351	9.83	NA	NA
107_M032_0.5	460-22995-10	2/10/2011	0.5	1.5	10	2.7	4	1470	4	189	5	179	4	1.1 U	4	286	4	NA	367	10.5	NA	NA
107_M032_1.5	460-22995-11	2/10/2011	1.5	2	10	8.7	4	3130	10	263	5	355	4	1.6 U	4	620	4	NA	371	10.5	NA	NA
107_M034_0.0	460-22995-1	2/10/2011	0	0.5	20	1.2	4	41.1	4	0.57 U	1	34.9	4	1.1 U	4	65.8	4	NA	517	7.59	NA	NA
107_M034_3.0	460-22995-2	2/10/2011	3	3.5	20	2.7	4	606	4	1.5	1	75.3	4	1.1 U	4	141	4	NA	517	8.05	NA	NA
107_M034_3.5	460-22995-3	2/10/2011	3.5	4.5	20	2.9	4	809	4	1.4	1	65.1	4	1.1 U	4	117	4	NA	503	8.41	NA	NA

ATTACHMENT 6

Development of Arithmetic Mean

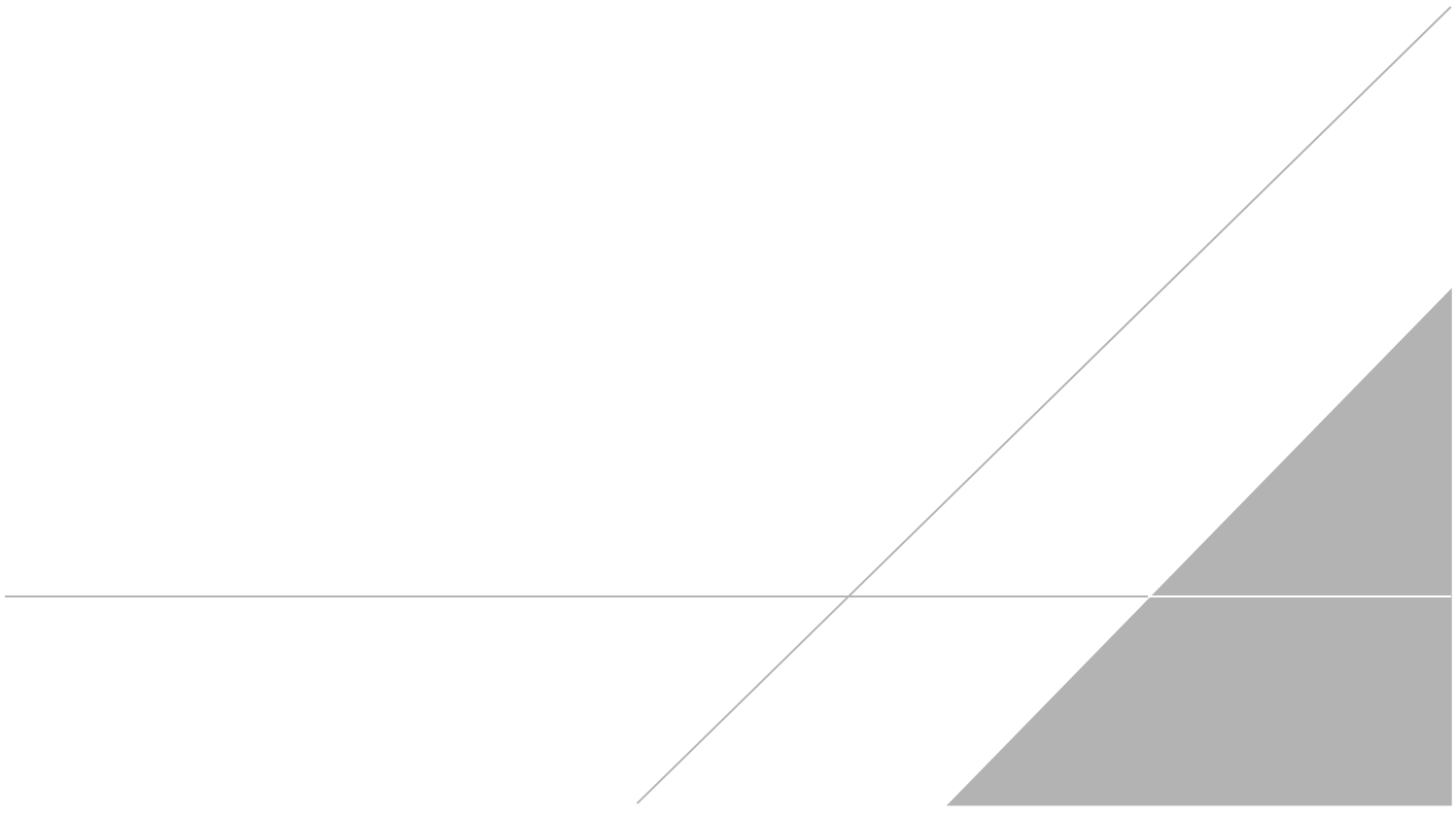


Table 1. Nickel Only Samples
Post Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

ARCADIS Design & Consultancy for natural and built assets

Location ID	Sample ID	Sample Depth (ft)	Nickel (mg/kg)
		RDC SRS	1600
		CrSC	NA
		IGWSRS	48
		SSSRS	NA
107 I044	107-I044_20180710	14.5-15.0	37.3
BS-E29	BS-E29_20180625	15.5-16.0	363.0
SW-D1	SW-D1 (8.0-8.5)_20180716	8-8.5	57.6
SW-D1	SW-D1 (10.0-10.5)_20180716	10-10.5	314.0
SW-D1	SW-D1 (12.0-12.5)_20180716	12-12.5	47.2
SW-D1	SW-D1 (14.0-14.5)_20180716	14-14.5	49.3
SW-D1	SW-D1 (16.0-16.5)_20180716	16-16.5	830.0
SW-D1	SW-D1 (18.0-18.5)_20180716	18-18.5	22.6
SW-D1	SW-D1 (20.0-20.5)_20180716	20-20.5	120.0
SW-D10	SW-D10(8.0-8.5)_20180619	8-8.5	36.5
SW-D10	SW-D10(10.0-10.5)_20180619	10-10.5	31.9
SW-D10	SW-D10(12.0-12.5)_20180625	12-12.5	5190.0
SW-D10	SW-D10 (14.0-14.5)_20180628	14-14.5	95.8
SW-D10	SW-D10(15.5-16.0)_20180710	15.5-16	31.5
SW-D11	SW-D11(8.0-8.5)_20180717	8-8.5	183.0
SW-D11	SW-D11(10.0-10.5)_20180717	10-10.5	900.0
SW-D11	SW-D11 (12.0-12.5)_20180716	12-12.5	457.0
SW-D11	SW-D11 (14.0-14.5)_20180716	14-14.5	244.0
SW-D11	SW-D11 (16.0-16.5)_20180716	16-16.5	6.6
SW-D11	SW-D11 (18.0-18.5)_20180716	18-18.5	30.1
SW-D11	SW-D11 (20.0-20.5)_20180716	20-20.5	16.9
SW-D2	SW-D2(8.0-8.5)_20180626	8-8.5	43.4
SW-D2	SW-D2(10.0-10.5)_20180626	10-10.5	30.2
SW-D2	SW-D2(12.0-12.5)_20180626	12-12.5	59.2
SW-D2	SW-D2 (14.0-14.5)_20180716	14-14.5	44.8
SW-D2	SW-D2 (16.0-16.5)_20180716	16-16.5	15.3
SW-D2	SW-D2 (18.0-18.5)_20180716	18-18.5	13.4
SW-D2	SW-D2 (20.0-20.5)_20180716	20-20.5	788.0
SW-D3	SW-D3(8.0-8.5)_20180625	8-8.5	41.8
SW-D3	SW-D3(10.0-10.5)_20180625	10-10.5	23.7
SW-D3	SW-D3(12.0-12.5)_20180625	12-12.5	77.4
SW-D3	SW-D3(14.0-14.5)_20180625	14-14.5	295.0
SW-D3	SW-D3(16.0-16.5)_20180710	16-16.5	112.0
SW-D4	SW-D4(8.0-8.5)_20180619	8-8.5	31.4
SW-D4	SW-D4(10.0-10.5)_20180619	10-10.5	64.0
SW-D4	SW-D4(12.0-12.5)_20180625	12-12.5	268.0
SW-D4	SW-D4(14.0-14.5)_20180625	14-14.5	35.8
SW-D4	SW-D4(15.5-16.0)_20180710	15.5-16	7.6
SW-D5	SW-D5(8.0-8.5)_20180717	8-8.5	287.0
SW-D5	SW-D5(10.0-10.5)_20180717	10-10.5	1990.0
SW-D5	SW-D5(12.0-12.5)_20180717	12-12.5	446.0
SW-D5	SW-D5 (14.0-14.5)_20180716	14-14.5	231.0
SW-D5	SW-D5 (16.0-16.5)_20180716	16-16.5	11.5
SW-D5	SW-D5 (18.0-18.5)_20180716	18-18.5	265.0
SW-D6	SW-D6(8.0-8.5)_20180717	8-8.5	60.3
SW-D6	SW-D6 (10.0-10.5)_20180716	10-10.5	9940.0
SW-D6	SW-D6 (12.0-12.5)_20180716	12-12.5	2270.0
SW-D6	SW-D6 (14.0-14.5)_20180716	14-14.5	12600.0
SW-D6	SW-D6 (16.0-16.5)_20180716	16-16.5	10.0
SW-D6	SW-D6 (18.0-18.5)_20180716	18-18.5	120.0
SW-D6	SW-D6 (20.0-20.5)_20180716	20-20.5	23.2
SW-D7	SW-D7(8.0-8.5)_20180622	8-8.5	321.0
SW-D7	SW-D7 (10.0-10.5)_20180716	10-10.5	69.4
SW-D7	SW-D7 (12.0-12.5)_20180716	12-12.5	4560.0
SW-D7	SW-D7 (14.0-14.5)_20180716	14-14.5	398.0
SW-D7	SW-D7 (16.0-16.5)_20180716	16-16.5	605.0
SW-D7	SW-D7 (18.0-18.5)_20180716	18-18.5	885.0
SW-D7	SW-D7 (20.0-20.5)_20180716	20-20.5	14.6
SW-D8	SW-D8(8.0-8.5)_20180622	8-8.5	43.5
SW-D8	SW-D8(10.0-10.5)_20180625	10-10.5	637.0
SW-D8	SW-D8(12.0-12.5)_20180625	12-12.5	1160.0
SW-D8	SW-D8 (14.0-14.5)_20180628	14-14.5	93.2
SW-D8	DUP-3 (20180628)	14-14.5	394.0
SW-D8	SW-D8(16.0-16.5)_20180710	16-16.5	204.0
SW-D9	SW-D9(8.0-8.5)_20180619	8-8.5	42.9
SW-D9	SW-D9(10.0-10.5)_20180619	10-10.5	35.6
SW-D9	SW-D9(12.0-12.5)_20180625	12-12.5	71.4
SW-D9	SW-D9 (14.0-14.5)_20180628	14-14.5	72.4
SW-D9	SW-D9(15.5-16.0)_20180710	15.5-16	83.9
SW-S10	SW-S10(12.0-12.5)A_20180710	12-12.5	403.0
		ARITHMETIC MEAN (mg/kg)	705.2

Table 2. Samples Associated with COPR Nodules
Post Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample ID	Sample Depth (ft)	Nickel (mg/kg)
		RDC SRS	1600
		CrSC	NA
		IGWSRS	48
		SSSRS	NA
SW-D1	SW-D1 (0.0-0.5)_20180716	0-0.5	30.4
SW-D1	SW-D1 (2.0-2.5)_20180716	2-2.5	26.1
SW-D1	SW-D1 (4.0-4.5)_20180716	4-4.5	16.1
SW-D1	SW-D1 (6.0-6.5)_20180716	6-6.5	17.9
SW-D10	SW-D10(0.0-0.5)_20180619	0-0.5	25.0
SW-D10	SW-D10(2.0-2.5)_20180619	2-2.5	20.3
SW-D10	SW-D10(4.0-4.5)_20180619	4-4.5	12.8
SW-D10	DUP-1(20180619)	4-4.5	26.8
SW-D10	SW-D10(6.0-6.5)_20180619	6-6.5	18.5
SW-D11	SW-D11(0.0-0.5)_20180717	0-0.5	15.7
SW-D11	SW-D11(2.0-2.5)_20180717	2-2.5	41.8
SW-D11	SW-D11(4.0-4.5)_20180717	4-4.5	98.4
SW-D11	SW-D11(6.0-6.5)_20180717	6-6.5	73.8
SW-D2	SW-D2(0.0-0.5)_20180626	0-0.5	46.0
SW-D2	SW-D2(2.0-2.5)_20180626	2-2.5	50.1
SW-D2	SW-D2(4.0-4.5)_20180626	4-4.5	19.4
SW-D2	SW-D2(6.0-6.5)_20180626	6-6.5	45.6
SW-D3	SW-D3(0.0-0.5)_20180625	0-0.5	18.2
SW-D3	SW-D3(2.0-2.5)_20180625	2-2.5	34.6
SW-D3	SW-D3(4.0-4.5)_20180625	4-4.5	12.6
SW-D3	SW-D3(6.0-6.5)_20180625	6-6.5	49.7
SW-D4	SW-D4(0.0-0.5)_20180619	0-0.5	19.8
SW-D4	DUP-2(20180619)	0-0.5	19.9
SW-D4	SW-D4(2.0-2.5)_20180619	2-2.5	18.4
SW-D4	SW-D4(4.0-4.5)_20180619	4-4.5	15.4
SW-D4	SW-D4(6.0-6.5)_20180619	6-6.5	124.0
SW-D5	SW-D5(0.0-0.5)_20180717	0-0.5	60.2
SW-D5	SW-D5(2.0-2.5)_20180717	2-2.5	12.5
SW-D5	SW-D5(4.0-4.5)_20180717	4-4.5	58.8
SW-D5	SW-D5(6.0-6.5)_20180717	6-6.5	257.0
SW-D6	SW-D6 (0.0-0.5)_20180716	0-0.5	96.1
SW-D6	SW-D6(2.0-2.5)_20180717	2-2.5	84.0
SW-D6	SW-D6(4.0-4.5)_20180717	4-4.5	276.0
SW-D6	DUP-5(20180717)	4-4.5	521.0
SW-D6	SW-D6(6.0-6.5)_20180717	6-6.5	676.0
SW-D6	DUP-6(20180717)	6-6.5	855.0
SW-D7	SW-D7(0.0-0.5)_20180622	0-0.5	24.7
SW-D7	SW-D7(2.0-2.5)_20180622	2-2.5	30.2
SW-D7	SW-D7(4.0-4.5)_20180622	4-4.5	20.3
SW-D7	SW-D7(6.0-6.5)_20180622	6-6.5	55.5
SW-D8	SW-D8(0.0-0.5)_20180622	0-0.5	38.1
SW-D8	SW-D8(2.0-2.5)_20180622	2-2.5	14.8
SW-D8	SW-D8(4.0-4.5)_20180622	4-4.5	52.1
SW-D8	SW-D8(6.0-6.5)_20180622	6-6.5	92.1
SW-D9	SW-D9(0.0-0.5)_20180619	0-0.5	23.6
SW-D9	SW-D9(2.0-2.5)_20180619	2-2.5	16.5
SW-D9	SW-D9(4.0-4.5)_20180619	4-4.5	20.6
SW-D9	SW-D9(6.0-6.5)_20180619	6-6.5	54.5
		ARITHMETIC MEAN (mg/kg)	88.3

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
		RDC SRS	1600
		CrSC	NA
		IGWSRS	48
		SSSRS	NA
107_D019	0	0.5	13.4
107_D019	4	4.5	10.6
107_D019	8	8.5	14
107_D019	12	12.5	11.2
107_D021	0	0.5	31.7
107_D021	2.5	3	21.8
107_D021	6.5	7	10.8
107_D021	10.5	11	11.5
107_D023	0	0.5	15.5
107_D023	3.5	4	10
107_D023	7	7.5	10.2
107_D023	11	12	10.6
107_D023	15	15.5	17.1
107_D025	0	0.5	21.7
107_D025	3.5	4	22.9
107_D025	7.5	8	22.1
107_D025	11.5	12	29.6
107_D025	15.5	16	13
107_D025	19.5	20	15.5
107_E026a	0	0.5	10.9
107_E026a	4.5	5	34.2
107_E026a	7	7.5	50.6
107_E026a	11	11.5	8.8
107_E026a	15	15.5	12.2
107_E027	0	0.5	10.8
107_E027	2.5	3	17
107_E027	7.5	8	27.1
107_E027	11.5	12	15.6
107_E027	15.5	16	14.1
107_E028a	0	0.5	15.9
107_E028a	3.5	4	39.9
107_E028a	6	6.5	144
107_E028a	9	9.5	11.4
107_E028a	10	10.5	73.9
107_E028a	14	14.5	13.5
107_E028a	18	18.5	13.3
107_E029	0	0.5	21.4
107_E029	3.5	4	33.7
107_E029	7.5	8	71.7
107_E029	10.5	11	47.6
107_E029	14.5	15	14.4
107_E029	18.5	19	14
107_E031	0	0.5	15.3
107_E031	3.5	4	49.9
107_E031	6.5	7	15.7
107_E031	11.5	12	2220
107_E031	15.5	16	18.3
107_E031	19.5	20	13.6
107_E034	0	0.5	26.1
107_E034	3.5	4	43.1
107_E034	7.5	8	44.6
107_E034	10.5	11	69.8
107_E034	14.5	15	12.7
107_E034	18.5	19	9.8
107_F040	0	0.5	17.6
107_F040	3.5	4	50.8
107_F040	5.5	6	46.6
107_F040	6	6.5	453
107_F040	6.5	7	178
107_F040	7.5	8	101
107_F040	11.5	12	636
107_F040	15	15.5	61.6
107_F040	19	19.5	93
107_F040	22.5	23	6.6
107_G032	0	0.5	57.1
107_G032	3.5	4	38.3
107_G032	7.5	8	46.4
107_G034	0	0.5	20.2
107_G034	3.5	4	47.9

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
107_G034	7.5	8	33
107_G034	11	11.5	35.3
107_G034	15	15.5	13.2
107_G034	19	19.5	18.7
107_G036	0	0.5	21.1
107_G036	5	5.5	42.2
107_G036	6	6.5	189
107_G036	7	7.5	43.4
107_G036	15	15.5	29.1
107_G036	19	19.5	8.2
107_G036	23	23.5	6.6
107_G038	0	0.5	32
107_G038	4.5	5	14
107_G038	6	6.5	392
107_G038	7	7.5	12.8
107_G040	0	0.5	28.1
107_G040	3.5	4	14
107_G040	4.5	5	18.1
107_G040	5	5.5	79.4
107_G040	7.5	8	49.6
107_G040	11.5	12	51.7
107_G040	14.5	15	469
107_G042	0	0.5	16.4
107_G042	3.5	4	16.5
107_G042	7.5	8	43.6
107_G042	11.5	12	84.3
107_G042	14	14.5	46.5
107_G042	18	18.5	15.9
107_G042	22	22.5	17.2
107_G044	0	0.5	15.4
107_G044	3.5	4	22.5
107_G044	7.5	8	57.1
107_G044	15	15.5	33.8
107_G044	19	19.5	17.1
107_G044	23	23.5	8.5
107_G046	0	0.5	19.4
107_G046	3.5	4	26.3
107_G046	4.5	5	73.6
107_G046	5	5.5	30.2
107_G046	5.5	6	17.3
107_G046	7.5	8	11.1
107_G046	10	10.5	35
107_G046	14	14.5	11.7
107_G046	18	18.5	7.8
107_I032	0	0.5	18.9
107_I032	3.5	4	14.5
107_I032	7.5	8	14.9
107_I032	10	10.5	103
107_I032	14.5	15	5.6
107_I032	18.5	19	9.7
107_I034	0	0.5	25
107_I034	3.5	4	90.2
107_I034	7.5	8	21.3
107_I034	11.5	12	135
107_I034	15.5	16	13.2
107_I034	19.5	20	14.7
107_I036	0	0.5	26.4
107_I036	3.5	4	18.2
107_I036	7.5	8	43.2
107_I036	11.5	12	23.6
107_I036	15.5	16	182
107_I036	19.5	20	10
107_I036	23.5	24	13.5
107_I038	0	0.5	52
107_I038	3.5	4	38.2
107_I038	6.5	7	47.5
107_I038	7	7.5	395
107_I038	8	8.5	35.8
107_I038	10	10.5	54
107_I038	11	11.5	31.7
107_I038	12	12.5	31.9
107_I038	17	17.5	834
107_I038	21	21.5	26.1

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
107_I038	25	25.5	14.3
107_I040	0	0.5	20.2
107_I040	3.5	4	24.3
107_I040	7.5	8	47
107_I040	11.5	12	41.5
107_I040	15.5	16	85.4
107_I040	16.5	17	263
107_I040	20.5	21	36
107_I040	24.5	25	9.1
107_I042	0	0.5	28.4
107_I042	3.5	4	15.5
107_I042	7.5	8	41.1
107_I042	11.5	12	57.5
107_I042	14.5	15	6150
107_I042	18.5	19	39.4
107_I042	22.5	23	14.5
107_I044	0	0.5	12.1
107_I044	3.5	4	13.2
107_I044	7.5	8	33.6
107_I044	11.2	12	3040
107_I044	11.5	12	7020
107_I044	13.5	14	1520
107_I044	17.5	18	8.6
107_I044	21.5	22	13
107_I046	0	0.5	10.3
107_I046	3.5	4	15.4
107_I046	7.5	8	49.1
107_I046	11.5	12	85.7
107_I046	15.5	16	8.1
107_I046	19.5	20	9.1
107_K032	0	0.5	16.5
107_K032	3.5	4	13
107_K032	7.5	8	14.7
107_K032	10.5	11	9.3
107_K032	14.5	15	11.6
107_K032	18.5	19	12.8
107_K034	0	0.5	29.6
107_K034	3.5	4	18.8
107_K034	7.5	8	13.9
107_K034	11.5	12	13
107_K034	15.5	16	10.7
107_K034	19.5	20	12.6
107_K036	0	0.5	16.4
107_K036	3.5	4	28
107_K036	7.5	8	29.6
107_K038	0.5	0.5	18.4
107_K038	3.5	4	31.6
107_K038	7.5	8	33.5
107_K038	11.5	12	21.2
107_K038	15.5	16	13.9
107_K038	16.5	17	28.2
107_K038	20.5	21	12
107_K038	24.5	25	16.8
107_K040	0	0.5	12.1
107_K040	3.5	4	29.8
107_K040	7.5	8	28.7
107_K040	11.5	12	56.8
107_K040	16	16.5	63.5
107_K040	20	20.5	8.6
107_K040	24	24.5	13.6
107_K042	0	0.5	20.8
107_K042	3.5	4	17.7
107_K042	7.5	8	45.7
107_K042	11.5	12	15.7
107_K042	15	15.5	47.6
107_K042	19	19.5	12.2
107_K042	23	23.5	11.9
107_K044	0	0.5	9.9
107_K044	3.5	4	16.2
107_K044	7.5	8	45.1
107_K044	11.5	12	25.8
107_K044	14.5	15	57.9
107_K044	18.5	19	12.5

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

ARCADIS Design & Consultancy for natural and built assets

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
107_K044	22.5	23	13.9
107_K046	0	0.5	32.5
107_K046	3.5	4	35.9
107_K046	11.5	12	38.7
107_K046	15.5	16	12
107_K046	19.5	20	15.7
107_M020	0	0.5	38.6
107_M020	1	1.2	321
107_M020	2.5	3	457
107_M020	3	3.5	123
107_M020	3.5	4	8.9
107_M020	7.5	8	12
107_M020	11.5	12	12
107_M022	0	0.5	68
107_M022	1	2	41.8
107_M022	4	4.5	15.5
107_M022	4.5	5	7.4
107_M022	8.5	9	6.2
107_M022	12.5	13	13.4
107_M024	0	0.5	27.8
107_M024	0.5	2	76.7
107_M024	2	2.5	21.4
107_M024	3.5	4	17.3
107_M024	7.5	8	11
107_M024	15.5	16	11.6
107_M026	0	0.5	17.4
107_M026	0.5	3	309
107_M026	3	3.5	19.2
107_M026	4	4.5	13.3
107_M026	8	8.5	7
107_M026	12	12.5	14.4
107_M028	0	0.5	100
107_M028	0.5	1	510
107_M028	1	1.5	673
107_M028	3.5	4	11.7
107_M028	7.5	8	9
107_M028	11.5	12	9.2
107_M030	0	0.5	111
107_M030	0.5	2	98.1
107_M030	2.5	3	19.2
107_M030	3.5	4	12.7
107_M030	7.5	8	12
107_M030	11.5	12	12.2
107_M032	0	0.5	26.5
107_M032	0.5	1.5	179
107_M032	1.5	2	355
107_M032	3	3.5	20.1
107_M032	7	7.5	10.5
107_M032	11	11.5	12.5
107_M034	0	0.5	34.9
107_M034	3	3.5	75.3
107_M034	3.5	4.5	65.1
107_M034	5	5.5	16.4
107_M034	7.5	8	16.5
107_M034	9.5	10	10.8
107_M034	13.5	14	8.8
107_M034	17.5	18	16.9
107_M036	0	0.5	25.7
107_M036	3.5	4	29.2
107_M036	7.5	8	15.6
107_M036	8.5	9	16.4
107_M036	12.5	13	14.2
107_M036	16.5	17	18
107_M038	0	0.5	25.8
107_M038	3.5	4	129
107_M038	8	8.5	25.1
107_M038	12	12.5	13.1
107_M038	16	16.5	12.9
107_M040	0	0.5	27.1
107_M040	3.5	4	22.4
107_M040	7.5	8	44.6
107_M040	8.5	9	28.1
107_M040	12.5	13	11.2

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
107_M040	16.5	17	6.4
107_M042	0.5	1	39.6
107_M042	3.5	4	16.8
107_M042	7.5	8	45.9
107_M042	8.5	9	21.7
107_M042	12.5	13	10.4
107_M042	16.5	17	12.4
107_M044	0.5	1	25
107_M044	3.5	4	18.9
107_M044	7.5	8	48.6
107_M044	11.5	12	11.5
107_M044	15.5	16	11.4
107_M046	0	0.5	39.8
107_M046	3.5	4	15.3
107_M046	8	8.5	50.1
107_M046	12	12.5	11.4
107_M046	16	16.5	11.4
108_A002	0	0.5	11.3
108_A002	2.5	3	8
108_A002	6.5	7	10.4
108_A002	10.5	11	12.3
108_A004	0	0.5	34.4
108_A004	4	4.5	36.5
108_A004	8	8.5	12.1
108_A004	12	12.5	12.4
108_B006	0	0.5	19.8
108_B006	3.5	4	10.2
108_B006	7.5	8	15.6
108_B006	11.5	12	9.1
108_B008	0	0.5	11.6
108_B008	4.5	5	30.2
108_B008	8.5	9	11.8
108_B008	12.5	13	12.1
108_B010	0	0.5	27.3
108_B010	3	3.5	38.8
108_B010	7	7.5	25.8
108_B010	11	11.5	9.7
108_B010	15	15.5	15.8
108_B010	19	19.5	11.8
108_B010	23	23.5	13.9
108_C002	0	0.5	27.6
108_C002	4	4.5	9.9
108_C002	8	8.5	9.4
108_C002	12	12.5	16
108_C004	0	0.5	16.8
108_C004	3.5	4	11.2
108_C004	6.5	7	98.9
108_C004	10.5	11	13.5
108_C004	14.5	15	11.7
108_C018	0	0.5	18.1
108_C018	2.5	3	25
108_C018	6.5	7	11.8
108_C018	9.5	10	14.7
108_D006	0	0.5	17.3
108_D006	3.5	4	29.6
108_D006	6.5	7	16.9
108_D006	10.5	11	15.3
108_D006	14.5	15	24.4
108_D006	18.5	19	12.7
108_D008	0	0.5	15.4
108_D008	4	4.5	31.4
108_D008	7.5	8	13.9
108_D008	11.5	12	15.7
108_D008	15.5	16	17.2
108_D008	18	18.5	8.3
108_D010	0	0.5	23.3
108_D010	3.5	4	32.6
108_D010	7	7.5	14.1
108_D010	11	11.5	13.6
108_D010	14.5	15	15.3
108_D010	18.5	19	13.8
108_D012	0	0.5	12.9
108_D012	3.5	4	22.4

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
108_D012	6	6.5	12.1
108_D012	11	11.5	48.7
108_D012	15	15.5	10.6
108_D012	19	19.5	12.3
108_D012	23	23.5	7.7
108_D014	0	0.5	15.8
108_D014	3.5	4	10.5
108_D014	6.5	7	11.3
108_D014	10.5	11	14.4
108_D014	14.5	15	10.2
108_D016	0	0.5	19.6
108_D016	2.5	3	17.1
108_D016	6.5	7	15.3
108_D016	10.5	11	9.8
108_E004	0	0.5	10.7
108_E004	4.5	5	30.9
108_E004	8.5	9	9.8
108_E004	12.5	13	16.3
108_E018	0	0.5	16.9
108_E018	2.5	3	13.7
108_E018	6.5	7	14
108_E018	10.5	11	13.7
108_F003	0	0.5	22.5
108_F003	2.5	3	11.7
108_F003	4.5	5	10.5
108_F003	8.5	9	11.2
108_F003	12.5	13	13.2
108_F006	0	0.5	31.4
108_F006	3.5	4	19.3
108_F006	7.5	8	19.2
108_F006	11.5	12	13.5
108_F006	14.5	15	7.9
108_F008	0	0.5	27.4
108_F008	3.5	4	12.5
108_F008	7.5	8	15
108_F008	11.5	12	7.6
108_F010	0	0.5	27.2
108_F010	3.5	4	18.2
108_F010	7.5	8	18.1
108_F010	11.5	12	7.4
108_F012	0	0.5	14.9
108_F012	3	3.5	18.5
108_F012	7	7.5	14.3
108_F012	11	11.5	11
108_F012	15	15.5	14.3
108_F012	16.5	17	7.5
108_F014	0	0.5	11.6
108_F014	1.5	2	26.7
108_F014	5.5	6	12.4
108_F014	9.5	10	10.8
108_F016	0	0.5	11.5
108_F016	2	2.5	22.5
108_F016	6	6.5	13
108_F016	10	10.5	14
108_G004	0	0.5	12.9
108_G004	3.5	4	13.5
108_G004	7	7.5	20.9
108_G004	11	11.5	16.2
108_G004	15	15.5	10.7
108_G018	0	0.5	9.5
108_G018	3.5	4	17.9
108_G018	5.5	6	15
108_G018	9.5	10	18
108_G018	13.5	14	9.6
108_H006	0	0.5	13.5
108_H006	3.5	4	15.2
108_H006	7.5	8	12.9
108_H006	11.5	12	23
108_H006	14.5	15	29.9
108_H006	18.5	19	68.7
108_H008	0	0.5	19.4
108_H008	3.5	4	15
108_H008	7.5	8	13.3

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
108_H008	11.5	12	30.5
108_H008	15.5	16	34
108_H008	19.5	20	68.9
108_H010	0	0.5	21.8
108_H010	3.5	4	20
108_H010	7.5	8	9.1
108_H010	11.5	12	7.9
108_H010	15.5	16	6.3
108_H010	17.5	18	6.7
108_H010	21.5	22	5
108_H012	0	0.5	4.9
108_H012	2	2.5	15.5
108_H012	4.5	5	20
108_H012	8	8.5	16.3
108_H012	12	12.5	9.3
108_H012	16	16.5	7.6
108_H012	20	20.5	6.7
108_H012	23.5	24	4.7
108_H014	0	0.5	3.5
108_H014	2	2.5	8.3
108_H014	5	5.5	10.8
108_H014	8	8.5	14.6
108_H014	12	12.5	12.4
108_H014	16	16.5	10
108_H014	20	20.5	12.7
108_H014	23.5	24	7.3
108_H016	0	0.5	34.5
108_H016	2	2.5	27.3
108_H016	6	6.5	12.7
108_H016	10	10.5	5
108_I004	0	0.5	14.2
108_I004	3.5	4	9.9
108_I004	6	6.5	23
108_I004	10	10.5	15.7
108_I004	14	14.5	12.7
108_I018	0	0.5	11
108_I018	4.5	5	13.6
108_I018	8.5	9	17.4
108_I018	12.5	13	15.3
108_J006	0	0.5	15.7
108_J006	3.5	4	15.5
108_J006	7.5	8	16.4
108_J006	11.5	12	19.8
108_J006	14.5	15	27
108_J006	17	17.5	21.9
108_J006	20.5	21	17.1
108_J008	0	0.5	19.2
108_J008	3.5	4	11.4
108_J008	7.5	8	11.2
108_J008	11.5	12	9.6
108_J008	15.5	16	21.9
108_J010	0	0.5	7.6
108_J010	2	2.5	5.7
108_J010	6	6.5	18.1
108_J010	10	10.5	7.5
108_J010	14	14.5	7.7
108_J010	16.5	17	10.6
108_J012	0	0.5	3.1
108_J012	1.5	2	13.8
108_J012	5.5	6	9.8
108_J012	9.5	10	10.6
108_J012	12	12.5	21.3
108_J012	13.5	14	21
108_J012	17.5	18	20.1
108_J012	21.5	22	13.4
108_J014	0	0.5	3.3
108_J014	3.5	4	22.8
108_J014	7.5	8	8.9
108_J014	11.5	12	7.5
108_J014	15.5	16	9.8
108_J014	19.5	20	10.8
108_J014	23.5	24	16.7
108_J016	0	0.5	3.9

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
108_J016	3	3.5	43.7
108_J016	7	7.5	11.8
108_J016	11	11.5	19.4
108_J016	15	15.5	10.9
108_J016	19	19.5	8.9
108_J016	23	23.5	8.9
108_K018	0	0.5	10.1
108_K018	4.5	5	17.9
108_K018	8.5	9	13.7
108_K018	12.5	13	9.8
108_L006	0	0.5	18.3
108_L006	2	2.5	13.5
108_L006	6	6.5	11.7
108_L006	10	10.5	13.5
108_L006	14	14.5	7.9
108_L006	15.5	16	9.1
108_L008	0	0.5	13.6
108_L008	3.5	4	12
108_L008	7.5	8	0.17
108_L008	11.5	12	11.3
108_L008	15.5	16	7.5
108_L008	19.5	20	12
108_L010	0	0.5	18.9
108_L010	3.5	4	13.7
108_L010	5.5	6	11.2
108_L010	11.5	12	15.1
108_L010	15.5	16	18.8
108_L010	17	17.5	6.2
108_L012	0	0.5	15.8
108_L012	3.5	4	12.7
108_L012	5.5	6	14.9
108_L012	9.5	10	12
108_L014	0	0.5	11.6
108_L014	3.5	4	13.6
108_L014	7.5	8	11.7
108_L014	11.5	12	12.2
108_L014	14.5	15	9.9
108_L014	18.5	19	20.5
108_L016	0	0.5	16
108_L016	3.5	4	17
108_L016	7.5	8	13.3
108_L016	11.5	12	12.4
108_L016	15.5	16	10.4
108_L016	19.5	20	7.5
108_L016	23.5	24	6.7
108_M006	0	0.5	24.3
108_M006	4	4.5	14
108_M006	8	8.5	10.8
108_M006	12	12.5	9.7
108_M008	0	0.5	17.4
108_M008	4.5	5	15.7
108_M008	8.5	9	14.8
108_M008	12.5	13	9.8
108_M010	0	0.5	26.3
108_M010	2	2.5	22.7
108_M010	6	6.5	13.5
108_M010	10	10.5	16.5
108_M012	0	0.5	11.7
108_M012	3.5	4	25.6
108_M012	5.5	6	22.7
108_M012	9.5	10	15.4
108_M012	13.5	14	13.5
108_M014	0	0.5	9
108_M014	10	10.5	13.3
108_M014	15	15.5	12
108_M014	19	19.5	9.2
108_M016	0	0.5	15.7
108_M016	3.5	4	97.6
108_M016	5.5	6	44.9
108_M016	9.5	10	13.8
108_M016	13.5	14	11.3
108_M018	0	0.5	24
108_M018	3.5	4	92.8

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
108_M018	4	4.5	19.9
108_M018	8	8.5	10.4
108_M018	12	12.5	10.5
DD001	0.5	1	13.3
DD001	2	2.5	13.9
DD001	4	4.5	10.9
DD001	6	6.5	<32
DD001	8	8.5	<28
DD002	0.5	1	14.4
DD002	2	2.5	12.1
DD002	5	5.5	<22
DD002	7	7.5	12.4
DD002	9	9.5	16.2
DD003	0.5	1	13
DD003	2	2.5	17.1
DD003	4	4.5	8.4
DD003	6	6.5	7.7
DD003	8	8.5	<17
DD004	0.5	1	32.5
DD004	2	2.5	15.9
DD004	4	4.5	9.9
DD004	6	6.5	7.5
DD004	8	8.5	<16
DD005	0.5	1	21.2
DD006	0.5	1	29.2
DD006	2	2.5	145
DD006	4	4.5	12.2
DD006	6	6.5	17.5
DD006	8	8.5	83.7
DD007	0.5	1	20.6
DD007	2	2.5	42.4
DD007	4	4.5	32.5
DD007	6	6.5	12.2
DD007	8	8.5	8.6
DD008	0.5	1	23.6
DD008	2	2.5	35.6
DD008	4	4.5	21.1
DD008	6	6.5	17.3
DD008	8	8.5	50
DD009	0.5	1	35.3
DD009	2	2.5	24.1
DD009	4	4.5	18.4
DD010	0.5	1	85.9
DD010	2	2.5	32.6
DD010	4	4.5	278
DD010	6	6.5	55.7
DD010	8	8.5	161
DD011	1.5	2	38.5
DD011	2.5	3	353
DD011	3.5	4	28.6
DD011	4.5	5	21.8
DD011	5.5	6	32.1
DD012	1.5	2	43.2
DD012	2.5	3	41.9
DD012	3.5	4	37.6
DD012	4.5	5	29.6
DD012	5.5	6	36.5
DUP 09	6	6.5	16.4
DUP 10	8	8.5	28.6
DUP 11	6	6.5	15
DUP 12	8	8.5	9.8
DUP 13	2	2.5	36
DUP 14	6	6.5	24.6
DUP 15	2	2.5	28.4
DUP 16	1.5	2	38.5
DUP 17	11	12	29
DUP 18	8	8.5	19.6
DUP 19	6	6.5	14.5
DUP 20	4	4.5	14.4
DUP 21	6	6.5	14.2
DUP 22	5	5.5	16.9
DUP 23	4.5	5	11.1
ED001	0.5	1	25.4

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
ED001	2	2.5	44.2
ED001	4	4.5	21.9
ED001	6	6.5	10.4
ED001	8	8.5	12.3
ED002	0.5	1	30.9
ED002	2	2.5	12.5
ED002	4	4.5	25.4
ED002	6	6.5	12.9
ED002	8	8.5	10.9
ED003	0.5	1	19
ED003	2	2.5	<16
ED003	4	4.5	22.3
ED003	6	6.5	19.7
ED003	8	8.5	23.1
ED004	0.5	1	14.2
ED004	2	2.5	14.9
ED004	4	4.5	2.9
ED004	6	6.5	74
ED004	8	8.5	130
ED005	0.5	1	30.4
ED005	2	2.5	14.7
ED005	4	4.5	23.1
ED005	6	6.5	20.8
ED005	8	8.5	49.6
ED006	0.5	1	24.8
ED006	5	5.5	63.4
ED006	7	7.5	19.7
ED006	9	9.5	333
ED006	11	11.5	28.5
ED007	0.5	1	38.4
ED007	2	2.5	36.4
ED007	4	4.5	74.1
ED007	6	6.5	16.3
ED007	8	8.5	29.8
ED008	5	5.5	42.9
ED008	6	6.5	65.2
ED008	7	7.5	50.4
ED008	8	8.5	43.4
ED010	4	4.5	25.4
ED010	5	5.5	13.9
ED010	7	7.5	35.4
ED013	8	8.5	84.9
ED013	10	10.5	53.8
ED013	14	14.5	72.4
ED014	9.5	10	83.7
ED014	10.5	11	35.2
ED014	11.5	12	24.2
ED014	12.5	13	51.2
ED014	13.5	14	95.7
ED015	2	2.5	39.8
ED015	0	6	30.5
ED015	8	8.5	44.7
FD003	5	5.5	36.3
FD003	5.5	6	21.7
FD003	6	6.5	25.9
FD003	6.5	7	24.9
FD004	5	5.5	13
FD004	5.5	6	6.6
FD004	6	6.5	<9.4
FD004	6.5	7	8.9
FD005	9.5	10	33.1
FD005	10	10.5	35.7
FD005	10.5	11	31.5
FD005	11	11.5	33.2
FI001	0.5	1	11.6
FI001	2	2.5	16.4
FI001	4	4.5	16.9
FI001	6	6.5	15.8
FI001	8	8.5	22
FI002	0.5	1	39
FI002	2	2.5	17.8
FI002	4	4.5	14.2
FI002	6	6.5	17.5

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
FI002	8	8.5	10.2
FI003	0.5	1	28.1
FI003	2	2.5	28.1
FI003	4	4.5	15.1
FI003	6	6.5	42.1
FI003	8	8.5	20.9
FI004	0.5	1	12
FI004	2	2.5	18.8
FI004	4	4.5	13.3
FI004	6	6.5	43.7
FI004	8	8.5	26.3
GD001	4	4.5	37
GD001	4.5	5	26.2
GD001	5	5.5	22.8
GD001	5.5	6	63.1
GD011	0.5	1	18.3
GD011	2	2.5	19
GD011	4	4.5	81.2
GD011	6	6.5	49.4
GI001	4	4.5	10
GI001	5	5.5	10.1
GI001	6	6.5	13.4
GI001	7	7.5	15.2
GI001	8	8.5	15.5
GI002	5	5.5	9.8
GI002	6	6.5	10.1
GI002	7	7.5	12.6
GI002	8	8.5	41.7
GI002	9	9.5	8.6
GI003	5.5	6	20.7
GI003	6.5	7	9.6
GI003	7.5	8	9.5
GI003	8.5	9	7.6
GI003	9.5	10	13.7
HD002	5	5.5	34.1
HD002	5.5	6	20.6
HD002	6	6.5	29.7
HD002	6.5	7	24.9
HD003	4	4.5	10.8
HD003	4.5	5	12.4
HD003	5	5.5	18.2
HD003	5.5	6	17.5
ID001	4	4.5	12.4
ID001	5	5.5	11.6
ID001	6	6.5	13.4
ID001	7	7.5	14.1
ID001	8	8.5	14.3
ID002	4.5	5	12.5
ID002	5.5	6	13.2
ID002	6.5	7	14.3
ID002	7.5	8	12.9
ID002	8.5	9	11.3
ID005	4.5	5	17.5
ID005	5.5	6	15.6
ID005	6.5	7	33.5
ID005	7.5	8	11.8
ID005	8.5	9	12.4
ID006	4	4.5	13.3
ID006	5	5.5	15.1
ID006	6	6.5	20.7
ID006	7	7.5	92.4
ID006	8	8.5	14
ID007	4	4.5	10.1
ID007	5	5.5	14.6
ID007	6	6.5	12.2
ID007	7	7.5	16.8
ID007	8	8.5	10.2
ID008	0	0.5	88.2
ID008	2	2.5	10.5
ID008	4	4.5	17.6
ID008	6	6.5	<21
ID008	8	8.5	50.3
ID010	0.5	1	9.2

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
ID010	2	2.5	<8.9
ID010	4	4.5	<11
ID010	6	6.5	17
ID010	8	8.5	7.9
ID011A	0.5	1	6.8
ID011A	2	2.5	26.4
ID011A	4	4.5	<20
ID011A	6	6.5	45.1
ID011A	8	8.5	15
II008	4	4.5	<10
II008	5	5.5	16.6
II008	6	6.5	15.8
II008	7	7.5	17.4
II008	8	8.5	17.7
II009	0.5	1	19.3
II009	2	2.5	28.2
II009	4	4.5	89
II009	6	6.5	12.9
II009	8	8.5	12.6
JD002	4	4.5	14.6
JD002	5	5.5	15.1
JD002	6	6.5	25.2
JD002	7	7.5	45.5
JD002	3	35	6.8
JD003A	5	5.5	86.6
JD003A	6	6.5	20.6
JD003A	7	7.5	31.1
JD003A	10	10.5	24.8
JD003A	11	11.5	13.8
JD004B	3	3.5	149
JD004B	4	4.5	<4.1
KD001	4.5	5	7.8
KD001	5.5	6	8.5
KD001	6.5	7	6.3
KD001	7.5	8	14.5
KD001	8.5	9	10.4
KD002	3.5	4	115
KD002	4.5	5	8.3
KD002	5.5	6	53.3
KD002	6.5	7	9.5
KD002	7.5	8	9
KD004	5	5.5	24.1
KD004	6	6.5	17.6
KD004	7	7.5	33.6
KD004	8	8.5	21.6
KD004	9	9.5	10.4
KD005A	5	5.5	43.4
KD005A	6	6.5	39.8
KD005A	7	7.5	13.2
KD005A	8	8.5	13.3
KD005A	9	9.5	13
KD006	5.5	6	57.9
KD006	6.5	7	17.4
KD006	7.5	8	22.7
KD006	8.5	9	18.1
KD006	9.5	10	12.1
LD001	2	2.5	38.1
LD001	8	9	295
LD001A	2	2.5	34.2
LD001A	3	3.5	61.4
LD001A	4	4.5	133
LD001A	5	5.5	15.3
LD001A	6	6.5	10.5
LD003	4.5	5	15.7
LD003	5.5	6	7.5
LD003	6.5	7	12.9
LD003	7.5	8	8.4
LD003	8.5	9	8.4
LD004	5	5.5	15.3
LD004	6	6.5	28.8
LD004	7	7.5	20.7
LD004	8	8.5	10.8
LD004	9	9.5	9

Table 3. All Samples
Pre Excavation Soil Samples
Site 107, 18 Chapel Avenue,
Jersey City, New Jersey

Location ID	Sample Depth (ft)		Nickel
	Top	Bottom	7440-02-0
			mg/kg
LD005	5.5	6	17.9
LD005	6.5	7	16
LD005	7.5	8	12.9
LD005	8.5	9	9.7
LD005	9.5	10	8.7
LD006	5.5	6	24.9
LD006	6.5	7	15.1
LD006	7.5	8	20.5
LD006	8.5	9	8.9
LD006	9.5	10	21.3
LD007	4	4.5	2.4
LD007	5	5.5	14.7
LD007	6	6.5	16.8
LD007	7	7.5	12.8
LD007	8	8.5	10.7
LD008A	4	4.5	13.5
LD008A	5	5.5	85.5
LD008A	6	6.5	17.8
LD008A	7	7.5	13.2
LD008A	8	8.5	<11
		ARITHMETIC MEAN (mg/kg)	55.2