# **Appendix A-1**

JUbUX]i a '91 WYYXUbWYg']b': ]``'I bfY'UhYX'hc'77 DK': ]``



Environmental & Infrastructure Thomas M. Gibbons, PMP

Mobile: 917-593-4836 Thomas.Gibbons@CBI.com

### **Memorandum**

To: Prabal Amin, PE

From: Thomas M. Gibbons, PMP

**Date:** May 3, 2013

CC: Michael McCabe

Brian McPeak

Richard Feinberg, PG Mark Terril, PE

Re: Hudson County Chromium (HCC) Site 107 – 18 Chapel Avenue

SRP Program Interest No. G000008728

Vanadium Exceedances in Fill Unrelated to CCPW Fill

On behalf of PPG Industries, Inc. (PPG), Shaw Environmental, Inc., a CB&I Company (Shaw), is pleased to provide this memorandum discussing soils impacted solely by Vanadium at Hudson County Chromium Site 107 (Fashionland) at 18 Chapel Avenue in Jersey City, New Jersey (the Site).

As we presented in the Remedial Strategy Meeting on February 26<sup>th</sup>, 2013, there are areas of soils in the north-northwest portion of the undeveloped area of the Site where Vanadium is the only Constituent of Potential Concern that is above the Residential Direct Contact Soil Remediation Standard (RDC SRS)<sup>1</sup> or the Chromium Cleanup Criteria<sup>2</sup>. Based on our review of the New Jersey Geological Survey (NJGS) Historic Fill Map, historical aerial photographs, and topographic maps; the 2013 Remedial Investigation Report's soil boring logs in these areas; the distance of the Vanadium-only exceedance area from areas of Chromate Chemical Production Waste (CCPW) fill; and a comparison of the average Vanadium concentration in the north-northwest portion versus the average Vanadium concentration in the area impacted by CCPW fill, Shaw and PPG believe that the Vanadium-only exceedance area is unrelated to CCPW fill activities and should be considered fill from another source.

#### **Evaluation of Soil Boring Logs from the RIR:**

Figures 1 and 2 in Attachment One show cross-sections of boring logs from the Vanadium-only exceedance area. These boring logs indicate that the predominant materials in this area of the Site are

<sup>&</sup>lt;sup>1</sup> N.J.A.C. 7:26D, Remediation Standards, Date last amended May 7, 2012.

<sup>&</sup>lt;sup>2</sup> NJDEP Chromium Soil Cleanup Criteria, September 2008, revised April 2010.

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

area of the Site is at an elevation of from 22.6 to 20.5 feet amsl. The aerial photographs and topographic maps are included as Attachment Three.

### **Evaluation of Analytical Data from the RIR:**

According to A Summary of Selected Soil Constituents and Contaminants at Background Locations in New Jersey, September, 1993<sup>3</sup>, the arithmetic mean for Vanadium in New Jersey Urban Soils is 22.6 milligrams per kilogram (mg/kg). This correlates closely with the arithmetic mean for soil sample concentrations from the Vanadium-only exceedance area of 37.5 mg/kg. In contrast, the arithmetic mean for soil sample concentrations from the area impacted by CCPW filling activities is 143.9 mg/kg. This significant difference in the presence of Vanadium concentrations between the two areas is an indication that the fill materials come from different sources.

### **Conclusions:**

Shaw has evaluated multiple lines of evidence, including:

- Borings logs,
- Historic fill maps,
- Historical aerials and topographic maps, and
- Analytical results.

Based on our review of these sources of evidence, we do not believe that the fill materials in the Vanadium-only exceedance area at the north-northwest area of Site 107 are related to CCPW filling operations. Therefore PPG should not be responsible for remediation of this area.

Based on these findings, and pursuant to NJAC 7:26E and current NJDEP Guidance, the presence of historic fill material has been confirmed on-site, is a separate Area of Concern (AOC) associated with a recognized regional historic fill issue, and should be addressed as a stand-alone AOC separate from the small area of CCPW located at the northwest corner of the Site.

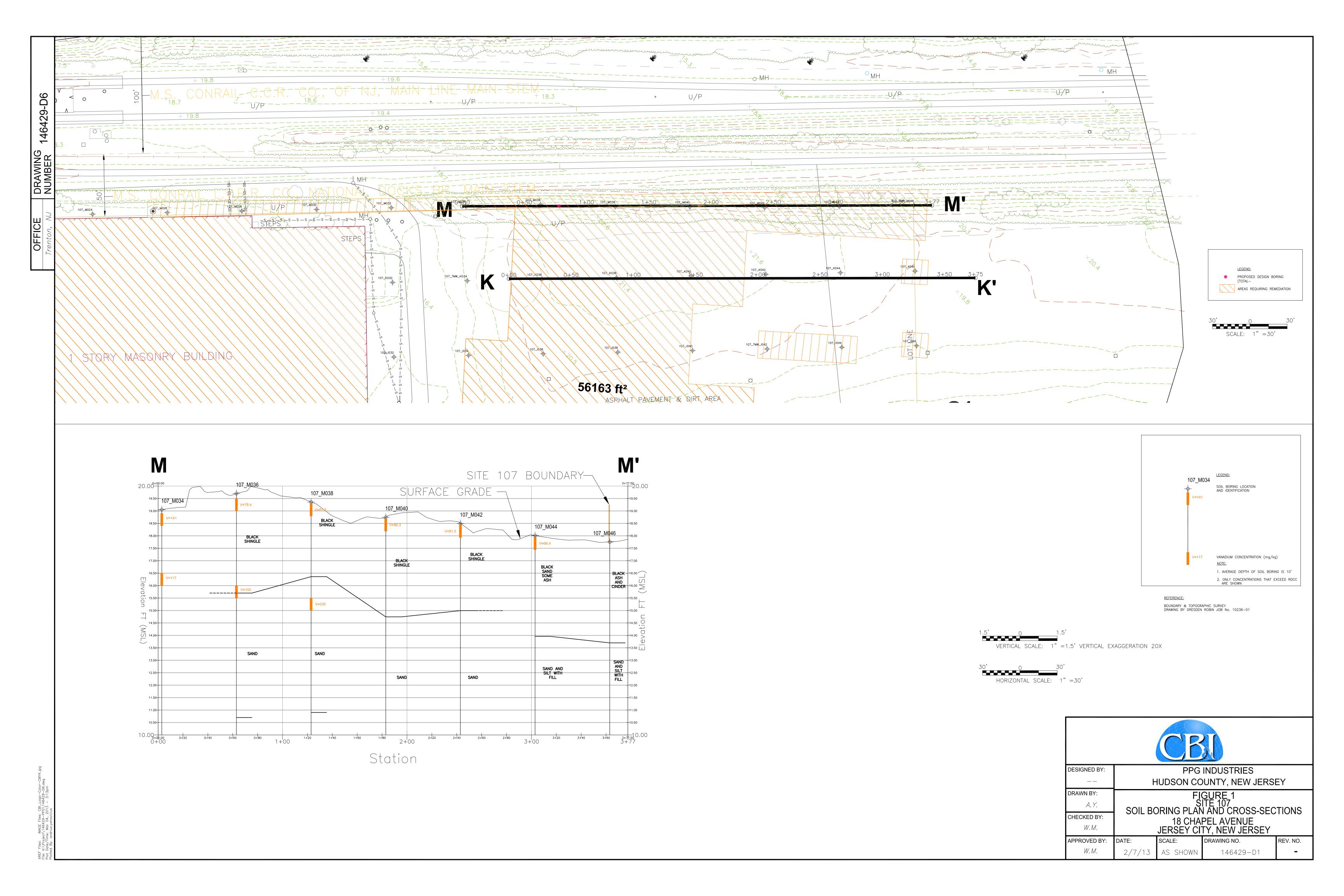
### Remedial Action Approach

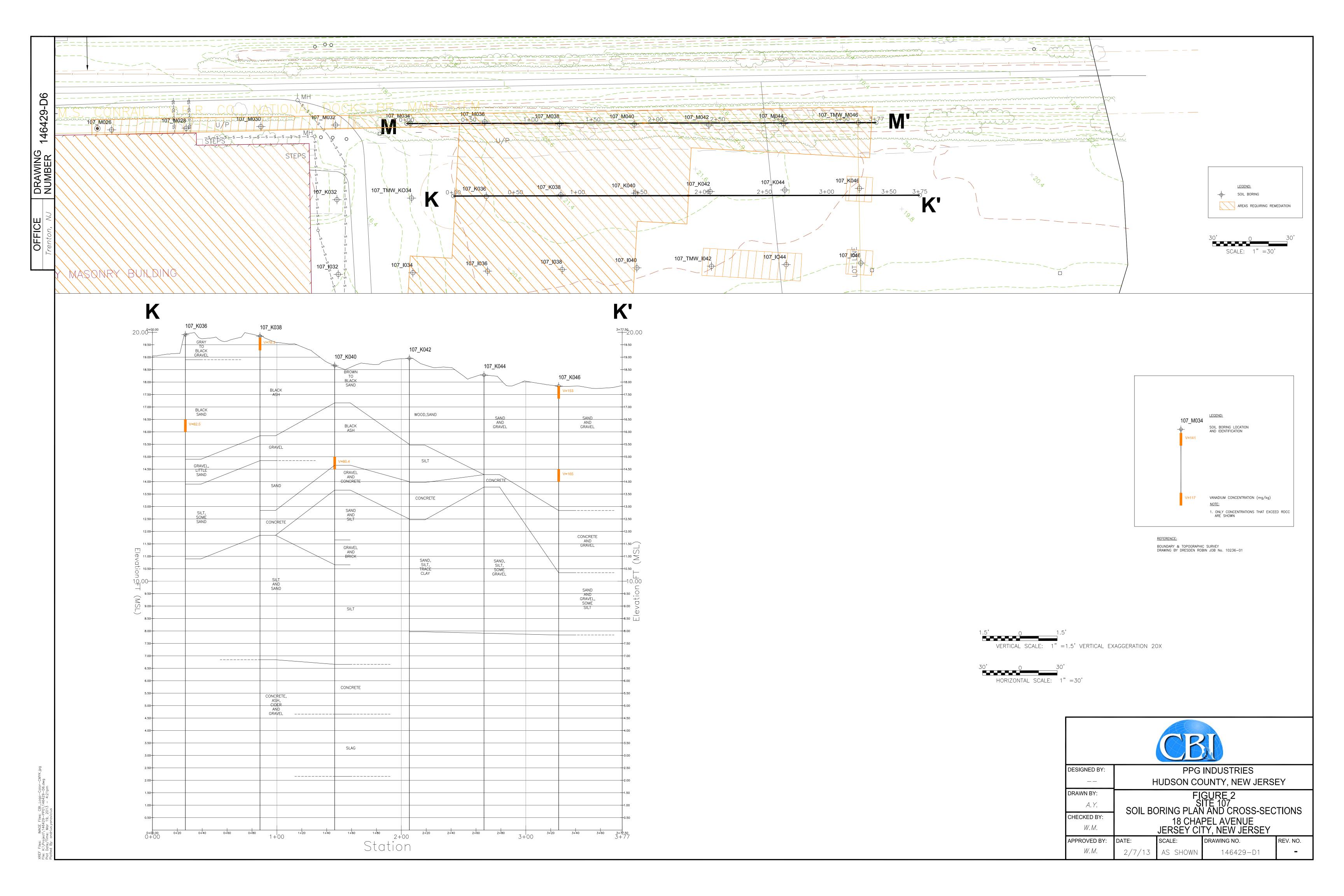
Based on current NJDEP regulations and guidance related to the investigation and remediation of historic fill material, Shaw believes no additional delineation of historic fill material or related contaminants (Vanadium) is necessary, either on or off-site. PPG proposes that any future "presumptive" remedial action associated with the presence of historic fill (administrative/ engineering controls) is the responsibility of the current or future property owner. In addition, future presumptive groundwater remediation activities (CEA/Long Term Monitoring) associated with the historic fill related non-CCPW impacts is also the responsibility of the property owner.

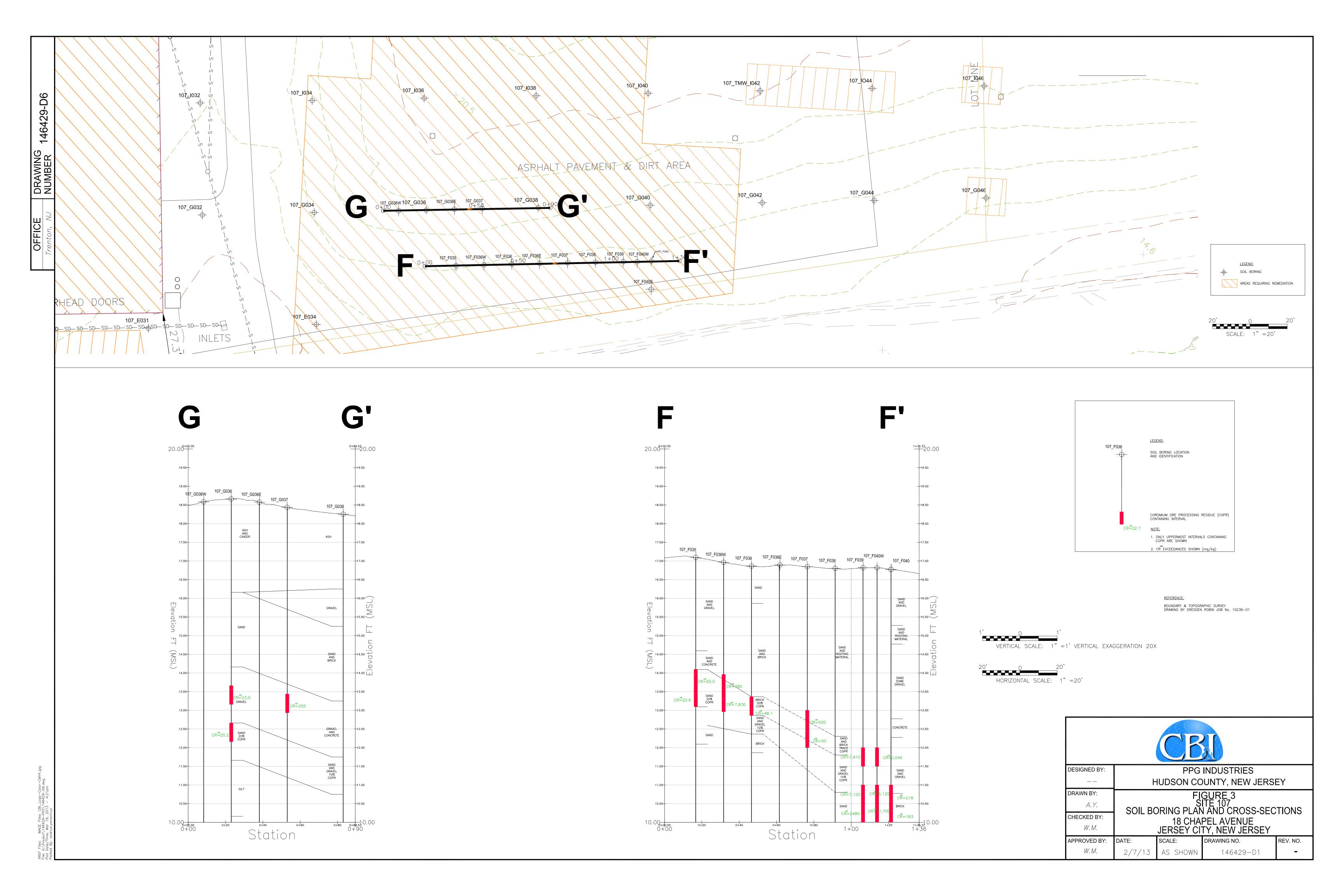
<sup>&</sup>lt;sup>3</sup> A Summary of Selected Soil Constituents and Contaminants at Background Locations in New Jersey. New Jersey Department of Environmental Protection & Energy, Site Remediation Program and Division of Science& Research. September, 1993.

### **ATTACHMENT ONE**

### FIGURES - SITE CROSS-SECTIONS







### ATTACHMENT TWO

### BORING LOGS FROM THE VANADIUM-ONLY EXCEEDANCE AREA

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: 11.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

	MAS	PLE			SUBS	SURFACE PROFILE			:	
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
M036-0.0		30	0.0	1- 2- 3- 1-1		Black SHINGLE, little Sand and Gravel, trace Silt, trace Glass, trace Ash.				
M038-7.5		32	0.0	5		Brown f SAND, some Gravel and Ash, little Silt, trace Brick, trace Concrete.  Brown mf SAND, some Gravel, little Concrete, trace Silt, trace Wood.  Gray-brown to orange- brown SILT, little f Sand, trace Gravel, trace Clay, mottled.  Red-brown f SAND, little Gravel, little Silt, little dark				
M036-12.5		42	0.0	10-3		brown Gravel, trace Wood.  Red-brown SILT, little Gravel, little Sand.  Red-brown f SAND, some clayey Silt, little Gravel, trace mf black Sand.  Blue-gray silty CLAY, trace f Sand.		WET		
				15-						

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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet 1 of 2

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: 11.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

	S	AMI	PLE	:		SUBS	SURFACE PROFILE				
	Sample #	Blow Counts	Recovery	VOC (PPM)	Depth	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
							Gray f SAND, some Silt.		·		
1.6	A036-16.5		28	0.0	16- 5 17-  18 		Red-brown f SAND, some Silt, little Gravel.		MOIST		
			W 14 1 - 1 - 1		20-		Red-brown SILT, some Gravel, little f Sand.				
			40		22- 23 7		Red-brown SILT, little Gravel, little brown f Sand, mottled. Red-brown f SAND, some Gravel, little Clayey Silt.				
			•	•	24- 25- 26- - 8		END OF BORING				
					27- - 28-						
					29- 		_				

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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet: 2 of 2

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: 10.5

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

S	AMI	PLE			SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
M038-0.0				4		Black SHINGLE, little		William Control	Commence of the Commence of th	
M038-3,5		28	0.0	1- 2- 3- 1-1		Sand, trace Ash, trace Gravel, trace Silt.  Brown f SAND, some Silt, little Gravel, trace	-			
				4-		Concrete, trace Brick.			,	ANI ADMINI,
				5-		Gray f SAND, some Silt, little Brick and Gravel.			:	
				6-		CONCRETE.  Brown to red-brown f SAND, some Silt, little			-	
M038-8,0		21	0.0	7-		Gravel, trace Ash.	:			
				9-		Red-brown f SAND, some Silt and Gravel, trace gray/brown Silt.				
				10-13		Red-brown f SAND, some Silt, little Gravel.				
M038-12.0		45	0.0	12-				WET		
				13-4						
				15-		Red-brown f SAND, some Silt, little Gravel, little organic Peat.				

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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet 1 of 2

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: 10.5

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

	CARA			T	OUD	NIDEACE BROSH E		T		
<b> </b>	SAMI	<u> </u>	·		SORS	SURFACE PROFILE	<u> </u>			
Sample #	Blow Counts	Recovery	VOC (PPM)	Depth	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
M038-14		32	0.0	16- 17- 18- 19- 20- 21-	VS	Gray clayey SILT, little gray f Sand, trace f black Sand, trace Peat.  Gray/brown silty CLAY, trace f Sand, trace red-brown Silt.  Light gray f SAND, some Silt, little brown Silt, mottled.  Red-brown GRAVEL, some mf Sand, little Silt.  Red-brown SILT, some Gravel, little Sand, trace brown Silt.  Red-brown GRAVEL, little Sand, trace Silt.  END OF BORING	Fo	MOIST		) 1 (면

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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet: 2 of 2

Project No: 10236-1 Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0

Easting: 0 Elevation: 0

Total Depth: 19.5

Water Level:

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

S	AMI	PLE			SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
M040-0.0		34	0.0	1- 2- 3- -1		Black SHINGLE, little Sand, trace Gravel, trace Silt, trace Ash, trace Plastic.				
				5-		Brown f SAND, some Gravel, little Silt, trace Concrete.  Brown mf SAND, some Gravel, little Silt, trace Ash, trace Wood.				
M040-7.5 M040-8.5		31	0.0	6- 2 7- 8- 9-		Brown SILT, little f Sand, little Gravel, trace Ash, trace Brick, trace Clay.				i i
				103		Red-brown SILT, little f Sand, trace Gravel, gray to gray-brown clayey Silt, trace Sand.  Gray brown silty CLAY, little f Sand.			·	

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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet 1 of 2

Project No: 10236-1

Project: Block 107
Client: PPG Industries

Location: Jersey City, NJ

Northing: 0

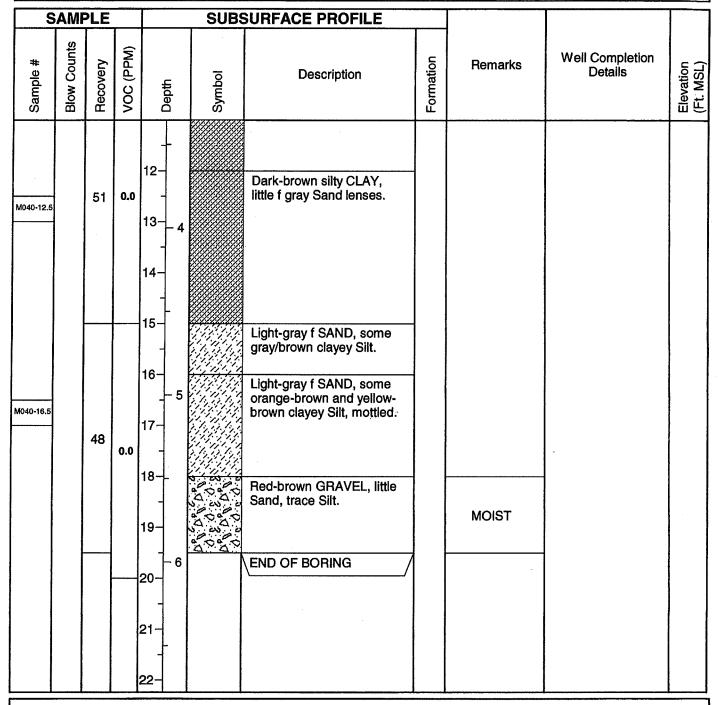
Easting: 0 Elevation: 0

Total Depth: 19.5

Water Level:

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG



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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet: 2 of 2

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: 20.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

5	SAMI	PLE			SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
M042-0.0		34	0.0	2-		Black SHINGLE, some f Sand, little Gravel and Ash, trace Silt.				
M042-7.5 M042-8.5		38	0.0	5- 6- 2 7- 8- 9-		little Gravel, trace Brick.  Red BRICK.  Brown f SAND, some Silt, trace Gravel, trace Brick, trace Concrete.  Red-brown SILT, little f Sand, trace Gravel.  Red-brown f SAND, some Silt, some Gravel, trace Ash.  Red-brown f SAND, some Silt, little Gravel and brown				
M042-12.5		32	0.0	11-		Silt.  Gray/brown clayey SILT, little f Sand, little black Gravel, trace Shells.				

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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet 1 of 2

Project No: 10236-1
Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0
Easting: 0

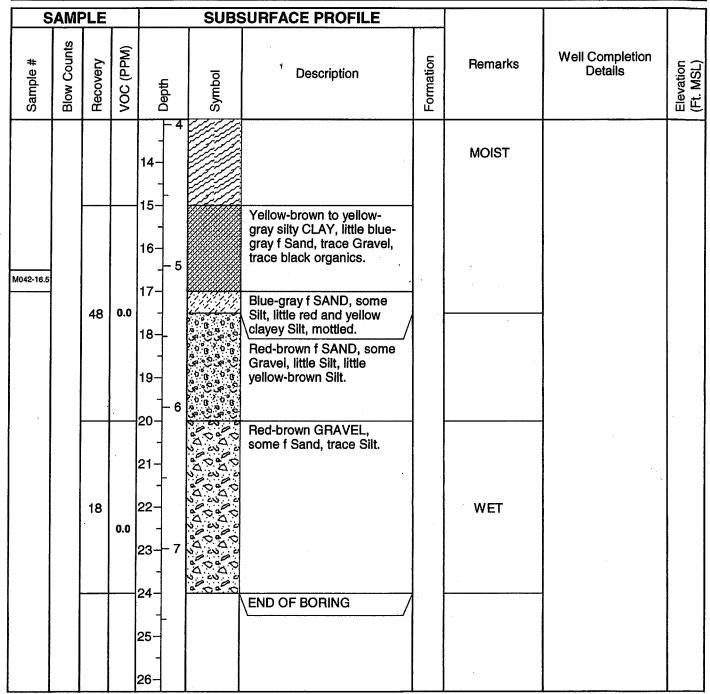
Elevation: 0

Total Depth: 24.0

Water Level: 20.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG



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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet: 2 of 2

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: 11.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

S	AMF	PLE			SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
M044-3.5		43	0.0	1- 2- 3-1 4- 5- 6- 27- 8- 9-		Black mf SAND, some Ash and Cinder, little Shingle, trace Glass, trace Wood.  CONCRETE.  Brown f SAND, some Silt, little Gravel, trace Concrete, trace Brick.  Brown f SAND, some Silt, little Gravel, trace Brick, trace Concrete, trace Ash.  Red-brown f SAND, some Silt, trace Gravel, trace Ash.  Red-brown f SAND, some Silt, trace Gravel, trace Ash.  Red-brown f SAND, some Silt, some Gravel, trace brown Silt.				
M044-11.5		56	0.0	10-3		Brown f SAND, some Silt, little Gravel, trace Organic.  Gray/brown silty CLAY, trace Gravel, f Sand, trace Shell Fragments.		MOIST 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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet 1 of 2

Project No: 10236-1
Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0 Easting: 0

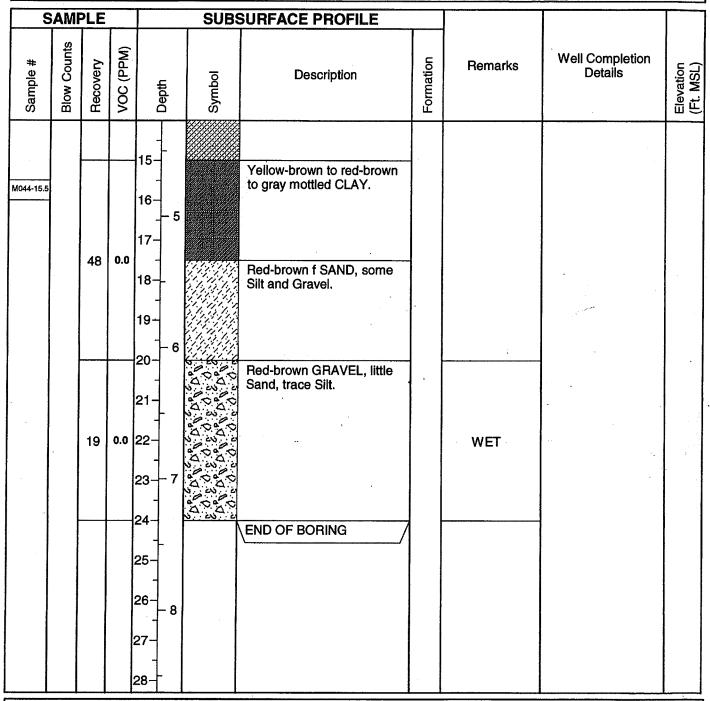
Easting: 0
Elevation: 0

Total Depth: 24.0

Water Level: 11.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG



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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet: 2 of 2

Project No: 10236-1
Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0
Easting: 0

Elevation: 0
Total Depth: 21.0

Water Level: 20.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

5	SAMI	PLF	<del>terminista silipi</del> ,	***************************************	SUR	SURFACE PROFILE				
Sample #	ats:	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol		Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
		35	0.0	1- 2- 3- -1 4- 5-		Black ASH and CINDER, little Sand, trace Silt, trace Concrete, trace Glass.  Brown f SAND, some Silt and Gravel, little Brick, trace Concrete.  Brown f SAND, some Silt, little Gravel, trace Silt, trace Brick.	•			
		40		6- 		Brown f SAND, some Gravel, little Silt.  Black ASH and CINDER, little Sand, trace Silt.  Brown f SAND, some Gravel, trace Silt.  Red-brown f SAND and SILT, some Gravel.  Brown SILT, little dark Clay lenses, trace Sand, trace Shell Fragments.				

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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet 1 of 2

Project No: 10236-1 Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0 Easting: 0 Elevation: 0

Total Depth: 21.0

Water Level: 20.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

	Ç	SAME	21 F			SUR	SURFACE PROFILE	_			
	Sample #	Blow Counts	Recovery	VOC (PPM)	Depth	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
			54	0.0	134		Brown of SAND, little Gravel, trace Silt. Brown SILT, little f Sand, trace-little Organics, trace Gravel.				
			44	0.0	15- 16- 17- 18- 18-		Brown clayey SILT, trace f Sand, trace Peat.  Brown silty CLAY, trace f Sand.		MOIST		
			.12	0.0	19- - 6 20- - 21- -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Red-brown GRAVEL, little f Sand, trace Silt. Brown GRAVEL, little Sand, trace Silt. Red-brown Gravel, little Sand, little Silt. END OF BORING		WET		
					23 7 - 24-						

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: 2/9/2011 Date Finish: 2/9/2011 Checked By: GG Sheet: 2 of 2

Project No: 10236-1
Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 677137.9313

Easting: 606805.6084

Total Depth: 11.0

Elevation: 0

Water Level:

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

S	AMI	PLE			SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
K036-0.0						Gray to black GRAVEL, little Sand.				
K038-3.5		36	0.0	1- 2- 3- 3- 1-1 4- 5-		Black of SAND, little Silt, little Gravel, Ash and Cinder, trace Concrete, trace Brick.			·	
K038-7.5		37	0.0	6- 		Gray to red Gravel, little Sand and Silt.  Red-brown SILT, some f Sand, trace Gravel, trace Clay.  Brown mf SAND, some Silt and Gravel, trace Concrete.  Concrete in Tip (refusal).				
				11- 12- 134		End of Soil Boring @ 11.0 feet.				

Drilling Company: EMC, Inc. Driller: Ryan Zajak

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: 1/25/2011
Date Finish: 1/25/2011
Checked By: GG
Sheet 1 of 1

Project No: 10236-1 Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0

Easting: 0 Elevation: 0

Total Depth: 25.0

Water Level: 15.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

Symbol Description betails Well Completion Details Unit Symbol Description betails Unit Symbol Description betails Unit Symbol Description betails Unit Symbol Description betails Unit Symbol Description Details Unit Symbol Description Unit Symbol	5	SAME	PLE	•		SUBS	SURFACE PROFILE		:		
Trace Silt.  1	Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
Kose-11.5  Concrete.  Sand and Silt, trace Concrete.  Brown f SAND, some Gravel, little Silt, trace Brick.  CONCRETE and red BRICK, little Sand and Silt.  Red-brown SILT, little Sand.  MOIST  Kose-11.5  Concrete.  Concrete.  Concrete.  Concrete.  Concrete.  Concrete.  Concrete.  Concrete.			53		2-		trace Silt.				
MOIS I  11-  11-  12-  13-  13-  4  CONCRETE, little Sand, trace Silt.	K038-7.5		45		6- 		Sand and Silt, trace Concrete.  Brown f SAND, some Gravel, little Silt, trace Brick.  CONCRETE and red BRICK, little Sand and Silt.  Red-brown SILT, little				
	K038-11.5		32		11-		some Gravel, trace Concrete.  CONCRETE, little Sand,		MOIST		

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 Sheet 1 of 2

Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0 Easting: 0

Elevation: 0
Total Depth: 25.0

Water Level: 15.0

**Sampling Method:** Geoprobe **Sample Interval:** See Log

Logged By: GG

S	AMF	PLE			SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery	VOC (PPM)	Depth	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
K038-15.5 K038-16.5				- 16- 5		ASH, CINDER and GRAVEL, little Sand, trace Silt, trace Clay.	:	WET		
		42		18 <u>-</u> - 19-		Brown silty CLAY, trace f Sand, trace Peat.		·		
				- 6 20-		Yellow-brown SILT, little f Sand, trace Clay.		MOIST		
K038-20.5				21-		Orange-brown SILT, little Clay, little f Sand.				
		44		237		Red-brown of Sand, little Silt, trace Gravel.	•	WET		
K038-24.5				25-		END OF BORING				
				26- - 8		END OF BORING.				
				27-						
				28						
			l	29- 9 30-						

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 Sheet: 2 of 2

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: 14.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

SAMPL	E		SUBS	SURFACE PROFILE				<u> </u>
Sample # Blow Counts	(inches)	Depth (ff/m)	Symbol	Description .	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
K040-7.5	337	1- 2- 3-1 4- 5- 6-2 7- 8- 10-3 11- 12- 13-4	######################################	Dark brown to black mf SAND, some Gravel, little Silt, trace Glass, trace Concrete.  Black ASH, little Silt, trace Sand, trace Gravel.  GARVEL and CONCRETE, little Sand.  Brown f SAND and SILT, trace Gravel.  GRAVEL and BRICK, little Sand.  Red-brown SILT, little f Sand.  Red-brown SILT, little f Sand, trace Gravel.				
		14-		HISTORIC FILL, Slag.		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: 1/26/2011 Date Finish: 1/26/2011 Checked By: GG Sheet 1 of 2

Project No: 10236-1
Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0 Easting: 0

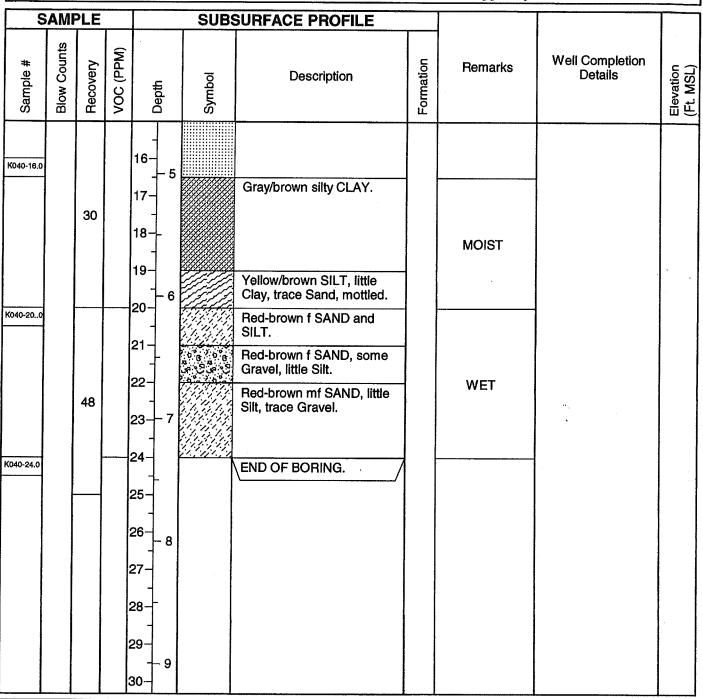
Easting: 0 Elevation: 0

Total Depth: 24.0

Water Level: 14.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG



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

Sheet: 2 of 2

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:

Sampling Method: Geoprobe Sample Interval: See Log

Logged By:

5	SAMI	PLE			SUBS	SURFACE PROFILE				T 1
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
K042-0.0		60	0.0	1- 2- 3-		WOOD. Black gravelly SAND, Cinder, little Silt				
K042-3.5				4- 5- 6- 1-2		Pale brown SILT, fm Sand mixed with Brick.  Brown-green SILT, fm Sand mixed with Brick.  CONCRETE.  Tan silty SAND, trace Clay.				
K042-7.5		48	0.0	7- 8- 9- 103		Pale red SILT, little Clay.  Pale red SILT, fm Sand.  Black GRAVEL and f				
K042-11.5		30	0.0	11-		SAND.  Brown SILT, little Clay.  Grey CLAY.				

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: 01/28/2011 Date Finish: 01/28/2011 Checked By: GG

Sheet 1 of 2

Project No: 10236-1 Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0

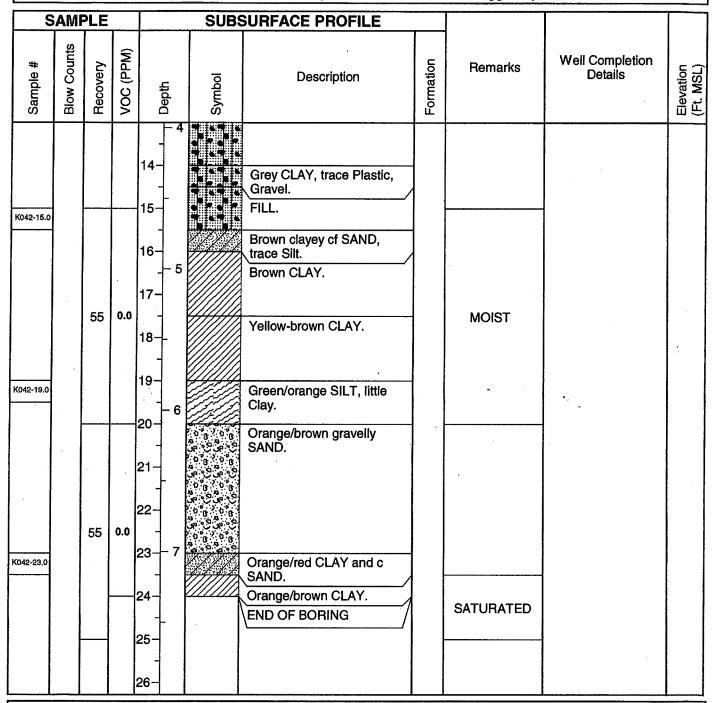
Easting: 0
Elevation: 0

Total Depth: 24.0

Water Level:

Sampling Method: Geoprobe Sample Interval: See Log

Logged By:



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: 01/28/2011
Date Finish: 01/28/2011
Checked By: GG

Sheet: 2 of 2

Project No: 10236-1
Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0

Easting: 0
Elevation: 0

Total Depth: 25.0

Water Level:

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

SA	AMP	LE			SUBS	SURFACE PROFILE		Cid Aids consistency of the Ci		
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
K044-3.5		5.6	0.0	3-1 4-5-7 8-1 9-1		Black of SAND and GRAVEL, some Silt and Cinder, little Rubber, trace Glass, Metal and Wood.  CONCRETE.  Brown of SAND, some Silt and Gravel, trace Brick.  Red/brown silty SAND, little Gravel, trace Brick.				
K044-11.5		18		10-3		Black of SAND, some Silt and Gravel.  GRAVEL and CONCRETE.  Dark brown silty SAND, some Gravel and Cinder.	-			

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 Sheet 1 of 2

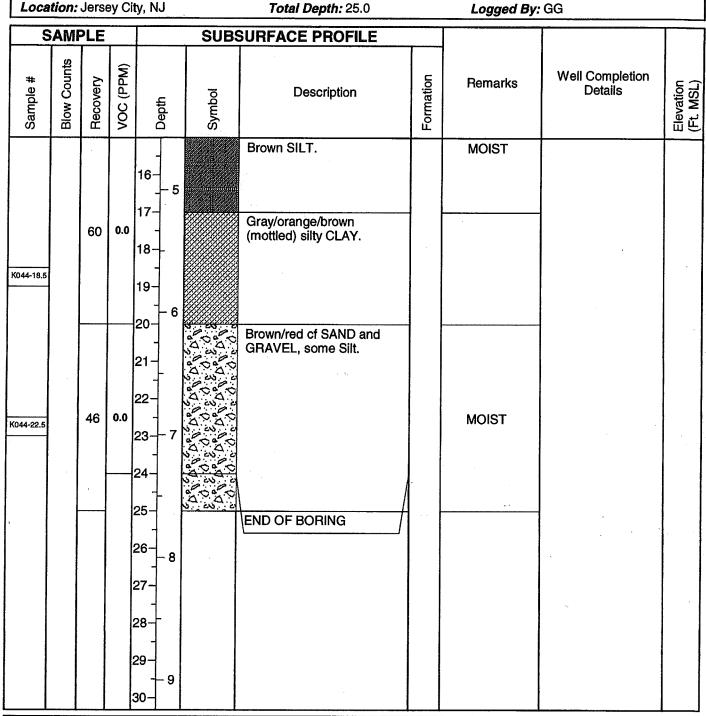
Project No: 10236-1 Project: Block 107

**Client:** PPG Industries Location: Jersey City, NJ Northing: 0 Easting: 0 Elevation: 0

Water Level:

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG



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 Sheet: 2 of 2

Project No: 10236-1 Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0 Easting: 0

Elevation: 0

Total Depth: 25.0

Water Level: 12.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG

5	SAMI	PLE			SUBS	URFACE PROFILE	OTESTA William Comme			
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
K048-0.0		36	0.0	1 2 3 4 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Black of SAND and GRAVEL, some Silt and Cinder, little Rubber, trace Glass and Wood.			,	
		10	0.0	6- 2 7- 8- 9- 10- 3		CONCRETE and GRAVEL.  Brown of SAND and GRAVEL, some Silt.				
K048-11.5				11-		WOOD.  Black mf SAND and GRAVEL, some Silt, little Wood.  Brown silty SAND and		MOIST		
		46	l	13 – 4 14 –		GRAVEL.  Brown SILT, little Gravel.		WET	;	
·				15-		Brown silty SAND.				

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

Sheet 1 of 2

Project No: 10236-1
Project: Block 107
Client: PRG Industrio

Client: PPG Industries

Location: Jersey City, NJ

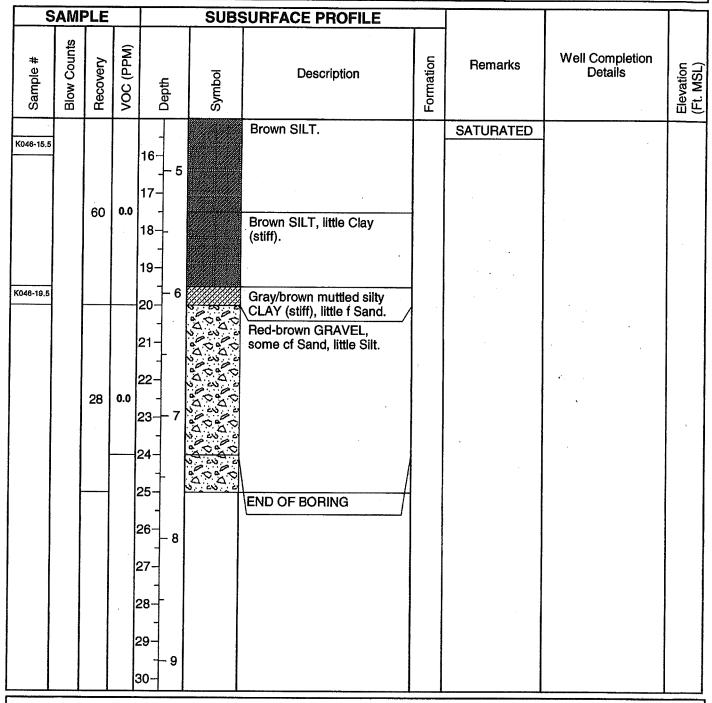
Northing: 0 Easting: 0 Elevation: 0

Total Depth: 25.0

Water Level: 12.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: GG



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 THREE BORING LOGS FROM THE CCPW FILL AREA

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: JES

	SAMI	PLE			SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
		39	0.0	1- 2- 3-1 4- 5- 6- 2-2 7- 8- 10-		ASPHALT.  Dark-brown of SAND and GRAVEL, some Silt, trace Brick and Cinder.  Brown of SAND, some Silt, little Gravel, trace Brick, Glass, Cinder, Concrete, Wood.  Brown of SAND and CONCRETE, some Silt and Gravel, trace Brick, Glass, Cinder, Wood.  Reddish-brown mf SAND, some Gravel and Silt.  CONCRETE.  Brown mf SAND, some Silt, trace Gravel.  END OF BORING		20% COPR trace COPR		

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: 08/16/2011 Date Finish: 08/16/2011 Checked By: GG

Sheet 1 of 1

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:

8	SAMI	PLE			SUBS	SURFACE PROFILE		CANADA BARRA PARA PARA PARA PARA PARA PARA PA		Ī
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
		51	3.3 63.6 2.2 15.8 5.0	2- 3- 1-1 4- 5- 6- 2-2 7- 8- 9-		Black of SAND, some black Rooting material and Silt, trace Brick and Cinder.  Brown of SAND and BRICK, some Silt, little Concrete, trace Cinder and heavy black Plastic.  BRICK.  Brown of SAND and GRAVEL, some Silt, trace Brick, Wood, Concrete.  WOOD and brown of SAND, little Gravel, trace Brick.  Brown of SAND and CONCRETE, some Silt, little Gravel, trace Brick.  Brown of SAND, some Gravel and Silt, trace Brick and Concrete.  Brown mf SAND, some Gravel and Silt, little Gravel, trace Concrete.		50% COPR 20% COPR 10% COPR		
				11-				·		

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

Project No: 10236-1 Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0 Easting: 0

Elevation: 0

Total Depth: 7.0

Water Level:

Sampling Method: Geoprobe Sample Interval: See Log

Logged By: JES

5	SAME	PLE			SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
		56/84	1 0.0	1- 1- 2- 3- 1- 3- 1- 4- 5- 6- 2- 7- 8- 10-		ASPHALT. ROOTING MATERIAL, dark-brown of Sand, some Gravel and Silt, trace Cinder.  Brown of SAND and GRAVEL, some Silt, trace Brick, Cinder, Concrete, Glass.  CONCRETE. Red BRICK.  Brown of SAND, some Silt and Gravel, trace Glass, Brick and Cinder.  Red BRICK, some Concrete, little brown of Sand, trace Gravel and Silt.  Brown of SAND, some Silt, little Gravel, trace Brick and Cinder, trace Wood and Metal (nail).  END OF BORING		20% COPR 10% COPR		

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: 08/16/2011 Date Finish: 08/16/2011 Checked By: GG

Sheet 1 of 1

# Soil Boring/Well Details: 107\_F038

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:

5	SAMPLE				SUBS	SURFACE PROFILE	<del></del>			
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ft\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
		53	112. 57.8 > 15,00	1- 2-		Black of SAND and black ROOTING MATERIAL, some Gravel and Silt, trace Brick and Cinder.				
			28.7 1040	3- - 1 4- -	3- -1 4- 5- 6- -2	Brown of SAND and BRICK, some Silt, little Wood.  Brown of SAND and BRICK, some Silt, little Gravel, trace Cinder and Wood.  Brown of SAND and GRAVEL, some Brick and Silt, little Wood.  Brown mf SAND, some Silt, little Gravel.		trace COPR		
			0.0 8.9	6-				10% COPR		
	19	19	11.0 59.4	8-		one, maio Gravoi.				
			36.6	103		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

# Soil Boring/Well Details: 107\_F040S

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				1	SUR	SURFACE PROFILE				
Sample #	str	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol		Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
Sa		53.5 37.5	24.8 > 15,00 54.6 6.7 1.2	1- 2- 3-1 4- 5- 6- 2-2 7- 8-		Dark-brown of SAND and GRAVEL, little Asphalt and Silt, trace Cinder.  Dark-brown of SAND, little black Rooting Material, trace Plastic, Cinder, Brick.  Dark-brown of SAND, some Gravel and Silt, trace Concrete, Brick, Cinder and Metal.  CONCRETE.  Brown of SAND and GRAVEL, some Silt, trace Concrete.  Brown of SAND, some Gravel and Silt, trace Wood, Brick and Glass.  Red BRICK, trace Wood, Concrete.  Dark-brown SILT and BRICK, some Wood and Glass, trace Cinder.  Black of SAND, some Gravel and Silt, trace Seashell, Brick, Cinder and Concrete.  END OF BORING	FOI			Ele (Ft.

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: 06/08/2011 Date Finish: 06/08/2011

Checked By: GG Sheet 1 of 1

# Soil Boring/Well Details: 107-G036

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: 14.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By:

S	SAMPLE				SUBS	SURFACE PROFILE	- Downson - Down		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
G038-0.0		36	0.0	1-		Black ASH and CINDER, some Sand, trace Silt, trace Glass, trace Plastic.				
		30	0.0	3- 		Brown f SAND, some Silt, little Gravel, trace Silt.  Brown to red-brown				
G036-5.0 G036-6.0 G036-7.0		36	0.0			Gravel, little Brick, little Sand, trace Silt.  Brown mf SAND, some Gravel, little Silt.  Red-brown f SAND, some Silt, little Gravel.  Red-brown SILT, little f Sand, trace Gravel.		270% COPR		
				9-		CONCRETE.  Red-brown to brown SILT,				
		28	0.0	11- 12- 13-		little f Sand, trace Gravel, moist.				

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: 1/25/2011 Date Finish: 1/25/2011 Checked By: GG

Sheet 1 of 2

# Soil Boring/Well Details: 107-G036

Project No: 10236-1
Project: Block 107

Project: Block 107
Client: PPG Industries
Location: Jersey City, NJ

Northing: 0 Easting: 0 Elevation: 0 Water Level: 14.0

Sampling Method: Geoprobe Sample Interval: See Log

Total Depth: 24.0 Logged By:

	SAMPLE					SUBSURFACE PROFILE				<u> </u>
3	PAIVIE		T	<del> </del>	3003	DUNFAUE PRUFILE		1		
Sample #	Blow Counts	Recovery	VOC (PPM)	Depth	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
			0.2	14-		Black ASH, CINDER and GRAVEL, little Sand, trace Silt, wet.				
			0.4	15-		WOOD, wet.				
G036-15.0			0.3			WOOD.				
			0.8	16- - 5		Gray-brown silty CLAY, trace f Sand.				
		30	0.3	'']						
		30	0.0	18						
G036-19,0				19- 6 20-				·		
				21-		Green-gray clayey SILT, trace f Sand, trace Gravel.				
		48		22-		Brown-gray GRAVEL, little f Sand, trace Silt, wet. Brown f SAND, some Silt,				
G036-23,0				23-7		trace Clay, trace Gravel, wet.				
				24-	<u> </u>	End of Soil Boring @ 24.0 /				:
	l			25-						
				26-						

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: 1/25/2011 Date Finish: 1/25/2011 Checked By: GG Sheet: 2 of 2

# Soil Boring/Well Details: 107\_G038

Project No: 10236-1
Project: Block 107

Client: PPG Industries

Location: Jersey City, NJ

Northing: 0

Easting: 0
Elevation: 0

Total Depth: 16.0

Water Level: 14.0

Sampling Method: Geoprobe

Sample Interval: See Log

Logged By:

5	SAMPLE			SUBSURFACE PROFILE						
Sample #	Blow Counts	Recovery (inches)	VOC (PPM)	Depth (ff\m)	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
G038-4.5 G038-7.0		38		1- 2- 3-1 4- 5- 6-2 7- 8- 10-3 11-		Black ASH, little Gravel, little Sand, trace Silt.  Red-brown GRAVEL, little Sand, trace Silt.  Gray f SAND and red BRICK, little Silt, little Gravel, trace Wood.  Gray GRAVEL and CONCRETE, some Sand, little Ash and Cinder, trace Silt, trace Brick.  Brown of SAND and GRAVEL, trace Silt.  Red BRICK.  Brown SILT, little f Sand, trace gray Silt.  Brown SILT, little f Sand, trace Gravel, moist.		70 % COPR observed		

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: Date Finish: Checked By: GG Sheet 1 of 2

# Soil Boring/Well Details: 107\_G038

Project No: 10236-1
Project: Block 107

Client: PPG Industries
Location: Jersey City, NJ

Northing: 0
Easting: 0
Elevation: 0

Total Depth: 16.0

Water Level: 14.0

Sampling Method: Geoprobe Sample Interval: See Log

Logged By:

SAMPLE					SUBS	SURFACE PROFILE				
Sample #	Blow Counts	Recovery	VOC (PPM)	Depth	Symbol	Description	Formation	Remarks	Well Completion Details	Elevation (Ft. MSL)
		24		13-4 14- 15- 16- -5 17- 18- -6 20- -21- -22- -7 -24-		Black of SAND, some Ash and Cinder, trace Silt, trace Clay, trace Gravel, wet.  WOOD.  End of Soil Boring @ 16.0 feet.		Second attempt refused  Third attempt refused, wiil log and sample		

Drilling Company: EMC, Inc.

Driller: Ryan Zajak

Drilling Method: Geoprobe

Auger Size: NA Hole Diameter:

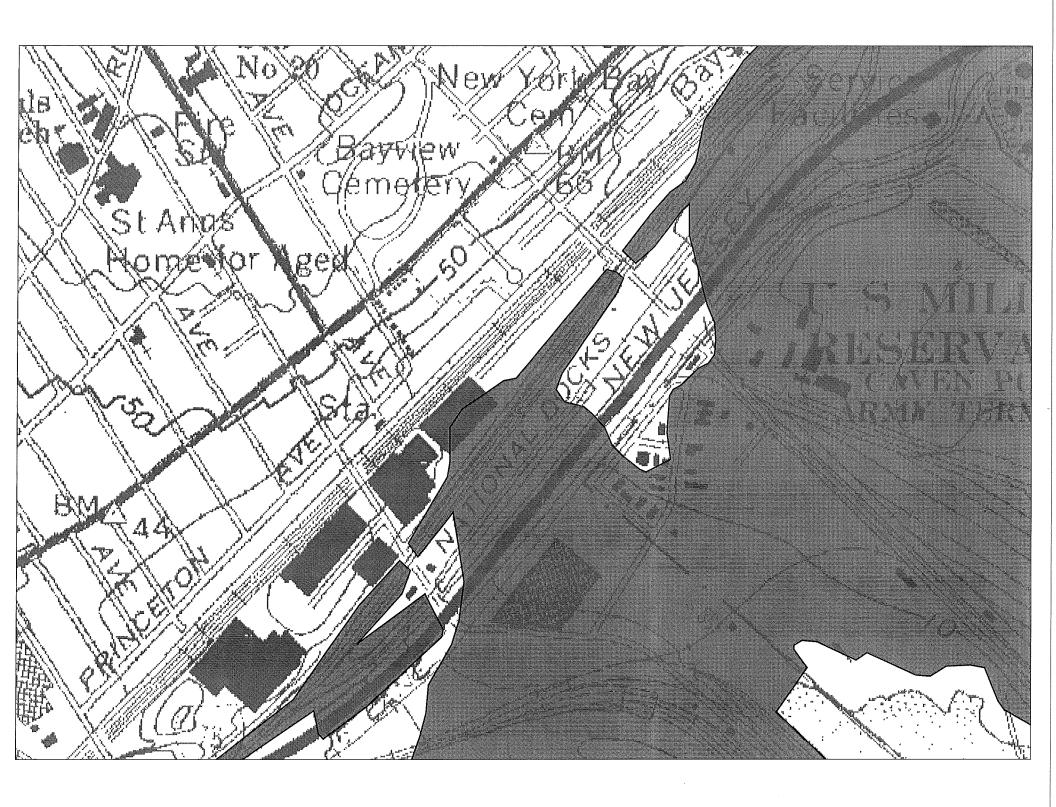
**DRESDNER ROBIN** 

371 Warren Street P.O. Box 38 Jersey City, NJ 07302 Casing Diameter: NA

Date Start: Date Finish: Checked By: GG Sheet: 2 of 2

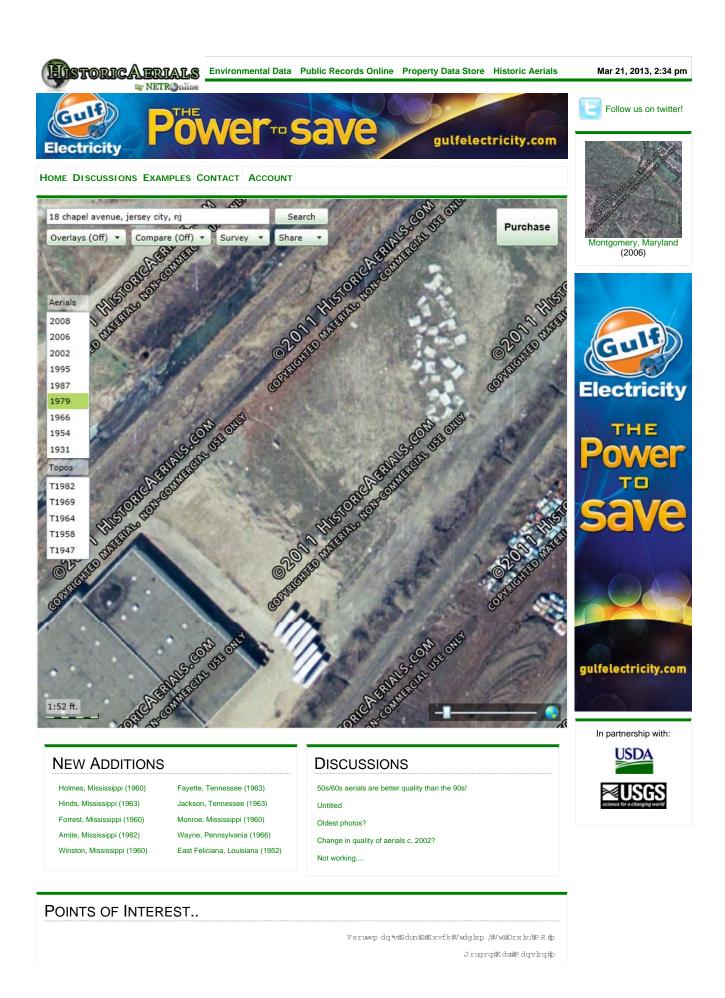
#### ATTACHMENT FOUR

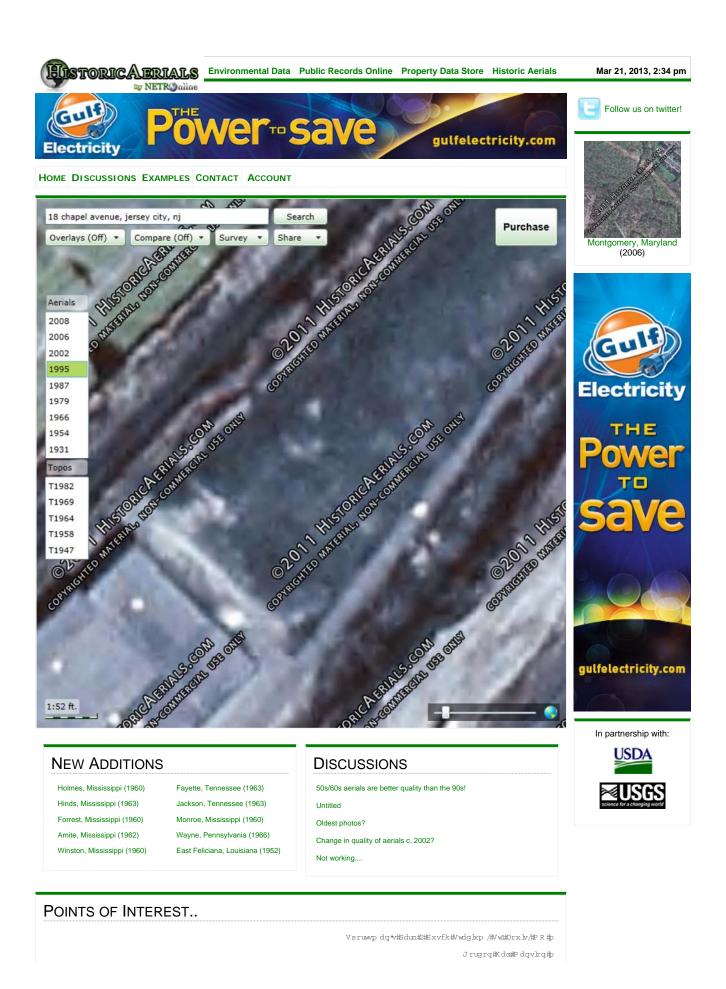
## PORTION OF THE NJGS HISTORIC FILL MAP SHOWING SITE 107



#### ATTACHMENT FIVE

### HISTORIC AERIAL PHOTOGRAPHS AND TOPOGRAPHIC MAPS









## **Fashionland**

18 Chapel Avenue Jersey City, NJ 07305

Inquiry Number: 3552923.5

March 21, 2013

# The EDR Aerial Photo Decade Package



## **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.

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

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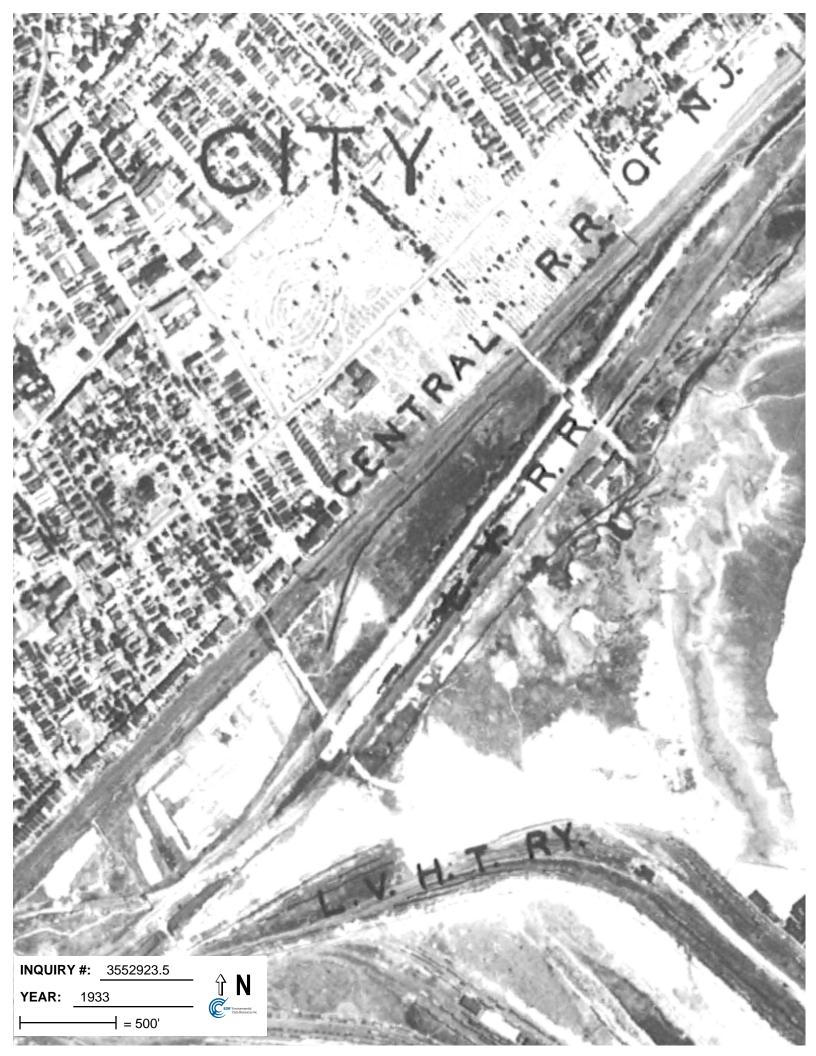
## **Date EDR Searched Historical Sources:**

Aerial Photography March 21, 2013

## **Target Property:**

18 Chapel Avenue Jersey City, NJ 07305

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
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

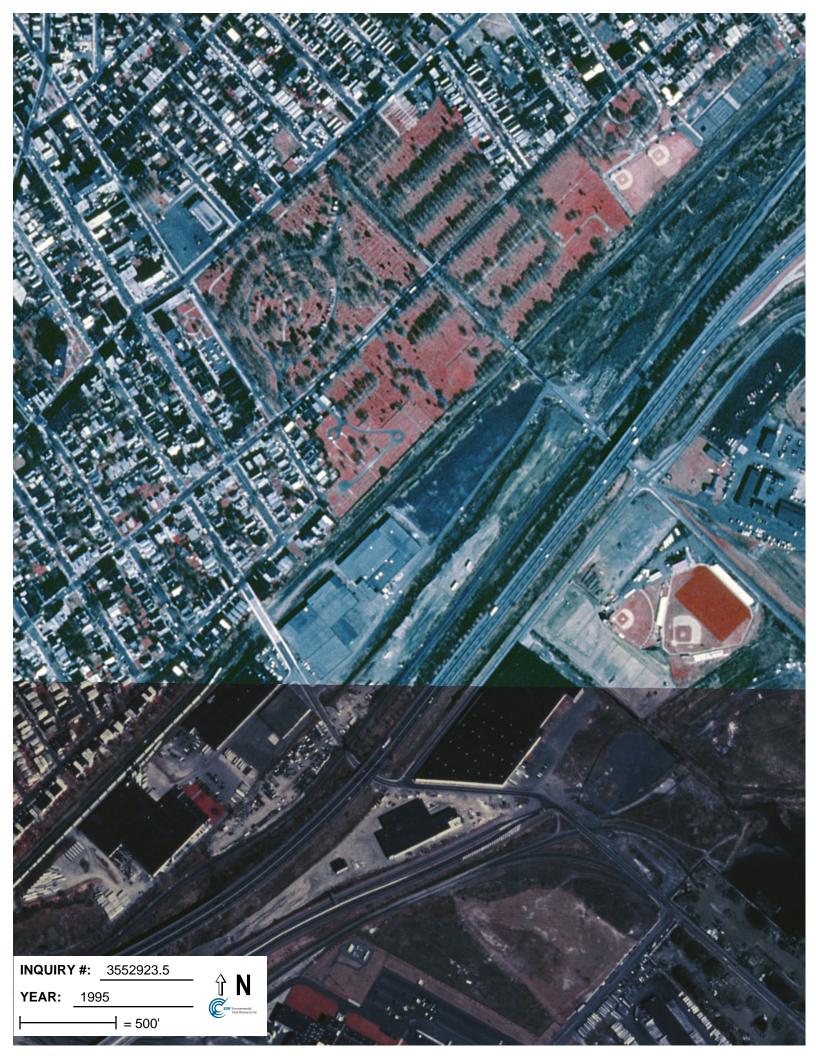




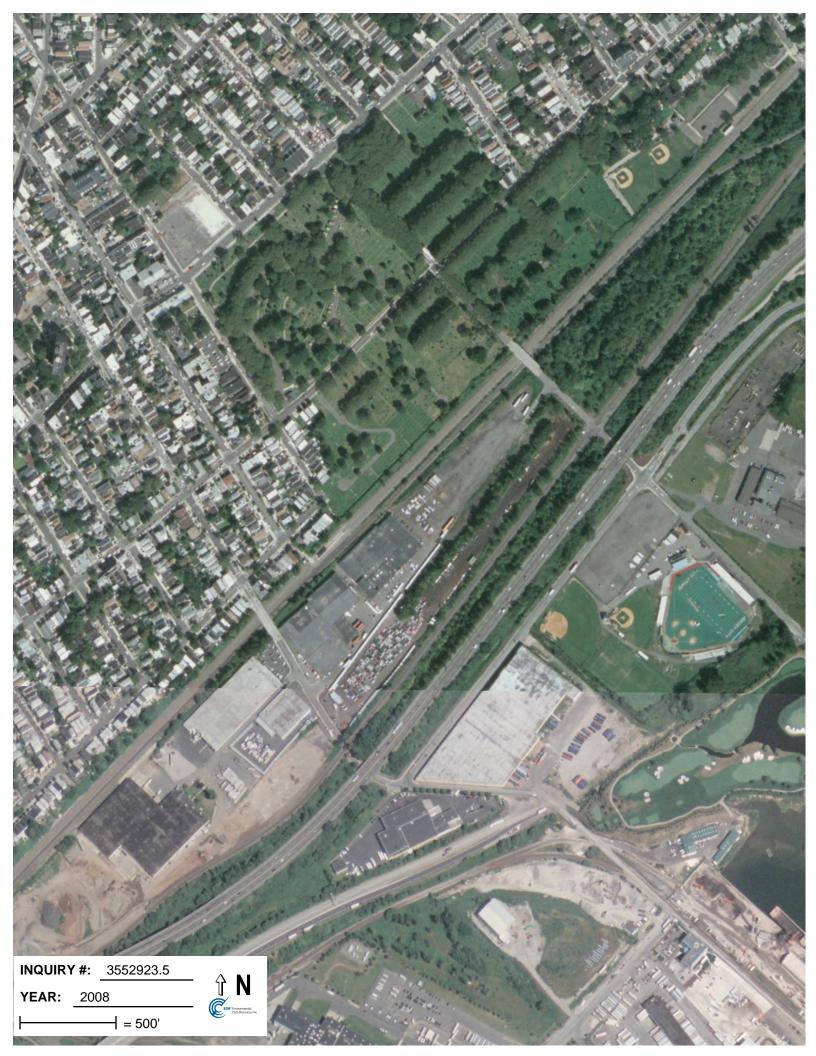














### **Fashionland**

18 Chapel Avenue Jersey City, NJ 07305

Inquiry Number: 3552923.2

March 21, 2013

# **EDR** Historical Topographic Map Report



## **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.

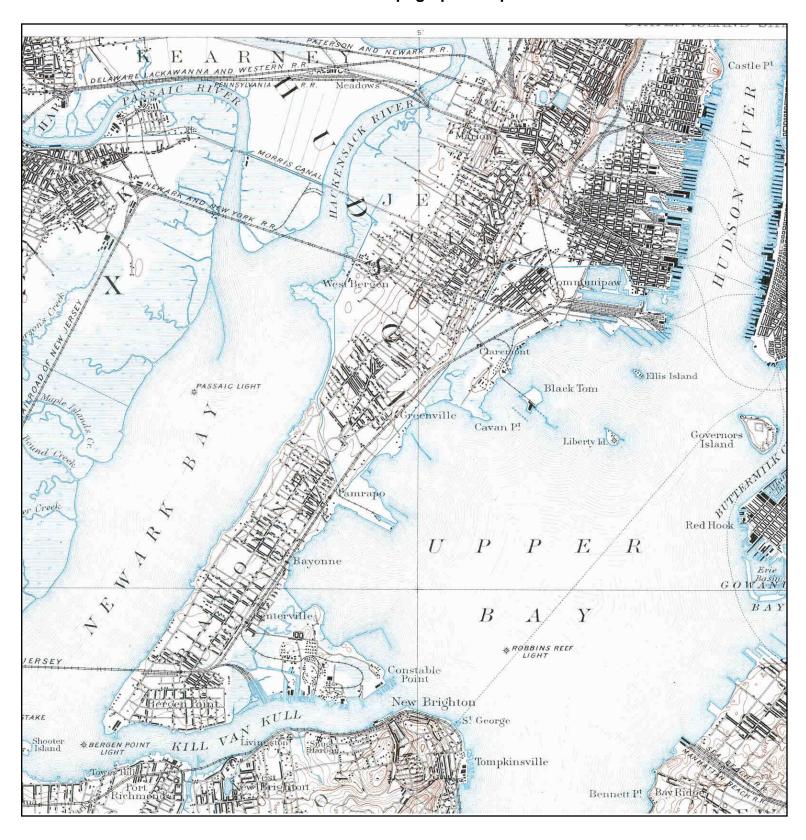
**Thank you for your business.**Please contact EDR at 1-800-352-0050 with any questions or comments.

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TARGET QUAD

NAME: STATEN ISLAND

MAP YEAR: 1891

SERIES: 15 SCALE: 1:62500 SITE NAME: Fashionland

ADDRESS: 18 Chapel Avenue

Jersey City, NJ 07305

LAT/LONG: 40.6932 / -74.0854

CLIENT: Shaw Environmental, Inc.





TARGET QUAD

NAME: STATEN ISLAND

MAP YEAR: 1900

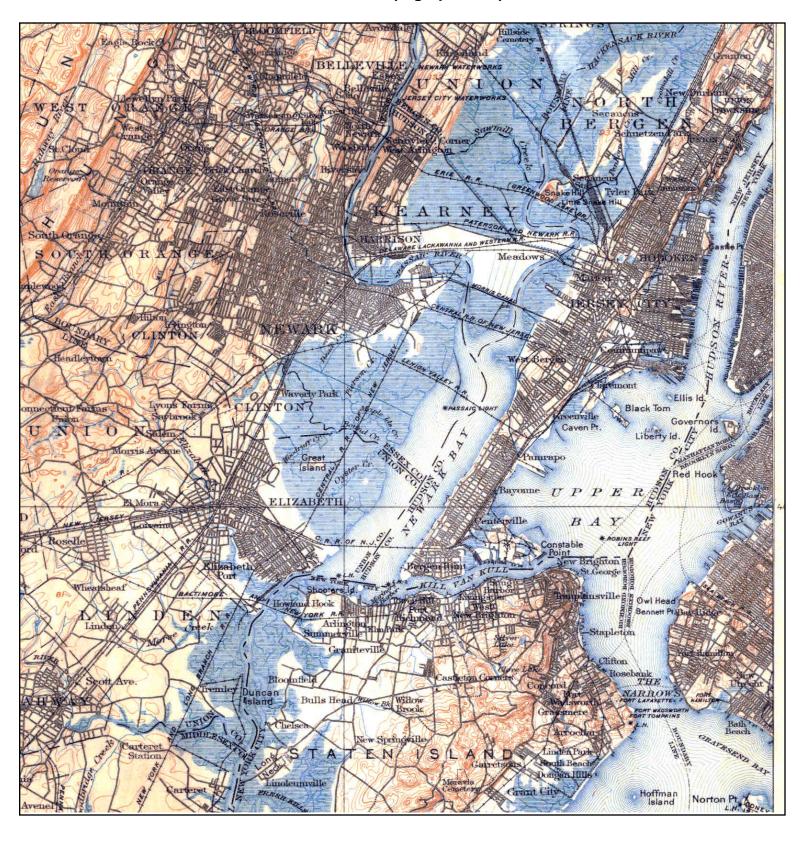
SERIES: 15 SCALE: 1:62500 SITE NAME: Fashionland

ADDRESS: 18 Chapel Avenue

Jersey City, NJ 07305

LAT/LONG: 40.6932 / -74.0854

CLIENT: Shaw Environmental, Inc.





TARGET QUAD NAME: PAS

NAME: PASSAIC MAP YEAR: 1900

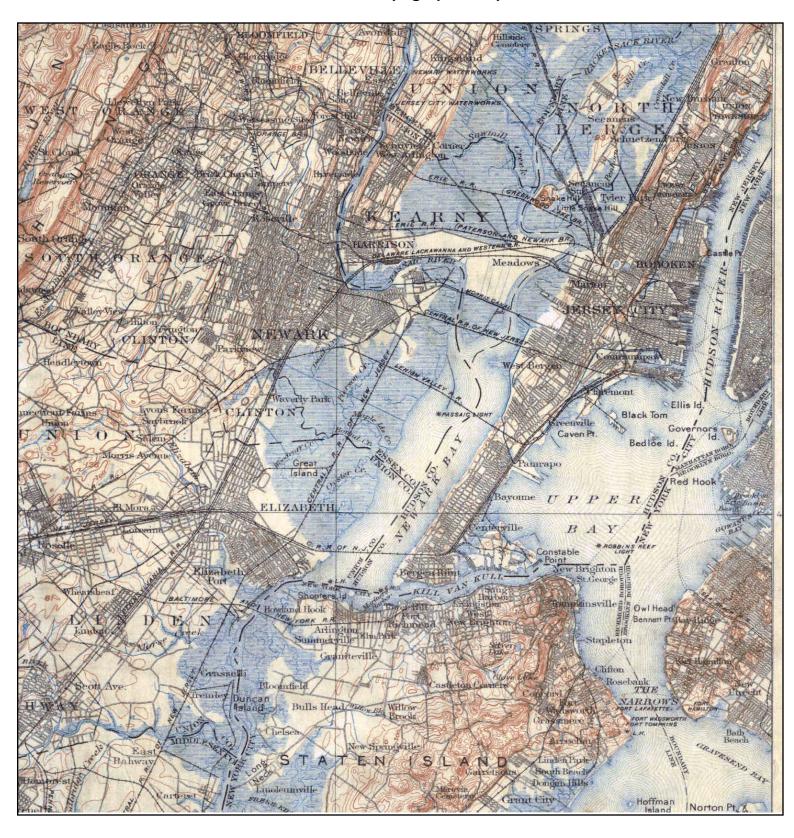
SERIES: 30

SCALE: 1:125000

SITE NAME: Fashionland

ADDRESS: 18 Chapel Avenue

Jersey City, NJ 07305 LAT/LONG: 40.6932 / -74.0854 CLIENT: Shaw Environmental, Inc.



N A TARGET QUAD

SERIES: 30 SCALE: 1:125000

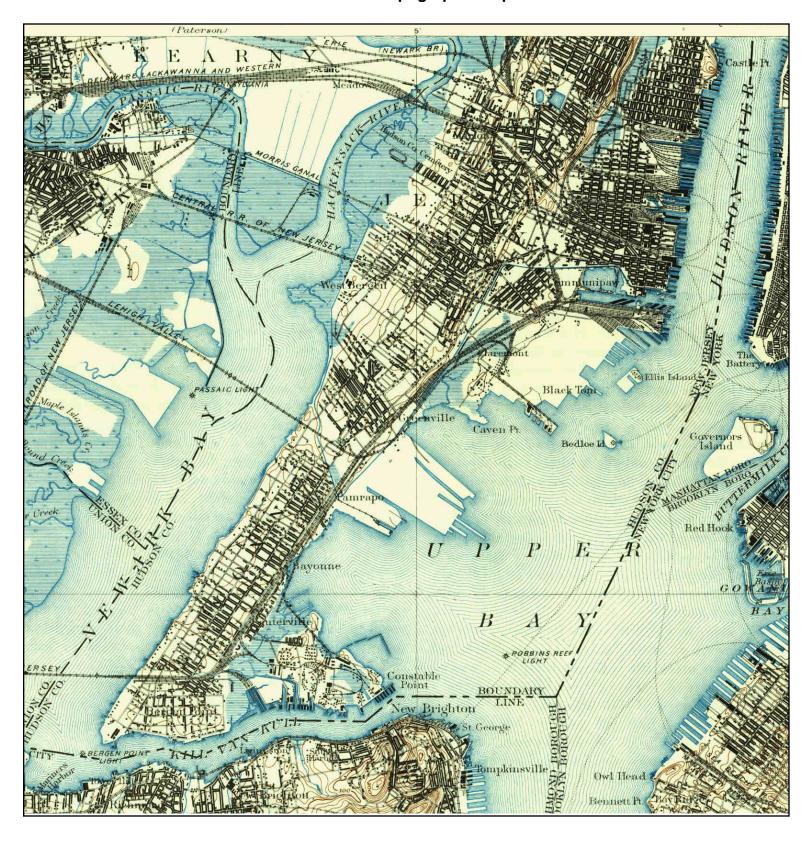
NAME: PASSAIC MAP YEAR: 1905

SITE NAME: Fashionland
ADDRESS: 18 Chapel Avenue

Jersey City, NJ 07305

LAT/LONG: 40.6932 / -74.0854

CLIENT: Shaw Environmental, Inc.





TARGET QUAD

NAME: STATEN ISLAND

MAP YEAR: 1925 REVISED FROM :1900

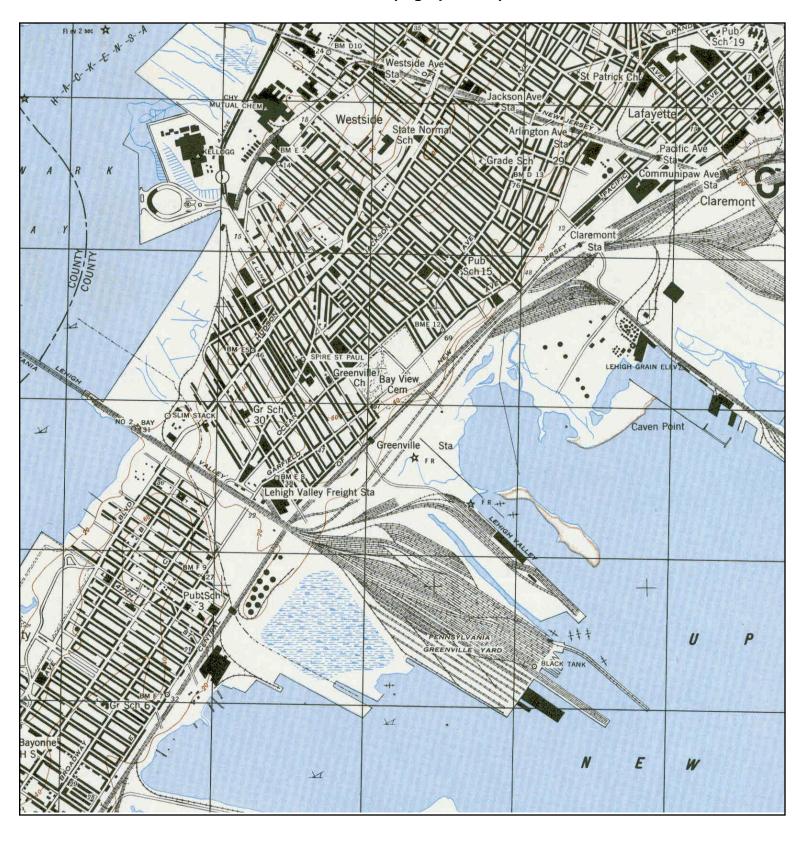
SERIES: 15 SCALE: 1:62500 SITE NAME: Fashionland

ADDRESS: 18 Chapel Avenue

Jersey City, NJ 07305

LAT/LONG: 40.6932 / -74.0854

CLIENT: Shaw Environmental, Inc.





TARGET QUAD

NAME: JERSEY CITY

MAP YEAR: 1947

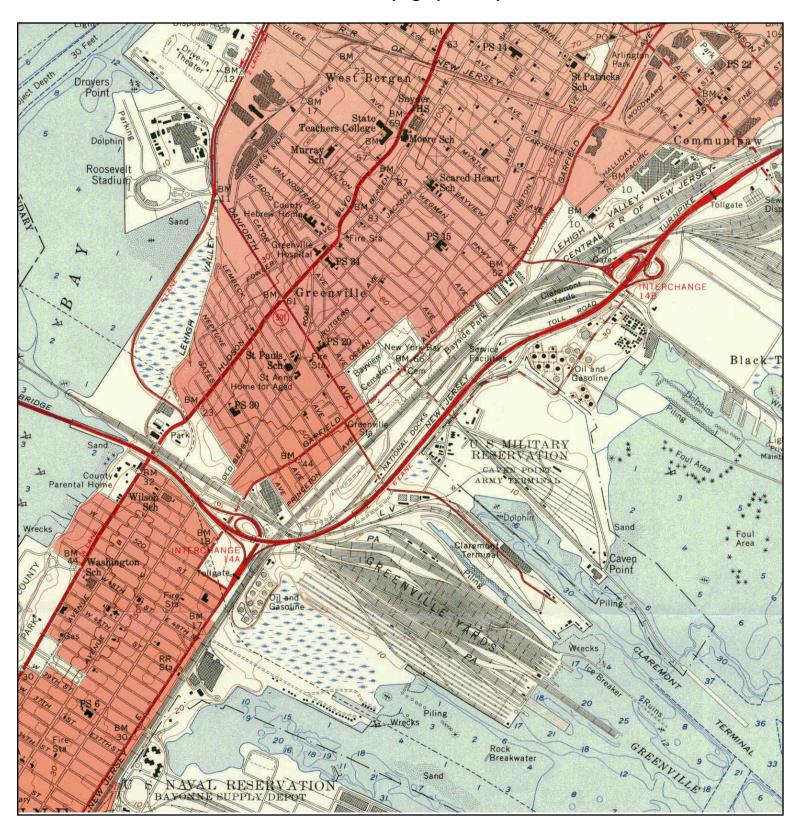
SERIES: 7.5 SCALE: 1:25000 SITE NAME: Fashionland

ADDRESS: 18 Chapel Avenue

Jersey City, NJ 07305

LAT/LONG: 40.6932 / -74.0854

CLIENT: Shaw Environmental, Inc.





**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.





**TARGET QUAD** 

NAME: JERSEY CITY

MAP YEAR: 1967

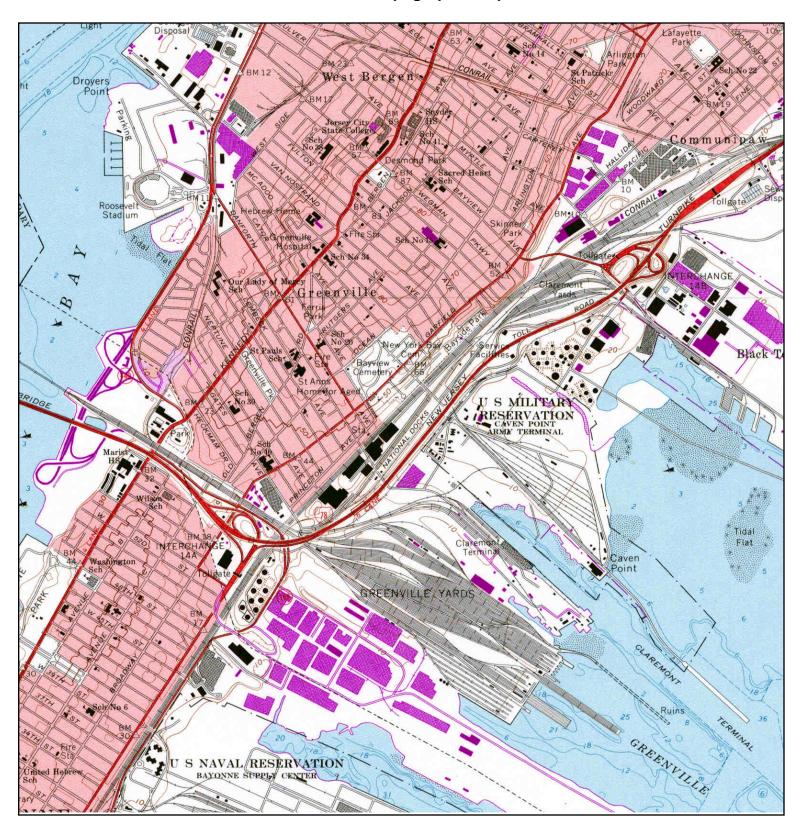
SERIES: 7.5 SCALE: 1:24000 SITE NAME: Fashionland

ADDRESS: 18 Chapel Avenue

Jersey City, NJ 07305

LAT/LONG: 40.6932 / -74.0854

CLIENT: Shaw Environmental, Inc.





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.