Remedial Action Report – Halladay Street North (AOC HSN-1A) and a Portion of the Former Halsted Corporation Property (AOC HSD-1B) Soil Garfield Avenue Group PPG, Jersey City, New Jersey

Appendix F

Boring Logs

Boring logs for the sample locations representing remaining-inplace soil at the Site collected via soil core are included in this appendix. Logs were not generated for grab samples collected during excavation activities, typically designated by "PB" or "SW" in the Location ID.

60

A.GDT - 10/4/16

RA PPG LOGS

2012-09

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: 114-MW20B

732.564.3200 office telephone Page: 1

Project Name: PPG Garfield Ave **Drilling Company:** Project Number: 60240739 Drilling Method: Soft Dig/HSA/Mud Rotary Coordinates (NJSPNAD83) x: 611548 Date Started Drilling: 7/24/2006 Coordinates (NJSPNAD83) y: 683014.2 Rig Type: -Date Finished Drilling: 10/9/2006 Core Size: 12 inches Boring Total Depth: 40 ft Depth to Water: NA **Logged By:** M. Merdinger, M. Abdelaziz Project Manager: Scott Mikaelian Physical Location: On Halladay, between Carteret and Forrest. In front of Halsted Bags building. Surface Elevation: 12.4 ft NAVD88 Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) **ASPHALT** Asphalt dry MW20AA FILL Very dark gray (7.5RN3) coarse to medium SAND, some dry coarse to medium gravel, trace silt, dry. Petroleum odor. dry NR Soft Dig - No Recovery MW20AB dry FILL Light brownish gray (2.5Y6/2) coarse to medium SAND, some silt, little medium to fine gravel, trace clay, dry. moist **FILL** Sewage like odor. moist **FILL** Brownish gray (5YR4/1) coarse to medium SAND, little silt, brick and concrete, moist. Grayish brown (5YR3/2) fine SAND, some clay, trace gravel, **FILL** Dusky brown (5YR2/2) fine SAND and GRAVEL, little silt, moist cobbles, moist. PPG-114-20BC(8.5-9.0)J43280-1 **FILL** Brownish gray (5YR4/1) GRAVEL, some coarse to fine wet sand, wet. FILL wet Grayish brown (5YR3/2) medium to fine SAND, some gravel, wet. Moderate brown (5YR4/4) CLAY, some silt. moist FILL Gravish brown (5YR3/2) GRAVEL, some coarse to medium FILL wet PPG-114-20BD(11.5-12.0)J43280-3 sand, wood chips, wet. 12 13 NO RECOVERY wet NR 15 11/ 11/ PT PEAT moist 11/ 16 PPG-114-20BE(16.0-17.0)J43280-4 wet SM Moderate brown (5YR3/4) fine to very fine SAND, some clay and silt. wet SP-SM Reddish brown (5YR4/3) coarse SAND, little Silt, wet. Napthalene odor. 19 SM Dark grayish brown (10YR4/2) medium to fine SAND, some wet Silt, little Gravel, wet. Napthalene odor. -20 MW20BF SM Brown (7.5YR4/2) fine SAND, some interbedded dark moist greenish gray (Gley16/1) Clay, little Gravel. SM moist Dark reddish gray (5YR4/2) medium to fine SAND, little Silt. -21 Notes: UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits bgs - below surface grade MM - meadow mat COPR - chromite ore processing residue MGP - manufactured gas plant CCPW - chromate chemical production waste GGM - green grey mud nts: 1) MM/UND confirmed to be 1 ft thick 2) No CCPW (COPR or GGM) present in any interval of this boring

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Boring ID: 114-MW20B

Page: 2 Project Name: PPG Garfield Ave **Drilling Company:** Project Number: 60240739 Coordinates (NJSPNAD83) x: 611548 Drilling Method: Soft Dig/HSA/Mud Rotary Date Started Drilling: 7/24/2006 Coordinates (NJSPNAD83) y: 683014.2 Rig Type: -Date Finished Drilling: 10/9/2006 Core Size: 12 inches Boring Total Depth: 40 ft Project Manager: Scott Mikaelian Depth to Water: NA **Logged By:** M. Merdinger, M. Abdelaziz Surface Elevation: 12.4 ft NAVD88 Physical Location: On Halladay, between Carteret and Forrest. In front of Halsted Bags building. Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range (ft/ft) Content ΙĎ (ppm) Log (ft bgs) SP-SM Reddish brown (5YR4/3) coarse to fine SAND, little Silt, wet. wet Slight napthalene odor. -23 -24 SP-SM Weak red (2.5YR4/2) coarse to fine SAND, some angular moist Gravel, little Silt. Slight napthalene odor. 25 -26 MW20BG SP-SM Dark grayish brown (10YR4/2) coarse SAND, some Silt and wet fine Sand, trace Gravel and Clay, wet. -28 114-MW21BI(28-29)J43122-2R SP-SM Dark reddish brown (5YR3/3) corase to fine SAND, some wet ew of Silt, wet. Slight odor. the soil descriptions -29 indicates the USCS for this interval is SW-SM -30 MW20BH SP-SM Weak red (10R4/3) coarse to fine SAND and SILT, little wet Gravel, wet. Slight odor. -31 32 wet MI Weak red (10R4/3) SILT, wet. Napthalene odor. -33 34 MW 20BI SM wet Weak red (10R4/3) fine to very fine silty SAND, wet. -35 36 SM Dusky red (10R3/3) medium to fine SAND, little Silt, wet. wet Napthalene odor. -3738 MW20BJ moist ML Dusky red (10R 3/3) SILT, little very fine Sand, trace Tar like material. Strong napthalene odor. -39 UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits bgs - below surface grade MM - meadow mat COPR - chromite ore processing residue MGP - manufactured gas plant CCPW - chromate chemical production waste GGM - green grey mud

nts: 1) MM/UND confirmed to be 1 ft thick 2) No CCPW (COPR or GGM) present in any interval of this boring

PSEG SC Former Halladay Street Gas Works Site SCHOOR DEPALMA Remedial Investigation (Phase I) Page 1 of 2 LOG OF SOIL BORING B107A PROJECT LOCATION GROUND ELEVATION (FT. MSL) PROJECT NUMBER Halladay Street, Jersey City, New Jersey 020667601 13.6 DRILLING CONTRACTOR FOREMAN DATE STARTED DATE COMPLETED Advanced Drilling, Inc. Craig Jablonski 08/12/03 08/12/03 DRILLING EQUIPMENT COMPLETION DEPTH (FT BGS) ROCK DEPTH (FT) Not Encountered Geoprobe TYPE BIT Direct Push Casing SIZE AND TYPE CORE BARREL DIST NO. SAMPLES UNDIST CORE CASING 2-inch diameter WATER DEPTH FIRST N/A 24HR N/A CASING HAMMER WEIGHT N/A DROP n/a BORING LOCATION Eastern portion of site, southeast of Gas Holder 1B SAMPLER 2" Diameter, 4' long w/acetate liner SAMPLER HAMMER WEIGHT N/A DROP n/a INSPECTOR John Karon Samples PID READINGS Penetr (PPM) DESCRIPTION Depth Resist REMARKS Time Time Recov Sample Ambien Head Time (ft bgs) BL/6ir (ft) Air Space Date 0 0.0' - 8,5' Dark Brown (7.5YR 3/4) FILL: silty fine to 3.2 N/A 13:00 0.0 0.0 13:00 n/a n/a medium sand, ash material (AM), and brick pieces, firm, moist 0.0 0.0 0.0 2 0.0 0.0 0.0 3.0 N/A 13:05 0.0 0.0 13:05 n/a n/a Wet at 5.0' 0.0 5 0.0 0.0 6 0.0 3.3 N/A 13:15 0,0 13:15 n/a n/a 8.5' - 10.0' FILL: brown (7.5YR 4/4) silty fine SAND, firm, wet 0.0 9 0.0 0.0 10.0' - 15.5' FILL: dark Brown (7.5YR 3/4) silty fine sand 10 with AM, firm, moist 35 10.5' - 11.0' Sample for VOC, 45 SVOC, TAL Metals, PCBs, Cyanide and Cr⁺⁶ at 14:10 32

PSEG SC Former Halladay Street Gas Works Site Remedial Investigation (Phase I)

SCHOOR DEPALMA Page 2 of 2

LOG OF SOIL BORING B107A

ROJECT LOCATION alladay Street, Jersey City, New Jersey							GROUN	ນ ELEVA 1	TION (FT 5,0	. MSL)	PROJEC	H NUME	020667601
	Interval		able		Sar	nples			PID	READI	NGS		
DESCRIPTION	ie Int	0	11			Penetr.	l	<u> </u>	1	(PPM)			DEMARKS
DESCRIFTION	Samp	Dep (ft b	າຣ) ເຮັ	Number	Recov (ft)	Resist. BL/6in	Time	Sample	Ambient Air	Time	Head Space	Time Date	REMARKS
	Τ	- 12											
				4	4.0	N/A	13:25	0.0	0.0	13:25	n/a	n/a	
	ĺ	-	"			ĺ		0.0	ĺ				
		- 13	-	1				0.0					
								5.0					
	ı	-	-					3.0					
	ı	- 14	7		ļ ·	<u></u>							******
								4.0					
		-	-					3.0					
		- 15	-										
								2.0					
5.5' - 17.0' FILL: very dark gray (10YR 3/1) SILT (ML),		-	-					1.0					
it and very fine sand, firm, moist		- 16	-							L			
				5	2.0	N/A	13:35	4.0	0.0	13:35	n/a	n/a	
	ı	-						2.0					
7.0' - 17.8' FILL: light yellowish brown (2.5Y 6/3) CLAY	1	- 17	-					40					
L), slity clay and very fine sand, firm, wet								3.0					17.3-17.8' Sample for VOC,
7.8' - 18.0' Brick		-						1.0					SVOC, TAL Metals, PCBs,
10.0 Dilak		- 18	-[Cyanide and Cr ⁺⁶ at 13:45
efusal at 18'		-	-								ļ		
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A=COM

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Boring ID: EF-08

roject Nu			II RIWP 4801			Orilling Company: SGS North America Orilling Method: Geoprobe	Coordinates (N ISDN	AD83) x: 611918.612
			4801 4/14/2011			Rig Type: Airknife/Geoprobe	Coordinates (NJSPN	
			4/14/2011 4/14/2011			Core Size: 12 in	Boring Total Depth:	
			M. Merding			Project Manager: Robert Cataldo	Depth to Water: 0.3	
				ger aday and Forr		TOJECT MANAGET. NODER CALAIUO	Surface Elevation:	
epth Rec	covery	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thick		Sample ID
-				ACDUALT		Diagle Asishali		
1-	-	0	wet	ASPHALT FILL		Black Asphalt Very Dark Gray (10YR 3/1) SILTY SANI medium Gravel and Fill Material (brick, of (5%), loose, wet. Coal Tar odor.		EF-B08-0.5
2—	5	0				Test Pit EF-08-TP wa	as conducted	EF-B08-2.0
3—		0				to 5' bgs at this locati		EF-B08-2.5
4		0				CCPW was observed		EF-B08-4.0
5		0.2		CONCRETE		Weathered Concrete		
6_			wet	FILL		Dark Gray (10YR 4/1) SILT, trace very f	ine Sand, firm, wet.	
_		0.3	moist	FILL	 	No odor.		EF-B08-6.0
7—	2.4			NR		Reddish Brown (5YR 4/3) medium angu (Mudstone) and little medium Sand and No odor.		EF-B08-7.0
8—						No Recovery		
9—								
10		0.2	wet	SP-SM		Reddish Brown (5YR 4/3) fine SAND an angular Gravel, wet, loose. No odor.	d SILT, trace fine	
11—		0.3				angulai Gravel, wet, 1005e. INO 0001.		
12	3	0.2						EF-B08-12.0
13— — 14—				NR		No Recovery		
15								
-		0.1	wet	SW-SM		Dark Reddish Brown (5YR 3/2) to Black SAND and SILT, loose, wet. No odor.	fine to coarse	
16—		0.1						
	2.5			NR		No Recovery		EF-B08-17.0
18						,		
19								
20		0	wet	SP-SM		Reddish Brown (5YR 4/3) fine SAND an No odor.	d SILT, wet, loose.	
21—		0						
22-	,	0					-	EF-B08-22.0
23	4	0						
24—				NR		No Recovery		
25				NULL		End of boring at 25 ft.		
ites:	surface g	rada	COPP ohr	omate ore pres	essing r	esidue UNDno - non-organic undisturbed native	denosite MCD manu	factured gas plant

Boring ID: EF-08-TP

Page: 1 Project Name: PPG Garfield Ave Drilling Company: Badger Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611919.1 **Drilling Method:** Date Started Drilling: 11/15/2017 Rig Type: Coordinates (NJSPNAD83) y: 683360.9 Date Finished Drilling: 11/15/2017 Core Size: **Boring Total Depth:** 5 ft Depth to Water: Logged By: R. Kantor Project Manager: Scott Mikaelian Physical Location: SE Corner of Halladay St and Forrest St Surface Elevation: 13.8 ft NAVD88 Depth Recovery PID Moisture Graphic Sample Range **USCS** Surface Cover and Thickness: (ft/ft) (ppm) Content Log ΙD (ft bgs) Asphalt FILL Asphalt Black ash, little fill debris. No CCPW **FILL** Tan-brown silt, little fine sand and cobbles, trace fill debris. No CCPW observed

Tan-brown silt, little fine sand. No CCPW obsrved SM 5 End of test pit

2012-09 RA PPG LOGS A.GDT - 1/2/18 16:32

bgs - below surface grade MM - meadow mat

COPR - chromite ore processing residue GGM - green grey mud

UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Boring ID: EF-09

	Number:					Drilling Method: Airknife/Geoprobe	NAD83) x: 611820.649	
	arted Dril					Rig Type: Airknife/Geoprobe		IAD83) y: 683264.211
			4/15/2011			Core Size: 2	Boring Total Depth:	25 ft
			M. Merding	er		Project Manager: Robert Cataldo	Depth to Water: 5	
Physica	al Locatio	n:	<u> </u>		_	1	Surface Elevation:	14.0 ft NAVD88
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickn	ess:	Sample ID
			moiat	Fill	XXXXX	Black Asphalt		
-1		0	moist	Fill		Brown (10YR 4/3) SANDY SILT, little Cla and Fill Material, moist, loose. Strong coa napthalene odor.		EF-B09_0.5
-2-	5	856						EF-B09_2.0
-3-	J	276						EF-B09_2.5
_4								
-		0						EF-B09_4.0
-5-		113						
-6-		506						
-7-	3	276						EF-B09_6.5
-8-	3							EF-B09_7.5
_				Fill		No Recovery		
-9								
-10		233	moist	Fill		Same as above, with strong coal tar and r	napthalene odors.	EF-B09_10.0
-11		1220						
_		1330	ot	SP	XXXX	Work Ped (10P 4/4) fine CAND trace Sil	t dance wet	-
-12 -	3	149	wet	SF		Weak Red (10R 4/4) fine SAND, trace Sil Strong coal tar and napthalene odors.	i, dense, wei.	EF-B09_12.5
-13 				SP		No Recovery		1
-14 -								
-15 <u>-</u>		339	wet	SW-SM		Reddish Brown (2.5YR 4/3) fine to coarse trace fine angular Gravel, dense, wet. Co	e SANDY SILT, al tar and	-
-16 		289				napthalene odors.		
-17	5	327				•		
-18	,	126				•		EF-B09_17.5
		120				•		
-19 		5.4				• •		
20			wet	SW		Weak Red (10YR 5/3) fine to coarse SAN	ID, trace Silt, loose,	-
-21		15.6				wet. Slight coal tar and napthalene odors	-	EF-B09 21.0
-22		10.0		SW	*****	No Recovery		EF-B09_21.0X
	1.5					•		
-23						• •		
-24						• •		
-25						•		
20						End of boring at 25 ft.		
l otes:	OW surface	nrade		omate ore pro	ressing r	esidue UNDno - non-organic undisturbed native de	enneite MCP man	ufactured gas plant
	adow mat		GGM - gree		ocaaniy M	UNDorg - organic undisturbed native depos	pposits ivige - man	uractured gas plant romate chemical production v

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: EF-10**

	Name: F		4801			Drilling Method: Airknife/Geoprobe	Coordinates (NJSP	NAD83) x: 611660.785	
	arted Dril					Rig Type: Airknife/Geoprobe		NAD83) y: 683123.169	
			4/15/2011			Core Size: 2	Boring Total Depth:		
			M. Merding			Project Manager: Robert Cataldo	Depth to Water: 10		
			Halladay S			110jeot manager: Trobert Catalac	Surface Elevation:		
_	ai Locatio	. 011	Tialiaday O	.1001			Carrace Lievation.	13.3 11 14 14 15 15 15	
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickr	ness:	Sample ID	
					203000	Black Asphalt			
1				Fill		Concrete			
' _		0	moist	Fill		Brown (7.5YR 4/3) SILT and fine SAND,		EF-B10_1.0	
-2-						medium Gravel, Ash and Fill Material, mo	oist, firm. Slight		
	5	0			\bowtie	coal tar odor.			
								EF-B10_2.5	
-3-		0							
\neg									
-4		0				8		EF-B10_4.0	
-						8		_	
-5-		246			\bowtie	Ä			
+		270			\bowtie	Ä			
-6		527			\bowtie			EF-B10_6.0	
\dashv		52/		Fill	****	No Pocovony		= EF-B10_0.0	
-7-				LIII		No Recovery			
·	1.4				\bowtie	8			
-8					\bowtie	Ä			
_ ا					$\otimes \otimes \otimes$				
_					\bowtie				
-9—					\bowtie	8			
,, \dashv					\bowtie	8			
-10		194	wet	Fill		Gray (5YR 5/1) ASH and CINDERS, little	dark brown fine	EF-B10_10.0	
\dashv			""			Sand and Silt, wet, loose. Coal tar and n			
-11		51.7			\bowtie	, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,	•		
-		31.7		Fill	+	No Recovery		-	
-12				ΓIII		No Recovery			
\dashv	1.5				$\times\!\!\times\!\!\times$	X			
-13						X			
-14					$\otimes \otimes \otimes$				
···						8			
-15						8			
		10.7	wet	Fill	\bowtie	Same as above, with napthalene and fue	l oil odors.	EF-B10_15.0	
_16			moist	ОН	 	Black-stained ORGANIC SILT, trace root	s, semi-cohesive.	7	
-16		18.2	moist	ML	7	moist, soft. Sulfur odor.	/		
,, \neg					+++	Dark Reddish Gray (5YR 4/2) SILT, som	e fine to coarse	EF-B10_16.5	
-17	1.8			ML		Sand, moist, firm. Napthalene odor.	/		
7	1.0					No Recovery			
-18									
\dashv									
-19									
\dashv									
20		892	wet	SW		Dark Reddish Gray (10R 4/1) fine to coal	rea SAND little to	+	
\dashv		302	WEL	344	******	trace Silt, trace fine rounded Gravel, satu	rated in Red-Brown		
-21		1023				semi-viscous Oil, wet, loose. Strong coa	tar, napthalene		
\dashv		1023				and fuel oil odors.		EF-B10_21.5	
-22				SW		No Recovery			
_	1.8					,			
-23					~~~~~				
						·			
-24					*****				
47					~~~~~				
			<u> </u>		<u>.</u>	·			
-25					1	End of boring at 25 ft.			
						Q			
otes:								1	
gs - bel		grade	COPR - chro	omate ore pro	cessing i	esidue UNDno - non-organic undisturbed native d	eposits MGP - mar	ufactured gas plant	
ĬM - me	adow mat		GGM - greei	n grey mud		UNDorg - organic undisturbed native depo	sits CCPW - ch	romate chemical production w	
	No COPR/GGM								

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30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: EF-104

Page: 1

Project	Name: F	PPG Ga	rfield Ave			Drilling Company	SGS North Am	nerica		
Project	Number:					Drilling Method:			Coordinates (NJSP)	NAD83) x: 611749.494
		ling: 9	9/18/2012	11:15:00 AM		Rig Type:	-			AD83) y: 683193.96
				11:20:00 AM		Core Size: 2 in			Boring Total Depth:	
	By: Ben					Project Manager:	Scott Mikaelian		Depth to Water: NA	
	al Locatio								Surface Elevation:	
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	c	Surface Cover a	and Thickno		Sample ID
				ASPHALT		ASPHALT				
		0.0	dry	FILL		silty SAND, so (7.5YR 4/2) bi glass, coal, de	ome fine to coarse rown, dry, no odo bbris)	e gravel littl r, angular,	e fill material, (Brick, metal,	EF-B104-0.3-0.8
4	1									
Notes:										
bgs - be	low surface	grade	COPR - chr	omite ore proce	essing re	esidue UNDno - non UNDorg - org	organic undisturbed	ed native de	eposits MGP - manu	ufactured gas plant omate chemical production waste
iviivi - IIIE	auuw IIIal		GGIVI - Gree	n grey muu		บเทบงเล - อเช	janic unuisturbed n	iative depos	IIIS CCPVV - CNI	omate chemical production waste

PPG - 2012-09 RA PPG_LOGS_A.GDT - 11/20/20 12:55

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: EF-105

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60240739 Drilling Method: Soft Dig/Geoprobe Coordinates (NJSPNAD83) x: 611799.212 Date Started Drilling: 9/18/2012 9:40:00 AM Ria Type: Coordinates (NJSPNAD83) v: 683239.795

			9:40:00 AM		Rig Type:		AD83) y: 683239.795
			2 10:15:00 AM	1	Core Size: 2 in	Boring Total Depth:	
ogged By:		IS			Project Manager: Chris Martell	Depth to Water: NA	
Physical Loc	ation:					Surface Elevation:	14.1 TENAVD88
Depth Range t bgs)		Moisture Content	USCS	Graphi Log	Surface Cover and Thic	kness:	Sample ID
	0.0	dry	ASPHALT	$\otimes \otimes \otimes$	ASPHALT		
-1-	1.8	dry	FILL FILL		fine to coarse SAND, and fine to mediu brown, dry, no odor, angular silty SAND, some fine to coarse gravel (7.5YR 3/2) dark brown, dry, no odor, s slaq)	little fill material,	
	0.6	dry	FILL		fine to coarse SAND, some fine to coar	se gravel and fill	
-3-	0.0	moist	SM		material, (10YR 4/4) dark yellowish broangular, (Coal, slag) fine SAND, some silt little fine to mediu dark brown, moist, no odor, subangular	wn, dry, no odor, m gravel, (10YR 3/3)	
_4	0.0	moist	SM		fine silty SAND, little fine to medium gracoarse sand, (7.5YR 5/4) brown, moist,	avel trace medium to , no odor, subangular	
-5-	0.0	moist	GM	144	a cier, como imo to modiam gravor ana i		
_	0.0	moist	ML		4/4) brown, soft, moist, no odor, angula	ır	
-6					SILT, trace fine gravel, (7.5YR 3/2) dark soft, moist to wet, no odor, subrounded		
-7- 	692.0	wet	ML		clayey SILT, (2.5Y 5/2) grayish brown, moderate napthalene odor	•	
							EF-B105-7.5-8.1
-8-			NR		NO RECOVERY		
-9-							
40							
-10	1352.0	wet	CL		silty CLAY, (2.5Y 5/2) grayish brown, m		EF-B105-10.0-10.5
					moderate napthalene odor, Slight sheer	1.	EF-B105-10.5-11.0
7	528.0	wet	SM		fine silty SAND, little medium to coarse		
3.2	85.1	wet	SM		medium gravel, (5YR 5/3) reddish brow moderate napthalene odor, angular, Slig fine SAND, some silt little fine to mediu	ght sheen. m gravel, (5YR 5/3)	EF-B105-12.5-13.0
-13 			NR	<u> </u>	reddish brown, medium dense, wet, slig	gnt napthalene odor,	
-14					NO RECOVERY		
15							
15							
otes:		0000	amata ara ara			danasiia MOD saasa	de atoma de a a a mila mit
js - below sur M - meadow r		GGM - gree	omate ore proc	cessing	esidue UNDno - non-organic undisturbed native UNDorg - organic undisturbed native dep	deposits MGP - mant	ıfactured gas plant omate chemical production w

PPG - 2012-09 RA PPG_LOGS_A.GDT - 11/20/20 12:55

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Boring ID: EF-107

Projec	t Name: F				D	rilling Company: SGS North America rilling Method: Soft Dig/Geoprobe		IAD83) x: 611940.284409
				8:25:00 AM 2 8:45:00 AM		ig Type:ore Size: 2 in	Coordinates (NJSPN Boring Total Depth:	AD83) y: 683346.15847
	d By : Ben			2 0.43.00 AIVI		roject Manager: Scott Mikaelian	Depth to Water: NA	
	al Locatio						Surface Elevation:	
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickr	ness:	Sample ID
				CONCRETE		CONCRETE		
1		2.6	dry	FILL		silty SAND, some fine to coarse gravel tr. (7.5YR 3/2) dark brown, dry, no odor, and cinders) Trace organics.	ace fill material, gular, (Coal, debris,	EF-B107-0.5-1.0
	4.5	1.5	dry	FILL		SILT, little fine sand trace coal, (7.5YR 4 odor, Trace organics.	/2) brown, dry, no	EF-B107-2.0-2.5
4 		0.3	moist	FILL		SILT, (10YR 5/3) brown, moist, no odor		EF-B107-4.0-4.5
Notes: bgs - be MM - me	low surface eadow mat	grade	COPR - chi GGM - gree	romite ore proce en grey mud	essing res	idue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo	leposits MGP - manu sits CCPW - chro	factured gas plant omate chemical production waste

PPG - 2012-09 RA PPG_LOGS_A.GDT - 12/1/16 00:12

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Boring ID: EF-108

Duc!	4 Nomes -	200 0-	rfiold A			Drilling Company CCC Nadh Assades		Page: 1
	t Name: [t Number:					Drilling Company: SGS North America Drilling Method: Soft Dig/Geoprobe	Coordinates (N ISDN	AD83) x: 611962.472387
				11:20:00 AM		Rig Type:		AD83) y: 683392.144438
				2 12:00:00 PM		Core Size: 2 in	Boring Total Depth:	
	d By: Ber					Project Manager: Scott Mikaelian	Depth to Water: NA	
	al Locatio						Surface Elevation:	
_								
Depth Range It bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thick	ness:	Sample ID
				CONCRETE		A COUNCILL		
_			moist	FILL	\bowtie	SILT, little fine to coarse sand and fill ma	aterial, (7.5YR 4/2)	
_						brown, moist, no odor, (Brick, glass, coa	l) 	EF-B108-1.0-1.5
3			moist	FILL		SILT, trace fine to medium gravel, (7.5Y moist, no odor, angular	R 5/6) strong brown,	EF-B108-2.0-2.5
-4 —			moist	FILL		SILT, and fine to medium sand trace fine (5YR 5/3) reddish brown, moist, no odor	e to medium gravel, , angular	EF-B108-21.0-21.5
otes:	elow surface	grade	COPR - chr	omite ore proc	essing re	esidue UNDno - non-organic undisturbed native uNDorg - organic undisturbed native dep	deposits MGP - manul sits CCPW - chro	factured gas plant mate chemical production wastr

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: H1**

Project Nam Project Num					Drilling Company: SGS North America Drilling Method: Geoprobe	Coordinates (N ISD	NAD83) x: 611566.044431
ate Starte					Rig Type: Core Size: 2 in		IAD83) y: 682990.412766
ate Finish			2011			Boring Total Depth:	
ogged By:			lina 10++=====		Project Manager: Scott Mikaelian	Depth to Water: NA	
nysical LO	cauon:	riside build	ding - 1st transed	1	_	Surface Elevation:	13.0 IL INAVD88
Depth Range (ft bgs)	overy PII (ppi			Graphi Log	c Surface Cover and Thic	ckness:	Sample ID
	0.0	Dry	CONCRETE		Concrete, no staining.	/=	114.0.0
. 1		Dry	FILL		Black SILT, little fine to medium Sand,	trace Coal fragments	H1-0.3
-1			NR		\and slag, loose. No odor.	/	
\dashv					No Recovery		
-2-	_						
⊣ 0	.4						
-3							
				1			
-4-							
\dashv				1			
-5-	0.0	Dry	FILL	XXXX	Brown (7.5YR 4/4) SILT and fine SAN	D some black Δch	H1-5.0
\dashv	3.,	. Diy	''	\bowtie	and Cinders, little fine to medium Grav		
-6			NR		No Recovery	o., 10000. 140 0001.	-
· 4			INIX		No Recovery		
-7-				1			
0	.9						
	-			1			
-8-				1			
-							
9—				1			
\dashv				1			
10				1			
10	0.0	Mois	t FILL		Brown (7.5YR 4/4) SILT and fine SAN	D, some black Ash	H1-10.0
_				\bigotimes	and Cinders, little fine to medium Grav		
11—		Wet	FILL		odor.		1
\dashv		vvet	FILL		Black CINDERS and SILT, some Ash,	loose. No odor.	
12-				-XXXXX	X		-
	2		NR	1	No Recovery		
13-				1			
13							
7							
14				1			
\dashv				1			
15	0.0)		XXXX	Disak and Draws (7.5)/D 4/4) CINDES	OC and CILT	H1-15.0
\dashv	0.0			\bowtie	Black and Brown (7.5YR 4/4) CINDER Ash, medium dense. No odor.	So and Sili, some	-
16—		Mois	t PEAT		Dark Brown (7.5YR 3/4) PEAT, high o	rganic content trace	111.100
. 🕍					Silty Clay, soft. Strong sulfur odor.	rganic content, trace	H1-16.0
47		L_			Sity Sity, 30tt. Offorig Sulful Guol.		
-17	5		NR		No Recovery]
	.						
18—				1			
\dashv				1			
19—							
\dashv							
20							
20							
				1			
				1			
				1			
				1			
				1			
				1			
				1			
			•	_			•
otes:							
s - below su		e COPR -	chromite ore prod	cessing re	esidue UNDno - non-organic undisturbed nativ	e deposits MGP - man	ufactured gas plant
s - below su И - meadow	mat	GGM - g	green grey mud		esidue UNDno - non-organic undisturbed native UNDorg - organic undisturbed native de any interval of this boring.	e deposits MGP - man eposits CCPW - ch	ufactured gas plant romate chemical production w

PPG - 2012-09 RA PPG_LOGS_A.GDT - 2/9/17 12:57

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: H2**

Project	t Name: F	PPG Ga	rfield Ave		ı	Orilling Company: SGS North America		Page: 1
	t Number:					Orilling Method: Geoprobe	Coordinates (N.ISPI	NAD83) x: 611538.896539
	tarted Dril					Rig Type:	•	IAD83) y: 682970.188243
	inished Dr					Core Size: 2 in	Boring Total Depth:	
	d By: M. f					Project Manager: Scott Mikaelian	Depth to Water: NA	
				- 2nd transed			Surface Elevation:	
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickn	ess:	Sample ID
			Dry	CONCRETE	P 4 4 P	Concrete, no staining.		
├ -	-		Dry	FILL		Brown (7.5YR 5/3) ASH and CINDERS, I	acca No adar	H2-0.6
1 -			Ыу			BIOWIT (7.3TK 3/3) ASTI AIR CINDLES, I	oose. No odor.	
			Dry	FILL	\bowtie	Brown (7.5YR 4/3) fine SAND and SILT,		H2-2.0
3 			Dry	VOID		trace fine angular Gravel, loose. No odor. No Recovery		
5 			Moist	FILL		Brown (7.5YR 4/3) fine SAND and SILT, Cinder, loose. No odor.	little Ash and	H2-5.0
- 6-	1		Moist	VOID	XXXXX	No Recovery		-
7								
8 								
9 								
10-			Wet	FILL		Brown (7.5YR 4/3) fine SAND and SILT,		H2-10.0
11			Wet	VOID		and fine angular to rounded Gravel, moist medium dense. No odor. No Recovery	t to wet at 10.6 ft,	
12 13 14 						•		
15 16			Wet	FILL		Black ASH, some Cinders, little Brown (7 Sand and Silt, loose. No odor.	.5YR 4/3) fine	H2-15.0 H2-16.0
├ <u></u> -			Moist	FILL		Brown fine SAND and SILT, trace fine an	gular Gravel.	FIZ-10.U
 17 			Moist	PEAT	p~~~	medium dense. No odor. Dark Brown (7.5YR 3/4) PEAT, high orga	_	
—18— — —						Silty Clay, medium stiff. Sulfur odor.		H2-18.0
 19			Moist	VOID		No Recovery		-
20				NULL		End of boring at 20 ft.		
Notes: bgs - be MM - me	low surface eadow mat		COPR - chr GGM - gree		essing res	sidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native depos	eposits MGP - mani sits CCPW - chi	ufactured gas plant romate chemical production waste

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: H3**

Project Number:	60240	1730			Drilling Method: Geoprobe	Coordinates (NIS	PNAD83) x: 611493.056623		
Date Started Dri					Rig Type:		NAD83) y: 682917.980661		
					Core Size: 2 in				
Date Finished D			<u> </u>			Boring Total Depth			
Logged By: M.			v Onel 4		Project Manager: Scott Mikaelian	Depth to Water:			
Physical Location	on: Insi	ue building	- 3rd transec			Surface Elevation:	: 13.8 π NAVD88		
Depth Range ft bgs) Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thi	ckness:	Sample ID		
		Dry	CONCRETE	8 N A . 8	Concrete, no staining.				
		Dry	FILL		Brown (7.5YR 4/3) SILT and ASH, little	o Cindore coal	H3-0.5		
1- 2		Ыу	1122		fragments and glass, loose. No odor.	e ciriders, coar			
-3- -4-		Dry	VOID	****	No Recovery				
-5-		Dry	FILL	****	Brown (7.5YR 4/3) SILT and ASH, littl	le Cinders, coal	H3-5.0		
6					fragments and glass, loose. No odor.		H3-6.0		
7 8 9		Dry	VOID		No Recovery				
- <u> </u>		Moist	FILL	××××	Brown (7.5YR 4/3) SILT and ASH, littl	le Cinders coal	H3-10.0		
		Wet	VOID		fragments and glass, loose. No odor. No Recovery				
14 		Wet	PEAT		Brown (7.5YR 4/3) SILT and ASH, littl	le Cinders coal			
		Wet	VOID		fragments and glass, trace Peat, loose No Recovery	e. No odor.			
20									
			NULL		End of boring at 20 ft.				
Notes: gs - below surface //M - meadow mat	e grade	COPR - chi GGM - gree	romite ore proce	essing re	sidue UNDno - non-organic undisturbed nativ UNDorg - organic undisturbed native d	ve deposits MGP - ma eposits CCPW - c	anufactured gas plant chromate chemical production wa		

Boring	ID:	H4

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60240739 Coordinates (NJSPNAD83) x: 611388.525101 Drilling Method: Geoprobe Date Started Drilling: 12/11/2011 Rig Type: Coordinates (NJSPNAD83) y: 682829.094867 Date Finished Drilling: 12/11/2011 Core Size: 2 in Boring Total Depth: 20 ft Logged By: M. Merdinger Project Manager: Scott Mikaelian Depth to Water: NA Surface Elevation: 13.9 ft NAVD88 Physical Location: Inside building - 4th transect Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range (ft/ft) Content ΙĎ (ppm) Log (ft bgs) Concrete, no staining. CONCRETE Dry H4-0.5 **FILL** Black ASH and CINDERS, some Reddish Brown (5YR 5/4) Dry very fine Gravelly Sand, loose to medium dense. No odor. Drv VOID No Recovery H4-5.0 Dry FILL Black ASH and CINDERS, some Reddish Brown (5YR 5/4) very fine Gravelly Sand, loose to medium dense. No odor. Dry CONCRETE Concrete, dry, no staining FILL Black ASH and CINDERS, some Reddish Brown (5YR 5/4) Moist very fine Gravelly Sand, loose to medium dense. No odor. H4-7.0 Moist VOID No Recovery H4-10.0 Black ASH and CINDERS, some Reddish Brown (5YR 5/4) Moist FILL Wet VOID very fine Gravelly Sand, loose to medium dense. No odor. Water at 11 ft. No Recovery H4-15.0 Wet **FILL** Black ASH and CINDERS, some Reddish Brown (5YR 5/4) Wet VOID very fine Gravelly Sand, loose to medium dense. No odor. -16 No Recovery -20-NULL End of boring at 20 ft.

2012-09 RA PPG LOGS A.GDT - 2/9/17 12:57

bgs - below surface grade bgs - below surface grade GGM - green grey mud UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

A E COM

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: H5**

Project	t Number:	60240	739			Drilling Company: SGS North America Drilling Method: Geoprobe		PNAD83) x: 611431.488276		
				8:45:00 AM		Rig Type:	Coordinates (NJSPN	NAD83) y: 682858.808253		
				4 12:20:00 PM		Core Size: 2 in	Boring Total Depth:			
.ogged	d By: EW					Project Manager: Scott Mikaelian	Depth to Water: NA	4		
hysic	al Locatio	n: Hal	sted - Insid	de building			Surface Elevation:	13.1 ft NAVD88		
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickn	ess:	Sample ID		
	0.3	0.0		CONCRETE		CONCRETE, no staining.	_	H5-CT		
-1- -2		0.0	dry	FILL		ASH, with ceramics, no cinders, (10YR 6, plastic, loose, dry, no odor, no staining.	(1) gray, non	H5-CB H5-0.3-0.8		
-3 -4	5	0.0	damp	FILL		fine to coarse sandy ASH, light gray, dam including glass, brick fragments and cinde		H5-4.0-4.5		
-5								-		
_	1	0.0	dry	FILL		ASH, with ceramics, no cinders, (10YR 6)	(1) gray, non	†		
-6 - -7		0.0	dry to slight moist	FILL		plastic, loose, dry, no odor, no staining. fine to medium SAND, some silt and cera dark brown, non plastic, soft, dry to slightl no staining.	y moist, no odor,	H5-6.0-6.5		
-8 -9	5		moist			fine to coarse sandy ASH, dark gray-black cinders with mixed fill, moist, very loose, r staining.		H5-8.0-8.5		
-10 					$\otimes\!\!\!\otimes\!\!\!\otimes$			H5-10.0-10.5		
_ 11		0.0	moist to wet	FILL		medium to coarse SAND, with fine to med 4/1) dark gray, non plastic, loose to soft, r odor, no staining.	noist to wet, no			
-12 -13	5	0.0	moist to wet	FILL		fine to medium silty SAND, brown, 7.5 YF fine gravel, loose, non-plastic, no odor or		H5-12.0-12.5		
-14 - -15 								H5-14.0-14.5		
-16 		0.0	moist to wet	FILL		fine to coarse gravelly SAND, dark gray, 7 silt, mixed fill including glass and fine deb odor or staining.	ris, moist to wet, no	H5-16.0-16.5		
-17 	4.7	0.0		PT	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	silty, firm, 80% organic fibers, 20% organ odor. Soils consistent with UNDorg.				
-18 — - -19 — -		0.0	damp to moist	PT	\(\frac{\frace{\frace}}}{\frace{\frin}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	fine organic SILT, dark gray, 10YR 6/1, 8/1 firm, pliable to plastic, sulfur odor, no stain moist. Soils consistent with LINDno		H5-18.0-18.5		
-20					<i>(</i> -1/-1/-1/-1/-1/-1/-1/-1/-1/-1/-1/-1/-1/-	M.		H5-20.0-20.5		
M - me	low surface eadow mat			romite ore proce en grey mud	essing re	sidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native depos		ufactured gas plant romate chemical production wa		



30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HE

	Name: F					Drilling Company: Advanced Drilling Inc. Drilling Method: Geoprobe	Coordinates (N ISDI	NAD83) x: 611835.71
	tarted Drill					Rig Type:		IAD83) y: 683324.52
			3/17/2004	1		Core Size: 1.25 inches	Boring Total Depth:	
	By: R.F		0.11.200			Project Manager: Scott Mikaelian	Depth to Water: NA	
	al Location						Surface Elevation:	
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickne	ess:	Sample ID
			slightly	ASPHALT FILL	****	Asphalt White and reddish brown (2.5YR 8/1 and	A/A) coorse to fine	
-1 -2 -2			moist	FILL		SAND, some med to fine gravel, trace silt/slag/CM/AM/asphalt (22"")/Reddish bro SAND, little silt, trace med to fine gravel; t (2.5Y 4/3) fine sand (COPR) (6"")	own (5YR 4/3) fine	HE 0.75 HE .75-1.25 HE 2.5-3
-3						×		
-4				FILL		Brown, black, dark brown and reddish brove 2.5/1, 3/2 and 2.5YR 4/4) SILT, trace fine	wn (7.5YR 4/2, sand	HE 4-4.5
-5								HE 5-5.5
-6 -7 -								HE6.0
-8- - -9				SILT	****	Reddish brown and weak red (2.5YR 4/2 a some clay	and 4/4) SILT,	HE8.0
-10								
_ _11								HE11.0
-12				NULL		End of Boring		
Notes: ogs - bellomments:	ow surface	grade	COPR - chr GGM - gree	romite ore procen grey mud	essing re	esidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native depos	posits MGP - mani its CCPW - chi	ufactured gas plant romate chemical production wa

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HH

Date St	Number: tarted Dril nished Dr	ling:		ļ		Rig Type:	Coordinates (NJSPN Coordinates (NJSPN Boring Total Depth:	
Logged	I By: R. F	rely		•		Project Manager: Scott Mikaelian	Depth to Water: NA	
Physic	al Locatio	n:			1		Surface Elevation:	13.9 ft NAVD88
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickne	SS:	Sample ID
				ASPHALT	· · · · · · · · · · · · · · · · · · ·	Asphalt		HH 0.3-0.8
-1- -2-			slightly moist	FILL		Brown, dark brown and black (7.5YR 4/3, 3 to fine SAND, little silt, little coarse to fine glittle crushed rock, little ash, little clinker, lit	ravel, little brick,	HH 2-2.5
-3								1111 2-2.3
-4 -5			very moist	FILL		Reddish brown and ed (5YR 4/3 and 2.5YF fine SAND, some silt, trace coarse to fine of trace shell		HH 4-4.5
-6 -7 -								HH 6-6.5
-8 -9 -			moist	SILT	XXXX	Reddish brown and dark reddish gray (2.5\ SILT, trace coarse to fine sand, medium to sheen, mottled, trace clay	/R 4/4 and 3/1) fine gravel,	HH 8-8.5
- 10 								HH10.0
_ _11								HH 10.5-11.0
-12				NULL		End of Boring		
	low surface eadow mat		COPR - chr GGM - gree	omite ore proc en grey mud	essing re	sidue UNDno - non-organic undisturbed native deposit	posits MGP - manu ts CCPW - chr	ofactured gas plant omate chemical production wa

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/21/16 13:40

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: HI**

								Page: 1
	Name: F					Drilling Company: Advanced Drilling Inc.		
	Number:					Drilling Method: Soft Dig		NAD83) x: 611376.47
	tarted Dril					Rig Type:	Coordinates (NJSPN	
			3/18/2004	<u> </u>		Core Size: 1.25 inches	Boring Total Depth:	
	1 By: R. F					Project Manager: Scott Mikaelian	Depth to Water: NA	
Physic	al Locatio	n:			1	1	Surface Elevation:	11.2 π NAVD88
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thio	ckness:	Sample ID
				CEMENT		Concrete (2"")		1110200
1 				FILL		Grayish brown (10 YR 5/2) coarse to fit coarse-fine gravel, trace silt, trace crus (12.5"")/*Red and weak red (10R 4/6 a SILT, trace fine sand, trace coal.^	shed rock, dry	HI 0.3-0.8
3								
- 4			dry to	FILL		Mottled reddish gray, black, and reddis 5YR 2.5/1 and 4/4) coarse to fine SAN	h brown (2.5YR 5/1, ID, some coarse to	HI 4-4.5
5 6 			moist			fine, gravel, trace silt (coal ash) (14"")		HI 5-5.5
—7— - –								HI 7-7.5
—8— 			wet	FILL		Dusky red (2.5YR 3/2) coarse to fine S fine gravel, trace silt, trace vegetation (
—9— - –								HI 9-9.5
—10— - – —11— - –			wet	CLAY		Very dark grayish brown (10YR 3/2) cl (27"")/*Dark brown (2.5YR 3/2) coarse silt (6"")	ayey SILT, wet to fine SAND, little	HI 10.1-10.5
12 13 			wet	SAND		Red and dusky red (10R 5/6 and 3/4) of little coarse to fine gravel, little silt	coarse to fine SAND,	
14 								HI 14-14.5
—15— - –								HI 14.7-15.2
16 			wet	SAND		Dark reddish brown (5YR 3/4) coarse t coarse to fine gravel (rounded), trace s		_
17 18 19 								HI 17-17.5
 20				NULL		End of Boring		
Notes: bgs - bel MM - me Comments:	adow mat	grade	COPR - chro GGM - gree	omite ore prod n grey mud	cessing re	esidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native de	e deposits MGP - mani eposits CCPW - chi	ufactured gas plant romate chemical production waste

A E COM

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/21/16 13:40

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HK

D	4 Manage F	200.0	C' - I - I A			Advanced Delling to		Page: 1
	t Name: F					Orilling Company: Advanced Drilling Inc.	0 " (() (0)	14 700)
	t Number:					Orilling Method: Soft Dig/Geoprobe		IAD83) x: 611513.59
	tarted Dril					Rig Type:	Coordinates (NJSPN	
	inished Dr		3/18/2004	}		Core Size: 1.25 inches	Boring Total Depth:	
	d By: R.F				ĮF	Project Manager: Scott Mikaelian	Depth to Water: NA	
Physic	al Locatio	m: 	1		1		Surface Elevation:	11.6 IL NAVDOO
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickr	ness:	Sample ID
 1				ASPHALT		Asphalt/Crushed gravel		
 2	- - -		moist	FILL NR		Pale brown (10YR 6/3) coarse to fine SA fine gravel No Recovery	ND, some coarse to	HK1.25 HK 1.25-1.75
3 4			moist	FILL NR		Dark grayish brown (10YR 4/2) medium No Recovery	to fine SAND	HK 3-3.5
5 6			wet	SAND		Olive brown (2.5Y 4/3) coarse to fine SAI (15"")/Black (2.5Y 2.5/1) coarse to fine G coarse to fine sand, little silt, little shell fra	SRAVEL, little	HK 5-5.5
								HK 7-7.3
9 10			wet	UNKNOWN		Black and light gray (2.5Y 2.5/1 and 7/1) coarse to fine sand (6"")/Light olive brown SAND, with clay laminations (6"")	silty CLAY, trace n (2.5Y 5/3) fine	HK 9-9.5
 11 12 								
13 14 15 16			wet	CLAY		Very dark gray (2.5Y 3/1) silty CLAY (3"" SILT (6""))/Black (2.5Y 2.5/1)	HK 13-13.5
17 18 19 20				SILT		Dark reddish gray and reddish brown(5Y clayey SILT (7"")/Black (5YR 2.5/1) Peat	(R 4/2 and 4/4) (meadow mat) (3"")	HK 17-17.5
21				NULL		End of Boring		
Notes: bgs - be MM - me	low surface eadow mat		COPR - chr GGM - gree		essing res	sidue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo	leposits MGP - manu sits CCPW - chro	factured gas plant omate chemical production waste

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring	ID: HL

Project	Name: F	PPG Ga	rfield Ave		D	rilling Compan	y: Advanced Drilling	a Inc		rage.
	Number:					rilling Method:		9 1110.	Coordinates (NJSPN	IAD83) x: 611834.24
	tarted Dril					ig Type:	CORE DIG			AD83) y: 683314.08
			3/18/2004			ore Size: 1.25	inches		Boring Total Depth:	
	By: R.F		0/10/2004				: Scott Mikaelian		Depth to Water: NA	
	al Location				,	rojoot managor	1 Cook Windonan		Surface Elevation: 1	
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log		Surface Cover and	d Thickne		Sample ID
				ASPHALT	****	Asphalt				
 1			dry ^L	FILL		Crushed gra	vel (11"")/Black (5YRe coarse to fine grave	R 2.5/1) c el (50% C	coarse to fine COPR) (6"")	HL 1.1-1.6
				.						-
				Test pit CCPW		End of Borin	g	<u> </u>	ocation and no	HL 1.1-1.6
Notes:										
bgs - bel	low surface	grade	COPR - chro	omite ore proce	essing resi	idue UNDno - no UNDora - o	on-organic undisturbed	d native de tive depos	eposits MGP - manu its CCPW - chr	factured gas plant omate chemical production waste

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/21/16 13:40

A E C O M

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: HL-TP**

			arfield Ave			Drilling Company: Badger				
Project	t Number:	60314	4351.GA.D	E.PDI.FOR		Drilling Method:	Coordinates (NJSP	NAD83) x: 611834.2		
Date St	tarted Dril	ling: 1	1/14/2017			Rig Type:		NAD83) y: 683313.8		
Date Fi	inished Dr	illing:	11/14/201	7		Core Size:	Boring Total Depth:	2 ft		
	d By: R. I					Project Manager: Scott Mikaelian	Depth to Water:	Depth to Water:		
	al Locatio		laday St				Surface Elevation:	13.8 ft NAVD88		
	Recovery		Moisture	USCS	Graphi Log	C Surface Cover and Ti		Sample ID		
0 /				Asphalt		Asphalt				
-1	2			FILL		Cemented ash, cinders, little coars cobbles, trace fill debris	e angular gravel and			
-2-				SM	<u>an original in the control of the c</u>	Reddish-brown fine to medium san CCPW or ash observed in red sand End of test pit	d, some silt. No			
lotes: gs - bel	ow surface (grade	COPR - chro	mite ore proce	essing res	sidue UNDno - non-organic undisturbed nativ UNDorg - organic undisturbed native d	re deposits MGP - man eposits CCPW - chr	ufactured gas plant romate chemical production wast		

A=COM

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/21/16 13:40

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: HM**

			telephone					Page: 1
	t Name: F					Drilling Company: Advanced Drilling Inc.		
	t Number:					Drilling Method: Soft Dig		NAD83) x: 611843.06
	tarted Dril			4		Rig Type:		IAD83) y: 683307.44
	inished Dr d By: R. F		3/18/2004	4		Core Size: 1.25 inches Project Manager: Scott Mikaelian	Boring Total Depth: Depth to Water: NA	
	al Locatio					Project Manager. Scott Mikaelian	Surface Elevation:	
					1		Surface Lievation.	13.9 11 11 12 13 13 13 13 13 13 13 13 13 13 13 13 13
Depth Range (ft bgs)	(ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thick	ness:	Sample ID
- , -				ASPHALT		Asphalt, Crushed Gravel		
1 			moist	FILL			medium to fine	HM 1.0-1.5
				NULL		gravel, trace wood End of Boring-Wooden Obstruction at 1.		
Notes: bgs - be	elow surface	grade	COPR - chr GGM - aree	omite ore procen grey mud	essing re	esidue UNDno - non-organic undisturbed native o UNDorg - organic undisturbed native depo	deposits MGP - mani	ufactured gas plant romate chemical production waste
Comments:								

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring	ID:	HN

	Number:					illing Method: Soft Dig	Coordinates (NJSPI	<u> </u>
Date St	tarted Dril					g Type:		IAD83) y: 683306.36
			3/18/2004	,		ore Size: 1.25 inches	Boring Total Depth:	
	By: R.F					oject Manager: Scott Mikaelian	Depth to Water: NA	
	al Locatio						Surface Elevation:	
Depth Range (ft bgs)	Recovery (ft/ft)		Moisture Content	USCS	Graphic Log	Surface Cover and		Sample ID
				ASPHALT		Asphalt/Crushed gravel		
—1— -				FILL		Black (10YR 2/1) coarse to fine SA	AND, some coarse to fine	HN 1.0-1.5
—2— - –				NR		gravel, trace silt Soft Dig/No Recovery		
3 4			moist	FILL NR		Dark brown (10YR 3/3) coarse to f coarse to fine gravel, trace broken Soft Dig/No Recovery	ine SAND/SILT, some shale, trace ash	HN 3.0-3.5
5 6				CLAY		Very Dark Grayish Brown and Gray 5/2) SILT and clayey SILT.	yish Brown (10YR 3/2 and	HN 5.0-5.5
7 8								HN 7.0-7.5
—9 <i>—</i>				NULL		End of Boring		
Notes: ogs - bel MM - me	low surface	grade	COPR - chr GGM - gree	omite ore proc	essing resid	due UNDno - non-organic undisturbed n UNDorg - organic undisturbed nativ	native deposits MGP - man	ufactured gas plant

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HSD-PDI-BB16A

	Name: F Number:					Drilling Company: SGS North America Drilling Method: Direct Push	Coordinates (NJSP	NAD83) x: 611430
				8:30:00 AM		Rig Type:	•	NAD83) y: 682857.8
				6.30.00 AW 6 9:30:00 AM		Core Size: 3.0 in	Boring Total Depth:	
	nisned br I By : ES	ming.	3/2//2010	J J.JU.UU AIVI		Project Manager: Scott Mikaelian	Depth to Water: NA	
	ıby: ⊵S alLocatio	n: Act	ual . LICD !	PDI		Project Manager. Scott Mikaelian	Surface Elevation:	
nysica	ar LUCALIO	ıı. ACT	uai - 1131) I	וט			Juliace Elevation:	10.11LIVAVD00
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickn	iess:	Sample ID
		0.0		CONCRETE	P 1 4	Concrete		
\dashv			dry	FILL		fine to medium SAND, some ash, trace fi	II debris, (2.5Y 5/2)	
-1			,	-	XXX	grayish brown, medium dense, dry, no od	lor, no staining.	
			dry	FILL	XXX	ASH, trace coal, (2.5Y 5/1) gray, loose, d	ry, no odor, no	
					XXX	staining.		
-2-	4				XXX	\otimes		
\dashv	4				XXX	\otimes		
-3					XXX	\boxtimes		
					XXX	×		
.]					XXX	\otimes		
-4				NR	~^^X	NO RECOVERY		1
4								
-5-					~~~	X		4
·		0.0	dry	FILL	XXX	ASH, some coal, trace fill debris, (2.5Y 4/	1) dark gray, loose,	
\Box			to moist		XXX	dry to moist, no odor, no staining.		
-6-			moist		$\times\!\!\times\!\!\times$	\boxtimes		
\dashv					XXX	\otimes		
_7					XXX	×		
.	3.5				XXX	\otimes		
\dashv	3.0				$\times\!\!\times\!\!\times$	ૅ		
-8-)A/O [‡]	FILL	XXX	fine to medium SAND, some ash, trace fi	II debrie (2 5V	+
4			wet		XXXX	2.5/1) black, loose, wet, no odor, no stain		4
-9				NR		feet.	g, water at 0.0	
9						NO RECOVERY		
\dashv								
-10		0.0	wot	EII I		ASH some fine to medium send little fill	dobrie (5V 4/1)	+
4		5.0	wet	FILL	XXX	ASH, some fine to medium sand, little fill dark gray, loose, wet, no odor, no staining		
-11					XXX	Sain gray, 10000, wet, no odor, no staning	j·	
'']					XXX	×		
⊣					XXX	×		
-12					$\times\!\!\times\!\!\times$	\boxtimes		
4	4.5				XXX	\otimes		
-13					$\times\!\!\times\!\!\times$	ૅ		
					XXX	\boxtimes		
_ 7					XXX	\boxtimes		
-14			wet	FILL		SILT, little wood, trace fill debris, (7.5YR	4/2) brown soft	†
\dashv				NR	XXXX	wet, no odor, no staining.		4
-15		0.0			///	NO RECOVERY		4
		0.0	moist	FILL	XXX	fine silty SAND, some coarse gravel, trac		
,					XXX	4/3) reddish brown, medium dense, mois	t, no odor, no	HSD-PDI-BB16A-15.5-16.0
-16			dry	PT	<u> </u>	staining. PEAT (degraded vegetated material), 80%	6 organic fiber	HSD-PDI-BB16A-16.0-16.5
\dashv					1/ 1/1/		brown. stiff. drv	
-17					<u> </u>	aliabt again aday na atainina Caila aan		
	5				7\ 7			
10			moist	OL		Organic SILT, 80% organic SILT, 20% or	ganic fibers,	
Ιď						(7.5YR 4/2) brown, soft, moist, no odor, r	no staining. Soils	
-						consistent with UNDorg.		
-19								
\Box								
20						<u> </u>		
-20								
otes:	ow surface	arade	COPR - chr	omite ore proce	ssina r	residue UNDno - non-organic undisturbed native d	eposits MGP - man	ufactured gas plant
	adow mat			en grey mud	Joing I	UNDorg - organic undisturbed native deport		romate chemical production wa
						1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring		

A E C O M

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HSD-PDI-BB17A

	Drilling: ed Drilling ES cation: A very PIE ft) (ppr	5/27/2016 : 5/27/2010 ctual - HSD Moisture Content dry			Drilling Method: direct push Rig Type: Core Size: 3.0 in Project Manager: Scott Mikaelian Surface Cover and Thickn Concrete ASH, little cinders, trace wood, (5Y 5/1) godor, no staining.	Coordinates (NJSP) Boring Total Depth: Depth to Water: N/ Surface Elevation:	A
Date Finishe Logged By: Physical Loc Depth Range ff bgs) 1 5 3	ed Drilling ES cation: A very PIE (ppr) 0.0	ctual - HSD Moisture Content dry	DI USCS CONCRETE	Graphic	Core Size: 3.0 in Project Manager: Scott Mikaelian Surface Cover and Thickn Concrete ASH, little cinders, trace wood, (5Y 5/1) g	Boring Total Depth: Depth to Water: No. Surface Elevation: ness:	20 ft A 13.9 ft NAVD88 Sample
Depth Range ft bgs) -1 - 5 -3 - 5	very PIE (ppr	Moisture Content dry	USCS CONCRETE	Graphic	Surface Cover and Thickn Concrete ASH, little cinders, trace wood, (5Y 5/1) g	Depth to Water: NA Surface Elevation:	A 13.9 ft NAVD88 Sample
Depth Range ft bgs) -1 5	very PIE (ppr	Moisture Content dry	USCS CONCRETE	Graphic	Surface Cover and Thickn Concrete ASH, little cinders, trace wood, (5Y 5/1) g	Surface Elevation:	13.9 ft NAVD88 Sample
Depth Range ft bgs) Reco (ft/f)	very PIE (ppr	Moisture Content dry	USCS CONCRETE		Concrete ASH, little cinders, trace wood, (5Y 5/1) g	ness:	Sample
Range (ft/fiff bgs) (ft/fi	0.C	dry	CONCRETE:		Concrete ASH, little cinders, trace wood, (5Y 5/1) g		
Range ft bgs) (ft/f	0.C	dry	CONCRETE:		Concrete ASH, little cinders, trace wood, (5Y 5/1) g		
-3 4 		dry	FILL		ASH, little cinders, trace wood, (5Y 5/1) g	gray, loose, dry, no	
-3- - - -4- - -			FILL		ASH, little cinders, trace wood, (5Y 5/1) g	gray, loose, dry, no	
-3 - -4 -						jray, 1003e, dily, 110	
-3 - -4 -		dry	EIII				
-5- 	0.0	dry	EIII	$\!$			
-6 	0.0	dry	EII I	$\sim\sim$	2		
_ =			FILL		ASH, little cinders, trace wood, (5Y 5/1) g odor, no staining.	gray, loose, dry, no	
3.9	5	moist to wet	FILL		fine silty SAND, little ash, trace fill debris, brown, medium dense, moist to wet, no o water at 8.0 feet.		
-9			NR		NO RECOVERY		
-10 	0.0	saturated	FILL		fine silty SAND, some ash, little fill debris gray, medium dense, saturated, no odor,		
-14			NR	****	NO RECOVERY		_
45							
15	0.0	saturated	FILL		ASH, some fine to medium sand, trace fil		
-16 		wet	FILL		gray, loose, saturated, no staining, slight black staining. fine silty SAND, little coarse gravel, trace 4/3) reddish brown, medium dense, wet, staining.	organics, (5YR	HSD-PDI-BB17A-16.5-17.0
-17		dry	'	717 717 717 717 7 717 717	PEAT (degraded vegetated material), 80% 20% organic silt, (5YR 3/2) dark reddish l	brown, stiff, dry,	HSD-PDI-BB17A-17.0-17.5
-19 		moist	OL -		Organic SILT, 80% organic silt, 20% orga 4/2) brown, soft, moist, no odor, no staini with UNDorg.	anic fibers, (7.5YR ng. Soils consistent	
20					1		
otes: gs - below sui lM - meadow			romite ore proce en grey mud	ssing re	sidue UNDno - non-organic undisturbed native du UNDorg - organic undisturbed native depo		ufactured gas plant

A E C O M

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HSD-PDI-CC13A

	t Name: F					Drilling Company: SGS North America Drilling Method: direct push	Coordinates (NJSP	NAD83) x: 611490.7									
				11:30:00 AM		Rig Type: Coordinates (NJSP		<u> </u>									
				6 12:00:00 PM		Core Size: 3.0 in	Boring Total Depth:										
	d By: ES	g.	0/10/2010	3 12.00.00 T W		Project Manager: Scott Mikaelian	Depth to Water: N										
Physic:	al Locatio	n: Act	ual - HSD	PDI		Cook Mindelian	Surface Elevation:										
	ui Locutio	7.00	aai 110D				Carrace Elevation.	10.01(14/1000									
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	C Surface Cover and Thick	kness:	Sample ID									
		0.0		CONCRETE	P & 4	Concrete											
-1 -1			dry	FILL		ASH, little cinders, (5YR 4/1) dark gray, no staining.	loose, dry, no odor,										
-2 - -3	3.5																
-4				NR		NO RECOVERY											
-5 -6 -7	3	0.0	moist to wet	FILL		ASH, trace wood, (5Y 4/1) dark gray, loo odor, no staining, water at 7.5 feet.	ose, moist to wet, no										
-8 -9 -				NR	****	NO RECOVERY											
-10	4	0.0	wet	FILL		fine to medium SAND, some ash, (5Y 5 dense, wet, no odor, no staining.	/1) gray, medium										
-14				NR	XXXX	NO RECOVERY											
15		0.0	wet	FILL	XXX	ASH, (5Y 5/1) gray, loose, wet, no odor,	no staining.										
_ -16			wet	FILL		fine silty SAND, (5YR 4/3) reddish brow wet, no odor, no staining.	n, medium dense,	HSD-PDI-CC13A-16.0-16.									
 -17 - -18	5						•	•				dry			20% organic silt, (5YR 3/3) dark reddish moderate organic odor, no staining. Soil MM.	brown, stiff, dry,	HSD-PDI-CC13A-16.5-17.
-19 -					<u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>	N.											
-20			moist	OL		Organic SILT, 80% organic silt, 20% organic silt	ganic fibers, (5Y 5/1) oils consistent with										
ĬM - me	eadow mat		GGM - gree	en grey mud		esidue UNDno - non-organic undisturbed native UNDorg - organic undisturbed native dep ft thick 3) No CCPW (COPR or GGM) present in any interval of this bor	osits CCPW - ch	ufactured gas plant romate chemical production w									

Boring ID: HSD-PDI-CC14A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60240739 Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611478 Date Started Drilling: 5/26/2016 8:25:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682900.6 Date Finished Drilling: 5/26/2016 9:50:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: HBB Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSD PDI Surface Elevation: 14.1 ft NAVD88 Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 CONCRETE Concrete HSD-PDI-CC14A-0.5-1.0 CINDERS, trace ash and wood, (5YR 2.5/1) black, loose, **FILL** dry dry, no odor, no staining. HSD-PDI-CC14A-2.0-2.5 4.5 HSD-PDI-CC14A-4.0-4.5 NR NO RECOVERY 0.0 dry FILL CINDERS, trace ash, (5YR 2.5/1) black, loose, dry, no odor, no staining. moist **FILL** ASH, trace glass and coal, (7.5YR 4/2) brown, medium HSD-PDI-CC14A-6.0-6.5 dense, moist, no odor, no staining. 3.5 **FILL** CINDERS, trace silt, (5Y 5/1) gray, loose, saturated, no saturated odor, no staining, water at 8.5 feet. HSD-PDI-CC14A-8.0-8.5 NO RECOVERY NR HSD-PDI-CC14A-10 0-10 5 0.0 FILL CINDERS, trace ash and wood, (5Y 5/1) gray, loose, saturated saturated, no odor, no staining. 12 HSD-PDI-CC14A-12.0-12.5 4.5 13 HSD-PDI-CC14A-14.0-14.5 NO RECOVERY NR 0.0 FILL CINDERS, trace ash, wood and metal debris, (2.5Y 5/1) saturated gray, loose, saturated, no odor, no staining. 16 HSD-PDI-CC14A-16.0-16.5 FILL HSD-PDI-CC14A-17.0-17.5 fine SAND, little silt, trace fine gravel, (7.5YR 4/3) brown, wet 45 medium dense, wet, slight petroleum odor, slight black HSD-PDI-CC14A-17.5-18.0 РТ dry staining. 1, 11, PEAT (degraded vegetated material), 80% organic fibers, 20% organic silt, (5YR 3/2) dark reddish brown, stiff, dry, 11, 11, moderate organic odor, no staining. Soils consistent with 19 moist OL Organic SILT, 90% organic silt, 10% organic fibers, (5Y 5/1) NR gray, medium stiff, moist, no odor, no staining. Soils 20 consistent with UNDorg. NO RECOVERY

Notes

A.GDT - 1/6/17 14:

2012-09 RA PPG LOGS

bgs - below surface grade bgs - below surface grade GGM - green grey mud UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

Comments: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HSD-PDI-CC15A

Project Number: 60240739 Date Started Drilling: 5/26/2016 12:00:00 PM								PNAD83) x: 611458.3										
						Rig Type:	Coordinates (NJSPN	NAD83) y: 682867.8										
Date Fi	nished Dr	illing:	5/26/2016	3 12:45:00 PM	1	Core Size: 3.0 in	Boring Total Depth:											
	IBy: HBE					Project Manager: Scott Mikaelian	Depth to Water: NA											
Physica	al Locatio	n: Act	ual - HSD	PDI			Surface Elevation:	13.5 ft NAVD88										
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickne	ess:	Sample ID										
		0.0		CONCRETE	P 5 4	Concrete												
_ _1_			dry	FILL		medium to coarse SAND, little fine to med 4/2) brown, loose, dry, no odor, no stainin		HSD-PDI-CC15A-0.5-1.0										
-2 -3 -	4.5		dry	FILL		ASH, trace cinders, coal and fill debris, (7 medium dense, dry, no odor, no staining.	.5YR 4/2) brown,	HSD-PDI-CC15A-2.0-2.5										
-4					\bowtie			HSD-PDI-CC15A-4.0-4.5										
_ 7				NR		NO RECOVERY												
-5 -6		0.0	moist to wet	FILL		ASH, trace coal and fill debris, (7.5YR 4/2 dense, moist to wet, no odor, no staining,		HSD-PDI-CC15A-6.0-6.5										
-7 -8	3.5																	HSD-PDI-CC15A-8.0-8.5
-9-				NR		NO RECOVERY		-										
-																		
-10 <u> </u>		0.0	saturated	FILL		ASH, trace coal and fill debris, (7.5YR 4/2 dense, saturated, no odor, no staining.) brown, medium	HSD-PDI-CC15A-10.0-10.5										
-11 - -12 - -13	4.5		saturated	FILL		CINDERS, trace ash, coal and fill debris, loose, saturated, no odor, no staining.	(5YR 2.5/1) black,	HSD-PDI-CC15A-12.0-12.5										
-14								HSD-PDI-CC15A-14.0-14.5										
,				NR		NO RECOVERY												
-15		0.0	saturated	FILL		CINDERS, trace coal and fill debris, (5YR	2.5/1) black,											
\dashv			wet	FILL		loose, saturated, no odor, no staining.		HSD-PDI-CC15A-15.5-16.0										
-16				PT		fine to medium SAND, little silt, trace fine	gravel, (7.5YR	HSD-PDI-CC15A-16.0-16.5										
_ -17	4.5		dry	PI	<u> </u>	PEAT (degraded vegetated material), 80% 20% organic silt, (5YR 3/2) dark reddish b stiff, dry, no odor, no staining.	organic fibers,	1105 1 51 0010/1100 10.0										
-18			moist	OL	<u>', \',</u>	Organic SILT, 90% organic silt, 10% organic silt, no odor, no stai		_										
-19						consistent with UNDorg.	iiiig. oolis											
20				NR		NO RECOVERY												
	ow surface		COPR - chr	omite ore proce	essing r	esidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native depos	eposits MGP - man	ufactured gas plant										

A E C O M

Boring ID: HSD-PDI-DD10A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60240739 Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611554.6 Date Started Drilling: 5/23/2016 12:30:00 PM Rig Type: Coordinates (NJSPNAD83) y: 682989.7 Date Finished Drilling: 5/23/2016 1:00:00 PM Core Size: 3.0 in Boring Total Depth: 20 ft Project Manager: Scott Mikaelian Depth to Water: NA Logged By: ES Physical Location: ACTUAL - HSD PDI Surface Elevation: 13.6 ft NAVD88 Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 CONCRETE Concrete FILL Ash, some to little cinders, (2.5Y 5/2) grayish brown, loose, dry dry, no odor, no staining. HSD-PDI-DD10A-2.0-2.5 4.5 HSD-PDI-DD10A-4.0-4.5 NR NO RECOVERY 0.0 **FILL** Ash, little coal, (7.5YR 5/1) gray, loose, dry, no odor, no dry staining. HSD-PDI-DD10A-6.0-6.5 **FILL** fine to medium SAND, some cinders, little ash, (7.5YR 4/2) dry brown, medium dense to loose, dry to moist, no odor, no 4.5 moist staining. HSD-PDI-DD10A-8.0-8.5 **FILL** fine to medium SAND, some wood, little ash, trace ceramics, wet (7.5YR 2.5/2) very dark brown, loose, wet, no odor, no NR staining, water at 9.0 feet. NO RECOVERY 0.0 FILL wet Ash, trace fill debris, (2.5Y 5/1) gray, loose, wet, no odor, no staining. 12 HSD-PDI-DD10A-12.0-12.5 4.5 13 HSD-PDI-DD10A-14.0-14.5 **FILL** SILT, little wood, trace ash, (7.5YR 2.5/2) very dark brown, wet soft, wet, no odor, no staining. NR NO RECOVERY HSD-PDI-DD10A-15.0-15.5 2.0 FILL sandy SILT, some organics, little ash, (5YR 4/3) reddish moist brown, soft, moist, no odor, no staining.
PEAT (degraded vegetated material), 80% organic fibers, HSD-PDI-DD10A-15.5-16.0 PT dry 16 1/ 1/1/ V 20% organic silt, (5YR 3/2) dark reddish brown, firm, dry, slight organic odor, no staining. Soils consistent with MM. 11, 11, 1/ 1/1/ 1 1/ 1/1/ 1 OL Organic SILT, 80% organic SILT, 20% organic fibers, moist (7.5YR 4/2) brown, soft, moist, slight organic odor, no NR staining. Soils consistent with UNDorg. NO RECOVERY

Notes

A.GDT - 1/6/17 14:

2012-09 RA PPG LOGS

MGP - manufactured gas plant CCPW - chromate chemical production waste

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HSD-PDI-DD11A

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60240739 Coordinates (NJSPNAD83) x: 611540.5 Drilling Method: direct push Date Started Drilling: 5/26/2016 8:15:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682963.1 Date Finished Drilling: 5/26/2016 9:30:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: ES Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSD PDI Surface Elevation: 13.4 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙD (ft/ft) (ppm) Log (ft bgs) 0.0 CONCRETE Concrete HSD-PDI-DD11A-0.4-0.9 dry **FILL** ASH, little cinders, (7.5YR 4/1) dark gray, loose, dry, no odor, no staining. 4.5 HSD-PDI-DD11A-4.0-4.5 NR NO RECOVERY 0.0 **FILL** ASH, little wood, trace fill debris, (2.5Y 5/1) gray, loose, dry, dry no odor, no staining. HSD-PDI-DD11A-6.0-6.5 **FILL** fine to medium SAND, some fine gravel, little ash, (7.5YR moist to 4/2) brown, medium dense, moist to wet, no odor, no 3.5 staining, water at 8.5 feet. wet HSD-PDI-DD11A-8.0-8.5 NO RECOVERY NR 0.0 FILL fine to medium SAND, some fine gravel, trace ash, (2.5Y wet 5/2) grayish brown, medium dense, wet, no odor, no 12 HSD-PDI-DD11A-12.0-12.5 4.5 **FILL** ASH, little fine to medium sand, (2.5Y 5/2) grayish brown, wet 13 loose, wet, no odor, no staining. HSD-PDI-DD11A-14.0-14.5 NO RECOVERY NR 0.0 FILL fine SAND, trace ash and glass, (2.5Y 5/2) grayish brown, wet medium dense, wet, no odor, no staining. 16 HSD-PDI-DD11A-16.0-16.5 HSD-PDI-DD11A-16.5-17.0 wet **FILL** fine silty SAND, some coarse gravel, (5YR 4/3) reddish brown, medium dense, wet, no odor, no staining. PEAT (degraded vegetated material), 80% organic fibers, HSD-PDI-DD11A-17.0-17.5 PT dry 12 71/ 7 20% organic silt, (5YR 3/2) dark reddish brown, stiff, dry, moderate organic odor, no staining. Soils consistent with 11, 11, 1/ 1/1/ 1 19 Organic SILT, 80% organic SILT, 20% organic fibers. (2.5Y OL moist 5/1) gray, soft, moist, slight organic odor, no staining. Soils consistent with UNDorg 20

A.GDT - 1/6/17 14:

2012-09 RA PPG LOGS

COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits GGM - green grey mud UNDorg - organic undisturbed native deposits bgs - below surface grade MM - meadow mat

MGP - manufactured gas plant CCPW - chromate chemical production waste

Project Number: 60240739

Project Name: PPG Garfield Ave

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HSD-PDI-EE8A Page: 1 Drilling Company: SGS North America Coordinates (NJSPNAD83) x: 611606.2 Coordinates (NJSPNAD83) v: 683028.4

roject Number:			11.00.00 AM		Rig Type: Coordinates (NJSP)			
ate Started Dri ate Finished D					Core Size: 2.0 in Boring Total Depth			
ogged By: HB		312312011	<u> </u>		Project Manager: Scott Mikaelian			
ogged By: ⊟B hysical Locatio		TIIAI _ LIC	SU BUI		-roject wanager. Scott wikaelian	Depth to Water: NA Surface Elevation:		
	,,, AC	10/16 - 116	וט ו טי			Juliace Elevation.	10.0 11 14/14/1000	
epth ange bgs) Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thick	kness:	Sample ID	
	0.0		CONCRETE	P & A P	Concrete			
7		moist	FILL		fine to coarse SAND, little silt, trace fine	e to medium gravel	HSD-PDI-EE8A-0.5-1.0	
1—		moist	FILL		and fill debris, (7.5YR 4/2) brown, medi	um dense, moist, no /		
2 3		moist	I ILL		\odor, no staining. ASH, trace coal, (7.5YR 4/2) brown, me no odor, no staining.	edium dense, moist,	HSD-PDI-EE8A-2.5-3.0	
3—				\bowtie			HSD-PDI-EE0A-2.5-3.0	
5 –			NR		NO RECOVERY			
4-	0.0	moist	FILL		ASH, trace coal and fill debris, (7.5YR 4	1/2) brown medium		
\dashv		1110101	''	\bowtie	dense, moist, no odor, no staining.	, 5:0wii, iiiculuiii	HSD-PDI-EE8A-4.5-5.0	
5—		meist	- FILE		fine to medium CAND some fine	I trace sinders and		
6— 3		moist	FILL		fine to medium SAND, some fine gravel glass, (5Y 5/1) gray, medium dense, mostaining.			
_				\bowtie			HSD-PDI-EE8A-6.5-7.0	
7			NR	XXXXX	NO RECOVERY			
\dashv								
3-	1.0	moist	FILL		fine to medium SAND, little fine gravel a	and cinders trace		
4		to	''LL	\bowtie	ash, (5Y 5/1) gray, loose, moist to wet,		HSD-PDI-EE8A-8.5-9.0	
9— 3		wet			water at 9.0 feet.			
				\bowtie			HSD-PDI-EE8A-10.5-11.0	
			NR		NO RECOVERY			
_								
2	0.0	moist	FILL		fine to coarse SAND, little fine gravel ar	nd cinders, trace ash		
3 3 3					and coal, (5YR 2.5/1) black, loose, mois staining.	st, no odor, no	HSD-PDI-EE8A-12.5-13.0	
15			NR	XXXXX	NO RECOVERY			
+								
6	0.4	wet	FILL		fine to medium SAND, little silt, (5YR 4/	/3) reddish brown	HSD-PDI-EE8A-16.0-16.5	
4	"		PT	<u> </u>	soft, wet, no odor, no staining.		HSD-PDI-EE8A-16.5-17.0	
7—		dry		<u> </u>	PEAT (degraded vegetated material), 80 20% organic silt, (5YR 2.5/2) dark reddi	ish brown, medium		
2.5		wet	ML	<u> </u>	stiff, dry, moderate organic odor, no sta consistent with MM.	Iriirig. Solis		
		wet	IVIL	$\Box \Box \Box$	fine to medium sandy SILT, (5Y 5/1) gra	ay, medium dense,		
9—			NR		wet, no odor, no staining. Soils consiste NO RECOVERY	ent with UNDno.		
\dashv								
20	+							
tes:								

Drilling Method: Direct Push

bgs - below surface grade MM - meadow mat COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

ents: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: HSD-PDI-FF5A

Page: 1

	t Number:			8:00:00 AM				PNAD83) x: 611679.44 PNAD83) y: 683098.67														
				6 10:15:00 AN		Core Size: 3 in	Boring Total Depth:															
.oggec	d By: HBE	3				Project Manager: Scott Mikaelian	Depth to Water: NA															
Physic	al Locatio	n: Act	ual - HSD	PDI			Surface Elevation:	14.6 ft NAVD88														
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	c Surface Cover and Thickn	ess:	Sample ID														
_		0.0		CONCRETE		Concrete and brick, trace fine to medium brown, loose, dry, no odor, no staining.	sand, (7.5YR 4/2)															
-1 - -2 -	3.5		dry	FILL		fine to medium SAND, trace ash and fill obrown, medium dense, dry, no odor, no si		HSD-PDI-FF5A-1.0-1.5														
-3	-		moist	FILL		ASH, (5Y 5/1) gray, loose, moist, no odor	. no staining.	HSD-PDI-FF5A-3.0-3.5														
-4- -				NR		NO RECOVERY	,															
-5 -		14.2	moist	FILL		ASH, (5Y 5/1) gray, loose, moist, slight postaining.	etroleum odor, no	HSD-PDI-FF5A-5.0-5.5														
				moist	FILL		CINDERS, trace ash and fill debris, (5YR medium dense, moist, moderate petroleul															
-7— -8— -9—	4.5														wet	FILL		SILT, trace fine sand and ash, (7.5YR 3/4 wet, no odor, no staining, water at 8.0 fee		HSD-PDI-FF5A-7.0-7.5		
_				NR		NO RECOVERY		HSD-PDI-FF5A-9.0-9.5														
-10 - -11			14.2	14.2	14.2	14.2	14.2	wet	FILL		SILT, trace fine to medium sand and ash, brown, soft, wet, no odor, no staining.	(7.5YR 3/4) dark	HSD-PDI-FF5A-11.0-11.5									
-12 -13	3.5									saturated	FILL		fine to coarse SAND, some silt, trace fine gray, soft, saturated, no odor, no staining		HSD-PDI-FF5A-13.0-13.5							
_ -14 																						
-15 - -		0.0	wet	FILL		fine to medium SAND, some silt, trace fin (5Y 5/1) gray, soft, wet, no odor, no stain		HSD-PDI-FF5A-15.0-15.5														
-16 -	-		wet	FILL		fine SAND, some silt, trace glass, (5YR 4 soft, wet, no odor, no staining.	, , , , , , , , , , , , , , , , , , ,	HSD-PDI-FF5A-16.3-16.8														
-17 - -18	4.5					dry	PT		20% organic silt, (5YR 3/3) dark reddish l	orown, medium	HSD-PDI-FF5A-16.8-17.3											
_ _19			moist	OL		Organic SILT (90% organic silt, 10% organic silt	medium dense,															
				NR		NO RECOVERY																
	low surface	grade	COPR - chr	romite ore proc	essina r	esidue UNDno - non-organic undisturbed native d	eposits MGP - manı	ufactured gas plant														
ЙМ - me	eadow mat		GGM - gree	en grey mud		esidue UNDno - non-organic undisturbed native dr UNDorg - organic undisturbed native depos ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring	sits CCPW - chr	ufactured gas plant omate chemical production														

A E C O M

PPG - 2012-09 RA PPG_LOGS_AGDT - 10/21/16 13:40

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: OSB-24

David and	. N	200.0-	C' - I - I A		1-			Page: 1	
	Name: F					Orilling Company:			
	Number:					Orilling Method: Soft Dig/HSA	Coordinates (NJSPNAD83) x: 611601.4		
	tarted Dril					Rig Type:	NAD83) y: 683065.4		
Date Fi	inished Dr	illing:	7/31/2006	<u> </u>		Core Size: 12 inches	Boring Total Depth:		
Logged	d By: M. A	Abdelaz	iz		F	Project Manager: Scott Mikaelian	Depth to Water: NA		
Physic	al Locatio	n:					Surface Elevation: 12	2.8 ft NAVD88	
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickne	ess:	Sample ID	
			dry	ASPHALT		Asphalt			
⊢ -			dry	FILL		Black (7.5R2.5) coarse to medium SAND,	como modium to	0SB-24A(0.5-1.0)20060724	
 1					\bowtie	fine Gravel, trace Silt, dry.	Some medium to	(1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	
 2			dry	NR		Soft Dig - No Recovery			
3 			AE	ECOM N	ote: C	CPW noted in log is in error.			
⊢ –			4	FILL	XXXXX	Darlaman (7.5)(DNI4) and firm OAND	- 011 4 5 4-	0SB-24B(4.5-5.0)20060724	
5 			wet	FILL		Dark gray (7.5YRN4) medium SAND, som very fine Gravel, wet.	ie Siit, trace fine to	000 245(4.0 0.0)20000124	
6 			dry	FILL		Very dark gray (7.5RN3) GLASS, COAL A CHIPS, some coarse Sand, trace Cinder,	SH and WOOD dry. Petroleum		
 7			wet	FILL		odor.	011 and 14/000		
├ -						Very dark gray (7.5RN3) GLASS, COAL A CHIPS, some coarse Sand, trace Cinder, v			
 8					\bowtie	odor and sheen.	wet. Petroleum	OSB-24C(8-9)20060731	
⊢ –						odor and sneem.		, ,	
- -9									
L -					\bowtie				
<u> </u>					\bowtie				
10									
F -					\bowtie				
 11									
⊢ –				FII.I		Doub harries (7.5VD2/2) made in the first CA	ND some Cilk		
—12— — —			wet	FILL		Dark brown (7.5YR3/3) medium to fine SA trace(-) Clay, wet to moist. 25% COPR.	AND, some Siit,	OSB-24D(11.7-12.7)20060731	
 13			wet	NR		No Recovery			
L			wet	FILL		Very dark gray (7.5RN3) GLASS, COAL A	SH and WOOD		
			wet	FILL	\bowtie	CHIPS, some coarse Sand, trace Cinder,	wet. Petroleum /		
14						\odor and sheen.	A DOWN		
					\bowtie	Dark brown (7.5YR3/3) medium to fine SA	AND, some Silt,		
15						trace(-) Clay, wet to moist.			
⊢ – 16—			dry	PEAT		PEAT, dry.		OSB-24E(15.5-16)20060731	
Ļ .ॅ _									
17			dry	NR		No Recovery			
18-			day	PEAT		PEAT			
⊢ –			dry	PEAT		FEAT			
19				0415		One (7 EDNE) ' " C	Oilt 1.5		
⊢ –			wet	SAND		Gray (7.5RN5) coarse to medium SAND, s	some Silt and fine		
20						Sand, trace fine Gravel, wet.			
├ -									
21			wet	NR		No Recovery			
⊢ -			wet	SAND		Reddish brown (2.5YR4/4) coarse to med	lium SAND, some		
22						Silt and fine Sand, trace fine Gravel, wet.	Napthalene odor.		
⊢ –									
23									
L 23									
24									
├ -									
Notes		<u> </u>			1				
Notes: bas - be	low surface	grade	COPR - chr	omite ore proc	essina res	sidue UNDno - non-organic undisturbed native de	posits MGP - manu	factured gas plant	
	adow mat		GGM - gree			UNDorg - organic undisturbed native depos	its CCPW - chro	omate chemical production waste	
Comments:					_				

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/21/16 13:40

Boring ID: OSB-24

732.564.3200 office telephone

Page: 2 Project Name: PPG Garfield Ave **Drilling Company:** Project Number: 60240739 Drilling Method: Soft Dig/HSA Coordinates (NJSPNAD83) x: 611601.4 Date Started Drilling: 7/24/2006 Rig Type: Coordinates (NJSPNAD83) y: 683065.4 Date Finished Drilling: 7/31/2006 Core Size: 12 inches Boring Total Depth: 27 ft Logged By: M. Abdelaziz Project Manager: Scott Mikaelian Depth to Water: NA Surface Elevation: 12.8 ft NAVD88 Physical Location: Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range (ft/ft) Content Log ID (ppm) (ft bgs) wet SAND Reddish brown (2.5YR4/4) coarse to medium SAND, some Silt and fine Sand, trace coarse Gravel, wet. Napthalene -26 odor. -27 NR wet No Recovery wet NULL End of boring at 27 feet. bgs - below surface grade bgs - below surface grade GGM - green grey mud UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits UNDorg - organic undisturbed native deposits MGP - manufactured gas plant CCPW - chromate chemical production waste **AECOM**

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: OSB-24R**

Project Number: Date Started Dri Date Finished D	00240	11.39			Drilling Mathad: Direct puch		
	Ilina-		·15·00 ^ ^ *		Drilling Method: Direct push Rig Type:		IAD83) x: 611610.888 AD83) y: 683065.722
I nata Finienad I I							
		5/9/2017 1	บ: <u>งธ:</u> บบ AM		Core Size: 3.0 in	Boring Total Depth:	
ogged By: S. I			ND1		Project Manager: Scott Mikaelian	Depth to Water: 6.0	
hysical Location	on: Act	ual - HSN F	וטי	1	1	Surface Elevation:	13.1 ft NAVD88
Depth Range it bgs)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thic	kness:	Sample ID
-1	0.0	dry moist to wet	FILL FILL		fine to medium GRAVEL, (5YR 6/1) gra odor, no staining. fine to medium SAND, some cinders, (1 loose, moist to wet, no odor, no staining	7.5YR 4/2) brown,	
-6							
10	0.0						
-13		moist moist	FILL FILL		fine sandy SILT, (7.5YR 4/2) brown, fin staining. fine to medium SAND, some cinders, (7 loose, moist, no odor, no staining.		
-15 - -16 -	0.0	moist	OL		Organic SILT, 70% organic silt, 30% or 4/2) brown, firm, moist, moderate organ	rganic fibers, (7.5YR	OSB-24R-15.5-16.0
-17		wet	SP		Soils consistent with UNDorg. medium SAND, trace medium gravel, (to medium dense, wet, no odor, no stainin with UNDno.	5YR 6/1) gray,	
20	0.0						
-23 		moist	SW		medium to coarse SAND, some coarse reddish brown, dense, moist, no odor, r consistent with UNDno.	gravel, (5YR 4/3) no staining. Soils	

PPG - 2012-09 RA PPG_LOGS_AGDT - 10/21/16 13:40

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: OSB-25

732.564.3200 office telephone Page: 1

Project	t Name: F	PPG Ga	rfield Ave		D	rilling Company:			rage. 1
	Number:					rilling Method: Soft Dig/H	SA	Coordinates (NJSPN	AD83) x: 611637.9
Date St	tarted Dril	ling: 7	7/24/2006			tig Type:		Coordinates (NJSPN/	AD83) y: 683100.4
Date Fi	inished Dr	illing:	7/31/2006	S	C	ore Size: 12 inches		Boring Total Depth:	27 ft
	d By: M. A		iz		P	roject Manager: Scott Mika	aelian	Depth to Water: NA	
Physic	al Locatio	n:			1 1			Surface Elevation: 13	3.5 ft NAVD88
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface C	Cover and Thickn	ess:	Sample ID
L _			dry	ASPHALT		Asphalt			
1			dry	FILL		Very dark gray (10YR3/1		ım SAND, some	0SB-25A(0.5-1.0)20060724
∟ '			dry	NR		medium to fine Gravel, lit Soft Dig - No Recovery	tle Silt, dry.	/	
						Out big - No recovery			
L									
3									
L			dry	FILL		Dark gray (7.5RN4) coars	se to medium SA	ND some Silt	
<u> 4 </u>			dry	NR	XXXXX	little medium to fine Grav			
L			,			Soft Dig - No Recovery	•		000 050/45 5 0)0000000
5			dry	FILL	\bowtie	Dark gray (7.5RN4) coars			0SB-25B(4.5-5.0)20060724
			dry	FILL		little medium to fine Grav Black (7.5R2.5) GLASS,			
6			dry	FILL		Dark brown (7.5YR4/3) o	oarse to medium	SAND, some Silt,	
L					******	little medium to fine Grav	el, trace Clay, dr	у.	
 7			dry	NR		No Recovery		0.4410	
			dry	FILL		Dark brown (7.5YR4/3) o			OSB-25C(7.1-7.6)20060731 OSB25C
 8			dry	NR		No Recovery	ci, trace Olay, di	y/	
						•			
<u> </u>			dn.	FILL		PEAT.			OSB-25D(9-9.5)20060731
<u> </u>			dry	FILL		Dark brown (7.5YR4/3) c	carea to modium	SAND some Silt	002 202(0 0.0)20000701
10			dry	FILL		little medium to fine Grav			
-			dry	NR	XXXX	No Recovery		,	
 11			u.,			. 10 . 1000 10.			
⊢ . <u> </u>	/	AEC(DM Not	te: CCPV	√ note	ed in log is in error.	Additional	errors appear	to be present in
12	i					•			
		i ie ic	y. buii	ing log is	not u	sable for design pu	ii poses.		
 13			moist	FILL		Very dark grayish brown			
14						some Silt, trace fine Grav	el and Clay, moi	st. 10% COPR.	
14					\bowtie				OSB-25E(14-14.5)20060731
15			moist	NR		No Recovery			
L '			moist	FILL		Very dark grayish brown			
16			moist	FILL		some Silt, trace fine Grav	<u>el and Clay, moi</u>	st. 10% COPR.	OSB-25F(15.5-16)20060731
17			moist	NR		No Recovery			
18-			moist	FILL		PEAT			
L ' _									
19				110		p			
L			moist moist	NR FILL	₩₩	No Recovery Very dark grayish brown	(10YR3/2) medii	ım to fine SAND	
20					******	some Silt, trace fine Grav	el and Clay, moi	st. 10% COPR.	
L			moist	NR		Napthalene odor.		/	
21			14/54	FIL.	XXXXX	No Recovery	(D2/4) *	AND some	
			wet	FILL		Dark reddish brown (2.5) medium to fine Gravel. tr			
22						Napthalene odor.	200 Ont, WGt. 17		
<u> </u>									
23)4/OF	FILL		Dark raddish braum (2.5)	(D3/4) 202722 C/	ND como	
<u> </u>			wet	FILL		Dark reddish brown (2.5) medium to fine Gravel, tr			
24						modam to mic Oravel, th	LOO Ont, WOL. INC	pararono odor.	
<u> </u>			wet	NR	XXXXX	No Recovery			
Notes:	I.		******	1417	1	.10110001019			
bgs - bel	low surface			omite ore proc	essing res				factured gas plant
Comments:	eadow mat		GGM - gree	in grey muu		UNDorg - organic undistu	пред папуе пероз	ono CCPVV - CNIC	omate chemical production waste

Boring	ID:	OSB	-25
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Droinet	Name: F	DC Ca	rfiold Avo			Drilling Company:		rage. 2
							Consideration (NUCDA	(A DO2) C11C27 C
	Number:					Drilling Method: Soft Dig/HSA	Coordinates (NJSPN	
	tarted Dril					Rig Type:	Coordinates (NJSPN	
			7/31/2006			Core Size: 12 inches	Boring Total Depth:	
	By: M. A		iz			Project Manager: Scott Mikaelian	Depth to Water: NA	
Physic	al Locatio	n:					Surface Elevation: 1	3.5 ft NAVD88
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphio Log	Surface Cover and Thickr	ness:	Sample ID
			wet	FILL		Dark reddish brown (2.5YR3/4) coarse S. medium to fine Gravel, trace Silt, wet. No	AND, some apthalene odor.	
—26 — – –			wet	FILL		Weak red (10R4/3) fine to very fine SANI Napthalene odor.	D, some Silt, wet.	
27			wet	NULL	<u>~~~~</u>	End of boring at 27 feet.		
Notes:			Wet	NULL		End of boring at 27 feet.		
bgs - bel	low surface	grade	COPR - chro	omite ore proce	essing re	residue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo	eposits MGP - manu	factured gas plant omate chemical production waste

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/21/16 13:40

Project Number: 60240739

Project Name: PPG Garfield Ave

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-FOR-II8B

Page: 1 Coordinates (NJSPNAD83) x: 611922.78

				8:15:00 AM		Rig Type:		NAD83) y: 683396.03
			6/27/2016	9:25:00 AM		Core Size: 3.0 in	Boring Total Depth:	
ogged B			ual - Forres	ot DDI		Project Manager: Scott Mikaelian	Depth to Water: No Surface Elevation:	
	LOCALIO	I. ACI	uai - FOITE	א רטו		1	Surface Elevation.	13.0 IL NAVDOO
Depth Range ft bgs)	ecovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thio	ckness:	Sample ID
. –		0.0		ASPHALT		Asphalt and gravel sub-base		
-1			dry	FILL		fine to medium SAND, (5YR 7/6) reddino odor, no staining.	ish yellow, loose, dry,	P4-FOR-II8B-1.0-1.5
-3-	3.5		moist	FILL		fine to medium sandy SILT, trace fine (7.5YR 3/2) dark brown, medium dens staining.	gravel, glass and coal, e, moist, no odor, no	P4-FOR-II8B-2.5-3.0 P4-FOR-II8B-3.0-3.5
-4-				NR	XXXXX	NO RECOVERY		_
-5 -6 -7		0.0	saturated	FILL		SILT, (5Y 5/1) gray, dense, saturated, water at 5.5 feet.	no odor, no staining,	P4-FOR-II8B-5.0-5.5
-8-	4.5		saturated	FILL		fine sandy SILT, (5YR 5/2) reddish gra	ay, medium dense,	P4-FOR-II8B-7.0-7.5
-9-						saturated, no odor, no staining.		P4-FOR-II8B-9.0-9.5
-10				NR		NO RECOVERY		
-11		0.0	saturated	FILL		fine SAND, (5YR 4/1) dark gray, loose no staining.	, saturated, no odor,	
'' 🚽			saturated	FILL		sandy SILT, (5YR 4/3) reddish brown, saturated, no odor, no staining.	medium dense,	P4-FOR-II8B-11.0-11.5 P4-FOR-II8B-11.5-12.0
-12 -13	3.5		saturated	SP-SM		fine silty SAND, (5YR 4/3) reddish bro saturated, no odor, no staining. Soils c	wn, medium dense, onsistent with UNDno.	P4-FOR-II8B-12.0-12.5
-14 -1				NR	************************************	NO RECOVERY		
15								
otes: gs - below M - meado			COPR - chr GGM - gree		essing r	esidue UNDno - non-organic undisturbed nativ UNDorg - organic undisturbed native de	e deposits MGP - man	ufactured gas plant promate chemical production w
					med to be 1	ft thick 3) No CCPW (COPR or GGM) present in any interval of this b		

Drilling Company: SGS North America

Drilling Method: Direct Push

Boring ID: P4-FOR-II9B

Project Na						Drilling Company: SGS North America		
Project Νι						Drilling Method: Direct Push	Coordinates (NJSPN	
			6/27/2016 9			Rig Type: Geoprobe	Coordinates (NJSPN	
			6/27/2016	10:20:00 Al		Core Size: 3.0 in	Boring Total Depth:	
_ogged By						Project Manager: Scott Mikaelian	Depth to Water: NA	
Physical L	Locatio	n: Act	ual - Forres	t PDI		+	Surface Elevation:	13.7 ft NAVD88
	ecovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thick	ness:	Sample ID
		0.0	dry	FILL		fine to medium silty SAND, trace fine gra dark brown, loose, dry, no odor, no staini	ivel, (7.5YR 3/2) ng.	P4-FOR-II9B-0.0-0.5
-1 -2 -3 -4	4.5		moist	FILL		SILT, (5YR 7/6) reddish yellow, medium odor, no staining.	dense, moist, no	P4-FOR-II9B-2.0-2.5
·]					$\times\!\!\times\!\!\times$			P4-FOR-II9B-4.0-4.5
_				NR		NO RECOVERY		
-5		0.0	moist	FILL		SILT, (5YR 7/6) reddish yellow, medium odor, no staining.	dense, moist, no	
-6 -7 -8	4		moist to saturated	FILL		sandy SILT, (5YR 4/3) reddish brown, m to saturated, no odor, no staining, water		P4-FOR-II9B-6.0-6.5
۰								P4-FOR-II9B-8.0-8.5
7			saturated	SP-SM	<u> </u>	fine SAND, trace fine gravel, (5YR 4/3) r	eddish brown.	P4-FOR-II9B-8.5-9.0
-9 				NR		medium dense, saturated, no odor, no st consistent with UNDno. NO RECOVERY	aining. Soils	
-10	3	0.0	saturated	SP-SM		fine SAND, trace fine gravel, (5YR 4/3) r medium dense, saturated, no odor, no st consistent with UNDno.	eddish brown, aining. Soils	
-13 -14 -15				NR	(4:16)	NO RECOVERY		
			COPR - chro		cessing re	esidue UNDno - non-organic undisturbed native o	leposits MGP - manu sits CCPW - chr	factured gas plant
ИМ - meado	ow mat		GGM - greer	n grey mud		UNDorg - organic undisturbed native depc ft thick 3) No CCPW (COPR or GGM) present in any interval of this borin	osits CCPW - chr	omate chemical production

Boring ID: P4-FOR-II9BR

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60240739 Drilling Method: DIRECT PUSH Coordinates (NJSPNAD83) x: 611941.205 Date Started Drilling: 10/17/2016 9:20:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683429.812 Date Finished Drilling: 10/17/2016 10:00:00 AM Core Size: 3.0 Boring Total Depth: 21 ft Project Manager: Scott Mikaelian Depth to Water: NA Logged By: ES Surface Elevation: 13.9 ft NAVD88 Physical Location: Actual - Forrest St - Supplemental PDI Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 slightly **FILL** fine to medium SAND, little organics, trace silt and fine gravel, (7.5YR 4/3) brown, medium dense, slightly moist, no moist FILL dry odor, no staining. fine SAND, (7.5YR 6/3) light brown, medium dense, dry, no moist FILL odor, no staining. fine SAND, some silt, little fill debris, (7.5YR 4/3) brown, medium dense, moist, no odor, no staining. NO RECOVERY NR 0.0 moist **FILL** fine SAND, some silt, little concrete and fill debris, (5YR 6/3) light reddish brown, medium dense, moist, no odor, no staining. 3.5 SP fine to medium silty SAND, trace gravel, (5YR 4/3) reddish wet brown, medium dense, wet, no odor, no staining, water at NR 8.0 feet. Soils consistent with UNDno. NO RECOVERY P4-FOR-II9BR-10 0-10 5 0.0 SP fine to coarse SAND, little silt, (5YR 4/4) reddish brown, wet medium dense, wet, no odor, no staining. Soils consistent with UNDno. 12 P4-FOR-II9BR-12.0-12.5 4.5 13 SM fine to medium silty SAND, (5YR 4/4) reddish brown, wet medium dense, wet, no odor, no staining. Soils consistent with UNDno. P4-FOR-II9BR-14.0-14.5 ML SILT, some fine sand, trace fine gravel, (5YR 4/4) reddish wet brown, medium dense, wet, no odor, no staining. Soils NR consistent with UNDno. 0.0 ML wet NO RECOVERY fine sandy SILT, (5YR 4/3) reddish brown, soft, wet, no 16 odor, no staining. Soils consistent with UNDno. P4-FOR-II9BR-16.0-16.5 5 A.GDT - 11/30/16 09 P4-FOR-II9BR-18.0-18.5 19 SM fine silty SAND, (5YR 4/4) reddish brown, medium dense, wet wet, no odor, no staining. P4-FOR-II9BR-20.0-20.5 0.0 LOGS 1 -21 2012-09 RA PPG

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-FOR-JJ8B

732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60240739 Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611954.29 Date Started Drilling: 6/28/2016 8:20:00 AM Rig Type: Geoprobe Coordinates (NJSPNAD83) y: 683373.67 Date Finished Drilling: 6/28/2016 9:10:00 AM Core Size: 3.0 in Boring Total Depth: 15 ft Logged By: KW Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - Forrest PDI Surface Elevation: 13.7 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.7 **ASPHALT** Asphalt and gravel sub-base P4-FOR-JJ8B-1.0-1.5 dry **FILL** SILT, (5Y 4/2) olive gray, dense, dry to moist, no odor, no moist 5 P4-FOR-JJ8B-3.0-3.5 FILL sandy SILT, (5YR 5/3) reddish brown, dense, moist, no odor, moist P4-FOR-JJ8B-5.0-5.5 0.3no staining. sandy SILT, (5YR 5/3) reddish brown, dense, moist, no odor, moist FILL P4-FOR-JJ8B-5.5-6.0 no staining SP-SM P4-FOR-JJ8B-6.0-6.5 saturated fine silty SAND, (5YR 4/3) reddish brown, medium dense, saturated, no odor, no staining, water at 6.0 feet. Soils consistent with UNDno. 3.5 SP fine to coarse SAND, some fine to medium gravel, (5YR 4/3) saturated reddish brown, loose, saturated slight varnish-like odor, no staining, sheen. Soils consistent with UNDno. NO RECOVERY NR 10 1.9 SP fine to coarse SAND, some fine to medium gravel, (5YR 4/3) saturated reddish brown, loose, saturated, slight varnish-like odor, no saturated ML staining, sheen. Soils consistent with UNDno SP saturated SILT, (5YR 4/3) reddish brown, dense, saturated, no odor, no staining. Soils consistent with UNDno. SP-SM saturated fine SAND, some fine gravel, (7.5YR 3/2) dark brown, loose, 12 saturated, no odor, no staining. Soils consistent with UNDno. 3.5 fine silty SAND, (5YR 4/3) reddish brown, medium dense, saturated, no odor, no staining. Soils consistent with UNDno. 13 NO RECOVERY NR 15

2012-09 RA PPG LOGS A.GDT - 11/30/16 23:47

bgs - below surface grade bgs - below surface grade GGM - green grey mud UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-FOR-JJ8BR

Date Started Drilling: 10/21/2016 8:20:00 AM Date Finished Drilling: 10/21/2016 9:00:00 AM Date Finished Drilling: 10/21		Coordinates (NJSPN Boring Total Depth: Depth to Water: NA Surface Elevation:	1
Physical Location: Actual - Forrest PDI Copth Range (ft/ft) (ppm) Moisture Content USCS Grates	Project Manager: Scott Mikaelian shic g Surface Cover and Thick	Depth to Water: NA	1
Physical Location: Actual - Forrest PDI Depth Range (ft/ft) PID (ppm) Moisture Content USCS Grant Gr	ohic g Surface Cover and Thick		
Depth Range Recovery (ft/ft) PID (ppm) Moisture Content USCS Grant Content USCS Grant Content	g Surface Cover and Trilck	Surface Elevation:	40 4 G NIAN / DOO
Range (ft/ft) (ppm) NOISITIE USCS Graph Content Content Graph Content Content Content Graph Content Content Content Graph Content Content Content Graph Content Content Content Content Graph Content	g Surface Cover and Trilck		13.4 π NAVD88
CONCRETE moist FILL concrete moist FILL	ASPHALT and gravel sub-base	iness:	Sample ID
moist FILL moist			
-2	CONCRETE		
-5	fine to medium SAND, little silt, trace bridgrayish brown, medium dense, moist, no		
-5			P4-FOR-JJ8BR-4.0-4.5
wet SP -7 — 4 -8 — NR -10 — 0.0 wet SP -11 — 5 -13 — 14 — 15 — 0.0 wet SP -16 — -17 — 5 -18 — 5	fine to coarse SAND, some medium to c 4/4) reddish brown, medium dense, wet, staining, water at 5.0 feet.		
-7			P4-FOR-JJ8BR-6.0-6.5
-8— -9— -10— -0.0 wet SP -11— -12— -13— -14— -15— -16— -17—5 -18—	fine to medium SAND, some coarse grav	vel, (5YR 4/4)	P4-FOR-JJ8BR-6.5-7.0
10 0.0 wet SP 11 5 13 0.0 wet SP 14 15 0.0 wet SP 16 17 5	reddish brown, medium dense, wet, no c Soils consistent with UNDno.	odor, no staining.	P4-FOR-JJ8BR-7.0-7.5
11— 12— 13— 14— 15— 16— 17— 15— 18— 18—	NO RECOVERY		P4-FOR-JJ8BR-8.5-9.0
11— 12— 5 13— 14— 15— 0.0 wet SP 16— 17— 5 18—			
13— -14— -15— 16— -17— -5	fine to medium SAND, trace fine gravel, brown, medium dense, wet, no odor, no consistent with UNDno.		P4-FOR-JJ8BR-10.5-11.0
16— 17— 18—			P4-FOR-JJ8BR-12.5-13.0
17— 5 18—	fine to medium SAND, (5YR 4/4) reddish	h brown, medium	F4-FOR-530BR-14.5-15.0
18—	dense, wet, no odor, no staining. Soils of UNDno.	onsistent with	
18—	劉		P4-FOR-JJ8BR-16.5-17.0
-18			
19— wet SP			
19————————————————————————————————————	<u></u>		
aa	fine to coarse SAND, some fine gravel, t reddish brown, medium dense, wet, no c Soils consistent with UNDno.		P4-FOR-JJ8BR-18.5-19.0
20 1 0.0	% 1		P4-FOR-JJ8BR-20.0-20.5
21 1 000	<u> </u>		
otes: s - below surface grade COPR - chromite ore processin	residue UNDno - non-organic undisturbed native	deposits MGP - manu	ıfactured gas plant

Boring ID: P4-HSN-AA12A

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611447.48 Drilling Method: Direct Push Date Started Drilling: 5/11/2016 8:00:00 AM Coordinates (NJSPNAD83) y: 682972.1 Rig Type: Date Finished Drilling: 5/11/2016 9:40:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: HBB Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.7 ft NAVD88 Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 FILL DGA, (5YR 5/1) gray, dry, no odor, no staining. dry dry FILL fine to coarse SAND, some to little COPR (30%), trace glass and fill debris, (5YR 4/3) reddish brown, medium dense, dry, no odor, no staining. FILL GGM (100%), (5Y 5/1) gray, medium dense, dry, no odor, dry green staining. FILL moist 4.2 fine to coarse SAND, little coal and ash, (5YR 2.5/1) black, medium dense, moist, no odor, no staining. NO RECOVERY NR coarse SAND, little medium gravel, trace glass and fill 12 wet **FILL** debris. (7.5YR 4/3) brown, medium dense, wet, slight MGP-like odor, product staining, sheen, water at 5.0 feet 2.5 NR NO RECOVERY 0.0 FILL moist coarse SAND, little medium gravel, trace wood, (7.5YR 3/4) dark brown, medium dense, moist, slight MGP-like odor, saturated **FILL** product staining, sheen. silty SAND, (7.5YR 4/2) brown, medium dense, saturated, slight MGP-like odor, product staining. 12 3.8 13 **FILL** saturated fine SAND, trace fine to medium gravel, (2.5YR 4/3) reddish brown, medium dense, saturated, no odor, no staining. NR NO RECOVERY P4-HSN-AA12A-15.0-15.5 0.0 FILL coarse SAND, trace organics and fill debris, (5YR 4/3) moist reddish brown, medium dense, moist, no odor, no staining. P4-HSN-AA12A-15.5-16.0 PT dry PEAT (degraded vegetated material), 80% organic fibers, 16 1/ 1/1/ V 20% organic silt, (5YR 3/3) dark reddish brown, stiff, dry, slight organic odor, no staining. Soils consistent with MM. 11/11/ 11/ 1 5 OL Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR 4/2) brown, medium stiff, dry, slight organic odor, no staining. Soils consistent with UNDorg. 19 SP fine to coarse SAND, trace fine to medium gravel, (5Y 5/1) gray, medium dense, moist, no odor, no staining. Soils consistent with UNDno. MGP - manufactured gas plant CCPW - chromate chemical production waste

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick

Boring ID: P4-HSN-AA13A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611438.73 Drilling Method: Macrocore Date Started Drilling: 5/5/2016 11:30:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682950.02 Date Finished Drilling: 5/5/2016 12:20:00 PM Core Size: 3.5 in Boring Total Depth: 20 ft Depth to Water: NA Logged By: MI Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 10.8 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range (ft/ft) Content ΙĎ (ppm) Log (ft bgs) 0.0 **ASPHALT** ASPHALT and gravel sub-base. CINDERS, some COPR (80%), (5YR 3/4) dark reddish **FILL** dry P4-HSN-AA13A-1 1-1 6 brown, loose, dry, no odor, no staining. slightly FILL ASH, some cinders, little wood, trace shells, (7.5YR 5/1) moist gray, loose, slightly moist, no odor, no staining. P4-HSN-AA13A-3.0-3.5 NR NO RECOVERY P4-HSN-AA13A-5.0-5.5 0.0 slightly **FILL** ASH, some cinders, little wood, trace fill debris, (7.5YR 4/1) moist dark gray, loose, slightly moist, no odor, no staining, water at 6.7 feet bgs. P4-HSN-AA13A-7.0-7.5 5 P4-HSN-AA13A-9.0-9.5 0.0 FILL wet fine SAND, little silt and fine to medium gravel, (5YR 4/3) to reddish brown, loose, wet to saturated, no odor, no staining. saturated P4-HSN-AA13A-11.0-11.5 12 5 P4-HSN-AA13A-13.0-13.5 P4-HSN-AA13A-14.5-15.0 P4-HSN-AA13A-15.0-15.5 0.0 PT PEAT (degraded vegetated material), (80% organic fibers, moist 20% organic silt), (7.5YR 3/3) dark brown, moist, no odor, 11/ no staining. Soils consistent with MM. 16 moist OL Organic SILT, (90% organic silt, 10% organic fibers) (10YR to 4/2) dark grayish brown, moist to wet, no odor, or staining. wet Soils consistent with UNDorg. NO RECOVERY NR

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

bgs - below surface grade MM - meadow mat

COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

Boring ID: P4-HSN-AA14A

Project Date St	tarted Drill	60314 ling: 5	351.GA.D 5/4/2016 9:			Drilling Company: SGS Drilling Method: Direct Push Rig Type:	Coordinates (NJSPN)	AD83) y: 682922.33
				10:45:00 AM		Core Size: 3.5 in	Boring Total Depth:	
	d By: Mich			PNI		Project Manager: Scott Mikaelian	Depth to Water: NA Surface Elevation:	
			11011					
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickn	ess:	Sample ID
_		0.0		ASPHALT		ASPHALT and gravel sub-base		
-1 			slightly moist	FILL		CINDERS, trace brick, coal and concrete loose, slightly moist, no odor, no staining.	,	P4-HSN-AA14A-0.7-1.2
-2— -3—	5		slightly moist	FILL		ASH, some cinders, little coal and wood, gray, loose, slightly moist, no odor, no sta		P4-HSN-AA14A-2.0-2.5
-4- - -								P4-HSN-AA14A-4.0-4.5
-5		0.0	wet	FILL		ASH, some cinders, little ceramics and w gray, loose, wet, no odor, no staining, wat		
-6 -7	5							P4-HSN-AA14A-6.0-6.5
-8- -9								P4-HSN-AA14A-8.0-8.5
-10 - 11		3.9	wet	FILL		ASH, some cinders, little ceramics and w gray, loose, wet, no odor, no staining.	ood, (7.5YR 5/1)	P4-HSN-AA14A-10.0-10.5
-12 -12	4.5		wet to saturated	FILL		SILT, some fine to medium sand, little fin- reddish brown, wet to saturated, no odor, sheen.		P4-HSN-AA14A-12.0-12.5 P4-HSN-AA14A-12.7-13.2
-13 - -14			moist	PT	1/2 N/2 N/2 N/2 N/2 N/2 N/2 N/2 N/2 N/2 N	20% organic silt, (7.5YR 3/2) dark brown	moist, moderate	P4-HSN-AA14A-13.2-13.7
_				NR	1	NO RECOVERY		
-15 — — -16 — —		0.0	moist	PT		20% organic silt, (7.5YR 3/2) dark brown, organic odor, no staining. Soils consisten	, moist, moderate	
-17 -18 -	4		wet	SP-SM		silty fine SAND, trace gravel, (7.5YR 5/1) no odor, no staining. Soils consistent with	gray, dense, wet, UNDno.	
-19 -				NR		NO RECOVERY		
-20						1		
	low surface			omite ore proc	essing re	esidue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo		factured gas plant omate chemical production w

732.564.3200 office telephone

Boring ID: P4-HSN-AA15A

Page: 1

30 Knightsbridge Road, Piscataway, NJ 08854

Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611409.05 Drilling Method: Geoprobe Date Started Drilling: 5/3/2016 8:00:00 AM Coordinates (NJSPNAD83) y: 682893.08 Rig Type: Date Finished Drilling: 5/3/2016 9:00:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Logged By: SP Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.2 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **ASPHALT** ASPHALT and gravel sub-base fine to medium SAND, little gravel, (7.5YR 5/2) brown, non moist FILL plastic, loose, moist, no odor, no staining. P4-HSN-AA15A-1.5-2.0 FILL moist fine SAND, and gravel, (7.5YR 4/2) brown, non plastic, **FILL** loose, moist, no odor, no staining. crushed ASPHALT, (7.5YR 2.5/1) black, non plastic, hard, dry 5 FILL moist dry, no odor, no staining. FILL dry CLAY, some gravel, (7.5YR 5/1) gray, low plasticity, moist, no odor, no staining. P4-HSN-AA15A-3.5-4.0 coarse sandy GRAVEL, (5YR 4/4) reddish brown, non FILL dry plastic, loose, dry, no odor, no staining. fine to medium SAND, trace coal, (5YR 4/4) reddish brown, non plastic, loose, dry, no odor, no staining. 0.0 moist **FILL** fine to medium sandy SILT, trace gravel, (7.5YR 5/1) gray, P4-HSN-AA15A-5.5-6.0 non plastic, medium soft, moist, no odor, no staining. 5 P4-HSN-AA15A-7.5-8.0 moist **FILL** fine to medium sandy SILT, trace gravel, (7.5YR 2.5/1) black, low plasticity, medium soft, moist, no odor, no staining. P4-HSN-AA15A-9.5-10.0 0.0 FILL fine to medium sandy SILT, (7.5YR 5/1) gray, non plastic, moist medium soft, moist, no odor, no staining. moist **FILL** fine to coarse SAND, some gravel, (7.5YR 2.5/1) black, non **FILL** moist plastic, loose, moist, no odor, no staining. fine sandy SILT, some gravel, (7.5YR 5/2) brown, low P4-HSN-AA15A-11.5-12.0 plasticity, medium soft, moist, no odor, no staining. 12 FILL saturated fine sandy SILT, trace gravel, (5YR 4/4) reddish brown, low 5 plasticity, saturated, no odor, no staining. 13 P4-HSN-AA15A-13.5-14.0 P4-HSN-AA15A-14.5-15.0 P4-HSN-AA15A-15.0-15.5 0.0 PT PEAT (60% silt, 40% organic fibers), (7.5YR 4/2) brown, low dry plasticity, medium dense, dry, moderate organic odor, no 1/ 1/1/ 1 staining. Soils consistent with MM. 16 11, 11, 1/ 1// 1 <u>\\\/</u> \\\/ 5 1/ 1/1/ 1 <u>/// ///</u> inorganic fine SILT, (7.5YR 4/2) brown, medium dense, dry, dry ML 19 no odor, no staining. Soils consistent with UNDno. 0.0 1 -21

RA PPG 2012-09

.60

A.GDT - 10/4/16

LOGS

bgs - below surface grade COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits MM - meadow mat GGM - green grey mud UNDorg - organic undisturbed native deposits

Boring ID: P4-HSN-AA16A

Page: 1

Project	t Name: F	PPC Ca	arfield Ave		ı	Orilling Company: SGS North America		Page: 1
				E.PDI.FOR		Orilling Method: macrocore	Coordinates (NJSPN	AD83) x: 611391 81
			5/4/2016 9:			Rig Type:	Coordinates (NJSPN/	
				11:30:00 AM		Core Size: 3.0 in	Boring Total Depth:	
Logged	d By: Eric	Stone				Project Manager: Scott Mikaelian	Depth to Water: NA	
Physic	al Locatio	n: Act	ual - HSN I	PDI			Surface Elevation:	11.3 ft NAVD88
Depth Range (ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickn	ess:	Sample ID
		0.0		ASPHALT		Asphalt and gravel sub-base.		
-	-		dry	FILL		fine to coarse SAND, some ash, trace gra	avel. (2.5Y 5/2)	P4-HSN-AA16A-0.5-1.0
1			dry	FILL		gravish brown, dry, no odor, no staining.		
<u> </u>						fine to coarse SAND, some gravel, little w reddish brown, medium dense, dry, no od	/00d, (5YR 4/3)	
2	_					readistribrown, mediam dense, dry, no od	or, no otalining.	
F -	5							P4-HSN-AA16A-2.5-3.0
 3								
<u> </u>	<u> </u>							
4								
⊢ -					\bowtie			P4-HSN-AA16A-4.5-5.0
<u> </u>		6.0		F		fine to we divine OAND the end of (FVD 4	(O)	
⊢ –	-	0.0	moist	FILL		fine to medium SAND, trace ash, (5YR 4/ medium dense, moist, no odor, no stainin		
-6-	_				\bowtie	, , ,	0	
L -			moist	FILL		silty SAND, little wood, trace ash, (7.5YR medium dense, moist, no odor, no stainin		P4-HSN-AA16A-6.5-7.0
								P4-H5N-AA16A-6.5-7.0
L	4		wet	FILL		Ash, some brick and concrete, little wood, loose, wet, slight petroleum odor, no stain		
8						at 8.0 feet bgs.	iing, sneen, water	
L°_								
Γ, -					\bowtie			P4-HSN-AA16A-8.5-9.0
9				NR		NO RECOVERY		
F	1							
10-		3.0	wet	FILL		Ash, little brick and concrete, (5Y 2.5/1) b	olack, loose, wet,	
_			moist	FILL		slight petroleum odor, no staining, sheen.	-ak lasas majat	P4-HSN-AA16A-10.5-11.0
11			wet	FILL		Silt, some ash, little wood, (5YR 2.5/1) bla	ack, loose, moist,	
 12						silty SAND, trace ceramics, (5YR 4/3) rec wet, no odor, no staining.	ddish brown, soft,	
<u> </u>	5							P4-HSN-AA16A-12.5-13.0
13								1 4-11010-1010-12.5-10.0
L -					\bowtie			
14								
L .								D4 HON 44404 44 5 45 0
15-								P4-HSN-AA16A-14.5-15.0
L		0.0	dry	PT	<u> </u>	PEAT, 80% organic fibers, 20% organic s reddish brown, stiff, dry, slight organic od		P4-HSN-AA16A-15.0-15.5
16					<u> </u>	Soils consistent with MM.	ui, iiu sidiiiiig.	
L					<u> </u>			
17			moist	OL		Organic SILT, 80% organic silt, 20% orga		
L '' =	5				[]	4/2) brown, soft, moist, no odor, no stainii with UNDorg.	ng. Soiis consistent	
						···· -·· g ·		
18-					[]			
	1				$\vdash = 1$			
19	1				\vdash			
	1				[-			
20								
1								
Notes:	<u> </u>	l						
bgs - be	low surface eadow mat		COPR - chr GGM - gree		essing res	sidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native depos		factured gas plant omate chemical production waste
					rmed to be 1 ft	thick 3) No CCPW (COPR or GGM) present in any interval of this boring		mate enemical production waste
I								

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/4/16 09:24

Boring ID: P4-HSN-AA17A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Coordinates (NJSPNAD83) x: 611371.09 Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: macrocores Date Started Drilling: 5/4/2016 11:55:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682841.74 Date Finished Drilling: 5/4/2016 12:30:00 PM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: Eric Stone Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.0 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** Asphalt, gravel sub-base and concrete. **FILL** fine to medium SAND, little ash, trace glass, (5YR 4/3) dry reddish brown, medium dense, dry, no odor, no staining. NO RECOVERY NR 0.0 moist **FILL** fine to medium SAND, some ash, little wood, (2.5Y 4/2) dark grayish brown, medium dense, moist, no odor, no staining. FILL Ash, (7.5YR 4/1) dark gray, loose, wet, no odor, no staining, wet 5 light sheen, water at 7.0 feet bgs. P4-HSN-AA17A-9.0-9.5 2.0 FILL Ash, (7.5YR 4/1) dark gray, loose, wet, no odor, no staining, wet dry **FILL** sandy SILT, trace wood, (7.5YR 4/2) brown, soft, dry, no odor, no staining. 12 P4-HSN-AA17A-12.0-12.5 **FILL** silty SAND, trace brick and concrete, (5YR 4/3) reddish wet 5 brown, medium dense, wet, no odor, no staining. 13 P4-HSN-AA17A-14.0-14.5 P4-HSN-AA17A-15.0-15.5 0.0 FILL silty SAND, trace brick and concrete, (5YR 4/3) reddish wet brown, medium dense, wet, no odor, no staining. P4-HSN-AA17A-15 5-16 0 slightly OL Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR 16 moist 4/2) brown, medium stiff, slightly moist, slight organic odor, no staining. Soils consistent with UNDorg. 5 PT PEAT, 80% organic fibers, 20% organic silt, (5YR 3/2) dark dry reddish brown, stiff, dry, no odor, no staining. Soils OL moist consistent with MM. Organic SILT, 60% organic silt, 5% organic fibers, some fine sand, trace organics, (5Y 5/1) gray, medium dense, moist, no odor, no staining. Soils consistent with UNDorg

Notes

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

Boring ID: P4-HSN-AA18A

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611353.59 Drilling Method: macrocore Date Started Drilling: 5/5/2016 9:50:00 AM Coordinates (NJSPNAD83) y: 682814.29 Rig Type: Date Finished Drilling: 5/5/2016 10:30:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: Eric Stone Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.0 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **FILL** Asphalt, (5Y 2.5/1) black, dry, no odor, no staining. dry FILL fine to coarse SAND, some ash, brick and concrete, (7.5YR dry 4/2) brown, medium dense, dry, no odor, no staining. FILL fine to coarse SAND, little gravel, glass and ash, (5YR 4/3) dry reddish brown, medium dense, dry to moist, no odor, no moist staining. P4-HSN-AA18A-3.5-4.0 NO RECOVERY NR 0.0 moist **FILL** fine SAND, some wood, (5YR 4/3) reddish brown, medium dense, moist to wet, no odor, no staining, water at 5.7 feet to P4-HSN-AA18A-5.5-6.0 **FILL** wet Cinders, some silt, little ceramics, little wood, (5Y 2.5/1) wet black, loose, wet, no odor, no staining. FILL Ash, little wood, trace glass, (5YR 4/1) dark gray, loose, wet, wet 5 no odor, no staining. P4-HSN-AA18A-7.5-8.0 P4-HSN-AA18A-9.5-10.0 0.0 FILL wet Ash, little wood, trace glass, (5YR 4/1) dark gray, loose, wet, no odor, no staining. wet **FILL** Silt, (7.5YR 4/2) brown, soft, wet, no odor, no staining, sheen. 12 4 P4-HSN-AA18A-12.5-13.0 13 **FILL** silty SAND, (5YR 4/3) reddish brown, medium dense, wet, wet no odor, no staining. NR NO RECOVERY P4-HSN-AA18A-15.0-15.5 0.0 FILL Silt, some organics, trace fine sand, ash and fill debris, wet (7.5YR 4/2) brown, medium dense, wet, no odor, no P4-HSN-AA18A-15 5-16 0 PT dry staining. 16 P4-HSN-AA18A-16.0-16.5 PEAT (degraded vegetated material), 80% organic fibers, dry OL 20% organic silt, (5YR 3/2) dark reddish brown, medium stiff, dry, slight organic odor, no staining. Soils consistent with MM. 5 Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR 4/2) brown, medium stiff, dry, slight organic odor, no staining. Soils consistent with UNDorg. PT PEAT (degraded vegetated material), 80% organic fibers, dry 19 20% organic silt, (5YR 3/2) dark reddish brown, medium OL moist stiff, dry, slight organic odor, no staining. Soils consistent with MM. 20 Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR 4/2) brown, medium stiff, moist, slight organic odor, no staining. Soils consistent with UNDorg. COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits GGM - green grey mud UNDorg - organic undisturbed native deposits bgs - below surface grade MM - meadow mat MGP - manufactured gas plant CCPW - chromium chemical production waste

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

2012-09

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A.GDT - 10/4/16

RA PPG LOGS

Boring ID: P4-HSN-BB10A

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611507.13 Date Started Drilling: 5/9/2016 11:15:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683014.69 Date Finished Drilling: 5/9/2016 12:15:00 PM Core Size: 3.0 in Boring Total Depth: 20 ft Depth to Water: NA Logged By: Eric Stone Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 11.5 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** Asphalt and subbase, (5YR 2.5/1) black, dry, no odor, no wet FILL GGM (100%), (2.5Y 5/1) gray, very soft, wet, no odor, green FILL dry fine to coarse SAND, little COPR (25%), (5YR 4/3) reddish **FILL** brown, medium dense, dry, no odor, no staining. Ash, little coal, trace ceramics, (2.5Y 5/1) gray, loose, dry, dry 5 no odor, no staining. P4-HSN-BB10A-4.0-4.5 Ash, little coal and wood, trace glass, (5Y 5/1) gray, loose, 20 moist **FILL** moist to wet, slight MGP-like odor, no staining, light sheen, to wet water at 6.0 feet bgs. P4-HSN-BB10A-6.0-6.5 4 P4-HSN-BB10A-8.0-8.5 NR NO RECOVERY P4-HSN-BB10A-10 0-10 5 23.7 saturated FILL Ash, little fine to medium gravel and wood, trace ceramics, (7.5YR 4/2) brown, loose, saturated, MGP-like odor and staining, sheen. 7.5 **FILL** silty SAND, little fine gravel, (5YR 4/3) reddish brown, wet medium dense, wet, MGP-like odor and staining, sheen. 12 P4-HSN-BB10A-12.0-12.5 5 13 P4-HSN-BB10A-14.0-14.5 P4-HSN-BB10A-14.5-15.0 P4-HSN-BB10A-15.0-15.5 1.0 PT PEAT (degraded vegetated material), 80% organic fibers, dry 20% organic silt, (5YR 4/3) reddish brown, stiff, dry, slight 1/ 1/ V organic odor, no staining. Soils consistent with MM. 16 11, 11, 1, 11, 1 Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR OL moist 4/2) brown, medium stiff, moist, slight organic odor, no staining. Soils consistent with UNDorg wet SP fine to medium SAND, little fine gravel, (2.5Y 5/1) gray, medium dense, wet, no odor, no staining. Soils consistent with UNDno. 19 NR NO RECOVERY 20 COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

bgs - below surface grade MM - meadow mat

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-BB11A

732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611485.22 Drilling Method: GEOPROBE Date Started Drilling: 5/3/2016 10:10:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682988.55 Date Finished Drilling: 5/3/2016 10:40:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Logged By: SP Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.4 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **FILL** ASPHALT and gravel sub-base. FILL fine to coarse SAND, little COPR (10%), (5YR 4/4) reddish dry brown, non plastic, loose, dry, no odor, no staining. P4-HSN-BB11A-1.2-1.7 **FILL** fine to medium SAND, little ash, (7.5YR 2.5/1) black, non dry plastic, loose, dry, no odor, no staining. **FILL** moist CINDERS, trace fine to medium gravel and fill debris, P4-HSN-BB11A-2.0-2.5 5 (7.5YR 5/1) gray, non plastic, loose, moist, no odor, no staining P4-HSN-BB11A-4.0-4.5 23.0 P4-HSN-BB11A-6.0-6.5 FILL medium to coarse SAND, some cinders and fine gravel, moist trace debris, (5YR 4/1) dark gray, non plastic, loose, moist to 5 wet, slight petroleum odor, product staining, water at 9.0 feet wet bgs. P4-HSN-BB11A-8.0-8.5 P4-HSN-BB11A-10 0-10 5 47.0 saturated **FILL** fine to coarse SAND, some cinders, (7.5YR 2.5/1) black, low plasticity, medium soft, saturated, moderate petroleum odor, product staining. 12 P4-HSN-BB11A-12.0-12.5 5 13 P4-HSN-BB11A-14.0-14.5 SM fine to medium sandy SILT, trace fine gravel, (5YR 4/4) moist reddish brown, low plasticity, medium dense, moist, slight P4-HSN-BB11A-14.5-15.0 petroleum odor, minor product staining. Soils consistent with P4-HSN-BB11A-15.0-15.5 0.0 PT dry PEAT (60% silt, 40% organic fibers), (7.5YR 4/2) brown, low 1/ 1/ V plasticity, medium soft, dry, slight organic odor, no staining. 16 11, 11, Soils consistent with MM. 1, 11, 1 <u>\\\/</u> \\\/ 5 11/ 11/ 11/ 11/ 19 SM fine silty SAND, little gravel, (5YR 4/1) dark gray, medium moist dense, moist, no odor, no staining. Soils consistent with UNDno. 0.0 1 -21

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

bgs - below surface grade COPR - chromite ore processing residue MM - meadow mat GGM - green grey mud GGM - green grey mud

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick

UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-BB12A

732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611471.88 Date Started Drilling: 5/2/2016 11:35:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682961.763 Date Finished Drilling: 5/2/2016 Core Size: 2.5 in Boring Total Depth: 20 ft Depth to Water: NA Logged By: Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 11.5 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) **ASPHALT** ASPHALT, gravel sub-base. slightly **FILL** fine to medium SAND, trace COPR(5%), (5YR 3/3) dark P4-HSN-BB12A-1.3-1.8 FILL reddish brown, slightly moist, no odor, no staining. moist ASH, some cinders, little wood fragments, (7.5YR 4/1) dark moist P4-HSN-BB12A-2.0-2.5 gray, moist, slight petroleum odor, no staining. 5 P4-HSN-BB12A-4.0-4.5 moist **FILL** ASH, some cinders, little wood fragments, (7.5YR 4/1) dark gray, moist, slight petroleum odor, no staining. P4-HSN-BB12A-6.0-6.5 4 P4-HSN-BB12A-8.0-8.5 NR NO RECOVERY P4-HSN-BB12A-10 0-10 5 FILL silty fine to medium SAND, (5YR 4/4) reddish brown, loose, wet wet, slight petroleum odor, no staining, sheen, wet @ 10.0' bgs. 12 P4-HSN-BB12A-12.0-12.5 5 13 P4-HSN-BB12A-14.0-14.5 FILL silty fine to medium SAND, (5YR 4/4) reddish brown, loose, wet P4-HSN-BB12A-15.2-15.7 wet, slight petroleum odor, no staining, sheen P4-HSN-BB12A-15.7-16.2 PT PEAT (degraded vegetated material), (80% organic fibers, moist 16 20% organic silt), (7.5YR 3/4) dark brown, stiff, moist, slight 1/ 1/1/ 1 organic odor, no staining. Soils consistent with MM. 11/ 11/ 5 fine to coarse SAND, (10YR 5/2) grayish brown, slight moist mottling, moist, no odor, no staining. Soils consistent with UNDno. 20

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

Boring ID: P4-HSN-BB13A

Page: 1

Date Fin Logged I Physical	nished Dr By: SP	illing: n: Act	5/3/2016 9: 5/3/2016 ual - HSN I	20:00 AM 10:00:00 AM			Coordinates (NJSPN) Boring Total Depth:	AD83) y: 682934.83 21 ft
Depth Range ft bgs)	By: SP I Locatio	n: Act		10:00:00 AM		Core Size: 30 in	Boring Total Depth:	21 ft
Physical Depth Range ft bgs) 1	I Locatio Recovery	PID	ual - HSN I					
Depth Range ft bgs)	Recovery	PID	ual - HSN I				Depth to Water: NA	
Range ft bgs)				PDI	1		Surface Elevation:	11.3 ft NAVD88
-1- -2-		(ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thicknes	SS:	Sample ID
-1-		0.0		ASPHALT		ASPHALT and gravel sub-base.		
-2-			dry	FILL		fine to coarse SAND, (7.5YR 2.5/1) black, r dry, no odor, no staining.	non plastic, loose,	P4-HSN-BB13A-0.5-1.0
-3 -4	5		dry	FILL		CINDERS, trace glass, ceramics and wood (7.5YR 5/1) gray, non plastic, loose, dry, no staining.	fragments, odor, no	P4-HSN-BB13A-2.0-2.5
						×		P4-H5N-BB13A-4.0-4.5
-5 		0.0	moist	FILL		CINDERS, trace gravel, ceramics and fill de 2.5/1) black, non plastic, loose, moist, slight at 10.0 feet, no staining, water at 10.0 feet	t petroleum odor	
-7—	5							P4-HSN-BB13A-6.0-6.5
-8 -9 -								P4-HSN-BB13A-8.0-8.5
10 — ———————————————————————————————————		0.0						P4-HSN-BB13A-10.0-10.5
-13 	5		moist	MH		fine sandy SILT, trace coarse gravel, (5YR obrown, low plasticity, medium soft, moist, no staining. Soils consistent with UNDno.	4/4) reddish o odor, no	P4-HSN-BB13A-12.0-12.5
-14					Ш			P4-HSN-BB13A-14.0-14.5
\dashv								P4-HSN-BB13A-14.5-15.0
-15 -16 -17	5	0.0	moist	PT		consistent with MM.	R 4/2) brown, low staining. Soils	P4-HSN-BB13A-15.0-15.5
-18 - -19	Ĭ		moist	SM		sandy SILT, trace fine gravel, (7.5YR 5/1) g plasticity medium dense, moist, no odor, no consistent with UNDno.		
\dashv						:		
20		0.0				.}		
21	1							
otes:						and a DND as a second of the s		fortunal control of
	w surface adow mat		COPR - chr GGM - gree		essing re	esidue UNDno - non-organic undisturbed native deputurbus undisturbed native deposits		ifactured gas plant omate chemical production w

Boring ID: P4-HSN-BB13AR

Proiect	Number:	00241	1139		11	Orilling Method: Direct push	Coordinates (NJSP)	NAD83) x: 611459.155
			5/9/2017 9:	MA 00:00		Rig Type:		AD83) y: 682934.747
				9:25:00 AM		Core Size: 3.0 in	Boring Total Depth:	
	I By: S. F		0/0/2017	0.20.00 7 441		Project Manager: Scott Mikaelian	Depth to Water: 6.0	
			ual - HSN [PDI		Tojou managori ossa viinasian	Surface Elevation:	
		7.00						
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickn	ess:	Sample ID
		0.0		ASPHALT		Asphalt and gravel sub-base		
-1— -2— -3—	5		dry to moist	FILL		fine to medium SAND, some ash, trace fi dark gray, dense, dry to moist, no odor, no		
\dashv			moiot	FILL		CINDEDS trace medium groupl wood an	d fill dobrio (EVD	-
-4			moist to	FILL	\bowtie	CINDERS, trace medium gravel, wood an 6/1) gray, loose, moist to wet, no odor, no		
\dashv			wet		\bowtie	6.0 feet.	otaning, water at	
-5-		0.0			\bowtie			
\dashv		0.0			\bowtie			
6-								
_					\bowtie			
/	5				\bowtie			
8—	-							
٠ _ <u></u>								
9—					\bowtie			
					\bowtie			
0-		0.0			\bowtie			
\dashv		0.0			\bowtie			
11—								
\dashv								
2-	5							
_	5		moist	SM	XXXXX	fine to medium sandy SILT, trace fine gra	vel. (7.5YR 6/3)	
3			wet	SP		light brown, dense, moist, no odor, no sta	ining. Soils	
14—						\consistent with UNDno. medium SAND, trace medium to coarse of	royal (EVD 4/2)	
~						reddish brown, dense, wet, no odor, no st		
5						consistent with UNDno.		P4-HSN-BB13AR-15.0-15.5
1		0.0	moist	OL	<u> </u>	Organic SILT, 80% organic silt, 20% orga		P4-H5N-BB13AR-15.0-15.5
6					<u> </u>	4/2) brown, firm, moist, slight organic odd consistent with UNDorg.	r, no staining. Soils	
\dashv					<u> </u>	Consistent with SIABOIG.		
7—	5				<u> </u>	1		
_	5		dry	SM		fine to medium silty SAND, trace fine grav	vel. (7.5YR 6/1)	
8-			.,	5		gray, dense, dry, no odor, no staining. So	ls consistent with	
19—						UNDno.		
٦]								
0			moist	SP		medium to coarse SAND, trace medium g	gravel, (5YR 6/1)	
						gray, dense, moist, no odor, no staining. Swith UNDno.	Soils consistent	
						(Mail Strains.		
- 1								
								i .
tac:								
	ow surface	grade	COPR - chr	omite ore proc	essina re	sidue UNDno - non-organic undisturbed native d	eposits MGP - manı	I Ifactured gas plant
1 - me	adow mat		GGM - gree	n grey mud		sidue UNDno - non-organic undisturbed native do UNDorg - organic undisturbed native depos t thick 3) No CCPW (COPR or GGM) present in any internval of this borin	sits CCPW - chr	l ufactured gas plant omate chemical production wa

Boring ID: P4-HSN-BB14A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611443.59 Drilling Method: Direct Push Date Started Drilling: 5/4/2016 8:50:00 AM Coordinates (NJSPNAD83) y: 682909.92 Rig Type: Date Finished Drilling: 5/4/2016 9:40:00 AM Core Size: 3.5 in Boring Total Depth: 20 ft Logged By: Michael Irving Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.5 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** ASPHAL₁ CINDERS, some ash, little coal fragments and fine to FILL medium sand, trace fine to medium gravel, (7.5YR 4/1) dark gray, loose, no odor, no staining. **FILL** fine SAND, little silt and ash, trace cinders and coal slightly 5 fragments, (10YR 4/2) dark grayish brown, loose, slightly moist moist, no odor, no staining. P4-HSN-BB14A-3.5-4.0 slightly **FILL** ASH, some cinders, coal and wood, (7.5YR 3/1) very dark moist gray, loose, slightly moist, no odor, no staining. 0.0 wet **FILL** ASH, some fine to medium gravel, little fine to medium sand, trace wood, (7.5YR 4/1) dark gray, loose, wet, no odor, no P4-HSN-BB14A-5.5-6.0 staining, water at 6.5 feet bgs. 5 P4-HSN-BB14A-7 5-8 0 P4-HSN-BB14A-9.5-10.0 0.0 FILL wet ASH, some fine to medium gravel, little fine to medium sand, trace wood, (7.5YR 4/1) dark gray, loose, wet, no odor, no wet FILL SILT, some fine to medium sand, trace fine gravel, (5YR 4/4) reddish brown, soft, wet, no odor, no staining. P4-HSN-BB14A-11.5-12.0 12 5 13 P4-HSN-BB14A-13.5-14.0 P4-HSN-BB14A-14.5-15.0 P4-HSN-BB14A-15.0-15.5 0.0 PT PEAT (degraded vegetated material), 80% organic fibers, moist 20% organic silt, (7.5YR 3/2) dark brown, stiff, moist, 1 11 1 moderate organic odor, no staining. Soils consistent with 16 11, 11, 1/ 1// 1 <u>\\\/</u> \\\/ 5 11/ 11/11/ 1, 11, 19 SP-SM fine SAND, trace organic silt, (7.5YR 4/1) dark gray, loose, moist moist, no odor, no staining. Soils consistent with UNDno. 20

Notes

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

bgs - below surface grade COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits MM - meadow mat GGM - green grey mud UNDorg - organic undisturbed native deposits

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-BB15A

Proiect	Number:	60314	351.GA.DI	E.PDI.FOR		Drilling Method: Direct Push	Coordinates (NJSPN	IAD83) x: 611424.26
			5/5/2016 9:					AD83) y: 682879.45
	nished Dr			70.00			Boring Total Depth:	
	By: MI		3,3,2010				Depth to Water: NA	
		n. Act	ual - HSN [וחפ			Surface Elevation:	
	ai Locatio	11. ACC	uai - HOIVI	ы			Odilace Lievation.	12.0 1(14A V D 00
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	C Surface Cover and Thicknes	SS:	Sample ID
		0.0		ASPHALT		ASPHALT and gravel sub-base.		
-			oliobtly	FILL	XXXX		and and and	P4-HSN-BB15A-0.5-1.0
-1 - -2			slightly moist	FILL		CINDERS, some ash, little fine to medium s (7.5YR 4/1) dark gray, loose, slightly moist, staining.		
-3 -4	5							P4-HSN-BB15A-2.0-2.5
								P4-H3N-BB13A-4.0-4.3
-6-		0.0	moist	FILL		ASH, little cinders, trace silt, (7.5YR 4/1) da moist, no odor, no staining.	ark gray, loose,	P4-HSN-BB15A-6.0-6.5
_ - 7	,		wet	FILL		silty fine to medium SAND, little fine to med	lium gravel	
-8- -	4					(10YR 4/2) dark grayish brown, moist, no o water at 6.3 feet bgs.		P4-HSN-BB15A-8.0-8.5
-9 				NR	****	NO RECOVERY		
-10 - -11		0.0	wet	FILL		silty fine to coarse SAND, little ash, (10YR yellowish brown, dense, wet, no odor, no sta		P4-HSN-BB15A-10.0-10.5
-12 - -13	5		wet	FILL		fine to medium SAND, some silt, trace fine reddish brown, loose, wet, no odor, no stain		P4-HSN-BB15A-12.0-12.5
								P4-HSN-BB15A-14.0-14.5
\dashv					\bowtie	8		
-15		0.0	wet	FILL		fine to medium SAND, some silt, trace fine	gravel (5VP 4/3)	P4-HSN-BB15A-14.8-15.3
-16 -17	5		moist	PT	\(\lambda \) \(\la	PEAT (degraded vegetated material), 80% of fibers,20% organic silt, (7.5YR 3/2) dark brown moderate organic odor, no staining. Soils communication of the staining of the stai	ning. organic own, moist,	P4-HSN-BB15A-15.3-15.8
-18 	ິວ				71/ 71/ 71/ 71/ 71/ 71/	<u>v</u>		
-19 -					<u> </u>			
20						-I		
	ow surface adow mat		COPR - chro		essing r	esidue UNDno - non-organic undisturbed native dep UNDorg - organic undisturbed native deposit		ıfactured gas plant omate chemical production w

Boring ID: P4-HSN-CC6A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611583 Drilling Method: direct push Date Started Drilling: 5/11/2016 9:50:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683106.46 Date Finished Drilling: 5/11/2016 11:00:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: ES Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 10.6 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 moist **FILL** DGA, (2.5Y 5/1) gray, medium dense, moist, no odor, no P4-HSN-CC6A-1.5-2.0 FILL fine to coarse SAND, little ash, trace coal, (7.5YR 4/2) moist brown, medium dense, moist, no odor, no staining. **FILL** moist 3.5 fine to coarse SAND, some ash, (2.5Y 5/2) grayish brown, to medium dense, moist to wet, no odor, no staining. wet P4-HSN-CC6A-3.5-4.0 NO RECOVERY NR 200 Ash, some fine to medium sand, (7.5YR 4/2) brown, loose, wet **FILL** wet, slight MGP-like odor, no staining, water at 5.0 feet bgs. P4-HSN-CC6A-5.5-6.0 FILL wet Cinders, little fine gravel, trace fine sand and silt, (7.5YR 2.5/1) black, loose, wet, moderate MGP-like odor, product staining. 5 P4-HSN-CC6A-7.5-8.0 P4-HSN-CC6A-9.5-10.0 380 FILL wet Cinders, trace fine gravel, (5Y 2.5/1) black, loose, wet, moderate MGP-like odor, product staining. P4-HSN-CC6A-11.5-12.0 12 5 P4-HSN-CC6A-12.5-13.0 95 moist **FILL** fine to medium SAND, little silt and coarse gravel, (7.5YR 13 4/2) brown, medium dense, moist, slight MGP-like odor, no P4-HSN-CC6A-13.0-13.5 0.0 PT dry staining. to 1/ 1/ V PEAT (degraded vegetated material), 80% organic fibers, moist 20% organic silt, (5YR 3/2) dark reddish brown, firm, dry to 11, 11, moist, no odor, no staining. Soils consistent with MM. 11/11 0.0 SP fine to medium SAND, little fine gravel, (5YR 4/3) reddish wet brown, medium dense, wet, no odor, no staining. Soils consistent with UNDno. 16 NO RECOVERY NR 2 19 20

Notes

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

bgs - below surface grade COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits MM - meadow mat GGM - green grey mud UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

Comments: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-CC7A

	Name: F	60314	351.GA.DE	.PDI.FOR		Drilling Method: direct push	Coordinates (NJSP	NAD83) x: 611576.06																	
Date Started Drilling: 5/10/2016 9:55:00 AM								SPNAD83) y: 683081.09																	
			5/10/2016		M	Core Size: 3 in Boring Total Depth																			
	By: ES	g.	0/10/2010	10.00.0074		Project Manager: Scott Mikaelian	Depth to Water: N																		
		n· Act	ual - HSN P	וחי			Surface Elevation:																		
	ui Locatio	7.00	dai Hort	<u> </u>			Ouridoc Elevation.	11.01(10/02/00																	
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	C Surface Cover and Thic	kness:	Sample ID																	
		0.0	dry	FILL		Asphalt and gravel sub-base																			
_ _2	4.5			dry	FILL		fine to coarse SAND, little ash, trace co 4/2) dark reddish gray, medium dense, staining.		P4-HSN-CC7A-1.0-1.5																
-3 - -4				dry	FILL		Wood, trace ash and glass, (5Y 2.5/1) I odor, no staining.	black, soft, dry, no	P4-HSN-CC7A-4.0-4.5																
\dashv				ND	- XXXX	NO DECOVEDY		-																	
-5-		40.4		NR		NO RECOVERY		4																	
_ _6		12.4	12.4	moist	FILL		fine SAND, little silt and wood, trace asl gray, medium dense, moist, no odor, no		P4-HSN-CC7A-6.0-6.5																
-7 - -8	3.5																								wet
_ -9				NR		NO RECOVERY		-																	
7																									
-10 -11 -12		36.5	wet	FILL		fine to medium SAND, little silt and fine (2.5Y 5/2) grayish brown, medium dens MGP-like odor, product staining, sheen		P4-HSN-CC7A-10.0-10.5																	
12	4.5				\bowtie			P4-HSN-CC7A-12.0-12.5																	
-13 	4.5																	dry	FILL		Silt, little organics, trace fill debris, (7.5' dry, no odor, no staining.	YR 4/2) brown, soft,			
-14						$ \lozenge $		P4-HSN-CC7A-14.0-14.5																	
\dashv				NR		NO RECOVERY		+																	
-15		2.0			XXXX			P4-HSN-CC7A-15.0-15.5																	
		3.0	wet	FILL	XXX	Silt, trace wood, (7.5YR 4/2) brown, sof	π, wet, slight																		
-16 -			dry	PT	\(\frac{1}{21\frac{1}{21}}\)	PEAT (degraded vegetated material), 20% organic silt, (5YR 3/2) dark redd	h brown, stiff, dry,	P4-HSN-CC7A-15.5-16.0																	
-17	5		moist OL - Organic SILT, 80% organic 4/2) brown, medium stiff, m	Organic SILT, 80% organic silt, 20% or 4/2) brown, medium stiff, moist, no odo	rganic fibers, (7.5YR																				
-18 -			wet	SP		consistent with UNDorg. fine to coarse SAND, little fine to mediu gray, medium dense, wet, no odor, no sconsistent with UNDno.	im gravel, (2.5Y 5/1) staining. Soils																		
-19						. Sandadan Man Sindhio.																			
_																									
20						<u> </u>																			
lotes:	ou ourfee	arode	CORD -to-	mito are	noncis = -	poidus LINDas pas assasis undistrute du sur	deposite MOD	unfactured ass sleet																	
	ow surrace adow mat		GGPR - cnro GGM - greer		cessing r	esidue UNDno - non-organic undisturbed native UNDorg - organic undisturbed native dep		lufactured gas plant Iromate chemical production w																	
						ft thick 3) No CCPW (COPR or GGM) present in any interval of this bo		. p																	

Boring ID: P4-HSN-CC8A

Project	Number:	6031∠	1351 GA DF	- PDI FOR		Drilling Method: Direct Push	Coordinates (N.150	NAD83) x: 611552.14		
			5/2/2016 8:			Rig Type: Coordinates (NJSF Core Size: 2.5 in Boring Total Depth				
	nished Dr			33.00 AIVI						
		ming.	3/2/2010			Project Manager: Scott Mikaelian				
ogged		^ -4	ual - HSN F	NDI.		Project Manager: Scott Mikaelian	Depth to Water: No Surface Elevation:			
nysica	ai Locatio	n: ACI	uai - HSN F	וטי	1	<u> </u>	Surface Elevation:	11.8 II NAVD88		
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickn	ess:	Sample ID		
				ASPHALT		ASPHALT and gravel sub-base.				
\dashv			aliadalı.		XXXXX		- (EVD 2/2) deals	P4-HSN-CC8A-0.5-1.0		
-1— - -2—			slightly FILL moist			ASH, some cinders, trace brick fragments reddish brown, loose, slightly moist, no oc staining.				
-3 -4	5						P4-HSN-CC8A-2.0-2.5			
_ -5			moiat	EII I		ASH same sinders trace wood fragment	o (EVD 2 5/1)			
-6 -7						moist FILL		ASH, some cinders, trace wood fragments (5YR 2.5/1) black, moist, no odor, no staining.		P4-HSN-CC8A-6.0-6.5
-8 -9	4							P4-HSN-CC8A-8.0-8.5		
-10				NR		NO RECOVERY				
-11			moist to saturated	FILL		silty fine SAND, some cinders, residual Nobserved, (5YR 4/4) reddish brown, loose saturated, sheen, wet @ 10.5' bgs		P4-HSN-CC8A-10.0-10.5		
-12 - -13	5					P4-HSN-CC8A-12.0-12.5				
-14								P4-HSN-CC8A-14.0-14.5		
-15			moist	FILL		fine to medium SAND, little silt, trace grav	vel and cinders.	P4-HSN-CC8A-15.0-15.5		
-16 -17		- - -	-		moist	PT	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	(5YR 4/3) reddish brown, loose, moist, no PEAT (degraded vegetated material), (80 20% organic silt), (7.5YR 3/4) dark browr	o odor, no staining. % oragnic fibers, n, stiff, moist,	P4-HSN-CC8A-15.5-16.0
-18 -	4		wet	SP-SM		fine to medium SAND, (10YR 5/6) yellow odor, no staining, some mottling. Soils co UNDno.	ish brown, wet, no nsistent with			
_19						:		4		
-				NR		NO RECOVERY				
20										
					essing re	esidue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo		nufactured gas plant promate chemical production w		
dVI - ma	eadow mat		GGM - greei	a arov mud		LIBILIANA ANADALA LINDIA TURBAN NATIVA DANA				

Boring ID: P4-HSN-CC9A

				E.PDI.FOR		Drilling Method: Direct Push	Coordinates (NJSP		
Date St	arted Dril	ling: _	5/2/2016 10):45:00 AM				NAD83) y: 683027.93	
Date Fi	nished Dr	illing:	5/2/2016			Core Size: 2.5 in	Boring Total Depth:		
Logged						Project Manager: Scott Mikaelian	Depth to Water: N	Α	
Physica	al Locatio	n: Act	ual - HSN F	PDI		,	Surface Elevation:	12.0 ft NAVD88	
							_		
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickr	ness:	Sample ID	
				ASPHALT		ASPHALT, gravel sub-base.			
-1-					~~~			P4-HSN-CC9A-1.0-1.5	
		slightly FILL moist			fine to medium SAND, (10YR 8/6) yellow odor, no staining.	F4-H3N-GC9A-1.0-1.3			
_	4								
-3					P4-HSN-CC9A-3.0-3.5				
-4- -				NR		NO RECOVERY			
-5		moist FILL ASH, little cinders, trace silt, (7.5YR 4/1) dark gray, loose, moist, no odor, no staining.		P4-HSN-CC9A-5.0-5.5					
-7— -	5							P4-HSN-CC9A-7.0-7.5	
								P4-HSN-CC9A-9.0-9.5	
-10 -				FILL		CINDERS, little medium gravel, (5YR 2.5 moderate petroleum odor, product stainir		_	
-11 - -12						moderate per sicum cash, product oranin	ig, anoan.	P4-HSN-CC9A-11.0-11.5	
_ _13	4							P4-HSN-CC9A-13.0-13.5	
				ND					
_ -15				NR		NO RECOVERY		DA HON COLOR	
·]				FILL	$\underset{\underline{M}}{\bigotimes}$	CINDERS, little medium gravel, (5YR 2.5 moderate petroleum odor, product stainir		P4-HSN-CC9A-15.0-15.5	
-16 - - -17			moist	PT	<u> </u>	PEAT (degraded vegetated material), (80 20% organic silt), (7.5YR 3/4) dark browl no staining. Soils consistent with MM.	% oragnic fibers,	P4-HSN-CC9A-15.5-16.0	
	4				<u> </u>				
-18 - -			moist	SP		fine to medium SAND, little fine to medium 5/1) gray, loose, moist, slight mottling, no Soils consistent with UNDno.			
-19 -				NR		NO RECOVERY			
-20									
lotes:	ow surface	grade	COPR - chr	omite ore proc	essing r	esidue UNDno - non-organic undisturbed native c	lenosits MGP - man	ufactured gas plant	
	adow mat		GGM - gree		oooniy I	UNDorg - organic undisturbed native depo		romate chemical production wa	

Boring ID: P4-HSN-CC10A

Page: 1

Project Name: PPG Garfield Ave Drilling Company: SGS North America Coordinates (NJSPNAD83) x: 611525.67 Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: 9822 Date Started Drilling: 5/2/2016 10:40:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683001.66 Date Finished Drilling: 5/2/2016 11:40:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: ES Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.9 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **ASPHALT** Asphalt FILL Gravel sub-base FILL fine to coarse SAND, little coal, trace wood, (7.5YR 2.5/2) dry very dark brown, medium dense, dry, no odor, no staining. 5 FILL Ash, little coal fragments, trace wood, (7.5YR 5/1) gray, drv medium dense, dry, no odor, no staining. fine SAND, little ash, trace wood, (7.5YR 3/2) dark brown, **FILL** dry medium dense, dry, no odor, no staining. 0.0 moist FILL fine SAND, little wood, trace ash, (7.5YR 4/2) brown, medium dense, moist, no odor, no staining. FILL Ash, little wood, trace ceramics, trace glass, (5Y 5/1) gray, moist loose, moist to wet, no odor, no staining, water table at 7.5 ft wet 5 0.0 silty SAND, some wood, little ash, (7.5YR 5/1) gray, medium FILL wet dense, wet, no odor, no staining. P4-HSN-CC10A-11.0-11.5 **FILL** fine SAND, some silt, trace ash, (5YR 4/3) reddish brown, wet medium dense, wet, no odor, no staining. 12 5 13 P4-HSN-CC10A-15.0-15.5 0.0 FILL saturated fine sandy SILT, (7.5YR 4/2) brown, very soft, saturated, no odor, no staining. P4-HSN-CC10A-15 5-16 0 16 P4-HSN-CC10A-16.0-16.5 2.0 dry PT PEAT, 80% organic fibers, 20% organic silt, (5YR 3/2) dark reddish brown, stiff, dry, slight organic odor, no staining. 1, 11, Soils consistent with MM. 11, 11, 5 11/ 0.0 wet SP fine to coarse SAND, little gravel, little to trace organic fibers, (7.5YR 4/2) brown, medium dense, wet, no odor, no staining. Soils consistent with UNDorg. 19 SW wet fine to coarse SAND, little gravel, (5Y 3/1) very dark gray, medium dense, wet, no odor, no staining. Soils consistent with UNDno. COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits bgs - below surface grade MM - meadow mat MGP - manufactured gas plant CCPW - chromate chemical production waste

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-CC11A

732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611509.07 Drilling Method: Macrocore Date Started Drilling: 5/3/2016 10:40:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682978.1 Date Finished Drilling: 5/3/2016 12:00:00 PM Core Size: 3.0 in Boring Total Depth: 20 ft Depth to Water: NA Logged By: Eric Stone Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 11.8 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range (ft/ft) Content ΙD (ppm) Log (ft bgs) 0.0 **ASPHALT** Asphalt and gravel sub-base. dry FILL fine to coarse SAND, some fine gravel, little COPR (10%), (5YR 4/3) reddish brown, medium dense, dry, no odor, no FILL dry staining. fine to medium SAND, little concrete, trace ceramics, (7.5YR 5 3/3) dark brown, medium dense, dry, no odor, no staining. FILL slightly Ash, trace coal fragments, (9.5/2.5Y_/1) white, loose, moist slightly moist, no odor, no staining. P4-HSN-CC11A-4.0-4.5 FILL silty SAND, some coal fragments, little ash, (7.5YR 4/2) moist brown, medium dense, moist, no odor, no staining. 0.0 wet **FILL** silty SAND, little to trace ash and wood, (5YR 4/3) reddish brown, soft, wet, no odor, no staining, water at 5.0 feet bgs. 3.5 P4-HSN-CC11A-8.0-8.5 NO RECOVERY NR 0.0 FILL silty SAND, little ash, (5YR 4/3) reddish brown, medium wet dense, wet, no odor, no staining. 12 P4-HSN-CC11A-12.0-12.5 5 P4-HSN-CC11A-14.0-14.5 0.0 FILL silty SAND, little gravel, trace ash, (5YR 4/3) reddish brown, wet medium dense, wet, no odor, no staining. P4-HSN-CC11A-15 5-16 0 16 P4-HSN-CC11A-16.0-16.5 PEAT, 80% organic fibers, 20% organic silt, (5YR 3/2) dark 1.0 dry PT reddish brown, stiff, dry, slight organic odor, no staining. 1, 11, Soils consistent with MM. 11, 11, 5 71 V 11, 11, 0.0 SM fine to coarse SAND, some silt, trace organics, (2.5Y 5/2) wet 19 grayish brown, medium dense, wet, no odor, no staining. Soils consistent with UNDorg.

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

bgs - below surface grade MM - meadow mat

COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

732.564.3200 office telephone

Boring ID: P4-HSN-CC12A

Page: 1

30 Knightsbridge Road, Piscataway, NJ 08854

Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611495.67 Date Started Drilling: 5/9/2016 9:45:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682949.35 Date Finished Drilling: 5/9/2016 10:30:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: Eric Stone Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.5 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **ASPHALT** Asphalt and gravel sub-base. P4-HSN-CC12A-0.7-1.2 **FILL** Ash, little fine to medium sand, trace coal and ceramics, dry (2.5Y 5/1) gray, loose, dry to slightly moist, no odor, no 5 P4-HSN-CC12A-2.5-3.0 P4-HSN-CC12A-4 5-5 0 0.0 moist **FILL** Ash, little fine to medium sand, trace wood, (2.5Y 5/1) gray, loose, moist to wet, no odor, no staining, water at 6.0 feet to wet bgs. FILL fine to medium SAND, trace ash, (2.5Y 6/4) light yellowish wet brown, medium dense, wet, no odor, no staining. Ash, little wood, (2.5Y 6/3) light yellowish brown, loose, wet, P4-HSN-CC12A-6.5-7.0 FILL wet FILL wet no odor, no staining. 4 Cinders, some to little wood, trace ash, (5Y 2.5/1) black, loose, wet, no odor, no staining. P4-HSN-CC12A-8.5-9.0 NR NO RECOVERY 1.2 FILL wet fine to medium SAND, some cinders, little wood and medium gravel, trace glass, (5Y 2.5/1) black, loose, wet, no odor, no P4-HSN-CC12A-10.5-11.0 staining **FILL** wet Ash, little wood, (2.5Y 5/1) gray, loose, wet, no odor, no staining. **FILL** wet fine to medium SAND, little organic fibers, trace wood, (5Y 12 5/1) gray, medium dense, wet, no odor, no staining. 5 P4-HSN-CC12A-12.5-13.0 13 **FILL** silty SAND, little fine gravel, (2.5Y 5/2) grayish brown, wet medium dense, wet, no odor, no staining. P4-HSN-CC12A-14.5-15.0 P4-HSN-CC12A-15.0-15.5 2.0 FILL silty SAND, little fine gravel, trace ash, (5YR 4/3) reddish wet brown, medium dense, wet, no odor, no staining. P4-HSN-CC12A-15.5-16.0 PT dry PEAT (degraded vegetated material), 80% organic fibers, 16 クマケマ 20% organic silt, (5YR 3/2) dark reddish brown, stiff, dry, slight organic odor, no staining. Soils consistent with MM. 11, 11, 1/ 1/1/ 1 5 1/ 1/ V 11, 11, 19 SM silty SAND, little organics, (2.5Y 5/2) grayish brown, medium moist dense, moist, no odor, no staining. Soils consistent with 20 UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits bgs - below surface grade MM - meadow mat COPR - chromite ore processing residue MGP - manufactured gas plant CCPW - chromate chemical production waste

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

GGM - green grey mud nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

A.GDT - 1/17/17

2012-09 RA PPG LOGS

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-CC13A

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Coordinates (NJSPNAD83) x: 611476.78 Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: Macrocore Date Started Drilling: 5/4/2016 8:30:00 AM Coordinates (NJSPNAD83) y: 682929.62 Rig Type: Date Finished Drilling: 5/4/2016 9:20:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: ES Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.7 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 ASPHAL⁻ Asphalt dry FILL fine to coarse SAND, little gravel, trace (5%) COPR, (5YR 4/3) reddish brown, medium dense, dry, no odor, no dry FILL Ash, (2.5Y 5/1) gray, dry, no odor, minor black staining. **FILL** fine to medium silty SAND, little ash, trace glass, (7.5YR moist 3.5 4/2) brown, medium dense, moist, no odor, no staining. NR NO RECOVERY Ash, some silty sand, trace coal fragments, (2.5Y 5/1) gray, 0.0 moist **FILL** loose, moist to wet, no odor, no staining, water at 6.5 feet to wet saturated FILL Ash and fine SAND, (2.5Y 5/1) gray, saturated, no odor, no staining. 3.5 NO RECOVERY NR 0.0 FILL wet Ash, (2.5Y 5/1) gray, loose, wet, no odor, no staining. **FILL** wet silty SAND, trace ash, (2.5Y 2.5/1) black, soft, wet, no odor, 12 4 **FILL** silty SAND, some gravel, (5YR 4/3) reddish brown, medium wet 13 dense, wet, no odor, no staining. NR NO RECOVERY 0.0 FILL Ash, (2.5Y 5/1) gray, loose, wet, no odor, no staining. wet P4-HSN-CC13A-15 5-16 0 **FILL** SILT, little ash, trace fine sand, (7.5YR 4/2) brown, soft, wet, wet 16 no odor, no staining. P4-HSN-CC13A-16.0-16.5 dry PT PEAT, 80% organic fibers, 20% organic silt, (5YR 3/2) dark 1/ 1/1/ 1 reddish brown, stiff, dry, slight organic odor, no staining. Soils consistent with MM. 11, 11, 5 71 V 11, 11, 11/1 OL Organic SILT, 80% organic silt, 20% organic fibers, (2.5Y moist 5/2) grayish brown, soft, moist, no odor, no staining. Soils consistent with UNDorg COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits GGM - green grey mud UNDorg - organic undisturbed native deposits bgs - below surface grade MM - meadow mat MGP - manufactured gas plant CCPW - chromate chemical production waste

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-DD3A

732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611653.09 Drilling Method: Direct Push Date Started Drilling: 5/13/2016 8:47:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683172.41 Date Finished Drilling: 5/13/2016 9:40:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: HBB Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.9 ft NAVD88 Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **FILL** DGA, (5YR 5/1) gray, loose, moist to wet, no odor, no moist staining to wet FILL fine to coarse SAND, little fine to medium gravel, trace ash, moist wood and fill debris, (7.5YR 3/4) dark brown, medium dense, P4-HSN-DD3A-2.0-2.5 4.5 moist, no odor, no staining. P4-HSN-DD3A-4.0-4.5 NR NO RECOVERY 388 moist **FILL** fine to medium SAND, little silt, trace fine gravel and cinders, (7.5YR 4/2) brown, medium dense, moist, no odor, no staining. FILL Cinders, some fine to coarse sand, (5YR 2.5/1) black, loose, wet 3.5 wet, moderate MGP-like odor, product staining, water at 7.0 feet bas. P4-HSN-DD3A-8.0-8.5 NO RECOVERY NR 18.0 FILL wet Cinders, some medium to coarse gravel, little medium to coarse sand, (5YR 2.5/1) black, loose, wet, moderate wet **FILL** MGP-like odor, product staining. P4-HSN-DD3A-11.0-11.5 fine to coarse SAND, little silt, trace wood, (7.5YR 4/2) brown, soft, wet, slight MGP-like odor, no staining. P4-HSN-DD3A-11 5-12 0 OL moist Organic SILT, 80% organic silt, 20% organic fibers, (2.5Y 12 P4-HSN-DD3A-12.0-12.5 PT dry 5/2) grayish brown, soft, moist, no odor, no staining. Soils 3.5 consistent with UNDorg. OL moist PEAT (degraded vegetated material), 80% organic fibers, 13 ML-SM moist 20% organic silt,, (5YR 4/3) reddish brown, stiff, dry, slight organic odor, no staining. Soils consistent with MM.
Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR NR 3/2) dark brown, soft, moist, no odor, no staining. Soils consistent with UNDorg. fine to medium SAND, some silt, trace organics, (7.5YR 6/4) 20.4 SP-SC light brown, medium dense, moist, no odor, no staining. Soils consistent with UNDorg. 16 NO RECOVERY fine to coarse SAND. (5YR 2.5/2) dark reddish brown, loose. moist slight MGP-like odor, no staining. Soils consistent with UNDno. 19 NR NO RECOVERY 20

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

MGP - manufactured gas plant CCPW - chromate chemical production waste

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

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Boring ID: P4-HSN-DD4A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611630.37 Date Started Drilling: 5/11/2016 11:30:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683149.86 **Date Finished Drilling:** 5/11/2016 12:30:00 PM Core Size: 3.0 in Boring Total Depth: 21 ft Logged By: HBB Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 12.0 ft NAVD88 Depth Recovery PID Moisture Graphic Sample USCS Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **FILL** DGA, (2.5Y 5/2) grayish brown, medium dense, moist, no moist odor, no staining. P4-HSN-DD4A-1.8-2.3 moist **FILL** fine to medium SAND, trace ash and fill debris, (7.5YR 4/3) brown, medium dense, moist, no odor, no staining. P4-HSN-DD4A-3.5-4.0 NO RECOVERY NR 0.0 moist **FILL** fine to medium SAND, trace ash and fill debris, (5YR 4/1) dark gray, medium dense, moist, no odor, no staining. P4-HSN-DD4A-5.5-6.0 **FILL** fine to medium gravelly SAND, trace ash, (5YR 4/3) reddish moist brown, medium dense, moist, no odor, no staining. 5 P4-HSN-DD4A-7.5-8.0 359 **FILL** cinders, (5YR 2.5/1) black, loose, wet, strong MGP-like odor, wet no staining, water at 8.0 feet bgs. P4-HSN-DD4A-9.5-10.0 300 FILL wet cinders, (5YR 2.5/1) black, loose, wet, strong MGP-like odor, no staining. P4-HSN-DD4A-11.5-12.0 12 4 0.0 moist **FILL** fine to medium SAND, little fine gravel, silt, organics, and fill P4-HSN-DD4A-12.7-13.2 13 debris, (7.5YR 4/2) brown, medium dense, moist, no odor, P4-HSN-DD4A-13.2-13.7 slightly OL no staining Organic SILT, 70% organic silt, 30% organic fibers, (2.5Y moist 5/2) grayish brown, soft, slightly moist, no odor, no staining. NR Soils consistent with UNDorg. NO RECOVERY P4-HSN-DD4A-15.0-15.5 30.0 SP fine to coarse SAND, little organics, (7.5YR 4/2) brown, moist medium dense, moist, no odor, no staining. Soils consistent with UNDorg. 16 wet SP fine to coarse SAND, some fine to coarse gravel, (5YR 4/3) reddish brown, medium dense, wet, slight MGP-like odor, product staining. Soils consistent with UNDno. 5 19 20.0 SP fine to coarse SAND, some fine to coarse gravel, (5YR 4/3) 1 reddish brown, medium dense, wet, slight MGP-like odor. product staining. Soils consistent with UNDno. -21

Notes:

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A.GDT - 10/4/16

RA PPG LOGS

2012-09

bgs - below surface grade bgs - below surface grade GGM - green grey mud UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

Comments: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-DD5A

Date Start Date Finis Logged B Physical L Depth	ted Drill shed Dr sy: Ml	ing: 4	4/29/2016 1	E.PDI.FOR 1:05:00 PM 6 1:35:00 PM PDI		Drilling Method: Direct Push Rig Type: Core Size: 2.5 in	Coordinates (NJSPN Boring Total Depth:					
Date Finis Logged B Physical I Depth Range ft bgs)	shed Dr By: MI Location ecovery	illing: n: Act PID (ppm)	4/29/2016 ual - HSN [1:35:00 PM		Core Size: 2.5 in	Boring Total Depth:	20 ft				
Depth Range ft bgs)	By: MI Location ecovery	n: Act PID (ppm)	ual - HSN I									
Physical I Depth Range ft bgs)	Locatio ecovery	PID (ppm)		PDI		Project Manager: Scott Mikaelian	Depth to Water: NA	4				
Depth Range ft bgs)	ecovery	PID (ppm)					Surface Elevation:					
Range ft bgs)		(ppm)	Moisture				Gariago Elovationi	12.7 1014/10200				
_ 		1	Content	USCS	Graphi Log	Surface Cover and Thickne	ess:	Sample ID				
-1 -2		4		ASPHALT		ASPHALT, subbase gravel.						
	5		slightly moist	FILL		ASH, some cinders, little medium gravel a sand, (7.5YR 5/1) gray, slightly moist, no	P4-HSN-DD5A-0.7-1.2					
-3- -			5				P4-HSN-DD5A-4.0-4.5					
-5-	-		wet	FILL		silty fine to medium SAND, little fine to me		14-11017-2507-4.0-4.0				
-6 -7- <u>-</u>	4							(10YR 4/2) dark grayish brown, wet, mod odor, product staining, water at 6.5 feet bo	lerate petroleum gs.	P4-HSN-DD5A-6.0-6.5		
-8-		269					P4-HSN-DD5A-8.0-8.5					
-9				NR		NO RECOVERY						
-10 - -11		040		FILL		fine to medium SAND, some silt, little fine (7.5YR 3/4) dark brown, moderate petrole soaked, sheen.		P4-HSN-DD5A-10.0-10.5				
-12 - -13	5	316						P4-HSN-DD5A-12.0-12.5				
-14			moist	FILL		SILT, some fine to medium sand, little fine (5YR 5/2) reddish gray, moist, slight petro staining.	e to medium gravel, leum odor, no					
-						-		P4-HSN-DD5A-14.0-14.5 P4-HSN-DD5A-14.5-15.0				
-15 - -16	3	3	0.0		PT	<u> </u>	20% organic silt), stiff, no odor, no stainin	% organic fibers, g. Soils consistent	P4-HSN-DD5A-15.0-15.5			
-17			3	3	3	3	3		saturated	SP		fine to medium SAND, little fine gravel, (5 brown, dense, saturated, no odor, no stair consistent with UNDno.
-18 -				NR	1	NO RECOVERY						
-19												
20												
otes: gs - below lM - meado			COPR - chr GGM - gree		essing r	esidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native depos		ufactured gas plant				

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-DD6A

Project	Number:	60314	1351.GA.DE	.PDI.FOR		Drilling Method: 9822	Coordinates (NJSPN	IAD83) x: 611605.95												
Date Started Drilling: 5/2/2016 9:10:00 AM						Rig Type: Coordinates (NJSP)														
				10:25:00 AM		Core Size: 3.0 in Boring Total Depth:														
	By: ES	g.	0/2/2010	0.20.00 7 411		Project Manager: Scott Mikaelian	Depth to Water: NA													
		n: Act	ual - HSN F	וחי		- 101000 manageri Cook minacian	Surface Elevation:													
	ai Locatio	7.00	uui 110111	<u> Б</u> і			Ouridoc Elevation:	12.7 1010/0200												
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	C Surface Cover and Thick	rness:	Sample ID												
		0.0		ASPHALT		Asphalt														
⊢				FILL	XXXX	Gravel sub-base														
-1-	1		da.	FILL		X	nto traco cob													
-2	5		dry	FILL		fine to medium SAND, little coal fragme (7.5YR 4/2) brown, medium dense, dry,														
-3 -4	5		dry	FILL		fine to medium SAND, some ash, little o wood, (7.5YR 3/4) dark brown, medium no staining.														
-5- -		0.0	moist	FILL		fine to medium SAND, little ash and coa brown, medium dense, moist, no odor, r														
\dashv		13.5	wet	FILL		Ash, (7.5YR 4/2) brown, loose, wet, slig	ht MGP-like odor oil	P4-HSN-DD6A-6.5-7.0												
-7-			wet	FILL		staining, sheen, water table at 6.5 ft bos	S													
\dashv	3										sandy SILT, (5YR 4/3) reddish brown, s	oft, wet, slight								
-8-								wet	FILL	\bowtie	MGP-like odor, no staining. fine to coarse SAND, and coarse gravel	(2.5V.2.5/1) blook								
-9 				NR		\langle like odor, MGP-l NO RECOVERY														
-10		55.0	wet	FILL		Ash, little gravel, (2.5Y 4/2) dark grayish moderate MGP-like odor, MGP-like prod		P4-HSN-DD6A-10.0-10.5												
-12		0.0	wet	FILL		silty SAND, (5YR 4/3) reddish brown, so wet, no odor, no staining.	oft to medium dense,													
-13 -14 	5 3— —					wet, no odor, no staining.		P4-HSN-DD6A-12.0-12.5												
-15		2.8	saturated	FILL		Gravel, some silt and sand, little ash, (7		P4-HSN-DD6A-15.0-15.5												
-16 		2.0 dry PT AXX AXX dark brown PEAT, 80° dark reddistaining. S staining. S fine to coa (5YR 4/3)	dry	PT	7 77 7 77	PEAT, 80% organic fibers, 20% organic dark reddish brown, stiff, dry, slight organic	silt, (2.5YR 2.5/3)	P4-HSN-DD6A-15.5-16.0												
-17	5		fine to coarse SAND, little gravel, little to (5YR 4/3) reddish brown, medium dens	coarse SAND, little gravel, little to trace organics, //3) reddish brown, medium dense, wet, no odor, no																
18 -			υ.υ	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	υ.υ	0.0	0.0	0.0	0.0	0.0		staining. Soils consistent with UNDorg.	
-19 			wet	SW	*****	fine to coarse SAND, little gravel, (2.5Y medium dense, wet, no odor, no staining with UNDno.														
					essing r	esidue UNDno - non-organic undisturbed native		factured gas plant												
	adow mat	-	GGM - greei	arev mud	-	UNDorg - organic undisturbed native dep	neite CCPW - chr	omate chemical production w												

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-DD7A

732.564.3200 office telephone

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611591.95 Drilling Method: 9822 Date Started Drilling: 5/2/2016 7:45:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683067.92 Date Finished Drilling: 5/2/2016 9:00:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: ES Depth to Water: NA Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 12.7 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **ASPHALT** Asphalt FILL Gravel sub-base P4-HSN-DD7A-1.5-2.0 FILL fine to medium SAND, little coal fragments, (7.5YR 4/2) dry brown, medium dense, dry, no odor, no staining. P4-HSN-DD7A-2.0-2.5 5 FILL Ash, some coal fragments, little to trace cinders, (7.5YR 5/1) drv gray, loose, dry, no odor, no staining. P4-HSN-DD7A-4.0-4.5 10.0 **FILL** Ash, some coal fragments, little cinders, (7.5YR 4/1) dark dry gray, loose, dry to moist, slight MGP-like odor, no staining. to moist P4-HSN-DD7A-6.0-6.5 P4-HSN-DD7A-7.0-7.5 40.0 FILL fine to coarse SAND, some coarse gravel, (5YR 2.5/1) black, wet 5 medium dense, wet moderate MGP-like odor, product **FILL** moist staining, sheen, water table at 7.0 ft bgs. P4-HSN-DD7A-8.0-8.5 15.0 **FILL** fine to coarse SAND, some coarse gravel, (5YR 4/3) reddish moist brown, moist, slight MGP-like odor, product staining. fine to medium SAND, (2.5Y 2.5/1) black, medium dense, moist, no odor, no staining. P4-HSN-DD7A-10 0-10 5 7.0 FILL wet Cinders, some fine to coarse sand, little fine gravel, (2.5Y 2.5/1) black, loose, wet moderate MGP-like odor, product wet **FILL** staining, sheen. 0.0 **FILL** saturated fine to medium SAND, some silt, little organic fibers, (7.5YR 3/2) dark brown, soft, wet, slight MGP-like odor, no staining, **FILL** wet 12 sheen. P4-HSN-DD7A-12.0-12.5 Ash, trace glass, (7.5YR 5/1) gray, loose, saturated, slight 5 MGP-like odor, no staining, sheen. fine to medium silty SAND, trace medium gravel, (5YR 4/3) 13 reddish brown, medium dense, wet, no odor, no staining. P4-HSN-DD7A-14.0-14.5 0.0 FILL fine to medium silty SAND, trace gravel, (5YR 4/3) reddish wet brown, medium dense, wet, no odor, no staining. P4-HSN-DD7A-15 5-16 0 dry PT PEAT, 80% organic fibers, 20% organic silt, (2.5YR 3/3) 16 1/ 1/ V dark reddish brown, firm, dry, slight organic odor, no staining. Soils consistent with MM. 11, 11, SP fine to coarse SAND, some organic fibers, (7.5YR 4/2) moist 5 brown, medium dense, moist, no odor, no staining. Soils moist SW consistent with UNDorg. fine to coarse SAND, some medium gravel, (2.5Y 5/2) grayish brown, medium dense, moist, no odor, no staining. Soils consistent with UNDno. 19 20 UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits bgs - below surface grade COPR - chromite ore processing residue MM - meadow mat GGM - green grey mud MGP - manufactured gas plant CCPW - chromate chemical production waste GGM - green grey mud

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-DD8A

	Number:					Drilling Method: Macrocores		AD83) x: 611578.92
			5/3/2016 8:			Rig Type: Core Size: 3.0 in		AD83) y: 683041.09
	nisnea Dr I By: Eric			9:20:00 AM		Project Manager: Scott Mikaelian	Boring Total Depth: Depth to Water: NA	
			ual - HSN [riojectivianager. Scottiviikaelian	Surface Elevation:	
	ar LUCALIO	ıı. ACI	uai - MOIN	וט			Jui lace Elevation:	12.0 IL INAVDO0
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickne	ess:	Sample ID
		0.0		ASPHALT		Asphalt and gravel sub-base.		
-1-			dry	FILL		fine to coarse SAND, little gravel, trace co dark brown, medium dense, dry, no odor,		P4-HSN-DD8A-0.5-1.0
-2— - -3—	4.5		dry	FILL		Ash, some coal fragments, trace wood, (2 loose, dry, no odor, no staining.	.5Y 5/1) gray,	P4-HSN-DD8A-2.0-2.5
-4-			dry	FILL		fine SAND, little ash, trace coal, (7.5YR 3 medium dense, dry, no odor, no staining.	/2) dark brown,	P4-HSN-DD8A-4.0-4.5
\exists				NR	 	NO RECOVERY		
-5		0.0	moist	FILL		Ash, some coal fragments, (2.5Y 5/1) gra odor, no staining.	y, loose, moist, no	
-6 -7	3.5							P4-HSN-DD8A-6.0-6.5
-8-		1.0	moist to wet	FILL		Cinders, little wood, trace gravel, (7.5YR 3 moist to wet, slight petroleum odor, product ft bgs, water at 8.0 feet bgs.		P4-HSN-DD8A-8.0-8.5
-9 				NR		NO RECOVERY		
-10		1.0	wot	ГП		Cindera little wood trace gravel (7 EVD)	2/2) dark brown	P4-HSN-DD8A-10.0-10.5
4		1.0	wet	FILL		Cinders, little wood, trace gravel, (7.5YR 3		T THEIR BBOTT TOTAL
-11			wet	FILL		Ash, (9.5/2.5Y_/1) white, loose, wet, sligh no staining, sheen.	t petroleum odor,	
-12 - -13 -	4.5	0.0	wet	FILL		silty SAND, little ash and gravel, (5YR 4/3 medium dense, wet, no odor, no staining,		P4-HSN-DD8A-12.0-12.5
-14								P4-HSN-DD8A-14.0-14.5
\dashv				NR	XXXX	NO RECOVERY		
15		0.0	wet	FILL			dium dense wet	
4		3.5	moist	FILL		no odor, no staining.		P4-HSN-DD8A-15.5-16.0
-16		2.5		PT	<u> </u>	Re-worked organic silt, little organics, (2.5	SY 2.5/1) black,	P4-HSN-DD8A-16.0-16.5
_ -17 -	5	2.0	dry	ГΙ		PEAT, 80% organic fibers, 20% organic s reddish brown, stiff, dry, slight organic odd Soils consistent with MM.		
-18 -		0.0	wet	SM		· LINDorg silty SAND little organics trace		
-19 -			wet	SM		consistent with UNDorg. UNDno, silty SAND, some gravel, (2.5Y 5 medium dense, wet, no odor, no staining.	/2) grayish brown,	
20					<u> </u>	with UNDno.		
	ow surface		COPR - chr GGM - gree		essing re	esidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native depos		ufactured gas plant omate chemical production w

Boring ID: P4-HSN-DD9A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611564.84 Drilling Method: Macrocore Date Started Drilling: 5/3/2016 9:30:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683013.2 Date Finished Drilling: 5/3/2016 10:30:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: Eric Stone Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 12.6 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **ASPHALT** Asphalt and gravel sub-base. fine to coarse SAND, little COPR (10%) and medium gravel, FILL dry (5YR 4/3) reddish brown, medium dense, dry, no odor, no P4-HSN-DD9A-1.0-1.5 dry FILL fine to medium SAND, some ash, little fine gravel, (7.5YR 4/2) brown, medium dense, dry, no odor, no staining. P4-HSN-DD9A-2.0-2.5 **FILL** dry 4.5 Ash, little coal fragments, (9.5/N) white, loose, dry, no odor, no staining P4-HSN-DD9A-4.0-4.5 FILL moist fine SAND, some wood, little coal fragments, (7.5YR 2.5/2) very dark brown, medium dense, moist, no odor, no staining. NR NO RECOVERY 0.0 slightly **FILL** fine to medium SAND, some to little ash, (7.5YR 4/2) brown, medium dense, slightly moist, no odor, no staining. moist P4-HSN-DD9A-6.0-6.5 **FILL** Ash, trace ceramics, (2.5Y 5/1) gray, loose, slightly moist to slightly moist wet, no odor, no staining, water at 7.5 feet bgs. 4.5 P4-HSN-DD9A-8.0-8.5 saturated **FILL** Ash, little cinders and fine gravel, (7.5YR 4/1) dark gray, loose, saturated, no odor, hydrocarbon staining, sheen 8.0-8.5 ft bgs. NO RECOVERY NR P4-HSN-DD9A-10 0-10 5 0.0 FILL Ash, some silty sand, little wood, (2.5Y 5/1) gray, medium wet dense, wet, no odor, no staining. FILL saturated sandy SILT, trace ash, (7.5YR 4/1) dark gray, very soft, 12 saturated, no odor, no staining. P4-HSN-DD9A-12.0-12.5 FILL saturated 5 sandy SILT, (7.5YR 4/2) brown, very soft, saturated, no odor, no staining. 13 P4-HSN-DD9A-14.0-14.5 0.0 saturated FILL sandy SILT, (7.5YR 4/2) brown, non plastic very soft, saturated, no odor, no staining. P4-HSN-DD9A-15 5-16 0 16 P4-HSN-DD9A-16.0-16.5 2.0 PEAT, 80% organic fibers, 20% organic silt, (5YR 3/2) dark dry PT reddish brown, stiff, dry, slight organic odor, no staining. 1, 11, Soils consistent with MM. 11, 11, 5 11/ 11, 11, 0.0 SM fine to coarse SAND, some silt, little organics, (2.5Y 5/2) wet 19 grayish brown, medium dense, wet, no odor, no staining. Soils consistent with UNDorg. 20

Notes:

bgs - below surface grade MM - meadow mat

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick

COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

A.GDT - 10/4/16 09:

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Boring ID: P4-HSN-DD10A

Page: 1

30 Knightsbridge Road, Piscataway, NJ 08854

Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611543.79 Drilling Method: direct push Date Started Drilling: 5/10/2016 8:30:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682995.96 Date Finished Drilling: 5/10/2016 9:52:00 AM Core Size: 3 in Boring Total Depth: 20 ft Logged By: ES Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 12.3 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **FILL** Asphalt and gravel sub-base. FILL fine to coarse SAND, little medium gravel, trace coal, (7.5YR dry 4/3) brown, dry, no odor, no staining. FILL fine to coarse SAND, little medium gravel, trace COPR dry (10%), coal and fill debris, (5YR 4/3) reddish brown, medium P4-HSN-DD10A-2.0-2.5 **FILL** dry 5 dense, dry, no odor, no staining. to Ash, little wood, trace coal and ceramics, (2.5Y 5/1) gray, moist loose, dry to moist, no odor, no staining. P4-HSN-DD10A-4.0-4.5 0.0 **FILL** Ash, some fine to medium sand, little fill debris, (2.5Y 5/1) dry gray, loose, dry, no odor, no staining. P4-HSN-DD10A-6.0-6.5 FILL Ash, little wood and fill debris, (7.5YR 4/1) dark gray, loose, moist to moist to wet, no odor, no staining, water at 7.0 feet bgs. wet 3.5 P4-HSN-DD10A-8.0-8.5 NO RECOVERY NR 0.0 FILL wet Ash, some fine sand, (7.5YR 4/1) dark gray, loose, wet, no odor, no staining. **FILL** fine to medium SAND, some silt, little fine to medium gravel, wet (5YR 4/3) reddish brown, medium dense, wet, no odor, no staining. 12 P4-HSN-DD10A-12.0-12.5 4.5 13 P4-HSN-DD10A-14.0-14.5 NO RECOVERY NR 0.0 FILL fine to medium SAND, little silt and fine gravel, (5YR 4/3) wet reddish brown, medium dense, wet, no odor, no staining. P4-HSN-DD10A-15 5-16 0 16 P4-HSN-DD10A-16.0-16.5 dry PT PEAT (degraded vegetated material), 80% organic fibers, 20% organic silt, (5YR 3/2) dark reddish brown, stiff, dry, 1, 11, slight organic odor, no staining. Soils consistent with MM. 11, 11, 5 1/ 1/1/ 1/ moist OL Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR 4/2) brown, medium stiff, moist, no odor, no staining. Soils consistent with UNDorg. 19 SP wet fine to coarse SAND, little fine to medium gravel, (2.5Y 5/1) gray, medium dense, wet, no odor, no staining. Soils consistent with UNDno. 20 COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits GGM - green grey mud UNDorg - organic undisturbed native deposits bgs - below surface grade MM - meadow mat

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick

MGP - manufactured gas plant CCPW - chromium chemical production waste

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-EE1A

7roiect	Number	60314	351.GA.DE	E BDI E∪B		Drilling Method: Direct Push	Coordinates (N ISDI	NAD83) x: 611696.59
				0:05:00 AM		Rig Type:		IAD83) y: 683215.41
			5/13/2016	10:50:00 AM		Core Size: 3.0 in	Boring Total Depth:	
	I By: HBE					Project Manager: Scott Mikaelian	Depth to Water: NA	
hysic	al Locatio	n: Act	ual - HSN F	DI	1		Surface Elevation:	11.0 ft NAVD88
Depth								_
Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thio	kness:	Sample ID
-1-		0.0	dry	FILL		DGA, (7.5YR 4/2) brown, loose, dry, n	o odor, no staining.	
-2 	3		moist	FILL		fine to medium sandy SILT, trace fine (5YR 4/3) reddish brown, medium den staining.	gravel and wood, se, moist, no odor, no	
-3— -4—				NR		NO RECOVERY		
-5— -6— -7—	5	4.0	moist	FILL		fine to medium sandy SILT, trace fine (5YR 4/3) reddish brown, medium den staining.	gravel and wood, se, moist, no odor, no	
-8 -9 -10			moist	FILL		SILT, trace black organic material, (7.5 medium dense, moist, slight MGP-like water at 8.0 feet bgs.		P4-HSN-EE1A-9.5-10.0
-11 -12 -13	4.5	9.0	moist	SP		fine SAND, (2.5Y 5/2) grayish brown, slight MGP-like odor, product staining. UNDno.	nedium stiff, moist, Soils consistent with	P4-HSN-EE1A-10.0-10.5
14			saturated	SP		fine to coarse SAND, little silt, (5YR 4/ medium dense, saturated, slight MGP- staining. Soils consistent with UNDno.		
-15 16 -17 -18	5	175	moist	NR SP		NO RECOVERY fine to medium SAND, some fine grave dark reddish brown, loose, moist, mode product staining. Soils consistent with	erate MGP-like odor,	
-19 -20			moist	SP		medium to coarse SAND, some fine to silt, (5YR 3/2) dark reddish brown, loos MGP-like odor, product staining. Soils UNDno.	se, moist, moderate consistent with	
20 _ -21	1		moist	GP		fine to coarse SAND, some medium gr 3/2) dark reddish brown, loose, moist, odor, product staining. Soils consistent	moderate MGP-like	
otes:	low surface	grade	COPR - chro	omite ore proc	essina re	esidue UNDno - non-organic undisturbed nativ	e deposits MGP - man	ufactured gas plant

AECOM

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Boring ID: P4-HSN-EE2A

Project	Number:	60314	351.GA.DI	E.PDI.FOR		Drilling Method: Geoprobe	Coordinates (NJSPI	NAD83) x: 611688.94
			5/6/2016 8:			Rig Type:		IAD83) y: 683186.74
				9:30:00 AM		Core Size: 3.0 in	Boring Total Depth:	
	By: EW		0/0/2010	5.00.00 7 W		Project Manager: Scott Mikaelian	Depth to Water: NA	
			ual - HSN F	וחפ			Surface Elevation:	
	Localio	/\\	uui - 1 1011 [וט			Juliace Lievation.	10.0 11 14/14/2000
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thick	kness:	Sample ID
		0.0		ASPHALT		ASPHALT and gravel sub-base.		
\dashv			dn.	FILL	XXXX	A	ium to cooree gravel	P4-HSN-EE2A-0.5-1.0
-1— - -2—			dry	FILL		fine to medium SAND, little silt and med (7.5YR 2.5/3) very dark brown, dry, no o	num to coarse graver, odor, no staining.	P4-HSN-EE2A-2.0-2.5
-3 -4	4.5							P4-HSN-EE2A-4.0-4.5
- 4				ND	\bowtie	NO DECOVEDY		-
-5-				NR		NO RECOVERY		1
-6 -		0.0		FILL		fine to medium SAND, some medium to silt, (7.5YR 4/3) brown, wet, no odor, no 7.5 feet bgs.	coarse gravel, trace staining, water at	P4-HSN-EE2A-6.0-6.5
-7 - -8	4 slightly FILL fine SAND, some ash, cinders and coal, (7.5YR 3/1) very						P4-HSN-EE2A-8.0-8.5	
-9			slightly moist			dark gray, slightly moist, no odor, no sta		
4				NR		NO RECOVERY		
-10								
-11 -12		0.0	wet	FILL		fine to medium SAND, some silt, (7.5YF odor, no staining.	R 4/3) brown, wet, no	P4-HSN-EE2A-10.0-10.5
_	5				\bowtie	8		
-13 - -14			moist	OL		Organic SILT, 30% organic fiber and 70 (7.5YR 2.5/3) very dark brown, moist, sl staining. Soils consistent with UNDorg.		P4-HSN-EE2A-12.5-13.0
٦				NR		NO RECOVERY]
-15 16 -17		87.0	wet	ML		fine sandy SILT, trace fine gravel, (7.5Y wet, no odor, no staining. Soils consister	R 4/1) dark gray, nt with UNDno.	
-18	4.5							
-19 -			wet	SP NR		medium SAND, some medium gravel, (7 brown, wet, strong MGP-like odor and s consistent with UNDno. NO RECOVERY		
20		67.8	wet	SP		medium SAND, some medium gravel, (7	7 5YR 3/2) dark	†
21	1					brown, wet, strong MGP-like odor and s consistent with UNDno.	taining, sheen. Soils	
					essing re	esidue UNDno - non-organic undisturbed native		ufactured gas plant
	adow mat		GGM - gree		J	UNDorg - organic undisturbed native dep		

Boring ID: P4-HSN-EE3A

	Name: F			E.PDI.FOR		Drilling Company: SGS North America Drilling Method: Direct Push	Coordinates (N ISDI	NAD83) x: 611672.96						
				10:55:00 AM		Rig Type:	1	IAD83) y: 683162.17						
						Core Size: 2.5 in								
		illing:	4/29/2016	6 12:30:00 PN			Boring Total Depth:							
	By: MI	m. A.t	ual LICK!			Project Manager: Scott Mikaelian	Depth to Water: NA Surface Elevation:							
riysica	ıı Locatio	ıı. Act	ual - HSN I	וטי	1		Surface Elevation:	13.9 IL INAVD88						
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thick	kness:	Sample ID						
		0.0		ASPHALT		ASPHALT and gravel sub-base.								
-1-			slightly moist	FILL		CINDERS, some fine gravel, (5YR 2.5/moist, no odor, no staining.	1) black, slightly	P4-HSN-EE3A-1.1-1.6						
-2 - -3	5			= 11.			1 (40)(D 4(0)	P4-HSN-EE3A-2.0-2.5						
-4- -			slightly moist	FILL		fine to medium SAND, some silt, little fi dark grayish brown, slightly moist, no od		P4-HSN-EE3A-4.0-4.5						
-5		0.0	slightly moist	FILL		fine SAND, some silt, little wood with cr gravel, (10YR 4/2) dark grayish brown,		_						
-6						no odor, no staining.		P4-HSN-EE3A-6.0-6.5						
-7— - -8—	4		moist	FILL		fine to medium SAND, some silt, trace the 4/2) dark grayish brown, moist, no odor	ine gravel, (10YR , no staining.	P4-HSN-EE3A-8.0-8.5						
-9				NR		NO RECOVERY		_						
10		0.0	wet	FILL		silty fine SAND, trace fine gravel, (7.5Y wet, no odor, no staining, water at 10.0		P4-HSN-EE3A-10.0-10.5						
-11									moist	FILL		SILT, trace fine sand, cinders and organ dark brown, soft, moist, no odor, no stai		P4-HSN-EE3A-11.5-12.0
13-	5		slightly moist	OL		SILT, (90% organic silt, 10% organic filt dark brown, medium stiff, slightly moist, no staining. Soils consistent with UNDo	slight organic odor.	P4-HSN-EE3A-12.0-12.5						
-14				NR		NO RECOVERY								
15		0.0	moist	OL	===	UNDorg SILT, (80% organic silt, 20% o (7.5YR 3/2) dark brown, moist, slight or		_						
-16 			moist	ML		staining. Soils consistent with UNDorg. sandy SILT, trace fine gravel and organ yellowish brown, moist, no odor, no stai with UNDno.	ics, (10YR 5/6)							
18 -	3.5		wet	SP		fine to medium SAND, some fine to me 4/3) reddish brown, dense, wet, no odor consistent with UNDno.		-						
_ -19				NR		NO RECOVERY		-						
20														
					essing re	esidue UNDno - non-organic undisturbed native		ufactured gas plant						
	adow mat		GGM - gree obtain best recov		med to be 1	UNDorg - organic undisturbed native dep ft thick 3) No CCPW (COPR or GGM) present in any interval of this bor		romate chemical production						

AECOM

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-EE4A

	Name: F Number:			E.PDI.FOR		Drilling Company: SGS North America Drilling Method: Geoprobe	Coordinates (NJSPN	IAD83) x: 611660.78
				9:10:00 AM		Rig Type:	Coordinates (NJSPN	
				3 10:30:00 AN	1	Core Size: 3.0 in	Boring Total Depth:	
	By: ES	9'	0010			Project Manager: Scott Mikaelian	Depth to Water: NA	
		n: Act	ual - HSN [PDI		g communication	Surface Elevation:	
	554110	, ιοι	11011					
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickne	ess:	Sample ID
		138	dry	ASPHALT		ASPHALT and gravel sub-base		
\dashv			,					
-1-								
·								
_			dry	FILL	\bowtie	fine to coarse SAND, trace rounded gravel	, (9/2.5Y_/2) very	P4-HSN-EE4A-1.5-2.0
-2-					\bowtie	pale yellow, dry, no odor, no staining.		
\dashv	4				\bowtie	X		
-3-					\bowtie	X		
					\bowtie			
. 7			slightly	FILL		fine to coarse SAND, some ash, trace coa		
-4			moisť	NR	XXXX	gray, medium dense, slightly moist, slight p	petroleum odor, no /	
\dashv						\staining.	/	
-5-		700				NO RECOVERY		
١		729	dry	FILL	\bowtie	fine to coarse SAND, little ash and brick, (
_ 7					\bowtie	medium dense, dry, slight petroleum odor,	no staining.	
-6-			slightly	FILL		fine to coarse SAND, some ash, trace coa	I. (7.5YR 4/2)	
- 4			moist	1 ILL	\bowtie	brown, medium dense, slightly moist to mo		
_7—					\bowtie	petroleum odor, product staining.	, · J	
.	3.5				\bowtie	8		
	3.0				\bowtie	×		
-8-		617			\bowtie	×		P4-HSN-EE4A-8.0-8.5
4		"		ND		NO PEOOLESY		
_9				NR		NO RECOVERY		
9								
-10		200	wet	FILL		Ash, some fine to coarse sand, little coal fr	ragmente trace	
- 4		200	wet	FILL	\bowtie	glass, (5Y 5/1) gray, loose, wet, strong pet		
-11					\bowtie	product staining, sheen, water at 10.0 feet		
''		145			\bowtie	product stammig, criscin, mater at 1010 1001	. ~9c.	
· -			moist	FILL		fine to coarse SAND, some silt, trace coars	se gravel (5R 5/2)	
-12		21			\bowtie	weak red, medium dense, moist, moderate		P4-HSN-EE4A-12.0-12.5
	5	- '				product staining, sheen.		
-13					\bowtie	X		
13			slightly	FILL	\bowtie	fine to coarse SAND, little silt, trace glass,	(7.5YR 4/2)	
			moist		\bowtie	brown, dense, slightly moist, slight petrole	um odor, no	
-14					\bowtie	staining.		P4-HSN-EE4A-14.0-14.5
- 4					\bowtie	8		
-15 -					\bigotimes	X		
.		160	wet	FILL	\bowtie	Silt, trace ash, (5R 5/4) weak red, soft, we	t, strong	
7			moist	FILL		petroleum odor, product staining, sheen.	\ aray madium	P4-HSN-EE4A-15.5-16.0
-16			slightly	PT	<u> </u>	Ash, some fine to medium sand, (2.5Y 5/1 dense, moist, strong petroleum odor, produ		P4-HSN-EE4A-16.0-16.5
4			moist		1, 11,	dense, moist, strong petroleum odor, produ	uoi siaiinily,	
_17					<u> </u>	PEAT (degraded vegetated material), 80%	organic fibers and	
	5		slightly	OL	\vdash	20% organic silt, (7.5YR 3/3) dark brown,	slightly moist, /	
			moist		<u> </u>	strong organic odor. Soils consistent with I	MM. /	
-18					<u> </u>	silt, trace sand and organics, (7.5YR 4/2) I		
4			all all all	00		moist, slight organic odor, no staining. Soil	s consistent with	
-19			slightly moist	SP	::::::	UNDno. fine to medium SAND, some coarse grave	L (5YR 4/3)	
.			muist		: ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	reddish brown, slightly moist, no odor, no s		
_ 7						consistent with UNDno.	J	
20						•]		
lotes:								
	au aufaca	grade	COPR - chr	omite ore proc	essing r	esidue UNDno - non-organic undisturbed native de	posits MGP - manu	factured gas plant
	adow mat		GGM - gree	n arou mil		UNDorg - organic undisturbed native deposit	to CCDM -1	omate chemical production wa

Project Name: PPG Garfield Ave

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-EE5A

Page: 1

Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: macrocore Coordinates (NJSPNAD83) x: 611646.01 Date Started Drilling: 4/29/2016 12:35:00 PM Ria Type: Coordinates (NJSPNAD83) v: 683108.49

Drilling Company: SGS North America

			12:35:00 PM		Rig Type:		NAD83) y: 683108.49
Date Finished		4/29/2016	3 2:00:00 PM		Core Size: 3.0 in	Boring Total Depth	
ogged By: E			201		Project Manager: Scott Mikaelian	Depth to Water: N	
hysical Loca	ion: Act	ual - HSN I	וטי	1		Surface Elevation:	13.9 ft NAVD88
Depth lange t bgs)	ry PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Tr	nickness:	Sample ID
	0.0		ASPHALT		ASPHALT and gravel sub-base		
-1		dry	FILL		Cinders, some fine to medium sand, (7.5YR 4/1) dark gray, medium dense staining.		P4-HSN-EE5A-0.5-1.0
5							P4-HSN-EE5A-2.0-2.5
							P4-HSN-EE5A-4.0-4.5
-5 - -6- -	0.0	wet	FILL		Sandy Silt, trace fill, (5YR 4/3) reddis medium dense, wet, no odor, no stair ft bgs.		P4-HSN-EE5A-5.0-5.5
5 -8		dry	FILL		fine to medium SAND, trace organics gray, medium stiff, dry, slight petrolet	s, (7.5YR 4/1) dark um odor, no staining.	
10				\boxtimes			
	160	moist	FILL		fine to medium SAND, some medium brown, medium dense, moist, no odo		
11—					· · · · · · · · · · · · · · · · · · ·	<u> </u>	B4 11011 FF54 44 0 44 5
12—		saturated	FILL		Ash, some cinders, trace wood, (7.5) saturated, moderate petroleum odor,		P4-HSN-EE5A-11.0-11.5
13—		wet	FILL		Sandy Silt, little fine gravel, trace fill, loose, wet, no odor, no staining.	(7.5YR 4/2) brown,	P4-HSN-EE5A-13.0-13.5
15	0.0	saturated	FILL		Sandy Silt, little wood, (7.5YR 4/2) br	rown soft saturated to	
\dashv	0.0	to	I ILL		wet, no odor, no staining.	own, son, saturated to	P4-HSN-EE5A-15.5-16.0
16— — 17—		wet dry	PT	\(\frac{\lambda}{\lambda}\)		nic silt, (5YR 3/2) dark c odor, no staining.	P4-HSN-EE5A-16.0-16.5
18 -		wet	SM		fine to coarse SAND, little silt and fine trace organics, (2.5Y 5/2) grayish browet, slight organic odor, no staining. UNDorg.	own, medium dense,	
19— — 20———					-		
otes: ps - below surfa M - meadow ma		COPR - chr GGM - gree		essing r	sidue UNDno - non-organic undisturbed nati UNDorg - organic undisturbed native o	ive deposits MGP - mai	nufactured gas plant hromate chemical production w

Boring ID: P4-HSN-EE6A

Project	Number:	60314	:351 GA DF	EPDI FOR	I	Drilling Method: Direct Push	Coordinates (N.18PF	IAD83) x: 611633.2192
			5/2/2016 7:			Rig Type:		AD83) y: 683081.88
	nished Dr			30.00 AIVI		Core Size: 2.5 in	Boring Total Depth:	
ogged		iiiiig.	3/2/2010			Project Manager: Scott Mikaelian	Depth to Water: NA	
		. Λ ot	ual LICNIT	DI		Project Manager: Scott Mikaelian		
rnysica	ai Locatio	ıı: ACt	ual - HSN F	וטי	1	1	Surface Elevation:	12.9 π INAVD88
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickr	ness:	Sample ID
-1 -1			moist	FILL		ASH, some cinders, (5YR 2.5/1) black, lo creosote odor and staining.	pose, moist,	P4-HSN-EE6A-0.0-0.5
-3 -4	5							P4-HSN-EE6A-2.0-2.5
-5 -6 -7	4	49 7.7	slightly moist	FILL		ASH, some cinders and creosote stained trace glass, (7.5YR 4/1) dark gray, loose creosote odor.	wood fragments, slightly moist,	P4-HSN-EE6A-6.0-6.5
-8- - -9	·			NR		NO RECOVERY		P4-HSN-EE6A-8.0-8.5
10			moist	FILL		fine SAND, little silt, trace fine gravel, cin fragments, (5YR 2.5/1) black, loose, moi odor, petroleum staining.	ders and wood st, slight petroleum	P4-HSN-EE6A-10.0-10.5
-12 - -13	5							P4-HSN-EE6A-12.0-12.5
					\bowtie	X		P4-HSN-EE6A-13.0-13.5
-14			moist	PT	<u> </u>	organic odor no etaining Soile consister	n, soft, moist, slight	P4-HSN-EE6A-13.5-14.0
15			moist	SP-SM		fine to medium SAND, little fine to mediu 5/6) yellowish brown, loose, moist, no od Soils consistent with UNDno.		
lotes: gs - belo	ow surface	grade	COPR - chro	omite ore prod	cessing re	esidue UNDno - non-organic undisturbed native o UNDorg - organic undisturbed native depo	leposits MGP - manu	ufactured gas plant omate chemical production wa

Boring ID: P4-HSN-EE7A

Project	Number:	60314	1351.GA.DE	PDI.FOR		Drilling Method: direct push	Coordinates (NJSPN	IAD83) X: 611620.5
				0:55:00 AM		Rig Type:		AD83) y: 683055.78
				12:30:00 PI		Core Size: 3 in	Boring Total Depth:	
	By: ES	g.	-: <u>-</u> 0 10		-	Project Manager: Scott Mikaelian	Depth to Water: NA	
		n: Act	ual - HSN F	PDI			Surface Elevation:	
		,						12.3 1.1.2 1.2 00
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	c Surface Cover and Thickn	ess:	Sample ID
_ -1 -2	4.5	0.0	dry	FILL		fine to medium SAND, little organics, trac and ash, (7.5YR 4/2) brown, medium der no staining.		P4-HSN-EE7A-0.0-0.5
-3 -4	4.5		dry	FILL		Ash, trace coal, (9.5/2.5Y_/1) white, loos staining.	e, dry, no odor, no	P4-HSN-EE7A-4.0-4.5
\dashv				NR	 	NO DECOVEDY		
-5-		0.0			 	NO RECOVERY		
-6 -7 -	3.5	0.0	moist to wet	FILL		Ash, trace wood and glass, (5Y 5/1) gray, wet, no odor, no staining, water at 7.0 fee	loose, moist to	P4-HSN-EE7A-6.0-6.5
-8-					\bowtie	8		P4-HSN-EE7A-8.0-8.5
4					\bowtie	<u> </u>		
-9 -10				NR		NO RECOVERY		
-11 -12		0.0	wet	FILL		Ash, some fine to medium sand, (2.5Y 5/ no odor, no staining.	1) gray, loose, wet,	P4-HSN-EE7A-10.0-10.5
-13 14	5							P4-HSN-EE7A-12.0-12.5
-								P4-HSN-EE7A-14.0-14.5
-15		0.0	wet	FILL		Ash, (7.5YR 5/1) gray, loose, wet, no odo	r, no staining.	P4-HSN-EE7A-15.0-15.5
-16 -17			dry	PT	\(\frac{\frac}\firi}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac	20% organic silt, (5YR 3/2) dark reddish slight organic odor, no staining. Soils con	brown, stiff, dry,	P4-HSN-EE7A-15.5-16.0
\dashv	5				<u> </u>			
-18			oliab#h.	01	+===		onio fiboro (7 EVD	
4			slightly moist	OL		Organic SILT, 70% organic silt, 30% orga: 4/2) brown, slightly moist, slight organic o	anic libers, (7.51K	
_19			wet	SP		Soils consistent with UNDorg.	aor, no stanning.	
19						fine to medium SAND, little fine to medium grayish brown, medium dense, wet, no or		
20					<u> 1949, C</u>	Soils consistent with UNDno.		
	ow surface		COPR - chro		essing r	esidue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo		ufactured gas plant omate chemical production w

Boring ID: P4-HSN-FF0

Page: 1

roject Na	ame: P	PG Ga	rfield Ave			Drilling Co	mpany:	SGS	North Ame	erica			rage.
				E.PDI.FOR		Drilling Me							D83) x: 611736.63
				12:00:00 PM		Rig Type:					Coordinates (NJSF		
		lling:	4/28/2016	3 2:00:00 PM		Core Size:			Aileanline		Boring Total Depth		0 ft
ogged By		. Act	ual - HSN I	וחס		Project Mai	nager:	Scott	/likaellan		Depth to Water: No Surface Elevation		7 ft NIA1/D00
epth Re	ecovery	PID (ppm)	Moisture	USCS	Graphi Log	С		Surfac	e Cover ar	nd Thickne		. 13	Sample ID
-		0.0		ASPHALT		ASPHA	ALT and	d gravel	sub-base.				
-1— -2— -3—	4		moist	FILL		and cir		7.5YR 2			im gravel, little ash n, dense, moist,		P4-HSN-FF0-1.0-1.5
-4				NR		NO RE	ECOVER	RY				_	1 4-1 1014-1 1 0-0.0-0.0
-													
-5 -6 -7		23.4	moist	FILL			nders, (7				ım gravel, little ash e, moist, no odor,		P4-HSN-FF0-5.0-5.5
. 4	5												P4-HSN-FF0-7.0-7.5
8-			moist	FILL							k fragments, odor, no staining.	_	
9—						(7.515	(3/2) ua	aik biow	ii, ueiise,	moist, no	odor, no stairing.		P4-HSN-FF0-9.0-9.5
10		262	moist to wet	FILL		brown,	, soft, m	oist to v		petroleun	10YR 5/2) grayish n odor, product		
11—	5						,	,					P4-HSN-FF0-11.0-11.5
13					\bowtie	8							P4-HSN-FF0-13.0-13.5
4				SM		reddish	h brown,	, loose,		g petroleu	silt, (5YR 4/3) m odor, petroleum		P4-HSN-FF0-13.5-14.0
5 - 6 - 17			wet to saturated	SP-SM		reddish	h brown,	, loose,	, trace fine wet to satus consister	urated, slig	e gravel, (5YR 4/4) ght petroleum IDno.		
 8 	5												
20												_	
tes: s - below				omite ore proc	essing r				undisturbe		posits MGP - ma	anufac	ctured gas plant
l - meado ments: 1) 3 a			GGM - gree obtain best recov	n grey mud ery 2) MM/UND confir	med to be 1				listurbed na ent in any interva		its CCPW - C	nrom	ate chemical production wa

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/4/16 09:25

Boring ID: P4-HSN-FF1A

Project	Number:	60314	351.GA.DE	E.PDI.FOR		Drilling Method: Direct Push	Coordinates (NJSP)	NAD83) x: 611727.56
				3:50:00 AM		Rig Type:		AD83) y: 683202.46
				9:45:00 AM		Core Size: 2.5 in	Boring Total Depth:	
	By: MI					Project Manager: Scott Mikaelian	Depth to Water: NA	
		n: Act	ual - HSN F	PDI			Surface Elevation:	
	u. 200ui.0	7.00	uai 11011	<u> </u>			Garrago Elovationi	111111111111111111111111111111111111111
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Th	nickness:	Sample ID
_		0.0		ASPHALT		ASPHALT and gravel sub-base.		
-1 -2 -3	4		moist	FILL		ASH, some fine to medium sand and fragments, (10YR 4/2) dark grayish bodor, no staining.		P4-HSN-FF1A-1.0-1.5
-4-				NR		NO RECOVERY		
-5		0.0	moist	FILL		ASH, some fine sand, little silt and cill fragments, (10YR 5/2) grayish brown no staining.		P4-HSN-FF1A-5.0-5.5
-7	3							P4-HSN-FF1A-6.0-6.5
-8 -9				NR	****	NO RECOVERY		P4-HSN-FF1A-8.0-8.5
-10 -			moist	FILL		fine SAND, little silt, trace organics, of fragments, (7.5YR 3/3) dark brown, r	inders and wood noist, moderate	P4-HSN-FF1A-10.0-10.5
-11					\bowtie	petroleum odor, product staining.		P4-HSN-FF1A-10.8-11.3
-12 -13 -14	5	126	wet	ML		SILT, little fine sand, trace fine grave yellowish brown, soft, wet, moderate staining, sheen, water at 11.3 feet bg UNDno.	petroleum odor, product	P4-HSN-FF1A-11.3-11.8
15	5	21	saturated	SP-SM		fine to medium SAND, little interbedd (5YR 3/4) dark reddish brown, loose, petroleum odor, no staining. Soils cor	saturated, slight	
-20 - -21	1	3	saturated	SP-SM		fine to medium SAND, little gravel, (5 brown, loose, saturated, slight petrole Soils consistent with UNDno.		
ĬM - me	adow mat		GGM - greei	n grey mud		esidue UNDno - non-organic undisturbed nati UNDorg - organic undisturbed native of ft thick 3) No CCPW (COPR or GGM) present in any interval of this	deposits CCPW - chr	ufactured gas plant romate chemical production w

AECOM

Boring ID: P4-HSN-FF1B

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611761.59 Drilling Method: Geoprobe Date Started Drilling: 5/6/2016 9:40:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683256.71 Date Finished Drilling: 5/6/2016 10:50:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Depth to Water: NA Logged By: EW Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 13.6 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** ASPHALT and gravel sub-base. P4-HSN-FF1B-1.0-1.5 dry FILL fine to medium SAND, little medium gravel, (7.5YR 2.5/3) very dark brown, dry, no odor, no staining. P4-HSN-FF1B-2.0-2.5 CINDERS, little ash and fine gravel, (5YR 5/8) yellowish red, dry **FILL** 4.5 dry, no odor, no staining. fine to medium SAND, little fine gravel, (7.5YR 3/2) dark dry FILL brown, dry, no odor, no staining FILL dry CINDERS, little ash and fine gravel, (5YR 5/8) yellowish red, FILL dry dry, no odor, no staining P4-HSN-FF1B-4.0-4.5 fine to medium SAND, little silt and fine gravel, (7.5YR 4/3) brown, dry, no odor, no staining. NR NO RECOVERY 0.0 **FILL** dry medium SAND, trace ceramics and brick, (7.5YR 3/2) dark brown, dry, no odor, no staining. P4-HSN-FF1B-6.0-6.5 slightly **FILL** fine SAND, trace ceramics, (7.5YR 2.5/3) very dark brown, 4.5 moist slightly moist, no odor. **FILL** fine silty SAND, (7.5YR 4/2) brown, wet, no odor, no wet P4-HSN-FF1B-8.0-8.5 staining, water at 8.0 feet bgs. NO RECOVERY NR P4-HSN-FF1B-10 0-10 5 0.0 FILL sandy SILT, (7.5YR 4/2) brown, wet, no odor, no staining. wet P4-HSN-FF1B-11 5-12 0 12 P4-HSN-FF1B-12.0-12.5 SP-SM fine to medium SAND, some medium to coarse gravel, (5YR wet 4 4/3) reddish brown, wet, no odor, no staining. Soils consistent with UNDno. 13 NR NO RECOVERY 0.0 saturated SP-SM fine to medium SAND, some silt, (5YR 4/3) reddish brown, saturated, no odor, no staining. Soils consistent with UNDno. 16 19 NO RECOVERY NR 0.0 saturated SP-SM fine to medium SAND, some silt, (5YR 4/3) reddish brown, 1 saturated, no odor, no staining. Soils consistent with UNDno. -21

Notes

A.GDT - 10/4/16 09:

RA PPG LOGS

2012-09

MGP - manufactured gas plant CCPW - chromate chemical production waste

Comments: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

Boring ID: P4-HSN-FF2A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611712.58 Date Started Drilling: 4/29/2016 10:00:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683174.66 **Date Finished Drilling:** 4/29/2016 10:50:00 AM Core Size: Boring Total Depth: 20 ft Depth to Water: NA Logged By: MI Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 14.3 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** ASPHALT and gravel sub-base. P4-HSN-FF2A-1.0-1.5 slightly FILL fine to medium SAND, some ash and cinders, trace concrete and brick, (10YR 5/2) grayish brown, soft, slightly moist, no moist odor, no staining. P4-HSN-FF2A-2.0-2.5 5 P4-HSN-FF2A-4.0-4.5 0.0 slightly **FILL** fine to medium SAND, some concrete and brick, trace cinders, (5YR 3/4) dark reddish brown, loose, slightly moist, moist no odor, no staining. P4-HSN-FF2A-6.0-6.5 3 P4-HSN-FF2A-8.0-8.5 NO RECOVERY NR P4-HSN-FF2A-10 0-10 5 0.0 FILL wet medium SAND. little interbedded brown silt and fine sand. trace brick, concrete and fine gravel, (5YR 4/4) reddish moist FILL brown, loose, wet, no odor, no staining, water at 10.0 feet SILT, trace fine sand, cinders and organics, (7.5YR 3/4) dark brown, moist, no odor, no staining. 12 P4-HSN-FF2A-11.9-12.4 OL moist SILT, (80% organic silt, 20% organic fibers), (7.5YR 2.5/2) 3.5 ML P4-HSN-FF2A-12.4-12.9 moist very dark brown, moist, slight organic odor, no staining. Soils to consistent with UNDorg. 13 P4-HSN-FF2A-12.9-13.4 wet sandy SILT, trace fine to medium gravel, (10YR 5/6) yellowish brown, soft, moist to wet, some mottling. Soils NR consistent with UNDno. NO RECOVERY 0.0 MI sandy SILT, trace fine to medium gravel, (10YR 5/6) moist yellowish brown, soft, moist to wet, no odor, no staining. to Soils consistent with UNDorg. wet 16 SP fine to medium SAND, trace fine gravel, (5YR 4/3) reddish wet 3 brown, loose, wet to saturated, no odor, no staining. Soils to saturated consistent with UNDno. NR NO RECOVERY 19 20

2012-09 RA PPG LOGS Notes:

A.GDT - 10/4/16 09:

bgs - below surface grade COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits MM - meadow mat GGM - green grey mud UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

Boring ID: P4-HSN-FF2B

oject te S	tarted Dril	60314 ling: 5	351.GA.DI 5/13/2016	E.PDI.FOR 10:50:00 AM 3 12:30:00 PM	F	Orilling Company: SGS North America Orilling Method: Direct Push Rig Type: Core Size: 3.0 in	-	NAD83) x: 611768.06 NAD83) y: 683282.43
	d By: HBE		0/10/2010	7 12.00.00 1 11		Project Manager: Scott Mikaelian	Depth to Water: NA	
sic	al Locatio	n: Act	ual - HSN [PDI		-	Surface Elevation:	10.8 ft NAVD88
oth nge gs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thick	ness:	Sample ID
		0.0	dry	FILL	\bowtie	DGA, (7.5YR 4/2) brown, dry, no odor, n	o staining.	
_			moist	FILL		fine to medium SAND, trace fine gravel, brown, medium dense, moist, no odor, no		P4-HSN-FF2B-0.5-1.0
	4.5		moist	FILL		fine silty SAND, little fine gravel, (7.5YR dense, moist, no odor, no staining.	4/2) brown, medium	P4-HSN-FF2B-2.0-2.5 P4-HSN-FF2B-4.0-4.5
_				NR	XXXXXX	NO RECOVERY		
		0.0	moist	FILL		fine silty SAND, little fine gravel, (7.5YR	4/2) brown, medium	1
_			moist	FILL		dense, moist, no odor, no staining. fine to coarse SAND, some medium grav reddish brown, medium dense, moist, no water at 6.0 feet bgs.		
	4.5		moist	FILL		fine SAND, (7.5YR 5/2) brown, medium	dense, moist, no	P4-HSN-FF2B-7.0-7.5
_			moist	SP-SC		odor, no staining. fine SAND, some silt, (5YR 4/3) reddish dense, moist, no odor, no staining. Soils UNDno.		P4-HSN-FF2B-7.5-8.0
)——				NR		NO RECOVERY		
- - - - -	4.5	0.0	moist	SP-SC		fine to coarse SAND, some fine to mediu reddish brown, medium dense, moist, no Soils consistent with UNDno.	odor, no staining.	
, 			wet	SP-SC		fine to coarse SAND, trace medium grav reddish brown, loose, wet, no odor, no st consistent with UNDno.		
				NR		NO RECOVERY]
5 — - 5 — - 7—		0.0	wet	SP-SC		fine to coarse SAND, trace medium grav reddish brown, loose, wet, no odor, no st consistent with UNDno.		
_ 	5							
s:	low surface				V. Y - A			

PPG - 2012-09 RA PPG_LOGS_A.GDT - 10/4/16 09:25

Comments: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-FF3A

Project	t Number:	<u>60240</u>	0739			Drilling Method: direct push	Coordinates (NJSPI	NAD83) x: 611700.417
			12/1/2016 1	1:50:00 AM		Rig Type:		IAD83) y: 683157.315
			12/1/2016			Core Size: 3.0 in	Boring Total Depth:	
	d By: Eric					Project Manager: Scott Mikaelian	Depth to Water: 5	
			ual - HSN P	PDI			Surface Elevation:	14.1 ft NAVD88
		,						
Depth Range it bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickne	ess:	Sample ID
		0.0		FILL		Asphalt and gravel sub-base		
_	1		dry	FILL		fine to medium SAND, some fill debris, (7.	5YR 4/3) brown	P4-HSN-FF3A-0.5-1.0
-1	-		",		\bowtie	medium dense, dry, no odor, no staining.	orre no) brown,	
_					\bowtie	3		
_ 2					\bowtie			
	5				$\otimes \otimes \otimes$	3		P4-HSN-FF3A-2.0-2.5
_					$\otimes \otimes \otimes$	×		
-3	1					×		
_						×		
_1						×		
7					\bowtie	X		P4-HSN-FF3A-4.0-4.5
_	1				\bowtie			
-5		606	moist	FILL		fine to medium SAND, some ash, little fine	a gravel and	+
_			1110131	, ILL	\bowtie	concrete debris, (7.5YR 4/3) brown, mediu		
-6					\bowtie	slight gasoline-like odor, no staining, water		DATION FEO.
_]					3		P4-HSN-FF3A-6.0-6.5
						8		
-7	1					3		
-	3.5				\bowtie	×		
-8					XXXX			P4-HSN-FF3A-8.0-8.5
_]		moist	FILL	\longrightarrow	SILT, little fine sand and ash, (7.5YR 4/3)	brown, soft, moist,	F4-HON-FF3A-0.U-8.5
0				NR		no odor, no staining. NO RECOVERY		
9								
_	1							
-10		95.7	wet	FILL		fine to medium silty SAND, little fine grave	l and fill dehrie	P4-HSN-FF3A-10.0-10.5
_	-		WCL	I ILL	\bowtie	(5YR 4/4) reddish brown, medium dense,		
-11					\bowtie	staining.		
]							
40								P4-HSN-FF3A-11.5-12.0
-12	5		dry	OL	F===	Organic SILT, 60% organic fibers, 40% or	ganic silt, (7.5YR	P4-HSN-FF3A-12.0-12.5
_	9				H	3/3) dark brown, soft, dry slight organic od	or, no staining.	
-13						Soils consistent with UNDorg.		
_					[
-14]				F	4		
					H	4		P4-HSN-FF3A-14.0-14.5
					<u> </u>	1		
-15 		0.0	wet	SM		fine silty SAND, some organic fibers, (2.5)	Y 5/2) gravish	1
_	1					brown, medium dense, wet, no odor, no st	aining. Soils	
-16						consistent with UNDorg.		P4-HSN-FF3A-16.0-16.5
_						4		1 4 11014-11 0/4-10.0*10.0
_17]					.]		
17	5					:		
_						.}		
–18 –	1		wet	SP		fine to medium SAND, little fine to mediun	n gravel (7.5YR	P4-HSN-FF3A-18.0-18.5
_	-		VVCt	Oi		4/3) brown, medium dense, wet, no odor,		
-19				0		consistent with UNDno.	_	-
_]		wet	SW		fine to coarse SAND, some fine to mediun		
200						 reddish brown, dense, wet, no odor, no sta consistent with UNDno. 	aining. Soils	
-20	4	0.0			*****	CONSISTENT WITH CINDING.		P4-HSN-FF3A-20.0-20.5
_	. 1							
-21					, · · · · · · · · · · · · · · · · · · ·	1		
lotes:	low ourfor-	arada	CODD ab	mito oro n		oriduo LINDao non organio undisturbod settive de	nosito MOD	ifactured and plant
	low surface eadow mat		GGM - greer		cessing r	esidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native depos		ufactured gas plant romate chemical production wa

Boring ID: P4-HSN-GG0

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611766.63 Date Started Drilling: 5/12/2016 7:10:00 AM Coordinates (NJSPNAD83) y: 683224.56 Rig Type: Date Finished Drilling: 5/12/2016 8:45:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Logged By: HBB Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 13.9 ft NAVD88 Depth Recovery PID Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0 **ASPHALT** Asphalt and gravel sub-base. P4-HSN-GG0-0.5-1.0 **FILL** fine to coarse SAND, trace coal, brick and cinders, (7.5YR dry to 3/1) very dark gray, dense, dry to moist, no odor, no staining. moist 5 P4-HSN-GG0-2.5-3.0 **FILL** Ash, (5Y 5/1) gray, loose, moist, slight petroleum odor, no moist staining P4-HSN-GG0-4 5-5 0 4 moist **FILL** fine to medium SAND, some fine to medium gravel, trace ash, concrete and fill debris, (7.5YR 4/2) brown, medium dense, moist, slight petroleum odor, no staining. P4-HSN-GG0-6.5-7.0 4 P4-HSN-GG0-8.5-9.0 FILL fine to medium silty SAND, trace ash, concrete and fill debris, (7.5YR 4/2) brown, medium dense, moist to wet, no NR odor, no staining, water at 8.5 feet bgs. 50 FILL sandy SILT, (7.5YR 4/2) brown, medium dense, wet, slight wet petroleum odor, no staining. P4-HSN-GG0-10.5-11.0 12 5 P4-HSN-GG0-12.5-13.0 saturated **FILL** fine to medium silty SAND, trace fine gravel, (5YR 4/3) 13 reddish brown, medium dense, saturated, moderate P4-HSN-GG0-13.0-13.5 SP saturated petroleum odor, product staining, sheen. fine to medium SAND, (5YR 4/3) reddish brown, medium dense, saturated, slight petroleum odor, no staining. Soils consistent with UNDno. 10 fine to medium SAND, (5YR 4/3) reddish brown, medium SP wet dense, wet, no odor, no staining. Soils consistent with UNDno. 16 5 19 0 SP fine to coarse SAND, (5YR 4/3) reddish brown, medium 1 dense, wet, no odor, no staining. Soils consistent with UNDno. -21

A.GDT - 10/4/16 09:

RA PPG LOGS

2012-09

MGP - manufactured gas plant CCPW - chromate chemical production waste

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-GG1A

Project	Number:	60240)739			Drilling Method: direct push	Coordinates (NJSPN	IAD83) x: 611750.212
			12/1/2016 9	:20:00 AM		Rig Type:		AD83) y: 683191.412
			12/1/2016			Core Size: 3.0 in	Boring Total Depth:	
	By: Eric			10.00.00 /		Project Manager: Scott Mikaelian	Depth to Water: 5	2111
				וחי		Froject manager. Scott Mikaelian	Surface Elevation:	14 2 ft NIAV/D00
rnysica	ai Locatio	ıı: Act	ual - HSN P	וט	1		Surrace Elevation:	14.∠ π NAVD88
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thick	ness:	Sample ID
		0.0		FILL	XXXX	Asphalt and gravel sub-base		D4 H0N 0044 00 0 7
-1 - -2		0.0	dry -	FILL		fine to medium SAND, some ash, little fil dark brown, medium dense, dry, no odor		P4-HSN-GG1A-0.2-0.7
-3 -4	4.5		dry	FILL		fine to medium SAND, little silt, trace cor (7.5YR 4/3) brown, medium dense, dry,		P4-HSN-GG1A-2.0-2.5
\dashv				N.D.	_XXXX	NO DECOVEDY		
-5-				NR	1	NO RECOVERY		
-6—		141	wet	FILL		fine to medium silty SAND, some fine gra (7.5YR 4/3) brown, medium dense, wet, gasoline-like odor, faint fuel oil and solve product stained, water at 5.0 feet.	moderate	P4-HSN-GG1A-6.0-6.5
-7— -	3.5							
-8			moist	FILL		fine to medium SAND, trace fill debris, (7	7.5YR 4/3) brown,	P4-HSN-GG1A-8.0-8.5
-9- -				NR	- KXXXX	medium dense, moist, no odor, no stainii NO RECOVERY		
-10		40.0						D4 H0N 0044 40 0 40 5
-11		10.8	moist to wet	FILL		fine to medium SAND, little silt, trace ast (7.5YR 3/3) dark brown, medium dense, odor, no staining.		P4-HSN-GG1A-10.0-10.5 P4-HSN-GG1A-11.0-11.5
_					_XXXX			P4-HSN-GG1A-11.5-12.0
_12			wet	ML		SILT, (2.5Y 6/2) light brownish gray, soft		
-12 - -13	5					gasoline-like odor, no staining. Šoils cons	sistent with UNDno.	P4-HSN-GG1A-12.0-12.5
-14								P4-HSN-GG1A-14.0-14.5
-15		0.0						
\neg			wet	SM		fine to medium silty SAND, some fine gra	avel, (5YR 4/4)	
-16 -17						reddish brown, medium dense, wet, no c Soils consistent with UNDno.		P4-HSN-GG1A-16.0-16.5
4	5					:1		
-18								P4-HSN-GG1A-18.0-18.5
\dashv						:		
-19							>	
			wet	SP	100000	fine to coarse SAND, little fine to mediun	n gravel, (5YR 4/4)	
٦						reddish brown, medium dense, wet, no o	dor, no staining.	
-20		0.0				Soils consistent with UNDno.		P4-HSN-GG1A-20.0-20.5
\dashv	1	5.5				1		
21-					1	.1		
otco:								
l otes: gs - bel	low surface	grade	COPR - chro	mite ore pro	cessina re	esidue UNDno - non-organic undisturbed native o	deposits MGP - manu	factured gas plant
	adow mat	J	GGM - greer	J. J P. O.	19 10	UNDorg - organic undisturbed native depo		omate chemical production w

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-GG1B

Project Name: PPG Garfield Ave Project Number: 60314351.GA.DE.PDI.FOR Date Started Drilling: 5/6/2016 9:45:00 AM Date Finished Drilling: 5/6/2016 11:00:00 AM						Drilling Company: SGS North America Drilling Method: direct push Rig Type:	,	NAD83) x: 611780.64 NAD83) y: 683244.03	
						Core Size: 3.0 in	Boring Total Depth:		
ogged	I By: MI					Project Manager: Scott Mikaelian	Depth to Water: NA		
hysic	al Locatio	n: Act	ual - HSN I	PDI			Surface Elevation:	13.9 ft NAVD88	
Depth Range t bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickn	ness:	Sample ID	
		0.0		ASPHALT		Asphalt and gravel sub-base.			
. 7									
-1									
-2 -3	3.5		dry	FILL		fine to medium SAND, some gravel, little grayish brown, medium dense, dry, no od		P4-HSN-GG1B-1.5-2.0	
\dashv				NR	XXXXX	NO RECOVERY			
-4				INIX		NO RECOVERY			
4									
-5-		0.0						D4 HON 004D 5 6 5 5	
-6-		0.0	moist	FILL		fine SAND, some silt, little fine gravel, (5' brown, dense, moist, no odor, no staining		P4-HSN-GG1B-5.0-5.5	
-			wet	FILL		silty SAND, trace ash, (7.5YR 4/2) brown	soft wet no odor		
-7 - -8	5		Wet	1122		no staining, water at 6.5 feet bgs.	, sort, wet, no odor,	P4-HSN-GG1B-7.0-7.5	
9								P4-HSN-GG1B-9.0-9.5	
10		0.0	wet	FILL	\bowtie	silty SAND, trace ash, (7.5YR 4/2) brown	soft wat slight		
-		0.0	wet	FILL	\bowtie	petroleum odor, no staining, light sheen.	, sort, wet, slight		
11—					\bowtie	politorodini odor, no otali inig, ngrit onooni		P4-HSN-GG1B-10.8-11.3	
			wet	SM	XXXXX	sandy SILT, (5YR 4/3) reddish brown, me	adium dense wet	P4-HSN-GG1B-11.3-11.8	
12— - 13— - 14— -	5		wet	SW		no odor, no staining. Soils consistent with	i UNDno.		
15		0.0	wet	SP		fine to medium SAND, (5YR 4/3) reddish	brown, medium		
\dashv						dense, wet, no odor, no staining. Soils co	nsistent with		
16						UNDno.			
\dashv						.]			
17—						3			
\dashv	5		\t	CM		fine to seems CANID seems array (0.5)/	E/O) graviah harran		
18			wet	SW		fine to coarse SAND, some gravel, (2.5Y medium dense, wet, no odor, no staining.			
\dashv						with UNDno.			
19—									
20									
20	1	0.0	wet	SW		fine to coarse SAND, some gravel, (2.5Y	5/2) grayish brown,		
21-	'					medium dense, wet, no odor, no staining. with UNDno.	Soils consistent		
o tes: s - bel	ow surface	arade	COPR - chr	omite ore proc	essina r	esidue UNDno - non-organic undisturbed native d	eposits MGP - manu	factured gas plant	
	adow mat			n grey mud	coonig it	UNDorg - organic undisturbed native depo		omate chemical production w	

A.GDT - 1/17/17

RA PPG LOGS

2012-09

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-GG2A

732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60240739 Coordinates (NJSPNAD83) x: 611734.551 Drilling Method: direct push Date Started Drilling: 12/1/2016 10:50:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683173.292 Date Finished Drilling: 12/1/2016 11:40:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Depth to Water: 5 Logged By: Eric Stone Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 14.0 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **FILL** Asphalt and gravel sub-base P4-HSN-GG2A-0.8-1.3 FILL fine to medium SAND, little ash and fill debris, trace coal, dry (7.5YR 4/3) brown, medium dense, dry, no odor, no staining. P4-HSN-GG2A-2.0-2.5 4.5 P4-HSN-GG2A-4.0-4.5 FILL moist fine to medium SAND, some ash, (5YR 4/4) reddish brown, medium dense, moist, no odor, no staining NR NO RECOVERY 459 wet **FILL** fine to medium SAND, some fill debris, little fine to medium gravel, (5YR 4/4) reddish brown, medium dense, wet, strong gasoline-like odor, no staining, water at 5.0 feet. P4-HSN-GG2A-6.0-6.5 3.5 P4-HSN-GG2A-8.0-8.5 NO RECOVERY NR P4-HSN-GG2A-10 0-10 5 665 FILL fine to medium SAND, little wood, trace fine gravel, (7.5YR wet 4/3) brown, medium dense, wet, strong gasoline-like odor, no staining. P4-HSN-GG2A-11 5-12 0 12 P4-HSN-GG2A-12.0-12.5 SP fine to medium SAND, little silt, trace organics, (7.5YR 4/3) dry 5 brown, medium dense, dry, no odor, no staining. Soils consistent with UNDorg. 13 OL Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR moist 3/3) dark brown, soft, moist, no odor, no staining. Soils P4-HSN-GG2A-14.0-14.5 OL wet consistent with UNDorg. Organic SILT, 90% organic silt, 10% organic fibers, (2.5) 6/2) light brownish gray, soft, wet, no odor, no staining. Soils 0.0 MI wet consistent with UNDorg.
SILT, (5Y 5/1) gray, soft, wet, no odor, no staining. Soils 16 consistent with UNDno. P4-HSN-GG2A-16.0-16.5 wet SP fine to medium SAND, little silt, (5YR 4/4) reddish brown, medium dense, wet, no odor, no staining. Soils consistent with UNDno. 5 P4-HSN-GG2A-18.0-18.5 SW fine to coarse SAND, some fine to medium gravel, (5YR 4/4) wet 19 reddish brown, dense, wet, no odor, no staining. Soils consistent with UNDno. P4-HSN-GG2A-20.0-20.5 0.0 1 -21 Notes:

MGP - manufactured gas plant CCPW - chromate chemical production waste

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-GG2B

732.564.3200 office telephone

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611793.1 Drilling Method: Geoprobe Date Started Drilling: 4/29/2016 10:40:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683269.31 **Date Finished Drilling:** 4/29/2016 12:00:00 PM Core Size: 3.0 in Boring Total Depth: 21 ft Depth to Water: NA Logged By: EW Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 13.8 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** ASPHALT and gravel sub-base P4-HSN-GG2B-1.5-2.0 FILL fine to medium SAND, little medium gravel, trace brick dry fragments, (7.5YR 3/2) dark brown, dry, no odor, no **FILL** dry staining. medium SAND, (7.5YR 6/3) light brown, dry, no odor, no staining. P4-HSN-GG2B-3.0-3.5 NO RECOVERY NR P4-HSN-GG2B-5.0-5.5 0.0 dry **FILL** medium SAND, (7.5YR 6/3) light brown, dry, no odor, no FILL slightly silty SAND, trace fine gravel, (7.5YR 2.5/3) very dark brown, moist slightly moist, slight petroleum odor, product staining at 9.0 feet bgs. P4-HSN-GG2B-7.0-7.5 4.5 63.0 P4-HSN-GG2B-9.0-9.5 NR NO RECOVERY 58.0 10 FILL fine to medium SAND, trace silt and medium to coarse 0.0 wet gravel, (7.5YR 3/1) very dark gray, wet, no odor, no staining, water at 10.0 feet bgs. P4-HSN-GG2B-11.0-11.5 P4-HSN-GG2B-11.5-12.0 wet SM medium SAND, trace silt and coarse gravel, (5YR 4/4) 12 reddish brown, wet, no odor, no staining. Soils consistent 3.5 with UNDno. 13 NO RECOVERY NR 94.0 SM medium SAND, trace silt and coarse gravel, (5YR 4/4) wet reddish brown, wet, no odor, no staining. Soils consistent with UNDno. 16 5 19 72.3 SM medium SAND, trace medium gravel, (5YR 4/4) reddish wet 1 brown, wet, no odor, no staining. Soils consistent with UNDno. -21

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

bgs - below surface grade bgs - below surface grade GGM - green grey mud UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-GG3B

	Name: F			E DD: 505		Drilling Company: SGS North America	0	NA DOO) 044600 07
				E.PDI.FOR		Drilling Method: Direct Push		NAD83) x: 611808.25
				9:45:00 AM		Rig Type:		NAD83) y: 683296.34
		illing:	4/28/2016	3 11:00:00 AN		Core Size: 3.5 in	Boring Total Depth:	
	IBy: MI					Project Manager: Scott Mikaelian	Depth to Water: NA	
Physica	al Locatio	n: Act	ual - HSN I	PDI		1	Surface Elevation:	13.8 ft NAVD88
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thio	ckness:	Sample ID
		0.0		ASPHALT		ASPHALT and gravel sub-base.		
-1			- 12 1- 41	FII.I	××××	first to good form OAND little and a single	and fine to a second	P4-HSN-GG3B-1.0-1.5
-2 -3	4		slightly moist	FILL		fine to medium SAND, little ash, cinder gravel, trace brick fragments, (7.5YR 2 dense, slightly moist, no odor, no stain	2.5/3) very dark brown,	P4-HSN-GG3B-3.0-3.5
-4-				NR		NO RECOVERY		-
-5-								
-6 -7		534	moist	FILL		sandy SILT, little fine to medium grave yellowish brown, soft, moist, moderate staining.		P4-HSN-GG3B-5.0-5.5
′ 🚽	5	1000						P4-HSN-GG3B-7.0-7.5
-8 -9 -10		1680	moist	SM		fine SAND, some interbedded silt, (5Yl dense, moist, strong petroleum odor, n sheen. Soils consistent with UNDno.		P4-HSN-GG3B-7.5-8.0
-10 11	3.7		moist	SM		fine SAND, some interbedded silt, (5Yl dense, moist, strong petroleum odor, n water at 10.0 feet bgs. Soils consistent	o staining, sheen,	
-14				NR		NO RECOVERY		
-15 16 -17 	3	945	moist	SM		fine SAND, some interbedded silt, (5YI dense, moist, strong petroleum odor, n Soils consistent with UNDno.	R 4/4) reddish brown, o staining, sheen.	
-18 				NR		NO RECOVERY		-
-19								
20								
	ow surface	grade	COPR - chr	omite ore proc	essing re	esidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native de		ufactured gas plant romate chemical production w
					med to be 1	ft thick 3) No CCPW (COPR or GGM) present in any interval of this b		romate onemical production w

Boring ID: P4-HSN-GG4B

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Drilling Method: Direct Push Coordinates (NJSPNAD83) x: 611827.84 Date Started Drilling: 4/28/2016 8:30:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683317.89 Date Finished Drilling: 4/28/2016 9:30:00 AM Core Size: 3.5 in Boring Total Depth: 20 ft Logged By: MI Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 13.9 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** ASPHALT and gravel sub-base. FILL CINDERS, some ash, little fine to medium gravel, crushed wet brick and concrete, (5YR 2.5/1) black, loose, wet, no odor, no staining. slightly **FILL** fine to medium SAND, (7.5YR 3/3) dark brown, loose, moist slightly moist, no odor, no staining. NR NO RECOVERY 0.0 moist **FILL** sandy SILT, (10YR 5/4) yellowish brown, soft, moist, no odor, no staining, water at 7.2 feet bgs. to wet P4-HSN-GG4B-7.0-7.5 5 **FILL** silty fine to medium SAND, little medium to coarse gravel, wet (5YR 4/3) reddish brown, loose, wet, no odor, no staining. P4-HSN-GG4B-9.0-9.5 P4-HSN-GG4B-10 0-10 5 0.0 FILL silty fine to medium SAND, little medium to coarse gravel, wet (5YR 4/3) reddish brown, loose, wet, no odor, no staining. P4-HSN-GG4B-10.5-11.0 SP-SM fine to medium SAND, some interbedded silt, trace medium gravel, (5YR 4/3) reddish brown, loose, wet, no odor, no staining. Soils consistent with UNDno. 12 13 NR NO RECOVERY 0.0 saturated SP-SM fine SAND, (5YR 4/3) reddish brown, loose, saturated, no odor, no staining. Soils consistent with UNDno. 16 NR NO RECOVERY 0.8

Note:

A.GDT - 10/4/16 09:

bgs - below surface grade COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits MM - meadow mat GGM - green grey mud UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

Boring ID: P4-HSN-GG5B

roject		60314	1351.GA.DE			Drilling Company: SGS North America Drilling Method: Direct Push	AD83) x: 611839.86	
			5/12/2016 9			Rig Type:	Coordinates (NJSPN	
	inisned Dr i By : HBE		5/12/2016	11:05:00 A		Core Size: 3.0 in Project Manager: Scott Mikaelian	Boring Total Depth: Depth to Water: NA	
			ual - HSN F	וחפ		Project Manager. Scott Mikaelian	Surface Elevation:	
-	ai Locatio	ii. /\ct	uai - HOIVI	<u>Di</u>			Ouriace Lievation.	12.5 1(14A V D 00
Depth Range t bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickn	ess:	Sample ID
_		0.0	dry	FILL		DGA, (5Y 5/1) gray, dry, no odor, no stair	ning.	
-1 -2 -3	3.5		moist	FILL		fine SAND, trace brick and asphalt, (7.5Y medium dense, moist, no odor, no stainin		P4-HSN-GG5B-1.0-1.5
-4- -				NR		NO RECOVERY		
-5		32 moist FILL fine SAND, trace wood, (7.5YR 4/2) brown, medium dense,						P4-HSN-GG5B-5.0-5.5
-6— - -7—			moist	FILL		moist, no odor, no staining. fine to medium SAND, trace fine gravel a brown, medium dense, moist, no odor, no 6.0 feet bgs.		P4-HSN-GG5B-7.0-7.5
-8- -	4.5		moist	FILL		fine to medium SAND, trace fine gravel, (brown, dense, moist, slight petroleum odd		1411611 65655 7.6 7.6
-9 				NR		NO RECOVERY		P4-HSN-GG5B-9.0-9.5
-10 - -11		12.5	dry	FILL		SILT, trace fill debris, (7.5YR 4/3) brown, no odor, no staining.	medium stiff, dry,	
'' _								P4-HSN-GG5B-11.0-11.5
12— 13— 14—	5	moist SP fine to medium SAND, some medium gravel, (5YR reddish brown, dense, moist, slight petroleum odor staining. Soils consistent with UNDno.						P4-HSN-GG5B-11.5-12.0
-15 - -16		3.0	moist	SP		fine silty SAND, (5YR 4/3) reddish brown moist, slight petroleum odor and black statement with UNDno.		
17 	5		wet	SP		fine to coarse SAND, (5YR 4/3) reddish be dense, wet, no odor, no staining. Soils co UNDno.		
18— — 19—								
-			moist	SP		fine SAND, (5YR 4/3) reddish brown, me	dium dense moist	
20 <u> </u>	1	0	moist	SP		no odor, no staining. Soils consistent with fine SAND, (5YR 4/3) reddish brown, me no odor, no staining. Soils consistent with	UNDno. dium dense, moist,	
-21					1.60.05	10 odor, no staining. como consistent witi	. CHOID.	
	low surface adow mat		COPR - chro GGM - greer		cessing re	esidue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo		factured gas plant omate chemical production w

Boring ID: P4-HSN-HH1B

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611800.36 Drilling Method: direct push Date Started Drilling: 5/6/2016 8:15:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683234.97 Date Finished Drilling: 5/6/2016 9:30:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Depth to Water: NA Logged By: MI Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 14.4 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** Asphalt and gravel sub-base. P4-HSN-HH1B-1.0-1.5 FILL fine to coarse SAND, trace ash and glass, (7.5YR 2.5/2) dry very dark brown, medium dense, dry, no odor, no staining. FILL silty SAND, little fine gravel, (7.5YR 4/2) brown, medium moist dense, moist, no odor, no staining. P4-HSN-HH1B-3.0-3.5 NO RECOVERY NR P4-HSN-HH1B-5.0-5.5 silty SAND, trace ash, (7.5YR 6/3) light brown, medium 20 wet FILL dense, wet, no odor, no staining, water at 5.0 feet bgs. FILL silty SAND, trace organics, coal and glass, (7.5YR 4/2) wet brown, wet, slight petroleum odor, no staining. P4-HSN-HH1B-7.0-7.5 5 P4-HSN-HH1B-9.0-9.5 FILL Silt, some fine gravel, (5YR 4/3) reddish brown, soft, wet, no wet odor, no staining. 3.0 FILL wet Silt, little fine gravel, (2.5Y 5/2) grayish brown, soft, wet. slight petroleum odor, no staining, sheen at 11.5 feet bgs. P4-HSN-HH1B-11.0-11.5 12 P4-HSN-HH1B-12.0-12.5 5 P4-HSN-HH1B-12.5-13.0 SP silty SAND, some fine gravel, (5YR 4/3) reddish brown, wet 13 medium dense, wet, no odor, no staining. Soils consistent with UNDno 0.0 SP silty SAND, some fine gravel, (5YR 4/3) reddish brown, wet medium dense, wet, no odor, no staining. Soils consistent with UNDno. 16 5 19 SP fine to coarse SAND, some fine to medium gravel, (5YR 4/3) wet

reddish brown, medium dense, wet, no odor, no staining.

reddish brown, medium dense, wet, no odor, no staining.

fine to coarse SAND, some fine to medium gravel, (5YR 4/3)

Soils consistent with UNDno.

Soils consistent with UNDno.

RA PPG LOGS 2012-09 Notes:

-21

0.0

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A.GDT - 10/4/16 09:

bgs - below surface grade bgs - below surface grade GGM - green grey mud UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

SP

Boring ID: P4-HSN-HH2B

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611821.43 Drilling Method: Geoprobe Date Started Drilling: 4/28/2016 9:50:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683255.67 Date Finished Drilling: 4/28/2016 11:30:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Logged By: EW Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 14.3 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 ASPHALT **ASPHALT** P4-HSN-HH2B-0.3-0.8 dry fine to medium SAND, some medium gravel and brick FILL fragments, (7.5YR 2.5/3) very dark brown, dry, no odor, no **FILL** medium to coarse SAND, little ceramics and coal fragments, dry 5 (7.5YR 3/2) dark brown, dry, no odor, no staining. FILL dry fine SAND, little coal fragments and ash, (7.5YR 3/1) very dark gray, dry, no odor. 873 moist **FILL** SILT, some fine sand, little brick fragments and cinders, trace fibers, (7.5YR 2.5/3) very dark brown, soft, moist, strong petroleum odor, petroleum staining. P4-HSN-HH2B-7.0-7.5 1198 5 P4-HSN-HH2B-7.5-8.0 ML sandy SILT, trace fine gravel, (10YR 5/4) yellowish brown, moist to moist to wet, strong petroleum odor, petroleum staining, P4-HSN-HH2B-8.0-8.5 sheen, water at 9.0 feet bgs. Soils consistent with UNDno. wet 1198 moist ML sandy SILT, trace fine gravel, (10YR 5/4) yellowish brown, moist to wet, strong petroleum odor, petroleum odor, sheen. to wet Soils consistent with UNDno. 12 SM fine SAND, some interbedded silt, (5YR 3/4) dark reddish wet 5 brown, dense, wet to saturated, strong petroleum odor, saturated product soaked, sheen, free product at 14.0-15.0 feet bgs. 13 Soils consistent with UNDno. P4-HSN-HH2B-14.0-14.5 1520 SM fine SAND, some interbedded silt, (5YR 3/4) dark reddish wet brown, medium dense, wet to saturated, strong petroleum to saturated odor, product staining, sheen. Soils consistent with UNDno. 16 P4-HSN-HH2B-16.0-16.5 410 5 P4-HSN-HH2B-18.0-18.5 19

2012-09 RA PPG LOGS

-21

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A.GDT - 10/4/16 09:

bgs - below surface grade COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits MM - meadow mat GGM - green grey mud UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

P4-HSN-HH2B-20.0-20.5

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-HH3B

732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611835.07 Drilling Method: Geoprobe Date Started Drilling: 4/28/2016 8:15:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683282.46 Date Finished Drilling: 4/28/2016 9:45:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Depth to Water: NA Logged By: EW Project Manager: Scott Mikaelian Physical Location: Actual - HSN PDI Surface Elevation: 13.9 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT ASPHALT** P4-HSN-HH3B-0.3-0.8 dry fine to medium SAND, some medium gravel and crushed FILL concrete, (7.5YR 3/2) dark brown, dry, no odor, no staining. FILL fine to medium SAND, trace coal fragments, (7.5YR 3/2) dry dark brown, dry, no odor, no staining. P4-HSN-HH3B-2.0-2.5 5 **FILL** medium SAND, some medium to coarse gravel and brick, dry (7.5YR 3/2) dark brown, dry, no odor, no staining. P4-HSN-HH3B-4.0-4.5 0.0 dry **FILL** fine to medium SAND, trace coal fragments, (7.5YR 2.5/3) very dark brown, dry, no odor, no staining. P4-HSN-HH3B-6.0-6.5 **FILL** fine SAND, some silt, (7.5YR 5/1) gray, slightly moist, no slightly moist odor, no staining. 5 63.0 P4-HSN-HH3B-8.0-8.5 **FILL** fine silty SAND, (5YR 4/4) reddish brown, wet, no staining, wet sheen, petroleum-like odor, water at 8.0 feet bgs. P4-HSN-HH3B-9.2-9.7 P4-HSN-HH3B-9.7-10.2 58.0 fine SAND, (5YR 5/4) reddish brown, wet, no staining, wet SP-SM 0.0 SP-SM sheen, petroleum-liké odor. Soils consistent with UNDno wet fine to medium SAND, some fine to medium gravel, (5YR 4/3) reddish brown, wet, no odor, no staining. Soils consistent with UNDno. 12 5 13 94.0 SP-SM fine to medium SAND, some fine to medium gravel, (5YR wet 4/3) reddish brown, wet, no odor, no staining. Soils consistent with UNDno. 16 5 19 72.3 SP-SM fine to medium SAND, some fine to medium gravel, (5YR wet 1 5/4) reddish brown, wet, no odor, no staining. Soils consistent with UNDno. -21

Notes:

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

bgs - below surface grade bgs - below surface grade GGM - green grey mud UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

AECOM

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-HH4B

	Number:					Drilling Method: Geoprobe	PNAD83) x: 611848.04					
				8:20:00 AM		Rig Type:	Coordinates (NJSPN	AD83) y: 683309.12				
Date Fi	inished Dr	illing:	4/29/2016	9:10:00 AM		Core Size: 3.0 in	Boring Total Depth:	21 ft				
	d By: ES					Project Manager: Scott Mikaelian	Depth to Water: NA	\				
	al Locatio	n: Act	ual - HSN I	PDI			Surface Elevation:					
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickn	ess:	Sample ID				
		0.0		ASPHALT		ASPHALT and gravel sub-base						
-1 - -2	5		dry	FILL		fine to medium SAND, some medium to o (7.5YR 3/1) very dark gray, dry, no odor,		P4-HSN-HH4B-0.7-1.2				
-3 -4 -				dry	FILL		fine SAND, some coarse gravel, (7.5YR 3 dry, no odor, no staining.	3/4) dark brown,				
-5 - -6		0.0	dry	FILL		medium SAND, some medium gravel, littl and fill material, (7.5YR 4/2) brown, dens staining.	e, dry, no odor, no					
-7 - -8 -	4.5		slightly moist	FILL		Silt, some medium gravel, little fine sand, (2.5Y 5/2) grayish brown, low plasticity so wet, no odor, no staining, light sheen, war	oft, slightly moist to					
-9 - -10				NR		NO RECOVERY		P4-HSN-HH4B-9.0-9.5				
'		0.0	moist	FILL	\bowtie	Silt, little medium gravel, trace fill materia	l, (2.5Y 5/2) grayish					
			dry FILL brown, soft, moist, no odor, no staining.									
-11				FILL		fine to medium sand, little asphalt, (2.5Y)	2.5/1) black,	P4-HSN-HH4B-11.0-11.5				
- -12 -	5							moist	FILL		\medium dense, dry, no odor, no staining. Silt, some fine to medium SAND, little fine (5YR 4/3) reddish brown, medium dense, staining.	e gravel, trace fill, moist, no odor, no
-13 — - -14 — -			moist	SP		fine to medium sand, some gravel, (5YR-medium dense, moist, no odor, no stainin with UNDno.	4/3) reddish brown, g. Soils consistent	P4-HSN-HH4B-13.0-13.5				
-15 -16 -17 -18	5	0.0	moist	SP		fine to medium sand, some coarse gravel 4/3) reddish brown, medium dense, moist staining. Soils consistent with UNDno.	, little silt, (5YR t, no odor, no					
-19 			wet	SP		fine to medium sand, (5YR 4/3) reddish be dense, wet, no odor, no staining. Soils co UNDno.						
-20 - -21			wet	SP		fine to medium sand, (5YR 4/3) reddish be dense, wet, no odor, no staining. Soils co UNDno.						
	low surface		COPR - chr GGM - gree		essing re	esidue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo		ufactured gas plant omate chemical production w				

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-HH5B

732.564.3200 office telephone

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611860.72 Drilling Method: Geoprobe Date Started Drilling: 4/27/2016 8:50:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683336.03 Date Finished Drilling: 4/27/2016 10:30:00 AM Core Size: 3.0 in Boring Total Depth: 21 ft Logged By: EW Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 13.8 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 1.6 **ASPHALT ASPHALT** 0.0 drv FILL medium GRAVEL, trace fine sand, (7.5YR 5/1) gray, dry no P4-HSN-HH5B-0.5-1.0 dry FILL odor no staining 0.7 fine to medium SAND, trace fine to medium gravel, (7.5YR 3/4) dark brown, dry no odor no staining 0.4 FILL dry medium SAND, trace silt, (7.5YR 4/2) brown, dry no odor no P4-HSN-HH5B-2.0-2.5 staining 5 0.0 **FILL** fine SAND, trace coarse gravel, (7.5YR 3/2) dark brown, dry dry no odor no staining P4-HSN-HH5B-4.0-4.5 56 dry **FILL** fine SAND, little SILT, (7.5YR 3/2) dark brown, dry to slightly moist no odor no staining P4-HSN-HH5B-6.0-6.5 5 14.6 **FILL** fine to medium SAND, (7.5YR 3/2) dark brown, wet slight wet petroleum odor no staining, sheen water at 7.5 feet bgs P4-HSN-HH5B-8.0-8.5 10 P4-HSN-HH5B-10 0-10 5 1140 FILL wet medium to coarse SAND, some medium gravel, (7.5YR 2.5/3) very dark brown, wet petroleum odor product staining, sheen P4-HSN-HH5B-11 5-12 0 12 P4-HSN-HH5B-12.0-12.5 116 SM fine to medium SAND, trace fine gravel, (5YR 4/3) reddish wet 5 brown, wet, slight petroleum odor, no staining. Soils consistent with UNDno. 13 5.6 SM medium SAND, (5YR 4/3) reddish brown, wet, slight wet petroleum odor, no staining. Soils consistent with UNDno. 16 4.5 wet SM fine to medium SAND, trace silt, (5YR 4/3) reddish brown, wet, slight petroleum odor, no staining. Soils consistent with UNDno 5 19 3.8 SM fine to medium SAND, trace silt, (5YR 4/3) reddish brown, wet 1 wet, slight petroleum odor, no staining. Soils consistent with UNDno. -21 Notes:

2012-09 RA PPG LOGS

A.GDT - 10/4/16 09:

UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits bgs - below surface grade COPR - chromite ore processing residue MM - meadow mat GGM - green grey mud GGM - green grey mud

MGP - manufactured gas plant CCPW - chromate chemical production waste

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-HH7B

	Name: F					Drilling Company: SGS	0	NA DOO) 044000 00	
			1351.GA.DE			Drilling Method: 9822		Coordinates (NJSPNAD83) x: 611898.62	
			4/27/2016 8			Rig Type:		NAD83) y: 683386.57	
		illing:	4/27/2016	10:00:00 AN		Core Size: 3.5 in	Boring Total Depth:		
	d By: ES					Project Manager: Scott Mikaelian	Depth to Water: N		
hysic	al Locatio	n: Act	ual - HSN F	PDI			Surface Elevation:	13.2 ft NAVD88	
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and T	hickness:	Sample ID	
_		0.0		ASPHALT		ASPHALT and gravel sub-base.			
-1 -			dry	FILL		ASH, some cinders, trace asphalt, (state of the brown, medium dense, dry, no odor,	5YR 2.5/2) dark reddish no staining.	P4-HSN-HH7B-1.1-1.6	
-2 - -3	3.7		moist	FILL		silty fine SAND, (10YR 5/4) yellowis no odor, no staining.	h brown, loose, moist,	P4-HSN-HH7B-3.0-3.5	
-4- -				NR		NO RECOVERY		_	
-5 -6			moist	FILL		silty fine SAND, (10YR 5/4) yellowis no odor, no staining.	h brown, loose, moist,	P4-HSN-HH7B-5.0-5.5	
-7-								P4-HSN-HH7B-7.0-7.5	
4	5							P4-HSN-HH7B-7.5-8.0	
-8						X			
-9 -10			moist to wet	SP-SM		fine SAND, trace silt, (5YR 4/3) redo no odor, no staining, water at 8.0 fee with UNDno.		P4-HSN-HH7B-8.0-8.5	
-11 -12 -13 -14	5		moist to wet	SP-SM		fine to medium SAND, (5YR 4/3) red wet, no odor, no staining. Soils cons			
-15 - -16 -			moist to wet	SP		fine to medium SAND, (5YR 3/2) da moist to wet, no odor, no staining. S UNDno.			
-17 - -18	5		wet to saturated	SP-SM		fine SAND, (5YR 4/4) reddish browr saturated, no odor, no staining. Soils			
-19 -20									
	. 1		wet to saturated	SP-SM		fine SAND, (5YR 4/4) reddish browr saturated, no odor, no staining. Soils			
ĬM - me	eadow mat		GGM - greei	n grey mud		esidue UNDno - non-organic undisturbed na UNDorg - organic undisturbed native ft thick 3) No CCPW (COPR or GGM) present in any interval of th	deposits CCPW - ch	ufactured gas plant romate chemical production w	

A.GDT - 10/4/16 09:

LOGS

RA PPG

2012-09

GGM - green grey mud

nts: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

30 Knightsbridge Road, Piscataway, NJ 08854

Boring ID: P4-HSN-II4B

732.564.3200 office telephone

Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611868.33 Drilling Method: Geoprobe Date Started Drilling: 4/27/2016 10:20:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683300.75 **Date Finished Drilling:** 4/27/2016 12:00:00 PM Core Size: 3.0 in Boring Total Depth: 21 ft Logged By: EW Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 14.3 ft NAVD88 Depth Recovery PID Moisture Graphic Sample USCS Surface Cover and Thickness: Range ΙD (ft/ft) (ppm) Content Log (ft bgs) 0.0 FILL medium SAND, with roots (topsoil), (7.5YR 2.5/3) very dark dry brown, dry no odor no staining 0.0 FILL drv P4-HSN-II4B-0.5-1.0 FILL crushed CONCRETE, dry no odor no staining dry 0.0 fine to medium SAND, some fine to medium gravel, (7.5YR 4/2) brown, dry no odor no staining 0.0 FILL dry fine SAND, little silt trace gravel and brick, (7.5YR 3/2) dark P4-HSN-II4B-2.0-2.5 brown, dry no odor no staining 5 P4-HSN-II4B-4.0-4.5 0.0 FILL fine to medium SAND, little silt, (7.5YR 3/3) dark brown, dry dry no odor no staining 36 dry **FILL** SILT, little fine to medium sand and fine gravel, (10YR 5/4) yellowish brown, dry to slightly moist no odor no staining P4-HSN-II4B-6.0-6.5 5 5.0 P4-HSN-II4B-8.0-8.5 **FILL** SILT, trace fine sand, (7.5YR 2.5/3) very dark brown, wet wet slight petroleum-like odor, no staining, sheen water at 8.0 feet bas 10 P4-HSN-II4B-10 0-10 5 7.0 FILL SILT, trace fine sand, (7.5YR 2.5/3) very dark brown, wet wet 2.1 FILL slight petroleum-like odor, no staining, sheen wet fine SAND, some silt and medium to coarse gravel, (5YR 3/4) dark reddish brown, wet, slight petroleum-like odor, no 11 FILL wet staining, sheen fine SAND, trace silt and medium gravel, (5YR 4/3) reddish 12 P4-HSN-II4B-12.0-12.5 brown, wet no odor no staining 5 P4-HSN-II4B-12.5-13.0 13 P4-HSN-II4B-13.0-13.5 0.0 SM fine to medium SAND, trace silt and medium to coarse wet gravel, (5YR 4/3) reddish brown, wet no odor no staining. Soils consistent with UNDno. 0.0 SM fine to medium SAND, (5YR 4/3) reddish brown, wet no odor wet no staining. Soils consistent with UNDno. 16 0.0 wet SM fine to medium SAND, trace fine to medium gravel, (5YR 4/3) reddish brown, wet no odor no staining. Soils consistent with UNDno. 5 19 0.0 SM fine to medium SAND, trace fine to medium gravel, (5YR wet 1 4/3) reddish brown, wet no odor no staining. Soils consistent with UNDno. -21 Notes: UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits bgs - below surface grade COPR - chromite ore processing residue MM - meadow mat GGM - green grey mud MGP - manufactured gas plant CCPW - chromate chemical production waste

AECOM

Boring ID: P4-HSN-II5B

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611888.9 Drilling Method: Geoprobe Date Started Drilling: 4/27/2016 1:05:00 PM Rig Type: Coordinates (NJSPNAD83) y: 683322.85 Date Finished Drilling: 4/27/2016 2:20:00 PM Core Size: 3.0 in Boring Total Depth: 21 ft Project Manager: Scott Mikaelian Depth to Water: NA Logged By: EW Physical Location: Actual - HSN PDI Surface Elevation: 14.8 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 CONCRETE concrete P4-HSN-II5B-1.5-2.0 0.0 FILL medium to coarse SAND, some concrete fragments, (7.5YR dry 3/1) very dark gray, dry no odor no staining P4-HSN-II5B-2.0-2.5 0.0 **FILL** dry 5 fine to medium SAND, trace silt and medium gravel, (5YR 0.0 FILL dry (3/3) dark reddish brown, dry no odor no staining fine SAND, trace coal and fine gravel, (10YR 5/4) yellowish brown, dry no odor no staining P4-HSN-II5B-4.0-4.5 0.0 dry **FILL** fine SAND, trace fine gravel, (10YR 5/4) yellowish brown, dry no odor no staining P4-HSN-II5B-6.0-6.5 0.0 FILL fine to medium SAND, trace fine gravel, (5YR 4/3) reddish moist 5 brown, no odor no staining water at 9.0 feet bgs to wet P4-HSN-II5B-8.0-8.5 10 P4-HSN-II5B-10 0-10 5 0.0 FILL wet fine to medium SAND, trace medium gravel, (5YR 4/3) reddish brown, wet no odor no staining 0.0 P4-HSN-II5B-11 5-12 0 FILL wet medium SAND, (7.5YR 3/1) very dark gray, wet no odor no 12 P4-HSN-II5B-12.0-12.5 5.6 SM wet 5 medium SAND, trace medium gravel, (5YR 4/3) reddish brown, wet no odor no staining. Soils consistent with 13 UNDno 0.0 SM medium SAND, trace silt, (5YR 4/3) reddish brown, wet no wet odor no staining. Soils consistent with UNDno. 16 5 0.0 wet SM medium SAND, trace silt and medium gravel, (5YR 4/3) reddish brown, wet no odor no staining. Soils consistent with UNDno. 19 0.0 SM medium SAND, trace silt and medium gravel, (5YR 4/3) wet 1 reddish brown, wet no odor no staining. Soils consistent with UNDno. -21

Notes:

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

bgs - below surface grade COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits MM - meadow mat GGM - green grey mud UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

comments: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

Boring ID: P4-HSN-II6B

Project	Number:	60314	1351 GA DF	F PDI FOR		Drilling Method: 9822	Coordinates (NISP	NAD83) x: 611903.05
				1:10:00 PM		Rig Type:		NAD83) y: 683349.53
				2:30:00 PM		Core Size: 3.5 in	Boring Total Depth:	
	l By : ES	ming.	7/2//2010	2.00.00 FIVI		Project Manager: Scott Mikaelian	Depth to Water: N	
		n: Act	ual - HSN F	וחפ		i roject manager. Ocon minaciali	Surface Elevation:	
	ar EUCALIU		uai - I IOIN F	וכ			Jui lace Lievation.	10.0 11 14/14/1000
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Th	hickness:	Sample ID
-		0.0		ASPHALT		ASPHALT and gravel sub-base.		
-1 -2 -3	3.5		moist	FILL		fine to medium SAND, some ash, litt fragments and silt, (5YR 3/4) dark re odor, no staining.	ele cinders, trace brick eddish brown, moist, no	P4-HSN-II6B-1.0-1.5
-4- <u>-</u>				NR		NO RECOVERY		-
-5 		0.0	moist	FILL		fine to medium SAND, little cinders, (5YR 3/4) dark reddish brown, mediu odor, no staining.	ash and fill material, um dense, moist, no	P4-HSN-II6B-5.0-5.5
-7 - -8	5							P4-HSN-II6B-7.0-7.5
-9 -10			moist	FILL		fine SAND, trace cinders and coarse reddish brown, medium dense, moist		P4-HSN-II6B-9.0-9.5
-11 11		0.0	moist to wet	FILL		fine SAND, trace cinders and coarse reddish brown, medium dense, moist water at 10.5 feet bgs.	t, no odor, no staining,	P4-HSN-II6B-10.5-11.0 P4-HSN-II6B-11.0-11.5
_ -12 - -13 -14	4		saturated	SP-SM		fine SAND, (5YR 4/3) reddish brown odor, no staining. Soils consistent wi	, ioose, saturated, no th UNDno.	
-14				NR		NO RECOVERY		
-15 - -16		0.0		NR		NO RECOVERY		
-17 -18	0							
-19 								
20								
	ow surface		COPR - chro		essing r	esidue UNDno - non-organic undisturbed nat UNDorg - organic undisturbed native	tive deposits MGP - man	ufactured gas plant romate chemical production w

Boring ID: P4-HSN-II7B

Date Sta				E.PDI.FOR		Drilling Method: 9822	Loorginates (NJSPI	NAD83) x: 611916.76
	Date Started Drilling: 4/26/2016 11:20:00 AM							
Date Finished Drilling: 4/26/2016						Rig Type:		IAD83) y: 683374.96
		illing:	4/26/2016	<u> </u>		Core Size: 3.5 in	Boring Total Depth:	
	By: ES					Project Manager: Scott Mikaelian	Depth to Water: NA	
Physica	I Locatio	n: Act	ual - HSN [PDI			Surface Elevation:	13.7 ft NAVD88
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickn	ness:	Sample ID
		0.0		ASPHALT		ASPHALT and gravel sub-base, (5YR 2.5	5/1) black.	
-1 -2				76.7.2		, ic. 1.1 = 1 and grater cast salety (c 1 1 2 1 2	,,, 5,550	
-3- -4- -	5			FILL		fine to medium SAND, little medium to co shell fragments, (7.5YR 4/3) brown, loose oxide staining.	arse gravel, trace e, no odor, iron	
-5 -6 -7 - -8	4	0.0	moist to wet	FILL		SILT, little fine to medium sand, trace fine (10YR 5/8) yellowish brown, moist to wet staining, wet 6.0' bgs.	e to medium gravel, , no odor, no	P4-HSN-II7B-8.0-8.5
				NR		NO RECOVERY		
-10		0.0	moist	FILL		SILT, little fine to medium sand, (10YR 5/loose, moist to wet, no odor, no staining,		P4-HSN-II7B-10.0-10.5
-11 - -12			moist	FILL		fine to medium SAND, some cinders, little (5YR 3/4) dark reddish brown, loose, moi petroleum odor, oil staining.		P4-HSN-II7B-12.0-12.5
	5							
-13 -14 -			saturated	SP		fine SAND, (5YR 5/3) reddish brown, loos odor, no staining. Soils consistent with Ut		P4-HSN-II7B-12.5-13.0
-15 -16 -17		0.0	saturated	SP		fine SAND, dense, saturated, no odor, no consistent with UNDno.	staining. Soils	
-18	4							
-19				NR		NO RECOVERY		
21	1	0.0	saturated	SP		fine SAND, dense, saturated, no odor, no consistent with UNDno.	staining. Soils	
	ow surface adow mat	grade	COPR - chr	omite ore prod	essing re	esidue UNDno - non-organic undisturbed native d UNDorg - organic undisturbed native depo		ufactured gas plant romate chemical production w

Boring ID: P4-HSN-JJ7B 30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611944.34 Drilling Method: 9822 Date Started Drilling: 4/26/2016 9:50:00 AM Rig Type: Coordinates (NJSPNAD83) y: 683360.48 Date Finished Drilling: 4/26/2016 11:05:00 AM Core Size: 3.5 in Boring Total Depth: 21 ft Logged By: ES Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 13.7 ft NAVD88 Depth PID Recovery Moisture Graphic Sample Surface Cover and Thickness: **USCS** Range (ft/ft) Content ΙĎ (ppm) Log (ft bgs) 0.0 **ASPHALT** ASPHALT and gravel sub-base, (5YR 2.5/1) black dry fine to medium SAND, little fine gravel, trace cinders, (7.5YR P4-HSN-JJ7B-0.8-1.3 FILL moist 3/2) dark brown, loose, slightly moist, no odor, some black staining. P4-HSN-JJ7B-2.0-2.5 FILL fine to medium SAND, (10YR 3/6) dark yellowish brown, slightly 5 moist loose, slightly moist, no odor, slight black staining. P4-HSN-JJ7B-4.0-4.5 P4-HSN-JJ7B-4.5-5.0 P4-HSN-JJ7B-5.0-5.5 0.0 moist SP-SM silty fine to medium SAND, little gravel, (5YR 4/3) reddish brown, loose, moist to saturated, no odor, no staining, wet @ to saturated 6.5'. Soils consistent with UNDno.

7 8 9 10	5				
 11 12		0.0	wet to saturated	SM	sandy SILT, (5YR 4/3) reddish brown, soft, wet to saturated, no odor, no staining. Soils consistent with UNDno.
13 14 	5		wet	SP-SM	fine to coarse SAND, little silt, (5YR 4/2) dark reddish gray, loose, wet, no odor, no staining. Soils consistent with UNDno.
15	5	0.0	saturated	SP-SM	fine to medium SAND, (5YR 3/4) dark reddish brown, dense, saturated, no odor, no staining. Soils consistent with UNDno.
20 	1	0.0	saturated	SP-SM	fine to medium SAND, (5YR 4/4) reddish brown, dense, saturated, no odor, no staining. Soils consistent with UNDno.

Notes:

2012-09 RA PPG_LOGS_A.GDT - 10/4/16 09:26

bgs - below surface grade bgs - below surface grade GGM - green grey mud

COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

Comments: 1) 3 attempts were made to obtain best recovery 2) MM/UND confirmed to be 1 ft thick 3) No CCPW (COPR or GGM) present in any interval of this boring.

Boring ID: P4-HSN-Y18A

Project	t Name: F t Number:	60240	0739			Drilling Company: SGS North America Drilling Method: Direct Push	Coordinates (NJSPI	NAD83) x: 611321.95
Date S	tarted Drill	ing: 5	5/5/2016 1	0:15:00 AM				IAD83) y: 682838.4
				11:00:00 AM		Core Size: 3.5 in	Boring Total Depth:	
	d By: MI					Project Manager: Scott Mikaelian	Depth to Water: NA	
Physic	al Locatio	n: Act	ual - HSN	PDI			Surface Elevation:	11.3 ft NAVD88
Depth Range t bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	C Surface Cover and Thickr	ness:	Sample ID
		0.0		ASPHALT	~~~	ASPHALT and gravel sub-base.		
-1	5		moist	FILL		GGM (100%), (10Y 5/2) grayish olive, sodor, green staining.	oft, moist, no	
-5	5	0.0	moist	FILL		GGM, (50%), some cinders, ash, little f chromium precipitate, (10Y 5/2) grayish slight solvent odor, green staining.	ine gravel, trace o olive, soft, moist,	
-9 -	-		moist	FILL		CINDERS, some ash, little silt, trace co dark gray, loose, moist, no odor, no sta		P4-HSN-Y18A-8.5-9.0
-10 -11 - -12	5	0.0	wet	FILL		silty fine SAND, trace wood, (5YR 4/4) loose, wet, no odor, no staining, water a		P4-HSN-Y18A-10.0-10.5
-13 — -14 — - -15 —		0.0		5111			1 (5)(5) 1(1)	P4-HSN-Y18A-14.0-14.5
_	4	0.0	wet	FILL	<u> </u>	silty fine SAND, little fine to medium grant reddish brown, loose, wet, no odor, no		P4-HSN-Y18A-15.0-15.5 P4-HSN-Y18A-15.5-16.0
-16 -17 -18	4		moist	PT		mottling. PEAT (degraded vegetated material), 8 20% organic silt, (7.5YR 3/2) dark brow moderate organic odor, no staining. So MM.	0% organic fibers, n, moist, ils consistent with	F4+FI3N+T10A+13.3-16.U
_ -19			moist	ML NR		sandy SILT, (7.5YR 4/1) dark gray, soft no staining. Soils consistent with UNDr NO RECOVERY		
20						NOTEGOVERY		
IM - me	low surface of eadow mat		GGM - gree	omite ore proce n grey mud overy 2) MM/UND cor		UNDorg - organic undisturbed native deposit		ufactured gas plant omate chemical production wa

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-Z15A

Started Driii		5/9/2016 8:	<u>E.PDI.FOR</u> 40:00 AM		Orilling Method: Direct Push Rig Type:		IAD83) x: 611386.15 AD83) y: 682901.74
Finished Dr					Core Size: 3.0 in	Boring Total Depth:	
ged By: H. E					Project Manager: Scott Mikaelian	Depth to Water: NA	
ical Location			PDI			Surface Elevation:	
h Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thic	ckness:	Sample ID
_	0.0		ASPHALT		Asphalt and gravel sub-base.		
-		slightly	FILL		medium to coarse SAND, some mediui		
5		moist i wet	FILL		(2.5YR 4/3) reddish brown, medium de odor, no staining. GGM (100%), (2.5Y 5/1) gray, very sol staining.		
	2.0	wet	FILL		GGM (100%), (2.5Y 5/1) gray, very sol staining, water at 7.5 feet bos.	ft, wet, no odor, green	
5					Stallling, water at 7.5 feet bgs.		
		wet	FILL		fine to coarse SAND, little gravel, trace brown, medium dense, wet, slight petro staining, light sheen.		
-	2.0	wet	FILL		SILT, trace wood, (5YR 4/1) dark gray, petroleum odor, no staining, light sheer		
5		saturated to wet	FILL		silty SAND, little to trace ash, (5YR 4/3 medium dense, saturated to wet, no od		
	1.0	wet	FILL		silty SAND, trace gravel, trace ash, (5Y	'R 4/3) reddish brown,	P4-HSN-Z15A-15.0-15.5
		slightly moist	PT	7 77 7 77 77 7 77 7	medium dense, wet, no odor, no stainir PEAT (degraded vegetated material), 8 20% organic silt, (5YR 3/2) dark reddis moist, slight organic odor, no staining.	ng. 30% organic fibers, sh brown, firm, slightly	P4-HSN-Z15A-15.5-16.0
5				<u> </u>			
		wet	OL		Organic SILT, 80% organic silt, 20% or	rganic fibers, (5YR	
		wet	SP-SC		5/1) gray, soft, wet, no odor, no staining with UNDorg. fine SAND, (5YR 4/2) dark reddish gra	g. Soils consistent	

Boring ID: P4-HSN-Z16A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611369.28 Drilling Method: macrocore Date Started Drilling: 5/5/2016 8:35:00 AM Rig Type: Coordinates (NJSPNAD83) y: 682881.06 Date Finished Drilling: 5/5/2016 9:40:00 AM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: Eric Stone Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.1 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range Content ΙĎ (ft/ft) (ppm) Log (ft bgs) 0.0 **ASPHALT** Asphalt and gravel sub-base. **FILL** fine to coarse SAND, little fine gravel, little to trace ash, dry (7.5YR 4/2) brown, medium dense, dry, no odor, no staining. moist FILL GGM, (5Y 5/1) gray, soft, moist to wet, no odor, green to staining, water at 5.0 feet bgs. wet 5 0.0 wet **FILL** GGM, (5Y 5/1) gray, soft, wet, no odor, green staining. 5 **FILL** Cinders, some ash, (5Y 2.5/1) black, loose, wet, no odor, no wet staining. 10.0 FILL silty SAND, little wood, trace fine gravel, (5YR 4/3) reddish wet brown, medium dense, wet to moist, slight petroleum odor, moist no staining, light sheen. 25.0 12 P4-HSN-Z16A-12.0-12.5 2.5 NR NO RECOVERY 13 2.0 FILL silty SAND, trace wood, (5YR 4/3) reddish brown, medium wet dense, wet, no odor, no staining. P4-HSN-Z16A-15 5-16 0 16 P4-HSN-Z16A-16.0-16.5 dry PT PEAT (degraded vegetated material), 80% organic fibers, 20% organic silt, (5YR 3/2) dark reddish brown, stiff, dry, 1, 11, moderate organic odor, no staining. Soils consistent with 11, 11, 5 OL Organic SILT, 70% organic silt, 30% organic fibers, (7.5YR) moist 3/2) dark brown, medium stiff, moist, slight organic odor, no staining. Soils consistent with UNDorg. ML SILT, (2.5Y 5/1) gray, soft, wet, no odor, no staining. Soils wet consistent with UNDno.

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

bgs - below surface grade MM - meadow mat

COPR - chromite ore processing residue UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

A E C O M

Boring ID: P4-HSN-Z17A

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone Page: 1 Project Name: PPG Garfield Ave Drilling Company: SGS North America Project Number: 60314351.GA.DE.PDI.FOR Coordinates (NJSPNAD83) x: 611350.35 Drilling Method: macrocore Date Started Drilling: 5/5/2016 11:20:00 AM Coordinates (NJSPNAD83) y: 682854.81 Rig Type: Date Finished Drilling: 5/5/2016 1:10:00 PM Core Size: 3.0 in Boring Total Depth: 20 ft Logged By: Eric Stone Project Manager: Scott Mikaelian Depth to Water: NA Physical Location: Actual - HSN PDI Surface Elevation: 11.1 ft NAVD88 Depth PID Recovery Moisture Graphic Sample **USCS** Surface Cover and Thickness: Range ΙĎ (ft/ft) (ppm) Content Log (ft bgs) 0.0 **FILL** Asphalt and gravel sub-base. dry FILL fine to coarse SAND, little gravel and wood, trace brick, dry (7.5YR 3/2) dark brown, medium dense, dry, no odor, no moist FILL staining GGM (100%), (2.5Y 5/1) gray, soft, moist, no odor, green staining. 5 0.0 moist **FILL** GGM (100%), (2.5Y 5/1) gray, soft, moist, no odor, green staining. P4-HSN-Z17A-6.7-7.2 fine to medium SAND, some coarse gravel, trace ash, (5YR dry FILL 4/3) reddish brown, medium dense, dry, no odor, no 3.5 **FILL** wet Ash, little wood and fill debris, (7.5YR 4/1) dark gray, loose, P4-HSN-Z17A-8.0-8.5 wet, no odor, no staining, water at 7.2 feet bgs. NR NO RECOVERY P4-HSN-Z17A-10 0-10 5 20.0 Cinders, some silt, (7.5YR 2.5/1) black, loose, wet, slight FILL wet petroleum odor, no staining, sheen. saturated FILL Silt, little gravel, (7.5YR 4/2) brown, soft, saturated, no odor, no staining, sheen. **FILL** fine to medium SAND, (5YR 4/3) reddish brown, medium wet 12 dense, wet, no odor, no staining. P4-HSN-Z17A-12.0-12.5 5 13 P4-HSN-Z17A-14.0-14.5 P4-HSN-Z17A-15.0-15.5 0.0 FILL fine to medium SAND, (5YR 4/3) reddish brown, medium wet dense, wet, no odor, no staining. P4-HSN-Z17A-15.5-16.0 2.0 PT dry PEAT (degraded vegetated material), 80% organic fibers, 16 1/ 1/ V 20% organic silt, (5YR 3/2) dark reddish brown, stiff, dry, slight organic odor, no staining. Soils consistent with MM. 11, 11, 1/ 1/1/ 1 5 レスレス OL Organic SILT, 80% organic silt, 20% organic fibers, (7.5YR moist 19 4/2) brown, medium stiff, moist, slight organic odor, no SP-SM wet staining. Soils consistent with UNDorg. fine to medium SAND, little silt, (2.5Y 5/1) gray, medium 20 dense, wet, no odor, no staining. Soils consistent with UNDno.

Notes

A.GDT - 10/4/16 09:

2012-09 RA PPG LOGS

bgs - below surface grade MM - meadow mat COPR - chromite ore processing residue GGM - green grey mud

UNDno - non-organic undisturbed native deposits UNDorg - organic undisturbed native deposits

MGP - manufactured gas plant CCPW - chromate chemical production waste

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: P4-HSN-Z18A

Date Fi		illing:	5/4/2016	1:25:00 AM 12:15:00 PM	C	Core Size: 2.5 in Bor	ring Total Depth: oth to Water: NA	
	al Locatio			PDI			rface Elevation:	
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log			Sample ID
		0.0		ASPHALT		ASPHALT and gravel sub-base.		
-1 - -2			slightly moist	FILL		fine to medium SAND, some cinders and coal, gravel, brick and concrete, (7.5YR 2.5/3) very loose, slightly moist, no odor, green staining at	dark brown,	
_	5		slightly moist	FILL		GGM, (95%) with (5%) COPR, (5GY 5/2) gray slightly moist, no odor, green staining.	rish green,	
-3 -4			slightly moist	FILL		fine SAND, little medium to coarse gravel, (5Yl brown, loose, slightly moist, no odor, no stainir		P4-HSN-Z18A-3.0-3.5 P4-HSN-Z18A-4.0-4.5
-5 - -6		5.3	moist	FILL		fine SAND, little silt, trace ash and cinders, (5) reddish brown, loose, moist, slight petroleum o staining, water at 5.8 feet bgs.		P4-HSN-Z18A-6.0-6.5
-7 -8	4		moist to wet	FILL		ASH, some cinders, trace brick and fill debris, black, loose, moist to wet, no odor, no staining		P4-HSN-Z18A-8.0-8.5
_ -9				NR		NO RECOVERY		
-10 - -11 -		0.0	wet	FILL		silty fine SAND, little fine to medium gravel, (5' reddish brown, loose, wet, no odor, no staining		P4-HSN-Z18A-10.0-10.5
-12 -13 -14	5							P4-HSN-Z18A-12.0-12.5
·· –							-	P4-HSN-Z18A-14.0-14.5 P4-HSN-Z18A-14.7-15.2
-15 -16 -17	4	0.0	wet moist	FILL PT	77 77 7 77 77 7 77 77 7	silty fine SAND, little fine to medium gravel, (5' reddish brown, loose, wet, no odor, no staining PEAT (degraded vegetated material), 80% organic silt, (7.5YR 3/2) dark brown, mois organic odor, no staining. Soils consistent with	anic fibers, st, moderate	P4-HSN-Z18A-15.2-15.7
-18 - -				SP-SM		fine SAND, trace organic silt, (7.5YR 5/1) gray odor, no staining. Soils consistent with UNDno	r, dense, no	
-19 - -20				NR	a la Uali	NO RECOVERY		
otes: gs - be	low surface eadow mat	grade	COPR - chr	omite ore proc	essing re	sidue UNDno - non-organic undisturbed native deposit UNDorg - organic undisturbed native deposits	ts MGP - manu	factured gas plant omate chemical production w

Supplemental Remedial Investigation

	AECOM Note: G	roı	LOG und								ft NA	٩٧D	88	
PROJECT LOCATION								GROUNI	D ELEVA	TION (FT.	MSL)	PROJEC	T NUMBI	 ER
Halladay Street, Jersey	/ City. New Jersey										,			020667601
DRILLING CONTRACTOR	, , , , , , , , , , , , , , , , , , , ,		FOREMA	V				DATE ST	TARTED			DATE CO	OMPLETE	
Advanced Drilling, Inc.			Jeremy		ael					20/05				04/20/05
DRILLING EQUIPMENT			ociciny		901			COMPLE		PTH (FT I	BGS)	BUCK D	EPTH (F1	
Hollow Stem Auger Rig	n 4 25" Augers							OOWII EE	52'		500)	TIOOK B		countered
TYPE BIT N/A	3, 4.20 Augus		SIZE AND	TY	PE CORE	BARRE		NO. SAN		DIST.	24	UNDIST.		
CASING N/A				N/				WATER		FIRST	4.5'	COMPL.	N/A	
CASING HAMMER	WEIGHT N/A		DROP	N/					LOCATIO					
	neter, 2' long split-spoon		DITO	1 4/	,,			1		et, Front	of Junk	vard		
SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPEC		Eric G		.yu.u		
GANN EELT TO ANNUELT	NEIGHT 110 ISS.	_	51.01	П		San	nples	11101 20			READI	NGS		
		Sample Interva		able		Jun	Penetr.		1	1 10	(PPM)	1400		
D D	ESCRIPTION	nple I	Depth	Vater 7	Number	Recov.	Resist.	Time	Sample	Ambient	Time	Head	Time	REMARKS
	2001111 11014	Sar	(ft bgs)	>	Number	(ft)	BL/6in	Time	Oampic	Air	Time	Space	Date	112111111111111111111111111111111111111
			- 0 -	П										
2.0 was fill consis	ria hand dig; soil from 0.0- ting of gravel, asphalt, brick 2.0-4.0' was fill consisting of													Boring through gravel road shoulder
fine to medium sa			- 1 -											
			- 1 -											
			- 2 -											
			- 3 -											
4.0-8.0' FILL: Tigh	nt brown silty sand, coal		- 4 -											
fragments, ash				¥	1	1.0	2	0918	0.0	0.0	0918	N/A	N/A	
			- 5 -				3		0.0					
							4							
			- 6 -				6							
					2	2.0	5	0919	0.0	0.0	0919	N/A	N/A	
			- 7 -				3		0.0					
							3		0.0					
							4		0.0					Gasoline like odors noted from 8.25-9.0
8.0-9.5' FILL: Gre fragments, ash s	eyish green silty sand, coal taining		- 8 -		3	1.5	5	0920	0.0	0.0	0920	N/A	N/A	0924 Sample SB-32 (8.5-
			- 9 -				6		5.3					9.0) for TCL VOC, TCL SVOC, TAL Metals, Total and amenable CN
							7		2.8					Staining and naphthalene
			- 10 -				6		0.0					odors at 9.5
			- 10 -	Щ				1	<u> </u>	1			1	1

ROJECT LOCATION							CBULIVIE) EL EVAT	ION (FT. I	/ ISN	PROJEC [®]	T NI IMADE	:R
alladay Street, Jersey City, New Jersey							GROUNL	ELEVAI	ION (F1.1	VISL)	PROJEC	I NUMBE	020667601
RILLING CONTRACTOR	Т.	FOREMAN	d				DATE ST	ADTED			DATE CO	MPLETE	
dvanced Drilling, Inc.		Jeremy		lor			DAILSI		20/05		DATE GC	JIVII LL I L	04/20/05
RILLING EQUIPMENT	,	belefilly	LO	joi			COMPLE		PTH (FT B	GS)	ROCK DE	PTH /FT	
ollow Stem Auger Rig, 4.25" Augers							OOMI EE	52'	(2	(40)	TIOOK DI		countered
PE BIT N/A		SIZE AND	TY	PE CORE	BARRE	EL	NO. SAM		DIST.	24	UNDIST.	N/A	CORE N/A
ASING N/A	T		N/	Ą			WATER		FIRST	4.5'	COMPL.	N/A	24HR N/A
ASING HAMMER WEIGHT N/A	[DROP	N/	Ą			BORING	LOCATIO	N .				
AMPLER 2" diameter, 2' long split-spoon							Hallada	ay Stree	t, Front	of Junk	yard		
SAMPLER HAMMER WEIGHT 140 lbs.	[DROP		30"			INSPECT		Eric Ga				
	/al		•		San	nples			PID	READII	NGS		
<u> </u>	Interval		. Table			Penetr.				(PPM)			
DESCRIPTION	(Ä	Depth (ft bgs)	Water	Number	Recov.	Resist. BL/6in	Time	Sample	Ambient Air	Time	Head Space	Time Date	REMARKS
0.0-10.5' Greyish green silty sand, coal ragments, ash, no staining		- 10 -		4	1.5	3	0945	1.0	0.0	0945	N/A	N/A	10.5-11.0' strong acrid odor, naphathalene like
0.5-11.0' Greyish silt, heavy oil material OM) staining		- 11 -				4		29.0					0942 Sample SB-32 (10.5-11.0) to TCL VOC,
1.0-12.25' Reddish brown (2.5YR4/3) fine o medium sand, trace silt, no staining (SW)						5		2.4					TCL SVOC, TAL Metals
2.25-17.75' Reddish brown (2.5YR4/6) fine SILTY SAND, no staining or odors (SM)		- 12 -		5	1.25	10	0951	0.0	0.0	0951	N/A	N/A	
SELT GAND, no staining of ocors (GW)		- 13 -				11		0.0					
						10		0.0					
		- 14 -		6	1.5	12 2	1002	0.0	0.0	1002	N/A	N/A	
				Ü		3	.002	0.0	0.0	.002	,,		
		- 15 -				4		0.0					
		- 16 -				4							
				7	2.0	4	1005	0.0	0.0	1005	N/A	N/A	1004 Sample SB-32 (16.0-16.5) to TCL VOC TCL SVOC, TAL Metals
		- 17 -				5		0.0					
						6		0.0					
8.0-23.0' Dark gray (10R4/1) fine to coarse sand, trace silt, trace gravel (SW)		- 18 -		8	1.0	7	1005	0.0	0.0	1005	N/A	N/A	
		- 19 -				6		0.0					
	- [7							

29

13 1.5

1056

8

0.0

0.0

0.0

0.0 1056

N/A

N/A

Supplemental nemedial investigation		LOG	0	FSC	OIL E	BOR	ING S	SB-3	2				rage 4 01 0
PROJECT LOCATION							GROLINI) ELEVAT	ION (FT.	MSL)	PROJEC	T NUMBE	-R
Halladay Street, Jersey City, New Jersey							GHOON	LLLVAI	1014 (1 1.	WIGE)	HOOLO	TINOWIDE	020667601
DRILLING CONTRACTOR		FOREMAN	N				DATE ST	ARTED			DATE CO	OMPLETE	
Advanced Drilling, Inc.		Jeremy	Lo	gel				04/2	20/05				04/20/05
DRILLING EQUIPMENT	•	,					COMPLE		PTH (FT E	BGS)	ROCK D	EPTH (FT	
Hollow Stem Auger Rig, 4.25" Augers								52'				not end	countered
TYPE BIT N/A		SIZE AND	TY	PE CORE	BARRE	EL	NO. SAM	IPLES	DIST.	24	UNDIST.	N/A	CORE N/A
casing N/A			N/	A			WATER	DEPTH	FIRST	4.5'	COMPL.	N/A	24HR N/A
CASING HAMMER WEIGHT N/A		DROP	N/	A			BORING	LOCATIO	N				
SAMPLER 2" diameter, 2' long split-spoon							Hallada	ay Stree	t, Front	of Junk	yard		
SAMPLER HAMMER WEIGHT 140 lbs.		DROP		30"			INSPEC [*]	TOR	Eric Ga	aulin			1
	ıval		ele		San	nples			PID	READI	NGS		
	le Inte		er Tak			Penetr.			1	(PPM)			
DESCRIPTION	Sample Interva	Depth (ft bgs)	Wat	Number	Recov.	Resist. BL/6in	Time	Sample	Ambient Air	Time	Head Space	Time Date	REMARKS
27.25-31.5' Dark reddish brown (2.5YR3/4) fine SILTY SAND (SM)		- 30 -		14	2.0	8 7 6	1109	0.0	0.0	1109	N/A	N/A	1117 Sample SB-32 (30.5-31.0) and SB-32 (30.5-31.0)D for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable CN
31.5-32.25' Reddish brown (2.5YR4/4) fine SANDY SILT (SM)		- 32 -				7		0.0					
32.25-32.5' Reddish brown (2.5YR4/4) fine SAND (SP)				15	1.0	6	1115	0.0	0.0	1115	N/A	N/A	
32.5-32.75' Reddish brown (2.5YR4/4) interlaminated SILTY CLAY, SILT (CL)		- 33 -				8		0.0					
32.75-41.8' Reddish brown (2.5YR4/4) fine SANDY SILT, little silty clay (SM)						7							
		- 34 -		16	2.0	8	1134	0.0	0.0	1134	N/A	N/A	
		- 35 -				8		0.0					
						7		0.0					
		- 36 -				9		0.0					
				17	2.0	5	1140	0.0	0.0	1140	N/A	N/A	
		- 37 -				8		0.0					
		- 38 -				7		0.0					
		- 30 -		18	2.0	7	1142	0.0	0.0	1142	N/A	N/A	
		- 39 -				7		0.0					
						9		0.0					
		- 40 -						ļ			<u> </u>		

PROJECT LOCATION								GROUNI	D ELEVAT	ION (FT.	MSL)	PROJEC	T NUMBE	ER .
Halladay Street, Jersey	City, New Jersey									•	•			020667601
DRILLING CONTRACTOR			FOREMAN	1				DATE ST	TARTED			DATE CO	OMPLETE	D
Advanced Drilling, Inc.			Jeremy	Log	gel				04/2	20/05				04/20/05
RILLING EQUIPMENT								COMPLE	TION DE	PTH (FT E	BGS)	ROCK D	EPTH (FT))
Iollow Stem Auger Rig	4.25" Augers								52'				not end	countered
YPE BIT N/A			SIZE AND	TYF	PE CORE	BARRE	L	NO. SAM	MPLES	DIST.	24	UNDIST.	N/A	CORE N/A
ASING N/A	T			N/	4			WATER	DEPTH	FIRST	4.5'	COMPL.	N/A	24HR N/A
ASING HAMMER	weight N/A		DROP	N/	4			BORING	LOCATIO	ON				
AMPLER 2" diam	eter, 2' long split-spoon							Hallada	ay Stree	t, Front	of Junk	yard		
SAMPLER HAMMER	WEIGHT 140 lbs.	\perp	DROP		30"			INSPEC	TOR	Eric Ga				Γ
		nterval		ple		San	nples			PID	READI	NGS		
	- CODIDTION			ter Ta			Penetr.			I	(PPM)	I	l	DELA DICO
DI	ESCRIPTION	Sample	Depth	Wal	Number	Recov.	Resist.	Time	Sample		Time	Head	Time	REMARKS
		Н	(ft bgs)	┨		(ft)	BL/6in			Air		Space	Date	
	sh brown (2.5YR4/4) fine	$\ \ $	- 40 -		19	2.0	12	1256	0.0	0.0	1256	N/A	N/A	
SANDY SILT, little	e silty clay (SM)		_		ı	۷.۵	14	1230	0.0	0.0	1230	IN/A	IN/A	
							13		0.0					
			- 41 -				13		0.0					
							14		0.0					
									0.0					
	h brown (2.5YR4/4)						17		0.0					
interlaminated SII	LTY CLAY, SILT (CL)		- 42 -											
42.1-43.1' Reddis	h brown (2.5YR4/4) loose	Ш			20	2.0	16	1301	0.0	0.0	1301	N/A	N/A	
fine SILTY SAND	mud													
							18		0.0					
			- 43 -											
							20		0.0					
	n brown (2.5YR4/4) fine													
SILTY SAND, tigh	t (SM)						21		0.0					
			- 44 -											
44.0-45.25' Reddi SANDY SILT, little	sh brown (2.5YR4/4) fine				21	1.8	19	1301	0.0	0.0	1301	N/A	N/A	
SANDT SILT, IIIII	silly clay (Sivi)													
45.25-45.45' Redo	dish brown (2.5YR4/4)						21		0.0					
laminated SILTY	CLAY (CL)		- 45 -											
							22		0.0					
	sh brown (2.5YR4/4) fine													
SANDY SILT (SM), occasional thin silty clay						21		0.0					
		Ш	- 46 -											
					22	2.0	23	1306	0.0	0.0	1306	N/A	N/A	
							20		0.0					
			- 47 -				00							
							22		0.0					
							21		0.0					
			- 48 -				۷۱		0.0		L			
			40 -		23	2.0	19	1343	0.0	0.0	1343	N/A	N/A	1401 Sample SB-32
10 0-10 E' Daddia	n brown (2.5YR4/4)				20	2.0	13	10-10	0.0	0.0	1040	13//		(49.0-49.5) for TCL VO
	SANDY SILT (SM) and						21		0.0					TCL SVOC, TAL Metals
silty clay			- 49 -						1.0					Total and Amenable CN
	_ , , , ,						20		0.0					
	Dark gray (GLEY1 4/N) NDD, little gravel, little													
tine to medium S <i>i</i> clay, 10% gravel (20		0.0					
,, gravor (- 50 -	1					I		ĺ			

PSEG SC Former Halladay Street Gas Works Site SCHOOR DEPALMA Supplemental Remedial Investigation Page 6 of 6 **LOG OF SOIL BORING SB-32** PROJECT LOCATION GROUND ELEVATION (FT. MSL) PROJECT NUMBER Halladay Street, Jersey City, New Jersey 020667601 DRILLING CONTRACTOR FOREMAN DATE STARTED DATE COMPLETED Advanced Drilling, Inc. Jeremy Logel 04/20/05 DRILLING EQUIPMENT COMPLETION DEPTH (FT BGS) ROCK DEPTH (FT) Hollow Stem Auger Rig, 4.25" Augers not encountered TYPE BIT SIZE AND TYPE CORE BARREL NO. SAMPLES 24 N/A N/A N/A DIST. UNDIST. 4.5' N/A N/A N/A WATER DEPTH FIRST N/A COMPL 24HR CASING WEIGHT N/A DROP N/A BORING LOCATION CASING HAMMER SAMPLER 2" diameter, 2' long split-spoon Halladay Street, Front of Junkyard SAMPLER HAMMER WEIGHT 140 lbs. DROP 30" INSPECTOR Eric Gaulin PID READINGS Samples **DESCRIPTION REMARKS** Depth Ambien Time Time Sample Time Head Resist (ft bgs) (ft) BL/6ir Air Space Date - 50 49.5-51.25' TILL: Dark gray (GLEY1 4/N) 1400 N/A 24 1.25 57 0.0 0.0 1400 N/A fine to medium SAND, little gravel, little clay, 10% gravel (diabase, argillite) 61 0.0 51 Spoon Refusal 100/5" 0.0 52 End of boring at 52' 53 - 54 55 56 - 57 58 - 59

AECOM Note: Grou		LOG								t NA	AVD:	88	Page 1 of 5
PROJECT LOCATION	110	4 00	111	acc		o val		D ELEVAT	ΠΟΝ (FT.		T .	T NUMBE	
Halladay Street , Jersey City, NJ								15	5.27				020667601
DRILLING CONTRACTOR		FOREMA	N				DATE ST	TARTED			DATE CO	OMPLETE	ED
Advanced Drilling, Inc.		Roger L	.og	el				11/1	15/06			11,	/15/06
DRILLING EQUIPMENT							COMPLE	ETION DE	PTH (FT E	BGS)	ROCK D	EPTH (FT)
GEFCO SS 5 Drill Rig turning 4.25-inch hollow-stem augers								48.5'	1				countered
TYPE BIT Hollow-stem auger		SIZE AND			BARRE	EL	NO. SAM		DIST.	23	UNDIST.		
casing N/A	4		N/				WATER		FIRST	4	COMPL.	N/A	
CASING HAMMER WEIGHT N/A		DROP		N/A									Street, 130 ft SW from the
SAMPLER 2" diameter, 2' long split-spoon	Ī										Street / F	orrest St	reet intersection.
SAMPLER HAMMER WEIGHT 140 lbs.	Н	DROP		30"			INSPEC	TOR	Eric Ga				I
	erval		elqi		San	nples		ł	PID	READI	NGS		
DECODIDATION	Sample Interval		ter Ta			Penetr.			1	(PPM)	1	1	DEMARKO
DESCRIPTION	Sam	Depth	Wate	Number		Resist.	Time	Sample		Time	Head	Time	REMARKS
	Н	(ft bgs)	Н		(ft)	BL/6in			Air		Space	Date	
Cleared via hand digging to 4'; boring through asphalt; the fill appeared to be silty sand, gravel 4.0-7.3 FILL: consisting of tight reddish brown silty sand, asphalt fragments		- 1 - 1 - 2 - 2 - 3 - 3 - 4 - 3 - 5 - 5 - 5 - 3 - 3 - 3 - 3 - 3 - 3	Ŋ.	1	1.0	4 5	0918	5.9	2.0	0918	N/A	N/A	
		- 6 -				5							
				2	2.0	3	0921	26.7	0.0	0921	N/A	N/A	Oil material (OM)
						4		38.4	0.0				Sheen, naphthalene-like odors from 7.8-17.1 feet bgs
		- 7 -				4		58.0	0.0				-9-
7.3-8.3 Weak red (2.5YR4/2) SILTY CLAY						4		105.0	0.0				
(CL)		- 8 -							ļ				
8.3-10.0 Red (2.5YR4/6) fine to medium SILTY SAND (SM); OM				3	1.8	4	0930	10.2	0.0	0930	N/A	N/A	Positive dye test from 8.5-9.0 confirming
						4		401	0.0				presence of OM
		- 9 -				4		522	0.0				
						4		550	0.0				
		- 10 -											

Interim Data Submittal No.4		LOG	C	F SC	OIL I	3OR	ING S	SB-49	9				Page 2 of 5
PROJECT LOCATION							GROUNI	D ELEVAT	ION (FT.	MSL)	PROJEC	T NUMBE	ER
Halladay Street , Jersey City, NJ									.27	,			020667601
DRILLING CONTRACTOR		FOREMAN	N				DATE ST	TARTED			DATE CO	OMPLETE	:D
Advanced Drilling, Inc.		Roger L	oa	el					5/06				/15/06
DRILLING EQUIPMENT		riogo: L	- G	0.			COMPLE	TION DE		3GS)	BOCK D	EPTH (FT	
GEFCO SS 5 Drill Rig turning 4.25-inch hollow-stem augers							OOWII EE	48.5'	(, do	I I O O I C D		countered
TYPE BIT Hollow-stem auger		SIZE AND	TY	PF CORE	BARRI	=1.	NO. SAN		DIST.	23	UNDIST.		
CASING N/A			N/				WATER		FIRST	4	COMPL.	N/A	
CASING HAMMER WEIGHT N/A		DROP	,	N/A									street, 130 ft SW from the
SAMPLER 2" diameter, 2' long split-spoon	!	DHOF		19/73			1					-	
SAMPLER HAMMER WEIGHT 140 lbs.		DROP		30"			INSPEC		Eric Ga		sileet / F	onest St	reet intersection.
SAMPLER HAMMER WEIGHT 140 IDS.	П	DROP	П	30	Car	nnlaa	INSPEC	IOR		READI	NCC		
	Sample Interval		able		Sai	nples		1	PID		NGS		
DESCRIPTION	ple In	Б	ter Ta			Penetr.				(PPM)	l	l _	DEMARKS
DESCRIPTION	Sam	Depth	Wate	Number		Resist.	Time	Sample		Time	Head	Time	REMARKS
	Н	(ft bgs)	H		(ft)	BL/6in			Air		Space	Date	
10.0-12.0 Red (2.5YR4/6) fine to medium SILTY SAND (SM) with a trace of clay, 10% fine gravel, subrounded up to 1/8" diameter		- 10 -		4	1.5	3	0935	100.0	0.0	0935	N/A	N/A	Odors this spoon
		- 11 -				3		68	0.0				
						4		59	0.0				
						4							
12.0-14.0 Red (2.5YR4/6) fine to medium SILTY SAND (SM) becoming mostly fine		- 12 -		5	2.0	3	0940	200	0.0	0940	N/A	N/A	Sample SB-49 (12.5- 13.0) collected at 0944
SILTY SAND with trace silty clay (CL); soft						4		590	0.0				for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable CN
		- 13 -				5		220	0.0				Dye test 12.0-12.5
		- 14 -				5		100	0.0				positive
14.0-15.5 Red (2.5YR4/6) mostly fine SILTY SAND (SM) with trace silty clay (CL), very compact and firm				6	1.8	3	0955	220	0.0	0955	N/A	N/A	Odors this spoon
		- 15 -				5		59 1200	0.0				
15.5-17.1 Red (2.5YR4/6) fine to medium						8		1200	0.0				
SAND (SW)		- 16 -		 7	2.0	8	0957	989	0.0	0957	N/A	N/A	Sample SB-49 (16.0-
						8		1510	0.0				16.5) collected at 1002 for TCL VOC, TCL
17.1-18.8 Red (2.5YR4/6) fine SILTY SAND (SM), tight		- 17 -				9		140	0.0				SVOC, TAL Metals, Total and Amenable CN
18.8-20.0 Reddish brown (2.5YR5/4) fine to						11		200	0.0				
medium SAND (SW), trace silt, wet, loose, some 2" gray bands of sand exhibiting a burnt odor		- 18 -		8	2.0	3	1010	6.5	0.0	1010	N/A	N/A	No naphthalene-like odors this spoon, no
Julii Julii		- 19 -				4		6.0	0.0				staining or evidence of free product
		- 13 -				7		0.0	0.0				
		- 20 -				4		1.3	0.0				
			_		<u> </u>				<u> </u>				

			LOG	0	FSC	IL E	BOR	ING S	SB-49	9				3.11
PROJECT LOCATION								GROUNE) ELEVAT	TION (FT.	MSL)	PROJEC	T NUMBE	ER .
Halladay Street , Jersey	City, NJ								15	.27				020667601
DRILLING CONTRACTOR			FOREMAN	١				DATE ST	ARTED			DATE CO	OMPLETE	:D
Advanced Drilling, Inc.			Roger L	og	el				11/1	5/06			11/	/15/06
DRILLING EQUIPMENT								COMPLE	TION DE	PTH (FT E	BGS)	ROCK D	EPTH (FT)
GEFCO SS 5 Drill Rig tu	urning 4.25-inch hollow-stem augers								48.5'				not end	countered
TYPE BIT Hollow-s	stem auger		SIZE AND	ΤY	PE CORE	BARRE	EL	NO. SAM	IPLES	DIST.	23	UNDIST.	N/A	CORE N/A
CASING N/A	T			N/	A			WATER	DEPTH	FIRST	4	COMPL.	N/A	24HR N/A
CASING HAMMER	WEIGHT N/A		DROP		N/A			BORING	LOCATIO	N: Easte	ern shoul	der of Ha	alladay S	treet, 130 ft SW from the
SAMPLER 2" diame	eter, 2' long split-spoon							souther	n corner	of the H	alladay S	Street / F	orrest St	reet intersection.
SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPECT	FOR	Eric Ga	aulin			
		erval		əle		San	nples			PID	READI	NGS		
		Sample Interval		er Tat			Penetr.			ı	(PPM)		ı	
DE	ESCRIPTION	Samp	Depth (ft bgs)	Water	Number	Recov.	Resist. BL/6in	Time	Sample	Ambient Air	Time	Head Space	Time Date	REMARKS
coarse SAND (SW	brown (2.5YR5/4) fine to 1), 5% gravel, subrounded to 1/4" in diameter		- 20 -		9	1.2	5	1015	30	0.0	1015	N/A	N/A	No naphthalene-like odors this spoon, no staining or evidence of free product
SILTY SAND (SM)	ddish brown (2.5YR3/4) fine), with occassional bands of nd, trace coarse sand, s of fine sandy silt		- 21 - 				6		12	0.0				nee product
			- 22 -		10	1.3	5	1022	1.0	0.0	1022	N/A	N/A	No naphthalene-like odors this spoon, no staining or evidence of
			- 23 -				6		1.5	0.0				free product
			- 24 -		11	1.0	6 6	1039	0.0	0.0	1039	N/A	N/A	No naphthalene-like odors this spoon, no
			- 25 -				6		1.1	0.0				staining or evidence of free product
							7							No naphthalene-like
			- 26 -		12	1.0	6	1043	0.0	0.0	1043	N/A	N/A	- odors this spoon, no staining or evidence of free product
SANDY SILT (ML)	brown (2.5YR5/4) fine with occassional thin		- 27 -				7		0.0	0.0				Sample SB-49(26.5- 27.0) collected at 10:43 for TCL VOC, TCL SVOC, TAL Metals,
lenses (1/8 to 1/4 i clay)	inch thick, reddish gray silty		- 28 -				10							Total and Amenable CN
					13	1.8	10	1056	0.0	0.0	1056	N/A	N/A	Faint odors, no staining or evidence of free product
			- 29 -				11		0.0	0.0				
			- 30 -				12							

39

12

12

0.0

0.0

0.0

0.0

0.0

0.0

groundwater

			LOG	0	FSC)IL E	3OR	ING S	SB-49	9				. 250 0 0. 0
PROJECT LOCATION								GROUNE	D ELEVAT	ION (FT.	MSL)	PROJEC	T NUMBE	ER .
Halladay Street , Jersey	City, NJ									.27				020667601
DRILLING CONTRACTOR			FOREMAN	٧				DATE ST	ARTED			DATE CO	OMPLETE	:D
Advanced Drilling, Inc.			Roger L	.og	el				11/1	5/06			11.	/15/06
DRILLING EQUIPMENT								COMPLE	TION DE	PTH (FT E	BGS)	ROCK D	EPTH (FT)
GEFCO SS 5 Drill Rig tu	rning 4.25-inch hollow-stem augers								48.5'				not end	countered
TYPE BIT Hollow-s	tem auger		SIZE AND	TY	PE CORE	BARRE	ΞL	NO. SAM	IPLES	DIST.	23	UNDIST.	N/A	core N/A
casing N/A				N/	A			WATER	DEPTH	FIRST	4	COMPL.	N/A	24HR N/A
CASING HAMMER	weight N/A		DROP		N/A			BORING	LOCATIO	N: Easte	ern shoul	der of Ha	alladay S	treet, 130 ft SW from the
SAMPLER 2" diame	eter, 2' long split-spoon							souther	n corner	of the H	alladay S	Street / F	orrest St	reet intersection.
SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPECT	TOR	Eric Ga	aulin			
		ıval		e		San	nples			PID	READI	NGS		
		e Inte		ər Tab			Penetr.				(PPM)			
DE	ESCRIPTION	Sample Interval	Depth (ft bgs)	Wate	Number	Recov.	Resist. BL/6in	Time	Sample	Ambient Air	Time	Head Space	Time Date	REMARKS
	brown (5YR5/3) fine , with little fine silty SAND		- 40 -		19	2.0	12	1155	0.0	0.0	1155	N/A	N/A	Faint odors noted on groundwater
			- 41 -				12		0.0	0.0				
							14		0.0	0.0				
			- 42 -				15		0.0	0.0				
					20	1.0	13	1205	0.0	0.0	1205	N/A	N/A	Faint odors noted on groundwater
			- 43 -				15		0.0	0.0				
							14		1.0	0.0				
			- 44 -				16							
					21	2.0	10	1302	3.0	0.0	1302	N/A	N/A	No odors noted on groundwater
			- 45 -				10		1.1	0.0				
							11		0.0	0.0				
			- 46 -				12		1.2	0.0	 			
	gray (5YR5/2) weakly				22	1.8	11	1312		0.0	1312	N/A	N/A	No odors noted on groundwater
SILTY CLAY (CL),	sandstone and black		- 47 -				17		0.0	0.0				Sample SB-49(47.25- 47.75) collected at 13:45 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable CN
End of boring at 49	3.5 ft bgs, due to auger		- 48 -		23	0.3		1342	0.0	0.0	1342	N/A	N/A	
refusal; drillers not encountered at 47.	ed cobbles first		- 49 -				1/2"							
			- 50 -				<u> </u>		<u> </u>	<u> </u>	<u></u>	<u> </u>	<u></u>	

AE	COM Note: Ground		Log Surf								NAV	/D88	3	
PROJECT LOCATION								GROUNE	D ELEVAT	ΓΙΟΝ (FT.	MSL)	PROJEC	T NUMBE	:R
Halladay Street , Jersey	City, NJ								14	.96				020667601
DRILLING CONTRACTOR			FOREMAN	N				DATE ST	ARTED			DATE CO	OMPLETE	D
Advanced Drilling, Inc.			Roger L	.oge	el				11/1	16/06			11.	/16/06
DRILLING EQUIPMENT								COMPLE	TION DE	PTH (FT E	BGS)	ROCK D	EPTH (FT)
GEFCO SS 5 Drill Rig tu	rning 4.25-inch hollow-stem augers								45.8'				not end	countered
TYPE BIT Hollow-s	tem auger		SIZE AND	TYI	PE CORE	BARRE	ΞL	NO. SAM	IPLES	DIST.	19	UNDIST.	N/A	CORE N/A
CASING N/A				N/	A			WATER	DEPTH	FIRST	10	COMPL.	N/A	24HR N/A
CASING HAMMER	WEIGHT N/A		DROP		N/A			BORING	LOCATIO	N: Easte	ern shoul	der of Ha	alladay S	treet, 30 ft SW from the
SAMPLER 2" diame	eter, 2' long split-spoon							souther	n corner	of the H	alladay S	Street / F	orrest St	reet intersection.
SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPECT		Eric Ga				
		-				San	nples	•		PID	READI	NGS		
		Sample Interval		Table			Penetr.		1		(PPM)			
DE	SCRIPTION	mple	Depth	/ater	Number	Recov.	Resist.	Time	Sample	Ambient	Time	Head	Time	REMARKS
		Sa	(ft bgs)	>		(ft)	BL/6in			Air		Space	Date	
4.0-4.5 Grayish Gr SANDY CLAY (CL 4.5-5.0 Same as a	aterial appeared to be clay, sand		- 0 1 2 3 4 5 -		1	1.5	2	0901	0.0	0.0	0901	N/A	N/A	No odors or other evidence of contamination
SANDY SILT (ML)	orown (5YR5/3) fine to						4		0.0	0.0				
medium SAND (SV			- 6 -						ļ					
					2	1.5	4	0904	0.0	0.0	0904	N/A	N/A	No odors or other evidence of
							4		0.0	0.0				contamination
			- 7 -				5		0.0	0.0				
							7							
			- 8 -											No place
					3	1.3	4	0906	0.0	0.0	0906	N/A	N/A	No odors or other evidence of
			^				5		0.0	0.0				contamination
			- 9 -				5		0.0	0.0				
				abla			6							
		Ш	- 10 -	Ě						1				

PROJECT LOCATION PROJECT NUMBER PR	AECOM Note: Grou	nd Surface	E	Eleva	ti	on =	= 13	.7 ft	NA	VD	88					
DRILLING CONTRACTOR	PROJECT LOCATION								GROUNE	D ELEVAT	TION (FT.	MSL)	PROJEC	T NUMBE	ER .	
Advanced Drilling, Inc. Roger Logel 11/16/06 11	Halladay Street , Jersey City, NJ									14	.96				020667601	
DRILLING EQUIPMENT GEFCO SS 5 Drill Rig turning 4.25-inch hollow-stem augers SIZE AND TYPE CORE BARRILL NO. SAMPLES DIST. 19 UNDIST. N/A CASING N/A CASING	DRILLING CONTRACTOR		F	OREMAN					DATE ST	ARTED			DATE CO	OMPLETE	D	
SZE AND TYPE CORE BARREL NO. SAMPLES DIST. 19 UNDIST. N/A CORE N/A	Advanced Drilling, Inc.		F	Roger Lo	oge	əl				11/1	6/06			11/	/16/06	
N/A N/A	DRILLING EQUIPMENT								COMPLE	TION DE	PTH (FT E	BGS)	ROCK D	EPTH (FT)	
N/A N/A	GEFCO SS 5 Drill Rig turning 4.25-inch holl	w-stem augers												not end		
CASING HAMMER			S				BARRE	L	NO. SAM	IPLES	DIST.		UNDIST.			
SAMPLER 2" diameter, 2" long split-spoon SAMPLER HAMMER WEIGHT 140 lbs. OROP 30" NAPECTOR Eric Gaulin NEIGHT Forrest Street intersection. NAPECTOR Eric Gaulin NAPECTOR NAPEC			+		N/											
DESCRIPTION DESCRIPTION Depth Samples Penetr			D	POP		N/A			BORING	LOCATIO	N: Easte	rn shoul	der of Ha	alladay S	treet, 30 ft SW from the	
DESCRIPTION Sample Pide Penetric Pide Penetric Penetric Pide Penetric Pide Penetric Pide Penetric Pide Penetric Pide Penetric Pide Penetric Pide Penetric Pide Penetric Pide Penetric Pide	SAMPLER 2" diameter, 2' long split-spo	oon	_								of the H	alladay S	Street / F	orrest St	reet intersection.	
DESCRIPTION Second Depth	SAMPLER HAMMER WEIGHT 140 lbs.		D	ROP		30"			INSPECT	FOR						
DESCRIPTION		300	terval		aple		San				PID		NGS			
10.0-12.0 Reddish brown (2.5YR5/4) fine to medium SAND (SW), trace clay, trace silt, 1% subrounded to subangular 1" diameter gravel 12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 15. 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	DECORIDION	<u> </u>	ble In	Б	ter Ta						1	<u> </u>			DEMARKS	
10.0-12.0 Reddish brown (2.5YR5/4) fine to medium SAND (SW), trace clay, trace silt, 1% subrounded to subangular 1" diameter gravel 12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 15.	DESCRIPTION	i i i	Sam	-	Wa	Number			Time	Sample		Time			HEIVIARKS	
10.0-12.0 Reddish brown (2.5YR5/4) fine to medium SAND (SW), trace clay, trace silt, 1% subrounded to subangular 1" diameter gravel 12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 15. 4 0911 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0			_				(11)	BL/6in		<u> </u>	Air	L	Space	⊔ate		
12.0-14.0 Reddish brown (2.5YR5/4) fine 5 0.0	`	,		- 10 -	Ŧ	4	15	4	0911	0.0	0.0	0911	N/A	N/A	No odors or other	
12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 5 1.8 5 0916 0.0	(//		۱.			7	1.5	, ,	5511	0.0	0.0	0011				
12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 15. 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0		aidi i i clei	`	-				5		0.0	0.0				· ·	
12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 13 -				- 11 -						0.0	0.0				spoon moist	
12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 5 1.8 5 0916 0.0 0.0 0916 N/A N/A Sample SB-51(12.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (1.5 SULTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay								5		0.0	0.0					
12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 5 1.8 5 0916 0.0 0.0 0916 N/A Sample SB-51(12.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 6 2.0 4 0918 0.0 0.0 0918 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A																
12.0-14.0 Reddish brown (2.5YR5/4) fine SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 5								6								
SILTY SAND (SM), with 10% coarse sand to fine gravel (2 to 4 mm in diameter) 5 1.8 5 0916 0.0 0.0 0916 N/A N/A Sample SB-51(12.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (12.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and Amenable (13.5-13.0) collected at 092 for TCL VOC, TCL SVOC, TAL Metals, Total and TCL SVOC, TAL Metals, Total and TCL SVOC, TAL Metals, Total and TCL SVOC, TAL Metals, TCL SVOC, TAL Metals, TCL SVOC, TAL Metals, TCL SVOC, TAL Metals, TCL SVOC, TAL Metals, TCL SVOC, TAL	10 0 11 0 D 1 1 1 1 1 (0 EV/DE	(A) C		- 12 -												-
fine gravel (2 to 4 mm in diameter)	`	′				5	1.8	5	0916	0.0	0.0	0916	N/A	N/A	Sample SB-51(12.5-	
14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 6 0.0 0.0 0.0 for ICL VOC, ICL SVOC, TAL Metals, Total and Amenable (ICL SVOC) (ICL SV			١.												13.0) collected at 092	2
14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 7								6		0.0	0.0					
14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 7			\	- 13 -												CN
14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY 5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0								7		0.0	0.0				Total and Amonable C	J. 1
14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY 5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0																
14.0-16.6 Reddish brown (2.5YR5/4) fine SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 6 2.0 4 0918 0.0 0.0 0918 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A								6		0.0	0.0					
SILTY SAND (SM) grading to fine SANDY SILT (ML), trace clay 6 2.0 4 0918 0.0 0.0 0918 N/A N/A NO odors or other evidence of contamination	14.0-16.6 Reddish brown (2.5VR	5/4) fine		- 14 -												-
SILT (ML), trace clay 5 0.0 0.0 evidence of contamination	`	,				6	2.0	4	0918	0.0	0.0	0918	N/A	N/A		
- 15 -			-													
								5		0.0	0.0				contamination	
5 0.0 0.0				- 15 -												
								5		0.0	0.0					
			1													
5 0.0 0.0								5		0.0	0.0					
- 16 -				- 16 -												-
7 1.8 5 0925 0.0 0.0 0925 N/A N/A No odors or other evidence of						7	1.8	5	0925	0.0	0.0	0925	N/A	N/A		
16 6-18 2 Reddish brown (2 5YR5/4) fine	16.6-18.2 Reddish brown (2.5YR	5/4) fine	1							0.0	0.0					
SANDY SILT (ML)		<i>'</i>		47				4		0.0	0.0				- Containmation	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				- 1/ -				E		0.0	0.0					
5 0.0 0.0								5		0.0	0.0					
								4		0.0	0.0					
18 - 18 - 10.0 0.0 0.0 0.0			7	- 10				4		0.0	0.0					_
18.2-18.8 Reddish brown (2.5YR5/4) fine to	`	,		10 -		Я	20	4	0929	0.0	0.0	0929	N/A	N/A	No odore or other	
medium SAND (SW), trace silt, 1% 1/4"		6 1/4"					2.0	•	0020	0.0	0.0	0020	13//	13//		
diameter subrounded graver 5 0.0 0.0 contamination	diameter subrounded graver		П					5		0.0	0.0					
18.8-23.8 Reddish brown (2.5YR5/4) fine		/4) fine		- 19 -												
SAND (SP), trace silt	SAND (SP), trace silt							7		0.0	0.0					
			$\ \cdot \ $													
7 0.0 0.0								7		0.0	0.0					
- 20				- 20 -						<u> </u>	<u> </u>	<u></u>	<u> </u>	<u></u>	<u> </u>	

AECOM Not	te: Ground Surface E	le	vatio	n	= 1	3.7	ft N	AVI	088						
PROJECT LOCATION								GROUNE	D ELEVAT	TION (FT.	MSL)	PROJEC	T NUMBE	R	
Halladay Street , Jersey	City, NJ								14	.96				02	20667601
DRILLING CONTRACTOR			FOREMAI	V				DATE ST	TARTED			DATE CO	OMPLETE	D	
Advanced Drilling, Inc.			Roger L	.og	el					6/06				/16/06	
DRILLING EQUIPMENT								COMPLE		PTH (FT E	BGS)	ROCK D	EPTH (FT		
	rning 4.25-inch hollow-stem augers		SIZE AND		DE CODE	DADDI		NO. SAM	45.8'	DIST.	19	UNDIST.	not end	countere	core N/A
TYPE BIT Hollow-S CASING N/A	tem auger		SIZE AND	N/		BARRI	EL	WATER		FIRST	10	COMPL.	N/A		24HR N/A
CASING HAMMER	WEIGHT N/A		DROP	1 14/	N/A										ft SW from the
	ter, 2' long split-spoon		DHOF		19/73			1					orrest St		
SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPECT		Eric Ga			011001 01		
		al				Sar	nples			PID	READI	NGS			
		Sample Interval		Table			Penetr.				(PPM)				
DE	SCRIPTION	ample	Depth	Water	Number	Recov	Resist.	Time	Sample	Ambient	Time	Head	Time		REMARKS
		Š	(ft bgs)			(ft)	BL/6in			Air		Space	Date		
10 0 00 0 Daddiah	brown (O.EVDE/4) fine		- 20 -												
SAND (SP), trace	brown (2.5YR5/4) fine				9	2.0	7	0938	0.0	0.0	0938	N/A	N/A		odors or other lence of
(3.7, 1.113)															tamination
							8		0.0	0.0					
			- 21 -												
							8		0.0	0.0					
									0.0	0.0					
			- 22 -				8		0.0	0.0				.	
					10	2.0	7	0952	0.0	0.0	0952	N/A	N/A	No (odors or other
								0002	0.0	0.0	0002				lence of
							9		0.0	0.0				cont	tamination
			- 23 -						"						
							10		0.0	0.0					
	eddish brown (2.5YR5/4) ND (SW), trace clay, 50%						9		0.0	0.0					
	subangular, up to 1/2"		- 24 -												
diameter					11	2.0	10	0956	0.0	0.0	0956	N/A	N/A	No o	dors or other
															ence of
							10		0.0	0.0				conta	amination
			- 25 -												
							10		0.0	0.0					
			00				11		0.0	0.0					
			- 26 -		12	2.0	8	0956	0.0	0.0	0956	N/A	N/A	C	ple SB-51(27.0-
					14	2.0	"	0930	0.0	0.0	0930	19/74	19/74		pie SB-51(27.0-) collected at 1012
							10		0.0	0.0				for T	CL VOC, TCL
			- 27 -						"						C, TAL Metals,
	brown (2.5YR4/4) fine						11		0.0	0.0				Tota	I and Amenable CN
SANDY SILT (ML)	, IIIII														
							12		0.0	0.0					
			- 28 -												
					13	1.1	10	1000	0.0	0.0	1000	N/A	N/A		dors or other
															ence of
							10		0.0	0.0				conta	amination
			- 29 -												
							13		0.0	0.0					
							10			0.0					
			- 30 -			L	16		0.0	0.0				L	
		Ш	- 30 -	_		r	1	1	<u> </u>	1		1		1	

AECOM Not	te: Ground Surface I	Ele	LOG vatio							1				
PROJECT LOCATION								GROUNI	D ELEVAT	ΓΙΟΝ (FT.	MSL)	PROJEC	T NUMBE	ER .
Halladay Street , Jersey	City, NJ								14	.96				020667601
DRILLING CONTRACTOR			FOREMAN	N				DATE ST	ARTED			DATE CO	OMPLETE	ED .
Advanced Drilling, Inc.			Roger L	.og	el				11/1	16/06			11.	/16/06
DRILLING EQUIPMENT								COMPLE		PTH (FT E	BGS)	ROCK D	EPTH (FT	
GEFCO SS 5 Drill Rig tu	urning 4.25-inch hollow-stem augers	3							45.8'					countered
	stem auger		SIZE AND) TY	PE CORE	BARRE	ĒL.	NO. SAM		DIST.	19	UNDIST.		
CASING N/A				N/	/A			WATER	DEPTH	FIRST	10	COMPL.	N/A	24HR N/A
CASING HAMMER	WEIGHT N/A		DROP		N/A					N: Easte	ern shoul	der of Ha	alladay S	treet, 30 ft SW from the
	eter, 2' long split-spoon		51101					1					-	reet intersection.
SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPEC		Eric Ga		Street / I	orrest ot	rect intersection.
SAWIF LETT HAWWILL	WEIGHT 140 IDS.	T_		Π	1	Con	nples	INSFEC	lon		READI	NGS		
		Sample Interval		able		Sai			1	FID		NGS		
DE	ESCRIPTION	ple Ir	Danath	ater T		_	Penetr.	_			(PPM)	T	I _	REMARKS
DE	SONIFIION	Sam	Depth (ft bas)	Wat	Number	Recov.	Resist.	Time	Sample	Ambient	Time	Head	Time	NEIVIANNO
		+	(ft bgs)	H		(ft)	BL/6in			Air		Space	Date	
	brown (2.5YR4/4) fine		- 30 -		4.4	1 ^		1000	^^	1	1000	, L/A	N1/A	No odors or other
SANDY SILT (ML)	, firm				14	1.2	8	1028	0.0	0.0	1028	N/A	N/A	evidence of
							l .							contamination
							11		0.0	0.0				
			- 31 -											
			1				13		0.0	0.0				
							14							
			- 32 -						l ·					
					15	1.3	10	1034	0.0	0.0	1034	N/A	N/A	No odors or other
														evidence of contamination
							12		0.0	0.0				Contamination
33 0-35 0 Reddish	brown (2.5YR4/4) fine		- 33 -											
	with some 3/4" bands of						12		0.0	0.0				
fine to medium sa														
							15							
			- 34 -											
					16	2.0	19	1050	0.0	0.0	1050	N/A	N/A	No odors or other
														evidence of
							27		0.0	0.0				contamination
			- 35 -											
	onsisting of reddish brown						38		0.0	0.0				
	LTY SAND (SM), some fine								0.0	0.0				
	ne (1/8") gravel consisting of ne, red siltstone and		-				44		0.0	0.0				
argillite	ne, reu sinstone and		- 36 -						0.0	0.0				
argto			- 30 -		17	2.0	30	1057	0.0	0.0	1057	N/A	N/A	No odere
					17	2.0	30	105/	0.0	0.0	105/	IN/A	IN/A	No odors or other evidence of
			-				00			0.0				contamination
							29		0.0	0.0				
			- 37 -											
							37		0.0	0.0				
							40		0.0	0.0				
			- 38 -						l :					
					18	1.5	21	1121	0.0	0.0	1121	N/A	N/A	No odors or other
														evidence of
							29		0.0	0.0				contamination
			- 39 -											
							25		0.0	0.0				
							33		0.0	0.0				
			- 40 -		<u> </u>				ļ ·					

AECOM No	te: Gro	ound Surface E	le	LOG vatio							1				
PROJECT LOCATION											ΓΙΟΝ (FT.	MSL)	PROJEC	T NUMBE	ER
Halladay Street , Jersey	City, NJ									14	.96				020667601
DRILLING CONTRACTOR	-			FOREMAN	N				DATE ST	ARTED			DATE CO	OMPLETE	ED .
Advanced Drilling, Inc.				Roger L		el					16/06			11.	/16/06
DRILLING EQUIPMENT				- 3-	- 3				COMPLE		PTH (FT E	BGS)	ROCK D	EPTH (FT	
	urnina 4.25-	inch hollow-stem augers								45.8'	,	,			countered
	stem auger	mon nonew otem dagere		SIZE AND	TY	PE CORE	BARRI	EL	NO. SAM		DIST.	19	UNDIST.		
CASING N/A	3-				N/				WATER		FIRST	10	COMPL.	N/A	
CASING HAMMER	WEIGHT	N/A		DROP		N/A					-				treet, 30 ft SW from the
		g split-spoon		DHOF		19/73			1						reet intersection.
SAMPLER HAMMER		140 lbs.		DROP		30"					Eric Ga		olieel / F	onest St	reet intersection.
SAMPLER HAMMER	WEIGHT	140 105.	Π		П	30	0		INSPECT	IOR			NOO		
			Sample Interval		able	-	Sar	nples	l		PID	READI	NGS		
	-OODIDT	CON	ul elc		ter Ta			Penetr.			1	(PPM)		I	DEMARKO
Di	ESCRIPT	ION	Samp	Depth	Wat	Number	Recov	Resist.	Time	Sample		Time	Head	Time	REMARKS
			┡	(ft bgs)	L	_	(ft)	BL/6in			Air		Space	Date	
Augered through	from 40 to	o 45 feet due to		- 40 -											
slow and difficult	augerina														
	59														
				- 41 -											
				- 42 -											
				72											
				- 43 -											
				- 44 -											
			l												
45.0-45.8 TILL: co	onsisting	of reddish brown		- 45 -					l	ļ	1		1		0
(2.5YR4/4) fine S	ILTY SAN	ND (SM), some fine				19	0.8	100/4"	1216	0.0	0.0	1216	N/A	N/A	Sample SB-51(45.0-
sandy silt, 50% fir		consisting of													45.5) collected at 1216 for TCL VOC, TCL
sandstone and ar	gillite														SVOC, TAL Metals,
				- 46 -											Total and Amenable CN
				- 47 -			ļ	ļ				<u></u> .			
				"											
				-											
				- 48 -											
				- 49 -											
				- 50		[L	L	<u> </u>	L]	L	<u> </u>	L	
			1	- 50 -	Ш			1	1	r	1		1		1

AECOM Note: Ground Surfac	<u>.е</u>	⊏ie\	<i>V</i> 2	uor	<u> </u>	10.5					DDO :	T N 11 1 1	-D
PROJECT LOCATION							GROUNI	D ELEVAT		MSL)	PROJEC	T NUMBE	
Halladay Street , Jersey City, NJ DRILLING CONTRACTOR		FOREMA	N				DATE ST		.12		DATE C	OMPLETE	020667601
				ما			DATEST		21/06		DATE CO		/22/06
Advanced Drilling, Inc. DRILLING EQUIPMENT		Roger I	_og	eı			COMPLE	TION DE		000/	BOCK D	EPTH (FT	
SEFCO SS 5 Drill Rig turning 4.25-inch hollow-stem augers							COMPLE	56	rin(ri	503)	NOCK D		countered
YPE BIT Hollow-stem auger		SIZE AND) TY	PE CORE	BARRI	EL	NO. SAM		DIST.	27	UNDIST.		
ASING N/A			N/	/A			WATER		FIRST	4.5	COMPL.	N/A	
ASING HAMMER WEIGHT N/A		DROP		N/A			BORING	LOCATIO	N: Easte	rn shoul	der of Ha	alladay S	Street, 30 ft NE from the
AMPLER 2" diameter, 2' long split-spoon							1					-	venue intersection.
SAMPLER HAMMER WEIGHT 140 lbs.		DROP		30"			INSPEC [*]		Eric Ga				
	al				Sar	nples	•		PID	READI	NGS		
	Interval		Table			Penetr.				(PPM)			
DESCRIPTION	Sample	Depth	Vater	Number	Recov	. Resist.	Time	Sample	Ambient	Time	Head	Time	REMARKS
	Sa	(ft bgs)	_		(ft)	BL/6in			Air		Space	Date	
Cleared via hand digging to 4'; boring hrough asphalt; Fill consisted of brownish ed sandy fill with visible red chromate ore processing residue (COPR) pellets		- 0 - - 1 -											
		- 2 -											
I.0-6.0 FILL: consisting of reddish brown gravel, clay, black clinker			<u> </u>	1	0.9	3	1249	0.0	0.0	1249	N/A	N/A	No odors or other evidence of contamination
		_				4		0.0	0.0				
		- 5 -				_		0.0	0.0				
						6		0.0	0.0				
		-											
						4							
.0-8.0 FILL: consisting of clinkers and gravel	1	- 6 -		2	0.7	3	1050	0.0	0.0	1050	NI/A	NI/A	No odors or other
- -				2	0.7	3	1252	0.0	0.0	1252	N/A	N/A	evidence of
		-				2		0.0	0.0				contamination
		-7-				_		0.0	0.0				
		- / -				2							
		_				_							
						4							
		- 8 -				"							
0-10.0 FILL: consisting of grayish black fine ty sand, some ash, some organic matter		- 0 -		3	0.9	2	1255	0.0	0.0	1255	N/A	N/A	No odors or other evidence of
ny sana, some asn, some organic maller						2		0.0	0.0				contamination
		- 9 -											
						3							
						3							
		- 10 -		 		 				ļ			

Interim Data Submittal No.4		LOG	C	F S	OIL I	BOR	ING S	SB-4	0				Page 2 of 6
AECOM Note: Ground Surface	ce	Elev	a	tion	= 1	10.9	ft N	IAVI	88C				
PROJECT LOCATION							GROUNI	D ELEVAT	TION (FT.	MSL)	PROJEC	T NUMBE	ER
Halladay Street , Jersey City, NJ								12	.12				020667601
DRILLING CONTRACTOR		FOREMA	N				DATE ST	TARTED			DATE C	OMPLETE	ED
Advanced Drilling, Inc.		Roger L	_og	jel				11/2	21/06			11	/22/06
DRILLING EQUIPMENT							COMPLE	ETION DE	PTH (FT E	BGS)	ROCK D	EPTH (FT)
GEFCO SS 5 Drill Rig turning 4.25-inch hollow-stem augers	3	1						56				not en	countered
TYPE BIT Hollow-stem auger		SIZE AND			BARR	EL	NO. SAM	MPLES	DIST.	27	UNDIST		
CASING N/A			N/	/A			WATER	DEPTH	FIRST	4.5	COMPL.	N/A	24HR N/A
CASING HAMMER WEIGHT N/A		DROP		N/A			BORING	LOCATIO	N: Easte	ern shoul	der of H	alladay S	Street, 30 ft NE from the
SAMPLER 2" diameter, 2' long split-spoon		ı					eastern	corner c	of the Ha	lladay St	reet / Ca	arteret Av	venue intersection.
SAMPLER HAMMER WEIGHT 140 lbs.		DROP	1	30"			INSPEC	TOR	Eric Ga				I
	Interval		əle		Sar	mples		ļ	PID	READI	NGS		
	le Int		er Tal			Penetr.			1	(PPM)		ı	
DESCRIPTION	Sample	Depth	Wat	Number	Recov	. Resist.	Time	Sample	Ambient	Time	Head	Time	REMARKS
	ļ.,	(ft bgs)	-		(ft)	BL/6in			Air		Space	Date	
10.0-10.3 FILL: same as above (SAA), with black staining and oil-like odors		- 10 -	-	4	1.0	2	1304	0.1	0.0	1304	N/A	N/A	Sample SB-40(10.0- 10.5) collected at 1305 for TCL VOC, TCL
10.3-14.8 Weak red (2.5YR4/2) fine SILTY SAND (SM)		- 11 -				1		0.0	0.0				SVOC, TAL Metals, Total and Amenable CN. Positive dye test from
						2							10.0 to 10.5; tar-like odors
		- 12 -		 5	1.0	2	1306	0.0	0.0	1306	N/A	N/A	
					1.0	1	1300	0.0	0.0	1300	IN/A	IN/A	
		- 13 -				1		0.0	0.0				
						2							
		- 14 -		6	1.0	2	1314	0.1	0.0	1314	N/A	N/A	Anaerobic, swampy
14.8-16.0 brownish PEAT (PT), very fibrous		- 15 -				2		0.1	0.0				odors
						2							
16 0 10 2 SAA becoming higher in deal		- 16 -				2							
16.0-19.3 SAA, becoming higher in dark greenish gray (GLEY 1 4/1 GY) CLAY (OH) content (50%) at bottom				7	1.5	2	1316	10.2	0.0	1316	N/A	N/A	Anaerobic, swampy odors
		- 17 -				1		10.5	0.0				
						2		22.3	0.0				
		- 18 -		 8	1.7	1	1320	14.0	0.0	1320	N/A	N/A	Anaerobic, swampy
19.3-20.6 Gray (GLEY1 5/N) SILTY CLAY (CL)						2		8.5	0.0				odors
		- 19 -				1		4.7	0.0				
						2		4.0	0.0				
		- 20 -			ļ	ļ					 		

ROJECT LOCATION								GROUNI	D ELEVAT	TION (FT. I	MSL)	PROJEC	T NUMBE	ER
Ialladay Street , Jersey (City, NJ								12	.12				020667601
RILLING CONTRACTOR			FOREMA	N				DATE ST	TARTED			DATE CO	OMPLETE	
dvanced Drilling, Inc.			Roger L	.og	jel				11/2	21/06			11/	/22/06
RILLING EQUIPMENT								COMPLE		PTH (FT B	(GS)	ROCK DI	EPTH (FT	
	ning 4.25-inch hollow-stem augers		l						56	1				countered
PE BIT Hollow-st	em auger		SIZE AND			BARRI	EL	NO. SAN		DIST.	27 4.5	UNDIST.	N/A N/A	
ISING N/A	weight N/A		DROP	N/	N/A			WATER		FIRST		COMPL.		24HR N/A Street, 30 ft NE from the
	er, 2' long split-spoon		DROP		IN/A									venue intersection.
	WEIGHT 140 lbs.		DROP		30"			INSPEC		Eric Ga		ieet / Oa	iteret Av	reflue intersection.
		al				Sar	nples		Ī		READII	NGS		
		Sample Interval		Table			Penetr.				(PPM)			
DE	SCRIPTION	ample	Depth	Water	Number	Recov.	Resist.	Time	Sample	Ambient	Time	Head	Time	REMARKS
		Sa	(ft bgs)			(ft)	BL/6in			Air		Space	Date	
9.3-20.6 Gray (GI CL)	EY1 5/N) SILTY CLAY		- 20 -		9	1.4	2	1331	1.0	0.1	1331	N/A	N/A	Anaerobic, swampy odors
0.6-23.1 Gray (GI ILTY SAND (SM)	EY1 5/N) fine to medium , trace clay		- 21 -				3		0.8	0.0				
2 2 (3.41)	,						5		0.1	0.0				
			- 22 -				5							
					10	1.9	5	1334	0.4	0.2	1334	N/A	N/A	Anaerobic, swampy odors
3.1-24.0 fine to m ngular to subangu	edium SAND (SW), 10% ılar gravel		- 23 -				7		1.0	0.0				
							8		0.3	0.0				
4.0-26.0 Reddish	brown (2.5YR4/4) fine to		- 24 -											
edium SAND (SV ace silt	V), trace coarse sand,				11	2.0	5	1350	1.0	0.0	1350	N/A	N/A	Faint naphthalene-like odors, no sheen, no staining, no product;
			- 25 -				5		0.4	0.0				odors on groundwater
							7		0.4	0.0				
6.0-26.8 Reddish ledium SAND (SV	brown (2.5YR4/4) fine to V), trace silt		- 26 -		12	1.5	6	1400	1.3	0.0	1400	N/A	N/A	Faint naphthalene-like
	brown (2.5YR4/4) fine		07				6		4.8	0.0				odors, no sheen, no staining, no product; odors on groundwater
ILTY SAND (SM)			- 27 -				7		1.4	0.0				
			- 28 -				6							
			- 28 -		13	0.8	3	1416	1.0	0.0	1416	N/A	N/A	Faint naphthalene-like odors, no sheen, no
			- 29 -				4		3.0	0.0				staining, no product; odors on groundwater
							4							
			- 30 -				4							
				1 1										

AFOOMANIA ON THE								SB-4					
AECOM Note: Ground Surface) <u> </u>	leva	atı	on :	= 10	ე.9					1		
PROJECT LOCATION							GROUNI		TION (FT.	MSL)	PROJEC	T NUMBE	
Halladay Street , Jersey City, NJ									.12				020667601
DRILLING CONTRACTOR		FOREMAN	٧				DATE ST	ARTED			DATE CO	OMPLETE	ED
Advanced Drilling, Inc.		Roger L	oge	el				11/2	21/06			11.	/22/06
DRILLING EQUIPMENT							COMPLE	TION DE	PTH (FT E	BGS)	ROCK D	EPTH (FT)
GEFCO SS 5 Drill Rig turning 4.25-inch hollow-stem augers								56				not end	countered
TYPE BIT Hollow-stem auger		SIZE AND	TYI	PE CORE	BARRE	L	NO. SAM	IPLES	DIST.	27	UNDIST.	N/A	CORE N/A
CASING N/A			N/	A			WATER	DEPTH	FIRST	4.5	COMPL.	N/A	24HR N/A
CASING HAMMER WEIGHT N/A		DROP		N/A			BORING	LOCATIO	N: Easte	rn shoul	der of Ha	alladay S	Street, 30 ft NE from the
SAMPLER 2" diameter, 2' long split-spoon							eastern	corner c	of the Hal	laday St	reet / Ca	rteret Av	venue intersection.
SAMPLER HAMMER WEIGHT 140 lbs.		DROP		30"			INSPEC	TOR	Eric Ga	aulin			
·	val		m		San	nples			PID	READI	NGS		
	Sample Interval		Table			Penetr.				(PPM)			
DESCRIPTION	mple	Depth	Vater	Number	Recov.	Resist.	Time	Sample	Ambient	Time	Head	Time	REMARKS
	Sa	(ft bgs)	_		(ft)	BL/6in			Air		Space	Date	
		- 30 -											
26.8-34.4 Reddish brown (2.5YR4/4) fine SILTY SAND (SM)				14	1.1	4	1431	2.2	0.0	1431	N/A	N/A	Faint naphthalene-like odors, no sheen, no staining, no product;
		- 31 -				4		13.1	0.0				odors on groundwater; sample SB-40(30.5-31.0)
						5		4.5	0.0				collected at 1433 for TCL VOC, TCL SVOC, TAL
						4		8.0	0.0				Metals, Total and Amenable CN
		- 32 -		15	1.5	3	1450	0.0	0.0	1450	N/A	N/A	Faint naphthalene-like
						5		0.0	0.0				odors, no sheen, no staining, no product; odors on groundwater
		- 33 -				5		0.0	0.0				oddio on grodnawator
						7							
24.4.26.0 Roddigh brown (2.5VR4/4) fina		- 34 -		16	1.2	5	1453	0.0	0.0	1453	N/A	N/A	Faint naphthalene-like
34.4-36.0 Reddish brown (2.5YR4/4) fine SANDY SILT (ML)						5		1.4	0.0				odors, no sheen, no staining, no product;
		- 35 -				6		0.0	0.0				odors on groundwater
						6							
36.0-44.1 Reddish brown (2.5YR4/4) fine		- 36 -		 17	1.6	 5	1455	0.0	0.0	1455	N/A	N/A	Faint naphthalene-like
SANDY SILT (ML) and fine silty sand						6		0.0	0.0				odors, no sheen, no staining, no product;
		- 37 -				6		0.0	0.0				odors on groundwater
						5		0.0	0.0				
		- 38 -		18	0.9	4	1459	2.1	0.0	1459	N/A	N/A	No odoro potad in this
				10	0.8	5	1403	3.1	0.0	1438	IN/A	IN/M	No odors noted in this spoon
		- 39 -						3.1	0.0				
						6							Drilling ended here 11-21-06

N/A

LOG OF SOIL BORING SB-40

AECOM Note: Ground Surface Elevation = 10.9 ft NAVD88 PROJECT LOCATION GROUND ELEVATION (FT. MSL) PROJECT NUMBER Halladay Street , Jersey City, NJ 12.12 020667601 DRILLING CONTRACTOR FOREMAN DATE STARTED DATE COMPLETED Advanced Drilling, Inc. Roger Logel 11/21/06 11/22/06

COMPLETION DEPTH (FT BGS) DRILLING EQUIPMENT ROCK DEPTH (FT)

GEFCO SS 5 Drill Rig turning 4.25-inch hollow-stem augers not encountered TYPE BIT Hollow-stem auger SIZE AND TYPE CORE BARREL NO. SAMPLES DIST. 27 N/A CORE UNDIST.

N/A N/A WATER DEPTH FIRST 4.5 N/A N/A CASING COMPL 24HR CASING HAMMER WEIGHT N/A DROP N/A BORING LOCATION: Eastern shoulder of Halladay Street, 30 ft NE from the SAMPLER 2" diameter, 2' long split-spoon eastern corner of the Halladay Street / Carteret Avenue intersection.

SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPECT	TOR	Eric Ga	aulin			
		val		m		San	nples			PID	READII	NGS		
		Interval		Table			Penetr.				(PPM)			
DE	SCRIPTION	Sample	Depth	Water	Number	Recov.	Resist.	Time	Sample	Ambient	Time	Head	Time	REMARKS
		Š	(ft bgs)			(ft)	BL/6in			Air		Space	Date	
	brown (2.5YR4/4) fine and fine silty sand		- 40 -		19	1.5	4	0829	0.0	0.0	0829	N/A	N/A	Drilling resumed here on

SANDT SILT (ML) and line sitty sand						0020	0.0	0.0	0020			11-22-06
					5		0.0	0.0				
	- 41 -				4		4.0	0.0				Black brown oil material (OM) from 41.3 to 44.1; positive dye test at 42.5-
	40				4							43.0
	- 42 -		20	1.0	3	0835	63	0.0	0835	N/A	N/A	Sample SB-40(42.5-43.0) collected at 850 for TCL
	- 43 -				4		72	0.0				SVOC, TCL VOC, TAL Metals, Total and Amenable CN
					4							Amenable ON
					4							
44.1-47.2 Reddish brown (2.5YR4/4) fine SILTY SAND (SM)	- 44 -	-	21	1.1	2	913	1.2	0.0	913	N/A	N/A	
		1	۱۷	1.1		913	1.2	0.0	913	IN/A	IN/A	

44.1-47.2 Reddish brown (2.5YR4/4) fine	- 44 -			4							 	
SILTY SAND (SM)		21	1.1	2	913	1.2	0.0	913	N/A	N/A		
	- 45 -			2		0.6	0.0					
				2								

	- 46 -			2							
	- 46 -	22	1.3	2	0918	0.0	0.0	0918	N/A	N/A	Heavy black brown OM sheen and odors from 46.9 to 47.2
				2		0.0	0.0				

47.2-48.3 Reddish brown (2.5YR4/4) fine SANDY SILT (ML) 48.3-55.4 Reddish brown (2.5YR4/4) and	- 47 - 			3		0.0	0.0				Sample SB-40(47.0-47.5) collected at 0926 for TCL SVOC, TCL VOC, TAL Metals, Total and Amenable CN
occassionally thinly interlaminated SILT (ML) and SILT CLAY (CL), with a 1" band of fine sand at 48.5	- 40 -	23	1.0	3	0930	0.0	0.0	0930	N/A	N/A	No odors this spoon

48.3-55.4 Reddish brown (2.5YR4/4) and	-	- 48 -			3							Metals, Total and Amenable CN
occassionally thinly interlaminated SILT (ML) and SILT CLAY (CL), with a 1" band of fine sand at 48.5		40 -	23	1.0	3	0930	0.0	0.0	0930	N/A	N/A	No odors this spoon
		- 49 -			3		0.0	0.0				
	-				3							
		- 50 -			4							

Interim Data Subn	nittal No.4			_						_				Page 6 of 6
AFCOM No	te: Ground Surfac		LOG Flev											
PROJECT LOCATION	tor Ground Garrag						0.0			TION (FT.	MSL)	PROJEC	T NUMBE	
Halladay Street , Jersey	City, NJ							anoon.		2.12			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	020667601
DRILLING CONTRACTOR			FOREMA	N				DATE S	TARTED			DATE C	OMPLETE	
Advanced Drilling, Inc.			Roger L		el					21/06				/22/06
DRILLING EQUIPMENT				3	-			COMPL		EPTH (FT I	BGS)	ROCK D	EPTH (FT	
	urning 4.25-inch hollow-stem augers								56	,	,			countered
	stem auger		SIZE AND	TY	PE CORI	BARRI	EL	NO. SAM		DIST.	27	UNDIST	. N/A	CORE N/A
casing N/A				N	/Α			WATER	DEPTH	FIRST	4.5	COMPL	N/A	24HR N/A
CASING HAMMER	weight N/A		DROP		N/A			BORING	LOCATI	ON: Easte	ern shou	lder of H	alladay S	Street, 30 ft NE from the
SAMPLER 2" diame	eter, 2' long split-spoon		•					eastern	corner	of the Ha	lladay S	treet / Ca	rteret Av	venue intersection.
SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPEC	TOR	Eric G	aulin			
	•	/al		m		Sar	nples			PID	READ	INGS		
		Interval		Table			Penetr.				(PPM))		
DE	SCRIPTION	Sample	Depth	Water	Number	Recov	Resist.	Time	Sample	Ambient	Time	Head	Time	REMARKS
		Š	(ft bgs)			(ft)	BL/6in			Air		Space	Date	
49.2 55.4' Doddio	h brown (2.5YR4/4) and		- 50 -											
	ly interlaminated SILT (ML)	1			25	0.9	4	0951	0.0	0.0	0951	N/A	N/A	
	CL), with a 1" band of fine			1										
sand at 48.5							4		0.0	0.0				
			- 51 -											
							4		0.0	0.0				
							4							
			- 52 -											
					26	1.2	3	1000	0.0	0.0	1000	N/A	N/A	Sample SB-40(55.0-55.5)
		١												collected at 1020 for TCL
							4		0.0	0.0				SVOC, TCL VOC, TAL
			- 53 -											Metals, Total and Amenable CN
							4							Amenable on
							3							
			- 54 -											
					27	1.4	3	1018	0.0	0.0	1018	N/A	N/A	
		١												
		1					3		0.0	0.0				
			- 55 -											
							4							
							4							
			- 56 -											
End of Boring at 56	6'													
_														
			- 57 -											
			- 58 -											
				1										
				1										
			- 59 -											
			55 -	1										
				1										
				1										
			- 60			L	1							

AECOM Noto: Cround Surface		LOG							5						r ago r or c
AECOM Note: Ground Surface PROJECT LOCATION	<u> Eie</u>	valio	m	<u>= </u>	1./	IL IN		D ELEVAT	TION (FT	MSI.)	PRO IEC	T NUMBE	-R		
Halladay Street, Jersey City, New Jersey							GHOUNI		91	IVIOL)	FROJEC	, I NOIVIDE		2066760)1
DRILLING CONTRACTOR	F	FOREMAN	1				DATE ST				DATE C	OMPLETE			
Advanced Drilling, Inc.	I	R. Emps	son					04/1	3/04					04/15/04	1
DRILLING EQUIPMENT							COMPLE	TION DE	PTH (FT	BGS)	ROCK D	EPTH (FT)		
Hollow Stem Auger								95'	1			92.5'		ı	
TYPE BIT 4.25" diameter	5	SIZE AND			E BARR	EL	NO. SAM		DIST.	43	UNDIST.	N/A	0	CORE	0 N/A
CASING N/A CASING HAMMER WEIGHT N/A			N/A N/A				WATER	LOCATIO	FIRST	6.0'	COMPL.	IN/A		24HR	N/A
SAMPLER 2" diameter 2' split-spoon	Į.	DROP	IN/A	`			1			uildina	east si	de of H	allada	v St	
SAMPLER HAMMER WEIGHT 140 lbs.		DROP	3	30"			INSPEC		E. Gau		ouot o	uo 0	anaaa	,	
•			Ф		Sar	nples			PID	READI	NGS				
	Interval		Tab			Penetr.				(PPM)					
DESCRIPTION		Depth	Nater	Number	Recov	Resist.	Time	Sample	Ambient	Time	Dust	Time		RE	MARKS
	SS	(ft bgs)			(ft)	BL/6in			Air			Date			
0-0.5' FILL: Black GRAVEL (GW), fine to	M	- 0 -	-										 H02	·····	affecting PID;
medium sand, asphalt fragments.				1	1.0	26	13:12	N/A	N/A		N/A	N/A		not us	-
0.5.4.0(5)(1.5)						28							د، ا		
0.5-1.0' FILL: Black, gray and tan SAND (SP)	,	- 1 -				20									
mottled		.				19									
			ı			12									
2.0-10.5' FILL: Gray to black SAND (SP), firm.	. []	- 2 -	-												
Trace coal and glass fragments				2	1.0	3	13:21	N/A	N/A		N/A	N/A			
			ĺ			2									
	П	- 3 -	ı			2									
						2									
						2									
	U	- 4 -	L			ļ									
	M	·	ı	3	1.0	3	13:23	N/A	N/A		N/A	N/A			
0.2' layer of black fine silty sand. Trace													Org	janic o	dors noted
Clinker Material (CM) from 4.0'			ı			3									
Cilinal Material (Civi) Irom 4.0		- 5 -	ı												
						3									
		6	\forall			3									
		- b -	Ť	4	1.0	3	13:25	N/A	N/A	ļ	N/A	N/A			
Black cinders and clinker material (CM), some	<u>, </u>		ĺ	4	1.0		13.23	IN/A	IN/A		IN/A	IN/A	No	odors.	loose, wet.
white ash material (AM).						1								- 1	,
The don material (1997).		- 7 -				1									
						2									
						3									
		- 8 -	-			 									
			ĺ	5	1.0	2	13:36	N/A	N/A		N/A	N/A			
						2									
		- 9 -				2									
	П	g -				2									
			ĺ			-									
						1									
		- 10 -	-												
				6	1.0	6	13:40	N/A	N/A		N/A	N/A	٦		
10.5-11.0' Grayish brown (10YR 5/2) fine to															native soil at
medium SAND (SW), little silt.						8							app	roxima	tely 10.5'.
·		- 11 -				1									
						13									
						15									
		- 12 -				15									
		14 -			[<u> </u>	1		1	1	1				

AECOM Note: Ground Surface I	Elev	<u>atior</u>	<u>1 = 1</u>	1.7	ft N	<u>AVD</u>	88							
PROJECT LOCATION						GROUNI		ΓΙΟΝ (FT.	MSL)	PROJEC	T NUMBE		0060700	
Halladay Street, Jersey City, New Jersey DRILLING CONTRACTOR	E/	OREMAN				DATE ST		.91		DATE CO	OMPLETE		2066760	<u> </u>
Advanced Drilling, Inc.		R. Emps	on			DAILSI		3/04		DATEO	JIVII LLTL		04/15/04	
DRILLING EQUIPMENT						COMPLE		PTH (FT I	BGS)	ROCK D	EPTH (FT			
Hollow Stem Auger							95'				92.5'			
TYPE BIT 4.25" diameter	SI		YPE COR	E BARR	REL	NO. SAM	MPLES	DIST.	43	UNDIST.		0	CORE	0
CASING N/A			I/A			WATER		FIRST	6.0'	COMPL.	N/A		24HR	N/A
CASING HAMMER WEIGHT N/A	D	ROP I	I/A			1	LOCATIO					-111-	04	
SAMPLER 2" diameter 2' split-spoon SAMPLER HAMMER WEIGHT 140 lbs.	In.	ROP	30"			INSPEC		E. Gau		east si	ae of H	allada	y St.	
SAMPLEN HAMIMEN WEIGHT 140 IDS.	a a	NOF		Sar	nples	INSFEC	ION		READI	NGS				
	Inten		a		Penetr.				(PPM)					
DESCRIPTION	Sample (1	Depth	Number	Recov	. Resist.	Time	Sample	Ambient	Time	Dust	Time		RE	MARKS
	. Sa (1	ft bgs)	5	(ft)	BL/6in			Air			Date			
2.0.12.2' Fragment of roddish brown		- 12 -												
2.0-12.2' Fragment of reddish brown siltstone			7	0.5	13	13:45	N/A	N/A		N/A	N/A	Org	anic od	ors noted.
2.2-12.6' Light reddish brown (5YR 6/3) fine	 	-	1		4.4									
SILTY SAND (SM)		- 13 -	1		11									
• •		10 2	1		9									
		_	1		 									
			1		3									
4.0-14.5' Gray (GLEY1 6/N) SILTY CLAY	.	- 14 -		ļ	 						 -			
CL)			8	1.5	1	13:52	N/A	N/A		N/A	N/A			
	-	-	1											
4.5-18.7' Peat (PT) with coarse plant	М				1									
ragments.		- 15 -												
					1									
	П				1									
	11.	- 16 -			ļ									
	M		9	1.5	3	13:57	N/A	N/A		N/A	N/A			
	1 -	-												
ess organic material from 16.0'					5									
		- 17 -												
					5									
	-	-												
		40			3									
		- 18 -	10	1.4	4	14:07	NI/A	N/A		N/A	N/A			
			10	1.4	~	1-4.07	IN/A	IN/A		IN/A	IN/A			
8.7-20.2' Greenish gray (GLEY2 5/1) CLAY					5									
CL), trace fine sand at top of spoon.	<mark> </mark> .	- 19 -	1											
			1		4									
	-	-												
			1		5									
	·	- 20 -			†							Slic	iht nank	nthalene-like
20.2-21.0' Dark greenish gray (GLEY2 4/1)			11	1.0	5	14:15	N/A	N/A		N/A	N/A		or at 21.	
SILTY SAND and fine to medium SAND (SM),	, 🚹	-	1		7							500	u 1.	
poorly sorted, little (10%) subrounded gravel.	N N	- 21 -	1		′									
-	\prod	-	1		9									
	-	_	1]									
			1		9									
	11.	- 22 -		ļ	 						 -			
2.0-23.7' Dark greenish gray (GLEY2 4/1)			12	2.0	7	14:20	N/A	N/A		N/A	N/A	Nar	hthale	ne-like odors,
ine to medium SAND (SW), little silt.	-	-	1											ndications of
23.7-24.0' Reddish brown (2.5YR 4/4) fine to			1		8								ning.	
nedium SAND (SW), trace silt.		- 23 -	1										J	
			1		11									
		-			17									
		1	1	1	I ''									

AECOM Note: Ground Surface I	L Elev	. og (atior	OF S(า = 1)IL 1 1.7	BOR ft N	ING : AVD	SB-2)88	5						
PROJECT LOCATION							D ELEVAT		MSL)	PROJEC	T NUMBI	ER		
Halladay Street, Jersey City, New Jersey						ļ		.91					20667601	
DRILLING CONTRACTOR		DREMAN				DATE ST		0/04		DATE CO	OMPLETE		04/45/04	
Advanced Drilling, Inc. DRILLING EQUIPMENT	К	. Emps	on			COMPLE	U4/ I	3/04	DCC)	DOCK D	EPTH (F1		04/15/04	
Hollow Stem Auger						COMPLE	95'	PIH (FI	BGS)	HOUK D	92.5'	1)		
TYPE BIT 4.25" diameter	SI	ZE AND T	YPE COR	E BARF	REL	NO. SAN		DIST.	43	UNDIST.		0	CORE	0
casing N/A		N	I/A			WATER	DEPTH	FIRST	6.0'	COMPL.	N/A		24HR	N/A
CASING HAMMER WEIGHT N/A	DF	ROP N	I/A			BORING	LOCATIO	ON						
SAMPLER 2" diameter 2' split-spoon							t of Hals			east si	de of H	allada	y St.	
SAMPLER HAMMER WEIGHT 140 lbs.	-	ROP	30"			INSPEC	TOR	E. Gau						
	Interval	9		Sar	nples	I		PID	READI					
DESCRIPTION	9e L	Depth	Number	Pacay	Penetr. Resist.	Time	Sample	Ambient	(PPM) Time	Dust	Time	l	REM	IARKS
DECOM HON		t bgs)	Number	(ft)	BL/6in	Time	Sample	Air	Time	Dust	Date		11111	i i i i i i i
24.0-36.0' Reddish brown (2.5YR 4/4) fine to	+	- 24 -												
medium SAND (SW), trace silt			13	1.0	3	14:28	N/A	N/A		N/A	N/A			
(- /,,	\ -	-												
					5									
	-	- 25 -												ted sample
					6									26.0) forTCL
	-	-			6									VOC, TAL
		- 26 -		l	0	l	l					ivieta	als, CN	
		20	14	1.0	5	15:11	N/A	N/A		N/A	N/A			
	11-	-										Sligh	nt odors	
					5									
	-	- 27 -												
					6									
	-	-												
					7									
	11-	- 28 -	45			45.45	·					-		N. J 1911
			15	2.0	3	15:15	N/A	N/A		N/A	N/A			odors still
	11-	-			4								indwater	ociated with
	I II.	29 -			4							grou	iiiuwaici	•
					4									
	-	-												
					5									
	H -	- 30 -												
			16	1.0	1	15:28	N/A	N/A		N/A	N/A	Odo	rs.	
	11-	-												
		21			2									
	П	- 31 -			3									
		_			3									
					3									
	11-	- 32 -												
			17	1.5	3	15:35	N/A	N/A		N/A	N/A	Nap	hthalene	-like odors.
	-	-										•		
					4									
		- 33 -	1											
					4									
	-	-	1		_									
		- 34 -			5			<u> </u>	.					
		J +	18	1.0	5	15:45	N/A	N/A		N/A	N/A	Odo	re	
	1.	_			ľ		,, ,	,, .		,, .	. 4//	Odo	15.	
					3									
		- 35 -												
					3									
	-	-	1											
					3									
		- 36 -			+					+				

AECOM Note: Ground Surface E			_		_	_	ING :	_	5						
PROJECT LOCATION	IC V	auoi				LINZ		D ELEVA	ΓΙΟΝ (FT.	MSL)	PROJEC	T NUMB	ER		
Halladay Street, Jersey City, New Jersey								12	.91				0	20667601	
DRILLING CONTRACTOR		OREMAN					DATE ST				DATE C	OMPLETI			
Advanced Drilling, Inc.	JF	R. Emp	102	n					3/04					04/15/04	
DRILLING EQUIPMENT Hollow Stem Auger							COMPLE	ETION DE 95'	PTH (FT	BGS)	ROCK D	EPTH (F [*] 92.5'	Т)		
TYPE BIT 4.25" diameter	s	SIZE AND	TY	PE COR	E BARR	REL	NO. SAM		DIST.	43	UNDIST.	JZ.J	0	CORE	0
CASING N/A			N/				WATER		FIRST	6.0'	COMPL.	N/A		24HR	N/A
CASING HAMMER WEIGHT N/A	С	ROP	N/	Α			BORING	LOCATION	ON						
SAMPLER 2" diameter 2' split-spoon							In front	t of Hal	stead b	uilding,	east si	de of H	lallada	y St.	
SAMPLER HAMMER WEIGHT 140 lbs.		ROP		30"			INSPEC	TOR	E. Gau						
	Interval		ple		Sar	nples	1		PID	READI	NGS				
DESCRIPTION	le In	Depth	ter Ta	N. I I		Penetr. Resist.	Time	Sample	Ambient	(PPM) Time	Dust	T	-	DEM	IARKS
DESCRIPTION		ft bgs)	Wai	Number	(ft)	BL/6in	Time	Sample	Ambient	rime	Dust	Time	ł	I 1LIV	IAITING
	1	- 36 -			(11)							Date			
36.0-38.5 Reddish brown (2.5YR 4/4) fine to medium SAND (SW), trace silt, grading to fine				19	2.0	3	15:50	N/A	N/A		N/A	N/A		rs. Grou enish ting	ındwater had
SILTY SAND (SM)	M	- 37 -				4							gioc	and the	, 0.
						4								59 Collec 25 (36.0-	ted sample -36.5)
		- 38 -				4					 				
38.5-44.7' Reddish brown (2.5YR 4/4) SILTY	\ .			20	1.5	3	15:58	N/A	N/A		N/A	N/A			
FINE SAND and FINE SANDY SILT (SM),						4									
tight.		- 39 -				_									
						5									
						5									
	Ш	- 40 -									l 	l 			
				21	1.0	2	8:40	N/A	N/A		N/A	N/A	Star	t drilling	on 4/14/2004;
	1.														ngs due to
						2							rain	and hun	nidity
		- 41 -													
						3							Odo	rs. Grou	undwater had
						_							notio	cable gre	enish tinge.
		- 42 -				3			l		 	l 			
		- 42 -		22	2.0	3	8:45	N/A	N/A		N/A	N/A	Odo	rs. Gree	en tinge to
Becoming coarser with more silty fine sand.	11.				2.0		00	,	,, .		,			undwater	_
	M					4							ľ		
		- 43 -													
						6									
		44				8					l				
	П	- 44 -		23	2.0	5	9:01	N/A	N/A		N/A	N/A	Odd	ors and o	il material
	M.			20	2.0	5	3.01	IN/A	IN/A		IN/A	IN/A			4.8'. Positive
44.7-45.1' Reddish brown (2.5YR 4/4) FINE						6									dye test.
SILTY SAND (SM)		- 45 -											0.00	Collect	ad comple CD
45.1-63.5' SILTY FINE SAND (SM)						7									ed sample SB- 5) for TCL
,															SVOC, TAL
						6								als, CN	7700, 1712
	П	- 46 -					0.07	NI/A	 NI/A		 L NI/A	 _{NI/A}			1 - P - I - I
				24	2.0	5	9:07	N/A	N/A		N/A	N/A			ıt slight odors
		-				5							note	ŧu.	
47.5-48.0' Reddish gray (2.5YR 5/1) CLAY		- 47 -				Ĭ							0.46	0.00	ad agmint OD
(CL) with interbedded reddish brown (2.5YR						8									ed sample SB- 5) for TCL
4/4) SILTY CLAY (CL).															SVOC, TAL
						9								als, CN	
		- 48 -													

ROJECT LOCATION	Surface Ele		-	-					ΓΙΟΝ (FT.	MSL)	PROJEC	T NUMBE	ER
Halladay Street, Jersey City, New Jersey									.91	/			020667601
PRILLING CONTRACTOR		FOREMA	N				DATE ST				DATE CO	OMPLETE	
dvanced Drilling, Inc.		R. Emp	sor	<u>n_</u>					3/04				04/15/04
PRILLING EQUIPMENT							COMPLE	TION DE	PTH (FT I	BGS)	ROCK D	EPTH (FT)
lollow Stem Auger								95'				92.5'	
YPE BIT 4.25" diameter		SIZE AND) TY	PE CORE	BARR	EL	NO. SAM	MPLES	DIST.	43	UNDIST.		0 CORE 0
ASING N/A			N/	Α			WATER	DEPTH	FIRST	6.0'	COMPL.	N/A	24HR N/A
ASING HAMMER WEIGHT N/A		DROP	N/	Α			BORING	LOCATIO	ON				
AMPLER 2" diameter 2' split-spoon							In front	t of Hals	stead b	uilding,	east si	de of Ha	alladay St.
SAMPLER HAMMER WEIGHT 140 lbs		DROP		30"			INSPEC	TOR	E. Gau	ılin			
			<u>e</u>		San	nples			PID	READI	NGS		
	etul		r Tab			Penetr.				(PPM)			
DESCRIPTION	Samole	Depth	Vate	Number	Recov.	Resist.	Time	Sample	Ambient	Time	Dust	Time	REMARKS
	S	(ft bgs)	_		(ft)	BL/6in			Air			Date	
8.0-54.0' Reddish gray (2.5YR 5	1) CLAY	- 48 -				 :							
CL), some lenses of reddish brov				25	1.5	3	9:20	N/A	N/A		N/A	N/A	
/4) silty clay, very firm, low plasti													
	· .					5							9:27 Collected sample
		- 49 -											SB-25 (49.5-50.0) for
						4							TCL VOC, TCL SVOC,
	-												TAL Metals, CN
						5							
		- 50 -				 :							
0.01 Comp. Is ==== = f : 11				26	1.5	2	10:33	N/A	N/A		N/A	N/A	Switched to mud rotary
0.0' Some lenses of silty fine sar	a												Augers set at 49.0'
	_					2							3
		- 51 -											
						4							
	-												
						5							
		- 52 -											
				27	2.0	4	10:48	N/A	N/A		N/A	N/A	
lostly reddish brown, thinly lamin	ated clay					4							No odors
nd silty clay		- 53 -											
						6							
		I				6							
		- 54 -				 :							
				28	2.0	4	11:01	N/A	N/A		N/A	N/A	No odors
i4.0-60.0' Reddish gray (2.5YR 5/	1) and												-
eddish brown (2.5YR 4/4) CLAY						4							
ed (2.5YR 5/6) silty clay lenses, r		- 55 -											
50 (2.5 i i 5/0) silly clay letises, f	iore piastic					4							
		I				7							
	_	- 56 -				 :							
				29	2.0	5	11:07	N/A	N/A		N/A	N/A	No odors
													-
	ı I					5							
Predominantly reddish brown from	i 57.0'	- 57 -											
,						6							
		I				6							
		- 58 -											
	tic			30	2.0	6	11:10	N/A	N/A		N/A	N/A	PID could not be used
Secoming mostly clay highly place													due to rain; no odors
Becoming mostly clay, highly plas		Ī	1			6							noted.
ecoming mostly clay, highly plas													
Becoming mostly clay, highly plas		- 59 -											1101001
Becoming mostly clay, highly plas		- 59 -				5							notou.
Becoming mostly clay, highly plas		- 59 - 				5							
Becoming mostly clay, highly plas		- 59 - 				5							110.00

AECOM Note: Ground Surface E	Lo Eleva	og (atior	of So 1 = 1	DIL 1	BOR ft N	ING S AVD	SB-2)88	5						
PROJECT LOCATION						GROUNI	D ELEVA		MSL)	PROJEC	T NUMBE			
Halladay Street, Jersey City, New Jersey								.91					20667601	
DRILLING CONTRACTOR		REMAN				DATE ST		0/04		DATE C	OMPLETE		04/45/04	
Advanced Drilling, Inc. DRILLING EQUIPMENT	H.	Empso	on			OOMBI E		3/04	000	DOOK D	EDTIL (ET		04/15/04	
Hollow Stem Auger						COMPLE	TION DE	PIH (FI	BGS)	ROCK D	EPTH (FT 92.5'	1)		
TYPE BIT 4.25" diameter	SIZ	E AND T	YPE COR	E BARF	EL	NO. SAM		DIST.	43	UNDIST.		0	CORE (0
CASING N/A			I/A			WATER		FIRST	6.0'	COMPL.	N/A			N/A
CASING HAMMER WEIGHT N/A	DR	OP N	l/A			BORING	LOCATIO	ON						
SAMPLER 2" diameter 2' split-spoon						In front	t of Hal	stead b	uilding,	east si	de of H	allada	y St.	
SAMPLER HAMMER WEIGHT 140 lbs.	DR	OP	30"			INSPEC	TOR	E. Gau						
	ierval	a		Sar	nples	1		PID	READI					
DESCRIPTION	e D	epth ដី	Niverbas	Dana	Penetr.	Time	Camala	Amabiana	(PPM) Time		Time		REM/	/BKG
DESCRIPTION		bgs)	Number	(ft)	. Resist. BL/6in	Time	Sample	Ambient Air	rime	Dust	Time Date		ILLIVIA	ALINO
Becoming firmer with more lenses of silty	— <u> </u>	60 -		(11)	BL/6III			AII						
clay			31	2.0	6	11:35	N/A	N/A		N/A	N/A	Nο	odors	
60.0-63.5' Reddish gray (2.5YR 5/1) and	-	-										INO	odors	
reddish brown (2.5YR 4/4) CLAY and SILTY				1	8									
CLAY (CL), laminated, firm		61 -												
•					9									
	-	-												
				1	10									
	П	62 -	32	2.0	10	11:36	N/A	N/A		N/A	N/A			
	N .	_	32	2.0	10	11.30	IN/A	IN/A		IN/A	IN/A	No	odors	
					9									
	11-	63 -												
63.5-63.7' Reddish brown (2.5YR 4/4) FINE					8									
SILTY SAND and FINE SAND (SM)	-	-												
20.7.04.51.0 (01.5)/4.0(01) 01.0					13									
63.7-64.5' Gray (GLEY 1 6/N) CLAY and	H -	64 -												
SILTY CLAY (CL), laminated			33	2.0	8	11:51	N/A	N/A		N/A	N/A	No	odors	
65.5-65.0' Reddish gray (2.5YR 5/1) FINE	-	-			_									
SILTY SAND (SM)					7									
, ,		65 -			9									
65.0-72.0' Gray (5YR 5/1) and red (2.5YR 5/6) SILTY CLAY and CLAY (CL), laminated					9									
SILT I OLAT and OLAT (OL), laminated		-			11									
		66 -			ļ ···									
			34	2.0	10	11:54	N/A	N/A		N/A	N/A	No	odors	
	-	-										140	Juois	
				1	11									
More frequent reddish brown (2.5YR 4/4) silty	-	67 -												
clay layers.					11									
	-	-			4.0									
		68 -		1.	13		L	<u>l</u>	L	L				
		00 -	35	2.0	10	12:10	N/A	N/A	[N/A	N/A	No	odors	
		_	33	2.0	10	12.10	19/74	111/74		11/74	19/74			
Occasional thin lenses of reddish brown				1	9									
(2.5YR 4/4) silty sand.	-	69 -		1										
(E.O.T. T/T/ Silly Sullu.					9									
	-	-		1										
				1	10									
	-	70 -		·	 ·									
Becoming coarser with trace silty fine sand			36	2.0	7	13:50	N/A	N/A		N/A	N/A	No	odors	
and sandy fine silt from 71.0-72.0'.		-		1	_									
		71			5									
		71 -		1	7									
					′									
				1	7									
		72 -			ļ. ·									
N:\project\2002\0206676\01\5-Reports\2007-11 RIR\Appe			div D	Davina	. Lawa\i	IDC#1	Davina	1 000	2000 0	DOC VIA	المعامدة	_	-	1/20/2007 1/1:1

AECOM Note: Ground Surface E		-OG (/atior						5						
PROJECT LOCATION								ΓΙΟΝ (FT.	MSL)	PROJEC	T NUMBE	ER		
Halladay Street, Jersey City, New Jersey							12	.91				0	2066760	1
DRILLING CONTRACTOR	F	OREMAN				DATE ST	TARTED			DATE CO	OMPLETE	ΕD		
Advanced Drilling, Inc.	F	R. Emps	on				04/1	3/04					04/15/04	
DRILLING EQUIPMENT Hollow Stem Auger						COMPLE 29.0	TION DE	PTH (FT	BGS)	ROCK D	EPTH (FT 92.5'	Γ)		
YPE BIT 4.25" diameter	l.	SIZE AND T	VDE COD) דו	NO. SAM	4DL EC	DIST.	43	UNDIST.		0	CORE	0
ASING N/A	٥		J/A	E BARF	1EL	WATER		FIRST	6.0'	COMPL.	N/A		24HR	N/A
	_		I/A			1			0.0	COMPL.	IN/A		24NN	IN/A
ASING HAMMER WEIGHT N/A AMPLER 2" diameter 2' split-spoon	Į.	THOP I	N/A			1	LOCATIO		uildina	east si	do of L	allada	v Ct	
1 '	I.	ROP	30"			INSPEC		E. Gau		cast si	ue oi ii	anaua	y Ot.	
SAMPLER HAMMER WEIGHT 140 lbs.	T=	ROP	30	So.	nples	INSPEC	IOR		READ	NCC		I		
	terva	9	2	Jai	Penetr.			FID	(PPM)					
DESCRIPTION	le lu	Donth 3				T	0	A south to see	<u>'</u>		T		DE	MARKS
DESCRIPTION		Depth	Number			Time	Sample	Ambient	Time	Dust	Time		ΠL	IVIANNO
70 0 00 01 D		ft bgs)	+	(ft)	BL/6in			Air			Date	-		
(2.0-80.0' Reddish brown (2.5YR 4/4)		- 72 -			1									
CLAYEY SAND (SC), few lenses of silty sand,	М		37	2.0	5	13:52	N/A	N/A		N/A	N/A	No	odors	
cooming more clavery econolists 1/4" hand	11													
					6									
		- 73 -		1	1									
					6									
	<u> </u>													
					7									
		- 74 -			1									
			38	2.0	8	14:10	N/A	N/A		N/A	N/A	Nο	odors	
	11.												00.0.0	
					9									
		- 75 -												
					10									
	. .													
					11									
		- 76 -			L			l		l				
	П	- 70 -	39	2.0	9	14:20	N/A	N/A		N/A	N/A			
			39	2.0	9	14.20	IN/A	IN/A		IN/A	IN/A	No	odors	
	11													
	N				9									
Becoming siltier from 77.5'.		- 77 -												
•					11									
	·													
					13									
		- 78 -												
			40	2.0	14	14:35	N/A	N/A		N/A	N/A	Nο	odors	
	1.											I		
					13									
To a (50/) (" a a a a a l (- 79 -												
race (<5%) fine gravel from 79.8-80.0'.					22									
				1	1									
				1	25									
		- 80 -	[1				 		l				
0.0-80.7' TILL: GRAVEL (GW), subangular		30 -	41	0.7	17	14:55	N/A	N/A		N/A	N/A	Gra	vel con	sisted of som
subrounded GRAVEL, some silty clay and			4'	0.7	''	14.00	IN/A	IN/A		IN/A	IN/A			wn sandston
ilty sand.		1		1	10									ne pieces,
-y	П	١,		1	19							argi		р.оооо,
		- 81 -		1								argi		
				1	22									
	11.													
					14									
		- 82 -		1	+ ·									
				1	1									
	-			1	1									collecting
				1	1									y 5' as per
		- 83 -		1	1									with Marlene
												Linc	lhardt.	
	.													
		- 84 -												
I:\project\2002\0206676\01\5-Reports\2007-11 RIR\Appe	andice		div D - I	Rorino	ı Loge\	IIDS#1	Borino	. Loge 9	SB22 S	R26 vla	Printod:			11/29/2007 14

4 = 0 0 1 4 1 1			LOG							:5						r age o o	0
	<u>te: Ground Surface I</u>	Εle	<u>evati</u>	or	า = 1	1.7	ft N										
PROJECT LOCATION Halladay Street, Jerse	v City New Jersey							GROUN		TION (FT. 2.91	MSL)	PROJEC	T NUMB		2066760	11	
DRILLING CONTRACTOR	y Oity, New Jersey		FOREMAN	V				DATE S	TARTED	91		DATE CO	OMPLETE		12000700	'1	-
Advanced Drilling, Inc.			R. Emp		n			12,		13/04		3,.,, 0,	==		04/15/04		
DRILLING EQUIPMENT								COMPL	ETION DE	PTH (FT	BGS)	ROCK D	EPTH (F	Γ)			
Hollow Stem Auger										95'			92.5'				
	iameter		SIZE AND			E BARF	EL	NO. SAN		DIST.	43	UNDIST.		0	CORE	0	
CASING N/A	N/A			N/				WATER		FIRST	6.0'	COMPL.	N/A		24HR	N/A	
CASING HAMMER SAMPLER 2" diam	weight N/A neter 2' split-spoon		DROP	N/	Α				LOCATION TO THE		uildina	east si	de of H	lallada	v St		
SAMPLER HAMMER	WEIGHT 140 lbs.		DROP		30"			INSPEC		E. Gau		cast si	ue oi i i	ialiaua	ıy Ot.		
	1	val		Ф		Sar	nples				READ	NGS					
		Inter		Tabl			Penetr.				(PPM)						
DI	ESCRIPTION	mple	Depth	Nater	Number	Recov	. Resist.	Time	Sample	Ambient	Time	Dust	Time		RE	MARKS	
		Sar	(ft bgs)	_		(ft)	BL/6in			Air			Date				
			- 84 -														
	DAVE: (0M)		- 85 -				.	ļ		.		ļ					
	RAVEL (GW), subangular				42	0.2	38	15:21	N/A	N/A		N/A	N/A				
silty sand.	RAVEL, some silty clay and																
Silly Saliu.							50/3"										
			- 86 -														
			- 87 -														
			07														
			- 88 -														
			00														
			- 89 -														
			- 90 -														
			4		43	0.2	100/5	15:37	N/A	N/A		N/A	N/A				
90 0-90 2' TILL : G	RAVEL (GW), subangular																
	RAVEL, some silty clay and		- 91 -														
silty sand.	, is no only only and																
			- 92 -				ļ			 				1000			
																continue to	
00 E 0E 0! Dia -! /:!	aulcavas availlit-															ength (95') to Irock. Also pi	
92.5-95.0' Black/d weathered.	ark gray argillite,															mud tube to	uι
weamered.			- 93 -													lrock. Rock	
																vere same	
														blac	k/dark (gray argillite	
			- 94 -											mate	erial. D	rillers noted	
																k here seeme	ed
																weathered	
														base	ed on di	rillig progress	i-
End of boring at 9	5.0'		- 95 -				 :										
			00														
		1	- 96 -	Ш	<u>. </u>	<u> </u>	Ļ		<u> </u>	Ļ		<u> </u>	<u> </u>	<u> </u>			

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: X35**

Project Project	Number:	60240	739			Drilling Method: Soft Dig/Geoprobe	Coordinates (NJSPN	IAD83) x: 611365.67
			10/17/2005				Coordinates (NJSPN/	
			10/17/2005	5			Boring Total Depth:	
	By: S. N						Depth to Water: NA	
	I Location						Surface Elevation:	
		pio					Cariaco Elevation.	11.01(14/14/000
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickne	ess:	Sample ID
				NR		Soft Dig 0'-5.5', No Recovery 0'-2'		
. 1						3 , , .		
-1-								
-2-			dn/	FILL		Brown (7.5YR 4/3) SILT, little medium to fi	ine Cond. trace	114-X35A-2-2.5
			dry		\bowtie	Brick and Gravel, dry. (Hand Augered for		
-3-				NR		No Recovery	ourripic)	
·						, it is the second of		
1								
7								
٦ ٦								
-5-								
_ =			damp	FILL		Dusky red (2.5YR 3/2) fine to very fine SAI	ND. some Silt	
-6-			to		\bowtie	little Gravel, damp to wet.	, 556 5,	114-X35B-6-6.5
			wet		\bowtie	×		
-7-						8		
4				N.F	\bowtie	9 5		
-8-				NR	L	No Recovery		
_				FILL	\bowtie	Same As Above (SAA)		
			wet	FILL	\bowtie	Black fine to medium subangular GRAVEL		
-9-					\bowtie	medium to fine Sand and Silt, trace Glass,	yellow water	114-X35C-9-9.5
7				FILL		present.	fine Cond	
-10				NR	<u> </u>	Brown (7.5YR 4/3) SILT, trace fine to very No Recovery	Tine Sand	
						No Recovery		
-11								
. 4								
-12								
. 4								
-13								
. "]								
-14								
14								
· ¬								
-15 								
16				FILL		Dusky red (10R 3/4) medium to very fine S	SAND little Silt	114-X35D-16-16.5
-				PEAT	 	trace Gravel.	, 1D, IIIIC OIII,	X35E
-17				FEAT		Very dark gray (2.5YR 3/0) organic CLAY,	little Silt and	
- 4				DE		Meadow Mat.		
-18				PEAT		Dark gray (2.5YR 4/0) Same As Above (SA		
				NR		No Recovery		
-19								
15								
-20			wet	SAND		Gray (N6) medium to fine SAND, wood at 2	20.5'-20.7', wet at	
_ =			to			base, damp at top.	,	
-21			damp					
\dashv							ŀ	X35F
-22								
- 4								
-23								
-24				NULL		End of Boring at 24 ft.		
						-		
lotes:								
gs - belo	ow surface	grade	COPR - chro	mite ore prod	essing re	esidue UNDno - non-organic undisturbed native dep	posits MGP - manu	factured gas plant
	adow mat		GGM - green			UNDorg - organic undisturbed native deposi		omate chemical production wa

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: X36**

	Name: P Number:					Drilling Method: Soft Dig/Geoprobe	Coordinates (NISDA	IAD83) x: 611519.13
			10/17/2005			Rig Type:	Coordinates (NJSPN	
	By: S.M		10/17/200	J		Core Size: 2 inches	Boring Total Depth:	
						Project Manager: Scott Mikaelian	Depth to Water: NA Surface Elevation:	
nysica	I Location	ı. pro	posed				Surface Elevation:	I I. / II INAVDÖÖ
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickne	ess:	Sample ID
				ASPHALT		(Soft Dig 0'-6') ASPHALT		
٦				FILL		Coarse and angular GRAVEL		114-X36A-0.8-1.3
-1				FILL	\bowtie	Dark reddish brown (2.5YR 3/4) coarse to		114-A30A-U.8-1.3
				NR		gray angular and dark reddish brown sub-r	ounded Gravel. /	
-2-				FILL		\\\\75\% COPR. (Hand Augered for Sample) \\\\\No Recovery	//-	114-X36B-2-2.5
_			wet	NR	r~~~~	Very dark gray (2.5YR 3/0) GRAVEL, and	coarse to fine	
-3-			at			Sand, little Silt. (Hand Augered for Sample	e)/	
\dashv			4.0'			No Recovery		
-4-								
\dashv								
-5-								
4								
-6-			-1	F# '	XXXX	Variable 200 (0.5) (0.5) (0.0) (0.7)	d torre Oli	114-X36C-6-6.5
4			damp	FILL		Very dark gray (2.5YR 3/0) SILT, and Woo and Brick, damp.	od, trace Glass	114-200-0-0.5
-7-			damp	FILL		Very dark gray (5YR 3/1) CLAY and SILT,	trace fine to very	
4			to			fine Sand, damp to wet	a account to very	
-8-			wet	NR	XXXX	No Recovery		
4			damp	FILL	₩₩	Dusky red (10R 3/3) SILT, some fine to ve	ry fine Sand,	
-9-			to wet		\bowtie	damp to wet.		
4			damp	FILL	\bowtie	Dark reddish brown (5YR 3/2) Same as ab	oove (SAA)	
-10			to		\bowtie	×		144 VOCD 40 40 F
			wet		\bowtie			114-X36D-10-10.5
-11				NR		No Recovery		
]								
-12								
,								
-13								
٦. ٦								
-14								
+								
-15								
\dashv								
16			damp	FILL	 	Reddish brown (2.5YR 4/4) fine to very fine	e SAND, little Silt	X36E
\dashv			to	PEAT	1	\damp to wet		,,,,,,
-17			wet			PEAT, moist		
\dashv			moist					
-18			damp	SAND		Gray (GLEY N5) medium to very fine SAN	D. little Meadow	
4			_ ~~iiip	NR	1	\Mat, damp		
-19						No Recovery		
4								
20-				0				
. 7			wet	SAND		Gray SAA, wet		
-21								
7								X36F
-22				NR	 	No Recovery		
				INEX		INO INCCOVERY		
_23								
7								
-24				NULL		End of Boring at 24 ft.		
						•		
lotes:								
gs - belo	ow surface o		COPR - chr GGM - gree		essing re	esidue UNDno - non-organic undisturbed native de UNDorg - organic undisturbed native deposi	posits MGP - manu	factured gas plant
								omate chemical production wa

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone

Boring ID: X37

Project	Number	60240	739			Drilling Method: Soft Dig/Geoprobe	Coordinates (NISD	NAD83) x: 611612.27
Project Number: 60240739 Date Started Drilling: 10/17/2005								NAD83) y: 683079.96
	nished Dri					Core Size: 2 inches	Boring Total Depth:	
	IBy: S.M					Project Manager: Scott Mikaelian	Depth to Water: N	
	al Location					Toject manager. Cook mikacilan	Surface Elevation:	
	ar Eccution	i. pio	booca				Carrace Lievation.	10.11(14/14/200
Depth Range (ft bgs)		PID (ppm)	Moisture Content	USCS	Graphic Log	Surface Cover and Thickr	ness:	Sample ID
				ASPHALT		(Soft Dig 0'-6') ASPHALT		
- 1				FILL	$\times\!\!\times\!\!\times$	GRAVEL		
-1				FILL		Medium to very fine SAND, some Brick a	ind Coal Ash.	1
- -2-				NR		(Hand Augered for Sample) No Recovery		114-X37A-1.5-2
- -3				IVIX		No recovery		
-4-								
-5								
-6								44. VOTT 2 2 2
			dry		\bowtie	Dark gray medium to very fine SAND (Co Gravel, dry, loose.	oal Ash), some fine	114-X37B-6-6.5
-7-				NR		No Recovery		
-8-			wet	FILL		Reddish brown (2.5YR 4/3) fine-very fine	SAND, some Silt,	1
-9-			moist	FILL		wet. Organic SILT, some Clay, little Meadow I petroleum-like odor	Mat, moist, H2S and	114-X37C-9-9.5
10-				NR		No Recovery		
_11								
-12			wet	FILL		Reddish brown (2.5YR 4/3) SILT, some f Sand, wet	ine to very fine	_
-13			wet	FILL		Organic SILT, some Clay, wet.		114-X37D-13.5-14
14 				NR		No Recovery		
-16								VOTE
			moist	CLAY		Organic CLAY, some Silt, little Meadow N	vlat, moist.	X37E
-17			wet	SAND		Gray (Gley N5) medium to very fine SAN	D, little Silt, wet.	
- 18				NR		No Recovery		
- 19								
20								
				SAND		Same As Above (SAA)		
				CVND		Poddich brown /2 5VD 4/4) modium to 5:	00 SAND 19410 —	X37F
				SAND NR		Reddish brown (2.5YR 4/4) medium to fil subangular to rounded Gravel and Silt No Recovery	THE SAIND, IIIIIE	
-23								
-24				NULL		End of Boring at 24 ft.		
				omite ore proc	essing re	sidue UNDno - non-organic undisturbed native d	eposits MGP - man	ufactured gas plant
	adow mat		GGM - gree			UNDorg - organic undisturbed native depo	cito CCDW ob	romate chemical production wa

30 Knightsbridge Road, Piscataway, NJ 08854 732.564.3200 office telephone **Boring ID: X38**

	Number:					Drilling Company: Ameridrill Drilling Method: Soft Dig/Geoprobe	Coordinates (NIED	NAD83) v: 611700 44
	Number:		0/17/2005			Rig Type:		NAD83) x: 611723.44 NAD83) y: 683198.87
			10/17/2005	=		Core Size: 2 inches	Boring Total Depth:	
)		Project Manager: Scott Mikaelian	Depth to Water: NA	
	By: S. Mal Location					Froject Manager. Scott Mikaelian	Surface Elevation:	
	ii Localioi	i. più	Josed			<u> </u>	Surface Elevation.	14.11(NAVD00
Depth Range ft bgs)	Recovery (ft/ft)	PID (ppm)	Moisture Content	USCS	Graphi Log	Surface Cover and Thickr	ness:	Sample ID
				NR		Soft Dig 0'-6', No Recovery		
. 1								
-1-								
-2-								
-3-								
-4-								
-5-								
\dashv								
-6-			wot	FILL	XXXX	Dark brown (7 EVD 2/2) fine to you fine	SAND some Silt	114-X38A-6-6.5
_		-	wet		\bowtie	Dark brown (7.5YR 3/2) fine to very fine trace Gravel, wet.	SAND, SUITE SIII,	17007.00.0
-7-				NR		No Recovery		
-								
-8-				F	XXXX	Dual- and (40D 0/0)	ID 0"# 1""	4
. 4		1	wetwet	FILL FILL		Dusky red (10R 3/3) medium to fine SAN Gravel, wet.	ID, some Silt, little	1
-9-		ł	damp	FILL	\bowtie	GRAVEL (Coal Ash), wet	/	
. 1			damp	FILL		Very dark gray (2.5YR 3/0) fine to very fi	ne SAND, little Silt,	114-X38B-9.5-10
-10		[moist	FILL		∖damp.	//_	114-X38B-9.5-10
. " _				NR		Dusky red (10R 3/3) medium to fine SAN		
-11						Dark reddish brown (5YR 3/3) SILT, trac Sand, moist.	e line to very line	
. '' _						No Recovery		
-12						,		
. '^ _			damp	FILL	XXX	Olive (5Y 3/3) SILT, some fine to very fin	e Sand, damp to	
-13			to		XXX	wet.		
. '3]			wet		XXX			
-14					XXX			114-X38C-13.7-14.2
. '4 _				NR	XXXX	No Recovery		†
-15						The receivery		
15								
_16]
16			wet	SAND		Dusky red (10R 3/3) medium to fine SAN	ID, some Silt, little	
_17						Gravel, wet.		
. ''-								
-18								X38D
				NR		No Recovery		
_19								
15 _								
_20								
			T	SAND		Dusky red (10R 3/3) medium to fine SAN	ID, trace Silt	
-21								
Z I								
								X38E
_22				NR		No Recovery		
-23								
` <u>,</u>								
-24				NULL		End of Boring at 24 ft.		
						3		
lotes:								1
gs - belo	ow surface (mite ore proce	essing r	esidue UNDno - non-organic undisturbed native o UNDorg - organic undisturbed native depo	eposits MGP - man	ufactured gas plant romate chemical production w
/ı _ mΔ?	adow mat		GGM - green	arev mua		LUNI JORG - ORGANIC UNGISTURDEG NATIVE GENC	Sus CCPVV - chi	romate chemical broduction w