

ATTACHMENT 6

BORING LOGS

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B01</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING <u>7.5</u>	G.S. ELEV. <u>13.3</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166161.8</u>	START DATE <u>9/23/98</u>
LOGGED BY <u>W. Randall</u>	EASTING <u>680639.2</u>	FINISH DATE <u>9/23/98</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
					Concrete & Gravel				
	0.3		266	0630B01001	Dark reddish brown (5YR3/3) CLAY, very moist. (CL/Fill)	1342	○		
	2.0		298	0630B01002	Same as above. Occasional black mottles. One 1" yellow green mottle at 3.5 ft-bgs.	6033	○		
5	0.9		324	0630B01003	Same as above. Mottles are more abundant.	2368	○		5
	0.25		17	0630B01004	SLAG and black, coarse SAND, wet. (GP/Fill)	627	+		
	0.2		<2	0630B01005	Same as above, some fine Gravel, wet. (GM/Fill)	1525	+		
	0.4		<1.1	0630B01006	Light olive brown CLAY, some Sand, some Silt, (MH/Fill)	595	+		
					End of boring at 10.5 feet				

NOTES:

1. Depths and Elevations in feet unless otherwise noted
2. USCS Classification based on visual-manual procedures

3. N/A- Not Applicable
4. NA- Not Analyzed
5. NM- Not Measured
6. R- Rejected
7. J- Estimated
8. U- Not Detected

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE DURING DRILLING <u>6.5</u>	BORING NO. <u>PPG12-B02</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	WELL LEVEL _____	G.S. ELEV. <u>13.3</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	NORTHING <u>2166206.7</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	EASTING <u>680572.8</u>	START DATE <u>9/23/98</u>
LOGGED BY <u>W. Randall</u>		FINISH DATE <u>9/23/98</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	P10 (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
1.9			181	0630B02001	Concrete & Gravel				
1.5			53.8	0630B02002	Dark reddish brown (5YR3/3) CLAY, moist to very moist. (CL/Fill)	3117	OO	COFR	
0.1			NM		Same as above with occasional bright yellow spots.	3936	OO	COFR	
0.2			91	0630B02003	Black granular material in tip of split spoon. (GC/Fill)		OO		5
0.25			88	0630B02004	Black GRANULAR MATERIAL, some Clay.	1406	OO	COFR	
					End of boring at 7 feet	458	++	Auger refusal at 7.0 ft	
15			0						15

NOTES:

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- 4. NA- Not Analyzed
- 5. NM- Not Measured
- 6. R- Rejected
- 7. J- Estimated
- 8. U- Not Detected

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B03</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING <u>NM</u>	G.S. ELEV. <u>13.3</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166219.4</u>	START DATE <u>9/23/98</u>
LOGGED BY <u>W. Randall</u>	EASTING <u>680659.8</u>	FINISH DATE <u>9/23/98</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
					Concrete & Gravel				
	0				No Recovery				
			11.1	0630B03001	Dark reddish brown (5YR3/3) CLAY, with black mottles (<10%), moist. (CL/Fill)	3123	○	COFF	
	1.9			0630B03002	Black granular NODULES, in a light yellow green (5Y7/6) and pale olive green (5Y6/4) clayey matrix, damp. (GC/Fill).	7423	○	COFF	
5			66.6	0630B03003	Dark reddish brown (5YR3/3) CLAY, with black mottles, (<5%), moist to very moist. contains 1" thick seam of yellow coated black nodules (5Y7/6). (CL/Fill).	4353	○	COFF	5
	0						+	Refusal at 6 ft.	
	0.25			0630B03004	Black stained brown and gray SHALE FRAGMENTS. (SP)	1562	+		
	0				No Recovery		+		
10					No Recovery		+		10
				0630B03005	Dark brown (7.5YR3/3) fine SAND, SILT and CLAY, moist. (MH)	6.1 U	○		
					End of boring at 11 feet				

NOTES:

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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B04</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>13.1</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166233.6</u>	START DATE <u>9/23/98</u>
LOGGED BY <u>W. Randall</u>	EASTING <u>680719.8</u>	FINISH DATE <u>9/23/98</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
					Concrete & Gravel				
		1.6	297	0630B04001	Dark reddish brown (5YR3/3) CLAY, occasional black nodules, damp to moist. (CL/Fill)	9629		CLPR	
		1.9	248	0630B04002	Same as above, moist to very moist, occasional black mottles. (CL/Fill).	13583		CLPR	
5		1.9	356	0630B04003	Same as above. Occasional yellow mottles. Wet at 6.5 feet.	8527		CLPR	5
		0			No Recovery. Granular coal in tip of spoon.			Ferusal at 6.5 ft.	
		1.9		0630B04004	Weak red (2.5YR4/2) fine grained SAND and SILT, grading into Olive brown to dark olive brown CLAY, some Sand, some Silt, roots present (CL)	19.5			10
					End of boring at 10.5 feet				15

NOTES:

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6. R- Rejected
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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B05</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING <u>NM</u>	G.S. ELEV. <u>13.0</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166283.6</u>	START DATE <u>9/24/98</u>
LOGGED BY <u>W. Randall</u>	EASTING <u>680649.5</u>	FINISH DATE <u>9/24/98</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
					Concrete & Gravel				
	1.0		52	0630B05001	Dark reddish brown (5YR3/3) CLAY, with dark gray mottles, moist to very moist. (CL/Fill)	786.5		COFR	
	0.1				Same as above, very moist to wet.			COFR	
5	1.1		447	0630B05002	Black nodules, with yellow brown (5Y8/8), olive brown (2.5Y4/3), and dark reddish brown (5YR3/3) CLAY in matrix. (CL/Fill)	2789		COFR	5
	0.3		304	0630B05003	Very dark gray (2.5YR3/3) CLAY, with wood fibers, coal fragments, and fine Gravel. (OH/Fill)	286.2			
	0.5		220	0630B05004	Black stained PEAT, and Silty Sandy CLAY, wet.	7.9 U			
10	0.6		22	0630B04005	Black stained medium grained SAND, occasional coal fragments, and organic material (Peat), wet (SP/Fill).	6.5 U			10
	0.5		222	0630B04006	Dark brown (7.5YR3/3) CLAY, some Silt, Some Sand. (MH)	18.6			
15					End of boring at 11.5 feet				15

NOTES:

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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B06</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING <u>7.5</u>	G.S. ELEV. <u>13.1</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166285.5</u>	START DATE <u>9/22/98</u>
LOGGED BY <u>W. Randall</u>	EASTING <u>680824.5</u>	FINISH DATE <u>9/22/98</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
		6			Concrete & Gravel				
	1.5	7	64	0630B06001	Dark reddish brown (2.5YR2.5/3) fine SAND, some Silt, little Clay, occasional nodules, moist	9.3	○	CCPR	
	1.4	2	550	0630B06002		437.4	○	CCPR	
5	1.8	5	304	0630B06004	Black, medium SAND, with black cloth mixed in, very moist.	53.7	+		5
	1.2	3	13	0600B06005	Olive brown (2.5Y3/3) CLAY, little Silt, little fine Sand, grades into black in bottom 3". Small brick fragments throughout. Very moist.	12.1	+		
10	1.3	2	8.4	0630B06006	Black stained CLAY, with some fine Sand, and a scallop shell. Reddish brown fine grained sandstone fragment (0.5" in size), moist to very moist.	7.2 U	+		10
15					End of boring at 10.5 feet				15

NOTES:

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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B07</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>12.9</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166333.4</u>	START DATE <u>9/21/98</u>
LOGGED BY <u>W. Randall</u>	EASTING <u>680782.8</u>	FINISH DATE <u>9/21/98</u>

DEPTH	S.S. SAMPLE	RECOVERY	BLOWS/6in	PIV (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
			6			Concrete & Gravel				
		1.8	8	212	0630B07001	Black (5YR3/3) to dark reddish gray (5YR3/3) very fine Silty CLAY, occasional dark gray nodules, moist. (CL/Fill)	6.4 U	○ ○ ○ ○	COFR	
		2.0	2	573	0630B07002	Proportion of Sand increases to 40%, Silt to 40%.	1884	○ ○ ○ ○	COFR	
			5		0630B07003		16.8	○ ○ ○ ○	COFR	
5			7							
		1.6	18	593	0630B07004	Gray to black poorly sorted SAND, some fine Gravel, little Silt, little Clay, moist. (SM).	63.1	● ● ● ●		5
			20							
			14							
		0.4	7	8	0600B07005	Gray to black (7.5YR1u2.5) poorly sorted SAND and GRAVEL, wet. (SP)	10.1	● ● ● ●		
			18							
			25			Brown Silty CLAY with roots, wet. (CL)		▬ ▬ ▬ ▬		
			14							
			6		0630B07006	Reddish brown fine SAND and SILT, moist to wet.	5.5 U	● ● ● ●		
		1.0	7							
			9		0630B07007	olive gray (5Y4/2) SILT, some Sand.	5.7 U	▬ ▬ ▬ ▬		10
			13							
		1.0								
15						End of boring at 12.5 feet				15

NOTES:

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- 6. R- Rejected
- 7. J- Estimated
- 8. U- Not Detected

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B08</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>8.9</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166347.9</u>	START DATE <u>9/24/98</u>
LOGGED BY <u>W. Randall</u>	EASTING <u>680840.4</u>	FINISH DATE <u>9/24/98</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
0	0.2		0	0630B08001	Gravel and Asphalt COAL FRAGMENTS, in a very dark gray (7.5YR3/1) clay matrix. Refusal at 1.5 ft. (SC)	6 U			
				0630B08002	Black stained coarse and fine grained SAND, (quartz and feldspar clasts), occasional coal fragments, very moist. (SP)	6.7	++++		
				0630B08003	Dark brown (7.5YR3/3) CLAY and Silt, little fine Sand, occasional plant fibers and roots. wet (CL)	15	++++		
5					End of boring at 4.5 feet				5
10									10
15									15

NOTES:

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5. NM- Not Measured
6. R- Rejected
7. J- Estimated
8. U- Not Detected

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u> PROJECT LOCATION <u>Group 12, Site 63</u> DRILLING FIRM <u>Hardin and Huber Inc.</u> DRILLING METHOD <u>Hollow Stem Auger</u> LOGGED BY <u>W. Randall</u>	WATER LEVELS RELATIVE TO G.SURFACE DURING DRILLING _____ WELL LEVEL _____ NORTHING <u>2166193.4</u> EASTING <u>680753.1</u>	BORING NO. <u>PPG12-B09</u> G.S. ELEV. <u>9.0</u> CASING ELEV. <u>N/A</u> START DATE <u>9/24/98</u> FINISH DATE <u>9/24/98</u>
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DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
		0.2	0	0630B09001	Dark brown (7.5YR3/2) Sandy SILT loam, damp.	6.8 U	++		
		1.0	13	0630B09002	Black stained medium grained SAND and GRAVEL, very moist (SP)	7.8 U	++		
		1.0	0	0630B09003	Dark brown (7.5YR3/2) CLAY, some Silt, some fine Sand, Sand is composed of shale fragments, damp. (CL)	5.8 U	++		
		1.0	0	0630B09004	Olive brown (2.5Y4/3) CLAY, some Silt, some fine Sand, moist, occasional dusky red (10R3/3) shale rock fragments.	5.9 U	++		
5					End of boring at 5 feet				5
10									10
15									15

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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B11</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>12.8</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166208.2</u>	START DATE <u>1/7/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680550.2</u>	FINISH DATE <u>1/7/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
					Concrete				
								Auger to 4', cuttings wet.	
5	1.5	12							
		11	BG		Tr. COPR 0-0.3' with dark reddish brown (5YR 3/2) clayey SILT and cinders, gravel, sand, wet.	0.64	+		5
		7		0630B11001					
		11		0630B11002	v. coarse cinders, wood, sand, gravel to clayey cinders, moist.	0.433 U	+		
		7	BG						
		8		0630B11003		5.6	+		
	1.25	2							
		1		0630B11004	v. coarse cinders, clay, gravel, wet.	40.3	+		
		3							
		5		0630B11005		13.8	+		
	1	3	BG						
10		9							10
		13			black silty CLAY, gravel, weathered brick??, moist.		+		
		13	BG						
		19							
		32							
		11			brick fragment, glass, very dark brown (7.5YR 3/2) CLAY.		+		
	0.7	20							
		13							
		11							
		5		0630B11006	very dark brown (10YR 3/1) silty CLAY and meadow mat.		+	Bottom of Fill 14'	
		7							
15		5							15

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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B11</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>12.8</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2186208.2</u>	START DATE <u>1/7/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680550.2</u>	FINISH DATE <u>1/7/99</u>

DEPTH	S.S. SAMPLE	RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
			8			End of boring at 18 feet				
20										20
25										25
30										30

NOTES:

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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B12</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>9.5</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166186.6</u>	START DATE <u>1/11/99</u>
LOGGED BY <u>R. Feinberg</u>	EASTING <u>680527.1</u>	FINISH DATE <u>1/11/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/8in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
		10			Crushed gravel.				
	1.0	11		0630BI2001	Gr. brown to light olive gray, c. to fine SAND, some crushed gravel, tr. silt, dry. (SP)	0.75	+	Slight hydrocarbon odor.	
		2							
		4		0630BI2002	Very dark gray "stained" med. to fine SAND, trace silt, trace med. to fine gravel, trace coal, trace slag, brown mottles toward the bottom, moist. (SW)	0.42 U	+	Slight hydrocarbon odor, 3" piece of gravel @ top.	
	1.1	5	3-6.8		Coal, ash, and slag. (GP)		+		
		6							
		4		0630BI2003	Very dark brown gray med. to fine SAND, little silt, little c. to fine gravel, trace coal/ash, very moist. (SW)	0.68	+		
5	1.0	4					+		5
		3			Brown to red brown, very fine SAND, some black clasts/mottles, little silt, moist. (SP)		+	Slight petroleum odor.	
		4					+		
		7		0630BI2004	Dark gray to black, c. to fine SAND, some c. to fine gravel (coal, slate, ash, slag), little silt, trace vegetation, very moist. (SW)	0.79	+	Oil sheen on top of sample, piece of wood between 6'2"-6'5".	
	1.1	9		0630BI2104		0.39 U	+		
		13					+		
		18			Br. red SILT, trace fine sand, trace c. to fine gravel, moist. (ML)		+		
		4					+		
		5		0630BI2005	Same as above.	0.43 U	+	Phenol or creosote odor.	
	0.8	2			Very dark gray, med. to fine GRAVEL (coal, slag) and c. to fine SAND, trace silt, trace brick, glass, plastic, wet. (SW)		+		
		4					+		
10		3		0630BI2006	Peat/Meadow mat (PT)	0.50 U	+		10
		2					+		
	0.2	3					+		
		3					+		
		3			No recovery.		+		
	NR	10					+		
		17					+		
		4					+		
		12		0630BI2007	Red brown to brown med. SAND, moist to wet. (SP)	0.84	+		
15	0.8	33					+		15

NOTES:

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3. N/A- Not Applicable
4. NA- Not Analyzed
5. NM- Not Measured
6. R- Rejected
7. J- Estimated
8. U- Not Detected

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B12</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>9.5</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166186.6</u>	START DATE <u>1/11/99</u>
LOGGED BY <u>R. Feinberg</u>	EASTING <u>680527.1</u>	FINISH DATE <u>1/11/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
		35			End of boring 16 feet				
20									20
25									25
30									30

NOTES:

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- 6. R- Rejected
- 7. J- Estimated
- 8. U- Not Detected

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B13</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>10.0</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166119.1</u>	START DATE <u>1/8/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680575.0</u>	FINISH DATE <u>1/8/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
		9	BG		Asphalt			Auger through 6" Asphalt.	
		11		0630BI3001	weak red (2.5YR 4/2) CLAY, gravel and sand, slightly moist to black sandy clay and gravel, very moist very dark gray (5YR 3/1) silty CLAY, gravel, sand, very moist, black stained clay, gravel, cinders, wood, wet.	0.58			
	1.5	13							
		7		0630BI3002		9.2			
		8	BG						
	2	8		0630BI3003		1.0			
		8							
		6							
		4							
5		1			No recovery.				5
	NR	2							
		4							
		1							
	1	1		0630BI3004	Brown (7.5YR 4/2) clayey SILT, gravel, very soft and "soupy".	0.44 U			
		1							
		1							
		2							
		1		0630BI3005	Brown (10YR 4/3) CLAY, trace gravel, wet, and meadow mat.	0.44 U		Bottom of Fill 8'	
		1							
		2							
		4							
10					End of boring at 10 feet				10

NOTES:

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5. NM- Not Measured
6. R- Rejected
7. J- Estimated
8. U- Not Detected

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B14</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>13.6</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166196.2</u>	START DATE <u>1/7/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680614.6</u>	FINISH DATE <u>1/7/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
								Auger to 4'	
5		2.0		0630BI4001	Weathered COPR nodules in clay matrix, less weathered nodules at bottom, moist.	4430	○		5
		1.5		0630BI4002	Mostly weathered COPR with dark red (2.5YR 3/4) clayey matrix, black sand flakes, slightly moist.	4160	○		
		1.0		0630BI4003		1380			
		1.0							
		0.7		0630BI4004	Dark yellowish brown (10YR 4/4) sandy SILT, mottled gravel.	788	+		
10		2.0			Dark brown (10YR 3/2) silty CLAY, moist, square nail		+		10
		1.0		0630BI4005	Dark red (2.5YR 3/4) silty CLAY	13	+	Bottom of Fill 11'	
15					End of boring at 14 feet				15

NOTES:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Depths and Elevations in feet unless otherwise noted 2. USCS Classification based on visual-manual procedures | <ol style="list-style-type: none"> 3. N/A- Not Applicable 4. NA- Not Analyzed 5. NM- Not Measured 6. R- Rejected 7. J- Estimated 8. U- Not Detected |
|---|---|

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE _____	BORING NO. <u>PPG12-B15</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>13.4</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166191.4</u>	START DATE <u>1/6/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680682.5</u>	FINISH DATE <u>1/6/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
								Auger to 4', cuttings soupy	
5		2'		0630BI5001	Dark red (2.5YR 3/4) CLAY with COPR and yellow blooms, more nodules towards bottom, wet. Black stained sand at bottom.	8520	○ ○ ○ ○	Sand stems like turpentine	5
				0630BI5002		1940	+		
		1.7'		0630BI5003	Black SAND, fine grained, trace gravel, wet, to dark yellowish brown (10YR 3/4) CLAY	1260	+	Bottom of Fill 5'	
				0630BI5004		66	+		
10		0.5'		0630BI5005	Dark yellowish brown (10YR 3/4) silty CLAY to dark yellowish brown (10YR 4/2) CLAY, some mottling.	0.83			
				0630BI5006		0.43 U		
		2'			Olive brown (2.5Y 4/3) silty CLAY with meadow mat.			
					End of boring at 12 feet				15

NOTES:

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6. R- Rejected
7. J- Estimated
8. U- Not Detected

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE _____	BORING NO. <u>PPG12-B16</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>13.9</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166261.2</u>	START DATE <u>1/7/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680619.6</u>	FINISH DATE <u>1/7/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
								Auger to 4', cuttings "sandy".	
5	2'	1		0630BI6001	Dark reddish brown (2.5YR 3/3) weathered COPR in clay, very moist.	3000	○ ○ ○ ○		5
		1		0630BI6101		2740 (dup.)			
		1							
		1							
		10		0630BI6002	Dark reddish brown (2.5YR 3/3) weathered COPR with COPR nodules at bottom.	3690	○ ○ ○ ○		
	1.7'	14							
		11		0630BI6003	Black clayey cinders with yellow blooms.	1190	+ + + +		
		7							
	0.5'	7		0630BI6004	FILL - gravel, brick fragments, wood, clay with yellow blooms, wet.	3950	+ + + +		
		4							
		6							
10		29		0630BI6005		1830	+ + + +		10
	2'	32			FILL as above.		+ + + +		
		26			Dark yellowish brown (10YR 3/3) clayey SILT, trace gravel.		+ + + +		
		35			Clayey SILT as above.		+ + + +		
								Bottom of Fill 12'	
	NR	NR							
					End of boring at 14 feet				

NOTES:

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- 5. NM- Not Measured
- 6. R- Rejected
- 7. J- Estimated
- 8. U- Not Detected

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B17</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>13.2</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166310.0</u>	START DATE <u>1/7/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680697.3</u>	FINISH DATE <u>1/7/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/ft	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
								Auger to 4', cuttings "soupy".	
5	0.75	4	B6	0630B17001	COPR and gravel, brick, sand, wet, with turpentine smell.	134	○ ○ ○ ○		5
9	1.5	5		0630B17002	FILL, as above, very moist, and dark yellowish brown (10YR 3/3) silty CLAY, some gravel, glass, weathered COPR.	0.47 U	+		
8		6		0630B17003		4.6	+		
6		2		0630B17004		0.40 U	+		
10	0.75	16			Black to red silty CLAY with coal, gravel, wet to moist.		+		
14		14		0630B17005	Red silty CLAY.	0.39 U	+	Bottom of Fill 10'	10
15	1.25	3			Gray CLAY to red clay with gravel.		+		
		6		0630B17006		1.6	+		
		15			End of boring at 14 feet				15

NOTES:

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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B18</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>12.9</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166281.6</u>	START DATE <u>1/8/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680757.1</u>	FINISH DATE <u>1/8/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
								Auger to 4', cuttings black to red, "soupy".	
5	2.0	11	BG		Red GRAVEL and COPR at top.		○ ○ ○		
		10			Yellow (10YR 7/4) fine to med. grained v. moist SAND to black stained sand and cinder.	55.2	○ ○ ○	Sand smells like turpentine.	5
		11		0630B18001	SAND and CINDERS as above, wet.		+		
		23		0630B18002/102	Dark yellowish brown (10YR 3/3) silty sandy CLAY with black mottling, reddish at bottom.	30.6 / 30.5	+		
		9		0630B18003		1.2	+		
		16					+		
		18					+		
		17					+		
		7					+		
	1.0	8		0630B18004	Dark red (2.5YE 3/2) silty CLAY to clayey SILT.	0.82	+	Bottom of Fill B'	
		9					+		
		11					+		
10					End of boring at 10 feet				10

NOTES:

- | | |
|---|---|
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|---|---|

ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE _____	BORING NO. <u>PPG12-B19</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>13.2</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166238.8</u>	START DATE <u>1/6/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680746.0</u>	FINISH DATE <u>1/6/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
								Auger to 4', cuttings very moist.	
5	2.0	10	46	0630B19001	Dark reddish brown (5YR 3/4) SILT with COPR, wet.	1680	○ ○ ○ ○		5
		24		0630B19002	Gravel, clay, black stained sandy clay with gravel, wood, slightly moist.	467	+ + + +		
		24		0630B19003	Black FILL as above, to reddish brown (5YR 4/4), silty CLAY, wood fragments.	8.8	+ + + +		
	2.0	3		0630B19004	Black sandy SILT, wet, to reddish brown CLAY with gravel.	2.4	+ + + +		
		3							
	2.0	3		0630B19005	Gray (10YR 6/1) CLAY, trace silt with meadow mat.	1.5		Bottom of Fill 8'	
10		2.0							10
	2.0								
					End of boring at 12 feet				



NOTES:

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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B20</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>12.6</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166138.6</u>	START DATE <u>1/6/99</u>
LOGGED BY <u>L. Miller</u>	EASTING <u>680604.4</u>	FINISH DATE <u>1/6/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
5								Auger to 4'	
				0630B20001	Strong brown (7.5YR 3/4) wet silty CLAY, with weathered COPR in silty matrix. Yellow bloom nodules at bottom.	2220			5
				0630B20002	Weathered COPR nodules, concrete in nose cone.	3260			
					Spoon and auger refusal at 6.5'				
10									10
15									15

- NOTES:
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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG12-B21</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>13.2</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166163.9</u>	START DATE <u>1/11/99</u>
LOGGED BY <u>R. Feinberg</u>	EASTING <u>680585.1</u>	FINISH DATE <u>1/11/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
								Auger to 4'	
5	2'	1		0630B21001	Br. red/gray COPR, wet (SILT)	1500	○ ○ ○ ○		5
		1			Same as above.		○ ○ ○ ○		
		5		0630B21002		2160	○ ○ ○ ○		
		2					○ ○ ○ ○		
		25		0630B21003	Gr. brown c. to f. SAND, little slag, little ash.	184	+ +		
		57		0630B21004	Red brown - gr. brown SILT, some fine sand, trace med. to fine gravel, moist (angular)	594			
		51/6"							
		4							
		11		0630B21005	Red brown med. to fine SAND, trace med. to fine gravel (angular), gr. brown SILT seams, moist.	0.99	○ ○ ○ ○		
		8					○ ○ ○ ○		
		10					○ ○ ○ ○		
		3		0630B21006	Dk. brown gray meadow mat., moist.	0.688 U	~ ~ ~ ~		
		5					~ ~ ~ ~		
		7					~ ~ ~ ~		
		7					~ ~ ~ ~		
		25					~ ~ ~ ~		
		35					~ ~ ~ ~		
		8"					~ ~ ~ ~		
		5					~ ~ ~ ~		
15	6"						~ ~ ~ ~		15

NOTES:

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7. J- Estimated
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ICF KAISER ENGINEERS

BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE _____	BORING NO. <u>PPG12-B21</u>
PROJECT LOCATION <u>Group 12, Site 63</u>	DURING DRILLING _____	G.S. ELEV. <u>13.2</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>2166163.9</u>	START DATE <u>1/11/99</u>
LOGGED BY <u>R. Feinberg</u>	EASTING <u>680585.1</u>	FINISH DATE <u>1/11/99</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/6in	PI D (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
					Sand as above. End of boring 16 feet		U U U		
20									20
25									25
30									30

NOTES:

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Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

B014

PROJECT NAME: Spectra NJ-NY Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing Investigations

DATE DRILLED: 07/25/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 5 feet

DRILLER: B. Flemming

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 43 feet

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
1		56	ND			0 to 4.0' - FILL: Gray brown fine to medium sand, little medium to fine sub-rounded gravel, little silt, concrete and wood material, chromium nodules, dry, loose.
2			ND			
3			ND			
4			ND			
5			ND			
6		52	ND			4.0 to 5.0' - FILL: Gray to Black fine to medium sand, little fine to medium sub-rounded gravel, little silt, cinder, dry, loose. 5.0 to 6.0' - FILL: Orange brown fine to coarse sand, little fine to medium rounded gravel, trace silt, wet, dense. 6.0 to 8.0' - FILL: Dark gray fine to medium sand, little fine to medium angular gravel, little silt, ash, cinders, coal, wood material, wet, loose. 8.0 to 11.5' - FILL: Black fine to medium sand, little fine to medium angular gravel, little silt, ash, cinders, coal, wet, loose.
7			ND			
8			ND			
9			1.6			
10						
11		38	3.1			PT 11.5 to 18.0' - Dark Brown MEADOW MAT, little clay, little silt, root material, wet, loose.
12			0.7			
13			0.4			
14			175			
15			339.0			
			367.0			

**Environmental Corporation**

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG**BORING NUMBER****B014**

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		45	338			18.0 to 20.0' - Gray fine SAND, little silt, wet, loose, odor.
			442			
			552			
17		45				18.0 to 20.0' - Gray fine SAND, little silt, wet, loose, odor.
18			625		SM	
			818			
19		45	755			18.0 to 20.0' - Gray fine SAND, little silt, wet, loose, odor.
20			457			
			1.0		SW	
21		55	3.6			20.0 to 21.5' - Gray fine to medium SAND, little fine to medium sub-angular gravel, trace silt, wet, loose, slight odor.
			56.1			
22			3.7		SW	
23		55	0.3			21.5 to 22.5' - Brown gray fine to medium SAND, little fine to medium sub-angular gravel, trace silt, wet, dense to loose.
			ND		SW	
24			ND			
25		55	ND			22.5 to 25.0' - Brown fine SAND, little fine to medium sub-rounded gravel, little silt, wet, dense to loose.
26			ND			
			ND			
27		58	ND			25.0 to 43.0' - Red Brown fine to medium SAND, little fine to coarse sub-angular gravel, little silt, wet, dense to loose. Refusal @ 43'.
28			ND			
			ND			
29		58	ND			25.0 to 43.0' - Red Brown fine to medium SAND, little fine to coarse sub-angular gravel, little silt, wet, dense to loose. Refusal @ 43'.
30			ND			
			ND			
31		58	ND			25.0 to 43.0' - Red Brown fine to medium SAND, little fine to coarse sub-angular gravel, little silt, wet, dense to loose. Refusal @ 43'.
			ND			



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

B014

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
32		50	ND			
			ND			
			ND			
33			ND			
		50	ND			
			ND			
			ND			
34			ND			
		50	ND			
			ND			
			ND			
35			ND			
		50	ND			
			ND			
			ND			
36			ND			
		50	ND			
			ND			
			ND			
37			ND			
		50	ND			
			ND			
			ND			
38			ND			
		50	ND			
			ND			
			ND			
39			ND			
		50	ND			
			ND			
			ND			
40			ND			
		19	ND			
			ND			
			ND			
41			ND			
		19	ND			
			ND			
			ND			
42			ND			
		19	ND			
			ND			
			ND			
43			ND			
						End of boring @ 43'



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

C006

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing
Investigations

DATE DRILLED: 07/13/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 3 feet

DRILLER: R. Smith

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 20 feet

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
1		Hand cleared				0 to 1.0' - GRAVEL, liner @ 1'.
2		42	2464			1.0 to 3.0' - FILL: Dark brown to black fine to medium sand, little fine to medium sub-angular gravel, trace silt, moist, dense, odor.
			24.5			
			43.7			
3			41.8			
4		42	23.9			3.0 to 5.0' - FILL: Gray brown fine sand, little clay, trace fine gravel, wood piling material, wet, loose, odor.
			244			
5			16.1		SP	
6			4.5			
		42	1.1			5.0 to 7.5' - Gray brown fine SAND, little silt, trace fine sub-angular gravel, wood piling material @ 5', moist, loose, odor.
			0.3			
7			1.0		PT	
8			1.8			
		42	16.1			7.5 to 10.5' - Dark brown MEADOW MAT, moist.
			16.6			
9			18.1		SC	
10			10.9			
11		42	4.1			10.5 to 12.0' - Gray fine SAND, some clay, loose, wet.
			1580			
12			4.1		SP	
13			11.4			
14			12.4			12.0 to 15.0' - Red brown fine SAND, little fine to medium sub-rounded gravel, little silt, moist, dense.
15			11.4			



DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		36	0.8		SC	15.0 to 20.0' - Red brown fine SAND, some clay, little fine to medium sub-rounded gravel, moist, dense.
			0.8			
17			2.4			
18			2.2			
19			1.1			
20			0.7			
						End of boring @ 20'



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

C007

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing
Investigations

DATE DRILLED: 07/13/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 1 feet

DRILLER: R. Smith

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 20 feet

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS	
0							
1		Hand cleared				0 to 1.0' - GRAVEL, liner @ 1'.	
2		48	25.2			1.0 to 2.5' - FILL: Gray black fine to medium sand, some fine to medium sub-rounded gravel, trace silt, wet, odor.	
			317				
			27.8				
			36.4				
3		36	44.4			2.5 to 5.0' - FILL: Light brown to brown fine sand, some silt, little fine to medium sub-rounded gravel, slight greenish staining, moist, dense, slight odor.	
4			3.2				
			5.2				
			31.6				
5		40	30		SP	5.0 to 7.0' - Gray brown fine SAND, little fine to medium sub-rounded gravel, little silt, moist, dense, odor.	
6			25.6				
			7.1				
			0.3				
7		40	1.1		PT	7.0 to 10.5' - Dark brown MEADOW MAT, moist.	
8			ND				
			ND				
			ND				
10		40	ND			10.5 to 11.5' - Gray fine SAND, little silt, trace fine gravel, wet, loose.	
11			ND		SP		
12			ND		SP		11.5 to 15.0' - Red brown fine SAND, some fine to medium sub-rounded gravel, little silt, moist, dense.
13			ND				
14		40	ND				
15			ND				



Environmental Corporation

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SOIL BORING LOG

BORING NUMBER

C007

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		60	ND		SP	15.0 to 20.0' - Red brown fine SAND, little fine to medium sub-rounded gravel, little silt, wet, loose.
			ND			
17			ND			
			ND			
18			ND			
			ND			
19			ND			
			ND			
20			ND			
						End of boring @ 20'



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

C011

PROJECT NAME: Spectra NJ-NY Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing Investigations

DATE DRILLED: 07/25/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 1.5 feet

DRILLER: B. Flemming

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 35 feet

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS	
0							
1		46	0.5			0 to 0.5' - Gray GRAVEL	
2			16.1			0.5 to 1.5' - FILL: Brown fine to medium sand, little fine to medium sub rounded gravel, trace silt, coal and concrete fragments, dry, loose.	
3			276			1.5 to 2.5' - FILL: Black fine to coarse sand, trace fine to medium angular gravel, trace silt, cinder and coal fragments, wood material, wet, loose, odor.	
4			21.5			2.5 to 5.0' - Gray brown fine SAND, little silt, trace fine sub-rounded gravel, moist, dense.	
5			1099				
6		40	49.6		SM	5.0 to 6.5' - Gray brown fine SAND, some silt, little root material, moist, dense, slight odor.	
7			16.5				6.5 to 10.0' - Dark brown MEADOW MAT, little silt, trace clay, moist, loose.
8			648				
9			238				
10			99.3				
11		40	32.2				
12			37.1				
13			5.3				
14			4.0				
15			2.0				
			0.4		SM	10.0 to 15.0' - Gray brown fine to medium SAND, some fine to medium sub-rounded gravel, little silt, wet, dense to loose.	
			ND				
			ND				
			ND				
			ND				
			ND				
			ND				



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57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

C011

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		38	ND		GP	15.0 to 20.0' - Gray brown fine to coarse angular GRAVEL, little fine to medium sand, trace silt, wet, loose.
17			ND			
18			ND			
19			ND			
20			ND			
21		50	ND		SW	20.0 to 26.5' - Gray brown fine to medium SAND, some fine to coarse angular gravel, little silt, wet, dense to loose.
22			ND			
23			ND			
24			ND			
25			ND			
26			ND			
27		39	ND		SM	26.5 to 35.0' - Gray brown fine to medium SAND, little fine to medium sub-angular gravel, little silt, moist, dense. Refusal @ 35.0'.
28			ND			
29			ND			
30			ND			
31		54	ND			
32			ND			
33			ND			
34			ND			
35			ND			

End of boring @ 35'



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

D004

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing
Investigations

DATE DRILLED: 07/25/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 3 feet

DRILLER: B. Flemming

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 31 feet

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
1		40	ND			0 to 0.5' - Gray GRAVEL and ASPHALT. 0.5 to 5.0' - FILL: Gray brown fine to medium sand, trace fine to medium sub-rounded gravel, trace silt, cinders, wet @ 3', dense.
2			ND			
3			ND			
4			ND			
5			ND			
6		40	50.2			5.0 to 15.0' - FILL: Gray brown fine to medium sand, little fine to medium sub-angular gravel, little silt, staining from 5.0 to 6.5', wet, dense to loose, slight odor.
7			50.7			
8			34.3			
9			20.2			
10			ND			
11		50	19.2			
12			ND			
13			ND			
14			ND			
15			ND			

**Environmental Corporation**

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG**BORING NUMBER****D004**

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		60	ND		SP	15.0 to 25.0' - Gray brown fine SAND, little fine to medium sub-angular to sub-rounded gravel, trace silt, moist, dense.
17			ND			
18			ND			
19			ND			
20			ND			
21			ND			
22		36	ND		SP	25.0 to 30.0' - Gray brown fine to medium SAND, little fine to coarse sub-rounded gravel, trace silt, wet, dense.
23			ND			
24			ND			
25			ND			
26		40	ND		SP	30.0 to 31.0' - Brown fine to medium SAND, trace fine sub-rounded gravel, trace silt, wet, loose. Refusal @ 31.0'
27			ND			
28			ND			
29			ND			
30			ND			
31		12	ND			
End of boring @ 31'						



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

SB-4

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Zebra Environmental

DATE DRILLED: 07/15/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 7 feet

DRILLER: B. Lombardo

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 12 feet

LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS	
0							
1		Hand cleared				0 to 5.0' - FILL: Mixed gravel and sand, dense, dry.	
2							
3							
4							
5							
6		40	477	SB4/5.0-5.5	ML	5.0 to 7.0' - Reddish brown SILT, little sand, moist, strong petroleum like odor.	
7			379				
8			121	90.2	SB4/7.5-8.0	PT	7.0 to 7.5' - Red SILT, little sand, wet. 7.5 to 10.5' - Dark brown MEADOW MAT, very dense, organic material.
9							
10		20	2.3	SB4/9.5-10.0	SP	10.5 to 11.0' - Grayish green medium to coarse SAND, little silt, moist. 11.0 to 12.0' - Dark reddish green SILT, some sand, some gravel, moist.	
11							0.8
12							1.2
						End of boring @ 12'	



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

SB-5

PROJECT NAME: Spectra NJ-NY Expansion ORAC **LOCATION:** Jersey City, New Jersey

PROJECT NO.: 168217 **CONTRACTOR:** Zebra Environmental

SAMPLER TYPE/DIA.: Macrocore/2" **DEPTH TO WATER:** 3 feet

BORING METHOD: Geoprobe- Direct Push **TOTAL DEPTH DRILLED:** 14 feet

DATE DRILLED: 07/15/11

DRILLER: B. Lombardo

LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						0 to 0.5' - ASPHALT
1		Hand cleared	ND	SB5/5.0-5.5	SW	0.5 to 5.0' - FILL: Gravel and dark medium to coarse sand, dense, wet @ 3', odor.
2			ND			
3			7.2			
4			14.4			
5			32.3			
6		30	62.1	SB5/5.0-5.5	SW	5.0 to 7.5' - Brown SAND, little silt, trace gravel, dense, wet, odor.
7			28.3			
8			22			
9			44.3			
10			2.3			
11		48	0.2	SB5/10.0-10.5	PT	8.5 to 9.5' - Red SILT, trace gravel, stiff, moist.
12			0.9			
13			4.8			
14			8.8			
			4.5			
		48	0.5	SB5/12.0-12.5	SP	9.5 to 13.5' - Reddish brown MEADOW MAT, tight, wet.
			0.3			
			0.4			
						13.5 to 14.0' - Greenish gray fine SAND, dense, wet.
						End of boring @ 14'



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

SB-6

PROJECT NAME: Spectra NJ-NY Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Zebra Environmental

DATE DRILLED: 07/12/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 2 feet

DRILLER: B. Lombardo

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 10 feet

LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS	
0							
1		Hand cleared	ND		SW	0 to 1.0' - GRAVEL, Liner @ 1'	
			14.4			1.0 to 4.0' - Dark gray fine SAND, some fine to medium gravel, little silt, dense, wet @ 2'.	
2			36.9				
			15.6				
3			20.1				
			14.4				
4			14.7				
			9.7				
5		12	202	SB-6/5.0-5.5	SM	4.0 to 5.0' - FILL: Wood pieces soaked with oil substance, some silty clay, trace gravel, stiff, wet.	
			182			5.0 to 7.5' - Dark reddish brown to gray SILT, little sand, stiff, wet, solvent odor.	
6		60	588				
				385			
7				120			
				28.2			
8			8.2	SB-6/7.5-8.0	PT	7.5 to 10.0' - Dark brown MEADOW MAT, organic material, compact, moist.	
			1.2				
9			10.8				
			6.0				
			4.9				
10			0.8	SB-6/9.5-10.0			
						End of boring @ 10'	



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

SB-7

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Zebra Environmental

DATE DRILLED: 07/12/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 1 foot

DRILLER: B. Lombardo

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 15 feet

LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						0 to 1.0' - GRAVEL, Liner @ 1'
1		Hand cleared	28.6			1.0 to 2.0' - FILL: Fine to coarse gravel, some fine to medium gray sand, trace silt, wet @ 1'
2			45.7			
3		36	20.1	SB7/2.5-3.0	SW	2.0 to 3.0' - Dark black fine to coarse SAND, trace fine gravel, trace silt, loose, wet, strong odor.
4			59.2		SW	3.0 to 5.0' - Reddish brown SAND, some silt, tight, wet.
5			0.8			
6			2.3			
7		54	19.8			5.0 to 7.5' - FILL: Light brown, reddish medium to coarse sand, little silt, trace fine gravel, coal fragments, tight, moist.
8			3.3			
9			ND			
10			ND			
11			13.5	SB7/10.5-11.0	PT	10.5 to 13.5' - Reddish brown MEADOW MAT, compact, moist, organic odor.
12			10.8			
13		54	ND			
14			ND	SB7/13.0-13.5	SP	13.5 to 15.0' - Gray fine to medium SAND, trace silt, dense, moist.
15			ND			End of boring @ 15'



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

SB-8

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Zebra Environmental

DATE DRILLED: 07/14/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 2.5 foot

DRILLER: B. Lombardo

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 10 feet

LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS		
0						0 to 1.0' - GRAVEL and ASPHALT		
1		Hand cleared	94.6	SB8/6.0-6.5		1.0 to 3.5' - FILL: Dark black gravel and sand, loose, wet @ 2.5'.		
2			74.5					
3			28.2					
4		58.2	CL			3.5 to 4.0' - Dark brown SILT, some gravel, loose, wet, odor.		
5		61.1				4.0 to 5.0' - Reddish brown SILT, some gravel, dense, wet, odor.		
6		18	5.6			ML	5.0 to 8.5' - Dark gray SILT, dense, wet, slight odor at @ 5'.	
7		14						
8		55	18.8			SB8/8.5-9.0	PT	8.5 to 10.0' - Reddish brown MEADOW MAT, dense, moist.
9			26.2					
10			33.3					
11			9.4	SB8/9.5-10.0		End of boring @ 10'		
12			22.7					
13			4.2					
14			0.3					
15			ND					

**Environmental Corporation**

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG**BORING NUMBER****SB-10****PROJECT NAME:** Spectra NJ-NY
Expansion ORAC**LOCATION:** Jersey City, New Jersey**PROJECT NO.:** 168217**CONTRACTOR:** Zebra Environmental**DATE DRILLED:** 07/13/11**SAMPLER TYPE/DIA.:** Macrocore/2"**DEPTH TO WATER:** 2.5 feet**DRILLER:** B. Lombardo**BORING METHOD:** Geoprobe- Direct Push**TOTAL DEPTH DRILLED:** 15 feet**LOGGED BY:** G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
1		Hand cleared	ND			0 to 4.0' - FILL: Dark black fine to coarse sand, loose, wet @ 2.5'.
2			ND			
3			ND			
4			ND			
5			ND			
5		12	97.2			4.0 to 5.0' - FILL: Dark black fine to coarse SAND, trace gravel, loose, wet, odor.
6		36	14.4			5.0 to 9.5' - Reddish brown silty SAND, trace gravel, dense, wet. Coal fragments from 8 to 9.5'.
7			13.8			
8			8.2			
9			ND		SM	
10			ND		SM	
10			20.2	SB10/9.0-9.5		9.5 to 9.75' - Gray silty SAND, trace organics, dense, moist.
11		36	20.2	SB10/10.0-10.5	ML	9.75 to 10.5' - Reddish brown to gray SILT, little sand, stiff, wet
12			18.9		PT	10.5 to 14.5' - Reddish brown MEADOW MAT, organic material, moist, organic odor.
13			17.6			
14			18.2			
15			5.6		SB10/12.5-13.0	
15			2.3		SM	14.5 to 15.0' - Gray silty SAND, dense, moist. End of boring @ 15'



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

SOIL BORING LOG

BORING NUMBER

SB-11

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Zebra Environmental

DATE DRILLED: 07/12/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 1 foot

DRILLER: B. Lombardo

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 10 feet

LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						0 to 1.0' - GRAVEL, Liner @ 1'
1		Hand cleared	0.8			1.0 to 2.0' - FILL: fine to coarse gravel, some fine to medium gray sand, trace silt, wet @ 1'
2			1.7			
3			336	SB11/2.5-3.0	SW	2.0 to 3.0' - Dark black fine to coarse SAND, trace fine gravel, trace silt, wet, slight odor.
4		36	527		SM	3.0 to 7.5' - Dark reddish brown SILT, trace sand, trace fine gravel, stiff, wet.
5			33.6			
6			14.7			
7			2.2			
8			2.3	SB11/7.5-8.0	PT	7.5 to 9.75' - Dark brown MEADOW MAT, organic material, compact, moist.
9			0.2			
10		54	ND	SB11/9.0-9.5	SP	9.75 to 10.0' - Gray brown fine SAND, trace organics, dense, moist.
			ND			End of boring @ 10'



Environmental Corporation

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SOIL BORING LOG

BORING NUMBER

SB-12

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Zebra Environmental

DATE DRILLED: 07/15/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 6 feet

DRILLER: B. Lombardo

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 15 feet

LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
1		Hand cleared				0 to 5.0' - FILL: Mixed gravel and sand, dense, dry.
2						
3						
4						
5						
6		24	ND			5.0 to 6.0' - FILL: Brown sand and gravel.
7			ND			6.0 to 9.0' - FILL: Dark brown sand and gravel, brick fragments, wet @ 6'.
8			ND			
9			ND			
10				ND		
11		55	ND			10.5 to 12.5 - Brown gray SILT, wet.
12			ND			
13			14.8	SB12/12.0-12.5		12.5 to 15.0' - Dark brown MEADOW MAT, organic material, dense, moist.
14			12.6	SB12/13.0-13.5		
15			56.8 59.7 67.1	SB12/14.5-15.0		



Environmental Corporation

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SOIL BORING LOG

BORING NUMBER

SB-13

PROJECT NAME: Spectra NJ-NY
Expansion ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Zebra Environmental

DATE DRILLED: 07/12/11

SAMPLER TYPE/DIA.: Macrocore/2"

DEPTH TO WATER: 1 foot

DRILLER: B. Lombardo

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 10 feet

LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
1		Hand cleared	0.8			0 to 1.0' - GRAVEL, Liner @ 1'
2			1.7			1.0 to 2.0' - FILL: fine to coarse gravel, some fine to medium gray sand, trace silt, wet @ 1'.
3		30	2475	SB13/2.5-3.0	SW	2.0 to 5.0' - Dark black medium to coarse SAND, trace fine gravel, trace silt, stiff, wet, solvent odor.
4			3414			
5			167			
6			327			
7		54	214	SB13/8.0-8.5	PT	5.0 to 8.0' - Dark reddish brown SILT, trace sand, trace fine gravel, stiff, wet, strong solvent odor.
8			58.2			
9			206			
10			99.1			
			1121			
			206			
			408			
			48.8			
			4.2			
			2.8			
			ND			
			ND	SB13/9.5-10.0		
						End of boring @ 10'



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

TEMPORARY WELL AND SOIL BORING LOG

WELL NUMBER

TW-1

PROJECT NAME: Spectra NJ-NY Expansion ORAC LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217 CONTRACTOR: Zebra Environmental

SAMPLER TYPE/DIA.: Macrocore/2" TYPE OF WELL: Temporary
 DEPTH TO BEDROCK: Not Encountered DRILLING METHOD: Geoprobe - Direct Push
 TOTAL DEPTH DRILLED: 12 feet BIT TYPE: NA

START DATE: 07/14/11
 FINISH DATE: 07/14/11
 DRILLER: B. Lombardo
 LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS		
0									
1		Hand cleared		TW1/5.0-5.5	▼		0 to 5.0' - FILL: Grayish brown sand, little gravel, little silt, loose, odor, wet @ 3', cardboard layer @ 2' saturated, strong solvent odor.		
2									
3									
4									
5		36	78.9	TW1/5.0-5.5		SW	5.0 to 6.5' - Dark brown SAND, little silt, stiff, wet, sheen, slight odor.		
6			ND					SM	6.5 to 7.5' - Grayish brown SILT, stiff, wet.
7			ND					SM	
8			ND					PT	7.5 to 9.5' - Reddish brown SILT, some gravel, stiff, wet.
9		ND							
10		ND							
11		24	ND	TW1/10.0-10.5			9.75 - 12' - Reddish brown MEADOW MAT, compact, moist.		
12			ND	TW1/11.5-12.0					
End of boring at 12'									
<u>Well Construction Details</u>									
0 to 5 ft. below surface - 1" diameter PVC riser									
5 to 10 ft. below surface - 1" diameter 0.20 slot PVC screen									

CASING TYPE/DIAMETER (IN.)
 INNER: PVC/1 OUTER: N/A

STATIC WATER LEVEL: 3.9 (07/14/11) feet below surface
 DEPTH WATER ENCOUNTERED: 3 feet below surface

SCREENED OR OPEN INTERVAL: 5 to 10 feet
 (FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl
 GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

TEMPORARY WELL AND SOIL BORING LOG

WELL NUMBER

TW-2

PROJECT NAME: Spectra NJ-NY Expansion ORAC LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217 CONTRACTOR: Zebra Environmental

SAMPLER TYPE/DIA.: Macrocore/2" TYPE OF WELL: Temporary
DEPTH TO BEDROCK: Not Encountered DRILLING METHOD: Geoprobe - Direct Push
TOTAL DEPTH DRILLED: 25 feet BIT TYPE: NA

START DATE: 07/13/11
FINISH DATE: 07/13/11
DRILLER: B. Lombardo
LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							
1		Hand cleared	407	TW2/9.5-10.0	▼		0 to 2.5' - FILL: Gray coarse gravel, some fine to coarse sand.
2			119				
3			339				
4		30	39.4				2.5 to 3.0' - FILL: Black gravel, wet @ 2.5', loose.
5			13.4				ML 3.0 to 5.0' - Dark brown SILT, little clay, stiff, moist, green color staining.
6			16				
7		55	437				ML 5.0 to 7.5' - Brownish gray SILT, little clay, stiff, moist, odor.
8			11				
9			822				
10		24	148				ML 7.5 to 8.0' - Reddish brown SILT, stiff, moist, wood chip layer.
11			47.9				ML 8.0 to 10.0' - Gray to reddish brown SILT, stiff, moist, yellow and green staining, odor.
12			102				
13			85.2				10.0 to 10.5' - FILL: Red brick layer, compact, dry.
14			70.4				10.5 to 11.0' - FILL: White concrete, some gravel.
15			1516				11.0 to 15.0' - FILL: Dark black and gray gravel, some medium to coarse sand, loose, moist.

CASING TYPE/DIAMETER (IN.)
INNER: PVC/1 OUTER: N/A

STATIC WATER LEVEL: 2.52 (07/13/11) feet below surface

DEPTH WATER ENCOUNTERED: 2.5 feet below surface

SCREENED OR OPEN INTERVAL: 10 to 15 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl

GROUND SURFACE ELEVATION: NA ft.msl



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TEMPORARY WELL AND SOIL BORING LOG

WELL NUMBER

TW-2

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		48	476	TW2/17.0-17.5		SP	15.0 to 17.0' - FILL: Dark gray gravel, some fine to coarse sand, loose, wet.
			369				
			1303				
17			589				
			533				
18		507				CL	17.0 to 18.0' - Brown fine SAND, dense, wet.
		258					18.0 to 20.0' - Dark brown SILT, trace gravel, stiff, moist, green color staining.
19			28.4				
20		55	25.8	TW2/22.0-22.5		CL	20.0 to 25.0' - Dark brown SILT, trace gravel, stiff, wet.
21			80.8				
			145				
22			10.9				
			13.8				
23		4.2					
		3.4					
24		5.4					
		3.4					
25			ND	TW2/24.5-25.0			
							End of boring at 25'
							<u>Well Construction Details</u> 0 to 10 ft. below surface - 1" diameter PVC riser 10 to 15 ft. below surface - 1" diameter 0.20 slot PVC screen



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TEMPORARY WELL AND SOIL BORING LOG

WELL NUMBER

TW-3

PROJECT NAME: Spectra NJ-NY Expansion ORAC LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217 CONTRACTOR: Zebra Environmental

SAMPLER TYPE/DIA.: Macrocore/2" TYPE OF WELL: Temporary
DEPTH TO BEDROCK: Not Encountered DRILLING METHOD: Geoprobe - Direct Push
TOTAL DEPTH DRILLED: 16 feet BIT TYPE: NA

START DATE: 07/13/11
FINISH DATE: 07/13/11
DRILLER: B. Lombardo
LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							
1		Hand cleared					0 to 2.0' - FILL: Brown fine to medium sand, garbage, plastic, asphalt from 1.5 to 1.75'.
2			185	TW3/2.0-2.5	▼		2.0 to 4.5' - FILL: Brick, concrete, black medium to coarse sand, petroleum odor, wet @ 4'.
3			152				
4		36	80.7				
5			ND			ML	4.5 to 6.5' - Grayish green to orange SILT, stiff, wet.
6			ND				
7			50.2			ML	6.5 to 10.0' - Grayish red SILT, little sand, stiff, wet.
8		30	18.7				
9			5.4				
10			ND				
11			ND	TW3/10.5-11.0		SP	10.0 to 13.0' - Gray silty SAND, trace gravel, medium dense, wet.
12			14.7				
13			12.8	TW3/12.0-12.5			
14		30	ND			SP	13.0 to 16.0' - Orange brown SAND, little silt, trace gravel, dense, wet.
15			ND				

CASING TYPE/DIAMETER (IN.)
INNER: PVC/1 OUTER: N/A

STATIC WATER LEVEL: 2.27 (07/13/11) feet below surface
DEPTH WATER ENCOUNTERED: 4 feet below surface

SCREENED OR OPEN INTERVAL: 10 to 15 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl
GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

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TEMPORARY WELL AND SOIL BORING LOG

WELL NUMBER

TW-4

PROJECT NAME: Spectra NJ-NY Expansion ORAC LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217 CONTRACTOR: Zebra Environmental

SAMPLER TYPE/DIA.: Macrocore/2" TYPE OF WELL: Temporary
DEPTH TO BEDROCK: Not Encountered DRILLING METHOD: Geoprobe - Direct Push
TOTAL DEPTH DRILLED: 20 feet BIT TYPE: NA

START DATE: 07/14/11
FINISH DATE: 07/14/11
DRILLER: B. Lombardo
LOGGED BY: G. Nicaretta

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS		
0									
1		Hand cleared	ND	TW4/9.0-9.5	▼		0 to 5.0' - FILL: gravel, fine to coarse sand, dry.		
2			ND						
3			ND						
4			ND						
5		48	ND						5.0 to 9.0' - FILL: Mixed gravel and sand, shell fragments, wet @ 5', dense.
6			ND						
7			ND						
8			ND						
9			93.2						
10			4.2						
11		12.8	TW4/14.0-14.5			CL 9.0 to 13.0' - Dark brown SILT, little gravel, stiff, wet, odor.			
12		ND							
13		30							
14		ND							
15		ND							

CASING TYPE/DIAMETER (IN.)
INNER: PVC/1 OUTER: N/A

STATIC WATER LEVEL: 5.13 (07/14/11) feet below surface
DEPTH WATER ENCOUNTERED: 5 feet below surface

SCREENED OR OPEN INTERVAL: 10 to 15 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl
GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

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**TEMPORARY WELL AND
SOIL BORING LOG**

WELL NUMBER

TW-4

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16			ND				
17			ND				
18		30	ND				
19			ND				
20			ND	TW4/19.0-19.5		CL	19.0 to 20.0' - Dark red SILT, hard, dry.
							End of boring at 20'
							<u>Well Construction Details</u> 0 to 10 ft. below surface - 1" diameter PVC riser 10 to 15 ft. below surface - 1" diameter 0.20 slot PVC screen



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-1

PROJECT NAME: Spectra NJ-NY Expansion
ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing
Investigations

SAMPLER TYPE/DIA.: Macrocore/2"

TYPE OF WELL: Monitoring

DEPTH TO BEDROCK: Not Encountered

DRILLING METHOD: Hollow stem auger

TOTAL DEPTH DRILLED: 20 feet

BIT TYPE: NA

START DATE: 07/15/11

FINISH DATE: 07/15/11

DRILLER: R. Smith

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS	
0							3' stickup	
1		Hand cleared	ND	MW-1/4			0 to 1.0' - Gravel, liner @ 1'	
2		34	79.4				1.0' to 2.5' - FILL: Dark Brown medium to fine sand, little medium to fine sub-rounded gravel, trace Silt, moist, dense, odor.	
3			270				2.5' to 5.0' - FILL: Brown medium to fine sand, little medium to fine sub-rounded gravel, trace silt, moist, dense, coal fragments.	
4			76.1					
5		44.4	11.3				SW 5.0' to 6.0' - Brown gray medium to fine SAND, little medium to fine angular to sub-angular gravel, trace silt, moist, dense, odor.	
6		ND	13.6					PT 6.0' to 11.5' - Dark Brown PEAT, little Silt, moist, loose
7		20	1.4	MW-1/8				
8			ND					
9			ND					
10		45	ND					
11			0.5					SC 11.5' to 12.5' - Gray fine SAND, little clay, moist, loose, odor.
12			1.3					
13			2.4					SP 12.5' to 17.0' - Gray Brown medium to fine SAND, little medium to fine sub-rounded gravel, trace Silt, moist, dense, odor.
14			3.1					
15			0.9					
			3.4					
			10.2					
			ND					
			ND					

CASING TYPE/DIAMETER (IN.)

INNER: PVC / 2" OUTER: N/A

STATIC WATER LEVEL: 3.41 (07/19/11) feet below TOC

DEPTH WATER ENCOUNTERED: 7 feet below surface

SCREENED OR OPEN INTERVAL: 2 to 7 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl

GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

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**MONITORING WELL AND
SOIL BORING LOG**

WELL NUMBER

MW-1

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		36	6.9 ND	MW-1/18		SP	17' to 20' - Red Brown medium to fine SAND, little medium to fine sub-rounded gravel, little silt, moist, dense.
17			0.3 ND			SM	
18			ND				
19			ND				
20			ND				
							<p>End of Boring at 20'</p> <p><u>Well Construction Details</u></p> <p>0 to 2 feet below ground surface - 2" dia. PVC riser</p> <p>2 to 7 feet below ground surface - 2" dia. 0.10 slot PVC screen</p> <p>0 to 1 feet below ground surface - Cement and Grout</p> <p>1 to 7 feet below ground surface - No. 1 Sand</p>



Environmental Corporation

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MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-2

PROJECT NAME: Spectra NJ-NY Expansion

LOCATION: Jersey City, New Jersey

ORAC

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing Investigations

SAMPLER TYPE/DIA.: Macrocore/2"

TYPE OF WELL: Monitoring

DEPTH TO BEDROCK: Not Encountered

DRILLING METHOD: Hollow stem auger

TOTAL DEPTH DRILLED: 15 feet

BIT TYPE: NA

START DATE: 07/11/11

FINISH DATE: 07/11/11

DRILLER: R. Smith

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							3' stickup
1		30	542	MW-2/1			0 to 5.0' - FILL: Gray to dark brown medium to fine sand, little medium to fine sub-angular gravel, little silt, moist, loose. Coal fragments, wood piling with creosote odor @ 1'.
2			2.0				
3			ND				
4			ND				
5			ND				
6		12	ND	MW-2/12		SW	5.0 to 10.0' - Gray brown fine SAND, little silt, little clay, wet, loose.
7			ND				
8			ND				
9			ND				
10			ND				
11		42	ND			PT	10.0 to 11.5' - Dark Brown MEADOW MAT, moist, loose.
12			ND				
13			ND				
14			ND				
15			ND				

CASING TYPE/DIAMETER (IN.)

INNER: PVC / 2" OUTER: N/A

STATIC WATER LEVEL: 5.59 (07/19/11) feet below TOC

DEPTH WATER ENCOUNTERED: 5 feet below surface

SCREENED OR OPEN INTERVAL: 5 to 10 feet (FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl

GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

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MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-3

PROJECT NAME: Spectra NJ-NY Expansion
ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing Investigations

SAMPLER TYPE/DIA.: Macrocore/2"

TYPE OF WELL: Monitoring

DEPTH TO BEDROCK: Not Encountered

DRILLING METHOD: Hollow stem auger

TOTAL DEPTH DRILLED: 20 feet

BIT TYPE: NA

START DATE: 07/11/11

FINISH DATE: 07/11/11

DRILLER: R. Smith

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							3' stickup
1		36	ND				0 to 5.0' - FILL: Brown to dark brown medium to fine sand, little medium to fine sub-angular to sub-rounded gravel, little silt, dry, loose, cinders, coal fragments, glass fragments.
2			ND				
3			ND				
4			ND				
5			ND				
6		12	ND			SW	5.0' to 10.0' - Gray fine SAND, little fine sub-angular gravel, little silt, wet, loose.
7			ND				
8			ND				
9			ND				
10			ND				
11		36	ND			SW	10.0 to 10.5' -Brown fine SAND, little medium to fine sub-angular gravel, little silt, wet.
12			0.8				
13			0.5				
14			1.2				
15			ND				
			ND			PT	10.5 to 15.0' - Brown to dark brown MEADOW MAT, moist.

CASING TYPE/DIAMETER (IN.)

INNER: PVC / 2" OUTER: N/A

STATIC WATER LEVEL: 7.51 (07/19/11) feet below TOC

DEPTH WATER ENCOUNTERED: 5 feet below surface

SCREENED OR OPEN INTERVAL: 5 to 10 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl

GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-3

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		30	ND			SP	15.0 to 16.0' - Gray fine SAND, little medium to fine sub-rounded gravel, trace silt, wet, loose.
17			ND			SP	16.0 to 20.0' - Gray brown fine SAND, little medium to fine sub-rounded gravel, trace silt, wet, loose.
18			ND				
19			ND				
20			ND				
							End of Boring at 20'
							<u>Well Construction Details</u> 0 to 5 feet below ground surface - 2" dia. PVC riser 5 to 10 feet below ground surface - 2" dia. 0.10 slot PVC screen 0 to 3 feet below ground surface - Cement and Grout 3 to 10 feet below ground surface - No. 1 Sand



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-4

PROJECT NAME: Spectra NJ-NY Expansion
ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing Investigations

SAMPLER TYPE/DIA.: Macrocore/2"

TYPE OF WELL: Monitoring

DEPTH TO BEDROCK: Not Encountered

DRILLING METHOD: Hollow stem auger

TOTAL DEPTH DRILLED: 20 feet

BIT TYPE: NA

START DATE: 07/14/11

FINISH DATE: 07/14/11

DRILLER: R. Smith

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							3' stickup
1		Hand cleared					0 to 1.0' - FILL: Gray brown fine to medium sand, little fine to medium sub-rounded gravel, little silt, plastic material, dry, loose.
2							1.0 to 4.0' - FILL: Brown fine sand, little fine sub-rounded gravel, trace silt, plant roots @ 1', shell fragments and coal cinders @ 3', moist @ 3', loose.
3							
4							
5		34	ND				5.0 to 11.0' - FILL: Dark gray to black fine to medium sand, little fine to medium sub-angular to sub rounded gravel, trace silt, coal and cinders, wet, loose.
6			ND				
7			ND				
8			ND				
9			ND				
10		40	ND				
11			ND				PT 11.0 to 17.5' - Brown MEADOW MAT, little clay, moist, loose.
12			ND				
13			ND				
14			ND				
15			ND				

CASING TYPE/DIAMETER (IN.)

INNER: PVC / 2" OUTER: N/A

STATIC WATER LEVEL: NA feet below surface

DEPTH WATER ENCOUNTERED: 4 feet below surface

SCREENED OR OPEN INTERVAL: 5 to 10 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl

GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-4

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		36	768			SC	17.5 to 20.0' - Gray fine SAND, some clay, wet, loose.
17			846				
18			107				
19			222				
20			1041				
							End of Boring at 20'
							<u>Well Construction Details</u> 0 to 5 feet below ground surface - 2" dia. PVC riser 5 to 10 feet below ground surface - 2" dia. 0.10 slot PVC screen 0 to 3 feet below ground surface - Cement and Grout 3 to 10 feet below ground surface - No. 1 Sand



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-5

PROJECT NAME: Spectra NJ-NY Expansion
ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing Investigations

SAMPLER TYPE/DIA.: Macrocore/2"

TYPE OF WELL: Monitoring

DEPTH TO BEDROCK: Not Encountered

DRILLING METHOD: Hollow stem auger

TOTAL DEPTH DRILLED: 20 feet

BIT TYPE: NA

START DATE: 07/13/11

FINISH DATE: 07/13/11

DRILLER: R. Smith

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							0 to 0.2' - ASPHALT and GRAVEL surface
1		48	ND	MW-5/1.5			0.2 to 2.0' - FILL: Dark brown medium to fine SAND, little medium to fine sub-angular gravel, trace silt, dry, dense, coal and cinder fragments.
2	1.1		0.3				2.0 to 5.0' - FILL: Gray brown fine SAND, little fine sub-angular gravel, trace silt, moist, dense, coal and cinder fragments.
3	0.8		ND				
4	ND						
5		42	ND	MW-5/11		SW	5.0' to 10.0' - Gray brown medium to fine SAND, some medium to fine sub-angular gravel, trace silt, wet, dense to loose.
6	0.4		0.3				
7	0.5		ND				
8	ND						
9		42	ND	MW-5/11		SM	10.0 to 15.0' - Gray brown fine SAND, trace medium to fine sub-angular gravel, little silt, moist, dense to loose, odor at top, wood piling @ 10'.
10	30.8						
11	810						
12	16.5						
13		42	1.1	MW-5/11			
14	0.5						
15	ND						

CASING TYPE/DIAMETER (IN.)

INNER: PVC / 2" OUTER: N/A

STATIC WATER LEVEL: 4.10 (07/19/11) feet below TOC

DEPTH WATER ENCOUNTERED: 6.5 feet below surface

SCREENED OR OPEN INTERVAL: 2 to 7 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl

GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-5

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		42	ND	MW-5/18		SM	15.0 to 20.0' - Gray Brown coarse to fine SAND, little coarse to fine sub-angular to sub-rounded gravel, little silt, wet, dense to loose.
			ND				
17			ND				
			ND				
18			ND				
			ND				
19		ND					
		ND					
20		ND					
		ND					
							End of Boring at 20'
							<u>Well Construction Details</u> 0 to 2 feet below ground surface - 2" dia. PVC riser 2 to 7 feet below ground surface - 2" dia. 0.10 slot PVC screen 0 to 1 feet below ground surface - Cement and Grout 1 to 7 feet below ground surface - No. 1 Sand



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-6

PROJECT NAME: Spectra NJ-NY Expansion
ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing
Investigations

SAMPLER TYPE/DIA.: Macrocore/2"

TYPE OF WELL: Monitoring

DEPTH TO BEDROCK: Not Encountered

DRILLING METHOD: Hollow stem auger

TOTAL DEPTH DRILLED: 17 feet

BIT TYPE: NA

START DATE: 07/12/11

FINISH DATE: 07/12/11

DRILLER: R. Smith

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS	
0							3' stickup	
1		42	ND					0 to 1.0' - GRAVEL, Liner @ 1'.
2			ND	44				1.0 to 2.0' - FILL: Black fine to medium sand, little fine to medium sub-angular gravel, trace silt, moist, slight odor,
3			ND					2.0 to 5.0' - FILL: Gray brown fine sand, little fine to medium sub-angular gravel, little silt, wet.
4			ND					
5		36	ND					
6			ND				SC	5.0 to 6.5' - Gray brown fine SAND, some clay, wet.
7			ND				PT	6.5 to 8.0' - Dark brown MEADOW MAT, moist.
8			ND				SM	8.0 to 10.0' - Gray fine SAND, trace silt, moist.
9		30	ND					
10			ND					
11			ND				SP	10.0 to 15.0' - Gray brown fine SAND, little fine to medium sub-rounded gravel, trace silt, moist, dense.
12			ND					
13			ND					
14			ND					
15			ND					

CASING TYPE/DIAMETER (IN.)

INNER: PVC / 2" OUTER: N/A

STATIC WATER LEVEL: NA feet below surface

DEPTH WATER ENCOUNTERED: 2 feet below surface

SCREENED OR OPEN INTERVAL: 2 to 7 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl

GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

**MONITORING WELL AND
SOIL BORING LOG**

WELL NUMBER

MW-6

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		24	1800			SP	15.0 to 17.0' - Gray brown fine SAND, little fine to medium sub-rounded gravel, little silt, wet, loose, petroleum like odor.
			1500				
			850				
17			1371				
							End of Boring at 20'
							<u>Well Construction Details</u> 0 to 2 feet below ground surface - 2" dia. PVC riser 2 to 7 feet below ground surface - 2" dia. 0.10 slot PVC screen 0 to 1 feet below ground surface - Cement and Grout 1 to 7 feet below ground surface - No. 1 Sand



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-7

PROJECT NAME: Spectra NJ-NY Expansion
ORAC

LOCATION: Jersey City, New Jersey

PROJECT NO.: 168217

CONTRACTOR: Environmental Probing
Investigations

SAMPLER TYPE/DIA.: Macrocore/2"

TYPE OF WELL: Monitoring

DEPTH TO BEDROCK: Not Encountered

DRILLING METHOD: Hollow stem auger

TOTAL DEPTH DRILLED: 20 feet

BIT TYPE: NA

START DATE: 07/12/11

FINISH DATE: 07/12/11

DRILLER: R. Smith

LOGGED BY: B. Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							3' stickup
1		30	ND				0 to 1.5' - GRAVEL, Liner @ 1.5'.
2			ND				1.5 to 2.0' - FILL: Black fine sand, trace fine gravel, trace silt, moist.
3			ND				2.0 to 6.0' - FILL: Gray fine sand, trace fine gravel, trace silt, moist.
4			ND				
5			ND				
6		36	ND			SM	6.0 to 6.5' - Dark brown fine SAND, little silt, moist.
7			ND			SP	6.5 to 10.0' - Gray brown fine SAND, little silt, trace fine gravel, wet.
8			ND				
9			ND				
10			ND				
11		42	ND			SP	10.0 to 20.0' - Light brown fine SAND, little fine sub-rounded gravel, little silt, dense, wet.
12			ND				
13			ND				
14			ND				
15			ND				

CASING TYPE/DIAMETER (IN.)

INNER: PVC / 2" OUTER: N/A

STATIC WATER LEVEL: NA feet below surface

DEPTH WATER ENCOUNTERED: 6.5 feet below surface

SCREENED OR OPEN INTERVAL: 5 to 10 feet
(FEET BELOW SURFACE)

MEASURING POINT ELEVATION: NA ft.msl

GROUND SURFACE ELEVATION: NA ft.msl



Environmental Corporation

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-7

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
16		36	ND				
17			ND				
18			ND				
19			ND				
20			ND				
			ND				
							End of Boring at 20'
							<u>Well Construction Details</u> 0 to 5 feet below ground surface - 2" dia. PVC riser 5 to 10 feet below ground surface - 2" dia. 0.10 slot PVC screen 0 to 3 feet below ground surface - Cement and Grout 3 to 10 feet below ground surface - No. 1 Sand

WELL LOG

WELL NUMBER
MW-7R

PROJECT NAME: Spectra NJ-NY Expansion **LOCATION:** Jersey City, New Jersey

PROJECT NO.: 168217 **CONTRACTOR:** Land Air Water Environmental Services

SAMPLER TYPE/DIA.: Hand Clear to 5' w/ post hole **TYPE OF WELL:** Monitoring
DEPTH TO BEDROCK: Not Encountered **DRILLING METHOD:** Hollow Stem Auger
TOTAL DEPTH DRILLED: 7 feet **BIT TYPE:** Auger bit

START DATE: 08/21/13
FINISH DATE: 08/21/13
DRILLER: E. Santiago
LOGGED BY: Bill Chaky

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	Sample Designation	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							Flush Mount
1							0' to 3' : Gray GRAVEL, little m*f Sand, trace Silt, Medium-Dense, Fill, Dry.
2							Geoliner at 1.5'. Wet at 1.5'.
3		NA	NA	NA			3' to 7' : Gray Brown cm*f SAND, some m*f Gravel, little Silt, Dense, Wet, Fill.
4							
5							
6							
7							End Of Boring @7'
							<u>Well Construction Details</u> 0' to 3' below surface - 2" diameter PVC riser 3' to 7' below surface - 2" diameter 0.010 slot PVC screen 0' to 1' below surface - cement 1' to 1.5' below surface - bentonite 1.5' to 7' below surface - No. 1 sand Total depth of well = 7' below surface


CASING TYPE/DIAMETER (IN.)
INNER: PVC / 2 OUTER: NA

STATIC WATER LEVEL: NA feet below surface
DEPTH WATER ENCOUNTERED: 1.50 feet below surface

SCREENED OR OPEN INTERVAL: 2 to 7
(FEET BELOW SURFACE)


MEASURING POINT ELEVATION: NA ft., msl
GROUND SURFACE ELEVATION: NA ft., msl

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	065_A005
		PROJECT NAME:	PPG Site 065	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
8/1/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ AJ Benjamin		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.6'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.6 Dark Gray (2.5Y 4/1) fine SAND, little medium sand, loose, moist, strong solvent odor, wood fragments 0.5' - 0.6' (SP)	065_A005_0.0 (0.0' - 0.5')
1		72.1		
		23.7		
2		12.9	0.6 - 1.8 Very Dark Gray (2.5Y 3/1) coarse-fine SAND, some coarse-medium gray angular gravel & cobbles, little silt, medium-dense, moist, wet 1.6' - 1.8', strong solvent odor (SW/SM)	
	2.8	9.0		
	5.0	13.1		
3			1.8 - 2.1 Very Dark Gray (2.5Y 3/1) medium-fine SAND, trace coarse sand, trace fine subround gravel, & silt, loose, moist-wet, strong solvent odor (SW/SP)	
4			2.1 - 2.8 Black (2.5Y 2.5/1) fine SAND, some coarse-medium sand & coarse-medium subangular-subround gravel (coal & slag), little silt, medium-dense, moist-wet, strong solvent odor (SW/SM)	
5				
6		625.0	5.0 - 5.7 As Above (2.1' - 2.8'), Very Dark Gray (2.5Y 3/1) (SW/SM)	065_A005_5.0 (5.0' - 5.5')
		540.0	5.7 - 6.6 Dark Grayish Brown (2.5Y 4/2) Silty fine SAND & coarse-fine subangular-subround GRAVEL, very loose, wet, strong solvent odor (GM)	
		332.0		
7		167.0	6.6 - 8.5 Dark Grayish Brown (2.5Y 4/2) Silty medium-fine SAND, little medium-fine subangular to subround gravel, loose, wet, slight solvent odor (SM)	
	3.5	81.0		
	5.0	25.3		
		9.1		
10				
11		7.0	10.0 - 10.2 As Above (6.6' - 8.5'), no gravel (SM)	065_A005_10.0 (10.0' - 10.5')
		3.8	10.2 - 10.7 Very Dark Grayish Brown (10YR 3/2) PEAT & SILT, very soft, moist, slight sulfurous odor (PT)	
12			10.7 - 10.8 Dark Reddish Brown (2.5YR 3/4) Sandstone COBBLES (GP)	Fill/Native soil interface at 10.2'
13			10.8 - 11.1 Greenish Gray (GLE Y2 6/5BG) Clayey fine-very fine SAND, little silt, moist, soft, no odor (SC)	
14	1.1			
	5.0			
15				
16		3.1	15.0 - 15.3 Greenish Gray (GLE Y2 6/5BG) CLAY, little silt, moderate plasticity, soft, moist, no odor (CH)	065_A005_15.0 (15.0' - 15.5')
		3.5		
17		2.5	15.3 - 15.5 Gray (GLE Y1 5/N) medium-fine SAND, little silt, medium-dense, moist-wet, no odor (SM)	PID bkgd: 1.4 ppm (high humidity)
	3.0	1.6		
	5.0	1.6	15.5 - 18.0 Reddish Brown (7.5YR 5/3) medium-fine SAND, trace coarse sand & fine subangular gravel, wet, loose, no odor (SW), Transitions to Reddish Brown (5YR 4/4) SILT, little very fine sand & coarse-fine red siltstone gravel, trace coarse-fine greenish gray subround gravel, stiff, dry, no odor (ML)	065_A005_17.5 (17.5' - 18.0')
18				
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 065_A006
		PROJECT NAME: PPG Site 065		LOCATION SKETCH
COMPLETION DATE: 8/1/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ AJ Benjamin		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.0'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.3 Gray (2.5Y 5/1) fine SAND, little medium sand, some light greenish gray sandstone cobbles & coarse-medium sand, loose, moist (SP)	065_A006_0.0 (0.0' - 0.5')
1		738.0	0.3 - 1.5 Very Dark Gray (GLE Y1 3/N) coarse-medium angular GRAVEL & COBBLES, some coarse-fine sand, trace silt, dense, moist (GW)	Strong solvent odor in 0' - 5' interval
2	4.3	1060.0	1.5 - 2.0 Black (2.5Y 2.5/1) medium-fine SAND, wet, loose (SW)	
3	5.0	236.0	2.0 - 3.2 Dark Grayish Brown (10YR 4/2) coarse-fine SAND, little silt & coal, little ang. medium-fine gravel, trace slag, wet, loose, slight sheen (SW)	
4		1826.0	3.2 - 3.5 Red (2.5YR 4/6) coarse-fine angular sandstone GRAVEL, some coarse-medium SAND, loose, wet, slight sheen (GW)	065_A006_3.8 (3.8' - 4.2') (gravel at 4.3')
5			3.5 - 4.3 Dark Grayish Brown (10YR 4/2) Silty CLAY, little fine sand & fine subround gravel, firm, moist (OH), Transitions to Dark Gray (5Y 4/1) Silty very fine SAND, little clay, loose, moist (SM)	Slight solvent odor in 5' - 10' interval
6		17.1	5.0 - 6.3 Dark Grayish Brown (10YR 4/2) Silty medium-fine SAND, some medium-fine subround-subangular sandstone gravel, firm, moist-wet (SM)	
7	4.0	20.9	6.3 - 6.9 Strong Brown (7.5YR 5/6) SILT, some fine sand, little coarse-fine subround-subangular sandstone gravel, firm, moist-wet (ML)	
8	5.0	7.4	6.9 - 8.7 Dark Grayish Brown (2.5Y 4/2) Silty fine SAND, little medium sand, trace coarse-medium round gravel, medium-dense, moist-wet (SM)	
9		10.5	8.7 - 9.0 White (GLE Y1 8/N) coarse GRAVEL & COBBLES (gneiss), pulverized (from drilling) fine sand, loose, dry, no odor (GP)	
10		13.2	10.0 - 11.7 Very Dark Grayish Brown (10YR 3/2) PEAT, little silt, very soft, moist, slight sulfurous odor (PT)	065_A006_8.2 (8.2' - 8.7') (cobbles 8.7' - 9', fill/native soil interface btw 9'-10')
11		55.7	11.7 - 12.2 Greenish Gray (GLE Y2 5/5BG) Silty CLAY, trace very fine sand & fine subround gravel 12.1' - 12.2', soft, moderate palsticity, moist, no odor (CH)	PID bkgd: 0.7 ppm (high humidity)
12	2.2	34.4		065_A006_11.7 (11.7' - 12.2')
13	5.0	0.8		
14				
15				
16		0.7	15.0 - 15.5 Grayish Brown (10YR 5/2) Silty fine-very fine SAND, little medium sand, very loose, wet, no odor (SM)	065_A006_15.0 (15.0' - 15.5')
17	0.5			PID bkgd: 0.7 ppm
18	5.0			
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	065_A007
		PROJECT NAME:	PPG Site 065	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
8/1/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ AJ Benjamin		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.5'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.4 Dark Brown (7.5YR 3/2) fine SAND, little medium sand, moist, loose, wood fragments at 0.4' (SP)	065_A007_0.0 (0.0' - 0.5')
1		40.7		
2	3.6	12.9	0.4 - 1.8 Black (2.5Y 2.5/1) medium-fine SAND grading into coarse-fine SAND, some coarse-fine angular gray gravel & cobbles, trace silt & coal, moist, wet 1.5' - 1.8', sheen/staining 1.5' - 1.8' (SW)	Strong solvent odor in 0' - 5' interval
3	5.0	73.6		
4		865.0	1.8 - 2.1 Brown (10YR 4/3) SILT, some fine sand, little medium sand, stiff, moist (ML)	
5		625.0	2.1 - 3.6 Black (2.5Y 2.5/1) medium-fine SAND, some gravel, little silt, wet, loose, little white (2.5Y 8/1) silty clay stringers, silty clay 3' - 3.3' (SM/CL)	065_A007_3.1 (3.1' - 3.6')
6		784.0	3.3 - 3.6 Dark Gray (5Y 4/1) medium-fine SAND, little silt & gray angular gravel, loose, wet, slight staining (SM)	
7		129.0		
8	2.4	13.7	5.0 - 7.4 Black stained (2.5Y 2.5/1) medium-fine SAND, little coarse-fine angular to subround gravel, trace coal, slag, & glass, white silty clayey medium-fine sand at 6.5', less staining 5.8' - 6.5' (Dark Gray 5Y 4/1) (SP/SW)	Slight solvent odor in 5' - 10' interval
9	5.0	14.0		
10		5.0		065_A007_6.9 (6.9' - 7.4')
11		4.6		Fill/native soil interface between 7.4' - 10', not recovered
12	1.9	5.1	10.0 - 11.6 Very Dark Grayish Brown (10YR 3/2) PEAT, little silty clay, very soft, moist, strong sulfurous odor (PT)	
13	5.0	32.8		
14		31.0	11.6 - 11.9 Greenish Gray (GLE2 5/5BG) CLAY, soft, moist, moderate plasticity, no odor (CH)	065_A007_11.0 (11.0' - 11.5')
15		0.7		
16		0.7	15.0 - 15.9 As Above (11.6' - 11.9'), Transitions into fine-very fine sand, little clay (CL)	065_A007_15.0 (15.0' - 15.5')
17	3.4	1.2		
18	5.0	1.3	15.9 - 18.4 Brown (7.5YR 5/3) medium-fine SAND, trace coarse sand & fine subangular gravel, loose, wet, no odor (SW), Transitions to Reddish Brown (5YR 4/4) SILT, little very fine sand & coarse-fine red sandstone gravel, stiff, moist-dry, no odor (ML)	PID bkgd: 0.7 to 1.3 ppm (high humidity)
19		1.5		
20		1.3		
21		1.3		
22			End of Boring at 20' bgs.	
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	065_A008
		PROJECT NAME:	PPG Site 065	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
8/1/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ AJ Benjamin		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.3'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		179.0	0.0 - 0.7 Dark Brown (7.5YR 3/2) fine SAND, little medium sand, moist, loose (SP)	065_A008_0.0 (0.0' - 0.5')
1		42.5	0.7 - 1.4 Black (2.5Y 2.5/1) medium-fine SAND, little coal & fine gravel (slag), loose, moist, wet at 1.3', faint sheen, staining (SW)	
2	3.7	269.0	1.4 - 1.8 Black (2.5Y 2.5/1) Silty coarse-fine SAND & coarse-fine subround-angular GRAVEL (slag & coal), loose, wet, faint sheen, staining (GW)	Slight solvent odor in 0' - 5' interval
3	5.0	116.0	1.8 - 2.1 Dark Gray (2.5Y 4/1) medium SAND, little gray-green Silty CLAY 2'-2.1', loose, wet, faint sheen, staining (SP/OH)	
4		74.3	2.1 - 2.5 As Above (1.4' - 1.8') (GW)	
5		14.0	2.5 - 3.7 Dark Gray (5Y 4/1) Silty CLAY, soft, moist-wet (OH), Transitions to Olive Gray (5Y 4/2) fine SAND, little medium sand, loose, wet (SP)	
6		20.7	5.0 - 5.5 Olive Gray (5Y 4/2) fine SAND, little medium sand, loose, wet (SP)	065_A008_5.0 (5.0' - 5.5')
7		14.4	5.5 - 7.5 Grayish Brown (2.5Y 5/2) Silty fine SAND, little medium sand & coarse-fine angular gray gravel, trace clay, very loose, wet (SM)	Slight solvent odor in 5' - 10' interval
8	2.5	4.8		065_A008_7.0 (7.0' - 7.5')
9	5.0	3.1		Fill/native soil interface between 7.5' - 10', not recovered
10		4.3		
11		3.4	10.0 - 10.7 Dark Grayish Brown (10YR 4/2) PEAT, little silty clay, very soft, moist, strong sulfurous odor (PT)	065_A008_10.4 (10.4' - 10.9')
12		9.6	10.7 - 10.8 Black (2.5Y 2.5/1) coarse angular GRAVEL (GP)	
13	0.9	3.0	10.8 - 10.9 Greenish Gray (GLE2 6/5BG) coarse-medium SAND, little silt & gray subangular sandstone gravel, loose, moist, no odor (SM)	
14	5.0			
15		0.7	15.0 - 16.5 Gray (10YR 5/1) Clayey fine SAND, little silt, medium-dense, moist-wet, no odor (SC), Transitions into Silty medium-fine SAND, trace clay, medium-dense, wet, no odor (SM)	065_A008_15.0 (15.0' - 15.5')
16		0.4	16.5 - 19.1 Brown (7.5YR 4/3) SILT, little clay & coarse-fine subround gravel (gray-green to red-brown), stiff, moist, no odor (ML)	PID bkgd: 0.2 ppm (high humidity)
17	4.1	0.2		
18	5.0	0.1		
19		0.2		
20		0.2		
21		0.2	End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	065_A009
		PROJECT NAME:	PPG Site 065	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
8/1/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ AJ Benjamin		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.8'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.4 Grayish Brown (2.5Y 5/2) fine SAND & coarse gray angular GRAVEL, little fine gray angular gravel, trace silt, loose, dry (GP)	065_A009_0.0 (0.0' - 0.5')
1		480.0		
		1883.0		
2		2190.0	0.4 - 0.7 Black (2.5Y 2.5/1) coarse-medium angular GRAVEL some medium-fine sand, little coal & slag, medium dense, moist (GW)	
	2.5	940.0		
3	5.0	475.0	0.7 - 1.0 Black (2.5Y 2.5/1) medium-fine SAND, little slag & coal, medium-dense, moist (SW)	065_A009_2.0 (2.0' - 2.5')
			1.0 - 1.8 Black (2.5Y 2.5/1) coarse-medium & medium-fine gravel (coal & slag), little fine sand, medium-dense, wet at 1.8', slight staining/sheen (SW)	Strong solvent odor in 0' - 5' interval
			1.8 - 2.5 Gray (2.5Y 6/1) medium SAND, little fine sand, trace coarse sand & fine angular gravel, loose, moist-wet (SW)	
6		25.9	5.0 - 5.2 Yellowish Red (5YR 5/6) subround sandstone COBBLES, some Dark Gray (2.5Y 4/1) Clayey SILT, medium-dense, moist, slight sulfurous odor (GM)	
		2.6		
		2.9	5.2 - 6.1 As Above (1.8' - 2.5'), no odor (SW)	065_A009_6.0 (6.0' - 6.5')
7	1.5		6.1 - 6.5 Black (2.5Y 2.5/1) coarse-medium GRAVEL & COBBLES (coal), some wood fragments, loose, dry, no odor (GW)	
8	5.0			
11			10.0 - 15.0 No Recovery	No sample - no recovery
12				
13	0.0			
14	5.0			
15				
16		0.0	15.0 - 17.6 Gray (2.5Y 2.5/1) SILT, some very fine sand, little subround coarse-medium gravel & cobbles, stiff, dry, no odor (ML), Transitions into Brown (10YR 5/3)	065_A009_15.0 (15.0' - 15.5')
		0.0		
17		0.0	SILT, little very fine sand & medium-fine subround-subangular gray gravel, some coarse-fine gray gravel 16.9' - 17.2' (moist-wet), stiff, dry, no odor (ML)	
	2.6	0.0		
18	5.0	0.0		
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 065_A010
		PROJECT NAME: PPG Site 065		LOCATION SKETCH
COMPLETION DATE: 8/1/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ AJ Benjamin		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_1	0.8 5.0	N/A	0.0 - 0.2 White concrete cobbles, loose, dry (SP)	065_A010_0.0 (0.0' - 0.5') PID not working - lamp issue
_2			0.2 - 0.8 Dark Grayish Brown (2.5Y 4/2) fine SAND, little medium sand & medium-fine slag gravel, trace coal fragments, loose, dry, no odor (SP)	
_3				
_4				
_5				
_6	0.9 5.0	N/A	5.0 - 5.2 Black (2.5Y 2.5/1) medium-fine SAND, little slag & coal gravel, little silt, loose, wet, no odor (SM)	065_A010_5.0 (5.0' - 5.5')
_7			5.2 - 5.9 Brown (7.5YR 5/4) SILT, little fine sand, little gray & red subround fine gravel, stiff, dry-moist, no odor (ML)	
_8				
_9				
_10				
_11	0.0 5.0	N/A	10.0 - 15.0 No Recovery	No sample - no recovery
_12				
_13				
_14				
_15				
_16	2.6 5.0	N/A	15.0 - 15.3 Brown (7.5YR 4/4) SILT, little very fine sand & subround gray & red gravel, stiff, dry, no odor (ML)	065_A010_15.0 (15.0' - 15.5')
_17			15.3 - 17.6 Grayish Brown (10YR 5/2) grading to Brown (7.5YR 5/2) SILT, little very fine sand & medium-fine subround-subangular gray gravel, stiff, dry-moist, no odor (ML)	
_18				
_19				
_20				
_21			End of Boring at 20' bgs.	
_22				
_23				
_24				
_25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	065_A011
		PROJECT NAME:	PPG Site 065	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/28/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.3'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.5 Gray (GLE1 6/N) coarse-fine angular GRAVEL, some medium-fine Dark Grayish Brown (2.5Y 4/2) sand, loose, dry, no odor (GW)	065_A011_0.0 (0.0' - 0.5')
1		0.4		
2		3.5	0.5 - 1.1 Dark Gray (2.5Y 4/1) medium SAND, little fine sand & medium-fine gray angular gravel & coal, loose, moist, no odor (SP)	
	2.8	5.2		
3		2.0	1.1 - 1.7 Black (2.5Y 2.5/1) medium-fine SAND, little coarse subround slag sand & medium-fine slag gravel, little coal, loose, moist, no odor (SW)	
	5.0	0.3		
4			1.7 - 2.1 Yellowish Brown (10YR 5/4) coarse-medium SAND & coarse-fine subround quartz GRAVEL, loose, moist, no odor (GW)	
5			2.1 - 2.8 Dark Gray (10YR 4/1) Silty medium-fine SAND, little subround-subangular gray gravel, trace slag & coal, loose, wet at 2.3', no odor (SM)	
6		0.0	5.0 - 5.2 As Above (2.1' - 2.8'), wet (SM)	065_A011_5.0 (5.0' - 5.5')
7		0.0	5.2 - 5.7 Olive Gray (5Y 5/2) SILT, some very fine sand, little clay, firm, moist-wet, no odor (ML)	
8	2.1	0.0	5.7 - 6.8 Reddish Brown (5YR 4/3) Silty fine SAND, little medium sand & clay, trace fine red subround sandstone gravel, dense, moist-wet, no odor (SM)	
9	5.0		6.8 - 7.1 As Above (5.2' - 5.7')	
10				
11		0.6	10.0 - 10.5 As Above (5.2' - 5.7'), but Silty CLAY with trace very fine sand, soft, wet, Brown (10YR 5/3) mottling slight sulfurous odor (CH or OH)	065_A011_10.0 (10.0' - 10.5')
12		2.6		
13		5.0	10.5 - 12.9 Very Dark Grayish Brown (10YR 3/2) PEAT, some Very Dark Gray (5Y 3/1) Silty CLAY, soft, moist, strong sulfurous odor (PT)	Fill/native soil interface at 10.5'
14	2.9	6.8		
15	5.0	4.9		
		3.7		
16		0.0	15.0 - 18.5 Gray (2.5Y 5/1) Clayey fine SAND, little silt, loose, moist-wet, slight sulfurous odor (SC), Transitions into Reddish Brown (5YR 4/3) SILT, little fine gravel, trace medium gravel, stiff, moist, no odor (ML)	065_A011_15.0 (15.0' - 15.5')
17		0.0		
18	3.5	0.0		
19	5.0	0.0		065_A011_18.0 (18.0' - 18.5')
20		0.0		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	065_A012
		PROJECT NAME:	PPG Site 065	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
8/1/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ AJ Benjamin		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.0'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.0	0.0 - 0.8 Very Dark Gray (10YR 3/1) fine SAND, trace silt, little coarse-fine gray subangular gravel, loose, dry, no odor (SP)	065_A012_0.0 (0.0' - 0.5')
2	2.3	0.0	0.8 - 1.6 Very Dark Gray (10YR 3/1) to Yellowish Brown (10YR 5/4) medium-fine SAND, little coarse-medium yellowish brown gravel, medium-dense, moist, no odor (SW)	
3	5.0	0.0	1.6 - 2.3 Olive Gray (5Y 4/2) to Black (5Y 2.5/1) Silty medium-fine SAND, some wood fragments, loose, moist-wet, wet at 2', no odor (SW)	
4				
5				
6		0.0	5.0 - 5.3 Reddish Brown (2.5Y 5/3) coarse-medium angular brick GRAVEL, some Black (2.5Y 2.5/1) medium-fine sand, little slag (coarse sand & fine gravel), loose, wet, no odor (GW)	065_A012_5.0 (5.0' - 5.5')
7	1.9	0.0	5.3 - 6.1 Olive (5Y 5/3) Clayey medium-fine SAND, little silt, loose, moist-wet, no odor (SC)	
8	5.0	0.0	6.1 - 6.9 Grayish Brown (10YR 5/2) Clayey medium-fine SAND, little silt & coarse sand, trace medium-fine angular gravel, loose, wet, no odor (SC)	
9				
10				
11		8.1	10.0 - 10.3 Gray (2.5Y 5/1) medium-fine SAND & coarse-fine subround gravel, loose, dry-moist, no odor (GW)	065_A012_10.0 (10.0' - 10.5')
12	3.3	27.0	10.3 - 13.3 Very Dark Grayish Brown (10YR 3/2) PEAT, little Dark Gray (2.5Y 4/1) Silty CLAY, soft, moist, strong sulfurous odor (PT)	
13	5.0	77.1		
14		6.9		
15		42.7		
16		24.8		
17			15.0 - 15.9 Gray (2.5Y 5/1) Silty medium-fine SAND, little clay, loose, wet, no odor (SM)	065_A012_15.0 (15.0' - 15.5')
18	4.0	0.0	15.9 - 16.4 Gray (5Y 5/1) Sandy CLAY, some silt, soft, low plasticity, moist-wet, no odor (CL)	
19	5.0	0.2	16.4 - 19.0 Reddish Brown (5YR 4/4) SILT, little medium-fine subround red gravel, little clay & very fine sand, stiff, firm 18' - 19', dry-moist, moist-wet 18' - 19', no odor (ML)	065_A012_18.5 (18.5' - 19.0')
20		0.1		
21		0.0	End of Boring at 20' bgs.	
22		0.0		
23		0.0		
24		0.0		
25		0.0		

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02	Boring No: 065_A013
		PROJECT NAME: PPG Site 065	LOCATION SKETCH
COMPLETION DATE: 7/28/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 3.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.1 Light Brownish Gray (2.5Y 6/2) fine SAND, little medium sand & coarse-fine light gray gravel, loose, dry, no odor (SP)	065_A013_0.0 (0.0' - 0.5')
1		0.0		trace COPR noted 0.1' - 0.5'
2		0.0	0.1 - 3.5 Very Dark Gray (2.5Y 3/1) medium-fine SAND & medium-fine GRAVEL (coal & slag), trace COPR (0.1'-0.5'), trace metal fragments & glass, loose, moist-dry, moist-wet at 3.5', no odor (SW)	
3	4.1	0.0		
4	5.0	0.0	3.5 - 3.8 Dark Gray (10YR 4/1) SILT, some fine sand, little subangular coarse-fine gravel. Stiff, moist, no odor (ML)	
5		0.0	3.5 - 4.1 Brown (7.5YR 4/2) medium SAND, little fine sand, coarse sand, & medium-fine subround gravel, medium-dense, moist-wet, no odor (SW)	
6		0.0	5.0 - 5.7 As Above (3.5' - 4.1') but Silty, wet, no odor (SM)	065_A013_5.0 (5.0' - 5.5')
7		0.0	5.7 - 8.3 Very Dark Gray (10YR 3/1) Silty medium-fine SAND, some coarse-fine angular gravel (coal), trace slag, trace silty clay in small 1" seams, loose, wet, no odor (SM)	
8	3.3	0.0		
9	5.0	0.0		
10		0.0	10.0 - 10.5 As Above (5.7' - 8.3')	065_A013_10.0 (10.0' - 10.5')
11		25.1	10.5 - 12.7 Very Dark Grayish Brown (10YR 3/2) PEAT & Dark Olive Gray (2.5Y 3/2) clay, little silt, soft, moist, strong sulfurous odor (PT/OH)	Fill/native soil interface at 10.5'
12		11.0		
13	2.7	27.0		
14	5.0	140.0		
15		126.0		
16		54.6	15.0 - 15.9 As Above (10.5' - 12.7')	065_A013_15.0 (15.0' - 15.5')
17		42.2	15.9 - 17.5 Grayish Brown (2.5Y 5/2) grading to Greenish Gray (GLE2 6/5BG) clayey SILT, some very fine SAND, soft, moist-wet, slight sulfurous odor (ML),	
18	2.5	22.4	Transitions to Brown (10YR 4/3) SILT, some fine sand, little red medium-fine sand, firm, moist, no odor (ML)	065_A013_17.0 (17.0' - 17.5')
19	5.0	7.9		
20		0.6		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	065_A014
		PROJECT NAME:	PPG Site 065	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
8/1/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ AJ Benjamin		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.2'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.1 Grayish Brown (2.5Y 5/2) fine SAND, little medium-fine angular gray gravel, trace silt, trace COPR gravel 0.2' - 1.1' (SP)	065_A014_0.0 (0.0' - 0.5')
1		0.0	1.1 - 1.3 Yellowish Brown (10YR 5/6) fine SAND, little medium sand & fine angular gray gravel, trace slag, trace COPR gravel, dry, loose, no odor (SP)	Trace COPR noted 0.2' - 1.5'
2	4.3	0.0	1.3 - 3.4 Very Dark Gray (10YR 3/1) fine SAND & medium-fine GRAVEL (slag & coal), little gray coarse-fine angular gravel, moist, moist-wet 2.2' - 3.4', no odor (GW)	065_A014_1.5 (1.5' - 2.0')
3	5.0	0.0	3.4 - 4.3 Brown (10YR 4/3) coarse-fine SAND, little gray round cobbles, trace silt, medium-dense, moist-wet, no odor (SW)	
4		0.0		
5		0.0	5.0 - 5.5 As Above (3.4' - 4.3') but some silt, trace coal (SM)	
6		0.0	5.5 - 6.3 Dark Gray (10YR 4/1) Silty medium-fine SAND, little coarse sand & medium-fine subround gray gravel, medium-dense, moist-wet, no odor (SM)	065_A014_5.5 (5.5' - 6.0')
7	2.0	0.0	6.3 - 7.0 Very Dark Gray (10YR 3/1) medium-fine SAND, little medium subround gray gravel, little slag, trace coal & silt, loose, moist-wet, no odor (SW/SP)	
8	5.0			
9		0.0	10.0 - 10.7 As Above (6.3' - 7'), some silt (SM)	
10		156.0	10.7 - 12.3 Very Dark Grayish Brown (10YR 3/2) PEAT, some Dark Olive Gray (2.5Y 3/2) clay, little silt, soft, moist, strong sulfurous odor (PT)	065_A014_10.2 (10.2' - 10.7')
11	2.3	60.6		Fill/native soil interface at 10.7'
12	5.0	121.0		
13			15.0 - 16.9 As Above (10.7' - 12.3')	065_A014_15.0 (15.0' - 15.5')
14		84.4		
15		61.3		
16	2.2	393.0	16.9 - 17.2 Light Gray (GLE Y1 7/N) coarse-medium SAND & coarse-fine subround sandstone GRAVEL, loose, moist, no odor (GW)	065_A014_16.7 (16.7' - 17.2')
17	5.0	0.2		
18				
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	065_A015
		PROJECT NAME:	PPG Site 065	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
8/1/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ AJ Benjamin		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.4'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
		0.0	0.0 - 0.3 Asphalt	065_A015_0.0 (0.0' - 0.5')
1		0.0	0.3 - 1.2 Dary Grayish Brown (2.5Y 4/2) fine SAND, little medium sand & coarse-fine asphalt gravel, loose, dry-moist, no odor (SP)	
2	4.2	0.0	1.2 - 1.4 Light Grayish Brown (2.5Y 6/2) fine SAND, loose, dry, no odor (SP)	
3	5.0	0.0	1.4 - 1.6 As Above (0.3' - 1.2'), no asphalt (SP)	
4		0.0	1.6 - 3.5 Very Dark Gray (2.5Y 3/1) coarse-fine SAND, some medium-fine gravel (slag & coal) loose, moist, wet at 2.4', no odor (SW)	
5		0.0	3.5 - 3.7 Dark Yellowish Brown (10YR 4/4) medium SAND & medium-fine subround gravel, trace silt, moist-wet, loose, no odor (GW)	
		0.0	3.7 - 4.2 As Above (1.6' - 3.5'), mostly coal & slag fragments, moist-wet (GW)	
6		0.0	5.0 - 5.2 As Above (3.7' - 4.2') (GW)	065_A015_5.0 (5.0' - 5.5')
7	2.3	0.0	5.2 - 6.2 Very Dark Gray (2.5Y 3/1) fine SAND, some silt, little glass, coal & slag, red brick cobbles 5.4'-5.5', medium-dense, moist, no odor (SM)	
8	5.0	0.0	6.2 - 7.3 Dark Gray (10YR 4/1) medium-fine SAND, little medium-fine subround gray gravel, trace silt, trace glass, red brick cobble & 7.1', loose, moist-wet, no odor (SW)	
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11		1.0	10.0 - 10.8 Very Dark Gray (2.5Y 3/1) fine SAND & coarse-fine GRAVEL (slag), some silt, little coal, loose, wet, slight sulfurous odor (GW)	065_A015_10.3 (10.3' - 10.8')
12	2.2	45.5	10.8 - 12.2 Very Dark Grayish Brown (10YR 3/2) PEAT, some Dark Olive Gray (2.5Y 3/2) clay, little silt, soft, moist, strong sulfurous odor (PT)	
13	5.0	251.0		Fill/native soil interface at 10.8'
14		19.0		
15				
16		103.0	15.0 - 18.5 As Above (10.8' - 12.2')	065_A015_15.0 (15.0' - 15.5')
17	4.5	66.8		
18	5.0	62.6		
19		17.5		
20		37.0	18.5 - 19.5 Greenish Gray (GLE Y2 6/5BG) fine SAND, some silt, little clay, loose, moist-wet, strong sulfurous odor (SM), Transitions to Silty CLAY, moderate plasticity, soft grading to firm, moist-dry, strong sulfurous odor (CH)	065_A015_19.0 (19.0' - 19.5')
		179.0		
		35.9		
		147.0		
		243.0		
21			End of Boring at 20' bgs.	
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SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_B003
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/22/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.7'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.0 Gray (10YR 5/1) medium-fine SAND & gray coarse-fine gravel, 5% COPR	063_B003_0.0 (0.0' - 0.5')
1		4.0	0.2'-0.5' & 15% COPR 0.5'-1' (fine round gravel), loose, dry, no odor (SP)	063_B003_0.5 (0.5' - 1.0')
2		0.3	1.0 - 2.8 Black (7.5YR 2.5/1) coarse-fine SAND & medium-fine subangular gravel	063_B003_1.0 (1.0' - 1.5')
3	3.6	0.1	(slag), little coal fragments, loose to medium-dense, moist, wet at 2.7',	5% COPR noted 0.2' - 0.5'
4	5.0	0.8	slight solvent odor & staining from 2.5' - 2.8' (SW)	15% COPR noted 0.5' - 1.0'
5		9.7	2.8 - 3.5 Brown (7.5YR 4/2) SILT, little fine sand & clay, firm grading to soft, moist,	
6		363.0	strong solvent odor & staining (ML)	
7		525.0	5.0 - 6.1 Brown (7.5YR 4/2) SILT, little fine sand & clay, coarse-fine subround gray	063_B003_5.0 (5.0' - 5.5')
8		42.2	gravel, cobbles from 5.5'-5.9', moist, wet from 5.5'-5.9', firm, strong solvent	
9		22.8	odor and staining throughout (ML)	
10		6.1	6.1 - 7.4 Reddish Brown (5YR 5/3) clayey SILT, little fine sand, trace medium-fine	063_B003_6.9 (6.9' - 7.4')
11	3.0	2.7	Red round sandstone gravel, firm grading to soft, moist to moist-wet, slight	Fill/native soil interface
12	5.0	1.0	solvent odor (ML)	at 7.4'
13			7.4 - 8.0 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray	
14			(5Y 3/1) CLAY, moderate plasticity, soft, moist, abundant plant fibers,	
15			strong sulfurous odor (PT)	
16		0.6	10.0 - 11.4 As Above (7.4' - 8.0') (PT)	
17		0.3		
18		3.9		063_B003_11.0 (11.0' - 11.5')
19		1.4	11.4 - 12.0 Greenish Gray (GLE2 5/5BG) Clayey fine SAND, little silt, soft, moist,	
20	2.0		no odor (SC), Transitions into Reddish Brown (5YR 4/4) fine SAND, some	
21	5.0		silt, little medium sand, trace fine round sandstone gravel, dense, moist, no	
22			odor (SM)	
23		0.7	15.0 - 15.3 Reddish Brown (2.5YR 5/4) SILT & fine SAND, trace fine red round	063_B003_15.0 (15.0' - 15.5')
24		1.6	sandstone gravel, dense, dry-moist, no odor (ML)	
25		0.0	15.3 - 17.7 Brown (7.5YR 5/3) fine SAND, some gravel (Gray 7.5YR 5/1 coarse-medium	
26		0.0	round gravel, Red 2.5YR 4/6 flat siltstone, Greenish Gray GLEY1 5/5GY	
27		0.0	medium-fine subangular sandstone), dense, moist, no odor (SP)	
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SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B004
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/21/2011	20	None - PID not working	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.9'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 Brown (7.5YR 5/4) medium-fine SAND, little Reddish Brown (2.5YR 4/4) fine subround sandstone gravel, loose, dry, no odor (SP)	063_B004_0.0 (0.0' - 0.5')
1			0.5 - 0.8 Bluish Gray (GLE Y2 7/10B) GRAVEL & COBBLES (broken-up concrete) (GP), Olive Gray (5Y 5/2) fine SAND & SILT from 0.7' - 0.8' (ML), medium-dense/firm, dry, no odor	PID not working - lamp issue
2	3.5		0.8 - 2.0 Black (10YR 2.5/1) medium-fine SAND & medium-fine subround gravel (Slag) loose, moist, moist-wet at 1.9', strong solvent odor (GP)	
3	5.0		2.0 - 3.1 Grayish Brown (10YR 5/2) SILT, some fine sand, little medium sand, firm, moist, slight solvent odor (ML)	063_B004_3.0 (3.0' - 3.5')
4			3.1 - 3.5 Very Dark Gray (10YR 3/1) coarse-fine SAND, little silt & fine angular gravel, very loose, wet, strong solvent odor (SW)	
5			5.0 - 5.4 As Above (3.1' - 3.5'), some silt, little coarse-fine angular gravel, strong solvent odor (SM)	
6			5.4 - 6.3 Brown (7.5YR 5/3) SILT & fine SAND, little medium sand, trace medium-fine subangular gray gravel, abundant wood fragments (creosote-treated) from 6' to 6.3', firm, moist, strong solvent odor (ML)	Fill/native soil interface not recovered in 5'-10' core. Sampled 10'-10.5' section in native soil
7	1.3			
8	5.0			
9				
10				
11			10.0 - 10.5 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist, abundant plant fibers, slight sulfurous odor (PT)	063_B004_10.0 (10.0' - 10.5')
12	1.5		10.5 - 11.5 Gray (5Y 5/1) Clayey fine SAND, little silt, soft, moderate plasticity, moist, no odor (SC), Transitions into Reddish Brown (5YR 5/3) medium-fine SAND, medium-dense, moist, no odor (SP)	
13	5.0			
14				
15				
16			15.0 - 16.7 Reddish Brown (5YR 5/3) fine SAND, little medium sand & silt, dense, moist, no odor (SP), Transitions into Brown (7.5YR 4/3) SILT, little fine sand & fine-medium gray angular gravel, abundant from 16' - 16.2', stiff, moist, no odor (ML)	063_B004_15.0 (15.0' - 15.5')
17	1.7			
18	5.0			
19				No sample 19' - 19.5' due to low recovery
20				
21			End of Boring at 20' bgs.	
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SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B004a
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/22/2011	20	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.0'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.0 Dark Brown (10YR 3/3) fine SAND, some medium sand, 20% COPR (fine round gravel) 0.2' - 1.0', trace fine angular gravel, loose, dry, no odor (SP)	063_B004a_0.0 (0.0' - 0.5')
1		4.2	1.0 - 1.2 Light Yellowish Brown (2.5Y 6/4) COBBLES, loose, dry, no odor (GP)	063_B004a_0.5 (0.5' - 1.0')
2		7.4	1.2 - 2.5 Black (7.5YR 2.5/1) coarse-fine SAND, little medium-fine subround to subangular gravel (Slag), loose, moist, wet at 2', slight solvent odor (SW),	063_B004a_1.2 (1.2' - 1.7')
3	3.5	0.5	Transitions into coarse-fine SAND & medium-fine subround to subangular gravel (Slag), loose, wet, slight solvent odor (GW)	20% COPR noted 0.2' - 1.0'
4	5.0	6.0	2.5 - 3.5 Brown (7.5YR 4/3) SILT & fine SAND, little medium sand, trace Red medium to coarse sandstone gravel, medium-dense, moist-wet, slight solvent odor (ML)	
5		15.6	5.0 - 6.8 Dark Grayish Brown (2.5Y 4/2) Silty CLAY, trace fine sand & medium-fine red sandstone gravel, soft, moist-wet, no odor (CL)	063_B004a_5.0 (5.0' - 5.5')
6		6.8	6.8 - 8.6 Reddish Brown (5YR 4/4) Silty medium-fine SAND, little coarse-fine Yellowish-Red (5YR 4/6) sandstone gravel & cobbles, trace Greenish Gray (GLE Y 2 5/5BG) medium-coarse angular shale gravel, medium-dense, moist-wet, no odor (SM)	
7	3.6	0.0		063_B004a_8.1 (8.1' - 8.6')
8	5.0	0.0		Fill/native soil interface not recovered
9		0.0		
10		0.0		
11		4.0	10.0 - 11.8 Black (10YR 2.5/1) PEAT & organic SILT, little Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist, abundant plant fibers, strong sulfurous odor (PT)	
12	4.6	14.2	11.8 - 14.1 Dark Gray (2.5Y 4/1) grading to Greenish Gray (GLE Y 5 5/5BG) CLAY, some fine sand, little silt, soft, low to moderate plasticity, moist, slight hydrocarbon odor (CL)	063_B004a_12.0 (12.0' - 12.5')
13	5.0	43.1		
14		67.7	14.1 - 14.6 Reddish Brown (5YR 4/4) medium-fine SAND, little coarse sand & medium sandstone gravel, medium-dense, moist-wet, strong hydrocarbon odor (SW)	
15		54.2	15.0 - 18.0 As Above (14.1' - 14.6'), little silt, Transitions into Reddish Brown (5YR 4/4) SILT & fine SAND, little medium-coarse Red (5YR 4/6) subround gravel, firm, moist, strong hydrocarbon odor (ML)	063_B004a_16.0 (16.0' - 16.5')
16		660.0		
17	4.7	975.0	18.0 - 19.7 Grayish Brown (10YR 5/2) fine subangular siltstone GRAVEL & coarse SAND, little medium gravel & medium sand, trace fine sand & silt, loose, wet, strong hydrocarbon odor (GW), Transitions into Grayish Brown (10YR 5/2) medium-fine SAND, little silt, trace medium-fine subangular gray siltstone gravel, loose, wet, strong hydrocarbon odor (SP)	
18	5.0	818.0		
19		914.0		
20		871.0		
21		828.0		
22		759.0		
23			End of Boring at 20' bgs.	
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SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B005
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/19/2011	37	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER:	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.0'		No		
MEMO: Hand-dug 2'x2' hole to 1.3' to remove liner.					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.6 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.6 - 1.3 Olive Gray (5Y 4/2) fine SAND, little m. sand, loose, moist-wet, no odor (SP)	
2		2144.0	1.3 - 2.0 Dark Brown (7.5YR 3/2) coarse-fine SAND, little medium-fine subround gravel (slag) and gray gravel, moist-wet, wet at 2', loose, slight solvent odor (SW)	063_B005_1.3 (1.3' - 1.8')
3	3.0	596.0	2.0 - 3.3 Brown (7.5YR 4/3) SILT & fine SAND, little subangular-subround gray gravel, stiff, moist, strong solvent odor (ML)	
4	3.8	76.2		
5		123.0	3.3 - 3.8 Very Dark Gray (10YR 3/1) medium-fine SAND & coarse-fine subangular to subround GRAVEL, little coarse sand & Brown (7.5YR 4/3) silt, strong solvent odor & staining throughout (SW)	063_B005_3.3 (3.3' - 3.8')
6		3999.0		
7		1929.0	5.0 - 10.0 No recovery	
8	0.0			
9	5.0			
10				
11		2258.0	10.0 - 10.2 Reddish Brown (2.5YR 4/3) medium SAND, some fine sand, trace silt, loose, moist-wet, strong solvent odor (SP)	
12	3.8	447.0	10.2 - 11.9 Brown (2.5YR 4/3) SILT & fine SAND, trace medium sand, little coarse-fine subangular-subround gray gravel, dense, moist, slight solvent odor (ML)	063_B005_11.4 (11.4' - 11.9')
13	5.0	23.7	11.9 - 12.8 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist, abundant plant fibers, slight sulfurous odor (PT)	Fill/native soil interface at 11.9'
14		62.1	12.8 - 13.8 Greenish-Gray (GLE2 6/5BG) Clayey fine SAND, little medium sand & silt, medium-dense, moist, no odor (SC)	
15		35.9		
16		18.2	15.0 - 16.0 Reddish Brown (5YR 5/3) medium-fine SAND, trace subround medium-fine sandstone gravel, dense, moist-wet, slight hydrocarbon odor (SP), Transitions into Reddish Brown (5YR 4/3) SILT, little fine sand, trace medium-fine dark gray angular gravel, dense, dry-moist, no odor (ML)	063_B005_15.5 (15.5' - 16.0')
17	1.0	53.6		
18	5.0	0.0		
19		0.0		
20		0.0		
21		332.0	20.0 - 20.2 Dark Gray (10YR 4/1) coarse-fine angular siltstone gravel & coarse sand, dense, moist-wet, slight hydrocarbon odor (GW)	063_B005_20.0 (20.0' - 20.5')
22	1.4	14.0	20.2 - 21.4 Brown (7.5YR 5/3) SILT, some fine sand, little medium sand & coarse-fine subangular gray siltstone gravel, stiff, wet, slight hydrocarbon odor (ML)	
23	5.0	0.0		
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SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B005
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/19/2011	37	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.0'		No		
MEMO: Hand-dug 2'x2' hole to 1.3' to remove liner.					
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DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26		76.2	25.0 - 27.8 Brown (7.5YR 5/3) SILT & Dusky Red (2.5YR 3/2) coarse-fine gravel & cobbles from 25' - 26', little medium-fine gravel from 26' - 27.8', little fine sand, trace medium sand, very stiff, moist, slight hydrocarbon odor (GM)	_26
_27		0.0		_27
_28	<u>2.8</u>	14.0		_28
_29	5.0	0.0		_29
_30		0.0		_30
_31		0.0	30.0 - 30.9 Grayish Brown (10YR 5/2) SILT, some fine sand, little coarse-medium Greenish Gray (GLE1 5/10Y) siltstone gravel, very stiff, dry, no odor (ML), Transitions into Brown (10YR 4/3) SILT, little Weak Red (10R 4/3) coarse-medium siltstone gravel, very dense, dry, no odor (ML) 30.9 - 32.2 Yellowish Red (5YR 5/6) fine SAND, little very fine & medium sand, trace Weak Red (10R 4/3) siltstone gravel, very dense, moist, no odor (SP)	_31
_32		0.0		_32
_33	<u>2.2</u>	0.0		_33
_34	5.0			_34
_35				_35
_36	<u>2.3</u>	0.0	35.0 - 37.3 Weak Red (10R 4/3) SILT, little fine sand, little subround coarse-fine siltstone gravel throughout, siltstone cobbles 35' - 35.3', trace Greenish Gray (GLE1 6/5G) medium-coarse sand & fine subangular sandstone gravel 35.9'-36.2' and at 37'-37.3' (GLE1 7/5GY), very dense, dry, no odor (ML)	_36
_37	2.3	0.0		_37
_38			End of Boring at 37.2' bgs. (refusal)	_38
_39				_39
_40				_40
_41				_41
_42				_42
_43				_43
_44				_44
_45				_45
_46				_46
_47				_47
_48				_48
_49				_49
_50				_50

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B006 / 063_MW01
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/15/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Ray Smith		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~1.5'		Yes - 063_MW01		
MEMO: Moved 8' toward Burma road from original location, hand-dug 2'x2' hole to 1' to remove liner. Geoprobe refusal at 2' on two attempts (stone). Moved 5' towards original location and successfully advanced boring					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) fine SAND, little m. sand, loose, moist-wet, no odor (SP)	
2		79.4	1.0 - 1.5 As Above (0.5'-1'), moist, strong solvent odor (SP)	063_B006_1.0 (1.0' - 1.5')
3	2.4	270.0	1.5 - 2.0 Black (7.5YR 2.5/1) coarse-fine SAND & SLAG, 20% COPR (fine round gravel) from 1.5'-1.7', little medium-fine angular gravel, medium-dense, moist-wet, strong solvent odor (SW)	063_B006_1.5 (1.5' - 2.0')
4	4.0	76.1	2.0 - 3.0 Dark Yellowish Brown (10YR 4/4) SILT, little fine sand, stiff, moist, slight solvent odor (ML)	063_B006_2.0 (2.0' - 2.5')
5		44.4	3.0 - 3.4 Dark Brown (10YR 3/3) coarse-fine SAND, some silt, little fine subround quartz gravel, medium-dense, moist-wet, slight solvent odor (SM)	20% COPR noted 1.5' - 1.7'
6		11.3	5.0 - 7.0 Dark Brown (10YR 3/3) medium-fine SAND, little silt & gravel, trace wood fragments (treated, has strong odor), medium-dense, wet, strong creosote or solvent odor (SP)	
7	1.4	13.6	7.0 - 8.0 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist-wet, abundant plant fibers, strong sulfurous odor (PT)	063_B006_6.5 (6.5' - 7.0')
8	5.0	1.4		Fill/native soil interface at 7.0'
9		1.0		
10				
11		0.5	10.0 - 12.2 As Above (7.0' - 8.0')	063_B006_10.0 (10.0' - 10.5')
12	3.8	1.3	12.2 - 13.8 Greenish Gray (GLE2 5/5BG) Silty CLAY, moderate plasticity, soft, moist, slight hydrocarbon odor (CL/CH), Transitions into Reddish Brown (5YR 4/3) medium-fine SAND, little subround medium-fine gravel (sandstone fragments), dense, moist-wet, slight hydrocarbon odor (SP)	
13	5.0	2.4		063_B006_12.2 (12.2' - 12.7')
14		3.1		
15		0.9		
16		3.4		
17	3.0	10.2	15.0 - 18.0 Reddish Brown (5YR 4/3) medium-fine SAND, little subround medium-fine gravel (sandstone fragments), dense, moist-wet, slight hydrocarbon odor, gray staining at 15.3' (SP), Transitions into Dark Yellowish Brown (10YR 4/4) SILT, little medium-fine angular gravel, trace fine sand, some fine-medium sand from 17.2' - 17.4', stiff, moist, no odor (ML)	
18	5.0	6.9		
19		0.0		
20		0.0		
21		0.0	End of Boring at 20' bgs.	
22		0.0	Well Information:	
23		0.3	2-inch diameter 10-slot SCH40 PVC screen set at 2.0' - 7.0' bgs.	
24		0.0	2-inch diameter SCH40 PVC riser from 2.0' bgs. to 2.5' above grade	
25		0.0	#1 Sand from 1.5' to 7.0' bgs., Grout from 1.0' to 1.5'	
			2' x 2' section of PVC liner placed on top of HDPE liner	
			Cemented-in 2' x 2' hole for well pad from 1.0' bgs to surface	
			Stick-up completion	

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B007
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/19/2011	28	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.3'		No		
MEMO: Hand-dug 2'x2' hole to 1.0' to remove liner.					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) fine SAND, little m. sand, loose, moist-wet, no odor (SP)	
2		211.0	1.0 - 1.3 As Above (0.5' - 1.0'), strong solvent odor (SP)	063_B007_1.0 (1.0' - 1.5')
3	2.2	57.3	1.3 - 1.8 Black (10YR 2.5/1) coarse-fine SAND, little fine subround gravel (slag), little coarse-fine angular gravel, loose, moist-wet, strong solvent odor (SW)	
4	4.0	17.6	1.8 - 3.2 Brown (7.5YR 4/3) fine SAND, some coarse-fine subangular-subround gravel, little silt, loose, wet, strong solvent odor (SP), Transitions into Brown (7.5YR 4/3) medium-fine SAND, some silt, some coarse-fine subangular to subround gravel, soft grading to firm, wet, strong petroleum odor, petroleum staining at 2.5' (SM)	
5		81.0		
6		109.0		
7		141.0	5.0 - 6.2 Reddish Brown (5YR 4/3) medium-fine SAND, some silt & coarse-fine subangular to subround gravel, Weak Red (10R 4/2) siltstone gravel 6.1'-6.2', firm, moist-wet, slight solvent odor (SM)	063_B007_5.0 (5.0' - 5.5')
8	2.6	0.0	6.2 - 7.1 Olive Gray (5Y 5/2) fine to very fine SAND, little silt, loose to medium-dense, moist-wet, trace shells, no odor (SP/SM)	063_B007_7.1 (7.1' - 7.6')
9	5.0	0.0	7.1 - 7.6 Olive Brown (2.5Y 4/4) medium-fine SAND, some silt & coarse-fine angular gravel, Very Dark Grayish Brown (10YR 3/2) Peat in bottom of sleeve, medium-dense, moist- no odor (SM)	Fill/native soil interface at 7.6'
10				
11		6.6	10.0 - 12.2 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1) CLAY, low plasticity, soft, moist-wet, abundant plant fibers, slight sulfurous odor (PT)	063_B007_11.1 (11.1' - 11.6')
12	2.9	7.9	12.2 - 12.7 Greenish Gray (GLEY2 6/5BG) Clayey fine SAND, little medium sand & silt, medium-stiff, moist, no odor (SC)	
13	5.0	2.2	12.7 - 12.9 Reddish Brown (5YR 4/3) medium-fine SAND, little subround medium-fine sandstone gravel & coarse sand, dense, moist, no odor (SW)	
14		1.2		
15		0.2		
16		0.0	15.0 -18.3 As Above (12.7' - 12.9'), but Brown (7.5YR 4/3), Transitions into Reddish Brown (5YR 4/3) SILT, little fine sand, trace medium-fine angular Dark Greenish Gray (GLEY1 4/5GY) shale gravel, dense, moist, no odor (ML)	063_B007_15.0 (15.0' - 15.5')
17	3.3	0.0		
18	5.0	0.0		
19		0.0		
20		0.0		
21		0.0	20.0 - 24.0 Reddish Brown (5YR 4/3) SILT, some fine sand, little medium sand & fine-medium Dark Gray (GLEY1 4/N) shale gravel, some medium sand 20' - 21', dense, moist, no odor (ML)	
22	4.0	0.0		
23	5.0	0.0		
24		0.0		
25		0.0		

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_B007
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/19/2011	TOTAL DEPTH OF BOREHOLE: 28	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.3'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO: Hand-dug 2'x2' hole to 1.0' to remove liner.				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26	3.0	0.0	25.0 - 28.0 As Above (20' - 24'), some Light Olive Brown (2.5Y 5/6) coarse-medium SAND & fine gravel from 25' - 25.4', dense, moist, wet at 26.1' & 26.7', no odor (ML)	_26
_27	3.0	0.0		_27
_28		0.0		_28
_29		0.0		_29
_30			End of Boring at 28.0' (Refusal)	_30
_31				_31
_32				_32
_33				_33
_34				_34
_35				_35
_36				_36
_37				_37
_38				_38
_39				_39
_40				_40
_41				_41
_42				_42
_43				_43
_44				_44
_45				_45
_46				_46
_47				_47
_48				_48
_49				_49
_50				_50

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_B008
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/20/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 1.6'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO: Hand-dug 2'x2' hole to 1.0' to remove liner.				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)	
2		0.0	1.0 - 1.6 As Above (0.5' - 1'), strong solvent odor (SP)	063_B008_1.0 (1.0' - 1.5')
3	2.7	1.0	1.6 - 2.2 Black (10YR 2.5/1) coarse-fine SAND, some medium-fine subround to subangular gravel, 15% COPR (fine round gravel) 1.7' - 2', loose, moist-wet, strong solvent odor (SW)	063_B008_1.7 (1.7' - 2.2')
4	4.0	599.0	2.2 - 3.7 Grayish Brown (2.5YR 5/2) Silty medium-fine SAND, moist-wet, loose, strong solvent odor (SM)	063_B008_2.2 (2.2' - 2.6')
5		76.3		15% COPR 1.7' - 2.0'
6		57.7		
7	2.0	0.0	5.0 - 7.0 Dark Gray (10YR 4/1) medium-fine SAND, little coarse-fine subround gray angular gravel, crushed-up white cobbles 5.5' - 5.6', medium-dense, moist, no odor (SP), Transitions into Light Olive Brown (2.5Y 5/3) SILT & fine SAND, little white medium-coarse gravel & cobbles, abundant from 6.7' - 7.0', firm, moist, no odor (ML)	063_B008_6.5 (6.5' - 7.0')
8	5.0	0.0		
9		0.0		
10		0.0	10.0 - 10.5 Red (2.5YR 4/6) SILT, little fine sand, stiff, dry, no odor (ML)	063_B008_10.5 (10.5 - 11.0')
11		2.2	10.5 - 12.5 Very Dark Grayish Brown (2.5 YR 2.5/1) PEAT, little Very Dark Gray (5Y 3/1) CLAY, low plasticity, soft, moist-wet, abundant plant fibers, slight sulfurous odor (PT)	Fill/native soil interface at 10.5'
12	3.3	6.8		
13	5.0	8.6	12.5 - 13.3 Gray (2.5Y 5/1) Clayey fine SAND, little medium sand, soft, moist, no odor (SC), Transitions into Reddish Brown (5YR 4/3) SILT, little fine sand, trace fine angular gravel, stiff, moist, no odor (ML)	063_B008_12.8 (12.8 - 13.3')
14		1.3		
15		0.7		
16		0.0	15.0 - 17.8 Reddish Brown (2.5YR 5/3) SILT, little fine sand, trace fine gravel, stiff, dry, no odor (ML)	
17	2.8	0.0		063_B008_16.5 (16.5' - 17.0')
18	5.0	0.0		
19		0.0		
20		0.0		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_B009 / 063_MW02
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/11/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Ray Smith		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.0'	GROUND SURFACE ELEVATION:	WELL INSTALLED? Yes - 063_MW02	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		542.0	0.0 - 0.3 Wood fragments, strong odor (solvents or creosote)	063_B009_0.0 (0.0' - 0.5')
1		2.0	0.3 - 0.9 Black (10YR 2.5/1) coarse-medium SAND, 75% COPR (coarse-fine round gravel) from 0.3' -0.5', little-some slag & coal f	063_B009_0.5 (0.5' - 1.0')
2		0.0	odor (SW)	75% COPR noted 0.3' - 0.5'
3	2.7 5.0	0.0	0.9 - 2.7 Very Dark Gray (10YR 3/1) medium-fine SAND, little coarse-fine angular gravel, little silt, loose, moist, wet at 2'	063_B009_1.7 (1.7' - 2.2')
4				
5				
6			5.0 - 9.4 No recovery - drilling difficult and rocky	
7				
8	0.7 5.0			
9		0.0	9.3 - 9.8 Olive Brown (2.5YR 4/3) Clayey SILT, trace fine sand, little coarse-fine gray angular gravel, soft, low plasticity, moist, no odor (ML)	063_B009_9.3 (9.3' - 9.8')
10		1.1	9.8 - 10.0 Dark Brown (10YR 3/3) PEAT, soft, moist, strong sulfurous odor (PT)	(fill/native soil interface)
11		6.4	10.0 - 11.7 As Above (9.8' - 10.0')	
12		3.4		
13	3.7 5.0	0.6	11.7 - 13.7 Gray to Grayish Brown (10YR 5/1 - 5/2) SILT, little fine sand, little coarse-fine angular gravel, firm, moist, no odor (ML)	
14		0.4		
15		0.0		063_B009_13.0 (13.0' - 13.5')
16		0.0	15' - 20' No Recovery	
17				
18	0.0 5.0			
19				
20				
21			End of Boring at 20' bgs.	
22			Well Information:	
23			2-inch diameter 10-slot SCH40 PVC screen set at 5.0' - 10.0' bgs.	
24			2-inch diameter SCH40 PVC riser from 5.0' bgs. to 2.5' above grade	
25			#1 Sand from 3.0' to 10.0' bgs., Grout from 1.0' to 3.0'	
			2' x 2' section of PVC liner placed on top of HDPE liner	
			Cemented-in 2' x 2' hole for well pad from 1.0' bgs to surface	
			Stick-up completion	

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B010
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/28/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.0'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 Light Brownish Gray (2.5Y 6/2) medium-fine SAND, little subround-subangular tan/light gray gravel, loose, dry, slight solvent odor (SW)	063_B010_0.0 (0.0' - 0.5') Trace COPR 0.5' - 0.5'
1		25.3		
2		7430.0	0.5 - 3.3 Very Dark Gray (3.5Y 3/1) medium-fine SAND & medium-fine COPR GRAVEL (50%, 0.5' - 3'), some silt, trace subround-subangular medium-fine gray gravel, medium-dense, moist, moist-wet 2' - 3.3', strong solvent odor (GM/SM)	063_B010_1.5 (1.5' - 2.0') 50% COPR 0.5' - 3'
3	3.6	327.0		
4	5.0	438.0	3.4 - 3.6 Reddish Brown (5YR 4/4) coarse-medium SAND & medium-fine subround - subangular sandstone GRAVEL, loose, dry, slight solvent odor (GW)	063_B010_3.0 (3.0' - 3.5')
5		124.0		Strong solvent odor throughout 0' - 5' interval
6		77.0		
7		12.9	5.0 - 5.5 Very Dark Gray (3.5Y 3/1) Silty fine SAND little subround to subangular medium-fine gravel, medium-dense, moist-wet, slight solvent odor (SM)	063_B010_5.0 (5.0' - 5.5')
8	2.8	3.0	5.5 - 6.4 Dark Grayish Brown (10YR 4/2) grading to Olive Gray (5Y 5/2) Silty fine SAND, trace clay & medium-fine subangular gravel, medium-dense, moist-wet, slight solvent odor (SM)	
9	5.0	9.5	6.4 - 7.8 Reddish Brown (5YR 4/4) SILT, some medium-fine SAND, little fine gray angular gravel & medium-fine subround red siltstone gravel, stiff, moist, no odor (ML)	063_B010_7.3 (7.3' - 7.8')
10		2.6	Dark Brown Peat in bottom of sleeve	Fill/native soil interface at 7.8'
11		0.6		
12		4.9	10.0 - 11.9 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (2.5Y 3/1) CLAY, low plasticity, soft, moist-wet, abundant plant fibers, strong sulfurous odor (PT)	063_B010_11.0 (11.0' - 11.5')
13	2.5	1.3	11.9 - 12.1 Brown (7.5YR 4/2) Clayey SILT, little fine-very fine sand, soft, moist, no odor (ML)	
14	5.0	0.7	12.1 - 12.3 Light Greenish Gray/White (GLE2 8/5BG) coarse-medium SAND & subround sandstone COBBLES, loose, dry no odor (GP)	
15		0.0	12.3 - 12.5 Brown (7.5YR 4/2) SILT, little clay & fine sand, some coarse-medium subround red/gray siltstone gravel, stiff, moist, no odor (ML)	
16		0.0	15.0 - 16.7 Grayish Brown (10YR 5/2) SILT, little fine sand, little coarse-fine subround reddish brown & dark gray gravel, stiff, moist, no odor (ML)	063_B010_15.0 (15.0' - 15.5')
17	1.7	0.0		
18	5.0			
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_B010a
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/27/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.7'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.3 Olive Gray (5Y 4/2) fine-medium SAND, loose, moist, slight solvent odor (SW)	063_B010a_0.0 (0.0' - 0.5')
1		46.1	0.3 - 2.7 Black (2.5Y 2.5/1) medium-fine SAND, little coal, trace slag & fine red subround gravel (non-COPR), moist, wet 1.7' - 2.7', slight solvent odor (SW)	
2		74.6		
3	4.0	541.0	2.7 - 3.2 Yellowish Brown (10YR 5/4) coarse-medium SAND & medium-fine subround gravel, loose, wet, dark staining 3.0' - 3.2', slight sheen, strong solvent odor (SW)	
4	5.0	24.7	3.2 - 4.0 Dark Grayish Brown (10YR 4/2) Silty fine SAND, some fine angular gravel, little coarse-medium gravel, stiff, moist, no odor (SM)	
5		57.8		
6		1.1	5.0 - 8.0 Olive Gray (5Y 5/2) Clayey SILT, trace fine sand & shells, trace glass fragments, firm, low plasticity, moist, no odor (ML), Transitions to Clayey SILT, trace glass, soft, moist, slight sulfurous odor (ML)	063_B010a_5.0 (5.0' - 5.5')
7		2.7		
8	4.0	0.0	8.0 - 9.0 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (2.5Y 3/1) CLAY, low plasticity, soft, moist-wet, abundant plant fibers, strong sulfurous odor (PT)	063_B010a_7.5 (7.5' - 8.0')
9	5.0	0.0		Fill/native soil interface at 8'
10		9.2		
11		0.4	10.0 - 11.4 As Above (8' - 9')	
12		0.3	11.4 - 13.2 Brown (7.5YR 4/2) Clayey fine-very fine SAND, little silt, slight red and gray mottling, trace greenish gray coarse-fine siltstone gravel & medium sand, loose, moist, slight sulfurous odor (SC), Transitions to Grayish Brown (2.5Y 5/2) SILT, little fine sand, some gray medium-fine angular sandstone gravel & medium-fine subround reddish-brown siltstone gravel, little clay, trace gray angular gravel, stiff, moist-dry, no odor (ML)	063_B010a_11.5 (11.5' - 12.0')
13	3.2	0.0		
14	5.0	0.0		
15		0.0	15.0 - 16.8 Grayish Brown grading to Brown (10YR 5/2-5/3) SILT, little fine sand & medium-fine gray angular gravel, trace medium sand, Pale Yellow (7.5Y 7/3) coarse-medium sand & coarse subround sandstone flat gravel & cobbles 16' - 16.3', Light Greenish Gray (GLE Y1 8/10Y) coarse-medium sand & coarse subround flat sandstone gravel & cobbles 16.6' - 16.8', stiff, moist, no odor (ML)	063_B010a_15.0 (15.0' - 15.5')
16		0.0		
17	1.8	0.0		
18	5.0			
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_B011
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/28/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.2	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 1.8 Black medium-fine SAND, little fine slag gravel & coal, trace silt, some gray coarse-fine angular gravel 0'-0.5', 30% medium-fine COPR gravel 0.2' - 0.5', medium-dense, dry, strong solvent odor (SP)	063_B011_0.0 (0.0' - 0.5')
1		261.0		063_B011_0.5 (0.5' - 1.0')
2	3.1	724.0	1.8 - 2.2 Yellowish Brown (10YR 5/6) coarse-fine SAND & coarse-fine subround gravel, moist, wet at 2.2', loose, slight solvent odor (SW)	30% COPR 0.2' - 0.5'
3	5.0	50.6	2.2 - 3.1 Dark Gray (10YR 4/1) Silty medium-fine SAND, some coarse-fine gravel (slag & coal), loose, wet, slight solvent odor (SM)	
4		8.5		
5		4.5		
6		3.9	5.0 - 6.5 Brown (7.5YR 4/2) Silty fine SAND, little clay, trace fine angular gray gravel & glass fragments, medium-dense, moist-wet, slight solvent odor (SM)	063_B011_5.0 (5.0' - 5.5')
7	2.9	2.3	6.5 - 7.9 Olive Gray (5Y 5/2) SILT, some very fine sand & clay, dark gray staining 6.4' - 6.8', soft, moist, slight solvent odor (ML)	
8	5.0	8.7		
9		40.8		
10		35.3	10.0 - 10.3 Dark Grayish Brown (2.5Y 4/2) SILT & Dark Reddish Gray (5YR 4/2) siltstone COBBLES, little very fine sand, trace clay, stiff, dry, no odor (GM)	063_B011_10.0 (10.0' - 10.5')
11		0.4	10.3 - 12.8 Very Dark Grayish Brown (10YR 3/2) PEAT, little Olive Gray (5Y 4/2) CLAY, low plasticity, soft, moist-wet, abundant plant fibers, slight sulfurous odor (PT)	Fill/native soil interface at 10.3'
12	3.4	0.5	12.8 - 13.4 Greenish Gray (GLE Y2 6/10BG) CLAY, some medium-fine SAND, little silt, trace medium-fine subround gravel, little Yellowish Red (5YR 4/6) mottling, loose, moist-wet, no odor (CL/SC)	
13	5.0	1.1		
14		0.7	15.0 - 15.8 Gray (7.5YR 5/1) Clayey medium-fine SAND, little silt, little coarse-fine gray angular gravel, loose, moist-wet, no odor (SC)	063_B011_15.0 (15.0' - 15.5')
15		4.3	15.8 - 18.5 Pale Brown (10YR 6/3) SILT, some fine sand, little coarse-fine gray angular gravel, abundant 16.2'-16.5' & 17'-17.3', trace clay, stiff, moist, no odor (ML)	
16		0.5		
17		0.0		
18	3.5	0.0		063_B011_18.0 (18.0' - 18.5')
19	5.0	0.0		
20		0.1		
21		0.0	End of Boring at 20' bgs.	
22				
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SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B012 / 063_MW03
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/11/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Ray Smith		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~2.3'		Yes - 063_MW03		
MEMO: Moved 8' SW from original location due to proposed location of gas pipeline					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.2 Very Dark Grayish Brown (10YR 3/2) fine SAND, some silt & gray angular gravel, broken-up concrete 0.6' - 0.9', dense, dry, no odor (SM)	016_B012_0.0 (0.0' - 0.5')
1		0.0		
2		0.0	1.2 - 2.0 Black (10YR 2/1) medium-fine S medium-dense, dry, no odor (SP)	
3	3.2	0.0	2.0 - 2.3 Olive (2.5Y 5/4) medium-fine SAND, trace medium-fine gray round gravel (non-COPR) (SP)	
4	5.0	0.0	2.3 - 3.2 As Above (1.2' - 2.0'), (SP) Transitioning into Dark Gray (2.5Y 4/1) Silty fine SAND, little medium sand, loose, moist-wet, no odor (SM)	
5		0.0		
6		0.0	5.0 - 5.5 Reddish Brown (5YR 4/3) SILT, some fine sand, little clay, firm, moist, no odor (ML)	016_B012_5.0 (5.0' - 5.5')
7		0.0	5.5 - 5.8 Dark Gray (5YR 4/1) SILT, little fine SAND, little clay, trace fine gray angular gravel, soft, moist-wet, no odor (ML)	
8	0.8			
9	5.0			Fill/native soil interface not recovered - sampled 10'-10.5'
10				
11		0.0	10.0 - 10.5 Reddish Brown (2.5YR 4/4) Clayey SILT, trace fine sand, low plasticity, soft, moist-wet, no odor (ML)	016_B012_10.0 (10.0' - 10.5')
12		1.5	10.5 - 12.5 Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	
13	2.7	3.3		
14	5.0	1.6	12.5 - 12.7 Dark Grayish Brown (10YR 4/2) clayey fine SAND, little silt, trace gravel, moist-wet, loose, slight sulfurous odor (SC)	
15				
16		0.4	15.0 - 17.5 Greenish-Gray (GLE2 6/6BG) fine-medium SAND, some clay, little silt, loose, moist-wet, slight sulfurous odor (SC), Transitions into Reddish Brown (2.5YR 5/3) SILT, little fine sand & medium-fine subangular gray gravel, stiff, moist, no odor (ML)	016_B012_15.0 (15.0' - 15.5')
17		0.0		
18	2.5	0.0		016_B012_17.0 (17.0' - 17.5')
19	5.0	0.0		
20				
21			End of Boring at 20' bgs.	
22			Well Information:	
23			2-inch diameter 10-slot SCH40 PVC screen set at 5.0' - 10.0' bgs.	
24			2-inch diameter SCH40 PVC riser from 5.0' bgs. to 2.5' above grade	
25			#1 Sand from 3.0' to 10.0' bgs., Bentonite from 3.0' to surface	
			Stick-up completion with cement protective pad	

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B013
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/28/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 3.3'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 3.7 Dark Brown (7.5YR 3/2) medium-fine SAND & medium-fine round COPR GRAVEL (50%), little medium-fine angular sandstone/siltstone gravel, dense, dry, no odor (GW), Transitions to Black (10YR 2.5/1) medium-fine SAND & medium-fine round COPR GRAVEL (50%), some medium-fine slag gravel, little coal & cinders, medium-dense, moist, moist-wet 3.3'-3.9', no odor (GW)	063_B013_0.0 (0.0' - 0.5')
1		0.0		
2		0.0		063_B013_1.0 (1.0' - 1.5')
3	3.9	0.0		50% COPR 0.2' - 3.9'
4	5.0	0.0	3.7 - 3.9 Yellowish Brown (10YR 5/4) medium SAND & medium-fine round COPR GRAVEL (50%), some coarse sand & fine subround quartz gravel, trace medium quartz gravel, loose, moist-wet, no odor (GW)	063_B013_3.0 (3.0' - 3.5')
5		0.0		
6		0.0	5.0 - 5.4 Yellowish Brown (10YR 5/4) medium SAND, some coarse sand & fine subround gravel, trace medium gravel, no COPR, loose, moist-wet, no odor (SW)	063_B013_5.0 (5.0' - 5.5')
7		0.0	5.4 - 6.0 Black (2.5Y 2.5/1) medium-fine SAND & medium-fine subround gravel (slag), little coal, trace silt, moist-wet, medium-dense, no odor (GW)	
8	1.8		6.0 - 6.8 Dark Gray (2.5Y 4/1) medium-fine SAND, little silt & medium-fine slag gravel, trace shells, loose, wet, no odor (SW)	
9	5.0			
10				
11		0.0	10.0 - 10.4 As Above (6' - 6.8')	063_B013_10.0 (10.0' - 10.5')
12		0.0	10.4 - 10.6 Olive (5Y 5/3) SILT, some very fine sand, little clay, low plasticity, soft, moist, no odor (ML)	Fill/native soil interface at 10.5'
13		30.1	10.6 - 11.0 Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	
14	1.0			
15	5.0			
16		1.0	15.0 - 15.7 As Above (10.6' - 11')	063_B013_15.0 (15.0' - 15.5')
17		0.0	15.7 - 17.4 Greenish Gray (GLE2 6/5BG) to Gray (2.5Y 5/1) Clayey fine SAND, little silt, soft, moist, slight sulfurous odor (SC), Transitions to fine SAND, little silt, trace clay, loose, moist, no odor (SM), Transitions to Brown (10YR 4/3) SILT, some fine sand, little red medium-fine subround sandstone gravel, firm, moist, no odor (ML)	
18	3.4	1.7		
19	5.0	0.0		
20		0.0		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_B014
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/25/2011	42.0'	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER:	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 5.4'		No		
MEMO: Moved to east from original location due to vegetation/trees and steep topography Boring for deep geological exploration. Refusal at 42'					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.0	0.0 - 4.1 Dark Grayish Brown (2.5Y 4/2) fine SAND, 25% COPR 0.2' - 1.0' and 40% COPR 2' - 3', little medium sand & fine gray angular gravel, trace silt, white concrete cobbles 1.9' - 2.2', wood fragments 1.7' - 1.9', medium-dense, dry-moist, no odor (SP)	063_B003_0.0 (0.0' - 0.5')
2		0.0		063_B003_1.25 (1.25' - 1.75')
3	4.7	0.0		063_B003_2.25 (2.25' - 2.75')
4	5.0	0.0		40% COPR 2.0' - 3.0'
5		0.0		063_B003_3.0 (3.0' - 3.5')
6		0.0	4.1 - 4.7 Black (2.5Y 2.5/1) medium-fine subround GRAVEL (slag), little coal, loose, moist, no odor (SW)	
7		0.0	5.0 - 5.2 As Above (4.1' - 4.7')	
8		0.0	5.2 - 6.0 Yellowish Brown (10YR 5/4) medium SAND, some coarse sand & coarse-fine round quartz gravel, trace fine sand, loose, wet 5.4' - 6', no odor (SW)	
9	4.2	0.0	6.0 - 9.2 Black (2.5Y 2.5/1) medium-fine SAND, little silt & medium-fine black angular gravel (lignite & coal), Light Gray (GLE Y1 7/N) CLAY 6.5' - 6.7', loose, wet, slight sulfurous odor 8.8' - 9.2' (SM)	063_B003_7.0 (7.0' - 7.5')
10	5.0	0.0		
11		3.1	11.0 - 11.7 As Above (6' - 9.2') but medium-fine SAND & medium-fine black angular gravel (lignite & coal), wet, slight sulfurous odor (SW/GW)	
12		0.7		063_B003_11.2 (11.2' - 11.7')
13	3.3	175.0	11.7 - 13.3 Very Dark Grayish Brown (2.5YR 3/2) PEAT, some Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist-wet, very strong sulfurous odor (PT)	Fill/native soil interface at 11.7'
14	5.0	339.0		
15		365.0		
16		338.0	15.0 - 18.2 As Above (11.7' - 13.3'), very strong sulfurous odor (PT)	063_B003_15.0 (15.0' - 15.5')
17		442.0		
18	3.8	552.0		
19	5.0	625.0		
20		818.0	18.2 - 18.7 Greenish Gray (GLE Y2 5/5BG) clayey fine SAND, little silt & medium sand, trace fine subround gravel, soft, moist-wet, strong sulfurous odor (SC)	
21		755.0		
22		457.0		
23		1.0	20.0 - 21.6 Greenish Gray (GLE Y2 5/5BG) fine SAND, little clay & medium sand, trace silt & fine subround gravel (SC), medium-dense, moist-wet, strong sulfurous odor (SC)	063_B003_20.0 (20.0' - 20.5')
24	4.7	3.6	21.6 - 23.2 Brown (7.5YR 5/2) Silty medium-fine SAND, trace clay & fine round gravel, loose, moist-wet, no odor (SM)	
25	5.0	56.1	23.2 - 24.7 Brown (7.5YR 5/4) SILT little fine sand & fine subround gravel, some medium-fine sand 23.9' - 24.3' (wet & medium-dense), firm, moist, no odor (ML)	

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02	Boring No: 063_B014
		PROJECT NAME: PPG Site 063	LOCATION SKETCH
COMPLETION DATE: 7/25/2011	TOTAL DEPTH OF BOREHOLE: 41.7'	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming	DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 5.4'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No
MEMO: Boring for deep geological exploration. Refusal at 42'			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
26	4.8 5.0	0.0	25.0 - 26.0 Reddish Brown (5YR 5/4) Silty medium-fine SAND, little coarse-fine subround gray gravel, loose, wet, no odor (SM)	26
27		0.0	26.0 - 28.0 Reddish Brown (5YR 5/4) SILT, some fine sand little coarse-fine subround gray to dark red-gray gravel & cobbles, soft grading to firm, moist-wet, no odor (ML)	27
28		0.0		28
29		0.0	28.0 - 29.8 Brown (7.5YR 5/3) SILT, little fine sand & coarse-fine subround gray gravel, stiff, moist, no odor (ML)	29
30		0.0		30
31	4.7 5.0	0.0	30.0 - 34.7 As Above (28.0 - 29.8) but with some fine sand, moist-wet, soft/firm, grading to Reddish Brown (5YR 4/4) SILT, little medium-fine gravel, little/trace fine sand, stiff, moist-dry, no odor (ML)	31
32		0.0		32
33		0.0		33
34		0.0		34
35		0.0		35
36	3.6 5.0	0.0	35.0 - 37.5 Brown (7.5YR 4/3 to 4/2) SILT, some/little fine sand, little coarse-fine subangular gray gravel, moist-wet throughout, firm, no odor (ML)	36
37		0.0		37
38		0.0	37.5 - 38.6 Brown (7.5YR 4/2) SILT & coarse-fine dark gray GRAVEL & COBBLES, little/trace fine sand, wet, dense, no odor (GM/ML)	38
39		0.0		39
40				40
41	1.7 2.0	0.0	40.0 - 41.7 Brown (7.5YR 4/3) Silty fine SAND & Dark Gray coarse SAND & coarse-fine GRAVEL, little dark gray cobbles, medium-dense to loose, wet, no odor (GM)	41
42		0.0		42
43			End of Boring at 42' bgs. (Refusal)	43
44				44
45				45
46				46
47				47
48				48
49				49
50				50

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02	Boring No: 063_B015 / 063_MW04
		PROJECT NAME: PPG Site 063	LOCATION SKETCH
COMPLETION DATE: 7/14/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Ray Smith	DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 3.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? Yes - 063_MW04
MEMO: Used combination of hang augering, shoveling, and air knifing with vacuum to soft dig to 5' bgs.			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.2 Grayish Brown (10YR 5/2) fine SAND, little coarse gray gravel & cobbles, trace medium-fine gravel & medium sand, dry, loose, no odor (SP)	063_B015_0.0 (0.0' - 0.5')
1		0.0	0.2 - 0.3 Concrete (shoveled out)	
2	N/A	0.0	0.3 - 0.5 As Above (0' - 0.2'), little slag, loose, dry, no odor (SP)	
3		0.0	0.5 - 1.0 Brown (10YR 4/3) medium-fine SAND, little subround & angular coarse-fine gravel, trace slag, loose, dry, no odor (SP)	
4		0.0	1.0 - 2.0 As Above (0.5' - 1'), moist, trace slag (SP)	
5		0.0	2.0 - 2.5 No auger recovery - rocky, used air-knife to vacuum to 2.5'	
		0.0	2.5 - 4.0 Black (2.5Y 2.5/1) coarse-fine GRAVEL (slag), some coal, little cinders & brown medium-fine sand, moist, moist-wet 3.5' - 4', loose, no odor (GW)	063_B015_4.0 (4.0' - 4.5')
6			4.0 - 4.5 Yellowish Brown (10YR 5/6) medium SAND, some coarse-medium gravel & cobbles, loose, moist-wet, no odor (SW)	
7			4.5 - 5.0 Auger refusal at 4.5', used air knife to vacuum to 5'	
8	2.8 5.0	0.0	5.0 - 5.3 Brown (10YR 4/3) medium-fine SAND, little silt, loose, wet, slight sulfurous odor (SM)	063_B015_7.3 (7.3' - 7.8')
9		0.0	5.3 - 7.8 Black (2.5Y 2.5/1) medium-fine SAND, some medium-fine gravel, little silt, loose, wet, slight sulfurous odor (SM)	
10				
11		0.0	10.0 - 11.0 As Above (5.3' - 7.8')	063_B015_10.5 (10.5' - 11.0')
12	3.2	0.0	11.0 - 13.2 Very Dark Grayish Brown (2.5YR 3/2) PEAT, some Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist-wet, strong sulfurous odor (PT)	
13	5.0	38.3		
14		12.4		
15		67.9		
16		76.8	15.0 - 17.3 Very Dark Grayish Brown (2.5YR 3/2) PEAT, some Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist-wet, very strong sulfurous odor (PT)	063_B015_15.0 (15.0' - 15.5')
17		846.0		
18	2.8 5.0	107.0	17.3 - 17.8 Dark Gray (10YR 4/1) Clayey fine SAND, little silt, soft/loose, moist-wet, strong sulfurous odor (SC)	063_B015_17.3 (17.3' - 17.8')
19		107.0		
20		222.0		
21		1041.0		
22			End of Boring at 20' bgs.	
23			Well Information: 2-inch diameter 10-slot SCH40 PVC screen set at 5.0' - 10.0' bgs. 2-inch diameter SCH40 PVC riser from 5.0' bgs. to 2.5' above grade #1 Sand from 3.0' to 10.0' bgs., Bentonite from 3.0' to surface Stick-up completion with cement protective pad	
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_C003
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/21/2011	20	None - PID not working	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER:	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.6'		No		
MEMO: PID not working - lamp issue					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.2 Grayish Brown (2.5Y 5/2) fine SAND & coarse gray angular gravel, little medium sand, dry, loose, no odor (GP)	063_C003_0.0 (0.0' - 0.5')
1			0.2 - 0.8 Black (2.5Y 2.5/1) SAND, little medium sand, 30% COPR gravel 0.2' - 0.5', dry, loose, no odor (SP)	063_C003_0.5 (0.5' - 1.0')
2	3.7		0.8 - 1.2 Brown (7.5YR 4/2) SILT, some fine sand, firm, dry, no odor (ML)	30% COPR 0.2' - 0.5'
3	5.0		1.2 - 1.6 Black (2.5Y 2.5/1) coarse-fine SAND, some fine subround slag gravel, loose, moist, no odor (SW)	
4			1.6 - 3.7 Dark Grayish Brown (2.5Y 4/2) SILT, some fine sand, trace coarse-fine gray subround gravel, little wood fragments, firm grading to soft, moist-wet, strong solvent odor (ML)	
5				
6			5.0 - 7.2 Grayish Brown (2.5Y 5/2) CLAY, some silt, trace fine sand, moderate plasticity, soft, moist-wet, slight solvent odor (OH/CH)	063_C003_5.0 (5.0' - 5.5')
7	3.7			063_C003_6.7 (6.7' - 7.2')
8	5.0		7.2 - 8.6 Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	Fill native soil interface at 7.2'
9				
10				
11			10.0 - 11.0 Dark Gray (5Y 4/1) Clayey fine SAND, little silt, moist, soft, no odor (SC)	063_C003_10.5 (10.5' - 11.0')
12	3.7		11.0 - 12.5 Reddish Brown (5YR 4/3) fine SAND, some silt, little medium sand, medium-dense, moist-dry, no odor, little coarse-fine Greenish Gray (GLEY1 5/10GY) gravel 12.4' - 12.8', no odor (SM)	
13	5.0		12.5 - 13.0 Brown (7.5YR 4/3) Silty medium-fine SAND, moist-wet, dense, no odor, little angular Greenish Gray GLEY1 5/5GY coarse gravel & cobbles (shale) (SM)	
14			13.0 - 13.6 Red (2.5YR 4/6) coarse-fine flat sandstone GRAVEL & COBBLES, loose, dry, no odor (GW)	
15				
16			15.0 - 15.2 Dark Greenish Gray (GLEY1 4/5G) medium SAND, some fine sand, little silt, loose, moist, no odor (SM)	063_C003_15.5 (15.0' - 15.5')
17	3.2		15.2 - 16.0 Brown (7.5YR 4/3) SILT, some medium-fine sand, little medium-fine subround gray gravel, firm, moist-wet, no odor (ML)	
18	5.0		16.0 - 17.2 Brown (7.5YR 4/3) SILT, little fine sand, trace coarse-fine subround gray gravel & cobbles, firm, moist, no odor (ML)	
19			17.2 - 17.7 Gray subangular coarse GRAVEL & COBBLES, little fine sand & silt, wet, loose, no odor (GM)	
20			17.7 - 18.2 As Above (16' - 17.2')	
21			End of Boring at 20' bgs.	
22				
23				
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SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_C004
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/21/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER:	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.2'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.2 Grayish Brown (2.5Y 5/2) fine SAND & coarse gray angular gravel, little medium sand, dry, loose, no odor (GP)	063_C004_0.2 (0.2' - 0.7')
1			0.2 - 0.7 Dark Brown (7.5YR 3/2) fine SAND, little medium sand, trace silt, trace medium-fine gray ang. Gravel, 20% COPR gravel, loose, dry, no odor (SP)	063_C004_0.7 (0.7' - 1.2')
2			0.7 - 1.2 As Above (0.2' - 0.7'), 40% COPR, bright yellow-green hue to some of the gravel (SP)	063_C004_1.2 (1.2' - 1.7')
3	3.1		1.2 - 1.6 Dark Brown (7.5YR 3/2) Silt, some fine-medium sand, little coarse-fine gray angular gravel, m. dense, moist, no odor (ML)	20% COPR 0.2' - 0.7'
4	5.0		1.6 - 2.2 Dark Yellowish Brown (10YR 4/4) SILT, some fine sand, little medium-fine gray angular gravel, dense, dry, no odor (ML)	40% COPR 0.7' - 1.2'
5			2.2 - 3.1 Dark Grayish Brown (10YR 4/2) SILT, some fine sand, wet, soft, wood fragments with strong creosote/solvent odor, staining (ML)	
6			5.0 - 6.2 Reddish Gray (5YR 5/2) Silty CLAY, some reddish brown medium-fine flat siltstone gravel, firm grading to soft, moist, slight solvent odor (CL)	063_C004_5.7 (5.7' - 6.2')
7	1.4		6.2 - 6.4 Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	Fill/native soil interface at 6.4'
8	5.0			
9				
10				
11			10.0 - 10.3 As Above (6.2' - 6.4')	063_C004_10.0 (10.0' - 10.5')
12			10.3 - 11.5 Greenish Gray (GLE Y2 6/5BG) CLAY, some fine sand & silt, soft, moist, no odor (CL)	
13	2.7		11.5 - 11.9 Reddish Brown (5YR 4/4) medium-fine SAND, little clay & silt, little medium-fine subangular gravel, medium-dense, moist-wet, no odor (SC)	
14	5.0		11.9 - 12.7 Grayish Brown (10YR 5/2) coarse-medium GRAVEL & COBBLES, little medium-fine sand & silt, loose, wet, no odor (GM)	
15				
16			15.0 - 16.0 Brown (7.5YR 4/3) medium-fine SAND, some silt, little coarse-fine gray angular gravel, medium-dense, moist-wet, no odor (SM)	063_C004_15.0 (15.0' - 15.5')
17				
18	1.1			
19	5.0			
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
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SOIL BORING LOG

		PROJECT NO.: 117-0509160.02	Boring No: 063_C004a
		PROJECT NAME: PPG Site 063	LOCATION SKETCH
COMPLETION DATE: 7/22/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.2 Asphalt	063_C004a_0.2 (0.2' - 0.7')
1		0.0	0.2 - 0.8 Dark Brown (10YR 3/3) medium-fine SAND, little metal fragments, 15% COPR gravel, trace fine angular gravel, loose, dry, no odor (SW)	063_C004a_0.7 (0.7' - 1.2')
2	3.1	0.0	0.8 - 1.6 Black (2.5Y 2.5/1) coarse-fine SAND, some medium-fine slag gravel, loose, moist, wet at 1.5', no odor (SW)	15% COPR 0.2' - 0.7'
3	5.0	90.2	1.6 - 3.1 Dark Grayish Brown (10YR 4/2) Silty medium-fine SAND, trace medium-fine subround gravel (non-COPR), loose, wet, no odor (SM), Transitions to Dark Brown (5Y 4/1) SILT, some fine sand, little subround medium-fine gravel, medium-dense, moist-wet, strong hydrocarbon odor (ML)	
6		111.0	5.0 - 7.2 Dark Grayish Brown (10YR 4/2) Silty CLAY, some fine sand, trace fine round gravel, soft, moist-wet, slight hydrocarbon odor (CL)	
7	3.4	117.0		063_C004a_6.7 (6.7' - 7.2')
8	5.0	48.8	7.2 - 8.4 Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant plant fibers, low plasticity, soft, moist-wet, slight hydrocarbon odor (PT)	
11		17.5	10.0 - 11.2 As Above (7.2' - 8.4'), Transitions to Dark Gray (2.5Y 4/1) CLAY, some fine sand, little silt, soft, moist, slight hydrocarbon odor (OL)	
12	3.4	24.5	11.2 - 13.0 Reddish Brown (2.5YR 5/4) SILT, some fine sand, little medium-fine subround red/gray siltstone gravel, stiff, moist, slight hydrocarbon odor (ML), Transitions to Dark Gray (5YR 4/1) to Brown (7.5YR 4/3) coarse SAND & coarse-fine subround sandstone & siltstone GRAVEL, little medium-fine sand, loose, wet, strong hydrocarbon odor (GW).	063_C004a_11.0 (11.0' - 11.5')
13	5.0	903.0		
14		855.0	13.0 - 13.4 Weak Red (2.5YR 4/2) SILT, some fine SAND, firm, moist-wet, strong hydrocarbon odor (ML)	
15		716.0		
16		788.0	15.0 - 16.5 Brown (7.5YR 4/3) SILT, some fine sand, little medium sand & medium-fine subangular gray gravel, stiff, moist-wet, strong hydrocarbon odor (ML)	063_C004a_15.0 (15.0' - 15.5')
17	1.6	815.0		
18	5.0	890.0		
19		1106.0		
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_C005
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/13/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Ray Smith		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 4'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO: *Hand-dug 2'x2' hole to 1' to remove liner.				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)	
2	3.5 4.0	1.7	1.0 - 1.4 As Above (0.5'-1'), moist, slight solvent odor (SP)	063_C005_1.0 (1.0' - 1.5')
3		0.6	1.4 - 2.4 Dark Brown (7.5YR 3/2) SILT, some fine sand, 60% COPR GRAVEL 2' - 2.4', bright green fine sand & silty clay 1.8' - 1.9', medium-dense, moist, slight solvent odor (ML)	063_C005_2.0 (2.0' - 2.5') 063_C005_2.5 (2.5' - 3.0')
4		1.4	2.4 - 3.1 Bright Green (unknown munsell color) SILT, some fine SAND (ML)	60% COPR 2.0' - 2.4'
5		2.5	3.1 - 4.5 Dark Grayish Brown (7.5YR 4/2) SILT, some fine sand, trace gray angular gravel, soft, wet at 4', strong solvent odor, wood in bottom of sleeve (ML)	
6		5.6		
7	4.0 5.0	169.0	5.0 - 8.0 Reddish Brown (2.5YR 4/3) SILT, some fine sand, firm, moist-wet, slight solvent odor (ML)	
8		186.0		063_C005_7.5 (7.5' - 8.0')
9		12.8	8.0 - 9.0 Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	
10		7.3		
11	3.3 5.0	4.5	10.0 - 11.5 As Above (8' - 9'), Transitions to Greenish Gray (GLE2 5/6BG) Clayey SILT, trace fine sand, soft, low plasticity, moist, slight hydrocarbon odor (ML)	
12		10.4	11.5 - 12.1 Greenish Gray (GLE2 5/6BG) medium-fine SAND, trace fine shale gravel, medium-dense, moist-wet, slight hydrocarbon odor (SW)	063_C005_11.5 (11.5' - 12.0')
13		5.9	12.1 - 13.3 Yellowish Red (5YR 5/6) SILT, little fine sand, trace fine shale gravel, very dense, dry, slight hydrocarbon odor (ML)	
14		1.1		
15		1.6		
16	3.8 5.0	11.6	15.0 - 15.8 As Above (12.1' - 13.3'), but little medium-fine sand, stron hydrocarbon odor (ML)	063_C005_15.5 (15.5' - 16.0')
17		1483.0	15.8 - 18.8 Dark Grayish Brown (10YR 4/2) Silty fine SAND, race fine angular shale gravel, high gravel content 16.1' - 16.6', medium-dense, moist, strong hydrocarbon odor (SM)	
18		1200.0		
19		416.0		
20		92.8		
21		44.6	End of Boring at 20' bgs.	
22		8.5		
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_C006
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/13/2011	18	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Ray Smith		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.75'		No		
MEMO: *Hand-dug 2'x2' hole to 1' to remove liner.					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)	
2		2464.0	1.0 - 1.5 As Above (0.5'-1'), moist, strong solvent odor (SP)	063_C006_1.0 (1.0' - 1.5')
3	3.0	24.5	1.5 - 1.75 Dark Brown (7.5YR 3/2) fine SAND & SILT, medium-dense, moist, strong solvent odor (ML)	063_C006_1.75 (1.75' - 2.25')
4	4.0*	43.7	1.75 - 2.25 Black (7.5YR 2.5/1) coarse-fine SAND & SLAG, 30% COPR, loose, wet, slight solvent odor (SP)	063_C006_2.25 (2.25' - 2.75')
5		23.9	2.3 - 4.0 Brown (10YR 4/3) fine SAND & SILT, little clay & medium-fine gray angular gravel, treated wood fragments in bottom of sleeve (creosote odor), soft grading to firm, moist, strong solvent odor throughout (ML)	30% COPR noted 2.25'-2.75'
6		244.0	5.0 - 8.0 Brown (7.5YR 4/3) SILT, some fine sand, little medium-fine gray angular gravel, stiff, moist, strong odor (solvents?) (ML), Transitions into Olive Gray (5Y 5/2) SILT, little clay & fine sand, soft, moist, slight solvent odor (ML)	063_C006_6.5 (6.5' - 7.0')
7	4.0	16.1		
8	5.0	4.5		
9		1.1	8.0 - 9.0 Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1) CLAY, moderate plasticity, soft, moist-wet, strong sulfurous odor (PT)	063_C006_7.5 (7.5' - 8.0') (fill/native soil interface)
10		0.3		
11		1.0		
12	3.4	18.0	10.0 - 11.7 Dark Brown (10YR 3/3) PEAT grading to Greenish Gray (GLE2 6/5BG) SILT, some fine sand & clay, soft, moist, slight hydrocarbonodor (ML)	
13	5.0	10.9	11.7 - 12.1 Reddish Brown (5YR 4/4) medium-fine SAND, loose, wet, strong hydrocarbon odor (SW)	063_C006_11.5 (11.5' - 12.0')
14		4.1	12.1 - 13.4 Yellowish Red (5YR 5/6) SILT, little fine sand & clay, trace medium-fine angular gray gravel, stiff, slight hydrocarbon odor (ML)	
15		1580.0		
16	3.0	124.0	15.0 - 18.0 As Above (12.1' - 13.4'), some fine sand from 16.5' - 17.2', refusal at 18' (gravel & cobbles)	063_C006_15.5 (15.5' - 16.0')
17	3.0	2.4		
18		2.2		
19		1.1	End of Boring at 18' bgs. (refusal)	
20		0.7		
21				
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_C007
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/14/2011	20	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Ray Smith		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.7'		No		
MEMO: *Hand-dug 2'x2' hole to 1' to remove liner.					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)	
2		25.2	1.0 - 1.5 As Above (0.5'-1'), moist, strong solvent odor (SP)	063_C007_1.0 (1.0' - 1.5')
3	4.0	317.0	1.5 - 1.7 Very Dark Grayish Brown (7.5YR 3/2) Silty fine SAND, dry, medium-dense, slight solvent odor (SM)	063_C007_2.3 (2.3' - 2.8')
4	4.0	27.8	1.7 - 2.8 Black (10YR 2.5/1) coarse-fine SAND & medium-fine slag GRAVEL, trace COPR gravel 2.3' - 2.8', loose, wet, slight solvent odor (GW)	063_C007_2.8 (2.8' - 3.3')
5		44.4	2.8 - 5.0 Brown (10YR 4/3) SILT, little fine sand & clay, trace gray angular gravel, stiff, moist, slight solvent odor (ML)	Trace COPR 2.3' - 2.8'
6		3.2		
7		5.2		
8		31.6	5.0 - 8.0 As Above (2.8' - 5'), Transitions to Olive Gray (5Y 5/2) SILT, some fine sand, soft, moist, slight solvent odor (ML)	
9	3.5	30.0		
10	5.0	25.6	8.0 - 8.5 Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1) CLAY, moderate plasticity, soft, moist-wet, strong sulfurous odor (PT)	063_C007_7.5 (7.5' - 8.0')
11		7.1		Fill/native soil interface at 8'
12		0.3		
13		1.1	10.0 - 11.3 As Above (8' - 8.5'), Transitions to Greenish Gray (GLEY2 6/5BG) SILT, little clay & fine sand, soft, moist, no odor (ML)	
14	3.3	0.0		
15	5.0	0.0	11.3 - 13.3 Yellowish Red (5YR 5/6) SILT, little fine sand & clay, trace medium-fine angular gravel, stiff, dry, no odor (ML)	063_C007_12.0 (12.0' - 12.5')
16		0.0		
17		0.0	15.0 - 20.0 As Above (11.3' - 13.3'), some medium-fine sand, soft, moist-wet at 16' - 18.5', otherwise stiff, dry, no odor (M)	
18	5.0	0.0		063_C007_16.0 (16.0' - 16.5')
19	5.0	0.0		
20		0.0		
21		0.0	End of Boring at 20' bgs.	
22		0.0		
23		0.0		
24		0.0		
25		0.0		

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_C008
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/20/2011	20	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.5'		No		
MEMO: *Hand-dug 2'x2' hole to 1' to remove liner.					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)	
2		246.0	1.0 - 1.5 As Above (0.5'-1'), moist, strong solvent odor (SP)	063_C008_1.0 (1.0' - 1.5')
3	2.2	3000.0	1.5 - 2.2 Black (2.5Y 2.5/1) coarse-medium SAND & medium-fine slag GRAVEL, little silt, loose, moist-wet, slight solvent odor (GM)	
4	4.0	246.0	2.2 - 3.2 Dark Grayish Brown (10YR 4/2) SILT, little fine sand, trace medium-fine subangular gravel, moist, stiff, slight solvent odor, some sandstone gravel (Light Grayish Brown 2.5Y 6/2) 3' - 3.2', (ML)	
5		226.0		
6		641.0		
7		0.0	5.0 - 7.2 As Above (2.2' - 3.2') but Silty CLAY, trace fine sand, no gravel, moderate plasticity, soft, moist, Olive Gray (5Y 5/2) Silty CLAY 5.8' - 5.9' (CH)	063_C008_5.0 (5.0' - 5.5')
8	3.1	0.0		
9	5.0	0.0	7.2 - 8.1 Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1) clay, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	063_C008_6.7 (6.7' - 7.2') Fill/native soil interface at 7.2'
10		0.3		
11		1.5		
12		0.0	10.0 - 11.5 Brown (7.5YR 5/2) medium-fine SAND, little clay, trace sand, peat 10' - 10.1', medium-dense, moist-wet, trace Dusky Red (2.5YR 3/2) siltstone gravel (SC)	063_C008_11.0 (11.0' - 11.5')
13	3.3	0.0	11.5 - 13.3 Reddish Brown (5YR 4/3) SILT, little fine sand, trace medium-fine angular flat shale gravel, stiff, moist, no odor (ML), Transitions to Strong Brown (7.5YR 5/6) SILT, little fine sand, Light Greenish Gray (GLE1 7/5GY) coarse sandstone fragments & medium sand 2' - 2.4', stiff, moist, no odor (ML)	
14	5.0	0.0		
15		0.0		
16		0.0	15.0 - 17.2 as Above (11.5' - 13.3') but Brown (10YR 5/3), coarse Weak Red (10R 4/2) subround to subangular siltstone gravel 16.8' - 17.1', stiff, dry, no odor (ML)	063_C008_15.0 (15.0' - 15.5')
17	2.2	0.0		
18	5.0	0.0		
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_C009
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/20/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER:	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.7'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)	
2		3527.0	1.0 - 1.7 As Above (0.5'-1'), moist, strong solvent odor (SP)	063_C009_1.0 (1.0' - 1.5')
3	3.0	1505.0	1.7 - 2.4 Black (10YR 2.5/1) medium-fine SAND, little slag gravel, loose, moist-wet, strong solvent odor (SW)	
4	4.0	711.0	2.4 - 2.7 Very Dark Grayish Brown (10YR 3/2) coarse-fine SAND & medium-fine slag GRAVEL, wet, loose, strong solvent odor (GW)	
5		457.0	2.7 - 4.0 Olive Gray (5Y 4/2) SILT, some fine sand, trace fine angular gravel, moist, firm, stron solvent odor (ML), Transitions to Dark Grayish Brown (10YR 4/2) Silty fine SAND, little medium sand, moist-wet, loose, stron solvent odor (SM)	
6		3756.0		
7		72.0	5.0 - 7.0 Grayish Brown (10YR 5/2) Silty CLAY, soft grading to firm, moist, strong solvent odor (CH)	063_C009_5.0 (5.0' - 5.5')
8	3.0	4044.0		
9	5.0	3891.0		
10		463.0	7.0 - 8.0 Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1) clay, low plasticity, soft, moist-wet, slight solvent odor (PT)	063_C009_6.5 (6.5' - 7.0')
11		14.0		
12	0.8		Poor recovery - geology representative more of 14' then 10' based on nearby borings	
13	5.0			
14				
15		0.0	14.2 - 15.0 Dark Reddish Gray (5YR 3/2) SILT, some clay, little medium-fine red angular siltstone gravel, soft-firm, moist, no odor (ML)	063_C009_14.0 (14.0' - 14.5')
16		0.0	15.0 - 16.1 As Above (14' - 15') (ML), Transitions to Light Olive Brown (2.5Y 5/4) coarse-fine sandstone angular GRAVEL, some coarse-medium sand, trace silt & fine sand, Very Dark Grayish Brown (10YR 3/2) Siltstone fgravel at 15.6', loose, wet, no odor (GW)	
17	1.1	0.0		
18	5.0			
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_C009a
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/27/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.8'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.0	0.0 - 0.5 Light Grayish Brown (2.5Y 6/2) fine SAND, little coarse light gray subangular gravel, loose, dry, no odor (SP)	063_C009a_0.0 (0.0' - 0.5')
2		0.9	0.5 - 1.2 Dark Yellowish Brown (10YR 4/4) fine SAND, little coarse light gray gravel, dry, loose, slight solvent odor (SP)	
3	2.1	736.0	1.2 - 1.8 Very Dark Gray (5Y 3/1) medium SAND, little fine sand, trace fine slag gravel & coal, little wood fragments, moist, wet at 1.8', strong solvent odor (SP)	
4	5.0	67.3	1.8 - 2.1 Dark Gray (2.5Y 4/1) fine SAND, little medium sand, trace silt & mica, medium-dense, wet, strong solvent odor (SP), Transitions to Dark Grayish Brown (2.5Y 4/2) SILT, little very fine sand, firm, moist-wet, slight solvent odor (ML)	
5				
6		37.3	5.0 - 6.9 As Above (1.8' - 2.1') (ML), Transitions to Olive Gray (5Y 5/2) Silt CLAY, very soft, moist-wet, slight solvent odor (CH), then to Brown (7.5YR 4/3)	
7		5.8	6.9 - 7.7 Black (10YR 2.5/1) organic SILT, very soft, moist-wet, low plasticity, trace peat, slight solvent odor (ML), Transitions to Grayish Brown (10YR 5/2) SILT, some clay, little fine sand, some red & green-gray mottling, soft, wet, slight solvent odor (ML)	063_C009a_6.4 (6.4' - 6.9')
8	2.7	54.3		
9	5.0	162.0		
10		41.1		
11		1.3	10.0 - 11.3 Reddish Brown (10YR 4/3) SILT, little fine sand & clay, little medium-fine red angular siltstone gravel, soft, moist-wet, no odor (ML)	063_C009a_10.0 (10.0' - 10.5')
12		3.8	11.3 - 11.6 Light Greenish Gray (GLE Y1 7/5GY) siltstone & shale GRAVEL & COBBLES (GW)	
13	2.8	40.1	11.6 - 12.8 Dark Grayish Brown (10YR 4/2) SILT, some fine sand, little greenish-gray & red siltstone gravel, stiff, dry, no odor (ML)	
14	5.0	13.7		
15		16.0		
16		34.3	15.0 - 24.7 Grayish Brown (10YR 5/2) SILT, some medium-fine gray angular gravel, little very fine sand, white-gray sandstone cobbles & gravel 15.6' - 16', red siltstone gravel 16' - 16.3', stiff, dry, no odor (ML), Transitions to Brown (7.5YR 5/4) SILT, some fine sand, little gray & red-gray subangular siltstone gravel, stiff, moist, no odor (ML)	063_C009a_15.0 (15.0' - 15.5')
17	4.7	6.5		
18	5.0	26.4		No odor in 15' - 20' interval high PID response likely due to high humidity
19		17.0		
20		21.8		
21		17.1		
22		22.5		
23		17.6		
24		19.3		
25			End of Boring at 20' bgs.	

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02	Boring No: 063_C010
		PROJECT NAME: PPG Site 063	LOCATION SKETCH
COMPLETION DATE: 7/27/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming	DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.7'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		432.0	0.0 - 0.7 Dark Gray (2.5Y 4/1) fine SAND & medium-coarse subangular gray gravel, trace silt & medium sand, greenish gray siltstone gravel 0.6' - 0.7', dry, loose, slight solvent odor (GP)	063_C003_0.0 (0.0' - 0.5')
2		22.6		063_C003_0.7 (0.7' - 1.2')
3		33.5		063_C003_1.2 (1.2 - 1.7')
4		10.1	0.7 - 2.0 Black (2.5Y 2.5/1) medium-fine SAND & medium-fine slag GRAVEL, little 50% medium-fine COPR gravel 0.7' - 1.2', coal, medium-dense, wet at 1.7', slight solvent odor (GW)	50% COPR 0.7' - 1.2'
5	3.5	20.2		
6	5.0	38.5		
7		145.0	2.0 - 3.5 Olive Gray (5Y 4/2) Clayey SILT with Reddish Brown (5YR 4/4) mottling from 3'-3.5', little subround red sandstone gravel, firm, moist, slight solvent odor (ML)	
8		89.3	5.0 - 6.9 Olive Gray (5Y 5/2) Clayey SILT, trace very fine sand, moist, soft-firm, trace shells, slight solvent odor (ML)	
9		13.5		
10		16.1		
11		2.8		063_C003_6.4 (6.4 - 6.9')
12	3.0	2.3	6.9 - 8.0 Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1) clay, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	
13	5.0	0.3		
14		0.0	10.0 - 10.7 Brown (7.5YR 4/3) SILT, little fine sand & medium-fine angular red siltstone gravel, abundant 10.3' - 10.5', stiff, moist, no odor (ML0)	
15		0.0	10.7 - 13.0 Grayish Brown (10YR 5/2) SILT, little fine sand & medium-fine gray & greenish gray angular gravel, stiff, moist, no odor (ML)	063_C003_10.5 (10.5 - 11.0')
16		0.0		
17		0.0		
18		0.0		
19		0.0		
20		0.0	15.0 - 17.0 As Above (10.7' - 13') but Brown (10YR 5/3), abundant light gray sandstone cobbles 15.0' - 15.4' (ML)	063_C003_15.0 (15.0 - 15.5')
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_C011
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/25/2011	TOTAL DEPTH OF BOREHOLE: 35	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.2'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO: Boring for deep geological exploration				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.5	0.0 - 0.4 Grayish Brown (10YR 5/2) coarse GRAVEL & COBBLES, loose, dry (GP)	
1		16.1	0.4 - 1.2 Dark Yellowish Brown (10YR 3/4) fine SAND, some medium sand & medium-fine subround gravel, white cobbles 0.5' - 0.6', loose, dry, slight solvent odor (SW)	063_C011_0.4 (0.4' - 0.9')
2	3.9	276.0		063_C011_0.9 (0.9' - 1.4')
3	4.0	21.5	1.2 - 2.6 Black (2.5Y 2.5/1) medium-fine SAND, little fine subround slag gravel, loose, moist-wet, slight solvent odor (SW), Transitions to coarse-fine SAND & medium-fine slag GRAVEL, wet at 2.2', loose, strong solvent odor & staining (GW)	063_C011_1.4 (1.4' - 1.9')
4		21.5		25% COPR 0.9' - 1.2'
5		1099.0	2.6 - 3.9 Olive Gray (5Y 5/2) very fine SAND, some silt, little clay, slight reddish brown & gray mottling, firm, moist, slight solvent odor (SM)	
6		648.0	5.0 - 7.2 Olive Clayey SILT, trace fine sand & shells, low palsticity, moist, soft, strong solvent odor (CL)	063_C011_5.0 (5.0' - 5.5')
7	3.5	238.0		
8	4.0	99.3	7.2 - 8.5 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1) clay, low plasticity, soft, moist-wet, strong sulfurous odor odor (PT)	063_C011_6.7 (6.7' - 7.2')
9		32.2		Fill/native soil interface at 7.2'
10		37.1		
11		5.3	10.0 - 10.3 As Above (7.2' - 8.5') (PT)	
12	3.5	0.4	10.3 - 13.5 Brown (10YR 4/3) Silty CLAY, little/trace fine sand, trace coarse-fine dark red subround siltstone gravel, very soft, no odor (CL), Transitions to Olive Brown (2.5Y 4/3) Silty coarse-fine SAND, some fine gray angular gravel, little coarse-medium angular gravel & cobbles, medium-dense, wet, no odor (SW)	063_C011_10.5 (10.5' - 11.0')
13	4.0	0.4		PID bkgd: 0.4 ppm
14		0.4		
15		0.4		
16		0.4	15.0 - 18.3 Brown (10YR to 7.5YR 4/3) coarse angular to subround GRAVEL & COBBLES, little dark red-gray gravel & coarse-medium sand, trace fine sand & silt, loose, wet, no odor (GW)	063_C011_15.0 (15.0' - 15.5')
17	3.3	0.4		
18	4.0	0.4		PID bkgd: 0.4 ppm
19		0.4		
20		0.4		
21		0.4	20.0 - 24.2 As Above (15' - 18.3'), Transitions to Brown (7.5YR 4/3) Silty medium-fine SAND, some medium-fine angular gravel, trace coarse gravel & cobbles, medium-dense, moist-wet, no odor (SM)	
22	4.2	0.4		PID bkgd: 0.4 ppm
23	4.0	0.4		
24		0.4		
25		0.4		

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02	Boring No: 063_C011
		PROJECT NAME: PPG Site 063	LOCATION SKETCH
COMPLETION DATE: 7/25/2011	TOTAL DEPTH OF BOREHOLE: 35	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.2'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No
MEMO: Boring for deep geological exploration 0			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26		0.4	25.0 - 28.3 Brown (7.5YR 4/3) Silty medium-fine SAND, some gravel, medium-dense, moist-wet, no odor (SM), Transitions to Reddish Brown (5YR 5/4 to 2.5YR 4/3) SILT, some fine sand, little reddish brown medium-fine angular gravel & reddish-brown gravelly clay (weathered siltstone), stiff, dry-moist, no odor (ML)	PID bkgd: 0.4 ppm
_27		0.4		
_28	3.3 4.0	0.4		
_29		0.4		
_30		0.4		
_31		0.4	30.0 - 34.6 Reddish Brown (2.5YR 4/3) SILT, little fine sand & medium-fine angular siltstone gravel, some dusky red (2.5YR 3/2) medium-fine sand 30' - 30.8', some reddish brown (5YR 4/3) medium-fine sand 33' - 33.3', very stiff, dry, no odor (ML)	PID bkgd: 0.4 ppm
_32		0.4		
_33	4.6 4.0	0.4		
_34		0.4		
_35		0.4		
_36			End of Boring at 35' bgs. (Refusal)	_36
_37				_37
_38				_38
_39				_39
_40				_40
_41				_41
_42				_42
_43				_43
_44				_44
_45				_45
_46				_46
_47				_47
_48				_48
_49				_49
_50				_50

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_C012
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/28/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.0'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.0	0.0 - 0.8 Brown (7.5YR 4/2) medium-fine SAND, little subangular coarse gravel, loose, dry, no odor (SW)	063_C012_0.0 (0.0' - 0.5')
2	3.4	0.0	0.8 - 1.4 Light Yellowish Brown (2.5Y 6/3) grading to Dark Grayish Brown (2.5Y 4/2) medium SAND, little fine sand, trace coarse sand, loose, moist, no odor (SP)	
3	5.0	0.0	1.4 - 3.4 Black (2.5Y 2.5/1) medium-fine SAND & coarse-fine subround slag GRAVEL, little coal, silt & fine sand 2.9' - 3.4', moist, wet at 2', no odor (SW)	
4		0.0		
5		0.0		
6		0.0	5.0 - 6.1 Dark Gray (10YR 4/1) SILT, little fine sand & fine subround gray gravel, stiff, moist-wet, no odor (ML)	
7	1.9	0.0	6.1 - 6.6 Reddish Brown (5YR 4/3) SILT, little fine sand & coarse-fine gray angular gravel & coarse-medium red sandstone gravel, stiff, moist, no odor (ML)	063_C012_6.4 (6.4' - 6.9')
8	5.0	0.0	6.6 - 6.9 Olive Gray (5Y 4/2) SILT, some clay, little fine sand, soft, low plasticity, slight sulfurous odor (ML)	
9				
10				
11		1.1	10.0 - 11.9 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1) clay, low plasticity, soft, moist-wet, strong sulfurous odor odor (PT)	063_C012_10.5 (10.5' - 11.0')
12	2.2	0.5		
13	5.0	0.3	11.9 - 12.1 Reddish Gray (5YR 5/2) Clayey fine SAND, some silt & coarse-fine subround red sandstone gravel, firm, moist-wet, slight sulfurous odor (SC)	
14		0.0		
15				
16		0.0	15.0 - 15.7 Dark Grayish Brown (10YR 4/2) coarse-fine subangular GRAVEL & COBBLES, some fine sand & silt, medium-dense, wet, no odor, abundant coarse gray gravel & cobbles 15.5' - 15.7' (GM)	063_C012_15.8 (15.8' - 16.3')
17	1.3	0.0	15.7 - 16.3 Light Brown (7.5YR 6/3) SILT, little clay & fine sand, little medium-fine gray subround/subangular gravel, firm, moist, no odor (ML)	
18	5.0			
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_D003 / 063_MW05
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/13/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Ray Smith		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 5.0'		Yes - 063_MW05		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.2 coarse angular gray gravel (GP)	063_D003_0.0 (0.0' - 0.5')
1		0.0	0.2 - 1.4 Brown (7.5YR 4/2) medium-fine SAND, little silt, trace medium-fine angular gray gravel, medium-dense, dry, no odor (SM)	
2		1.1		
3	4.1	0.3	1.4 - 1.7 Black (2.5Y 2.5/1) medium-fine SAND & medium-fine slag GRAVEL, dry, loose, no odor (GW)	
4	5.0	0.8	1.7 - 4.1 Brown (10YR 4/2) SILT, some fine sand, soft, moist, no odor (ML)	063_D003_3.8 (3.8' - 4.2')
5				
6		0.0	5.0 - 5.5 Brown (7.5YR 4/3) SILT, some fine sand & coarse-fine angular gray gravel, Reddish Brown (2.5YR 4/4) gravel 5.1' - 5.4', moist-wet, firm, slight sulfurous odor (ML)	
7		0.3		
8	2.2	0.4	5.5 - 6.4 Dark Brown (7.5YR 4/1) coarse-medium SAND, some silt, loose, wet, slight sulfurous odor (SM)	063_D003_6.7 (6.7' - 7.2')
9	5.0	0.5	6.4 - 7.2 Brown (7.5YR 4/3) fine SAND, some silt, medium sand, & medium-fine subangular gray to red brown gravel, medium-dense, moist, no odor (SM)	
10				
11		30.8	10.0 - 11.2 Greenish Gray (GLE2 5/5BG) Clayey SILT, little fine sand, low palsticity, soft, moist, strong hydrocarbon odor (ML)	
12		210.0		
13	3.4	16.5	11.2 - 13.4 Brown (7.5YR 4/2) SILT, some fine sand, little subangular gray gravel, cobblew 11.6' 0 11.8', stiff, moist, slight hydrocarbon odor (ML)	
14	5.0	5.7		063_D003_13.0 (13.0' - 13.5')
15		1.1		
16		0.5		
17		0.5		
18	3.3	0.0	15.0 - 18.3 Brown (7.5YR 5/2_ coarse-medium SAND & fine subangular GRAVEL, little silt, trace fine sand, wet, loose, no odor (GW), Transitions to Reddish Brown (2.5YR 4/3) SILT, little fine sand, trace medium sand & medium-fine gray subangular gravel, stiff, moist, no odor (ML), coarse-fine sand & little fine gravel in bottom of sleeve	063_D003_17.0 (17.0' - 17.5')
19	5.0	0.0		
20				
21			End of Boring at 20' bgs.	
22			Well Information:	
23			2-inch diameter 10-slot SCH40 PVC screen set at 2.0' - 7.0.0' bgs.	
24			2-inch diameter SCH40 PVC riser from 2.0' bgs. to 0' bgs.	
25			#1 Sand from 1.0' to 2.0' bgs., Grout from 1.0' to surface Flush mount completion with cement protective pad	

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_D004
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/25/2011	TOTAL DEPTH OF BOREHOLE: 32	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.0'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO: Boring for deep geological exploration Refusal at 18' 1st attempt, refusal at 32' second attempt. 2nd boring attempt logged & sampled				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.2	0.0 - 0.5 Brown (10YR 5/3) medium-fine SAND & dark gray asphalt gravel, loose, dry, no odor (SW)	063_D004_0.0 (0.0' - 0.5')
1		0.5		063_D004_0.5 (0.5' - 1.0')
2		0.8	0.5 - 1.0 Black (2.5Y 2.5/1) coarse-fine SAND, trace slag gravel & coal, trace COPR (coarse sand & fine round gravel) 0.5'-1', dry, loose, no odor (SW)	063_D004_1.0 (1.0' - 1.5')
3	3.4	0.5		Trace COPR 0.5' - 1.0'
4	5.0	2.8	1.0 - 1.2 Light Gray (10YR 7/2) medium SAND, trace fine sand, loose, moist (SP)	
5		3.0	1.2 - 2.0 Black (2.5Y 2.5/1) coarse-fine SAND & fine-medium slag GRAVEL, little silt, medium-dense, moist-wet at 2', slight hydrocarbon odor (GW)	
6		1.2	2.0 - 3.4 Black (2.5Y 2.5/1) SILT, some fine sand, trace fine angular gravel, firm, moist-wet, slight solvent odor (ML), Transitions to Brown (7.5YR 4/4) SILT, some fine sand, soft, moist-wet, slight hydrocarbon odor (ML)	
7		2.0	5.0 - 7.2 Dark Gray (10YR 4/1) SILT, some fine sand, little clay, trace fine gravel & shells, soft grading to firm, moist-wet, strong hydrocarbon odor & staining 5.7' - 5.9' (ML), Transitions to Olive (5Y 5/3) Clayey SILT, little fine sand & coarse-fine subround gravel, soft, moist, slight hydrocarbon odor (ML)	063_D004_5.0 (5.0' - 5.5')
8	3.8	7.4		
9	5.0	9.0	7.2 - 8.8 Brown (7.5YR 4/3) Silty medium-fine SAND, some coarse-fine gray angular gravel, trace cobbles, greenish-gray shale fragments & clay 8.2' - 8.5', dense, moist, slight hydrocarbon odor (SM)	063_D004_6.7 (6.7' - 7.2')
10		0.7		Fill/native soil interface at 7.2' no meadow mat
11		10.4	10.0 - 13.2 Brown (7.5YR 4/3) SILT, some fine sand, little fine angular gray to greenish gray gravel throughout, trace strong brown (7.5YR 5/6) medium-fine round sandstone gravel 10'-11', greenish-gray coarse-fine sand & fine gravel at 10.5', Silty fine sand 10.5' - 12', some dark greenish gray coarse siltstone gravel 12.5' - 13.2', white medium sand & sandstone cobbles 12.1' - 12.3', moist-wet & stiff throughout, strong hydrocarbon odor (ML)	063_D004_10.5 (10.5' - 11.0')
12		2.7		
13	3.2	6.7		
14	5.0	1460.0		
15		50.9		
16		8.7	15.0 - 19.0 Brown (10YR 5/3) Silty medium-fine SAND, some coarse sand & medium-fine angular gravel, loose grading to medium-dense, wet, slight hydrocarbon odor 15' - 16' (SM)	063_D004_15.0 (15.0' - 15.5')
17		1.0		
18	5.0	0.8		PID background: 0.2 ppm
19		0.1	19.0 - 20.0 Brown (7.5YR 5/4) SILT, some fine sand, little medium-fine angular dark gray gravel, very dense, moist, no odor (ML)	
20		0.2		
21		0.2	20.0 - 23.0 Brown (7.5YR 5/4) Silty medium-fine SAND, some medium-fine gray angular gravel, moist-wet, loose, no odor (SM), Transitions to SILT, some fine sand, moist, very dense, little gravel, no odor (ML)	
22		0.2		
23	3.0	0.2		
24	5.0	0.2		
25		0.2		

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_D004
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/25/2011	TOTAL DEPTH OF BOREHOLE: 32	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.0'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26		0.0	25.0 - 28.4 Brown (7.5YR 5/4) Silty medium-fine SAND, little medium-fine gray angular gravel, medium-dense, wet, no odor (SM), Transitions to SILT, little fine sand, little coarse-fine gy angular gravel & cobbles, stiff, moist, no odor (ML)	_26
_27		0.0		_27
_28	3.4 5.0	0.0		_28
_29		0.0		_29
_30		0.0		_30
_31	1.4 2.0	0.0		20.0 - 31.4 Brown (7.5YR 4/4) fine to very fine SAND, trace silt, loose, wet, no odor (SM), Transitions to Brown (7.5YR 4/2) coarse-medium SAND, trace fine sand & silt, trace fine subround gravel, loose, wet, no odor (SW)
_32		0.0	_32	
_33				_33
_34				_34
_35				_35
_36				_36
_37				_37
_38				_38
_39				_39
_40				_40
_41				_41
_42				_42
_43				_43
_44				_44
_45				_45
_46				_46
_47				_47
_48				_48
_49				_49
_50				_50

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_D005
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/14/2011	20	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Ray Smith		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.3'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.9 Grayish Brown (10YR 5/2) medium-fine SAND, trace silt & coarse-fine	063_D005_0.0 (0.0' - 0.5')
1		77.7	Dark Gray (10YR 4/1) angular gravel, dry, loose, no odor (SP)	
2		1.2	0.9 - 1.3 Gray (GLE Y1 6/N) coarse-medium SAND & GRAVEL (concrete) (GP)	063_D005_0.8 (0.8' - 1.3')
2		71.2	1.3 - 1.6 Black (10YR 2/1) coarse-medium SAND, some slag, 50% COPR (fine round	063_D005_1.3 (1.3' - 1.8')
3	2.8	19.0	gravel) 1.4'-1.7', medium-dense, moist-wet, strong solvent odor, (SW)	063_D005_1.8 (1.8' - 2.3')
3	4.0		1.6 - 2.8 Brown (7.5YR 4/3) SILT, little fine sand & coarse-fine gray angular gravel	50% COPR noted 1.4' - 1.7'
4			(ML), Transitions into Brown (7.5YR 4/3) fine SAND & SILT, firm, moist,	
5			slight solvent odor (ML)	
6		248.0	5.0 - 6.5 Dark Grayish Brown (2.5Y 4/2) Clayey fine SAND, little silt, treated wood	
7		243.0	fragments with creosote odor at 5.8', medium-stiff, moist-wet, strong solvent	063_D005_6.0 (6.0' - 6.5')
7		364.0	odor (SC)	(fill/native soil interface)
8	3.0	1260.0	6.5 - 6.9 Black (10YR 2/1) CLAY, some fine sand, little silt, soft, moist, strong solvent	
8	5.0	596.0	odor, low to moderate plasticity (OL)	
9		160.0	6.9 - 7.3 Greenish Gray (GLE Y2 5/5BG) Clayey fine SAND, little silt, soft, moist-wet,	
9			strong solvent odor (SC)	
10			7.3 - 8.0 Reddish Brown (5YR 5/3) SILT, little fine sand & fine-medium gray angular	
11		42.2	10.0 - 13.0 As Above (7.3' - 8.0'), Transitions into Brown (10YR 4/3) SILT & fine SAND,	063_D005_10.0 (10.0' - 10.5')
11		1487.0	some Olive (5Y 5/4) & Reddish Brown (5YR 4/4) subround sandstone gravel	
12		1278.0	and Dark Gray (GLE Y1 4/N) angular gravel, trace clay, stiff, dry-moist,	
12		466.0	strong hydrocarbon odor, gray petroleum staining in bottom of sleeve (ML)	
13	3.0	564.0		
13	5.0	58.3		
14				
15				
16		176.0	15.0 - 15.9 Dark Gray (7.5 YR 4/1) coarse-fine SAND & coarse-fine angular to subround	063_D005_15.0 (15.0' - 15.5')
16		1008.0	gravel (Olive 5Y 5/4, Reddish Brown 5YR 4/4, & Dark Gray GLE Y1 4/N),	
17		29.4	very dense, moist, slight hydrocarbon odor (GW)	
17		2.1	15.9 - 18.5 Brown (10YR 5/3) fine SAND & SILT, little medium-fine dark gray angular	
18	3.5	1.0	gravel, stiff, dry, no odor (ML)	
18	5.0	2.8		
19		0.5		
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_D006 / 063_MW06
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/12/2011	17	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Ray Smith		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.6'		Yes - 063_MW06		
MEMO: Hand-dug 2'x2' hole to 1.0' to remove liner.					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.0 Olive Gray (5Y 4/2) fine SAND, little m. sand, loose, moist-wet, no odor (SP)	
2		0.0	1.0 - 1.6 As Above (0.5' - 1.0'), slight solvent odor (SP)	063_D006_1.0 (1.0' - 1.5')
3	3.4	4.4	1.6 - 2.5 Black (2.5Y 2.5/1) medium-fine SAND & medium-fine slag GRAVEL, loose, moist-wet, slight solvent odor (GW)	
4	4.0	0.0	2.5 - 4.4 Reddish Brown (5YR 4/4) SILT, little fine sand, trace medium-fine subangular gravel, trace clay, moist, firm, no odor (ML), Transitions to Olive Gray (5Y 5/2) Silty CLAY, little fine sand, trace subangular coarse-fine gravel, soft, moist, no odor (CL)	
5		0.0		
6		0.0	5.0 - 6.8 Olive Gray (5Y 5/2) Silty CLAY, little fine sand, trace subangular coarse-fine gravel, soft, moist-wet, no odor (CL)	063_D006_5.0 (5.0' - 5.5')
7		0.0	7.0 - 7.9 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (2.5Y 3/1) CLAY, low plasticity, soft, moist-wet, abundant plant fibers, slight sulfurous odor (PT)	063_D006_6.5 (6.5' - 7.0')
8	3.0	0.0		Fill/native soil interface at 7'
9	5.0	0.0	7.9 - 8.1 Brown (10YR 5/3) fine SAND, loose, moist-wet, no odor (SP)	
10		0.0		
11		0.0	10.0 - 12.5 As Above (7.9' - 8.1'), Transitions to Reddish Brown (2.5YR 4/3) SILT, little subround-subangular coarse-fine gravel, white cobbles at 11.8', dry, very stiff, no odor (ML)	063_D006_10.0 (10.0' - 10.5')
12		0.0		
13	2.5	0.0		
14	5.0	0.0		
15		0.0		
16		1800.0	15.0 - 17.0 Brown (10YR 4/3) Silty medium-fine SAND, trace clay & medium-fine subround-subangular gravel, strong hydrocarbon odor (SM)	063_D006_15.0 (15.0' - 15.5')
17	2.0	1500.0		
18	2.0	850.0		
19		1371.0		
20			End of Boring at 17' bgs. (Refusal)	
21			Well Information:	
22			2-inch diameter 10-slot SCH40 PVC screen set at 2.0' - 7.0' bgs.	
23			2-inch diameter SCH40 PVC riser from 2.0' bgs. to 2.57' above grade	
24			#1 Sand from 1.5' to 7.0' bgs., Grout from 1.0' to 1.5'	
25			2' x 2' section of PVC liner placed on top of HDPE liner	
			Cemented-in 2' x 2' hole for well pad from 1.0' bgs to surface	
			Stick-up completion	

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_D007
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/27/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.5	0.0 - 0.7 Brown (10YR 5/3) fine SAND, little medium sand & medium-fine angular gray gravel, trace silt, loose, dry, no odor (SP)	063_D007_0.0 (0.0' - 0.5')
2		1078.0	0.7 - 1.0 Green (GLY2 6/10G) coarse-fine GRAVEL, loose, dry, no odor (GW)	
3	3.6	2.8	1.0 - 1.9 Black (2.5Y 2.5/1) medium SAND, little fine sand, trace fine slag gravel, loose, moist-wet, strong solvent odor (SP), Transitions to fine SAND & coarse-fine subround slag GRAVEL, some silt & coal, loose, wet at 1.5', strong solvent odor (GW)	
4	5.0	1.9	1.9 - 3.6 Olive Gray (5Y 5/2) Silty CLAY, soft, moist, moderate plasticity, slight sulfurous odor (CH), Transitions to Brown (7.5YR 4/3) Silty CLAY, firm, moist, trace shells, moderate plasticity, slight sulfurous odor (CH)	
5		5.8		
6		1.6		
7		0.0	5.0 - 6.2 Olive Gray (5Y 4/2) CLAY, little silt, trace shells, wood fragments at 6.2', very soft, high plasticity, slight sulfurous odor (OH)	063_D007_5.7 (5.7' - 6.2')
8	2.8	0.0	6.2 - 7.2 Black (2.5Y 5.2/1) organic SILT, little clay, soft, low plasticity, moist, strong sulfurous odor (ML)	Fill/native soil interface at 6.2'
9	5.0	2.1	7.2 - 7.8 Pinkish Gray (7.5YR 6/2) Clayey fine SAND, little silt, medium-dense, moist, slight sulfurous odor (SC)	
10		0.0		
11		0.0	10.0 - 12.6 Reddish Gray (5YR 5/2) Silty medium-fine SAND, trace subround medium-fine sandstone gravel, dense, moist-wet, no odor (SM), Transitions to Light Reddish Brown (5YR 6/3) SILT, some very fine sand, stiff, moist, no odor (ML)	063_D007_10.0 (10.0' - 10.5')
12		0.0		
13	2.6	0.0		
14	5.0	0.0		
15		0.0		
16		0.0	15.0 - 19.4 Brown (7.5YR 5/3) SILT, little fine-very fine sand & medium-fine gray angular gravel, Yellowish Brown (10YR 5/6) coarse-medium sand & fine sandstone gravel 16.9' - 17.2', moist, very stiff, no odor (ML)	063_D007_15.0 (15.0' - 15.5')
17		0.0		
18	4.4	0.0		
19	5.0	0.0		
20		0.0		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_D008
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/27/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.6'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.6 Light Olive Brown (2.5YR 5/3) fine SAND, little medium sand & medium-fine angular gravel, trace silt, loose, dry, no odor (SP)	063_D008_0.0 (0.0' - 0.5')
1		0.0		
2	3.6	0.0	0.6 - 2.0 Black (2.5Y 2.5/1) medium-fine SAND (slag, coal, & ash), little coarse subround slag gravel, some medium-fine subround slag gravel 1.7' - 2', loose, moist, wet at 1.6', no odor (SW/SP)	
3	5.0	0.0	2.0 - 2.3 Reddish Brown (5YR 4/3) SILT, some very fine sand, little round gray gravel & subround fine red sandstone gravel, soft, moist-wet, no odor (ML)	
4		0.0	2.3 - 3.6 Olive Gray (5Y 5/2) Silty CLAY, trace shells, soft, moderate palsticity, moist-wet, slight sulfurous odor (CH or OH)	
5		0.0		
6		0.0	5.0 - 5.5 Very Dark Gray (10YR 3/1) CLAY, little silt, moderate plasticity, trace shells, soft, moist, slight sulfurous odor (OH)	063_D008_5.0 (5.0' - 5.5')
7	3.0	0.0	5.5 - 6.8 Olive Gray (5Y 5/2) Clayey SILT, soft, moist, low palsticity, slight sulfurous odor (ML), Transitions to Clayey SILT, little very fine sand, soft, moist (ML)	(native soil?)
8	5.0	0.0	6.8 - 8.0 Reddish Gray (5YR 5/2) to Brown (7.5YR 5/2) Silty fine SAND, little medium sand & coarse-fine red (2.5YR 4/6) sandstone gravel, moist, dense, no odor (SM)	
9		0.0		
10		0.0	10.0 - 10.4 As Above (6.8' - 8')	063_D008_10.0 (10.0' - 10.5')
11		0.0	10.4 - 12.3 Yellowish Brown (10YR 5/4) grading to Light Brown (7.5YR 6/3) medium-fine SAND, some silt, coarse sand, & fine subround/subangular gray & red siltstone gravel, moist-wet, dense, no odor (SM)	
12	2.9	0.0		
13	5.0	0.0	12.3 - 12.9 Dark Grayish Brown (2.5Y 4/2) coarse angular GRAVEL & COBBLES, some shale, trace silt & fine sand (Light Brownish Gray, 2.5Y 5/2), loose, wet, no odor (GP)	
14		0.0		
15		0.0	15.0 - 15.2 As Above (12.3' - 12.9'), coarse-medium SAND & medium-fine angular GRAVEL, medium-dense, wet, no odor (SW)	063_D008_15.0 (10.5' - 15.5')
16		0.0	15.2 - 18.3 Brown (7.5YR 5/4) SILT, little fine-medium sand, some medium-fine gray angular gravel, trace red-gray siltstone gravel, stiff, moist, no odor (ML), Transitions to Yellowish Brown (10YR 5/4) SILT, little fine sand & clay, little medium-coarse subangular gray to red-gray gravel, stiff, moist, no odor (ML)	
17	3.3	0.0		
18	5.0	0.0		
19		0.0		
20		0.0		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_D009 / 063_MW07
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/12/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Ray Smith		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? Yes - 063_MW07	
MEMO: *Hand-dug 2'x2' hole to 1.5' to remove liner.				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP)	
1			0.5 - 1.5 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)	
2		0.0	1.5 - 2.5 Black (2.5Y 2.5/1) coarse-fine slag SAND & fine subround slag GRAVEL, loose, moist-wet, no odor (SW)	063_D009_1.5 (1.5' - 2.0')
3	2.7	0.0	2.5 - 4.2 Olive Gray (5Y 5/2) Silty CLAY, little fine sand & subangular coarse-fine gravel, soft, moist, no odor (CL/OL)	
4	3.5*	0.0		
5		0.0		
6		0.0	5.0 - 5.7 As Above (2.5' - 4.2'), no gravel, trace fine sand, soft, moist, no odor (CH)	063_D009_5.0 (5.0' - 5.5')
7		0.0	5.7 - 6.5 Very Dark Grayish Brown (10YR 3/2) organic SILT, some fine sand, little clay, low plasticity, moist, soft, slight sulfurous odor (ML)	Fill/native soil interface at 5.7'
8	2.7	0.0	6.5 - 7.7 Brown (7.5YR 4/2) SILT, little fine sand & clay, little coarse-fine subround-subangular gravel, firm, moist, no odor (ML)	
9	5.0	0.0		
10		0.0	10.0 - 12.0 Yellowish Brown (10YR 5/6) grading to Yellowish Red(5YR 5/6) Silty medium-to fine SAND, little clay, wet, medium-dense, no odor (SM)	063_D009_10.0 (10.0' - 10.5')
11		0.0		
12		0.0		
13	3.7	0.0	12.0 - 13.7 Brown (10YR 5/3) SILT, little fine sand & coarse-fine subangular-subround gravel, stiff, moist, no odor (ML)	063_D009_13.2 (13.2' - 13.7')
14	5.0	0.0		
15		0.0		
16		0.0	15.0 - 18.6 As Above (12' - 13.7'), some medium-fine sand & coarse-fine gravel 16.8' - 17.4' (wet), otehrwise moist, stiff, no odor 9ML)	
17		0.0		
18	3.6	0.0		
19	5.0	0.0		
20		0.0		
21			End of Boring at 20' bgs.	
22			Well Information:	
23			2-inch diameter 10-slot SCH40 PVC screen set at 5.0' - 10.0' bgs.	
24			2-inch diameter SCH40 PVC riser from 5.0' bgs. to 2.5' above grade	
25			#1 Sand from 3.0' to 10.0' bgs., Grout from 1.0' to 3.0'	
			2' x 2' section of PVC liner placed on top of HDPE liner	
			Cemented-in 2' x 2' hole for well pad from 1.0' bgs to surface	
			Stick-up completion	

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_D010
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/26/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.0'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.2 Grayish Brown (10YR 5/2) fine SAND, little medium sand & coarse-fine subangular gravel, trace COPR gravel 0.2' - 0.5', dry, loose, no odor (SP)	063_D010_0.0 (0.0' - 0.5')
1		1.2		063_D010_0.5 (0.5' - 1.0')
2		3.5	1.2 - 1.8 Very Dark Gray (10YR 3/1) medium-fine SAND, little silt & medium-coarse gray angular gravel (SM)	Trace COPR 0.2' - 0.5'
3	3.7	0.0	1.8 - 3.3 Black (10YR 2.5/1) medium-fine SAND, little fine subround slag gravel, Grayish-Brown Silt 2.3' - 2.7', loose, moist, wet 2' - 3.3' (SW/SP)	
4	5.0	0.0	3.3 - 3.7 Olive Gray (5Y 5/2) SILT, some very fine sand, some reddish-brown to gray mottling, stiff, moist, no odor (ML)	
5		0.0	5.0 - 5.6 Olive Gray (5Y 5/2) SILT, little fine sand & clay, firm, moist, no odor (ML)	063_D010_5.1 (5.1' - 5.6')
6		6.8	5.6 - 6.4 Very Dark Gray (10YR 3/1) Clayey organic SILT, soft, moist, strong sulfurous odor (ML)	Fill/native soil interface at 5.6'
7	3.8	109.0	6.4 - 8.8 Grayish Brown (2.5YR 5/2) Clayey fine SAND, little silt, soft, moist-wet, strong sulfurous odor (SC), Transitions to Brown (10YR 5/3) SILT, little fine sand & subround medium-fine gray gravel, firm, moist, strong sulfurous odor (ML), then to Grayish Brown (10YR 5/2) SILT, little fine SAND & medium-fine subround red-yellow sandstone gravel, subround gray gravel, subround gray gravel, & greenish-gray fine subangular gravel, stiff, moist, slight sulfurous odor (ML)	
8	5.0	51.0		
9		45.5		
10		10.6		
11		34.1	10.0 - 13.7 Grayish Brown (10YR 5/2) SILT, little fine SAND & medium-fine gravel (as above), stiff, moist, slight sulfurous odor (ML), Transitions to Strong Brown (7.5YR 4/6) Silty fine SAND, some medium sand, little medium-fine gray angular gravel & subround red siltstone gravel, medium-dense, moist-wet, no odor (SM)	063_D010_10.0 (10.0' - 10.5')
12	3.7	5.5		
13	5.0	0.3		
14		0.0		
15		0.0		
16		0.0	15.0 - 19.4 Strong Brown (7.5YR 4/6) SILT, some fine sand, little medium sand & medium-fine gray angular gravel & subround red siltstone gravel, stiff, moist, no odor (ML), Transitions to Silty medium-fine sand, little gravel, dense, moist-wet, no odor (SM)	063_D010_15.0 (15.0' - 15.5')
17	4.4	0.0		
18	5.0	0.0		
19		0.0		
20		0.0		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_D011
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/28/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.4'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.5 Very Dark Grayish Brown (10YR 3/2) medium-fine SAND, little silt & subangular medium-fine gravel, loose, dry, no odor (SM)	063_D011_0.0 (0.0' - 0.5')
1		0.0		
2	2.4	0.0	0.5 - 1.6 Black (2.5Y 2.5/1) medium-fine SAND, little fine subround slag gravel, trace coal, loose, moist, moist-wet at 1.4', no odor (SW/SP)	
3	5.0	0.0	1.6 - 2.4 Dark Grayish Brown (2.5Y 4/2) SILT, little fine sand & coarse-fine gray angular gravel, light gray concrete 1.9' - 2.1', moist, firm, no odor (ML)	
4				
5				
6		0.0	5.0 - 5.3 As Above (1.6' - 2.4')	063_D011_5.0 (5.0' - 5.5')
7		0.0	5.3 - 7.5 Olive Gray (5Y 5/2) Clayey SILT, little fine-very fine sand, low palsticity, firm, moist, no odor (ML), Transitions to Dark Gray (2.5Y 4/1) Clayey SILT, trace shells, soft, moist, slight sulfurous odor (ML)	
8	3.3	0.0	7.5 - 8.3 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1) CLAY, low plasticity, soft, moist-wet, slight sulfurous odor (PT)	063_D011_7.0 (7.0' - 7.5')
9	5.0	0.0		Fill/native soil interface at 7.5'
10				
11		0.0	10.0 - 10.1 As Above (7.5' - 8.3')	
12		0.0	10.1 - 12.2 Grayish Brown (10YR 4/2) SILT, some fine sand & coarse-fine subround red siltstone gravel, stiff, moist, no odor (ML), Transitions to Brown (10YR 5/3) SILT, little very fine sand & medium-fine subangular gray to greenish-gray gravel, stiff, moist, no odor (ML)	063_D011_11.0 (11.0' - 11.5')
13	2.2	0.0		
14	5.0			
15				
16		0.0	15.0 - 16.8 Brown (10YR 5/3) SILT, little very fine sand & medium-fine subangular gray to greenish-gray gravel, stiff, moist, no odor (ML), Transitions to Brown (7.5YR 5/4) SILT, some very fine sand, little coarse-fine subround gray gravel, firm, moist, no odor (ML)	063_D011_15.0 (15.0' - 15.5')
17		0.0		
18	1.8			
19	5.0			
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_E003
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/26/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER:	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 5'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.0	0.0 - 3.1 Dark Yellowish Brown (10YR 3/4) to Dark Brown (7.5YR 4/3) medium-fine SAND, little silt, trace subangular medium-fine gravel, white concrete cobbles 3' - 3.1', dry-moist, loose, no odor (SM)	063_E003_0.0 (0.0' - 0.5')
2		0.0		
3	3.1	0.0		
4	5.0	0.0		
5		0.0		
6		6.6	5.0 - 7.0 Very Dark Grayish Brown (10YR 3/2) coarse-fine SAND & coarse-fine angular to subround GRAVEL, Dark gray shale gravel 5.9' - 6.1' (dry), pink/gray flat siltstone gravel 6.5'-7' (dry), trace silt, wet, loose, slight hydrocarbon odor (SW)	063_E003_5.0 (5.0' - 5.5')
7		21.6		063_E003_6.0 (6.0' - 6.5')
8	2.9	54.2		
9	5.0	94.5	7.0 - 7.9 Dark Grayish Brown (10YR 4/2) SILT, some fine sand, little medium sand & coarse-fine subround-subangular gray gravel, little clay, firm, moist-wet, slight hydrocarbon odor (ML)	Fill/native soil interface at 7'
10		431.0		
11		149.0	10.0 - 13.7 As Above (7' - 7.9') (ML), Transitions to Brown (10YR 5/2) Silty fine-medium SAND, little coarse-fine subangular gray gravel, little clay, dense, moist-wet, slight hydrocarbon odor (SM)	063_E003_10.0 (10.0' - 10.5')
12		137.0		
13	3.7	42.7		
14	5.0	334.0		
15		120.0		
16		56.7	15.0 - 19.7 Brown (10YR 5/2) Silty fine-medium SAND, little coarse-fine subangular gray gravel, abundant gravel & wet 15'-15.2', little clay, dense, moist-wet, slight hydrocarbon odor (SM), Transitions to Brown (7.5YR 5/4) Silty fine SAND, some medium sand & moist-wet 17.2' - 19.2'; SILT, little fine sand 19.3' - 19.7', medium-dense grading to dense, moist, slight hydrocarbon odor (SM)	063_E003_15.0 (15.0' - 15.5')
17		5.5		
18	4.7	433.0		
19	5.0	14.7		
20		2.9		
21		2.6	End of Boring at 20' bgs.	
22		3.4		
23		2.1		
24		11.0		
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_E004
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/26/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 2.3'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.0	0.0 - 1.2 Dark Grayish Brown (10YR 4/2) to Strong Brown (7.5YR 4/6) medium-fine SAND, little subangular-subround medium-fine gravel, trace glass, dry, loose, no odor (SW)	063_E004_0.0 (0.0' - 0.5')
2	2.9	0.0	1.2 - 1.9 Black (2.5Y 2.5/1) coarse SAND & fine-medium GRAVEL (slag & coal), loose, moist, no odor (GW)	
3	5.0	0.0	1.9 - 2.3 Brown (7.5YR 4/3) SILT, some fine sand, trace red coarse-medium subround sandstone gravel, moist, firm, no odor (ML)	
4			2.3 - 2.9 Brown (10YR 4/3) Silty coarse-fine SAND, some coarse-fine subround -angular gravel & cobbles, loose, wet, no odor (SW)	
5				
6		0.0	5.0 - 7.2 As Above (2.3' - 2.9') but Dark Gray (10YR 4/1) to Dark Grayish Brown, loose, wet, slight hydrocarbon odor 6.0 - 7.2'	
7	2.2	23.2		063_E004_6.5 (6.5' - 7.0')
8	5.0	121.0		
9				
10				
11		7.3	10.0 - 11.5 Dark Gray (10YR 4/1) Coarse-fine SAND & fine subround GRAVEL, some coarse-medium gravel, little silt, loose, wet, slight hydrocarbon odor (GM/GW)	
12	3.5	21.3	Transitions to Dark Grayish Brown (10YR 4/2) Silty medium-fine SAND, some fine gravel, little medium gravel, wet, moist, slight hydrocarbon odor (SM)	063_E004_11.0 (11.0' - 11.5')
13	5.0	62.7	11.5 - 13.5 Brown (7.5YR 4/2) Clayey SILT, little fine sand, very soft, very wet, slight hydrocarbon odor (ML), Transitions to Brown (7.5YR 5/3) SILT, some medium-fine sand, moist, soft grading to firm, little medium-fine subangular gray gravel, no odor (ML)	
14		12.6		
15		2.1		
16		3.0		
17		1.0		
18		1.6		
19			15.0 - 18.8 Brown (7.5YR 5/3) SILT, some fine sand, little medium sand & medium-fine subangular gray gravel, stiff, dry, no odor (ML), Transitions to Strong Brown (7.5YR 5/6) Silty medium-fine SAND, little medium-fine subangular gray gravel, dense, moist-wet, no odor (SM)	063_E004_15.0 (15.0' - 15.5')
20	3.8	0.0		
21	5.0	0.0		063_E004_18.3 (18.3' - 18.8')
22		0.0		
23		0.0		
24		0.0		
25		0.0	End of Boring at 20' bgs.	

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02		Boring No: 063_E005
		PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE: 7/26/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 2.0'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No	
MEMO:				


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.3 Dark Grayish Brown (2.5YR 4/2) medium-fine SAND, little medium-coarse subangular gravel, Transitions to Dark Grayish Brown (10YR 4/2) medium sand, loose, moist, no odor, shell fragments 0.7' - 0.8' (SP)	063_E005_0.0 (0.0' - 0.5')
1		0.0		063_E005_0.5 (0.5' - 1.0')
2	3.6	0.0	1.3 - 2.2 Black (2.5Y 2.5/1) coarse-medium SAND & medium-fine subround slag GRAVEL, moist, wet at 2', loose, no odor (GW)	Trace COPR 0.2' - 0.5'
3	5.0	0.0	2.2 - 3.6 Dark Grayish Brown (2.5YR 4/2) grading to Olive Gray (5Y 5/2) SILT, some fine sand, little coarse-fine gray angular gravel, firm, moist, slight hydrocarbon odor 3.3' - 3.6'	
4		85.6		
5				
6		68.9	5.0 - 6.5 Olive Gray (5Y 5/2) SILT, little fine sand & clay, soft, moist-wet, strong hydrocarbon odor (ML)	
7	3.8	144.0	6.5 - 7.2 Dark Reddish Gray (5YR 4/2) SILT, little fine sand & subround to subangular medium-fine gravel, firm, moist, slight hydrocarbon odor (ML)	063_E005_6.0 (6.0' - 6.5')
8	5.0	418.0	7.2 - 8.1 Dark Reddish Gray (5YR 4/2) Silty medium-fine SAND, little medium-fine subround gravel, light greenish-gray siltstone gravel 7.6'-7.9', medium-dense, moist-wet, slight hydrocarbon odor (SM)	Fill/native soil interface at 6.5'
9		1141.0	8.1 - 8.8 Yellowish Brown (10YR 5/6) Silty medium-fine SAND, little medium-fine subround to subangular sandstone gravel, trace silt, medium-dense, moist, slight hydrocarbon odor (SM)	
10				
11		0.0	10.0 - 11.7 As Above (8.1' - 8.8')	063_E005_10.0 (10.0' - 10.5')
12	2.9	0.0	11.7 - 12.5 Brown (10YR 5/3) Silty fine SAND, some fine angular gravel, little medium sand, dense, moist, no odor (SM)	
13	5.0	0.0	12.5 - 12.9 Weak Red (10R 4/2) thin-bedded shale fragments, dry, dense, no odor (GW)	
14				
15				
16		0.0	15.0 - 16.4 as Above (11.7' - 12.5'), moist, trace coarse-medium red siltstone (SM)	063_E005_15.0 (15.0' - 15.5')
17	2.7	0.0	16.4 - 17.7 Brown (7.5YR 5/4) Silty medium-fine SAND, little coarse-fine subround to subangular gray siltstone gravel, medium-dense grading to dense, wet grading to moist, no odor (SM)	
18	5.0	0.0		
19				
20				
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.: 117-0509160.02	Boring No: 063_E006
		PROJECT NAME: PPG Site 063	LOCATION SKETCH
COMPLETION DATE: 7/26/2011	TOTAL DEPTH OF BOREHOLE: 20	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Bob Fleming	DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 1.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No
MEMO:			

DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.1 Brown (10YR 5/3) fine SAND, little medium sand, little coarse-fine gray subangular gravel, loose, dry, no odor (SP)	063_E006_0.0 (0.0' - 0.5')
1		0.0		
2	3.7	0.0	1.1 - 1.5 Black (2.5Y 2.5/1) fine SAND, some silt & clay, moist, soft, no odor (SC)	
3	5.0	0.0	1.5 - 2.0 Black (2.5Y 2.5/1) coarse-medium SAND & coarse-fine slag GRAVEL, little fine sand, loose, wet, no odor (GW)	
4		0.0	2.0 - 3.7 Dark Gray (2.5Y 4/1) Silty CLAY, trace shells & fine sand 2'-2.5', soft, moderate plasticity, moist, slight sulfurous odor (OH)	
5		0.0		
6		0.0	5.0 - 5.7 As Above (2' - 3.7')	
7	3.8	0.0	5.7 - 6.6 Olive (5Y 5/3) CLAY, little silt, moderate plasticity, soft, moist, slight sulfurous odor (OH)	063_E006_6.0 (6.0' - 6.5')
8	5.0	0.0	6.6 - 8.8 Brown (10YR 5/3) medium-fine SAND, some silt, little subangular-subround red siltstone gravel, medium-dense, moist-wet, no odor (SM), Transitions to Reddish Brown (5YR 5/3) SILT, some fine sand, little subround-subangular siltstone gravel, dry, stiff, no odor (ML)	Fill/native soil interface at 6.6'
9		0.0		
10		0.0	10.0 - 12.5 Strong Brown (7.5YR 4/6) SILT, some fine sand, little gray subround-subangular fine gravel, stiff, moist, no odor (ML), Transitions to Brown (7.5YR 5/4) SILT, some fine sand, little medium-fine subangular gray to greenish gray gravel, dry, very stiff, no odor (ML)	063_E006_10.0 (10.0' - 10.5')
11		0.0		
12	2.5	0.0		
13	5.0	0.0		
14		0.0		
15		0.0		
16		0.0	15.0 - 18.0 Brown (10YR 5/3) Silty medium-fine SAND, some coarse-fine subangular - subround gray gravel, dense, moist-wet, no odor (SM), Transitions to SILT, little fine sand, little subangular gray gravel, very stiff, moist, no odor (ML)	063_E006_15.0 (15.0' - 15.5')
17	3.0	0.0		
18	5.0	0.0		
19		0.0		
20		0.0		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

SOIL BORING LOG

		PROJECT NO.:	117-0509160.02	Boring No:	063_E007
		PROJECT NAME:	PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/27/2011	20	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Bob Fleming		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 1.5'		No		
MEMO:					

DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.8 Brown (10YR 5/3) fine SAND, little medium sand & silt, little medium-fine gray subangular gravel, loose, dry, no odor (SP)	063_E007_0.0 (0.0' - 0.5')
1		0.0		
2		0.0	0.8 - 1.7 Black (2.5Y 2.5/1) medium-fine SAND, some coarse sand & medium-fine slag gravel, moist, wet at 1.5', loose, no odor (SW)	
3	3.5	0.0	1.7 - 2.0 Very Dark Gray (5Y 3/1) CLAY, little silt, trace shells, moderate plasticity, soft, moist-wet, slight sulfuroud odor (OH)	
4	5.0	0.0	2.0 - 3.5 Olive (5Y 5/3) CLAY with slight Reddish Brown (5Y 5/3) mottling, little silt, moderate plasticity, trace shells, moist, slight sulfurous odor (OH/CH)	
5		0.0		
6		0.0	5.0 - 5.5 As Above (2' - 3.5'), slight sulfurous odor (OH/CH)	063_E007_5.0 (5.0' - 5.5')
7		0.0	5.5 - 8.0 Olive Gray (5Y 5/2) Silty CLAY, soft, moist, moderate plasticity, slight sulfurous odor (OH/CH), Transitions to Brownish Yellow (10YR 6/6) SILT, some very fine sand, little clay, firm, moist, no odor (ML), Transitions to Yellowish Red (5YR 5/6) medium-fine SAND, some silt, little Dark Reddish Brown (5YR 3/3) medium-fine sand & medium-fine gray angular gravel & fine-medium round red siltstone gravel, medium-dense, moist-wet, no odor (SM)	Fill/native soil interface at 5.5'
8	3.0	1.3		
9	5.0	0.0		
10		0.0		
11		0.0	10.0 - 11.2 Yellowish Red (5YR 5/6) medium-fine SAND, some silt, little Dark Reddish Brown (5YR 3/3) medium-fine sand & medium-fine gravel, medium-dense, moist-wet, no odor (SM)	063_E007_10.0 (10.0' - 10.5')
12		0.0	11.2 - 11.5 Light Gray (10YR 7/2) coarse-medium subround sandstone GRAVEL & COBBLES, some coarse-medium sand, loose, dry, no odor (GW)	
13	2.9	0.0	11.5 - 12.9 Brown (7.5YR 5/4) Silty medium-fine SAND, little medium-fine gray angular gravel, medium-dense, moist-wet, no odor (SM)	
14	5.0	0.0		
15		0.0		
16		0.0	15.0 - 17.9 Brown (7.5YR 5/4) Silty coarse-fine SAND, some fine subangular gravel, little medium gravel, loose, wet, no odor (SM), Transitions to SILT, some fine sand, little subround to subangular grayish brown medium-fine gravel, trace medium sand, stiff, moist, no odor (ML)	063_E007_15.0 (15.0' - 15.5')
17		0.0		
18	2.9	0.0		
19	5.0	0.0		
20		0.0		
21			End of Boring at 20' bgs.	
22				
23				
24				
25				

FIELD BORING LOG SHEET

BORING LOG SHEET

BORING NUMBER:

PROJECT: PPG
 PROJECT NO.: PH-8214
 LOCATION (well or boring ID): OG3-BOGA
 TOTAL DEPTH (FT): 35
 GEOLOGIST: TK
 DRILLER: EP1
 DRILLING/SAMPLING METHOD: Geoprobe




TETRA TECH EC INC

DATE STARTED: 12/18/12
 DATE COMPLETED: 12/18
 GROUNDWATER DEPTH (FT):
 GROUND ELEVATION (FT):
 X COORDINATE:
 Y COORDINATE:
 DATUM:


Sample ID	Start Depth (feet)	End Depth (feet)	BLOWS per 6"	Recovery (ft)	Consolidated? Y or N	USCS Soil Classification or Material	Geologic Unit Code	Color	Description	TIME	DATE	Depth of PID/FID (ft)	FID (ppm)	PID (ppm)	Comments	Contact (A, H, U)									
30-35	30	32		38"		SM		7.5/6 4/6	Fine silty sand and fine gravel v. moist, loose				0	0											
	32	33				SM			Fine sandy silt and large gravel (1-1.5"), loose saturated.				0	0											
	33	35				SM			Fine silty sand trace clay and gravel. lots moisture.				0	0											
									End of boring at 35.				0	0											
									11/28 Screened from 11-19' logs (2" PVC) River PVC from 11'-grade Bantambe plug 11-12' sand pack from 14-19' Sticking material				0	0											

SOIL BORING LOG

 TETRA TECH GEO		PROJECT NO: 194-8214	Boring No: 063-2002
		PROJECT NAME: PPG SITE 63	LOCATION SKETCH
COMPLETION DATE: 12-19-12	TOTAL DEPTH OF BOREHOLE: 20' bgs	MONITORING DEVICE: PID	GEOLOGIST / OFFICE: TRAVIS KOT
DRILLING CONTRACTOR / DRILLER: Epi / Bob	DRILLING EQUIPMENT: Geoprobe	DRILLING METHOD / BIT: Direct push	
SAMPLING METHOD: S' blowers	DEPTH TO GROUNDWATER:	GROUND SURFACE ELEVATION:	WELL INSTALLED? MW-10
MEMO:			

DEPTH (feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0	0-4 Black m-c SAND, some silt, m-f angular gravel and slag, moist, no odor	
2	3.66			
3	5.0		4-5 DK gray m-f silty SAND and gravel, med-dense, moist-wet, hydrocarbon odor, 2" white subangular gravel at 1.5-3' bgs	
4				
5				
6		0	5-9 Reddish-brown fine silty CLAY, firm dense, moist, no odor (7.54R 3/2).	
7	2.0			
8	5.0	0-1	9-10 PEAT, abundant vegetation, sulfur odor. Native / fill interface at 9' bgs.	
9				
10				
11		0	10-11.5 PEAT, abundant vegetation, moist, soft.	
12	3.0			
13	5.0	0	11.5-12.5 Gray-brown CLAY w/ silt and little vegetation throughout.	063-2002-13.0
14		0	12.5-15 Orange-brown fine CLAY w/ little silt, m-c gravel, firm, dry-moist	
15				
16		0	15-16 Orange-brown CLAY, little silt and subangular med gravel, very loose, wet from 15.5-15.8' bgs, no odor.	
17	3.0			
18	5.0		16-20' Orange-brown f-m SAND, some silt and m-c subangular gravel throughout, dense firm, moist-wet, no odor	
19				
20				
21			EoB @ 20' bgs	
22			MW-10:	
23			2" PVC riser 0-2' bgs.	
24			2" PVC screen 2-7' bgs	
25			Flushmount	

SOIL BORING LOG

 TETRA TECH GEO		PROJECT NO: 194-8214	Boring No: 063-2005
		PROJECT NAME: PGG SITE 03	LOCATION SKETCH
COMPLETION DATE: 12-21-12	TOTAL DEPTH OF BOREHOLE: 25' bgs	MONITORING DEVICE:	GEOLOGIST / OFFICE:
DRILLING CONTRACTOR / DRILLER: Epi / Bob	DRILLING EQUIPMENT: Geoprobe	DRILLING METHOD / BIT: Direct push	
SAMPLING METHOD: 5' sleeves	DEPTH TO GROUNDWATER:	GROUND SURFACE ELEVATION:	WELL INSTALLED?:
MEMO:			

DEPTH (feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
-1		0	0-0.66 Brown med SAND, trace silt, soft, loose, moist, no odor.	063-2005-0.5'
-2	2.25			
-3	5.0	0	0.66-5 Black m-f SAND, little silt, abundant, med-coarse slag from 1-2' bgs. 2" of red rock frags, moist-wet at 4' bgs (FILL)	
-4				
-5				
-6	2.3	0	5-9 Black sandy SILT and med-coarse subangular gravel, saturated, m-dense strong hydrocarbon odor.	063-2005-5.0
-7	5.0		9-10 Black fine sandy SILT and gravel, saturated. Sheen observed at 9-9.5', dense, strong hydrocarbon odor	
-8				
-9				
-10				
-11	0.66	0	10-15' Black-dk brown PEAT, trace sand, med-vegetation, soft, strong hydrocarbon odor, moist. staining from previous sleeve.	
-12	5.0			
-13				
-14				
-15				
-16	2.0	0	15-16 Green-gray rock fragments (SS), dry	
-17	5.0	0	16-20 Red-brown fine sandy SILT, little coarse-med gravel, firm, moist, no odor.	
-18				
-19				
-20				
-21	2.0	0	20-22 Red brown SILT w/ fine sand and subangular gravel, very loose, wet no odor.	063-2005-20.0'
-22	5.0		22-25 Red-brown SILT w/ fine sand, dense, moist-wet	
-23				
-24				
-25			EOB @ 25' bgs	



CB&I
 200 Horizon Center Blvd
 Trenton, NJ 08691
 Phone: 609.588.6384
 Fax: 609.689.7771

BORING LOG

Project Name:	PPG	Boring Identification:	F-010A
Street Address:	1 Burma Road, Jersey City, NJ	Soil Boring Permit Number (if > 50 feet in depth):	NA
Tax Map Address:		Drilling Method:	H.C./Geoprobe
County:		Borehole Diameter:	2 inch
CB&I Project Manager:	Thomas Gibbons	Sampling Method:	5-foot long, acetate sample sleeves
		Logged By:	Spencer Waybrant
		Completion Date:	3/25/13

Depth (feet)	Sample ID	Sample Int.	Antimony abv IGSSL	Nickel abv IGSSL	PID (ppmV)	Recovery (inches)	Depth to Water (feet)	USCS ID	Lithology/Remarks (Modified Burmister Classification)
0-0.5	F-010A 0.0-0.5	0-0.5			0.0	0-12		OL	Brown to gray brown SILT with some sand and organic matter, moist
0.5-1	F-010A 0.5-1.0	0.5-1							
1-2	F-010A 1.5-2	1.5-2			0.0	12-24		ML	Yellow brown to brown SILT with some sand, moist
2-3	F-010A 2.5-3	2.5-3		X	0.0	24-36	2.8	ML	Yellow brown SILT, some sand, moist, saturated at ~2.8 ft bgs
3-4	F-010A 3.5-4	3.5-4			0.0	36-48		ML	Black SILT, some large angular gravel, trace sand, saturated
4-5					0.0	48-60			
5-6					0.0	60-72		ML	Dark grayish brown SILT, trace clay, saturated
6-7					0.0	72-84		ML	Light brown SILT, trace clay, saturated, soft
7-8	No Recovery								
8-9									
9-10									

Notes:

USCS = Unified Soil Classification System
 ft-bgs = Feet Below Grade Surface
 Soil sampling completed using direct-push to advance a 5-foot long 2.125-inch outer diameter core barrel into the subsurface. The core barrel is lined with a 1.5" diameter acetate sleeve. Numbers in the "Recovery" column refer to length of soil column recovered in the acetate sleeve.

PID = Photo Ionization Detector H.C. = Hand Cleared
 PPMv = Parts per Million by Volume



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BORING LOG

Project Name:	PPG	Boring Identification:	C-014A
Street Address:	1 Burma Road, Jersey City, NJ	Soil Boring Permit Number (if > 50 feet in depth):	NA
Tax Map Address:		Drilling Method:	H.C./Geoprobe
County:		Borehole Diameter:	2 inch
CB&I Project Manager:	Thomas Gibbons	Sampling Method:	5-foot long, acetate sample sleeves
		Logged By:	Spencer Waybrant
		Completion Date:	3/25/13

Depth (feet)	Sample ID	Sample Int.	Antimony abv IGSSL	Nickel abv IGSSL	PID (ppmV)	Recovery (inches)	Depth to Water (feet)	USCS ID	Lithology/Remarks (Modified Burmister Classification)
0-1	C-014A 0-0.5	0-0.5		X	0.0	0-12		OL	Dark brown SILT, some sand, small gravel and organics, moist
	C-014A 0.5-2.0	0.5-2.0		X					
1-2	C-014A 1.5-2.0	1.5-2.0			0.0	12-24		ML	Brown SILT, some clay, sand and organic matter, moist
2-3	C-014A 2.5-3.0	2.5-3.0		X	0.0	24-36		ML	Brownish gray SILT, some small subrounded gravel, trace sand, moist
3-4	C-014A 3.5-4.0	3.5-4.0		X	0.0	36-48		ML	Brownish gray SILT, some small subrounded gravel, trace sand, moist
4-5					0.0	48-60		ML	Light gray brown SILT with trace sand, moist
5-5.5					0.0	60-66	5	ML	Gray SILT with some sand and small subrounded gravel, saturated
5.5-6					0.0	66-72		ML	Light brown to light gray sandy SILT, saturated
6-7					0.0	72-84		SM	Yellow brown silty SAND, some small subrounded gravel, saturated
7-7.5					0.0	84-90		SW	Dark coarse SAND with small gravel and coal chunks (fly ash?); near saturated
7.5-8					0.0	90-96		SM	Gray to light brown SAND with silt, moist
8-9	No Recovery								
9-10	No Recovery								

Notes:

USCS = Unified Soil Classification System

ft-bgs = Feet Below Grade Surface

Soil sampling completed using direct-push to advance a 5-foot long 2.125-inch outer diameter core barrel into the subsurface. The core barrel is lined with a 1.5" diameter acetate sleeve. Numbers in the "Recovery" column refer to length of soil column recovered in the acetate sleeve.

PID = Photo Ionization Detector

H.C. = Hand Cleared

PPMv = Parts per Million by Volume



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BORING LOG

Project Name:	PPG	Boring Identification:	C-013A
Street Address:	1 Burma Road, Jersey City, NJ	Soil Boring Permit Number (if > 50 feet in depth):	NA
Tax Map Address:		Drilling Method:	H.C./Geoprobe
County:		Borehole Diameter:	2 inch
CB&I Project Manager:	Thomas Gibbons	Sampling Method:	5-foot long, acetate sample sleeves
		Logged By:	Spencer Waybrant
		Completion Date:	3/25/13

Depth (feet)	Sample ID	Sample Int.	Antimony aby IGSSL	Nickel aby IGSSL	PID (ppmV)	Recovery (inches)	Depth to Water (feet)	USCS ID	Lithology/Remarks (Modified Burmister Classification)
0-1	C-013A 0-0.5 Dup1	0-0.5	X	X	0.0	0-12		OL	Dark brown SILT, some organic matter, trace sand, moist
	C-013A 0.5-1.0	0.5-1	X	X					
1-2	C-013A 1.5-2 Dup2	1.5-2	X	X	0.0	12-24		ML	Dark brown SILT, some sand and small angular gravel, moist
2-3	C-013A 2.5-3	2.5-3	X	X	0.0	24-36		ML	Brown sandy SILT, trace small gravel, moist
3-4	C-013A 3.5-4	3.5-4	X	X	0.0	36-48		ML	Gray brown clayey SILT, trace sand, moist
4-5					0.0	48-60		ML	Brown gray SILT, some sand, trace small sub-rounded gravel, moist
5-6					0.0	60-72	5	ML	Gray sandy SILT with some small angular gravel, saturated
6-6.5					0.0	72-78		ML	Yellowish brown sandy SILT, saturated
6.5-7					0.0	78-84		SM	Brownish yellow SAND, some silt, saturated
7-7.5					0.0	84-90		SW	Black SAND with some small gravel and coal chunks (fly ash?), hard, saturated
7.5-8					0.0	90-96		SM	Light grayish brown SAND, some silt and small subrounded gravel, sea shells/oyster shells, moist
8-9	No Recovery								
9-10	No Recovery								

Notes:

USCS = Unified Soil Classification System

PID = Photo Ionization Detector H.C. = Hand Cleared

ft-bgs = Feet Below Grade Surface

PPMv = Parts per Million by Volume

Soil sampling completed using direct-push to advance a 5-foot long 2.125-inch outer diameter core barrel into the subsurface. The core barrel is lined with a 1.5" diameter acetate sleeve. Numbers in the "Recovery" column refer to length of soil column recovered in the acetate sleeve.



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BORING LOG

Project Name:	PPG	Boring Identification:	MW-12
Street Address:	1 Burma Road, Jersey City, NJ	Soil Boring Permit Number (if > 50 feet in depth):	NA
Tax Map Address:		Drilling Method:	H.C./Geoprobe
County:		Borehole Diameter:	2 inch
CB&I Project Manager:	Thomas Gibbons	Sampling Method:	5-foot long, acetate sample sleeves
		Logged By:	Spencer Waybrant
		Completion Date:	3/25/13

Depth (feet)	Sample ID	Sample Int.	Antimony aby IGSSL	Nickel aby IGSSL	PID (ppmV)	Recovery (inches)	Depth to Water (feet)	USCS ID	Lithology/Remarks (Modified Burmister Classification)
0-1	MW-12 0-0.5	0-0.5			0.0	0-12		ML	Dark brown SILT and small angular gravel, some sand, moist
	MW-12 0.5-1	0.5-1							
1-2					0.0	12-24			
2-3					0.0	24-36		SM	Black SAND, some silt, moist, saturated at ~2.8 ft bgs
3-4	MW-12 3.5-4	3.5-4			0.0	36-48		ML	Brown to gray brown SILT with large angular gravel, saturated
4-5					0.0	48-60	4.4	ML	Gray SILT with trace sand, saturated
5-6					0.0	60-72		ML	Brown sandy SILT with large subrounded gravel, saturated
6-7	MW-12 7.5-8.0	7.5-8			0.0	72-84		ML	Brown to reddishbrown SILT with sand and small subrounded gravel, saturated
7-8									
8-9									
9-10									No Recovery

Notes:

USCS = Unified Soil Classification System
 ft-bgs = Feet Below Grade Surface

PID = Photo Ionization Detector H.C. = Hand Cleared
 PPMv = Parts per Million by Volume

Soil sampling completed using direct-push to advance a 5-foot long 2.125-inch outer diameter core barrel into the subsurface. The core barrel is lined with a 1.5" diameter acetate sleeve. Numbers in the "Recovery" column refer to length of soil column recovered in the acetate sleeve.



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BORING LOG

Project Name:	PPG	Boring Identification:	MW-9
Street Address:	1 Burma Road, Jersey City, NJ	Soil Boring Permit Number (if > 50 feet in depth):	NA
Tax Map Address:		Drilling Method:	H.C./Geoprobe
County:		Borehole Diameter:	2 inch
CB&I Project Manager:	Thomas Gibbons	Sampling Method:	5-foot long, acetate sample sleeves
		Logged By:	Spencer Waybrant
		Completion Date:	3/25/13

Depth (feet)	Sample ID	Sample Int.	Antimony abv IGSSL	Nickel abv IGSSL	PID (ppmV)	Recovery (inches)	Depth to Water (feet)	USCS ID	Lithology/Remarks (Modified Burmister Classification)
0-0.5	MW-9 0-0.5	0-0.5			0.0	0-12		OL	Black to dark brown SILT, some sand and organic matter, moist
0.5-1	MW-9 0.5-1	0.5-1							
1-2					0.0	12-24	1.96	OL	Black to brown SILT with sand and organic matter, moist
2-3	MW-9 2.0-2.5	2-2.5			0.0	24-36		ML	Dark gray to dark brown SILT with some sand and small gravel, moist (CORR detected from 2.0-2.5 ft)
3-4	MW-9 3.5-4	3.5-4			0.0	36-48		ML	Yellow brown to brown SILT and large angular gravel, saturated
4-5					0.0	48-60		ML	Black SILT with some sand, saturated
5-6					0.0	60-72		GM	Brown small to large angular GRAVEL, some silt and sand, saturated
6-7	MW-9 6.5-7	6.5-7			0.0	72-84		ML	Brown sandy SILT, saturated
7-8					0.0	84-96			
8-9					0.0	96-108		ML	Brown SILT with brown and black striations, trace sand, saturated
9-9.5					0.0	108-114			
9.5-10									No Recovery

Notes:

USCS = Unified Soil Classification System
 ft-bgs = Feet Below Grade Surface

PID = Photo Ionization Detector H.C. = Hand Cleared
 PPMv = Parts per Million by Volume

Soil sampling completed using direct-push to advance a 5-foot long 2.125-inch outer diameter core barrel into the subsurface. The core barrel is lined with a 1.5" diameter acetate sleeve. Numbers in the "Recovery" column refer to length of soil column recovered in the acetate sleeve.



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - AD001

DATE STARTED: 08.05.2013 DATE COMPLETED: 08.05.2013
 Northing: 680252.0147 Easting: 612228.5029 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 60's°F, sunny
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	50%	0.0-0.5	no recovery					
		0.5-1.0						
		1.0-1.5						
		1.5-2.0						
		2.0-2.5						
		2.5-3.0	light gray to dark gray sandy SILT with fine to medium angular pebbles, dry	ML		0.4	trace COPR	
		3.0-3.5	dark gray sandy SILT with organics, moist	OL		0.5	trace COPR	
		3.5-4.0	dark gray fine to medium angular pebbles, sand and silt, saturated	SW	3.5-4.0	690.0	trace COPR	
		4.0-4.5	dark gray sand, fine to coarse pebbles and silt, saturated			469.0	trace COPR	
		4.5-5.0	dark gray SILT with sand and fine to medium angular pebbles	ML		66.0		
10.0	70%	5.0-5.5	no recovery					
		5.5-6.0						
		6.0-6.5						
		6.5-7.0	gray brown SILT with some sand, saturated	ML	6.5-7.0	6.0		
		7.0-7.5	gray brown sandy SILT with fine to coarse subrounded			7.0-7.5	2.4	
		7.5-8.0	subangular pebbles	GP	7.5-8.0	1.1		
		8.0-8.5				8.0-8.5	3.8	
		8.5-9.0					1.2	
		9.0-9.5	light grayish brown SILT with gray striations, sand, and some clay	ML				
		9.5-10.0					0.3	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - AD002

DATE STARTED: 08.02.2013 DATE COMPLETED: 08.02.2013
 Northing: 680291.7348 Easting: 612266.9034 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 70°F, sunny, humid
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	80%	0.0-0.5	no recovery					
		0.5-1.0						
		1.0-1.5	gray to dark gray, medium to coarse angular pebbles, some SAND and silt, moist	SW		309.0	5% COPR	
		1.5-2.0				391.0	5% COPR	
		2.0-2.5	brown gray to light gray sandy SILT with fine to medium angular pebbles, moist	ML		91.2	5% COPR	
		2.5-3.0	dark gray, same as above			102.0	5% COPR	
		3.0-3.5	dark gray to black, saturated			622.0	5% COPR	
		3.5-4.0				3.5-4.0	288.0	5% COPR
		4.0-4.5	gray brown, saturated			4.0-4.5	1062.0	trace COPR
		4.5-5.0	gray brown SILT with sand and brick chunks				167.0	trace COPR
10.0	100%	5.0-5.5	medium to fine angular pebbles	GP	5.0-5.5	388.0		
		5.5-6.0	brown gray sandy SILT	ML	5.5-6.0	679.0		
		6.0-6.5	medium to fine subrounded pebbles	GP		6.0-6.5	163.0	
		6.5-7.0				6.5-7.0	169.0	
		7.0-7.5	same as above with seashells	GW			415.0	
		7.5-8.0					41.9	
		8.0-8.5					17.6	
		8.5-9.0					11.5	
		9.0-9.5					55.0	
		9.5-10.0					61.6	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - AD003			
		DATE STARTED: 08.02.2013	DATE COMPLETED: 08.02.2013
Northing: 680340.3042	Easting: 612302.5467	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 70°F, sunny, humid	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	80%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5	gray, fine to coarse subangular pebbles, SAND and silt	SW		298.0	5% COPR
		1.5-2.0	moist		1.5-2.0	142.0	5% COPR
		2.0-2.5	wood chunks	PT		14.4	5% COPR
		2.5-3.0	dark gray to black medium SAND with some silt	SM		4.1	5% COPR
		3.0-3.5	subrounded medium to fine pebbles, moist	GP		7.0	trace COPR
		3.5-4.0				3.8	trace COPR
		4.0-4.5	light grayish brown silty SAND with gray clay chunks, moist	SM/SC		4.8	
		4.5-5.0	gray brown silty SAND with subrounded fine to medium pebbles, moist			4.7	
10.0	100%	5.0-5.5	saturated	SM/SW			
		5.5-6.0					
		6.0-6.5					
		6.5-7.0	light gray brown to dark gray sandy SILT	ML	6.5-7.0	2.2	
		7.0-7.5	gray brown fine to medium angular/subangular pebbles, moist	GP	7.0-7.5	2.4	
		7.5-8.0			7.5-8.0	4.4	
		8.0-8.5			8.0-8.5	3.6	
		8.5-9.0				3.2	
		9.0-9.5	light brown SILT, dry	ML		8.0	
		9.5-10.0	dark brown to dark gray SILT with clay and organic matter (meadow mat), moist	OH/PT		2.6	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - AD004			
		DATE STARTED: 09.09.2013	DATE COMPLETED: 09.09.2013
Northing: 680388.712	Easting: 612338.2873	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	fine gray SAND, gravel, cobbles	SW					
		0.5-1.0						30.9	
		1.0-1.5	black to dark gray SILT, moist	ML				10.3	
		1.5-2.0							
		2.0-2.5							
		2.5-3.0						1283	
		3.0-3.5						562	
		3.5-4.0						1562	
		4.0-4.5	red brown crushed brick	GW				4.0-4.5	174
		4.5-5.0	brick pieces, saturated					4.5-5.0	80.3
10.0	100%	5.0-5.5		ML/GW	5.0-5.5				
		5.5-6.0	dark gray silt mixed with brick pieces		5.5-6.0	350			
		6.0-6.5			57				
		6.5-7.0			12.7				
		7.0-7.5			16.9				
		7.5-8.0	SILT, SAND, and gravel angular to subangular		ML/SW	12.8			
		8.0-8.5							
		8.5-9.0			12.4				
		9.0-9.5	meadow mat, organic material		PT				
		9.5-10.0				4.4			

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - AD005

DATE STARTED: 09.09.2013 DATE COMPLETED: 09.09.2013

Northing: 680438.8525 Easting: 612374.0433 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft

Geologist: Jeff Alexander

DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks			
5.0	100%	0.0-0.5	SAND and gravel	SW			5% COPR			
		0.5-1.0	fill material, pieces of glass, plastic					2.0		
		1.0-1.5						44.5		
		1.5-2.0	same as above, gravel, slag	GW				1242		
		2.0-2.5						122.4		
		2.5-3.0						2.5-3.0		
		3.0-3.5						3.0-3.5	20.7	
		3.5-4.0		gray SAND and Silt, and large gravel, saturated				SW	3.5-4.0	
		4.0-4.5		4.0-4.5					8.2	
		4.5-5.0							1.4	
10.0	100%	5.0-5.5	gray SAND, fine, saturated	SP		4.3				
		5.5-6.0								
		6.0-6.5								
		6.5-7.0				3.1				
		7.0-7.5								
		7.5-8.0				2.4				
		8.0-8.5								
		8.5-9.0				0.8				
		9.0-9.5								
		9.5-10.0				0.4				

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - AD006

DATE STARTED: 09.09.2013 DATE COMPLETED: 09.09.2013
 Northing: 680486.8654 Easting: 612409.6001 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft

Geologist: Jeff Alexander

DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	concrete/cloth	ML/SW			5% COPR 15% COPR		
		0.5-1.0	dark gray silt and sand and trace COPR and slag material						
		1.0-1.5							
		1.5-2.0							
		2.0-2.5	clayey gray SAND with light gray banding and angular large gravel	SC/SW		367			
		2.5-3.0				2.5-3.0		74.4	
		3.0-3.5				3.0-3.5		14.2	
		3.5-4.0	same as above, wet			3.5-4.0		3.2	
		4.0-4.5				4.0-4.5			
		4.5-5.0			5.7				
10.0	100%	5.0-5.5	gray to brown SAND, clayey, saturated	SC					
		5.5-6.0		6.1					
		6.0-6.5	same as above, gravel to cobbles subrounded	SC/GW					6.7
		6.5-7.0							
		7.0-7.5							
		7.5-8.0							1.7
		8.0-8.5							
		8.5-9.0		1.7					
		9.0-9.5							
		9.5-10.0		1.6					

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - AD007			
		DATE STARTED: 09.10.2013	DATE COMPLETED: 09.10.2013
Northing: 680583.758	Easting: 612479.7672	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	brown SAND and gravel, fine, abundant gravel	SW			5% COPR	
		0.5-1.0					0.0	5% COPR
		1.0-1.5					0.0	5% COPR
		1.5-2.0	black SILT and gravel, (fill), (slag), dry	GM			0.0	10% COPR
		2.0-2.5					0.0	20% COPR
		2.5-3.0					0.0	20% COPR
		3.0-3.5					0.0	10% COPR
		3.5-4.0	greenish SAND with black mottled, black gravel	SW			1.4	5% COPR
		4.0-4.5					0.0	5% COPR
		4.5-5.0	black SILT and gravel (fill)	GM			0.0	15% COPR
10.0	100%	5.0-5.5	gray SAND, and gravel	SW	5.0-5.5	0.0		
		5.5-6.0			5.5-6.0	0.0		
		6.0-6.5	dark gray SILT and gravel, wet (fill material)	GM	6.0-6.5	0.0		
		6.5-7.0			6.5-7.0	0.0		
		7.0-7.5			0.0			
		7.5-8.0	0.0					
		8.0-8.5	tan SAND, clayey, moist, some gravel, angular to subangular	SC/SW	0.0			
		8.5-9.0			0.0			
		9.0-9.5			0.0			
		9.5-10.0			0.0			

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - AD008			
		DATE STARTED: 09.10.2013	DATE COMPLETED: 09.10.2013
Northing: 680632.3701	Easting: 612515.4627	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	90%	0.0-0.5	no recovery	SW	4.5-5.0	0.0	
		0.5-1.0	dark gray sand and gravel (magnetic)				
		1.0-1.5					
		1.5-2.0					
		2.0-2.5	tan SAND (3-inch layer)				
		2.5-3.0	black SAND, SILT, and gravel	SM/SW			
		3.0-3.5					
		3.5-4.0	same as above, wet				
		4.0-4.5					
		4.5-5.0					
10.0	100%	5.0-5.5		GW	5.0-5.5	0.0	
		5.5-6.0	same as above, red brick pieces		5.5-6.0	0.0	
		6.0-6.5			6.0-6.5	0.0	
		6.5-7.0				0.0	
		7.0-7.5				0.0	
		7.5-8.0			0.0		
		8.0-8.5			0.0		
		8.5-9.0			0.0		
		9.0-9.5	wood material, saturated, black	PT		0.0	
		9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - AD009			
		DATE STARTED: 09.12.2013	DATE COMPLETED: 09.12.2013
Northing: 680703.66	Easting: 612557.998	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gravel	GP			
		0.5-1.0	dark gray SAND and gravel, asphalt-like material, slightly moist, trace COPR (magnetic)	SW		0.0	
		1.0-1.5			0.0	10% COPR	
		1.5-2.0			0.0	10% COPR	
		2.0-2.5			4.2	15% COPR	
		2.5-3.0			5.2	15% COPR	
		3.0-3.5			6.2	15% COPR	
		3.5-4.0			1.2	15% COPR	
		4.0-4.5			0.0	5% COPR	
		4.5-5.0			0.0	5% COPR	
10.0	100%	5.0-5.5			gray SAND, moist, clay and gravel	SC/SW	5.0-5.5
		5.5-6.0		5.5-6.0	0.0		
		6.0-6.5		6.0-6.5	0.0		
		6.5-7.0	same as above, wet	6.5-7.0	0.0		
		7.0-7.5			0.0		
		7.5-8.0			0.0		
		8.0-8.5			0.0		
		8.5-9.0			0.0		
		9.0-9.5	red brown CLAY and gravel, cobbles, moist	CL		0.0	
		9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - AD011

DATE STARTED: 09.11.2013 DATE COMPLETED: 09.11.2013

Northing: 680724.3806 Easting: 612563.6263 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft

Geologist: Jeff Alexander

DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	brown SAND, fine, dry	SP		0.0	
		0.5-1.0				0.0	
		1.0-1.5	black gravel (like asphalt), dry, trace COPR	GP		0.0	5% COPR
		1.5-2.0				0.0	5% COPR
		2.0-2.5				0.0	5% COPR
		2.5-3.0				0.0	5% COPR
		3.0-3.5				0.0	5% COPR
		3.5-4.0				0.0	5% COPR
		4.0-4.5				0.0	5% COPR
		4.5-5.0				tan SAND, fine, slightly moist	SP
10.0	100%	5.0-5.5		SP	5.0-5.5	0.0	
		5.5-6.0			5.5-6.0	0.0	
		6.0-6.5	black asphalt-like material	GP	6.0-6.5	0.0	
		6.5-7.0			6.5-7.0	0.0	
		7.0-7.5	brick material	GW		0.0	
		7.5-8.0	black SILT and some gravel, wet	OL		0.0	
		8.0-8.5			0.0		
		8.5-9.0			0.0		
		9.0-9.5			0.0		
		9.5-10.0			0.0		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD001			
DATE STARTED: 08.05.2013		DATE COMPLETED: 08.05.2013	
Northing: 680315.8297	Easting: 612234.7925	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 60's°F, sunny	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	70%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5					
		1.5-2.0	dark gray medium subangular pebbles, moist	GP		0.1	5% COPR
		2.0-2.5	gray to light gray sandy SILT, moist	ML		8.2	5% COPR
		2.5-3.0	gray brown SILT, sand and medium to fine subangular pebbles, moist	ML/SW		8.7	5% COPR
		3.0-3.5				14.0	
		3.5-4.0	dark gray SAND, fine to medium angular pebbles, silt, saturated.			245.0	
		4.0-4.5		SW/SM		306.0	
		4.5-5.0				4.5-5.0	558.0
10.0	60%	5.0-5.5	no recovery				
		5.5-6.0				0.4	
		6.0-6.5				3.2	
		6.5-7.0				1.5	
		7.0-7.5	gray brown with dark gray striations with sand and fine to medium subangular pebbles, moist	SW	7.0-7.5	4.8	
		7.5-8.0			7.5-8.0	0.4	
		8.0-8.5	gray brown SILT with some sand	ML	8.0-8.5	3.2	
		8.5-9.0	brown SILT with some sand and fine to coarse subrounded pebbles	ML/SW	8.5-9.0	1.7	
		9.0-9.5				2.5	
		9.5-10.0	same as above, meadow mat at 9.75 ft	ML/PT		7.8	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD002			
		DATE STARTED: 08.02.2013	DATE COMPLETED: 08.02.2013
Northing:	Easting:	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 70's°F, partly cloudy	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
	50%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5					
		1.5-2.0					
		2.0-2.5					
		2.5-3.0	gray silty SAND, saturated. Liner at 32 inches	SP		3.2	
		3.0-3.5	dark gray to gray brown SAND, pebbles and silt, saturated		40.0	5% COPR	
		3.5-4.0	gray brown to brown SILT with some sand, seashells and subrounded medium to fine pebbles	ML/SW		4.4	5% COPR
		4.0-4.5			0.9		
▼		4.5-5.0			4.5-5.0	0.5	
5.0							
	70%	5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5					
		6.5-7.0	grayish brown SILT and medium to coarse subrounded pebbles with some sand and subangular pebbles, moist	ML/SW	6.5-7.0	3.2	
		7.0-7.5			7.0-7.5	2.3	
		7.5-8.0	gray brown to brown SILT and fine to medium subrounded pebbles with sand, moist		7.5-8.0	1.6	
		8.0-8.5				0.7	
		8.5-9.0				0.3	
		9.0-9.5	dark gray SILT with clay and organics (meadow mat), moist	OH/PT		0.2	
		9.5-10.0				0.1	
10.0							

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD003			
		DATE STARTED: 09.10.2013	DATE COMPLETED: 09.10.2013
Northing: 680410.8482	Easting: 612308.2149	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		0.0-0.5	gravel	GP			5% COPR
		0.5-1.0	dark brown SAND and gravel			0.0	5% COPR
		1.0-1.5	green gray SAND and gravel	SW		0.4	5% COPR
		1.5-2.0				55.0	
	100%	2.0-2.5	slag material, saturated			4.4	5% COPR
		2.5-3.0				1.6	5% COPR
		3.0-3.5		GP		1.1	5% COPR
		3.5-4.0				0.4	5% COPR
		4.0-4.5	red brown gravelly clay (subrounded), saturated		4.0-4.5	0.6	
5.0		4.5-5.0		GC	4.5-5.0	0.6	
		5.0-5.5			5.0-5.5	2.9	
		5.5-6.0			5.5-6.0	0.6	
		6.0-6.5	light brown SAND, wet			0.3	
		6.5-7.0				0.9	
	100%	7.0-7.5	greenish gray SAND, fine, moist	SP		0.1	
		7.5-8.0				0.1	
		8.0-8.5					
		8.5-9.0				0.0	
		9.0-9.5	red brown SAND and gravel				
10.0		9.5-10.0		SW		0.0	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD004			
		DATE STARTED: 09.09.2013	DATE COMPLETED: 09.09.2013
Northing: 680458.6908	Easting: 612345.2384	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gray SAND and gravel	SW		367.0	5% COPR
		0.5-1.0					5% COPR
		1.0-1.5	wood			PT	563.2
		1.5-2.0	dark gray SAND and gravel, brick material	SW		1890	5% COPR
		2.0-2.5				1353	5% COPR
		2.5-3.0				2124	5% COPR
		3.0-3.5				214.3	20% COPR
		3.5-4.0	SILT, SAND, and gravel, COPR nodules (magnetic), moist	SM/SW		134.2	20% COPR
		4.0-4.5				24.7	80% COPR
		4.5-5.0				13.5	80% COPR
10.0	100%	5.0-5.5	gray SAND, medium, moist	SP	5.0-5.5	1541	
		5.5-6.0			5.5-6.0	64.1	
		6.0-6.5			6.0-6.5	67.1	
		6.5-7.0	gray SAND, fine to medium, saturated		6.5-7.0	47.2	
		7.0-7.5			20.5		
		7.5-8.0			54.3		
		8.0-8.5			21.0		
		8.5-9.0	red brown CLAYEY SAND, gravel	SC		11.3	
		9.0-9.5				11.1	
		9.5-10.0				5.9	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD005			
		DATE STARTED: 09.10.2013	DATE COMPLETED: 09.10.2013
Northing: 680505.8668	Easting: 612381.6373	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	gravel	GP				
		0.5-1.0	brown SAND and gravel, wood, dry	SW		1.6	trace COPR	
		1.0-1.5				1.6	trace COPR	
		1.5-2.0				73.8	15% COPR	
		2.0-2.5	100%	black gravel, COPR (magnetic), slag	GW		1071	80% COPR
		2.5-3.0					45.3	75% COPR
		3.0-3.5					15.0	15% COPR
		3.5-4.0					1.9	15% COPR
		4.0-4.5					1.6	5% COPR
		4.5-5.0				1.3	5% COPR	
10.0	100%	5.0-5.5	saturated gravel, black, angular (slag)	CL		3.7	5% COPR	
		5.5-6.0				5.5-6.0		13.8
		6.0-6.5	100%	brown sandy CLAY mottled with dark gray and green	CL		6.0-6.5	1.2
		6.5-7.0					6.5-7.0	
		7.0-7.5					7.0-7.5	16.6
		7.5-8.0						2.9
		8.0-8.5						2.4
		8.5-9.0				0.2		
		9.0-9.5	100%	red brown CLAY and gravel, angular, large	CL			1.1
		9.5-10.0						0.0

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD006			
		DATE STARTED: 08.08.2013	DATE COMPLETED: 08.08.2013
Northing: 680553.7094	Easting: 612418.6608	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 70's°F, overcast, very humid	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	80%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5	light brown silty SAND with fine to medium subrounded pebbles, moist	SM/SW		0.0	5% COPR
		1.5-2.0	dark red brown silt with sand and rounded pebbles, moist		0.0	90% COPR	
		2.0-2.5	dark gray medium sand with fine angular pebbles, silt, and wood chunks		21.1	10% COPR	
		2.5-3.0			19.3	10% COPR	
		3.0-3.5	light brown to grayish brown sandy SILT with fine to medium subrounded pebbles, moist	ML/SW		0.0	trace COPR
		3.5-4.0				0.0	5% COPR
		4.0-4.5	brown gray medium sand with silt and fine rounded pebbles, moist	SM/SW		3.1	trace COPR
		4.5-5.0	gray sandy SILT with chunks of wood, moist	ML		5.0	trace COPR
10.0	80%	5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5	gray brown SILT with sand, moist	ML	6.0-6.5	1.7	
		6.5-7.0			6.5-7.0	39.5	
		7.0-7.5	gray brown SILT with sand, saturated		7.0-7.5	10.8	
		7.5-7.83	red brown subrounded fine pebbles with silt and sand, moist	GM	7.5-8.0	1.9	
		7.83-8.5	light brown SILT with trace sand, moist	ML		2.1	
		8.5-9.0	gray brown to red brown SILT with sand and black striations, moist		0.0		
		9.0-9.5			0.2		
		9.5-10.0	same as above with chunks of red brick		0.7		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD007			
		DATE STARTED: 09.10.2013	DATE COMPLETED: 09.10.2013
Northing: 680600.5201	Easting: 612454.7227	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gravel	GP			
		0.5-1.0	brown SAND and gravel	SW		0.0	trace COPR
		1.0-1.5	dark gray SAND and gravel, COPR (magnetic)			0.1	60% COPR
		1.5-2.0				0.3	60% COPR
		2.0-2.5				0.0	40% COPR
		2.5-3.0				0.0	40% COPR
		3.0-3.5	greenish SAND, moist		SP		0.0
		3.5-4.0	dark gray to black angular gravel, slag material, saturated	GW		0.0	30% COPR
		4.0-4.5				0.0	30% COPR
		4.5-5.0				0.0	15% COPR
10.0	100%	5.0-5.5	brown SAND, clayey, wet, gravel (angular)	SC/SW	5.0-5.5	0.0	
		5.5-6.0			5.5-6.0	0.0	
		6.0-6.5			6.0-6.5	0.0	
		6.5-7.0			6.5-7.0	0.0	
		7.0-7.5				0.0	
		7.5-8.0	green SAND, clayey, moist	SC		0.0	
		8.0-8.5				0.0	
		8.5-9.0				0.0	
		9.0-9.5	red brown, clayey, and gravel (cobbles), wet	GC		0.0	
		9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD008			
		DATE STARTED: 09.10.2013	DATE COMPLETED: 09.10.2013
Northing: 680647.517	Easting: 612490.964	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5		ML			5% COPR
		0.5-1.0				0.0	5% COPR
		1.0-1.5	reddish brown SILT and gravel, COPR			1.2	80% COPR
		1.5-2.0				5.7	80% COPR
		2.0-2.5	black SILT, slightly moist, trace COPR			27.3	5% COPR
		2.5-3.0				223.3	5% COPR
		3.0-3.5				168.1	5% COPR
		3.5-4.0	greenish yellow SAND, fine, and gravel			167.2	5% COPR
		4.0-4.5				738.3	5% COPR
		4.5-5.0	dark gray SAND and gravel, angular			4.5-5.0	551.6
10.0	100%	5.0-5.5		GW		5.0-5.5	41.9
		5.5-6.0	pieces of shell but appears to be fill to 10 feet			5.5-6.0	10.9
		6.0-6.5				6.0-6.5	3.6
		6.5-7.0					1.5
		7.0-7.5					
		7.5-8.0					1.3
		8.0-8.5					2.0
		8.5-9.0					1.7
		9.0-9.5					2.7
		9.5-10.0					1.7

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - BD009

DATE STARTED: 09.11.2013 DATE COMPLETED: 09.11.2013

Northing: 680690.3587 Easting: 612510.2948 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft

Geologist: Jeff Alexander

DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	tan SAND, fine, and gravel	SW		0.0	
		0.5-1.0				0.0	15% COPR
		1.0-1.5	brown SAND/SILT and gravel, COPR (3 mm nodules)	SM/SW		0.0	80% COPR
		1.5-2.0				0.0	80% COPR
		2.0-2.5				0.0	80% COPR
		2.5-3.0	dark gray SAND and gravel, slag	SW		0.0	15% COPR
		3.0-3.5				0.0	15% COPR
		3.5-4.0				0.0	15% COPR
		4.0-4.5	black SILT, slightly moist	ML		0.0	
		4.5-5.0	gray green SAND and gravel	SW		4.5-5.0	0.0
5.0-5.5		5.0-5.5	0.0				
10.0	100%	5.5-6.0		SW	5.5-6.0	0.0	
		6.0-6.5	brown SAND, clayey, moist		SC	6.0-6.5	0.0
		6.5-7.0		0.0			
		7.0-7.5	gray SAND, gravel, saturated	SW		0.0	
		7.5-8.0	abundant gravel, angular to subangular (fill)	GW	0.0		
		8.0-8.5			0.0		
		8.5-9.0			0.0		
		9.0-9.5			0.0		
		9.5-10.0			0.0		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - BD010			
		DATE STARTED: 09.11.2013	DATE COMPLETED: 09.11.2013
Northing: 680702.2229	Easting: 612519.5293	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	brown/tan SAND, fine	SP		0.0	
		0.5-1.0	brown COPR-impacted SILT/SAND and gravel	SM/SW		0.0	60% COPR
		1.0-1.5			0.0	80% COPR	
		1.5-2.0			0.0	80% COPR	
		2.0-2.5			0.0	15% COPR	
		2.5-3.0			0.0	15% COPR	
		3.0-3.5			0.0	15% COPR	
		3.5-4.0			0.0	5% COPR	
		4.0-4.5			0.0	5% COPR	
		4.5-5.0			asphalt-type gravel	GP	4.5-5.0
10.0	100%	5.0-5.5	shells, fill material	GW	5.0-5.5	0.0	
		5.5-6.0	brown SAND, slightly moist	SP	5.5-6.0	1.5	
		6.0-6.5			6.0-6.5	0.5	
		6.5-7.0	brick material	GW		22.4	
		7.0-7.5	black 3-inch layer			16.9	
		7.5-8.0	gray SAND and gravel	SW		0.7	
		8.0-8.5			0.3		
		8.5-9.0			0.5		
		9.0-9.5	green gray SAND and gravel, clay	SW/SC		0.1	
		9.5-10.0			0.0		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - CD001

DATE STARTED: 07.30.2013 DATE COMPLETED: 07.31.2013
 Northing: 680213.5071 Easting: 612120.0114 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 77° F, Partly Cloudy
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0 - 1.5	light gray brown SAND, SILT, and fine to medium angular gravel (pebbles), trace COPR	SP		0.0	5% COPR
						0.0	5% COPR
		2.5 - 5.0	light brown to gray SILT with sand and gravel, some wood pieces at 4 feet, saturated at 4.5 feet, trace COPR	ML		0.0	5% COPR
						0.0	trace COPR
						2.3	trace COPR
						12.8	trace COPR
				4.0-4.5			
					4.5-5.0		
10.0	100%	5.0 - 7.0	brown to gray SILT with trace clay, saturated at top to moist at bottom	OH		0.3	
						0.2	
						0.5	
				9.0 - 10.0	brown clayey SILT with organics (meadow mat), moist	OH/PT	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - CD002

DATE STARTED: 07.30.2013 DATE COMPLETED: 07.31.2013
 Northing: 680238.4927 Easting: 612136.6818 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 77° F, Partly Cloudy
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0 - 4.0	gray to dark gray SAND, some silt and gravel (angular pebbles), trace COPR, moist	SP		0.4	5% COPR
						46.9	trace COPR
						370.0	trace COPR
						170	trace COPR
							5% COPR
		4.0 - 9.0	grayish brown with dark gray striations SILT, moist, trace COPR 4-5 feet	OH	4.5-5.0		
					6.0-6.5	23.0	
					6.5-7.0		
					7.0-7.5	0.9	
				7.5-8.0			
						0.2	
10.0		9.0 - 10.0	brown clayey SILT with organics (meadow mat), moist	OH/PT		0.4	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD			
SOIL BORING - CD003					
		DATE STARTED: 07.30.2013	DATE COMPLETED: 07.31.2013		
Northing: 680262.2314	Easting: 612155.0251	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft		
Geologist: Spencer Waybrant		WEATHER: 77° F, Partly Cloudy			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1			

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks			
5.0	100%	0.0 - 3.0	gray to dark gray SAND, some silt and gravel (angular pebbles), trace COPR, moist	SP		0.4	5% COPR			
							46.9	5% COPR trace COPR		
							370.0	trace COPR		
				3.0 - 5.0	grayish brown SILT with some sand and gravel (medium to coarse)	ML	3.5-4.0	3.5	trace COPR	
								4.0-4.5	0.6	
								4.5-5.0		
10.0	70%	5.0 - 6.5	no recovery			127.0				
		6.5-7.0	grayish brown clayey SILT, moist, with brown striations	OH	6.5-7.0	50.9				
		7.0 - 9.0	light brown SILT with some fine to medium angular gravel	OH		7.0-7.5	0.9			
						7.5-8.0				
		9.0 - 10.0	dark brown clayey SILT with organics (meadow mat), moist	OH/PT		4.4				

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - CD004

DATE STARTED: 08.05.2013 DATE COMPLETED: 08.05.2013
 Northing: 680285.9701 Easting: 612173.3683 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 60's°F, sunny
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks			
5.0	30%	0.0-0.5	no recovery	ML						
		0.5-1.0								
		1.0-1.5								
		1.5-2.0								
		2.0-2.5								
		2.5-3.0								
		3.0-3.5								
		3.5-4.0	gray brown SILT, some sand, 1/4" COPR nodule, moist						0.1	5% COPR
		4.0-4.5							0.1	trace COPR
		4.5-5.0	fine to medium angular pebbles and another 1/4" COPR nodule					GW	0.6	5% COPR
10.0	60%	5.0-5.5	no recovery	ML/SW						
		5.5-6.0								
		6.0-6.5								
		6.5-7.0								
		7.0-7.5	gray to brown gray SILT with sand and fine to medium to coarse subrounded pebbles, moist						7.0-7.5	0.8
		7.5-8.0							7.5-8.0	0.5
		8.0-8.5							8.0-8.5	0.4
		8.5-9.0							8.5-9.0	0.3
		9.0-9.5								0.3
		9.5-10.0	same as above, except red brown							0.4

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD005			
		DATE STARTED: 08.02.2013	DATE COMPLETED: 08.02.2013
Northing: 680309.7407	Easting: 612191.7363	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		WEATHER: 70°F, sunny, humid	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	gravel	GP			COPR	
		0.5-1.0	gray SAND, large gravel	SW				
		1.0-1.5	SILT, gravel, dark brown (all magnetic soil)	ML				
		1.5-2.0	liner					
		2.0-2.5	concrete, light gray					
		2.5-3.0	brown silty SAND, gravel	SW				
		3.0-3.5	cobbles, angular	GP				
		3.5-4.0	dark gray SILT, gravel	ML				35.9
		4.0-4.5						16.0
		4.5-5.0						
10.0	100%	5.0-5.5	red brown SILT with large gravel, subrounded	ML	5.0-5.5	1.2		
		5.5-6.0			5.5-6.0	1.3		
		6.0-6.5			6.0-6.5	1.8		
		6.5-7.0				1.8		
		7.0-7.5	dark gray SILT	OL				
		7.5-8.0						
		8.0-8.5	dark brown, SILT (meadow mat)			1.2		
		8.5-9.0				1.1		
		9.0-9.5				1.8		
		9.5-10.0						

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD006			
		DATE STARTED: 08.05.2013	DATE COMPLETED: 08.05.2013
Northing: 680333.8446	Easting: 612210.4165	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 60's°F, sunny	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	60%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5					
		1.5-2.0					
		2.0-2.5	gray silty SAND, moist. Liner at 2.5 ft	SM		1.4	5% COPR
		2.5-3.0	gray brown sandy SILT with subrounded and subangular medium to fine pebbles, moist	ML/GW		48.4	trace COPR
		3.0-3.5				11.1	5% COPR
		3.5-4.0				269.8	5% COPR
		4.0-4.5	grayish brown SILT with sand and trace fine to medium subangular pebbles			221.0	trace COPR
		4.5-5.0				399.0	trace COPR
10.0	60%	5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5					
		6.5-7.0					
		7.0-7.5	gray brown sandy SILT with fine to coarse subrounded pebbles, moist	ML/GW	7.0-7.5	8.5	
		7.5-8.0			7.5-8.0	3.1	
		8.0-8.5	same as above, except fine to medium subrounded pebbles		8.0-8.5	2.5	
		8.5-9.0	dark brown to dark gray SILT with some clay and organic material (meadow mat)	OL	8.5-9.0	4.9	
		9.0-9.5				2.7	
		9.5-10.0				6.2	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD007			
		DATE STARTED: 08.01.2013	DATE COMPLETED: 08.01.2013
Northing:	Easting:	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 70's°F, partly cloudy	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	light brown SILT with some sand, moist	SP		0.5	trace COPR		
		0.5-1.0				1.0	10% COPR		
		1.0-1.5	gray brown to dark gray SAND, some silt, angular fine to medium pebbles, small chunks of coal, yellow staining (evidence of possible hex chromium impacts). Liner at 15 inches			335	15% COPR		
		1.5-2.0							
		2.0-2.5							
		2.5-3.0							
		3.0-3.5	dark gray brown SILT with sand and gravel, moist, small pieces of coal	ML	3.0-3.5	15.7			
		3.5-4.0			3.5-4.0		1.5		
		4.0-4.5			4.0-4.5				
		4.5-5.0			4.5-5.0				
10.0	80%	5.0-5.5	no recovery	OH		0.3			
		5.5-6.0							
		6.0-6.5	grayish brown SILT with seashells and subrounded fine to medium gravel, saturated			0.4			
		6.5-7.0							
		7.0-7.5							
		7.5-8.0							
		8.0-8.5							
		8.5-9.0							
		9.0-9.5	dark brown clayey SILT with organics (meadow mat), moist			OH/PT		0.3	
		9.5-10.0							

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD008			
		DATE STARTED: 08.01.2013	DATE COMPLETED: 08.01.2013
Northing:	Easting:	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 70's°F, partly cloudy	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	80%	0.0-0.5	no recovery	SP			
		0.5-1.0					
		1.0-1.5	light gray to gray SAND and SILT, fine to medium angular pebbles, some to trace silt				
		1.5-2.0					
		2.0-2.5					
		2.5-3.0					
		3.0-3.5	dark gray brown SILT with sand and gravel, moist, subrounded pebbles with few pieces of coal	ML		0.4	
		3.5-4.0					
		4.0-4.5					
		4.5-5.0					
10.0	70%	5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5					
		6.5-7.0	light brown SILT, moist to dark brown clayey SILT with some sand toward the bottom	OH	6.5-7.0	0.3	
		7.0-7.5					
		7.5-8.0					
		8.0-8.5					
		8.5-9.0	dark brown to dark gray clayey SILT with organics (meadow mat), moist	OH/PT		0.2	
		9.0-9.5					
		9.5-10.0					

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD009			
		DATE STARTED: 08.02.2013	DATE COMPLETED: 08.02.2013
Northing:	Easting:	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 70's°F, partly cloudy	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	60%	0.0-0.5	no recovery			0.5			
		0.5-1.0							
		1.0-1.5							
		1.5-2.0							
		2.0-2.5	light gray to gray SAND and SILT, fine to medium angular pebbles, some to trace silt	SP		0.3		trace COPR	
		2.5-3.0							
		3.0-3.5	grayish brown SILT with some sand and gravel, fine to medium subangular pebbles, moist	ML				0.4	trace COPR
		3.5-4.0							
		4.0-4.5							
		4.5-5.0							
10.0	90%	5.0-5.5	no recovery			0.3			
		5.5-6.0	gray brown SILT with some sand and fine to medium subangular pebbles						
		6.0-6.5	gray brown clayey SILT, saturated						
		6.5-7.0							
		7.0-7.5	gray brown SILT with sand and fine to medium subrounded pebbles, some clay, moist	ML				0.5	
		7.5-8.0							
		8.0-8.5		OH/PT				0.2	
		8.5-9.0	dark brown to dark gray SILT with some clay, organic matter (meadow mat), moist						
		9.0-9.5							
		9.5-10.0							

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD010			
		DATE STARTED: 09.10.2013	DATE COMPLETED: 09.10.2013
Northing: 680428.1646	Easting: 612283.1897	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	SAND and gravel	SW			5% COPR
		0.5-1.0	brown SAND, fine, dry	SP		0.0	5% COPR
		1.0-1.5	greenish gray fine SAND			0.0	
		1.5-2.0				7.5	15% COPR
		2.0-2.5	dark gray Gravel with sand, COPR impact	SW		634.2	80% COPR
		2.5-3.0				109.7	15% COPR
		3.0-3.5	SAND and gravel	GW		121.3	5% COPR
		3.5-4.0	concrete pieces			34.2	5% COPR
		4.0-4.5				22.1	
		4.5-5.0	brown sandy SILT, fine	ML		4.5-5.0	7.4
10.0	100%	5.0-5.5	sand, moist	SP	5.0-5.5	2.9	
		5.5-6.0	brown SAND, some gravel, wet	SW	5.5-6.0	4.5	
		6.0-6.5			6.0-6.5	4.8	
		6.5-7.0		PT		11.9	
		7.0-7.5	meadow mat (black organic)		2.4		
		7.5-8.0			0.1		
		8.0-8.5			5.0		
		8.5-9.0			5.0		
		9.0-9.5		1.6			
		9.5-10.0		0.0			

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD011			
		DATE STARTED: 09.09.2013	DATE COMPLETED: 09.09.2013
Northing: 680452.0476	Easting: 612302.163	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	gray SAND and gravel	SW				
		0.5-1.0	gray SAND, fine	SP		2.6		
		1.0-1.5				2.6		
		1.5-2.0				0.8	15% COPR	
		2.0-2.5				4.7	15% COPR	
		2.5-3.0				34.7	15% COPR	
		3.0-3.5				117.2	15% COPR	
		3.5-4.0	black gravel, saturated, COPR, slag			GW	46.6	60% COPR
		4.0-4.5					12.2	60% COPR
		4.5-5.0	brown SAND and gravel				4.5-5.0	12.4
10.0	100%	5.0-5.5			SW	5.0-5.5	9.4	
		5.5-6.0		5.5-6.0				
		6.0-6.5		6.0-6.5		1.3		
		6.5-7.0				1.1		
		7.0-7.5	gray SAND, some gravel subangular				0.6	
		7.5-8.0					0.3	
		8.0-8.5	meadow mat, organic	PT			0.3	
		8.5-9.0				0.3		
		9.0-9.5				0.8		
		9.5-10.0				0.4		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD012			
		DATE STARTED: 09.09.2013	DATE COMPLETED: 09.09.2013
Northing: 680475.4529	Easting: 612320.1939	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	light gray sand and gravel, dry	SW			
		0.5-1.0					
		1.0-1.5	gray SAND and gravel, trace COPR, moist				
		1.5-2.0					
		2.0-2.5					
		2.5-3.0	black SILT, wood pieces, wet, organic, petroleum odor	OL	40.7	80% COPR	
		3.0-3.5					
		3.5-4.0					
		4.0-4.5	black SILT and gravel	ML	127.6	60% COPR	
		4.5-5.0					
10.0	100%	5.0-5.5		SW	5.0-5.5	41.7	
		5.5-6.0	gray SAND and gravel		5.5-6.0	21.3	
		6.0-6.5	large gravel subrounded	GP	6.0-6.5		
		6.5-7.0			7.1		
		7.0-7.5					
		7.5-8.0			2.4		
		8.0-8.5					
		8.5-9.0			0.7		
		9.0-9.5					
		9.5-10.0			1.5		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD013			
		DATE STARTED: 09.09.2013	DATE COMPLETED: 09.09.2013
Northing: 680499.7778	Easting: 612338.5811	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	light gray fine SAND and gravel	SW					
		0.5-1.0						0.0	5% COPR
		1.0-1.5	green gray SAND and gravel					0.0	5% COPR
		1.5-2.0	liner	0.0					
		2.0-2.5	brown CLAY and gravel	CL				0.0	5% COPR
		2.5-3.0	abundant gravel, trace COPR (magnetic), slag material, moist	GW				0.0	15% COPR
		3.0-3.5						45.5	
		3.5-4.0						20.5	15% COPR
		4.0-4.5						24.7	
		4.5-5.0						21.3	5% COPR
10.0	100%	5.0-5.5	gray clayey SAND, moist, gravel	SC/SW	5.0-5.5	17.7			
		5.5-6.0			5.5-6.0	2.0			
		6.0-6.5			6.0-6.5	0.1			
		6.5-7.0			6.5-7.0	0.4			
		7.0-7.5				0.1			
		7.5-8.0			0.1				
		8.0-8.5	red brown clay, moist	OH		0.1			
		8.5-9.0							
		9.0-9.5	meadow mat, black organic	PT					
		9.5-10.0				0.0			

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - CD014

DATE STARTED: 08.08.2013 DATE COMPLETED: 08.08.2013
 Northing: 680523.5484 Easting: 612356.9491 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 70's°F, overcast, very humid
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	70%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5					
		1.5-2.0	gray angular and subangular and subrounded pebbles, some silt and sand, moist	SW		0.0	trace COPR
		2.0-2.5	light gray brown SILT, some sand, moist	ML		0.0	trace COPR
		2.5-3.0	light brown gray silty SAND, moist	SM		0.0	trace COPR
		3.0-3.5	gray sandy SILT and subangular gravel, saturated	ML		3.0	5% COPR
		3.5-4.0	dark gray subangular pebbles with silt and sand, saturated	SW		0.0	5% COPR
		4.0-4.5	dark gray brown clayey SILT with subrounded fine to medium pebbles, moist	ML		2.6	trace COPR
		4.5-5.0	dark gray brown silty SAND with dark gray striations, moist	SM	4.5-5.0	484.0	
10.0	40%	5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5					
		6.5-7.0					
		7.0-7.5					
		7.5-8.0					
		8.0-8.5	gray brown sandy SILT with subrounded fine to medium pebbles	ML	8.0-8.5	481.0	
		8.5-9.0	light brown clayey SILT, moist (some sand)		8.5-9.0	37.3	
		9.0-9.5	light brown sandy SILT, saturated		9.0-9.5	14.6	
		9.5-10.0	dark gray to dark brown SILT, some sand and clay, organic matter (meadow mat), moist	OL/PT	9.5-10.0	7.2	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD015			
		DATE STARTED: 08.08.2013	DATE COMPLETED: 08.08.2013
Northing: 680547.2871	Easting: 612375.2923	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		0.0-0.5	gravel	GP			
		0.5-1.0	brown SAND and gravel. Liner at 1 foot	SW		9.7	15% COPR
		1.0-1.5	pink rubber piece			124.2	15% COPR
		1.5-2.0	black brown SAND and gravel			284.4	15% COPR
		2.0-2.5			2.0-2.5	256.2	
	100%	2.5-3.0	gray black SAND and gravel	SW		189.1	15% COPR
		3.0-3.5				42.9	15% COPR
		3.5-4.0				22.5	15% COPR
		4.0-4.5	dark brown sandy SILT			11.9	5% COPR
		4.5-5.0				2.0	
5.0		5.0-5.5			5.0-5.5	3.0	
		5.5-6.0	gray sandy SILT			14.9	
		6.0-6.5		ML		10.1	
		6.5-7.0	gray sandy SILT, some gravel			1.8	
		7.0-7.5				4.3	
	100%	7.5-8.0					
		8.0-8.5	SAND, silty	SM		0.3	
		8.5-9.0					
		9.0-9.5	meadow mat			0.5	
		9.5-10.0	organic	PT		0.2	
10.0							

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD016			
		DATE STARTED: 08.08.2013	DATE COMPLETED: 08.08.2013
Northing: 680571.391	Easting: 612393.9726	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks			
5.0	100%	0.0-0.5	gray SAND and gravel	SW						
		0.5-1.0						2.2	15% COPR	
		1.0-1.5	black silty SAND and gravel, wood material	SM				7.8	15% COPR	
		1.5-2.0							15% COPR	
		2.0-2.5							15% COPR	
		2.5-3.0						56.3	15% COPR	
		3.0-3.5	brown sandy SILT	ML					5% COPR	
		3.5-4.0	black silty SAND and gravel	SM				3.5-4.0	68.3	15% COPR
		4.0-4.5							10.2	15% COPR
		4.5-5.0							16.2	15% COPR
10.0	100%	5.0-5.5	gray sandy SILT	ML	5.0-5.5	5.2				
		5.5-6.0			5.5-6.0	0.0				
		6.0-6.5	tan silty SAND	SM	6.0-6.5	0.0				
		6.5-7.0	gray sandy SILT	ML	6.5-7.0	0.0				
		7.0-7.5								
		7.5-8.0	black organic material	PT		0.0				
		8.0-8.5	meadow mat							
		8.5-9.0				0.0				
		9.0-9.5								
		9.5-10.0				1.2				

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - CD017

DATE STARTED: 08.08.2013 DATE COMPLETED: 08.08.2013
 Northing: 680594.7964 Easting: 612412.0035 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 70's°F, overcast, very humid
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	80%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5	dark gray brown sandy SILT with subrounded fine to coarse pebbles, moist. Liner at 16 inches	ML		0.0	15% COPR
		1.5-2.0				1.3	5% COPR
		2.0-2.5	dark gray medium to coarse SAND with subrounded fine to medium pebbles, some silt, moist	SW		8.0	5% COPR
		2.5-3.0	same as above with chunks of wood, moist			0.0	trace COPR
		3.0-3.5				0.3	trace COPR
		3.5-4.0	same as above, light brown with gray striations			0.0	trace COPR
		4.0-4.5	same as above, gray to dark gray			0.0	trace COPR
		4.5-5.0	gray brown SILT with sand, moist	ML		0.0	
10.0	80%	5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5	reddish light brown sandy SILT with subrounded fine to medium pebbles, moist	ML	6.0-6.5	0.0	
		6.5-7.0			6.5-7.0	0.0	
		7.0-7.5	light brown SILT, some sand, moist		7.0-7.5	0.0	
		7.5-8.0	same as above with gray brown striations		7.5-8.0	0.0	
		8.0-8.5				0.0	
		8.5-9.0				0.0	
		9.0-9.5	dark brown to dark gray SILT with organic matter, trace clay and sand (meadow mat), moist	ML/PT		0.0	
		9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - CD018			
		DATE STARTED: 09.12.2013	DATE COMPLETED: 09.12.2013
Northing: 680618.2017	Easting: 612430.0345	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gravel	GP			
		0.5-1.0	brown SAND and gravel, slightly moist, loose (fill)	SW		0.0	trace COPR
		1.0-1.5			0.0	60% COPR	
		1.5-2.0			0.0	60% COPR	
		2.0-2.5			0.0	60% COPR	
		2.5-3.0	dark gray SAND and gravel, slightly moist, loose		0.0	15% COPR	
		3.0-3.5			0.0	15% COPR	
		3.5-4.0			0.0	5% COPR	
		4.0-4.5	0.0		5% COPR		
		4.5-5.0	yellowish brown SAND and gravel, moist			4.5-5.0	0.0
10.0	100%	5.0-5.5			SC	5.0-5.5	0.0
		5.5-6.0	gray clayey SAND, and some gravel	5.5-6.0		0.0	
		6.0-6.5		6.0-6.5		0.0	
		6.5-7.0		0.0			
		7.0-7.5		0.0			
		7.5-8.0	light orange sandy CLAY and gravel	CL/GC	0.0		
		8.0-8.5			0.0		
		8.5-9.0			0.0		
		9.0-9.5			0.0		
		9.5-10.0			0.0		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - CD019

DATE STARTED: 09.12.2013 DATE COMPLETED: 09.12.2013

Northing: 680630.985 Easting: 612461.895 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft

Geologist: Jeff Alexander

DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	gravel	GP				
		0.5-1.0	dark brown SAND and gravel, some COPR, slag	SW		0.0	15% COPR	
		1.0-1.5						
		1.5-2.0			0.0	15% COPR		
		2.0-2.5					15% COPR	
		2.5-3.0			30.5	15% COPR		
		3.0-3.5					15% COPR	
		3.5-4.0			106.3	5% COPR		
		4.0-4.5			yellowish SAND and gravel, moist		4.0-4.5	
		4.5-5.0			4.5-5.0	1.2		
10.0	100%	5.0-5.5	dark brown SAND and gravel, wood material, wet		5.0-5.5			
		5.5-6.0			5.5-6.0	22.1		
		6.0-6.5	brick material (red brown)					
		6.5-7.0	light gray sandy CLAY, wet	CL		48.2		
		7.0-7.5						
		7.5-8.0			1.2			
		8.0-8.5						
		8.5-9.0			0.0			
9.0-9.5								
9.5-10.0				0.0				

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - DD001

DATE STARTED: 07.30.2013 DATE COMPLETED: 07.31.2013
 Northing: 680255.9534 Easting: 612112.2866 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 77° F, Partly Cloudy
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	hand auger	0.0 - 3.0	gray to dark gray SAND, some silt and gravel (angular pebbles), trace COPR, moist	SW		0.0	5% COPR	
						0.0	5% COPR	
						0.0	trace COPR	
		3.0 - 5.0	grayish brown SILT with some sand and gravel (pebbles)	ML		2.1		
						145		
10.0	60%	5.0 - 8.0	gray SILT with angular to subrounded fine to coarse gravel (pebbles)	OH				
						7.0-7.5	645	
						7.5-8.0		
						8.0-8.5	24.4	
					8.5-9.0			
		8.0 - 10.0	dark gray to gray brown clayey SILT with organic matter (meadow mat)	OH/PT		68.1		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - DD002			
		DATE STARTED: 08.05.2013	DATE COMPLETED: 08.05.2013
Northing: 680303.796	Easting: 612149.3101	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	brown SAND with roots	SP		0.3	COPR	
		0.5-1.0	brown SAND and gravel, COPR-impacted (magnetic)	SW		0.6		
		1.0-1.5				0.3		
		1.5-2.0				0.3		
		2.0-2.5						
		2.5-3.0	black gravel, wet	GP				COPR
		3.0-3.5	some COPR			1.6		
		3.5-4.0				0.6		
		4.0-4.5	trace COPR			0.8	trace COPR	
		4.5-5.0	wood	PT		0.3		
10.0	80%	5.0-5.5	no recovery (or just compression)					
		5.5-6.0						
		6.0-6.5	sandy SILT and gravel, subangular	ML/GM		6.0-6.5		
		6.5-7.0				6.5-7.0	0.8	
		7.0-7.5				7.0-7.5	0.7	
		7.5-8.0				7.5-8.0	0.7	
		8.0-8.5				0.6		
		8.5-9.0				0.3		
		9.0-9.5				0.6		
		9.5-10.0	meadow mat	PT		0.7		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - DD003

DATE STARTED: 08.05.2013 DATE COMPLETED: 08.05.2013
 Northing: 680351.3053 Easting: 612186.0213 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 60's°F, sunny
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	80%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5	gray fine to medium subangular pebbles, sand and silt, moist. Liner at 17 inches	SW		0.4	5% COPR
		1.5-2.0	grayish brown SILT with sand and fine to medium angular pebbles, moist	ML		27.5	15% COPR
		2.0-2.5	dark gray to black fine to medium angular pebbles, sand, silt, some slag	SW	2.0-2.5	1066.0	5% COPR
		2.5-3.0	gray brown SILT with sand and fine to medium subangular pebbles, moist	ML		59.6	trace COPR
		3.0-3.5	grayish dark brown SILT, some sand, saturated			92.5	
		3.5-4.0				34.7	
		4.0-4.5	grayish brown SILT with sand and subrounded fine to medium pebbles		4.0-4.5	17.6	
		4.5-5.0			4.5-5.0	5.2	
10.0	80%	5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5	brown to gray SILT with sand with subrounded fine to coarse pebbles, moist	ML	6.0-6.5	11.3	
		6.5-7.0			6.5-7.0	1.9	
		7.0-7.5				1.8	
		7.5-8.0				0.7	
		8.0-8.5	dark gray and dark brown SILT with some clay and organic matter (meadow mat), moist	OH/PT		6.6	
		8.5-9.0				3.0	
		9.0-9.5				6.0	
		9.5-10.0				7.1	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - DD004			
		DATE STARTED: 08.01.2013	DATE COMPLETED: 08.01.2013
Northing: 680398.8146	Easting: 612222.7326	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 77° F, Partly Cloudy	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0 - 1.0	brownish gray SAND, some silt and gravel (angular pebbles), trace COPR	SW		0.4	trace COPR
		1.0 - 2.5	dark gray fine SAND and gravel, moist, trace COPR, yellow staining (evidence of possible hex chromium impacts)			46.9	5% COPR 50% COPR 60% COPR
		2.5 - 5.0	light brown to gray SILT with sand and gravel, some wood pieces at 4 feet, saturated at 4.5 feet, trace COPR	ML		370.0	5% COPR trace COPR
10.0	100%	5.0 - 7.0	grayish brown clayey SILT, moist, with brown striations	OH	5.0-5.5	127.0	
					5.5-6.0		
		7.0 - 10.0	Brown clayey SILT with organics (meadow mat), moist	OH/PT	6.0-6.5	50.9	
					6.5-7.0	0.9	
						1.3	
						4.4	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - DD005			
		DATE STARTED: 09.12.2013	DATE COMPLETED: 09.12.2013
Northing: 680445.6253	Easting: 612258.7945	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	light gray SAND and gravel, fine	SW		4.2	10% COPR		
		0.5-1.0							
		1.0-1.5	medium to large gravel	GP				9.4	80% COPR
		1.5-2.0	brown SAND and gravel, COPR (magnetic)	SW				18.1	80% COPR
		2.0-2.5							
		2.5-3.0	dark gray SAND and gravel	GP				32.1	15% COPR
		3.0-3.5	slag material					106.2	15% COPR
		3.5-4.0							
		4.0-4.5	green gray CLAY/SAND	CL/SC		4.0-4.5		80.3	
		4.5-5.0				4.5-5.0		57.6	
10.0	100%	5.0-5.5		SC	5.0-5.5	43.2			
		5.5-6.0	tan SAND, clayey, wet		5.5-6.0	65.3			
		6.0-6.5				23.2			
		6.5-7.0				8.6			
		7.0-7.5				0.0			
		7.5-8.0				0.0			
		8.0-8.5				0.0			
		8.5-9.0	meadow mat, brown black organics		PT		0.0		
		9.0-9.5					0.0		
		9.5-10.0					0.0		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - DD006			
		DATE STARTED: 08.07.2013	DATE COMPLETED: 08.07.2013
Northing: 680493.1345	Easting: 612295.5057	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks			
5.0	100%	0.0-0.5	gravel	GP						
		0.5-1.0	gray silty SAND and gravel, moist, roots	SM/SW				0.5	5% COPR	
		1.0-1.5						0.3	5% COPR	
		1.5-2.0	gray silty SAND and gravel. Liner at 2 feet.					0.2	5% COPR	
		2.0-2.5	gray green SILTY SAND	SM				18.1		
		2.5-3.0	black SAND and gravel	SW				2.5-3.0	146.2	5% COPR
		3.0-3.5						10.2	5% COPR	
		3.5-4.0	"fly ash" sandy gravel "slag"					1.4	5% COPR	
		4.0-4.5	silty SAND and gravel	SM/SW				0.4	5% COPR	
		4.5-5.0	dark gray silty SAND	SM				4.5-5.0	0.5	
10.0	100%	5.0-5.5	gray SAND and large gravel subrounded	SW	5.0-5.5	0.7				
		5.5-6.0			5.5-6.0	0.3				
		6.0-6.5			6.0-6.5	2.1				
		6.5-7.0			1.0					
		7.0-7.5			0.3					
		7.5-8.0			0.0					
		8.0-8.5			0.1					
		8.5-9.0	organic material, roots		PT	0.1				
		9.0-9.5	meadow mat	0.0						
		9.5-10.0		0.0						

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - DD007			
		DATE STARTED: 08.07.2013	DATE COMPLETED: 08.07.2013
Northing: 680541.0091	Easting: 612332.5539	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gravel	GP			
		0.5-1.0	dark brown SAND and gravel	SW		0.0	5% COPR
		1.0-1.5				0.1	10% COPR
		1.5-2.0	same as above, nodules, magnetic			0.0	30% COPR
		2.0-2.5				0.2	30% COPR
		2.5-3.0	dark brown SAND and gravel			2.6	50% COPR
		3.0-3.5				3.6	50% COPR
		3.5-4.0				0.0	15% COPR
		4.0-4.5	brown sandy SILT		ML		0.0
		4.5-5.0		4.5-5.0		0.1	
10.0	100%	5.0-5.5	brown sandy SILT some gravel	ML/GM		5.0-5.5	0.0
		5.5-6.0				5.5-6.0	0.2
		6.0-6.5				6.0-6.5	0.1
		6.5-7.0					0.0
		7.0-7.5				0.0	
		7.5-8.0	organic material (meadow mat)	PT			0.0
		8.0-8.5					0.0
		8.5-9.0					0.0
		9.0-9.5					0.0
		9.5-10.0					0.0
						0.0	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - DD008			
		DATE STARTED: 08.09.2013	DATE COMPLETED: 08.09.2013
Northing: 680588.8517	Easting: 612369.5774	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	gravel	GP				
		0.5-1.0	gray SAND and gravel small to pebble sized	SW		7.8	20% COPR	
		1.0-1.5					20% COPR	
		1.5-2.0				9.4	10% COPR	
		2.0-2.5					10% COPR	
		2.5-3.0	"slag" material	ML			5.8	15% COPR
		3.0-3.5					10% COPR	
		3.5-4.0	"slag" material, some magnetic				10% COPR	
		4.0-4.5	red brown sandy SILT, pebbles	ML			898.1	
		4.5-5.0					4.5-5.0	
10.0	100%	5.0-5.5	red brown sandy SILT	SM		10.2		
		5.5-6.0	brown silty SAND					5.5-6.0
		6.0-6.5						6.0-6.5
		6.5-7.0						6.5-7.0
		7.0-7.5	black organics, roots (meadow mat)	PT				
		7.5-8.0						
		8.0-8.5						
		8.5-9.0						
		9.0-9.5						
		9.5-10.0						

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - DD009			
		DATE STARTED: 08.08.2013	DATE COMPLETED: 08.08.2013
Northing: 680603.908	Easting: 612388.409	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	gravel	GP				
		0.5-1.0	gray SAND and gravel	SW		0.0	5% COPR	
		1.0-1.5				0.7	5% COPR	
		1.5-2.0	dark gray sand and gravel, slag				15% COPR	
		2.0-2.5				10.9	15% COPR	
		2.5-3.0					0.7	5% COPR
		3.0-3.5						5% COPR
		3.5-4.0	brown SAND and medium gravel				0.0	5% COPR
		4.0-4.5	red brown silty SAND and large gravel					
		4.5-5.0					0.0	
10.0	100%	5.0-5.5	red brown silty SAND and small gravel blue-green pebbles		SM/SW		0.0	
		5.5-6.0			5.5-6.0	0.0		
		6.0-6.5			6.0-6.5	0.0		
		6.5-7.0	gray SAND and gravel	SW	6.5-7.0	0.0		
		7.0-7.5			7.0-7.5	0.0		
		7.5-8.0				0.0		
		8.0-8.5	black organic (meadow mat)	PT		0.0		
		8.5-9.0				0.0		
		9.0-9.5				0.0		
		9.5-10.0				0.0		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - ED001			
		DATE STARTED: 07.29.2013	DATE COMPLETED: 07.31.2013
Northing: 680249.6871	Easting: 612069.5318	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Spencer Waybrant		WEATHER: 77° F, Partly Cloudy	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0 - 1.0	gray brown SAND, angular gravel (fine to medium pebbles)	SW		0.0	5% COPR trace COPR	
		1.0 - 2.5	dark gray fine SAND and gravel, moist, trace COPR, yellow staining (evidence of possible hex chromium impacts)			0.0	trace COPR trace COPR	
		2.5 - 5.0	light brown to gray SILT with sand and gravel, some wood pieces at 4 feet, saturated at 4.5 feet, trace COPR		ML		0.0	trace COPR
						0.0	trace COPR	
						4.0-4.5	58.2	trace COPR
						4.5-5.0		
10.0	100%	5.0 - 8.0	brownish gray SILT with some sand and gravel, fine to medium angular pebbles, seashells and organic material toward bottom	OH	5.0-5.5	258		
					5.5-6.0		24.4	
							175	
							367	
		8.0 - 12.0			45.2			

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD			
SOIL BORING - ED002					
		DATE STARTED: 07.29.2013	DATE COMPLETED: 07.31.2013		
Northing: 680273.4258	Easting: 612087.875	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft		
Geologist: Spencer Waybrant		WEATHER: 70's° F, Partly Cloudy			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1			

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0 - 3.0	gray brown SAND, angular fine to coarse gravel	SW		0.0	5% COPR trace COPR trace COPR trace COPR trace COPR trace COPR
						0.0	
						0.0	
		3.0 - 5.0	dark gray brown SILT with sand and gravel, moist to saturated	ML		25.2	
						4.0-4.5	
						4.5-5.0	
10.0	100%	5.0 - 7.0	grayish brown SILT with seashells and subrounded fine to medium gravel, moist	OH		N/A	
						6.0-6.5	192
						6.5-7.0	
		7.0 - 9.0	grayish brown with dk brown striations SILT, moist			197	
						195	
		9.0 - 10.0	dark gray clayey SILT, moist			264	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**

SOIL BORING - ED003

DATE STARTED: 08.01.2013 DATE COMPLETED: 08.01.2013

Northing: 680297.1645 Easting: 612106.22 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft

Geologist: Spencer Waybrant WEATHER: 70° 's F, Partly Cloudy

DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0 - 3.0	gray brown SAND and SILT, angular gravel	SM		0.0	trace COPR
						0.0	5% COPR
						0.0	15% COPR
		3.0 - 5.0	dark gray brown SILT with sand and gravel, moist	ML		0.0	5% COPR
						4.0-4.5	trace COPR
						4.5-5.0	0.0
10.0	60%	5.0 - 7.0	no recovery			N/A	
						N/A	
		7.0 - 9.0	grayish brown SILT with seashells and subrounded fine to medium gravel, moist	OH	7.0-7.5	6.3	
					7.5-8.0		
						0	
		9.0 - 10.0	dark brown clayey SILT with organics (meadow mat), moist	OH/PT		0.4	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - ED004

DATE STARTED: 08.06.2013 DATE COMPLETED: 08.06.2013
 Northing: 680344.6738 Easting: 612142.9295 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 60's°F, sunny
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	70%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5					
		1.5-2.0	gray medium to fine subrounded and angular pebbles	GP		0.0	
		2.0-2.75	light brown to gray to dark gray silty SAND, moist	SM		7.1	
		2.75-3.0	dark gray silty SAND with angular fine pebbles, moist			1060.0	
		3.0-3.5	light gray/brown fine angular pebbles with coal chunks (fly ash)	GW	3.0-3.5	2631.0	
		3.5-4.0	gray brown SILT with some sand with dark gray brown striations and fine to medium subrounded to rounded pebbles, moist	ML		41.9	
		4.0-4.5				24.3	
		4.5-5.0	red brown silty SAND, moist	SM	4.5-5.0	40.6	
10.0	50%	5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5					
		6.5-7.0					
		7.0-7.5					
		7.5-8.0	brown SILT with some sand, moist	ML	7.5-8.0	893.3	
		8.0-8.5	brown SILT with some sand, saturated		8.0-8.5	311.5	
		8.5-9.0	brown to dark brown to dark gray SILT with trace clay and sand, with organic matter (meadow mat), moist	OH/PT		70.6	
		9.0-9.5				40.9	
		9.5-10.0				30.9	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - ED005

DATE STARTED: 08.06.2013 DATE COMPLETED: 08.06.2013
 Northing: 680368.7542 Easting: 612161.6426 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 60's°F, sunny
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	80%	0.0-0.5	no recovery					
		0.5-1.0						
		1.0-1.5	gray fine to medium subrounded and subangular PEBBLES, dry	GP		0.0	trace COPR	
		1.5-2.0	same as above with silt and sand, moist	GP/GM		0.0	trace COPR	
		2.0-2.5	gray to dark gray SAND with some silt, moist	SM		3.8	trace COPR	
		2.5-3.33	dark gray to black coarse SAND with fine angular pebbles and silt, saturated	SW		939.0	10% COPR	
		3.33-3.5	grayish brown SILT with some sand and chunks of lignite coal, moist	ML		189.5	trace COPR	
		3.5-4.0				132.0	trace COPR	
		4.0-4.5	same as above, except subrounded fine pebbles, moist, and no coal	ML/GM		4.0-4.5	189.1	
		4.5-5.0	red brown sandy SILT with subrounded medium to fine pebbles, moist			4.5-5.0	5.2	
10.0	80%	5.0-5.5	no recovery					
		5.5-6.0						
		6.0-6.5	grayish brown sandy SILT with subrounded fine to medium pebbles, moist	ML/GM		6.0-6.5	887.0	
		6.5-7.0				6.5-7.0	811.0	
		7.0-7.5	brown SILT with some sand, saturated	ML			767.0	
		7.5-8.0					734.0	
		8.0-8.5	dark brown to dark gray clayey SILT with organic material (meadow mat)	OH/PT			132.8	
		8.5-9.0					116.9	
		9.0-9.5					174.7	
		9.5-10.0					93.7	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - ED006

DATE STARTED: 08.07.2013 DATE COMPLETED: 08.07.2013
 Northing: 680392.1713 Easting: 612179.6571 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 70's°F, overcast, humid
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	80%	0.0-0.5	no recovery					
		0.5-1.0						
		1.0-1.5	light grayish brown SAND with silt, moist. Liner at 16 inches	SM		0.0	trace COPR	
		1.5-2.0	same as above, gray			1.2	trace COPR	
		2.0-2.5	grayish brown sandy SILT with subangular pebbles, moist	ML/GM		83.9	30% COPR	
		2.5-3.0				431.3	trace COPR	
		3.0-3.5	dark brown and dark gray SILT with chunks of wood, moist	ML		85.2		
		3.5-4.0	grayish brown sandy SILT with fine to medium subrounded pebbles, moist	ML/GM		7.0		
		4.0-4.5				4.0-4.5	2.2	
		4.5-5.0				4.5-5.0	0.5	
10.0	90%	5.0-5.5	no recovery					
		5.5-6.0	light brown with gray brown striations SILT with sand, moist	ML		5.5-6.0	143.2	
		6.0-6.5				6.0-6.5	14.8	
		6.5-7.0					8.0	
		7.0-7.5					5.8	
		7.5-8.0	dark grayish brown with organic material and trace sand and clay (meadow mat)	OH/PT			14.2	
		8.0-8.5					21.9	
		8.5-9.0					1.5	
		9.0-9.5					6.4	
		9.5-10.0					3.0	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

∇ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - ED007			
		DATE STARTED: 08.06.2013	DATE COMPLETED: 08.06.2013
Northing: 680416.2752	Easting: 612198.3374	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	light gray gravel - railroad	GP	2.0-2.5	0.0	trace COPR	
		0.5-1.0	sand and gravel (liner)	SW		0.0		
		1.0-1.5	trace COPR - nodules			3.1		
		1.5-2.0				3.7		
		2.0-2.5	wood - black, moist	PT		11.7		COPR
		2.5-3.0	black silt and gravel. COPR (magnetic) soils	ML/GM		10.2		
		3.0-3.5				2.8		
		3.5-4.0				1.1		
		4.0-4.5	gray SILT, abundant coarse gravel	4.0-4.5		0.3		
		4.5-5.0		4.5-5.0		0.3		
10.0	100%	5.0-5.5	gray SILT, some sand, some gravel	ML	5.0-5.5	0.3		
		5.5-6.0			5.5-6.0	0.3		
		6.0-6.5	gray SILT, some sand		ML	0.4		
		6.5-7.0	same as above, increasing moisture	0.2				
		7.0-7.5		0.6				
		7.5-8.0	same as above, no to little gravel	1.3				
		8.0-8.5	gray SILT, trace organic material	OH/PT	0.4			
		8.5-9.0			0.3			
		9.0-9.5	dark organic		0.4			
		9.5-10.0	same as above, meadow mat		0.2			

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - ED008			
		DATE STARTED: 08.06.2013	DATE COMPLETED: 08.06.2013
Northing: 680439.6806	Easting: 612216.3683	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gravel and SILT light gray	ML/GM		0.0	30% COPR
		0.5-1.0					
		1.0-1.5	gray SAND and gravel. Liner at 12-18 inches.	SW	1.5-2.0	165.3	
		1.5-2.0	gray SAND and gravel				
		2.0-2.5	black SILT and gravel, magnetic	ML/GM		148.2	
		2.5-3.0				98.3	
		3.0-3.5					
		3.5-4.0	gray silty SAND, brick pieces	SM		0.5	
		4.0-4.5				0.3	
		4.5-5.0				0.3	
5.0-5.5	gray silty SAND	5.0-5.5					
10.0	100%	5.5-6.0	SILT and SAND mix			0.5	
		6.0-6.5				0.5	
		6.5-7.0				0.5	
		7.0-7.5	gray SILT with roots	ML		0.4	
		7.5-8.0				0.4	
		8.0-8.5	organic PEAT (meadow mat)	PT		0.3	
		8.5-9.0				0.3	
		9.0-9.5				0.3	
9.5-10.0		0.3					

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - ED009			
		DATE STARTED: 08.06.2013	DATE COMPLETED: 08.06.2013
Northing: 680463.0859	Easting: 612234.3993	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	gravel	GP			COPR	
		0.5-1.0	gray SAND and gravel. Liner at 18 inches.	SW		3.2		
		1.0-1.5						
		1.5-2.0	gray to black silty sand and gravel, wet.	SM/SW		573.0		
		2.0-2.5	same as above, COPR-impact slag			117.0		
		2.5-3.0				108.0		
		3.0-3.5	brown SILT and gravel	ML/GM				
		3.5-4.0				13.2		
		4.0-4.5				4.0-4.5		0.9
		4.5-5.0				4.5-5.0		
10.0	100%	5.0-5.5			5.0-5.5	0.3		
		5.5-6.0			5.5-6.0	4.2		
		6.0-6.5				72.3		
		6.5-7.0				2.3		
		7.0-7.5	black organic material (meadow mat)	OH/PT		0.3		
		7.5-8.0				0.3		
		8.0-8.5				0.4		
		8.5-9.0				0.0		
		9.0-9.5	same as above, some gray SILT			0.1		
		9.5-10.0	same as above, some gray SILT and gravel			0.0		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - ED010

DATE STARTED: 08.07.2013 DATE COMPLETED: 08.07.2013
 Northing: 680531.1488 Easting: 612287.1691 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 70's°F, overcast, humid
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
	60%	0.0-0.5	no recovery		2.0-2.5	0.1	trace COPR		
		0.5-1.0							
		1.0-1.5							
		1.5-2.0							
		2.0-2.33	light gray brown SILT, some sand, moist	ML					
		2.33-2.5	liner at 28 inches						
		2.5-2.583	gray silty SAND, moist with fine angular to subangular pebbles	SM/SW				75.0	trace COPR
		2.583-3.5	dark gray to black silty medium sand	SM				75.4	trace COPR
		3.5-4.0	grayish brown sandy SILT with fine to medium subrounded pebbles	ML/GM				17.0	trace COPR
		4.0-4.5						4.0-4.5	2.2
		4.5-5.0	same as above with chunks of mica, wood, and red brick	MH	4.5-5.0	2.5			
	50%	5.0-5.5	no recovery		7.5-8.0	0			
		5.5-6.0							
		6.0-6.5							
		6.5-7.0							
		7.0-7.5							
		7.5-8.0	light brown with grayish brown striations, sandy SILT with wood chunks, moist	ML				8.0-8.5	162.2
		8.0-8.5	gray brown with gray striations sandy SILT						347.1
		8.5-9.0	light brown with gray brown striations, sandy SILT, moist						211.5
5.0		9.0-9.5	dark brown to gray SILT with organic matter and trace sand (meadow mat), moist	OH/PT		20.9			
10.0		9.5-10.0							

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface

▼ 4.5 ft



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - ED011

DATE STARTED: 08.07.2013 DATE COMPLETED: 08.07.2013
 Northing: 680558.4698 Easting: 612308.1587 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 70's°F, overcast, humid
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	80%	0.0-0.5	no recovery					
		0.5-1.0						
		1.0-1.5	gray fine to medium subrounded and angular pebbles with some silt and sand	SW		0.0	trace COPR	
		1.5-2.0	light brown to gray sandy SILT, moist	ML		0.0	5% COPR	
		2.0-2.5	gray to dark gray to brown sandy SILT with medium to fine angular pebbles, moist	ML/GM		0.0	trace COPR	
		2.5-3.0				11.1	5% COPR	
		3.0-3.5	black to dark gray silty medium sand, moist	SM		3.0-3.5	0.8	
		3.5-4.0				3.5-4.0	0.1	
		4.0-4.5				4.0-4.5	0.0	
4.5-5.0			4.5-5.0		0.0			
10.0	90%	5.0-5.5	no recovery					
		5.5-6.0	dark gray sandy SILT with chunks of wood	ML		9.2		
		6.0-6.5	grayish brown SILT with sand, saturated			11.0		
		6.5-7.0	light gray brown SILT with sand, saturated			6.2		
		7.0-7.5	dark brown to dark gray SILT, some sand and organics (meadow mat), moist	OH/PT		7.0		
		7.5-8.0				0.7		
		8.0-8.5				1.3		
		8.5-9.0			1.4			
		9.0-9.5	light brown sandy SILT with rounded fine to medium pebbles, moist	ML/GM		0.4		
9.5-10.0			0					

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - ED012			
		DATE STARTED: 08.07.2013	DATE COMPLETED: 08.07.2013
Northing: 680582.2084	Easting: 612326.502	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	gravel	GP					
		0.5-1.0	gray SAND and gravel	SW				0.0	10% COPR
		1.0-1.5	dark gray SAND and gravel (magnetic)					0.2	50% COPR
		1.5-2.0						0.2	50% COPR
		2.0-2.5						0.1	50% COPR
		2.5-3.0						0.3	10% COPR
		3.0-3.5							
		3.5-4.0	gray sandy SILT some gravel						
		4.0-4.5						0.0	
		4.5-5.0						4.5-5.0	0.0
10.0	100%	5.0-5.5			ML/GM	5.0-5.5	0.3		
		5.5-6.0		5.5-6.0		0.0			
		6.0-6.5		6.0-6.5		0.0			
		6.5-7.0				0.2			
		7.0-7.5				0.3			
		7.5-8.0				0.1			
		8.0-8.5							
		8.5-9.0	black meadow mat, organic	OH/PT					
		9.0-9.5				0.0			
		9.5-10.0				0.0			

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - ED013			
		DATE STARTED: 08.09.2013	DATE COMPLETED: 08.09.2013
Northing: 680592.48	Easting: 612351.761	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	gravel	GP				
		0.5-1.0	brown SAND and gravel	SW		0.0	trace COPR	
		1.0-1.5	silty SAND, blue gray gravel	SM/SW		0.0	5% COPR	
		1.5-2.0				5% COPR		
		2.0-2.5			0.0	5% COPR		
		2.5-3.0	dark brown SAND and gravel, "slag" material	SW			15% COPR	
		3.0-3.5			0.0	15% COPR		
		3.5-4.0	dark brown silty SAND and gravel	SM/SW		1.3	15% COPR	
		4.0-4.5	same as above, angular pebbles		4.0-4.5			
		4.5-5.0	same as above, possible mica pieces, coal			10.2		
10.0	100%	5.0-5.5	wood, saturated with possible product	PT		70.6		
		5.5-6.0			5.5-6.0	8.3		
		6.0-6.5	dark brown sandy silt	ML		6.0-6.5	0.0	
		6.5-7.0			6.5-7.0	0		
		7.0-7.5			7.0-7.5	0		
		7.5-8.0				4.3		
		8.0-8.5		0				
		8.5-9.0	dark brown organics, roots	OH/PT			2.1	
		9.0-9.5				0.0		
		9.5-10.0				0		

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429 **PP&G - SITE 63/65 - 1 BURMA RD**
SOIL BORING - FD001

DATE STARTED: 08.06.2013 DATE COMPLETED: 08.06.2013
 Northing: 680333.6402 Easting: 612099.1294 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft
 Geologist: Spencer Waybrant WEATHER: 60's°F, sunny
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	60%	0.0-0.5	no recovery				
		0.5-1.0					
		1.0-1.5					
		1.5-2.0					
		2.0-2.5	gray fine to medium angular and subangular pebbles with silt and sand, moist	GM		0.0	trace COPR
		2.5-3.0	brown gray SILT with sand and angular fine to medium pebbles, moist	ML/GM		0.0	trace COPR
		3.0-3.25	gray fine to medium angular pebbles with some silt and sand, moist	GM		0.2	trace COPR
		3.25-3.75	dark gray brown SILT with sand and fine angular pebbles, moist	ML/GM		0.4	5% COPR
		3.75-4.5	dark gray coarse SAND, fine angular pebbles and some silt	SW	4.0-4.5	0.6	5% COPR
10.0	80%	4.5-5.0	grayish brown SILT with some sand and subrounded fine to medium pebbles, moist	ML/GM	4.5-5.0	1.6	
		5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5	grayish brown SILT with sand, subrounded medium to fine pebbles and seashells, moist	ML/GM	6.0-6.5	193.0	
		6.5-7.0			6.5-7.0	84	
		7.0-7.5	dark brown SILT with trace clay, organic moist matter and some seashells (meadow mat)	OH/PT	7.0-7.5	723.5	
		7.5-8.0				368	
		8.0-8.5				629	
		8.5-9.0	grayish brown clayey SILT, moist, trace sand	ML		763.7	
9.0-9.5	brown SILT with sand and green stripes		1139.0				
9.5-10.0	reddish brown silty SAND, trace round fine pebbles	SM		1170.0			

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - FD002			
		DATE STARTED: 08.06.2013	DATE COMPLETED: 08.06.2013
Northing: 680386.2501	Easting: 612137.1982	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gravel	GP			10% COPR
		0.5-1.0	light gray SAND and gravel. Liner at 1 foot.	SW		8.3	
		1.0-1.5	SAND and gravel, gray			9.0	
		1.5-2.0				24.3	
		2.0-2.5	SAND and gravel greenish gray			235.2	
		2.5-3.0				185.1	
		3.0-3.5	black gravel material	GP		76.2	
		3.5-4.0	dark gray gravel and SAND	SW		53.2	
		4.0-4.5			4.0-4.5	8.2	
		4.5-5.0			4.5-5.0	9.3	
10.0	100%	5.0-5.5	gray SILT and SAND	SM	5.0-5.5		
		5.5-6.0			5.5-6.0	15.2	
		6.0-6.5	dark gray organic	OL		30.1	
		6.5-7.0				47.2	
		7.0-7.5	same as above, some wood			81.2	
		7.5-8.0	dark gray organic			70.7	
		8.0-8.5		SW		41.9	
		8.5-9.0	red brown sand			26.8	
		9.0-9.5	SAND and gravel red brown			67.3	
		9.5-10.0				16.7	

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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SOIL BORING LOG

PROJECT NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD	
SOIL BORING - FD004			
		DATE STARTED: 08.08.2013	DATE COMPLETED: 08.08.2013
Northing: 680565.93	Easting: 612346.466	Elevation: ±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
		0.0-0.5	gravel	GP				
		0.5-1.0	dark brown SAND and gravel	SW		3.2	15% COPR	
		1.0-1.5	black sand and gravel			103.5	15% COPR	
		1.5-2.0	same as above, "slag"			58.2	5% COPR	
	100%	2.0-2.5	same as above, mostly gravel	GW	2.0-2.5	109.0	5% COPR	
		2.5-3.0				2.0	5% COPR	
		3.0-3.5				3.2	5% COPR	
		3.5-4.0				5.9	5% COPR	
		4.0-4.5			dark gray silty SAND		1.2	
		4.5-5.0			4.5-5.0	0.2		
	100%	5.0-5.5		SM	5.0-5.5			
		5.5-6.0				7.4		
		6.0-6.5						
		6.5-7.0				138.2		
		7.0-7.5						
		7.5-8.0			2.3			
		8.0-8.5		dark brown organics/roots (meadow mat)	OH/PT		4.5	
		8.5-9.0					1.2	
	9.0-9.5			0.1				
	9.5-10.0			0.1				
	5.0							
	10.0							

NOTES:

Drilling Contractor: EPI
 Drilling Equipment: Track-mounted Geoprobe
 Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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BORING NUMBER B73-A

PAGE 1 OF 1

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Rd. Jersey City, NJ
DATE STARTED 3/18/16	COMPLETED 3/18/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 9 ft
DRILLING METHOD See Notes	HOLE SIZE 8 inches
LOGGED BY K. Treacy	GROUND WATER LEVEL:
CHECKED BY J. Alexander	<input checked="" type="checkbox"/> DURING DRILLING 4.00 ft / Elev 5.00 ft
NOTES	NORTHING 680250.5
	EASTING 612203.9

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/11/17 08:40 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\1\COMMON\MORAN\PPG - CHROME\SITE 63-65_3-18-2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				NOTE: 8" hollow stem auger to target depth of 1.2' BGS / 6.8' MSL, then 3" macro core use for soil sampling
	SS S01		PID = 0		Dark Brown silty SAND, little coarse angular gravel, semi dense, moist	B73-A_2.5-3
	SS S02		PID = 0			B73-A_3-3.5
	SS S03		PID = 0			B73-A_3.5-4
			PID = 200		Black silty SAND, little coarse angular gravel, semi dense, wet	Staining from 4-5' BGS
5.0					Bottom of borehole at 5.0 feet.	



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BORING NUMBER ED012-A

PAGE 1 OF 1

CLIENT PPG PROJECT NAME PPG Site 63
 PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Rd. Jersey City, NJ
 DATE STARTED 3/18/16 COMPLETED 3/18/16 GROUND ELEVATION 8 ft HOLE SIZE 8 inches
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:
 DRILLING METHOD See Notes DURING DRILLING 6.00 ft / Elev 2.00 ft
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 680582.2
 NOTES EASTING 612326.5

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
5.0						
6.0			PID = 0		Gray m-c SAND, semi dense, wet	
7.5	ss	100	PID = 0			ED012-A_7.3-7.8
	ss		PID = 0			ED012-A_7.8-8.3
	ss		PID = 0			ED012-A_8.3-8.8
8.5			PID = 0		Brownish Black meadow mat, organic	
10.0			PID = 0			

Bottom of borehole at 10.0 feet.



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BORING NUMBER SB5-A

PAGE 1 OF 1

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Rd. Jersey City, NJ
DATE STARTED 3/18/16 COMPLETED 3/18/16	GROUND ELEVATION 8.5 ft HOLE SIZE 8 inches
DRILLING CONTRACTOR EPI	GROUND WATER LEVEL:
DRILLING METHOD See Notes	<input checked="" type="checkbox"/> DURING DRILLING 6.00 ft / Elev 2.50 ft
LOGGED BY K. Treacy CHECKED BY J. Alexander	NORTHING 680244.7
NOTES	EASTING 612179.5

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:40 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\3-18-2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
5.0						
6.0			PID = 0	▼		
7.5		100	PID = 0	▼	Brown fine SAND, little silt, trace fine rounded gravel, dense, wet	NOTE: 8" hollow stem auger to target depth of 10.5' BGS / -1.9' MSL, then 3" macro core use for soil sampling
8.5			PID = 0	▼	Brick and wood fill material	
9.5			PID = 0	▼	Reddish Brown SILT, trace fine rounded gravel, dense, wet	
10.0			PID = 0	▼	Brown Meadow Mat, organic	
10.4	SS S01		PID = 0	▼		SB5-A_ 10.4-10.9
10.9	SS S02		PID = 0	▼		SB5-A_ 10.9-11.4
11.4	SS S03		PID = 0	▼		SB5-A_ 11.4-11.9
12.0				▼		
						-3.5

Bottom of borehole at 12.0 feet.



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BORING NUMBER SB11-A

CLIENT PPG PROJECT NAME PPG Site 63
 PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Rd. Jersey City, NJ
 DATE STARTED 3/18/16 COMPLETED 3/18/16 GROUND ELEVATION 9 ft HOLE SIZE 8 inches
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:
 DRILLING METHOD See Notes DURING DRILLING 6.00 ft / Elev 3.00 ft
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 680469.7
 NOTES EASTING 612277.4

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
5.0						
7.5		100	PID = 0			
			PID = 0			
			PID = 0			
	ss		PID = 0		Brownish Gray SILT, trace sand, semi dense, wet	
	ss		PID = 0			SB11-A_ 8.9-9.4
	ss		PID = 0		Dark Brown meadow mat, organic	SB11-A_ 9.4-9.9
			PID = 0			SB11-A_ 9.9-10.4
11.0						

Bottom of borehole at 11.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/11/17 08:40 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\FIELD DATA\BURMA GINT BORING LOGS\SITE 63-65 3-18-2016.GPJ


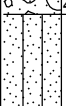


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BORING NUMBER BR001 (AD006)

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\ REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/11/16	COMPLETED 11/11/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 7.7 ft
DRILLING METHOD Hollow Stem Auger 2"	HOLE SIZE 2 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680490.1
	EASTING 612405.2

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
4.2	SS S01				Gray silty SAND, little coarse angular gravel, semi dense, wet	BR001_4.2-4.7
5.0						

Bottom of borehole at 5.0 feet.



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BORING NUMBER BR002

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\ REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/11/16	COMPLETED 11/11/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 9 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680647.7
	EASTING 612446.1

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
3.5	SS S01				Blackish Brown fine SAND, some metal fill, semi dense, moist	BR002_3.5-4.0
4.0					Brown fine SAND, loose, moist	
5.0						

Bottom of borehole at 5.0 feet.



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BORING NUMBER BR003 (CD005)

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\ REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/10/16	COMPLETED 11/10/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 8.1 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	GROUND WATER LEVEL:
CHECKED BY J. Alexander	DURING DRILLING ---
NOTES	NORTHING 680309.2
	EASTING 612191.1

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
5.0						
7.5		100				
8.1	SS S01				Dark Brown sandy SILT, some coarse subangular gravel, semi dense, wet	BR003_8.1-8.6
10.0						

Bottom of borehole at 10.0 feet.



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BORING NUMBER BR004 (CD007)

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/11/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\ REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/9/16	COMPLETED 11/9/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 8.3 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680357.5
	EASTING 612229.1

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
5.0						
7.2						
7.5	SS S01	100			Red Silty SAND, little fine subrounded gravel, dense, moist	BR004_7.3-7.8
10.0						

Bottom of borehole at 10.0 feet.



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BORING NUMBER BR005 (FD002)

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\ REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/11/16	COMPLETED 11/11/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 9.3 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	GROUND WATER LEVEL:
CHECKED BY J. Alexander	DURING DRILLING ---
NOTES	NORTHING 680386.3
	EASTING 612137.2

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		75				
4.6					Grayish Brown SILT, very dense, wet	BR005_4.7-5.2
5.0	SS S01					
7.5					No Recovery, Rock stuck in shoe	
10.0						

Bottom of borehole at 7.5 feet.



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BORING NUMBER BR006

PAGE 1 OF 1

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\ REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/11/16	COMPLETED 11/11/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 8.9 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	GROUND WATER LEVEL:
CHECKED BY J. Alexander	DURING DRILLING ---
NOTES	NORTHING 680406.5
	EASTING 612158.8

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
4.2					Grayish Brown SILT, trace shells, trace organics, dense, wet	BR006_4.4-4.9
5.0	SS S01					
7.5		100				
9.0					Black ASH, little fine sand, trace brick, dense, wet	
10.0						

Bottom of borehole at 10.0 feet.



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BORING NUMBER BR007

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/11/16	COMPLETED 11/11/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 8.6 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680429.9
	EASTING 612177.1

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
4.1	SS S01				Grayish Brown sandy SILT, semi dense, moist	BR007_4.1-4.6
5.0						

Bottom of borehole at 5.0 feet.



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BORING NUMBER BR008 (BD010)

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\ REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/11/16	COMPLETED 11/11/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 10 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680702.2
	EASTING 612519.5

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		100				
5.0						
6.7	SS S01				Orange medium to coarse SAND, some fine rounded gravel, semi dense, wet	BR008_6.7-7.2
7.3		100			Black ASH, semi dense, wet	
10.0						

Bottom of borehole at 10.0 feet.



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BORING NUMBER BR009

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT <u>PPG</u>	PROJECT NAME <u>PPG Site 63</u>
PROJECT NUMBER <u>151136</u>	PROJECT LOCATION <u>1 Burma Road, Jersey City, NJ</u>
DATE STARTED <u>11/10/16</u> COMPLETED <u>11/10/16</u>	GROUND ELEVATION <u>9.8 ft</u> HOLE SIZE <u>3 inches</u>
DRILLING CONTRACTOR <u>EPI</u>	GROUND WATER LEVEL:
DRILLING METHOD <u>Track mounted Geoprobe</u>	DURING DRILLING <u>---</u>
LOGGED BY <u>K. Treacy</u> CHECKED BY <u>J. Alexander</u>	NORTHING <u>680654.1</u>
NOTES _____	EASTING <u>612376.1</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5		80				
	SS S01				Black ASH, loose, dry	BR009_3.3-3.8

Bottom of borehole at 4.0 feet.



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BORING NUMBER BR010

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/9/16	COMPLETED 11/9/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 10.4 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680315.8
	EASTING 612025.8

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
1.8						
2.5	SS S01	100			Grayish Brown medium SAND, little fine rounded gravel, trace shells, semi dense, moist	BR010_1.9-2.4
3.0					Black ASH, some medium sand, little metal fill, semi dense, moist	
4.0					Grayish Brown sandy SILT, little metal fill, little green silt lenses, semi dense, moist	
5.0						

Bottom of borehole at 5.0 feet.



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BORING NUMBER PPG63/65_SW119

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ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG PROJECT NAME PPG Site 63
 PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Road, Jersey City, NJ
 DATE STARTED 11/9/16 COMPLETED 11/9/16 GROUND ELEVATION 10.6 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL: _____
 DRILLING METHOD Track mounted Geoprobe DURING DRILLING ---
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 680326.1
 NOTES _____ EASTING 612029.6

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
1.5						
2.2	SS S01	80			Brownish Black fine SAND, some black ash, little roots, semi dense, moist	PPG63/65_SW119_1.6-2.1
2.5					Grayish Brown coarse SAND, little medium subangular gravel, semi dense, moist	
5.0						

Bottom of borehole at 5.0 feet.






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BORING NUMBER PPG63/65_SW25R2

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/22/16	COMPLETED 11/22/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 9.3 ft
DRILLING METHOD Hollow Stem Auger 2"	HOLE SIZE 2 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680744.1
	EASTING 612561.7

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
0.5					Dark Brown fine to medium SAND, some roots, some coarse angular gravel, loose, dry	8.8
2.5		100			Brownish Black fine SAND, little ash, loose, dry	6.8
5.0	SS S01					4.3

Bottom of borehole at 5.0 feet.

PPG63/65_SW25R2_4.3-4.8



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BORING NUMBER PPG63/65_SW93

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/10/16 COMPLETED 11/10/16	GROUND ELEVATION 11.3 ft HOLE SIZE 3 inches
DRILLING CONTRACTOR EPI	GROUND WATER LEVEL:
DRILLING METHOD Track mounted Geoprobe	DURING DRILLING ---
LOGGED BY K. Treacy CHECKED BY J. Alexander	NORTHING 680645.6
NOTES	EASTING 612337.4

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0						
	SS S01	100			0.3 DGA 11.1 Medium Brown fine SAND, some medium sub angular gravel, loose, dry 1.5 9.8 Gray fine SAND, little fine rounded gravel, loose, dry 3.0 8.3 Whiteish Gray very fine SAND, loose, dry 3.5 7.8 Black fine ASH, loose, dry	PPG63/65_SW93_0.3-0.8
2.5						
5.0						

Bottom of borehole at 5.0 feet.



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BORING NUMBER SWR001

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/9/16	COMPLETED 11/9/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 11.5 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680312.8
	EASTING 612010.3

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
1.5		100				
2.2					Brownish gray silty SAND, little metal fill, semi dense, dry	
2.5	SS S01				Black ASH, some metal fill, some fine sand, loose, dry	SWR001_2.5-3.0
4.0					Light Brown sandy SILT, dense, dry	
5.0					Bottom of borehole at 5.0 feet.	



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BORING NUMBER SWR002

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG PROJECT NAME PPG Site 63
 PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Road, Jersey City, NJ
 DATE STARTED 11/9/16 COMPLETED 11/9/16 GROUND ELEVATION 10.5 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL: _____
 DRILLING METHOD Track mounted Geoprobe DURING DRILLING ---
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 680345.7
 NOTES _____ EASTING 612042.9

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
1.5		100			Grayish Brown silty SAND, little shells, little fine rounded gravel, semi dense, moist	
2.5	SS S01				Sandstone Gravel, dense, moist	SWR002_2.6-3.1
2.7					Medium Brown fine SAND, some subangular metal fill, semi dense, moist	
4.0					Light Brown sandy SILT, little subangular gravel, semi dense, moist	
5.0					Bottom of borehole at 5.0 feet.	

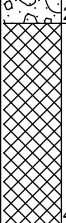



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BORING NUMBER SWR003

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/9/16	COMPLETED 11/9/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 9.4 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680371.3
	EASTING 612078.4

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5	SS S01	100			Black metal subangular FILL, some black ash, loose, moist	SWR003_2.5-3.0
5.0					Gray SILT, some green fine sand lenses, little medium rounded gravel, dense, moist	

Bottom of borehole at 5.0 feet.



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BORING NUMBER SWR004

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT <u>PPG</u>	PROJECT NAME <u>PPG Site 63</u>
PROJECT NUMBER <u>151136</u>	PROJECT LOCATION <u>1 Burma Road, Jersey City, NJ</u>
DATE STARTED <u>11/9/16</u> COMPLETED <u>11/9/16</u>	GROUND ELEVATION <u>9.1 ft</u> HOLE SIZE <u>3 inches</u>
DRILLING CONTRACTOR <u>EPI</u>	GROUND WATER LEVEL: <u>---</u>
DRILLING METHOD <u>Track mounted Geoprobe</u>	DURING DRILLING <u>---</u>
LOGGED BY <u>K. Treacy</u> CHECKED BY <u>J. Alexander</u>	NORTHING <u>680400.3</u>
NOTES _____	EASTING <u>612101.4</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5	SS S01	100			Grayish Brown fine SAND, some silt, little fine rounded gravel, semi dense, moist	SWR004_2.5-3.0
5.0					Gray SILT, little red brick, dense, moist	
					Bottom of borehole at 5.0 feet.	



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BORING NUMBER SWR005

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/9/16	COMPLETED 11/9/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 9.2 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680425.4
	EASTING 612131.5

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5	SS S01	100			Gray fine SAND, little silt, trace roots, semi dense, moist	SWR005_2.5-3.0
					Black metal FILL, some ash, semi dense, moist	
					Gray SILT, trace shells, dense, moist	
5.0					Bottom of borehole at 5.0 feet.	



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BORING NUMBER SWR006

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG PROJECT NAME PPG Site 63
 PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Road, Jersey City, NJ
 DATE STARTED 11/9/16 COMPLETED 11/9/16 GROUND ELEVATION 9.3 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:
 DRILLING METHOD Track mounted Geoprobe DURING DRILLING ---
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 680457.7
 NOTES EASTING 612157.5

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
2.5	SS S01	100				SWR006_2.5-3.0
5.0					Bottom of borehole at 5.0 feet.	


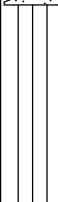


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BORING NUMBER SWR007

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG PROJECT NAME PPG Site 63
 PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Road, Jersey City, NJ
 DATE STARTED 11/9/16 COMPLETED 11/9/16 GROUND ELEVATION 9.4 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:
 DRILLING METHOD Track mounted Geoprobe DURING DRILLING ---
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 680491.4
 NOTES EASTING 612191.2

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
1.5		100			Dark Brown SILT, little shells, dense, moist	
2.5	SS S01				Light Brown sandy SILT, little fine sand lenses, dense, moist	SWR007_2.5-3.0
3.0						
5.0						

Bottom of borehole at 5.0 feet.



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BORING NUMBER SWR008

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT <u>PPG</u>	PROJECT NAME <u>PPG Site 63</u>
PROJECT NUMBER <u>151136</u>	PROJECT LOCATION <u>1 Burma Road, Jersey City, NJ</u>
DATE STARTED <u>11/10/16</u> COMPLETED <u>11/10/16</u>	GROUND ELEVATION <u>11.5 ft</u> HOLE SIZE <u>3 inches</u>
DRILLING CONTRACTOR <u>EPI</u>	GROUND WATER LEVEL:
DRILLING METHOD <u>Track mounted Geoprobe</u>	DURING DRILLING <u>---</u>
LOGGED BY <u>K. Treacy</u> CHECKED BY <u>J. Alexander</u>	NORTHING <u>680655.7</u>
NOTES _____	EASTING <u>612349.1</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
0.7						
2.5	SS S01	80			Grayish Brown fine to medium SAND, trace fine rounded gravel, loose, dry	SWR008_2.5-3.0
3.2					Quartzite COBBLE	
3.5					NO RECOVERY	
4.0						

Bottom of borehole at 4.0 feet.



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BORING NUMBER SWR009

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/10/16	COMPLETED 11/10/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 10.7 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680714.6
	EASTING 612499.9

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
1.0	SS S01	100			Reddish Brown sandy SILT, semi dense, dry	SWR009_1-1.5
2.5					Light Orange fine SAND, loose, moist	
3.0					Reddish Brown sandy SILT, semi dense, moist	
4.0					Light Brown fine SAND, loose, moist	
4.5						
5.0						

Bottom of borehole at 5.0 feet.



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BORING NUMBER SWR010

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\1COMMON\MORAN\PPG - CHROME\SITE 63-65\1-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/10/16	COMPLETED 11/10/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 9.9 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680748
	EASTING 612537.3

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
1.0						
1.0	SS S01				Brown fine SAND, some medium rounded gravel, loose, dry	SWR010_1.0-1.5
2.5		100			Gray fine to medium SAND, little medium subangular gravel, loose, dry	
3.0						

Bottom of borehole at 3.0 feet.



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BORING NUMBER SWR011

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \ITREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/10/16	COMPLETED 11/10/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 8.7 ft
DRILLING METHOD Track mounted Geoprobe	HOLE SIZE 3 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680761.9
	EASTING 612563.5

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
1.0					Brownish Black fine SAND, little subangular coarse gravel, trace roots, semi dense, dry	SWR011_1-1.5
2.5	SS S01	100			Black Metal FILL, little fine sand, semi dense, dry	
4.0						

Bottom of borehole at 4.0 feet.



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BORING NUMBER SWR013

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG PROJECT NAME PPG Site 63
 PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Road, Jersey City, NJ
 DATE STARTED 11/10/16 COMPLETED 11/10/16 GROUND ELEVATION 10.3 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:
 DRILLING METHOD Track mounted Geoprobe DURING DRILLING ---
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 680705.5
 NOTES EASTING 612500.6

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					DGA	
	SS S01	100			Dark Brown coarse SAND, some fine subangular gravel, little rubber, semi dense, dry	SWR013_1-1.5
2.5					Light Brown medium to coarse SAND, some shells, little fine angular gravel, semi dense, dry	
					Brown sandy SILT, little organics, semi dense, dry	
5.0					Bottom of borehole at 5.0 feet.	






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BORING NUMBER SWR017

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\1COMMON\MORAN\PPG - CHROME\SITE 63-65\1COMMON\MORAN\PPG - CHROME\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/11/16	COMPLETED 11/11/16
DRILLING CONTRACTOR EPI	GROUND ELEVATION 8.3 ft
DRILLING METHOD Hollow Stem Auger 2"	HOLE SIZE 2 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES	GROUND WATER LEVEL:
	DURING DRILLING ---
	NORTHING 680237.7
	EASTING 612215

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0						
0.3					3/4" Gravel	8.1
0.5					DGA	7.8
2.0		100			Dark Brown silty SAND, some coarse subangular gravel, semi dense, moist	
2.5	SS S01				Black silty SAND, little fine angular gravel, petroleum staining, odor, loose, wet	6.3
3.0						5.3

Bottom of borehole at 3.0 feet.

SWR017_2.5-3.0






CB&I
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 Trenton, NJ 08691
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TEST PIT NUMBER TP001

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016.GPJ

CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/10/16	COMPLETED 11/10/16
EXCAVATION CONTRACTOR EPI	GROUND ELEVATION 12.4 ft
EXCAVATION METHOD Test Pit	TEST PIT SIZE 36 x 36 inches
LOGGED BY K. Treacy	CHECKED BY J. Alexander
NOTES Test Pit	GROUND WATER LEVEL:
	DURING EXCAVATION ---
	NORTHING 680315.8
	EASTING 612025.8

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0						
0.2					ASPHALT millings, loose, dry	
12.2					Gray coarse millings and FILL, loose, dry	
0.7					Dark Brown fine SAND, little shells, little coarse subangular gravel, loose, dry	TP_SW01_ 0.5-1.0
11.7						TP-SW02_1.0-1.5, TP-SW03_1.0-1.5, TP-SW04_1.0-1.5
1.5					Bottom of test pit at 1.5 feet.	TP-B01 1.5-2.0
10.9						