ATTACHMENT 6
BORING LOGS

PRO. DRIL DRIL	JEC LIN	T LC IG F IG M	CAT IRM <sub>-</sub> ETH	ION( Hardi	Group 12, Site n and Huber I ollow Stem Aug	nc.	WATER LEVELS RELATIVE DURING DRILLING 7.5 WELL LEVEL NORTHING 2166161.8 EASTING 680639.2			BORING NO. PPG12- G.S. ELEV.13.3 CASING ELEV. N/A START DATE 9/23/ FINISH DATE 9/23/	98_
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PID (mdd)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
-		0.3		266	0630B01001	Concrete & Grave  Dark reddish brownoist. (CL/Fill)	el en (5YR3/3) CLAY, very	1342		20°PR	
		2.0		298	0630B0I002		above. Occasional black mottles.  llow green mottle at 3.5 ft-bgs.			<b>7</b> 903	
5-		0.9		324	0630B01003	Same as above. I abundant.	Mottles are more	2368	00000	20°F	<b>-</b> 5
	1	0.25		<2	0630B01004 0630B01005	(GP/Fill)	coarse SAND, wet.	627	   +	¥.	
10-		0.4		<1.1	0630B0I006	Light olive brown Silt, (MH/Fill)	CLAY, some Sand, some	595	   +		-10
	End of boring at 10.5 feet										
15-	NOTES:  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  Sheet 1 of 1										

PRO.	JEC.	TNA	ME_	PPG No	on-Residentia	Chrome Sites	WATER LEVELS RELATIV	E TO G.SUR	FACE	BORING NO. PPG12-1	B02
PRO.	JEC <sup>-</sup>	T LO	CAT	ION_G	Group 12, Site	63	DURING DRILLING 6.5			G.S. ELEV. <u>13.3</u>	
DRIL	LIN	G F	[RM_	Hardir	n and Huber I	nc.	WELL LEVEL			CASING ELEV. N/A	
					llow Stem Aug		21662067			START DATE 9/23/	98
				Randal			NORTHING 2166206.7 EASTING 680572.8		<del></del>	FINISH DATE 9/23/	98
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
<u> </u>	┼-	一				Concrete & Grave	1	<del>                                     </del>			
		1.9		181	0630B0200I	·	ın (5YR3/3) CLAY, moist	3117		COPR	
		1.5		53.8	0630802002	Same as above wi yellow spots.	ith occassional bright	3936	000000000000000000000000000000000000000	COPA	
5-		0.1		NM		Black granular ma spoon. (GC/Fill)	terial in tip of split		0 0		-Б
		0.2		91	0630B02003			1406	000	COPR	
		0.25	1	88	0630B02004	Black GRANULAR	MATERIAL, some Clay.	458	++	Ä	
		1				End of boring at	7 feet			Auger refusal at 7.0	
10-	End of boring a										-10
15-	NOT		Depth	o o	evations in feet	unless otherwise noted	3. N/A- Not Appl 4. NA- Not Analy 5. NM- Not Measu 6. R- Rejected	zed			15
		2.	uscs	Classific	cation based on	visual-manual procedur	es 7. J- Estimated 8. U- Not Detec	ted		Sheet 1 of 1	

						Chrome Sites	WATER LEVELS RELATIVE DURING DRILLING NM	E TO G.SUR	FACE	ì	B03
PRO				G.S. ELEV. <u>13.3</u>							
				Hardii			CASING ELEV. N/A				
					ollow Stem Aug	ger	NORTHING 2166219.4			START DATE 9/23/	
LOG	GED	BY.	W.	Randal			EASTING_680659.8	<del></del>		FINISH DATE 9/23	/90
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PID (mdd)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
						Concrete & Grave	l		Ш		
-		0				No Recovery					
Dark reddish brown (5YR3/3) CLAY, with black mottles (<10%), moist. (CL/Fill)										E0FF	
0630B03002 green (5Y7/6) and pale olive green (5Y6/4) clayey matrix, damp. (6C/Fill).									0 0 0 0	COFR	
Dark reddish brown (5YR3/3) CLAY, with black mottles, (<5%), moist to very moist. contains I"thick seam of yellow coated black nodules (5Y7/6). (CL/Fill).										Süss	-5
		0							+ +  + +  + +  + +	Recusar at 6 ft.	
-		0.25			0630B03004	Black stained brown FRAGMENTS. (SP	wn and gray SHALE	1562	}+`+   + -  + +   + -  + ,+		
		0				No Recovery			+ + + + + +		-
10-						No Recovery					<del>-1</del> 0
					0630B03005	Dark brown (7.5Y) and CLAY, moist.	R3/3) fine SAND, SILT (MH)	6.1 U			
						End of boring at 1	If feet				
'											
15-	<u>.</u>					·····					<u> </u>
	NOTES:  3. N/A- Not Applicable 4. NA- Not Analyzed 5. NM- Not Measured 6. R- Rejected 2. USCS Classification based on visual-manual procedures 7. J- Estimated 8. U- Not Detected										

PRO	JECT	NA	ME_	PPG No	on-Residentia	I Chrome Sites	WATER LEVELS RELATIV			BORING NO. PPG12-1	B04
					Group 12, Site		DURING DRILLING			G.S. ELEV. <u>13.1</u>	
DRIL	LIN	G FI	RM_	Hardir	n and Huber Ii	nc.	WELL LEVEL			CASING ELEV. N/A	
					ollow Stem Aug	er	NORTHING_2166233.6			START DATE 9/23/	
LOG	GED	BY.	W.	Randal	ı		EASTING 680719.8			FINISH DATE 9/23/	98
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	P10 (ppm)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
						Concrete & Grave	l				
		1.6		297	0630B04001		n (5YR3/3) CLAY, nodules, damp to moist.	9629		COPR	
		1.9		248	0630B04002		as above, moist to very moist, sional black mottles. (CL/Fill).			COPR	
5-	5-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\							8527	0 0 0 0 0 0	COPF	ъ Г
		0				spoon.	anular coal in tip of		+++++++	Ferusal at 6.5 ft.	
10-		1.9			0630B04004	and SILT, grading	4/2) fine grained SAND g into Olive brown to dark some Sand, some Silt, L)	19.5			<b>-</b> 10
15-	NOTE	ES:				End of boring at	3. N/A- Not Appi				15
						inless otherwise noted visual-manual procedure	4. NA- Not Analy 5. NM- Not Measi 6. R- Rejected r. J- Estimated 8. U- Not Detec	ured		Sheet 1 of 1	

DRIL	LIN	G F	IRM.	Hardi	Group 12, Site n and Huber I ollow Stem Aug	nc.	WATER LEVELS RELATI DURING DRILLING NM WELL LEVEL			G.S. ELEV. <u>13.0</u> CASING ELEVN/ START DATE_9/24	'A
				Randa			NORTHING 2166283.6 EASTING 680649.5			FINISH DATE 9/2	
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PID (mdd)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ПЕРТН
-		1.0		52	0630B0500t		n (5YR3/3) CLAY, with , moist to very moist.	786.5		COFR	
		0.1				Same as above, ve	ery moist to wet.			COPR	
5-		1.1		447	0630B05002	olive brown (2.5Y4	n yellow brown (5Y8/8), 4/3), and dark reddish LAY in matrix. (CL/Fill)	2789		COFR	5
		0.3		304	0630B05003		2.5YR3/3) CLAY, with fragments, and fine	286.2	+ + + + + + + + + +		
		0.5		220	0630B05004	Black stained PEA wet.	T, and Silty Sandy CLAY,	7.9 U	+ + + + +		
10-		0.6		22	0630B04005	Black stained medi occassional coal f material (Peat), we	ragments, and organic	6.5 U	+ + +   + + +   + + +   + +		<u>-</u> -10
<u> </u>		0.5		222	0630B04006	Dark brown (7.5YF Some Sand. (MH)	R3/3) CLAY, some Silt,	18.6			
						End of boring at 11	.5 feet				
15 N	IOTE	S:					3. N/A- Not Appl 4. NA- Not Analy 5. NM- Not Measu	zed			15

PRO	JEC	TNA	ME_	PPG N	on-Residentia	l Chrome Sites	WATER LEVELS RELATIVE	E TO G.SUR	FACE	BORING NO. PPG12-	B06		
	DURING DRILLING 7.5  CLLING FIRM Hardin and Huber Inc.  CASING ELEV. 13.1  WELL LEVEL CASING ELEV. N/A  CASING ELEV. 19.1  CASING ELEV. 19.1												
							WELL LEVEL	-	<del></del>	CASING ELEV. N/A			
							0100005				1		
				Randal			NORTHING 2100285.5 EASTING 680824.5	<del></del>		FINISH DATE 9/22/			
							EASTING_000024.5						
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	OId (mdd)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН		
						Concrete & Grave							
		1.5	6 13 7 5	64	0630B06001		n (2.5YR2.5/3) fine ttle Clay, occassional	9.3	000000	COPR			
1.4 3 550 0630B06002 437.4 00.00 00.													
5-	$\setminus$					•	ID, with black cloth mixed		+ +				
5-		1.8	5 7 8	304	0630B06004	in, very moist.		53.7	+ + + + + + + + + + + + + + + + + + +		-5 -		
		1.2	3 3 3	13	0600B06005	fine Sand, grades	3/3) CLAY, little Silt, little into black in bottom 3". nts throughout. Very	12.1	- + + + + + + + + + + - + + + +	Ţ			
10-		1.3	2 2 2	8.4	0630B06006	and a scallop shell	Y, with some fine Sand, I. Reddish brown fine e fragment (0.5" in size), t.	7.2 U			-10		
15-	End of boring at 10.5 feet												
	NOTES:  3. N/A- Not Applicable 4. NA- Not Analyzed 5. NM- Not Measured 6. R- Rejected 2. USCS Classification based on visual-manual procedures 7. J- Estimated 8. U- Not Detected  Sheet 1 of 1												

PRO	ECT	LO	CAT	ION_G	on-Residentia Group 12, Site n and Huber I	Chrome Sites	WATER LEVELS RELATIV DURING DRILLING WELL LEVEL			BORING NO. PPG12-1 G.S. ELEV.12.9 CASING ELEV. N/A	
DRIL	LIN	G ME	ETHO		ollow Stem Aug		NORTHING 2166333.4 EASTING 680782.8			START DATE 9/21/9 FINISH DATE 9/21/	8
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	МАТЕ	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
		1.8	6 8 8	212	0630B0700I		o dark reddish gray e Silty CLAY, occassional	6.4 U	0000000	50	
-		2.0	1 2 2 5	573	0630B07002	Proportion of San to 40%.	d increases to 40%, Silt	1884	000000	COFF	
5-		1.6	7 18 20 14	593	0630B07003 0630B07004		orly sorted SAND, some Silt, little Clay, moist.	16.8 63.1	0 0	€C⊕R	-5
		0.4	7 18 25 14	8	0600B07005	SAND and GRAVE	5YR1u2.5) poorly sorted L, wet. (SP) with roots, wet. (CL)	10.1			
-		1.0	6 7 9		0630B07006	to wet.	e SAND and SILT, moist	5.5 U 5.7 U			
1.0 9 13 0630B07007 olive gray (5Y4								3.7 0			<del>-1</del> 0
15-	NOTE	1. C				uniess otherwise noted visual-manual procedure	3. N/A- Not Appli 4. NA- Not Analy 5. NM- Not Meast 6. R- Rejected es 7. J- Estimated 8. U- Not Detect	zed Ired		Sheet 1 of 1	15

PRO. DRIL DRIL	JECT LIN LIN	r LO G FI G ME	CAT [RM_ ETH(	ION( Hardii	Group 12, Site n and Huber I ollow Stem Au	nc.	WATER LEVELS RELATIVE DURING DRILLING WELL LEVEL NORTHING 2166347.9 EASTING 680840.4			BORING NO. PPG12- G.S. ELEV. 8.9 CASING ELEV. N/A START DATE 9/24/ FINISH DATE 9/24	98
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PID (mdd)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
-		0.2		0	0630B08001	(7.5YR3/1) clay m (SC)	5, in a very dark gray atrix. Refusal at 1.5 ft.	6 U	+ + + + + + + + + + + +		
Black stained coarse and fine grained SAND, (quartz and feldspar clasts), occassional coal fragments, very moist. (SP)  Black stained coarse and fine grained  + + + + + + + + + + + + + + + + + + +											
5-		0.25		1.2	0630B08003	ł	R3/3) CLAY and Silt, little ional plant fibers and 4.5 feet	15	+ +		5
10-											-10
15~	NOTES:  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  Sheet 1 of 1										

PRO.	ECT	NA	ME_	PPG No	on-Residentia	Chrome Sites	WATER LEVELS RELATIV	E TO G.SUR	FACE	BORING NO. PPG12-	309
PRO.	IECT	L0	CAT	ION_E	Group 12, Site	63	DURING DRILLING			G.S. ELEV. <u>9.0</u>	
nati	IIN	G FI	RM_	Hardir	n and Huber I	nc.	WELL LEVEL			CASING ELEV. N/A	
DRI	ITN	G MF	THO	on Ho	ollow Stem Aug	jer	2166103.4			START DATE 9/24/	98
				Randal			NORTHING 2166193.4 EASTING 680753.1		_	FINISH DATE 9/24/	98
200.							EASTING_GGGGGG	T			
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PIO (ppm)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYN	REMARKS	ОЕРТН
		0.2		0	0630B09001	Dark brown (7.5Yl damp.	R3/2) Sandy SILT loam,	6.8 U	+ +   + -  + +   + ,		
•					0630B09002	Black stained med GRAVEL, very mois	tium grained SAND and st (SP)	7.8 U	+ +		
		1.0		13	0630B09003		R3/2) CLAY, some Silt, and is composed of shale (CL)	5.8 U	\ + + + .		
		1.0		0	0630B09004	Olive brown (2.5Y	4/3) CLAY, some Silt, loist, occassional dusky	5.9 U	+ +     + +     + +     + +     + +		
10-						End of boring at	5 feet				5 10
15-	NOT	ES:		<u>.l</u>	<u> </u>	1	3. N/A- Not App 4. NA- Not Anal	yzed			<del>-1-1</del> 5

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

<sup>5.</sup> NM- Not Measured 6. R- Rejected 7. J- Estimated 8. U- Not Detected

PROJECT N	NAME_	PPG No	on-Residentia	Chrome Sites	DURING DRILLING			BORING NO. <u>PPG12-E</u> G.S. ELEV. 12.8	<del></del>	
PROJECT L	_OCAT	ION	Group 12, Site	00	WELL LEVEL			CASING ELEV. N/A	[	
DRILLING	FIRM.	Hardii	and Huber I	nc.				l .		
			llow Stem Aug	jer	NORTHING_2166208.2		_	START DATE 1/7/99		
LOGGED B	YL.	Miller			EASTING_680550.2			FINISH DATE 1/7/99		
DEPTH S.S. SAMPLE	BLOWS/8in	PID (ppm)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН	
				Concrete						
								Auger to 4', cuttings wet.		
5-\\1	.5 11 7 11	BG	0630BII001		with dark reddish brown SILT and cinders, gravel,	0.64	0 0 + + + + + + + +		-5	
1.	7 8 25 2	BG	0630Bt1002	v. coarse cinders clayey cinders, m	s, wood, sand, gravel to loist.	0.433 U 5.6	<del>+</del>  + +  + +  + +  + +		_	
	3 5 1 3	BG	0630Bii004	v. coarse cinders	s, clay, gravel, wet.	40.3	+         +           -         +           -         +           -         +           -         +           -         +           -         +           -         +           -         +           -         +           -         +           -         +           -         +           -         -			
10	13 13 19 32	BG		black silty CLAY, brick??, moist.	gravel, weathered		\ + + + + + + + + + + + +		<b>-</b> 10	
	0.7 20 13 11			brick fragment, g (7.5YR 3/2) CLA	glass, very dark brown Y.		+++++++++++++++++++++++++++++++++++++++	-		
	1 7		0630BII006	very dark brown meadow mat.	(10YR 3/1) silty CLAY and			<u> </u>	15	

PROJECT NAME PPG No PROJECT LOCATION G DRILLING FIRM Hardin DRILLING METHOD Ho LOGGED BY L. Miller	n and Huber Inc.	WATER LEVELS RELATI DURING DRILLING WELL LEVEL NORTHING 2166208.2 EASTING 680550.2			BORING NO. PPG12-1 G.S. ELEV.12.8 CASING ELEV. N/A START DATE 1/7/99 FINISH DATE 1/7/9	—   
S.S. SAMPLE RECOVERY BLOWS/6in PID (ppm)	SAMPLE DEPTH I AND ID	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
20-	End of boring	g at 16 feet				-20
25-						-25
	evations in feet unless otherwise reation based on visual-manual pro		yzed sured		Sheet 2 of 2	30

PRO	JEC1	ΓΝΑ	ME_	PPG No	on-Residentia	ol Chrome Sites	WATER LEVELS RELATIVE			BORING NO. PPG12-1	B12_
PROJECT LOCATION Group 12, Site 63  DRILLING FIRM Hardin and Huber Inc.  DRIVER Auger  DURING DRILLING G.S. ELEV											
DRILLING FIRM Hardin and Huber Inc.  DRILLING METHOD Hollow Stem Auger  LOGGED BY R. Feinberg  WELL LEVEL CASING ELEV. N/A  NORTHING 2166186.6  EASTING 680527.1  FINISH DATE 1/11/98											
							2166196 6			START DATE 1/11/99	[
							NORTHING 2100100.0			FINISH DATE 1/11/9	9
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/8in	PID (ppm)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
·						Crushed gravel.					
-		1.0	10		0630Bt2001	SAND, some crushe	olive gray, c. to fine ed gravel, tr. silt, dry.	0.75	+++++++++++++++++++++++++++++++++++++++	Slight hydrocarbon odor.	
Very dark gray "stained" med. to fine										-	
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)									+ + + + + + + + + + + + + + + + + + +	Slight hydrocarbon odor, 3" piece of gravel @ top.	
	$  \  $		6			Coal, ash, and slag	g. (GP)		+++		
Very dark brown gray med. to fine SAND, little silt, little c. to fine gravel, trace coal/ash, very moist. (SW)									\		_
5-		1.0	3			black clasts/mottle	en, very fine SAND, some es, little silt, moist. (SP)		}+	Slight petroleum odor.	-5
		1.1	7 9 13		0630B12004 0630B12104	c. to fine gravel	k, c. to fine SAND, some (coal, slate, ash, slag), getation, very moist.	0.79 0.39 U	+ + + + + +	Oil sheen on top of sample, piece of wood between 6'2"-6'5".	
	$  \  $		18			Br. red SILT, trac fine gravel, moist.	ce fine sand, trace c. to (ML)		+++		
•	\		4		0630B12005	Same as above.		0.43 U	+++	Phenol or creosite	
	{	0.8	2				ed. to fine GRAVEL . to fine SAND, trace		<del> </del>	odor.	-
	$  \  $		4			_	lass, plastic, wet. (SW)		++		
10-			3		0630Bl2006	Peat/Meadow mat	(PT)	0.50 U	3 5		H0
	]\	0.2	3						7 5		
	$  \  $	0.2	3						3 5		
		4	3			No recovery.			3 5		
			3						5 5		
·											
	17   5   5										
			12		0630B12007	wet. (SP)	wn med. SAND, moist to	0.84			
15-	NOT!	<u> </u>	L.33_	L	<u> </u>	1	3. N/A- Not Applic	able		L	<del>- 1</del> 5
	NOTES:  3. N/A – Not Applicable 4. NA – Not Analyzed 5. NM – Not Measured 6. R – Rejected 2. USCS Classification based on visual-manual procedures 7. J – Estimated 8. U – Not Detected 8. U – Not Detected										

PRO	JEC1	ΓΝΑ	ME_	PPG No	on-Residentia	l Chrome Sites	WATER LEVELS RELATI	VE TO G.SUR	FACE	BORING NO. PPG12-E	B12
PRO.	JEC1	r LO	CAT	ION	Group 12, Site	63	DURING DRILLING			G.S. ELEV. <u>9.5</u>	
DRIL	LIN	G F1	RM_	Hardii	n and Huber I	nc.	WELL LEVEL			CASING ELEV. N/A	
DRILLING METHOD Hollow Stem Auger						ger	NORTHING 2166186.6 START DATE 1/11/99				
LOG	GED	BY.	R.	Feinbe	rg		EASTING 680527.1 FINISH DATE 1/11/99				
	111										
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PIO (ppm)	SAMPLE DEPTH AND ID	MATE	ERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
			35	- 7							
	1					End of boring 18 1	feet	-			
						End of borning to					
•											
	-										
20-											-20
	İ			!							
	1										
											-
ĺ	1										
25-											-25
	-										
	1										
	1										
	-					1					-
30-	L	<u> </u>	<u> </u>	J	L		3. N/A- Not Ap	plicable		<u> </u>	<del>3</del> 0
	NOT	1. [	epth USCS	s and El Classific	evations in feet cation based on	unless otherwise noted visual-manual procedur	4. NA- Not Ana 5. NM- Not Mea 6. R- Rejected	lyzed sured	9	Sheet 2 of 2	

PRO	JECT	r na	ME_	PPG No	on-Residentia	I Chrome Sites	WATER LEVELS RELATIV			l .	B13_
PRO	JEC1	ΓLO	CAT	IONE	Froup 12, Site	63	DURING DRILLING			G.S. ELEV. 10.0	
DRIL	LIN	G F	RM_	Hardir	n and Huber I	nc.	WELL LEVEL			CASING ELEV. N/A	
DRIL	LIN	G MI	ETHO	DD Ho	llow Stem Aug	jer	NORTHING 2166119.1		<del></del>	START DATE 1/8/99	
				Miller			EASTING 680575.0		_	FINISH DATE 1/8/9	9
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/8in	PID (ppm)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
						Asphalt				Auger through 6"	
			9	BG	0630B1300I		4/2) CLAY, gravel and It to black sandy clay	0.58	+	Asphalt.	
		1.5	13			and gravel, very n	noist very dark gray		  +  +		
		2	8	B6	0630BI3002		AY, gravel, sand, very ed clay, gravel, cinders,	9.2	<del>+</del>  + +   +  + +		
٠	$  \setminus $		8 6		0630BI3003			1.0	+++++++++++++++++++++++++++++++++++++++		
·	\		4			No recovery.			  +  +  +  +  +		
5-	$\left  \cdot \right $	NR	2						+++++++++++++++++++++++++++++++++++++++		5
	\	1	1		0630B13004	Brown (7.5YR 4/2 very soft and "so	2) clayey SILT, gravel, pupy".	0.44 U	╁╄ <sup>*</sup> ┼ ├ <del>┼</del> ┟┼ ┼		-
	$\left[ \cdot \right]$		1						+++++++++++++++++++++++++++++++++++++++	Bottom of Fill 8'	
			1		0630BI3005	Brown (10YR 4/3) and meadow mat.	) CLAY, trace gravel, wet,	0.44 U		Bottom of the	
	$]\setminus$		4			_					10
10-						End of boring at	10 feet				
15-	NOT		1	L		1	3. N/A- Not App	l licable	<u> </u>	-l	<del>-1-1</del> 5
	1101	i. I	Depth USCS	s and El Classific	evations in feet cation based on	uniess otherwise noted visual-manual procedur	4. NA- Not Analy 5. NM- Not Meas 6. R- Rejected	yzed ured		Sheet 1 of 1	

PROJECT NAME PPG Non-Residential Chr			BORING NO. PPG12-E	314
PROJECT LOCATION Group 12, Site 63	<del>  </del>	DURING DRILLING		
DRILLING FIRM Hardin and Huber Inc.	WELL LEVEL		CASING ELEV. N/A	
DRILLING METHOD Hollow Stem Auger	NORTHING_2166196.2		START DATE 1/7/99	T I
LOGGED BY L. Miller	EASTING 680614.6		FINISH DATE 1/7/99	9
S.S. SAMPLE RECOVERY BLOWS/6in PID (ppm) OI DAW OH HAND	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	REMARKS	ОЕРТН
2.0 1 0630B14001 0630B14002 0630B14003 (2 0630B14004 Dia sc	eathered COPR nodules in clay matrix, ess weathered nodules at bottom, moist.  lostly weathered COPR with dark red 2.5YR 3/4) clayey matrix, black sand lakes, slightly moist.  lark yellowish brown (10YR 4/4) sandy lLT, mottled gravel.  lark brown (10YR 3/2) silty CLAY, moist, quare nail	4430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Auger to 4'.	
	ind of boring at 14 feet			·
NOTES:  1. Depths and Elevations in feet unless 2. USCS Classification based on visual-		ed ed	Sheet 1 of 1	<del>-1</del> 5

PROJECT NAME_PPG Non-Residential Chrome Sites PROJECT LOCATION_Group 12, Site 63  DRILLING FIRM_Hardin and Huber Inc.  DRILLING METHOD_Hollow Stem Auger  LOGGED BY_L. Miller						63 nc.	DURING DRILLING WELL LEVEL NORTHING_2166191.4 EASTING_680682.5	G.S. ELEV. 13.4  CASING ELEV. N/A  START DATE 1/6/99  FINISH DATE 1/6/99			
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	PID (ppm)	SAMPLE DEPTH AND ID	мате	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
5-		2. 1.7.			0630BI5001 0630BI5002 0630BI5004 0630BI5005	yellow blooms, mo bottom, wet. Bla bottom.  Black SAND, fine wet, to dark yellowish brooms to dark yellowish some mottling.	3. N/A- Not App			Sand smells like turbentine.  Ectrom of Fill 8'	-5
	140	,	Depti USC:	ns and E S Classif	levations in feet ication based or	unless otherwise noted visual-manual procedu	4, NA- Not Anal 5, NM- Not Meas 6, R- Rejected	yzed sured		Sheet 1 of 1	

PROJ DRIL DRIL	PROJECT NAME PPG Non-Residential Chrome Sites  PROJECT LOCATION Group 12, Site 63  DRILLING FIRM Hardin and Huber Inc.  DRILLING METHOD Hollow Stem Auger  LOGGED BY L. Miller  SAMPLE DEPTH AND ID  MATE					63 nc.	WATER LEVELS RELATIVE DURING DRILLING WELL LEVEL NORTHING 2166261.2 EASTING 680619.6	BORING NO. PPG12-6 G.S. ELEV.13.9 CASING ELEV. N/A START DATE 1/7/99 FINISH DATE 1/7/99	9		
ОЕРТН	S.S. SAN	RECOVERY	BLOWS/6in	PID (ppm)	DEPTH AND ID	MATE	RIAL DESCRIPTION	CHROMIUM (mg/kg)	SYMBOL	REMARKS	DEPTH
10-		2' 1.7' 2'	1 1 1 10 14 11 7 7 4 6 29 32 26 35		0630B16001 0630B16002 0630B16003 0630B16004	Dark reddish brown COPR with COPR of Black clayey cinconstitution of FILL - gravel, browith yellow bloom.	wn (2.5YR 3/3) weathered nodules at bottom.  ders with yellow blooms.  ick fragments, wood, clay s, wet.  own (10YR 3/3) clayey el.	3000 2740 (dup.) 3690 1190 3950	0.0.0.0.0.0.0.0.0++++++++++++++++++++++	Sottom of Fill 12"	5 10
	тои	ES: 1, 1 2.	Deptr USCS	is and E Classifi	levations in feet cation based on	unless otherwise noted visual-manual procedu	3. N/A- Not Ap; 4. NA- Not Ana; 5. NM- Not Mea; 6. R- Rejected res 7. J- Estimatec 8. U- Not Dete	lyzed sured		Sheet 1 of 1	

PRO	JEC	T NA	ME_	PPG N	on-Residentia	l Chrome Sites	WATER LEVELS RELATIV	E TO G.SUR	RFACE	BORING NO. PPG12-	B17
PRO.	JEC	TLC	CAT	ION(	Group 12, Site	63	DURING DRILLING			G.S. ELEV. 13.2	
					n and Huber I		WELL LEVEL	<del></del>		CASING ELEV. N/A	
DRIL	LIN	IG M	ЕТН	0D_H0	ollow Stem Aug	ger	NORTHING_2166310.0			START DATE 1/7/99	9
LOG	GED	BY.	L.	Miller			EASTING 680697.3			FINISH DATE 1/7/9	9
	T	ľ					LASTINO	Ţ	<del>-</del>	1	ı
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	(mdd)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
-										Auger to 4', cuttings "soupy".	
5		0.75	4 2 3 4	B6	0630BI700I	COPR and gravel, t turpentine smell.	orick, sand, wet, with	134			-5
-			9 5		0630B17002		ery moist, and dark OYR 3/3) silty CLAY,	0.47 U	+ + + +		
		1.5	8 6		0630B17003	some gravel, glass,	, weathered COPR.	4.6	+ + + + + - - - - - - - - - - - - - - -		
-		0.75	6 2 16		0630B17004	Black to red silty ( wet to moist.	CLAY with coal, gravel,	0.40 U	+ + + + + + + +		-
10-	$\setminus$		15 14		0630817005			N 20 11	+ + + + + = <del>=</del> =	Bottom of Fill 10'	<b>⊣</b> 0
•			39/5		THE STATE OF THE S	Red silty CLAY.		U.J.S. U		25((6)), 617 111 10	
		105	3 6		0630BI7006	Gray CLAY to red	clay with gravel.	1.6			
		1.25	14								
						End of boring at 14	4 feet				
15-1	NOTE	1. De	epths SCS (	and Ele Classifica	vations in feet ui ation based on vi	nless otherwise noted sual-manual procedures	3. N/A- Not Applic 4. NA- Not Analyzi 5. NM- Not Measuri 6. R- Rejected 7. J- Estimated 8. U- Not Detecte	ed ed		Sheet 1 of 1	45

PROJECT NAME PPG Non-Residential Chrome Sites	- MATER LEVELS RELATIVE		<b>:</b>	110		
PROJECT LOCATION Group 12, Site 63	<del></del>	DURING DRILLING				
DRILLING FIRM Hardin and Huber Inc.			CASING ELEV. N/A START DATE 1/8/99			
DRILLING METHOD Hollow Stem Auger	NORTHING 2166281.6	NORTHING_2166281.6				
LOGGED BYL. Miller	EASTING 680757.1	EASTING 680757.1 FINISH DATE 1/8/99				
S.S. SAMPLE RECOVERY BLOWS/6in (ppm) OI DAMPS OI HAABO	MATERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	REMARKS	ОЕРТН		
5- 2.0 11 23 0630Bi800I SAND cinder. 9 0630Bi8002/i02 0630Bi8003 Dark yellowi sandy CLAY bottom.  10 8 9 11 0630Bi8004 Dark red (2 SILT.	and COPR at top.  R 7/4) fine to med. grained v. to black stained sand and  INDERS as above, wet. sh brown (10YR 3/3) silty with black mottling, reddish at  .5YE 3/2) silty CLAY to clayey  ag at 10 feet  3. N/A- Not Appl 4. NA- Not Appl 4. NA- Not Appl	55.2 + + + + + + + + + + + + + + + + + + +	Sand smells like turpentine. + + + Bottom of Fill 8'	ξ 10 ±5		
Depths and Elevations in feet unless otherwise     USCS Classification based on visual-manual pro	5. NM- Not Measi noted 6. R- Rejected	ured	Sheet 1 of 1			

PRO.	FCT	NA	ME_	PPG No	on-Residentia	Chrome Sites	WATER LEVELS RELATIV	E TO G.SUR	FACE	BORING NO. PPG12-E	319
PRO	IECT	LO	CAT	ION_G	Group 12, Site	63	DURING DRILLING			G.S. ELEV. <u>13.2</u>	
DRIL	LIN	G FI	RM_	Hardir	and Huber I	nc.	WELL LEVEL			CASING ELEV. N/A	1
DRIL	LIN	G ME	ETHO	D Ho	llow Stem Aug	er	NORTHING_2166238.8			START DATE 1/6/99	
LOG					. <del></del>		EASTING_680746.0			FINISH DATE 1/6/9	<del>9</del> —
			-				LAO / III O				
ОЕРТН	S.S. SAMPLE	RECOVERY	BLOWS/6in	(mdd)	SAMPLE DEPTH AND ID	МАТЕ	ERIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	SYMBOL	REMARKS	ОЕРТН
										Auger to 4', cuttings very moist.	
5-		2.0	10 24 24 20	46	0630B19001 0630B19002	COPR, wet.	wn (5YR 3/4) SILT with	1680	000		- Jo
			3			-			<del> </del>	1	
		2.0	3		0630B19003	(5YR 4/4), silty	ove, to reddish brown CLAY, wood fragments.	8.8	<del> </del>	1	
		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3		0630Bi9004	Black sandy SIL CLAY with gravel	T, wet, to reddish brown	2.4	+	Bottom of Fill 8'	
					0630B19005	Gray (10YR 6/1) meadow mat.	CLAY, trace silt with	1.5		BOCCOIII OT FIII O	
	1	2.0									
10-	$\downarrow$	1									H <sup>0</sup>
	$\left  \right $	2.0									
	$\vdash$	1				End of boring at	12 feet				
											15
15		res:					3. N/A- Not App 4. NA- Not Anal	olicable vzed			
		1. 2.	Depti USCS	ns and E S Classifi	levations in feet ication based on	unless otherwise noted visual-manual procedu	5. NM- Not Meas 6. R- Rejected	sured		Sheet 1 of 1	

	2, Site 63 Huber Inc. tem Auger  MPLE PTH  MATER	WATER LEVELS RELATIVE DURING DRILLING WELL LEVEL  NORTHING 2166138.6 EASTING 680604.4	HEX. CHROMIUM Q		
5 2 06308	Strong brown (7.5' with weathered CO Yellow bloom noduli	YR 3/4) wet silty CLAY, PR in silty matrix. es at bottom. odules, concrete in nose	2220 0.000 0		ρ · · · · · · · · · · · · · · · · · · ·
NOTES:  1. Depths and Elevations	s in feet unless otherwise noted assed on visual-manual procedure	3. N/A- Not Applic 4. NA- Not Analyzo 5. NM- Not Measuro 6. R- Rejected 7. J- Estimated 8. U- Not Detecte	ed ed	Sheet 1 of 1	45

PROJ DRIL DRIL LOGG	ROJECT NAME PPG Non-Residential Chrome Sites ROJECT LOCATION Group 12, Site 63 RILLING FIRM Hardin and Huber Inc. RILLING METHOD Hollow Stem Auger DGGED BY R. Feinberg  SAMPLE DEPTH AND ID  MAT						WATER LEVELS RELATIVE DURING DRILLING WELL LEVEL NORTHING 2166163.9 EASTING 680585.1			BORING NO. PPG12- G.S. ELEV.13.2 CASING ELEV. N/A START DATE 1/11/99 FINISH DATE 1/11/99	9
DEPTH	S.S.	RECC	BLOI	<b>a</b> a)	AND ID				S	Auger to 4'	
5-		2'	1 1 5 2 25 57		0630B21001 0630B21002	Br. red/gray COI	PR, wet (SILT)	1500	0 0 0 0 0 0 0 0 0 0 0 0 0		<del>-</del> б
		1"	51/6° 4 11 8		0630B21003 0630B21004	ash. Red brown - gr.	f. SAND, little slag, little brown SILT, some fine to fine gravel, moist	594	++		
10-		5"	3 5 7 7 25		0630B2I005	to fine gravel (a seams, moist.	to fine SAND, trace med. angular), gr. brown SILT	0.99	3	=	H0
15.		8"	35 8 5	1	0630B21006	uk. brown gray	meadow mat., moist.	0.688 U	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	4	15
15		TES:	Denti	ns and E S Classif	Elevations in feet lication based or	unless otherwise note visual-manual procedu	3. N/A- Not Api 4. NA- Not Ana 5. NM- Not Mea 6. R- Rejected ures 7. J- Estimated 8. U- Not Dete	lyzed sured 1		Sheet 1 of 2	

PROJECT I DRILLING DRILLING	LOCATION FIRM NETHOE	ON <u>G</u> Hardin Hol	oup 12, Site and Huber I low Stem Aug	nc.	WATER LEVELS RELATIVE TO G.SURFACE DURING DRILLING G.S. ELEV. 13.2 WELL LEVEL CASING ELEV. N/A NORTHING 2166163.9  WATER LEVELS RELATIVE TO G.SURFACE BORING NO. PPG12-B21 G.S. ELEV. 13.2 CASING ELEV. N/A START DATE 1/11/99 EINISH DATE 1/11/99				
LOGGED B	R. F.	einber	9		EASTING_680585.1			FINISH DATE 1/11/9	
S.S. SAMPLE	BLOWS/6in	OIG (mdd)	SAMPLE DEPTH AND ID	MATE	RIAL DESCRIPTION	HEX. CHROMIUM (mg/kg)	IXS	REMARKS	ОЕРТН
20-				Sand as above.  End of boring 16 f	eet		\rangle \rangl		-20
25-									-25
30 NOTES	t Denths	and Ele	vations in feet ation based on	unless otherwise noted visual-manual procedur	3. N/A- Not Applii 4. NA- Not Analy; 5. NM- Not Measu 6. R- Rejected es 7. J- Estimated 8. U- Not Detect	red red	5	Sheet 2 of 2	-1-30

PROJECT NAME:

# Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

**B014** 

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

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 _			ND 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 ND			oneman neadles, dry, 1866s.
3		56	ND ND			
4			ND ND			
5			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.
6			ND ND			5.0 to 6.0' - FILL: Orange brown fine to coarse sand, little fine to medium rounded gravel, trace silt, wet, dense.
7			ND ND			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,
8		52	ND ND			wet, loose.
			ND 1.6			8.0 to 11.5' - FILL: Black fine to medium sand, little fine to medium angular gravel, little silt, ash, cinders, coal, wet, loose.
9 -			1.0			
_ 10 _			3.1			
_ 11 _			0.7		D.T.	44 5 to 49 0' Dork Brown MEADOW MAT little along little allege
_ 12 _		38	0.4		PT	11.5 to 18.0' - Dark Brown MEADOW MAT, little clay, little silt, root material, wet, loose.
_ 13 _			175			
_ 14 _			339.0			
15			367.0			



# TRC Environmental Corporation SOIL BORING LOG

BORING NUMBER

**B014** 

57 E. V	Villow Stree	(973) 564-6006			SOIL BORING LOG			B014			
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED		_	LITHOL	.ogic c	LASSIFI	CATION AND COMMENTS
			338								
16			442								
			552								
_ 17 _											
		45									
_ 18 _		-	625		CM	10 0	to 20	no' Cr	ov fino	CAND I	ittle silt, wet, loose, odor.
			818		SIVI	10.0	10 20	J.U - GI	ay iirie	SAND, II	ittle siit, wet, loose, odor.
_ 19 _			755								
00			755								
_ 20 _			457		SW	20.0	to 21	1 5' - Gr	av fine	to medii	um SAND, little fine to medium sul
21			1.0 3.6		OVV						ose, slight odor.
- 21 -		-	56.1				_				-
22			3.7		sw	21.5	to 22	2.5' - Bro	own gra	av fine to	medium SAND, little fine to
			0.3								e silt, wet, dense to loose.
23		- 55	ND		SW	22.5	to 25	5.0' - Bro	own fin	e SAND,	, little fine to medium sub-rounded
			ND							nse to lo	
24			ND								
_			ND								
25											
			ND		sw						medium SAND, little fine to
26			ND					ıb-angul	lar grav	el, little s	silt, wet, dense to loose. Refusal
			ND			@ 4	3.				
27			ND								
		58	ND								
28			ND								
			ND								
29			ND								
		1	ND								
30			ND								
			ND								
31			ND								



### Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

**B014** 

57 E. V	Villow Street	t, Millburn, N	J 07041	(973) 564-6006		00.2			B014
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LI	THOLOGIC C	LASSIFI	CATION AND COMMENTS
			ND						
32		-	ND						
		-	ND						
33		50	ND						
			ND						
_ 34 _			ND						
25		-	ND						
_ 35 _			ND						
36			ND						
" -			ND						
37			ND						
		50	ND						
38		50	ND						
			ND						
39			ND						
			ND						
40			 						
			ND						
_ 41 _									
40		19	ND						
_ 42 _		-							
43			ND						
			110				E	End of bo	oring @ 43'
		1							·
		1							
		1							
	-								
		_							
L _									

PROJECT NAME:

# Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

**C006** 

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

Spectra NJ-NY **Expansion ORAC** 

LOCATION: Jersey City, New Jersey

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

Investigations

DATE DRILLED: 07/13/11

DRILLER: R. Smith

LOGGED BY: B. Chaky

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

**BORING METHOD**: Geoprobe- Direct Push TOTAL DEPTH DRILLED: 20 feet

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
		Hand cleared				0 to 1.0' - GRAVEL, liner @ 1'.
_ 1 _		cleared	2464			1.0 to 3.0' - FILL: Dark brown to black fine to medium sand, little
_ 2 _			24.5			fine to medium sub-angular gravel, trace silt, moist, dense, odor.
3		42	43.7			
		42	41.8			3.0 to 5.0' - FILL: Gray brown fine sand, little clay, trace fine gravel, wood piling material, wet, loose, odor.
_ 4 _			23.9 244			,
_ 5 _			16.1		SD	5.0 to 7.5' - Gray brown fine SAND, little silt, trace fine sub-angular
6			4.5		01	gravel, wood piling material @ 5', moist, loose, odor.
			1.1 0.3			
_ 7 _		42	0.3			
_ 8 _		42	1.0 1.8		PT	7.5 to 10.5' - Dark brown MEADOW MAT, moist.
9			16.1			
10			16.6			
_ 10 _						
_ 11 _			18.1 10.9		SC	10.5 to 12.0' - Gray fine SAND, some clay, loose, wet.
12			10.0			
13		42	4.1		SP	12.0 to 15.0' - Red brown fine SAND, little fine to medium subrounded gravel, little silt, moist, dense.
' -			1580			
_ 14 _			12.4			
15			11.4			

	RC Willow Street	Enviror t, Millburn, N.	1 <b>mei</b> J 07041	ntal Corpo (973) 564-6006	rati	SOIL BORING LOG	C006
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED		CATION AND COMMENTS
			0.8		SC	15.0 to 20.0' - Red brown fine SA	ND, some clay, little fine to
16		-	8.0			medium sub-rounded gravel, mo	st, dense.
17		_					
├ '' -			2.4				
18		36					
		-	2.2				
_ 19 _		-	1.1				
20		-	0.7				
			0			End of bo	oring @ 20'
		-					
<u> </u>		-					
<u> </u>		-					
		<u> </u>					
		1					
<u> </u>		-					
		-					
<u> </u>							
<u> </u>		-					

BORING NUMBER

# Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

C007

PROJECT NAME:

Spectra NJ-NY

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

LOCATION: Jersey City, New Jersey **Expansion ORAC** 

**PROJECT NO.:** 168217

SAMPLER TYPE/DIA.: Macrocore/2"

**CONTRACTOR:** Environmental Probing

Investigations

DATE DRILLED: 07/13/11

**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						
		Hand cleared				0 to 1.0' - GRAVEL, liner @ 1'.
2			25.2 317			1.0 to 2.5' - FILL: Gray black fine to medium sand, some fine to medium sub-rounded gravel, trace silt, wet, odor.
_ 3 _		48	27.8 36.4			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,
4 _			3.2			dense, slight odor.
_ 5 _			5.2 31.6		S D	5.0 to 7.0' - Gray brown fine SAND, little fine to medium sub-
6 _			30 25.6 7.1		SF	rounded gravel, little silt, moist, dense, odor.
7 _			0.3		РТ	7.0 to 10.5' - Dark brown MEADOW MAT, moist.
8 _		36	1.1 ND ND			7.0 to 10.0 Bank brown with Above with the minutes
9 _			ND			
_ 10 _			ND			
_ 11 _			ND		SP	10.5 to 11.5' - Gray fine SAND, little silt, trace fine gravel, wet, loose.
_ 12 _			ND ND		SP	11.5 to 15.0' - Red brown fine SAND, some fine to medium sub-rounded gravel, little silt, moist, dense.
_ 13 _		40	ND			
_ 14 _			No			
15			ND ND			

OT.				atal Caman				BORING NUMBER			
	ALC: NO PERSONS AND ADDRESS OF THE PERSONS AND ADDRESS AND ADDR			ntal Corpo (973) 564-6006	SOIL BORING LOG	C007					
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED		LITHOLOGIC CLASSIFICATION AND COMMENTS				
			ND		SP		to 20.0' - Red brown fine S nded gravel, little silt, wet, lo	AND, little fine to medium sub-			
_ 16 _			ND			Tour	ided graver, inthe sint, wet, io	536.			
17			ND ND								
├ '' -			ND								
18		60	ND								
			ND								
_ 19 _			ND								
00			ND ND								
_ 20 _			ND				End of b	oring @ 20'			
								·			
<u> </u>											
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# Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

C011

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

Spectra NJ-NY PROJECT NAME: **Expansion ORAC** 

LOCATION: Jersey City, New Jersey

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

Investigations

DATE DRILLED: 07/25/11

DRILLER: B. Flemming

LOGGED BY: B. Chaky

SAMPLER TYPE/DIA.: Macrocore/2" **DEPTH TO WATER: 1.5 feet** 

BORING METHOD: Geoprobe- Direct Push TOTAL DEPTH DRILLED: 35 feet

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
_ 0 _						0 to 0.5' - Gray GRAVEL
1			0.5			0.5 to 1.5' - FILL: Brown fine to medium sand, little fine to medium
			16.1			sub rounded gravel, trace silt, coal and concrete fragments, dry, loose.
_ 2 _			070			1.5 to 2.5' - FILL: Black fine to coarse sand, trace fine to medium
3		46	276 21.5			angular gravel, trace silt, cinder and coal fragments, wood
3 -			1099			material, wet, loose, odor.
4			49.6		SM	2.5 to 5.0' - Gray brown fine SAND, little silt, trace fine sub-
			16.5			rounded gravel, moist, dense.
_ 5 _			648		SM	5.0 to 6.5' - Gray brown fine SAND, some silt, little root material,
6			238		Civi	moist, dense, slight odor.
F ~ -			99.3			
7			32.2		PT	6.5 to 10.0' - Dark brown MEADOW MAT, little silt, trace clay,
		40	37.1			moist, loose.
_ 8 _			5.3 4.0			
9			2.0			
_ 10 _						
4.4			0.4 ND		SIM	10.0 to 15.0' - Gray brown fine to medium SAND, some fine to medium sub-rounded gravel, little silt, wet, dense to loose.
_ 11 _			ND			<b>3</b> , , ,
12			_			
		40				
_ 13 _			ND			
14			ND			
-   14 -			ND			
15			ND			

**BORING NUMBER** 

C011

57 E. V	Villow Street	t, Millburn, N.	J 07041	(973) 564-6006	1				C011
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED				CATION AND COMMENTS
			ND		GP		to 20.0' - Gray brown o medium sand, trac		coarse angular GRAVEL, little
16			ND			IIIIe	o medium sand, traci	e siit, w	/et, 100se.
17		-	ND						
_		38							
_ 18 _			ND						
19		-	ND						
_ 19 _		-	ND						
20 _			ND						
			ND		SW				medium SAND, some fine to
21 _		=	ND			coar	se angular gravel, littl	e siit, v	vet, dense to loose.
			ND						
			ND						
		50	ND						
_ 23			ND						
0.4			ND ND						
_ 24 _			ND						
25			110						
_ 20 _			ND						
26			ND						
_									
27					SM				medium SAND, little fine to
		39	ND			med 35.0		el, little	silt, moist, dense. Refusal @
28 _			ND			33.0	•		
			ND						
29 _		4							
00		4	ND						
30 _			ND						
31		1	ND						
_ 31		†	ND						
32		1	ND						
		F.4	ND						
33		- 54	ND						
-			ND						
34	-		ND						
		]	ND						
35			ND				Er	nd of bo	oring @ 35'

# Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

**D004** 

PROJECT NAME:

Spectra NJ-NY

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

**Expansion ORAC** 

LOCATION: Jersey City, New Jersey

**PROJECT NO.:** 168217

**CONTRACTOR:** Environmental Probing

Investigations

DATE DRILLED: 07/25/11

DRILLER: B. Flemming

SAMPLER TYPE/DIA.: Macrocore/2"

**DEPTH TO WATER: 3 feet** 

LOGGED BY: B. Chaky

BORING METHOD: Geoprobe- Direct Push TOTAL DEPTH DRILLED: 31 feet

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' - Gray GRAVEL and ASPHALT.
1			ND			0.5 to 5.0' - FILL: Gray brown fine to medium sand, trace fine to
<u></u>			ND			medium sub-rounded gravel, trace silt, cinders, wet @ 3', dense.
_ 2 _			ND			
		40	ND			
_ 3 _			ND			
4			ND ND			
F -			ND			
5						
			50.2			5.0 to 15.0' - FILL: Gray brown fine to medium sand, little fine to
_ 6 _						medium sub-angular gravel, little silt, staining from 5.0 to 6.5', wet, dense to loose, slight odor.
_			50.7			, 6
_ 7 _			30.7			
8		40	34.3			
9 _			20.2			
			ND			
_ 10 _			ND 19.2			
11			ND			
			ND			
_ 12 _			ND			
		50	ND			
_ 13 _			ND ND			
14			ND			
'			ND			
15						

# TRC Environmental Corporation SOIL BORING LOG

BORING NUMBER

**D004** 

		.,		(373) 304-0000				
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED			CATION AND COMMENTS
			ND		SP			AND, little fine to medium sub-
16			ND			angula	ar to sub-rounded gravel, to	race silt, moist, dense.
			ND					
17			ND					
_ ` _			ND					
18		60	ND					
<u> </u>			ND					
19			ND					
_ '3 _			ND					
20		1	ND					
_ 20 _			ND					
21			טוו					
<u> </u>			ND					
00		-	ND					
_ 22 _			ND					
		36	ND					
_ 23 _			טא					
			ND					
_ 24 _			ND					
			ND					
25			ND		e D	25.0 +	o 20 0' Crow brown fine to	medium SAND, little fine to
					35		e sub-rounded gravel, trace	
_ 26 _			ND			ooaro	o dab roundou gravor, trade	o sint, wort, derioe.
		-	ND					
_ 27 _		_	ND					
		40	ND					
28			ND					
			ND					
_ 29 _			ND					
30								
		12	ND		SP	30.0 to	o 31.0' - Brown fine to med	ium SAND, trace fine sub-rounded
31		12	ND			gravel	, trace silt, wet, loose. Refu	
							End of bo	oring @ 31'

PROJECT NAME:

# Environmental Corporation | SOIL BORING LOG

**BORING NUMBER** 

**SB-4** 

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

Spectra NJ-NY **Expansion ORAC** 

LOCATION: Jersey City, New Jersey

**PROJECT NO.:** 168217

SAMPLER TYPE/DIA.: Macrocore/2"

BORING METHOD: Geoprobe- Direct Push

**CONTRACTOR:** Zebra Environmental

**DEPTH TO WATER:** 7 feet

TOTAL DEPTH DRILLED: 12 feet

DATE DRILLED: 07/15/11

DRILLER: B. Lombardo

LOGGED BY: G. Nicaretta

			·			1	
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS	
_ 0							
_ 1						0 to 5.0' - FILL: Mixed gravel and	I sand, dense, dry.
_ 2							
_ 3 _		Hand cleared					
4							
_ 5							
_ 6			477 379	SB4/5.0-5.5	ML	5.0 to 7.0' - Reddish brown SILT, petroleum like odor.	little sand, moist, strong
7			121				
_ 8 _		40	90.2 14.7	SB4/7.5-8.0		7.0 to 7.5' - Red SILT, little sand, 7.5 to 10.5' - Dark brown MEADC material.	
9			2.3			material.	
_ 10 _				SB4/9.5-10.0	0.0	40.5.44.61.0	E CAND EN 36
_ 11 _		20	1.2			10.5 to 11.0' - Grayish green med moist.	
_ 12 _			1.8 ND		CL	11.0 to 12.0' - Dark reddish green moist.	
						End of bo	oring @ 12'

SAMPLER TYPE/DIA.: Macrocore/2"

# Environmental Corporation | SOIL BORING LOG

**BORING NUMBER** 

**SB-5** 

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

Spectra NJ-NY PROJECT NAME: **Expansion ORAC** 

LOCATION: Jersey City, New Jersey

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

DATE DRILLED: 07/15/11

**DEPTH TO WATER:** 3 feet

DRILLER: B. Lombardo

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

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						O. O. S. AODUALT
						0 to 0.5' - ASPHALT
<u> </u>						0.5 to 5.0' - FILL: Gravel and dark medium to coarse sand, dense, wet @ 3', odor.
			ND			
2		Hand	ND 7.2			
		cleared	7.2 14.4			
3 -		0.00.00	32.3			
4			56.4			
$\vdash$ $\dashv$			00.4			
5						
$\vdash$ $\dashv$			62.1	SB5/5.0-5.5	sw	5.0 to 7.5' - Brown SAND, little silt, trace gravel, dense, wet, odor.
6				020,010 010		
			28.3			
7						
		30	22			
8		30				7.5 to 8.5' - FILL: Brick material, wood chip material.
			44.3			
9					SM	8.5 to 9.5' - Red SILT, trace gravel, stiff, moist.
			2.3			
10			0.2		PT	9.5 to 13.5' - Reddish brown MEADOW MAT, tight, wet.
			0.9	SB5/10.0-10.5		
_ 11 _			4.8			
			8.8			
_ 12 _		48	4.5	005/40 0 40 5		
40			0.5	SB5/12.0-12.5		
_ 13 _			0.3			
14			0.4		SP	13.5 to 14.0' - Greenish gray fine SAND, dense, wet.
-						End of boring @ 14'

# Environmental Corporation | SOIL BORING LOG

**BORING NUMBER** 

**SB-6** 

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

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: 2 feet** 

DRILLER: B. Lombardo

BORING METHOD: Geoprobe- Direct Push

TOTAL DEPTH DRILLED: 10 feet

LOGGED BY: G. Nicaretta

DATE DRILLED: 07/12/11

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

# Environmental Corporation | SOIL BORING LOG

**BORING NUMBER** 

**SB-7** 

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

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:** 1 foot

BORING METHOD: Geoprobe- Direct Push TOTAL DEPTH DRILLED: 15 feet DATE DRILLED: 07/12/11

DRILLER: B. Lombardo

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				
2		cleared	28.6 45.7			1.0 to 2.0' - FILL: Fine to coarse gravel, some fine to medium gray sand, trace silt, wet @ 1'
3			20.1 59.2	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.
		00	0.8	3B1/2.3-3.0	sw	3.0 to 5.0' - Reddish brown SAND, some silt, tight, wet.
4		36	2.3			
			19.8			
_ 5 _			3.3 ND			5.0 to 7.5' - FILL: Light brown, reddish medium to coarse sand,
6			ND			little silt, trace fine gravel, coal fragments, tight, moist.
			ND			
_ 7 _			ND			
		54	ND		014	75. 405. D. 15.1
_ 8 _			ND		SM	7.5 to 10.5' - Reddish brown SILT, trace fine gravel, stiff, moist.
9			ND ND			
			ND			
10			ND			
			ND		_	AGENTAGE BUILD MESSONAT
_ 11 _			13.5 10.8	SB7/10.5-11.0	ы	10.5 to 13.5' - Reddish brown MEADOW MAT, compact, moist, organic odor.
12			ND			
- '		<b>5</b> 4	ND			
13		54	ND			
			ND	SB7/13.0-13.5		
_ 14 _			ND		SP	13.5 to 15.0' - Gray fine to medium SAND, trace silt, dense, moist.
15			ND ND			End of boring @ 15'

# Environmental Corporation | SOIL BORING LOG

**BORING NUMBER** 

**SB-8** 

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

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: 2.5 foot** 

BORING METHOD: Geoprobe- Direct Push TOTAL DEPTH DRILLED: 10 feet DATE DRILLED: 07/14/11

DRILLER: B. Lombardo

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 _						404 051 5111 D 111 1 1 1 1 1 1 1 1 1 1 1 1 1
2		Hand	94.6 74.5			1.0 to 3.5' - FILL: Dark black gravel and sand, loose, wet @ 2.5'.
		cleared	28.2			
_ 3 _			58.2			
4			61.1 5.6		CI	3.5 to 4.0' - Dark brown SILT, some gravel, loose, wet, odor.
_ 4 _		18	18.1			4.0 to 5.0' - Reddish brown SILT, some gravel, dense, wet, odor.
_ 5 _			14			
			18.8		ML	5.0 to 8.5' - Dark gray SILT, dense, wet, slight odor at @ 5'.
_ 6 _			26.2 33.3	SB8/6.0-6.5		
7			9.4	000/0.0 0.0		
		55	22.7			
_ 8 _			4.2 0.3			
9			ND	SB8/8.5-9.0	РТ	8.5 to 10.0' - Reddish brown MEADOW MAT, dense, moist.
			ND			
_ 10 _			ND	SB8/9.5-10.0		End of boring @ 10'
11						
_ 12 _						
13						
_ 14 _						
15						

PROJECT NAME:

# Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

**SB-10** 

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

Spectra NJ-NY **Expansion ORAC** 

LOCATION: Jersey City, New Jersey

**PROJECT NO.:** 168217

SAMPLER TYPE/DIA.: Macrocore/2"

**CONTRACTOR:** Zebra Environmental

**DEPTH TO WATER: 2.5 feet** 

BORING METHOD: Geoprobe- Direct Push TOTAL DEPTH DRILLED: 15 feet DATE DRILLED: 07/13/11

DRILLER: B. Lombardo

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
1			ND ND			0 to 4.0' - FILL: Dark black fine to coarse sand, loose, wet @ 2.5'.
2		Hand	ND ND			
3		cleared	ND ND			
4 _			ND ND			
_ 5 _		12	97.2 14.4			4.0 to 5.0' - FILL: Dark black fine to coarse SAND, trace gravel, loose, wet, odor.
_ 6 _			13.8			5.0 to 9.5' - Reddish brown silty SAND, trace gravel, dense, wet. Coal fragments from 8 to 9.5'.
7 _			8.2 ND			
8 _		36	ND		SM	
9 _			96.3			
_ 10 _			272 ND	SB10/9.0-9.5		9.5 to 9.75' - Gray silty SAND, trace organics, dense, moist.
_ 11 _			20.2	SB10/10.0-10.5		9.75 to 10.5' - Reddish brown to gray SILT, little sand, stiff, wet 10.5 to 14.5' - Reddish brown MEADOW MAT, organic material, moist, organic odor.
_ 12 _		36	18.9 17.6			inois, organio odor.
_ 13 _				SB10/12.5-13.0		
_ 14 _			5.6		CNA	44.5 to 45.01. Once site OAND, d
15			2.3		SIVI	14.5 to 15.0' - Gray silty SAND, dense, moist. End of boring @ 15'

#### **Environmental Corporation**

**SOIL BORING LOG** 

**BORING NUMBER** 

**SB-11** 

PROJECT NAME: Spectra NJ-NY

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

**Expansion ORAC** 

LOCATION: Jersey City, New Jersey

**PROJECT NO.:** 168217

**CONTRACTOR**: Zebra Environmental

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

DATE DRILLED: 07/12/11

	ır—————	1		<b>T</b>		
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
_ 1 _		Hand				0 to 1.0' - GRAVEL, Liner @ 1'
2		cleared	0.8 1.7			1.0 to 2.0' - FILL: fine to coarse gravel, some fine to medium gray sand, trace silt, wet @ 1'
3			336 527	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	33.6 14.7		SM	3.0 to 7.5' - Dark reddish brown SILT, trace sand, trace fine gravel, stiff, wet.
_ 5 _			2.2 2.3			
_ 6 _			0.2 ND			
_ 7 _			ND ND			
_ 8 _		54	ND ND ND	SB11/7.5-8.0	РТ	7.5 to 9.75' - Dark brown MEADOW MAT, organic material, compact, moist.
9 _			ND ND	SB11/9.0-9.5	SP	9.75 to 10.0' - Gray brown fine SAND, trace organics, dense, moist.
_ 10 _			ND			Find of having a @ 40!
						End of boring @ 10'

PROJECT NAME:

# Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

**SB-12** 

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

Spectra NJ-NY **Expansion ORAC** 

LOCATION: Jersey City, New Jersey

**PROJECT NO.:** 168217

**CONTRACTOR:** Zebra Environmental

SAMPLER TYPE/DIA.: Macrocore/2" **DEPTH TO WATER:** 6 feet

BORING METHOD: Geoprobe- Direct Push TOTAL DEPTH DRILLED: 15 feet DATE DRILLED: 07/15/11

DRILLER: B. Lombardo

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

# Environmental Corporation SOIL BORING LOG

**BORING NUMBER** 

**SB-13** 

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

PROJECT NAME: Spectra NJ-NY Expansion ORAC

LOCATION: Jersey City, New Jersey

**PROJECT NO.:** 168217

**CONTRACTOR:** Zebra Environmental

SAMPLER TYPE/DIA.: Macrocore/2"

BORING METHOD: Geoprobe- Direct Push

**DEPTH TO WATER:** 1 foot

TOTAL DEPTH DRILLED: 10 feet

DATE DRILLED: 07/12/11

DRILLER: B. Lombardo

DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0						
1		Hand				0 to 1.0' - GRAVEL, Liner @ 1'
2		cleared	0.8 1.7			1.0 to 2.0' - FILL: fine to coarse gravel, some fine to medium gray sand, trace silt, wet @ 1'.
3			2475 3414	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 _		30	167 327			
_ 5 _			214 58.2 206		SM	5.0 to 8.0' - Dark reddish brown SILT, trace sand, trace fine gravel, stiff, wet, strong solvent odor.
6 _			99.1 1121		Sivi	
7 _			206			
_ 8 _		54	408 48.8			204 400 B 11 ME180WME
9 _			4.2 2.8	SB13/8.0-8.5	РΙ	8.0 to 10.0' - Dark brown MEADOW MAT, organic material, tight, wet, slight odor.
10			ND ND	SB13/9.5-10.0		
						End of boring @ 10'



#### **Environmental Corporation**

TEMPORARY WELL AND SOIL BORING LOG

#### WELL NUMBER

**TW-1** 

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

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 BEDROCK: Not Encountered

TOTAL DEPTH DRILLED: 12 feet

TYPE OF WELL: Temporary

DRILLING METHOD: Geoprobe - Direct Push

BIT TYPE: NA

START DATE: 07/14/11

FINISH DATE: 07/14/11

DRILLER: B. Lombardo

LOGGED BY: G. Nicaretta

FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRA	WELL DIAGRAM		LITHOLOGIC CLASSIFICATION AND COMMENTS
0								
_ 1 _								0 to 5.0' - FILL: Grayish brown sand, little gravel, little silt, loose, odor, wet @ 3', cardboard layer @ 2' saturated, strong solvent odor.
_ 2 _		Hand						
_ 3 _		Hand cleared						
_ 4 _					•			
_ 5 _			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	1 W 1/3.0-3.3				
7 _			ND				SM	6.5 to 7.5' - Grayish brown SILT, stiff, wet.
_ 8 _		36	ND				SM	7.5 to 9.5' - Reddish brown SILT, some gravel, stiff, wet.
_ 9 _								
_ 10 _			ND ND				РТ	9.75 - 12' - Reddish brown MEADOW MAT, compact, moist.
_ 11 _		24	ND ND ND	TW1/10.0-10.5				
_ 12 _			ND	TW1/11.5-12.0				
								End of boring at 12'
								Well Construction Details 0 to 5 ft. below surface - 1" diameter PVC riser
_								5 to 10 ft. below surface - 1" diameter 0.20 slot PVC screen
CASING T	YPE/DIAMET	ΓER (IN.)				<u> </u>		STATIC WATER LEVEL: 3.9 (07/14/11) feet below surface
INNER:	PVC/1	OUTER:		N/A			[	DEPTH WATER ENCOUNTERED: 6eet below surface
SCRE		PEN INTERVAL: :LOW SURFACE)		5 to 10 feet				MEASURING POINT ELEVATION: NA ft.msl  GROUND SURFACE ELEVATION: NA ft.msl

#### **Environmental Corporation**

**TEMPORARY WELL AND SOIL BORING LOG** 

WELL NUMBER

**TW-2** 

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

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 BEDROCK:** Not Encountered TOTAL DEPTH DRILLED: 25 feet

TYPE OF WELL: Temporary

DRILLING METHOD: Geoprobe - Direct Push

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 IAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS		
0										
_ 1		Hand cleared	407 119 339 39.4 13.4			•		0 to 2.5' - FILL: Gray coarse gravel, some fine to coarse sand.  2.5 to 3.0' - FILL: Black gravel, wet @ 2.5', loose.  3.0 to 5.0' - Dark brown SILT, little clay, stiff, moist, green color staining.		
_ 4 <u>_</u> _ 5 _		30	16 437 11				М			
_ 6 _ _ 7 _			<ul><li>822</li><li>148</li><li>47.9</li><li>102</li></ul>				ML	5.0 to 7.5' - Brownish gray SILT, little clay, stiff, moist, odor.		
_ 8 _ _ 9 _		55	85.2 70.4 1516 639				ML	7.5 to 8.0' - Reddish brown SILT, stiff, moist, wood chip layer. 8.0 to 10.0' - Gray to reddish brown SILT, stiff, moist, yellow and green staining, odor.		
_ 10 _			1613 910	TW2/9.5-10.0	-			10.0 to 10.5' - FILL: Red brick layer, compact, dry.		
_ 11 _ 12			1017 1240 145					10.5 to 11.0' - FILL: White concrete, some gravel. 11.0 to 15.0' - FILL: Dark black and gray gravel, some medium to coarse sand, loose, moist.		
_ 13 _		24	34.5 231 1410		_					
_ 14 <u>_</u> 15			868 1316		-					
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				
SCRE	SCREENED OR OPEN INTERVAL: 10 to 15 feet (FEET BELOW SURFACE)					MEASURING POINT ELEVATION: NA ft.msl  GROUND SURFACE ELEVATION: NA ft.msl				

<b>Environmental Corporation</b>	TEMPORARY WELL AND
	SOIL BORING LOG

TW-2

WELL NUMBER

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

37 L	Willow Stre	et, Williburn, N	07041	(973) 564-6006		,	
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
			476				15.0 to 17.0' - FILL: Dark gray gravel, some fine to coarse sand, loose,
16			369				wet.
			1303				
17			589				
⊢ '′ −			533	TW0/47.0.47.F		en.	17.0 to 18.0' - Brown fine SAND, dense, wet.
4.0		48	507	TW2/17.0-17.5		32	
18							18.0 to 20.0' - Dark brown SILT, trace gravel, stiff,moist, green color
			258			CL	staining.
19			28.4				ottoming.
20							
			25.8			CL	20.0 to 25.0' - Dark brown SILT, trace gravel, stiff, wet.
21			80.8				
			145				
22			10.9				
F			13.8	TW2/22.0-22.5			
22		55	4.2	1 442/22.0-22.5			
_ 23 _			3.4				
_ 24 _			5.4				
			3.4				
25			ND	TW2/24.5-25.0			
							End of boring at 25'
							Well Construction Details
							0 to 10 ft. below surface - 1" diameter PVC riser
							10 to 15 ft. below surface - 1" diameter 0.20 slot PVC screen
F -							
L –							
L _							
L .							
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F -							
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#### **Environmental Corporation**

TEMPORARY WELL AND SOIL BORING LOG

WELL NUMBER

**TW-3** 

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

**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 BEDROCK**: Not Encountered

TOTAL DEPTH DRILLED: 16 feet

TYPE OF WELL: Temporary

DRILLING METHOD: Geoprobe - Direct Push

BIT TYPE: NA

START DATE: 07/13/11

FINISH DATE: 07/13/11

DRILLER: B. Lombardo

LOGGED BY: G. Nicaretta

FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
0							
1 _		Hand					0 to 2.0' - FILL: Brown fine to medium sand, garbage, plastic, asphalt from 1.5 to 1.75'.
_ 2 _		cleared					2.0 to 4.5' - FILL: Brick, concrete, black medium to coarse sand, petroleum odor, wet @ 4'.
_ 3 _			185	TW3/2.0-2.5			perroleum odor, wer @ 4.
4 _		36	152 80.7				
_ 5 _			ND 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 ND			SP	10.0 to 13.0' - Gray silty SAND, trace gravel, medium dense, wet.
_ 11 _		24	ND 14.7	TW3/10.5-11.0			
_ 12 _			12.8 ND	TW3/12.0-12.5			
_ 13 _		30	ND ND ND			SP	13.0 to 16.0' - Orange brown SAND, little silt, trace gravel, dense, wet.
_ <sup>14</sup> _ 15			ND ND ND				
	YPE/DIAMET	ER (IN.)	ND			<u> </u>	STATIC WATER LEVEL: 2.27 (07/13/11) feet below surface
INNER:	PVC/1	OUTER:		N/A			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
							S. COST. DO STATE TO THE STATE OF THE STATE

<b>CTRC</b> Environmental Corporation							TEMPORARY WELL AND SOIL BORING LOG  WELL NUMBER TW-3			
57 E	E. Willow Stre	eet, Millburn, N	IJ 07041	(973) 564-6006			S	OIL BORING LOG	TW-3	
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAN	UNIFIED		LITHOLOGIC CLAS	SIFICATION AND COMMENTS	
16				TW3/15.5-16.0						
								End	of boring at 16'	
								Well Co	onstruction Details	
								10 to 15 ft. below surface - 1" di		
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#### **Environmental Corporation**

TEMPORARY WELL AND SOIL BORING LOG

WELL NUMBER

**TW-4** 

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

**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 BEDROCK: Not Encountered

TOTAL DEPTH DRILLED: 20 feet

TYPE OF WELL: Temporary

DRILLING METHOD: Geoprobe - Direct Push

BIT TYPE: NA

START DATE: 07/14/11

FINISH DATE: 07/14/11

DRILLER: B. Lombardo

LOGGED BY: G. Nicaretta

FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION		ELL GRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS		
0										
			ND					0 to 5.0' - FILL: gravel, fine to coarse sand, dry.		
_ 1 _			ND							
_ 2 _			ND							
_ 3 _		Hand cleared	ND							
4			ND							
_										
_ 5 _			ND ND		•	▼		5.0 to 9.0' - FILL: Mixed gravel and sand, shell fragments, wet @ 5',		
_ 6 _			ND					dense.		
_			ND							
_ 7 _			ND ND							
8		48	ND							
			ND							
_ 9 _			93.2 4.2	TW4/9.0-9.5			CL	9.0 to 13.0' - Dark brown SILT, little gravel, stiff, wet, odor.		
10			12.8	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				,,,,		
			ND							
_ 11 _			ND		-					
12			ND							
		30	ND							
_ 13 _					-		CI	13.0 to 19.0' - Reddish brown SILT, trace gravel, stiff, wet.		
14			ND					Total to 15.6 Redulati brown oil 1, trace graver, suit, wet.		
F '' -			ND	TW4/14.0-14.5						
15										
CASING T	YPE/DIAMET	ER (IN.)						STATIC WATER LEVEL: 5.13 (07/14/11) feet below surface		
INNER: PVC/1 OUTER: N/A				DEPTH WATER ENCOUNTERED: 5 feet below surface						
SCREENED OR OPEN INTERVAL: 10 to 15 feet (FEET BELOW SURFACE)						MEASURING POINT ELEVATION: <u>NA</u> ft.msl				
	, 22. 52					GROUND SURFACE ELEVATION: NA ft.msl				

				ntal Corpo (973) 564-6006	ration	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 DIAGRAN	N INFEE	UNIFIED	LITHOLOGIC CLAS	SIFICATION AND COMMENTS
40			ND						
_ 16 _			ND						
_ 17 _			ND						
18		30	ND						
			ND						
_ 19 _ 20			ND	TW4/19.0-19.5		С	L	19.0 to 20.0' - Dark red SILT, ha	ard, dry.
_ 20 _								End	of boring at 20'
<u> </u>								Well Co	onstruction Details
								0 to 10 ft. below surface - 1" dia	meter PVC riser
								10 to 15 ft. below surface - 1" di	ameter 0.20 slot PVC screen
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_									
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<u> </u>									
_									
<u> </u>									

# Environmental Corporation 57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006 PROJECT NAME: Spectra NJ-NY Expansion ORAC PROJECT NO.: 168217 CONTRACT SAMPLER TYPE/DIA.: Macrocore/2" DEPTH TO BEDROCK: Not Encountered DR TOTAL DEPTH DRILLED: 20 feet DEPTH FROM SURFACE (FEET) PER 6 IN. (INCHES) 
# MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

**MW-1** 

LOCATION: Jersey City, New Jersey

CONTRACTOR: Environmental Probing

Investigations

TYPE OF WELL: Monitoring

DRILLING METHOD: Hollow stem auger

BIT TYPE: NA

START DATE: 07/15/11
FINISH DATE: 07/15/11
DRILLER: R. Smith
LOGGED BY: B. Chaky

FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	ı	WELL DIAGRAM		UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS		
0									3' stickup		
_ 1 _		Hand cleared	ND ND 79.4						0 to 1.0' - Gravel, liner @ 1'  1.0' to 2.5' - FILL: Dark Brown medium to fine sand, little medium to fine		
_ 2 _			79.4 270 76.1						sub-rounded gravel, trace Silt, moist, dense, odor.		
_ 3 _		34	44.4 11.3			•			2.5' to 5.0' - FILL: Brown medium to fine sand, little medium to fine subrounded gravel, trace silt, moist, dense, coal fragments.		
_ 4 _			ND ND ND	MW-1/4							
_ 5 <u>_</u> 6			13.6 1.4					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.		
7			ND					PT	6.0' to 11.5' - Dark Brown PEAT, little Silt, moist, loose		
_ 8 _		20	ND	MW-1/8							
9			ND	IVIVV-1/0							
_ 10 _			ND 0.5								
_ 11 _			1.3 2.4 3.1					00	11.5' to 12.5' - Gray fine SAND, little clay, moist, loose, odor.		
_ 12 _ 13		45	0.9 3.4						12.5' to 17.0' - Gray Brown medium to fine SAND, little medium to fine		
14			10.2 ND						sub-rounded gravel, trace Silt, moist, dense, odor.		
15			ND								
CASING TYPE/DIAMETER (IN.)						STATIC WATER LEVEL: 3.41 (07/19/11) feet below TOC					
INNER: PVC / 2" OUTER: N/A				DEPTH WATER ENCOUNTERED: feet below surface							
SCREENED OR OPEN INTERVAL: 2 to 7 feet (FEET BELOW SURFACE)						MEASURING POINT ELEVATION: NA ft.msi  GROUND SURFACE ELEVATION: NA ft.msi					

<b>Environmental Corporation</b>	MONITORING WELL AND
	SOIL BORING LOG

MW-1

WELL NUMBER

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

37 1	. Willow Stre	et, Miliburn, N	IJ 07041	(973) 564-6006		COLE BOKING EGG				
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLAS	SIFICATION AND COMMENTS		
_ 16 _			6.9 ND			SP				
_ 17 _		36	0.3 ND ND			SM	17' to 20' - Red Brown medium rounded gravel, little silt, moist,	to fine SAND, little medium to fine sub- dense.		
_ 18 _			ND	MW-1/18			<b>G</b>			
20			ND							
								e - 2" dia. 0.10 slot PVC screen e - Cement and Grout		

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#### **Environmental Corporation**

MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

**MW-2** 

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

PROJECT NAME: Spectra NJ-NY Expansion

LOCATION: Jersey City, New Jersey

ORAC

**PROJECT NO.**: 168217

TOTAL DEPTH DRILLED: 15 feet

**DEPTH TO BEDROCK**: Not Encountered

**CONTRACTOR:** Environmental Probing

Investigations

SAMPLER TYPE/DIA.: Macrocore/2" TYPE of Well: Monitoring

DRILLING METHOD: Hollow stem auger

BIT TYPE: NA

START DATE: 07/11/11
FINISH DATE: 07/11/11
DRILLER: R. Smith

LOGGED BY: B. Chaky

DEPTH **BLOW** RECOVERY PID SAMPLE WELL FROM COUNT SURFACE (INCHES) (ppm) DESIGNATION DIAGRAM LITHOLOGIC CLASSIFICATION AND COMMENTS PER 6 IN. (FEET) 3' stickup 0 0 to 5.0' - FILL: Gray to dark brown medium to fine sand, little medium to fine sub-542 angular gravel, little silt, moist, loose. Coal fragments, wood piling with creosote 2.0 1 MW-2/1 ND 2 30 ND 3 ND 4 ND 5 SW 5.0 to 10.0' - Gray brown fine SAND, little silt, little clay, wet, loose. 6 ND 7 ND 12 8 ND 9 ND 10 PT 10.0 to 11.5' - Dark Brown MEADOW MAT, moist, loose. ND 11 SM 11.5' to 15.0' - Gray to dark gray fine SAND, little silt, little clay, moist, loose, ND organics. ND 12 Well Construction Details ND MW-2/12 ND 0 to 5 feet below ground surface - 2" dia. PVC riser 13 5 to 10 feet below ground surface - 2" dia. 0.10 slot PVC screen ND ND 0 to 3 feet below ground surface - Cement and Grout 14 3 to 10 feet below ground surface - No. 1 Sand End of Boring at 15' 15 CASING TYPE/DIAMETER (IN.) STATIC WATER LEVEL: 5.59 (07/19/11) feet below TOC DEPTH WATER ENCOUNTERED: 5 feet below surface INNER: PVC / 2" OUTER: SCREENED OR OPEN INTERVAL: 5 to 10 feet MEASURING POINT ELEVATION: (FEET BELOW SURFACE) NA GROUND SURFACE ELEVATION: ft.msl

#### WELL NUMBER MONITORING WELL AND **Environmental Corporation SOIL BORING LOG** 57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006 **MW-3** PROJECT NAME: Spectra NJ-NY Expansion LOCATION: Jersey City, New Jersey **CONTRACTOR:** Environmental Probing **PROJECT NO.:** 168217 Investigations START DATE: 07/11/11 FINISH DATE: 07/11/11 SAMPLER TYPE/DIA.: Macrocore/2" TYPE OF WELL: Monitoring **DEPTH TO BEDROCK:** Not Encountered DRILLING METHOD: Hollow stem auger DRILLER: R. Smith LOGGED BY: B. Chaky TOTAL DEPTH DRILLED: 20 feet BIT TYPE: NA DEPTH **BLOW** RECOVERY PID SAMPLE WELL FROM COUNT SURFACE (INCHES) (ppm) **DESIGNATION** DIAGRAM LITHOLOGIC CLASSIFICATION AND COMMENTS PER 6 IN. (FEET) 3' stickup 0 0 to 5.0' - FILL: Brown to dark brown medium to fine sand, little medium to fine ND sub-angular to sub-rounded gravel, little silt, dry, loose, cinders, coal fragments, ND ND 2 36 ND 3 ND 4 ND ND 5 ND 6

RC	<b>Environmental Corporation</b>	MONITORING WELL AND
	Millhouse N. I. 07044 (072) ECA COOC	SOIL BORING LOG

MW-3

WELL NUMBER

57 E	. Willow Stre	eet, Millburn, N	IJ 07041	(973) 564-6006		MIAA-2				
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLAS	SSIFICATION AND COMMENTS		
16			ND			SP	wet, loose.	e medium to fine sub-rounded gravel, trace silt,  ND, little medium to fine sub-rounded gravel,		
_ 17 _			ND			SP	trace silt, wet, loose.	ND, little medium to line sub-founded graver,		
_ 18 _		30	ND ND							
_ 19 _			ND							
_ 20 _							End	of Boring at 20'		
							Well Co 0 to 5 feet below ground surface	onstruction Details e - 2" dia. PVC riser		
								ce - 2" dia. 0.10 slot PVC screen		
							3 to 10 feet below ground surface			
_										
_										
_										

#### WELL NUMBER MONITORING WELL AND TRC **Environmental Corporation SOIL BORING LOG** 57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006 MW-4 PROJECT NAME: Spectra NJ-NY Expansion LOCATION: Jersey City, New Jersey **CONTRACTOR:** Environmental Probing **PROJECT NO.:** 168217 Investigations START DATE: 07/14/11 FINISH DATE: 07/14/11 SAMPLER TYPE/DIA.: Macrocore/2" TYPE OF WELL: Monitoring **DEPTH TO BEDROCK:** Not Encountered DRILLING METHOD: Hollow stem auger DRILLER: R. Smith LOGGED BY: B. Chaky TOTAL DEPTH DRILLED: 20 feet BIT TYPE: NA DEPTH **BLOW** RECOVERY PID SAMPLE WELL FROM COUNT SURFACE (INCHES) (ppm) **DESIGNATION** DIAGRAM LITHOLOGIC CLASSIFICATION AND COMMENTS PER 6 IN. (FEET) 3' stickup 0 0 to 1.0' - FILL: Gray brown fine to medium sand, little fine to medium subrounded gravel, little silt, plastic material, dry, loose. 1.0 to 4.0' - FILL: Brown fine sand, little fine sub-rounded gravel, trace silt, plant roots @ 1', shell fragements and coal cinders @ 3', moist @ 3', loose. 2 Hand cleared 3 4.0 to 5.0' - FILL: Orange brown fine to medium sand, little fine to medium rounded gravel, trace silt, wet. 5 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 34 ND 8

ND

ND

ND

ND ND PT 11.0 to 17.5' - Brown MEADOW MAT, little clay, moist, loose.

9

10

11

12

<b>Environmental Corporation</b>	MONITORING WELL AND
Canada Millhorn N. I. 07044 (072) EC4 C000	SOIL BORING LOG

WELL NUMBER

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006							SOIL BORING LOG MW-4				
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAI	M INFIE	ONIFIED	LITHOLOGIC CLAS	SSIFICATION AND COMMENTS		
			768								
16			846								
17			407								
18		36	107			S	С	17.5 to 20.0' - Gray fine SAND, son	ne clay, wet, loose.		
19			222								
20			1041								
								End	of Boring at 20'		
									onstruction Details		
								0 to 5 feet below ground surface 5 to 10 feet below ground surface	ce - 2" dia. 0.10 slot PVC screen		
								0 to 3 feet below ground surface	e - Cement and Grout		
<u> </u>								3 to 10 feet below ground surface	ce - No. 1 Sand		
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# **Environmental Corporation** 57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006 PROJECT NAME: Spectra NJ-NY Expansion **PROJECT NO.: 168217** SAMPLER TYPE/DIA.: Macrocore/2" **DEPTH TO BEDROCK:** Not Encountered TOTAL DEPTH DRILLED: 20 feet

#### **MONITORING WELL AND SOIL BORING LOG**

**MW-5** 

WELL NUMBER

LOCATION: Jersey City, New Jersey

CONTRACTOR: Environmental Probing

Investigations

TYPE OF WELL: Monitoring

DRILLING METHOD: Hollow stem auger

BIT TYPE: NA

START DATE: 07/13/11 FINISH DATE: 07/13/11 DRILLER: R. Smith LOGGED BY: B. Chaky

FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	С	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS			
0											
			ND					0 to 0.2' - ASPHALT and GRAVEL surface			
_ 1 _			1.1					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 _			0.3	MW-5/1.5							
		48	0.8					2.0 to 5.0' - FILL: Gray brown fine SAND, little fine sub-angular gravel, trace silt, moist, dense, coal and cinder fragments.			
_ 3 _			ND					and the state of t			
4			ND			$\vdash$					
			ND								
_ 5 _			ND								
			0.4				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 _			0.3					Sub-angular gravel, trace sill, wet, derise to 1005e.			
7			0.5								
_ 7 _			0.0								
8		42	ND								
			ND								
_ 9 _			ND								
_ 10 _			ND 30.8				CV4	10.0 to 15.0' - Gray brown fine SAND, trace medium to fine sub-angular gravel,			
11			810				SIVI	little silt, moist, dense to loose, odor at top, wood piling @ 10'.			
<b>├</b> '' =			16.5	MW-5/11							
12			15.7	<del>-,</del>							
		42									
_ 13 _		.=	1.1								
4.4			0.5								
14			ND								
15			ND								
CASING T	VDE/DIAMET	ED (INI.)						STATIC WATER LEVEL: 4.10 (07/49/11) foot below TOC			
CASING TYPE/DIAMETER (IN.)					STATIC WATER LEVEL: 4.10 (07/19/11) feet below TOC						
INNER:	PVC / 2"	OUTER:		N/A				DEPTH WATER ENCOUNTERED: 6.5 feet below surface			
SCREENED OR OPEN INTERVAL: 2 to 7 feet					MEASURING POINT ELEVATION: NA ft.msi						
	(FEET BELOW SURFACE)										
								GROUND SURFACE ELEVATION: NA ft.msl			

RC	<b>Environmental Corporation</b>	MONITORING WELL AND
10000	4 MUUL N. I. 070 44 (070) 504 0000	SOIL BORING LOG

MW-5

WELL NUMBER

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

57 E	. Willow Stre	eet, Millburn, N	IJ 07041	(973) 564-6006				
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED		SSIFICATION AND COMMENTS
_ 16 _			ND ND			SM	15.0 to 20.0' - Gray Brown coarse t sub-rounded gravel, little silt, wet, c	o fine SAND, little coarse to fine sub-angular to lense to loose.
17			ND					
18		42	ND					
19			ND	MW-5/18				
20			ND ND					
_ 20 _							End	of Boring at 20'
								onstruction Details
							0 to 2 feet below ground surface	e - 2" dia. PVC riser
							2 to 7 feet below ground surface	e - 2" dia. 0.10 slot PVC screen
							0 to 1 feet below ground surface	
							1 to 7 feet below ground surface	
							The Treet below ground surface	5 - No. 1 Sanu
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#### WELL NUMBER MONITORING WELL AND **Environmental Corporation SOIL BORING LOG** 57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006 **MW-6** PROJECT NAME: Spectra NJ-NY Expansion LOCATION: Jersey City, New Jersey **CONTRACTOR:** Environmental Probing **PROJECT NO.:** 168217 Investigations START DATE: 07/12/11 FINISH DATE: 07/12/11 SAMPLER TYPE/DIA.: Macrocore/2" TYPE OF WELL: Monitoring **DEPTH TO BEDROCK**: Not Encountered DRILLING METHOD: Hollow stem auger DRILLER: R. Smith LOGGED BY: B. Chaky TOTAL DEPTH DRILLED: 17 feet BIT TYPE: NA DEPTH **BLOW** RECOVERY PID SAMPLE WELL FROM COUNT SURFACE (INCHES) (ppm) **DESIGNATION** DIAGRAM LITHOLOGIC CLASSIFICATION AND COMMENTS PER 6 IN. (FEET) 3' stickup 0 0 to 1.0' - GRAVEL, Liner @ 1'. ND ND gravel, trace silt, moist, slight odor, 44 2 ND 42 3 ND ND ND 5 ND SC 5.0 to 6.5' - Gray brown fine SAND, some clay, wet. ND 6

<b>CTRC</b>	<b>Environmental Corporation</b>
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MONITORING WELL AND SOIL BORING LOG

WELL NUMBER

MW-6

57 E	E. Willow Stre	eet, Millburn, N	IJ 07041	(973) 564-6006		,	SOIL BORING LOG	MW-6	
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	5	LITHOLOGIC CLASSIFICATION AND COMMENTS		
_ 16 _		24	1800 1500 850			SP	15.0 to 17.0' - Gray brown fine SAN little silt, wet, loose, petroleum like	ND, little fine to medium sub-rounded gravel, odor.	
17			1371						
							End	of Boring at 20'	
_								onstruction Details	
_							0 to 2 feet below ground surface 2 to 7 feet below ground surface		
							0 to 1 feet below ground surface		
							1 to 7 feet below ground surface	e - No. 1 Sand	
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#### WELL NUMBER MONITORING WELL AND **Environmental Corporation SOIL BORING LOG** 57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006 **MW-7** PROJECT NAME: Spectra NJ-NY Expansion LOCATION: Jersey City, New Jersey **CONTRACTOR:** Environmental Probing **PROJECT NO.:** 168217 Investigations START DATE: 07/12/11 FINISH DATE: 07/12/11 SAMPLER TYPE/DIA.: Macrocore/2" TYPE OF WELL: Monitoring **DEPTH TO BEDROCK:** Not Encountered DRILLING METHOD: Hollow stem auger DRILLER: R. Smith TOTAL DEPTH DRILLED: 20 feet LOGGED BY: B. Chaky BIT TYPE: NA DEPTH **BLOW** RECOVERY PID SAMPLE WELL FROM COUNT SURFACE (INCHES) (ppm) **DESIGNATION** DIAGRAM LITHOLOGIC CLASSIFICATION AND COMMENTS PER 6 IN. (FEET) 3' stickup 0 0 to 1.5' - GRAVEL, Liner @ 1.5'. ND ND 1.5 to 2.0' - FILL: Black fine sand, trace fine gravel, trace silt, moist. 2 2.0 to 6.0' - FILL: Gray fine sand, trace fine gravel, trace silt, moist. ND 30 3 ND ND 5 ND

<b>©TRC</b>	Enviro		NITORING WELL AND			
57 E. Willow Str	eet, Millburn, N	,	SOIL BORING LOG			
DEDTU	1					

WELL NUMBER
MW-7

57 E. Willow Street, Millburn, NJ 07041 (973) 564-6006						SOIL BORING LOG WIVY-7		
DEPTH FROM SURFACE (FEET)	BLOW COUNT PER 6 IN.	RECOVERY (INCHES)	PID (ppm)	SAMPLE DESIGNATION	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLAS	SSIFICATION AND COMMENTS
			ND					
16								
			ND					
_ 17 _								
		36	ND					
18								
			ND					
_ 19 _			ND					
00			ND					
_ 20 _			ND				End	of Paring at 201
							Enu	of Boring at 20'
F -							Well Co	onstruction Details
F -							0 to 5 feet below ground surface	
								ce - 2" dia. 0.10 slot PVC screen
F -							0 to 3 feet below ground surface	
							3 to 10 feet below ground surfa-	
L _								
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### **CTRC** Environmental Corporation

**WELL LOG** 

WELL NUMBER

MW-7R

41 Spring Street, New Providence, NJ 07974

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: Monitorin

DEPTH TO BEDROCK: Not Encountered

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TOTAL DEPTH DRILLED: 7 feet

TYPE OF WELL: Monitoring

DRILLING METHOD: Hollow Stem Auger

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)		Sample Designation	WELL DIAGRAM	UNIFIED	LITHOLOGIC CLASSIFICATION AND COMMENTS
1 2 3 4 5 6 7 7 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		NA	NA	NA			Flush Mount 0' to 3': Gray GRAVEL, little m*f Sand, trace Silt, Medium-Dense, Fill, Dry.  Geoliner at 1.5'. Wet at 1.5'.  3' to 7': Gray Brown cm*f SAND, some m*f Gravel, little Silt, Dense, Wet, Fill.  End Of Boring @7'  Well Construction Details  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 - bentonite 1' to 1.5' 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)							NG POINT ELEVATION: NA ft., msl SURFACE ELEVATION: NA ft., msl

72-	TETRA TECH GEO					60.02	Boring No: 065_A005
				PROJECT NAME: PPG Site 065			LOCATION SKETCH
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE: G		GEOLOGIST / OFFICE:	1
8/1/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	k:	DRILLING EQUIPMEN	: DRILLING METHOD / BIT:			
EPI \ AJ Benjamin			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"		~ 1.6'				No	
MEMO:							

DEPTH	RECOVERY	OVM		DUDMEIGTED OVOTEM COULDECODIDATION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		23.7		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
_ _2		9.0		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',		_ _2
_ _3	<u>2.8</u> 5.0	13.1	1.8 - 2.1	strong solvent odor (SW/SM)  Very Dark Gray (2.5Y 3/1) medium-fine SAND, trace coarse sand, trace		_ _3
_ _4			2.1 - 2.8	fine subround gravel, & silt, loose, moist-wet, strong solvent odor (SW/SP) Black (2.5Y 2.5/1) fine SAND, some coarse-medium sand & coarse-		_ _4
_ _5				medium subangular-subround gravel (coal & slag), little silt, medium-dense, moist-wet, strong solvent odor (SW/SM)		_ _5
_ _6		540.0	5.7 - 6.6	As Above (2.1' - 2.8'), Very Dark Gray (2.5Y 3/1) (SW/SM)  Dark Grayish Brown (2.5Y 4/2) Silty fine SAND & coarse-fine subangular-	065_A005_5.0 (5.0' - 5.5')	_ _6
_ _7	0.5		6.6 - 8.5	subround GRAVEL, very loose, wet, strong solvent odor (GM)  Dark Grayish Brown (2.5Y 4/2) Silty medium-fine SAND, little medium-fine		_ _7
_ _8	<u>3.5</u> 5.0	81.0 25.3		subangular to subround gravel, loose, wet, slight solvent odor (SM)		_ _8
_ _9		9.1				_ _9
_ _10		7.0	10.0 10.2	As Above (6.6' - 8.5'), no gravel (SM)	065_A005_10.0 (10.0' - 10.5')	_ _10
_ _11				Very Dark Grayish Brown (10YR 3/2) PEAT & SILT, very soft, moist, slight sulfurous odor (PT)	Fill/Native soil interface at	_ _11
_ _12	1 1			Dark Reddish Brown (2.5YR 3/4) Sandstone COBBLES (GP) Greenish Gray (GLEY2 6/5BG) Clayey fine-very fine SAND, little silt, moist,	10.2'	_ _12
_ _13	<u>1.1</u> 5.0			soft, no odor (SC)		_ _13
_ _14						_ _14
_ _15						_ _15
_ _16		3.5		Greenish Gray (GLEY2 6/5BG) CLAY, little silt, moderate plasticity, soft, moist, no odor (CH)	065_A005_15.0 (15.0' - 15.5')	_ _16
_ _17	0.0	1.6		Gray (GLEY1 5/N) medium-fine SAND, little silt, medium-dense, moist-wet, no odor (SM)	PID bkgd: 1.4 ppm (high humidity)	_ _17
_ _18	<u>3.0</u> 5.0	1.6 1.6		Reddish Brown (7.5YR 5/3) medium-fine SAND, trace coarse sand & fine subangular gravel, wet, loose, no odor (SW), Transitions to Reddish Brown (SVR 4/4) SUT little coarse fine and a little coarse	065_A005_17.5 (17.5' - 18.0')	_ _18
_ _19				(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)		_ _19
_ _20			End of Por	ing at 20' has		_ _20
_ _21			Elia of Bori	ing at 20' bgs.		_ _21
_ _22						_ _22
_ _23						_ _23
_ _24						_ _24
_ _25						_ _25

72	TE	TRATE	CH GEO		PROJECT NO.: 117-050916	60.02	Boring No: 065_A006
10					PROJECT NAME:	LOCATION SKETCH	
					PPG Site 06		
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	
8/1/2011	20	)		PID MiniRAE 20	000	Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	R / DRILLEF	₹:	DRILLING EQUIPMEN	: DRILLING METHOD / BIT:			
EPI \ AJ Benjamin			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"	Sleeves, 1.25" ~ 2.0'		No				
MEMO:							

DEPTH	RECOVERY	OVM			FIELD NOTES &	7
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ 1		738.0 1060.0	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
_ _ _2		1826.0		Very Dark Gray (GLEY1 3/N) coarse-medium angular GRAVEL & COBBLES, some coarse-fine sand, trace silt, dense, moist (GW)	Strong solvent odor	_ _2
_ _3	<u>4.3</u> 5.0		1.5 - 2.0 2.0 - 3.2	Black (2.5Y 2.5/1) medium-fine SAND, wet, loose (SW) Dark Grayish Brown (10YR 4/2) coarse-fine SAND, little silt & coal, little ang. medium-fine gravel, trace slag, wet, loose, slight sheen (SW)	in 0' - 5' interval	_3
_ _4 _			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')	_4 _
_5			3.5 - 4.3	Dark Grayish Brown (10YR 4/2) Silty CLAY, little fine sand & fine		_5
_ _6		17.1 20.9		subround gravel, firm, moist (OH), Transitions to Dark Gray (5Y 4/1) Silty very fine SAND, little clay, loose, moist (SM)		_ _6
_ _7		10.5	50 6.3	Dark Grayish Brown (10YR 4/2) Silty medium-fine SAND, some medium-fine subround-subangular sandstone gravel, firm, moist-wet (SM)	Slight solvent odor	_ _7
_ _8	<u>4.0</u> 5.0	9.1	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)	in 5' - 10' interval	_ _8
_ _9			6.9 - 8.7 8.7 - 9.0	Dark Grayish Brown (2.5Y 4/2) Silty fine SAND, little medium sand, trace coarse-medium round gravel, medium-dense, moist-wet (SM) White (GLEY1 8/N) coarse GRAVEL & COBBLES (gneiss), pulverized	065_A006_8.2 (8.2' - 8.7') (cobbles 8.7' - 9', fill/native	_9
_ _10				(from drilling) fine sand, loose, dry, no odor (GP)	soil interface btw 9'-10')	_ _10
_ _11		16.9 55.7 34.4	10.0 - 11.7	Very Dark Grayish Brown (10YR 3/2) PEAT, little silt, very soft, moist, slight sulfurous odor (PT)	PID bkgd: 0.7 ppm (high humidity)	_ _11
_ _12	<u>2.2</u>		11.7 - 12.2	Greenish Gray (GLEY2 5/5BG) Silty CLAY, trace very fine sand & fine subround gravel 12.1' - 12.2', soft, moderate palsticity, moist, no odor (CH)	065_A006_11.7 (11.7' - 12.2')	_ _12
_ _13	5.0			Subround graver 12.1 - 12.2, Soft, moderate pasticity, moist, no odor (OH)		_13
_ _14						_14
_ _15						_ _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')	_ _16
_ _17	0.5				PID bkgd: 0.7 ppm	_ _17
_ _18	<u>0.5</u> 5.0					_ _18
_ _19						_ _19
_ _20						_ _20
_ _21			End of Bor	ing at 20' bgs.		_ _21
_ _22						_ _22
_ _23						_23
_ _24						_ _24
_ _25						_ _25

72-	TETRA TECH GEO				PROJECT NO.: 117-050916	60.02	Boring No: 065_A007
					PROJECT NAME: PPG Site 06!		LOCATION SKETCH
COMPLETION DATE: TOTAL DEPTH OF BOREHOLE:			MONITORING DEVIC		GEOLOGIST / OFFICE:	1	
8/1/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	: DRILLING METHOD / BIT:			
EPI \ AJ Benjamin			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"		~ 1.5'				No	
МЕМО:							

DEPTH	RECOVERY	OVM			FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		12.9		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
_ _2 _	<u>3.6</u>	73.6 865.0 625.0	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	_ _2 _
_3	5.0		1.8 - 2.1 2.1 - 3.6	Brown (10YR 4/3) SILT, some fine sand, little medium sand, stiff, moist (ML) Black (2.5Y 2.5/1) medium-fine SAND, some gravel, little silt, wet, loose,	065_A007_3.1 (3.1' - 3.6')	_3
_4 _ _5			3.3 - 3.6	little white (2.5Y 8/1) silty clay stringers, silty clay 3' - 3.3' (SM/CL)  Dark Gray (5Y 4/1) medium-fine SAND, little silt & gray angular gravel, loose, wet, slight staining (SM)		_4 _ _5
_5		13.7	5.0 - 7.4	Black stained (2.5Y 2.5/1) medium-fine SAND, little coarse-fine angular to	Slight solvent odor	┨
_ _6 _		14.0 5.0		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)	in 5' - 10' interval	_6
_7 _	<u>2.4</u>	4.6			065_A007_6.9 (6.9' - 7.4')	_7 _
_8	5.0					_8
_ _9					Fill/native soil interface between 7.4' - 10', not recovered	_ _9
_ _10					100000100	_10
		5.1 32.8		Very Dark Grayish Brown (10YR 3/2) PEAT, little silty clay, very soft, moist, strong sulfurous odor (PT)		_ _ _11
_ _12	1.9	31.0 0.7		Greenish Gray (GLEY2 5/5BG) CLAY, soft, moist, moderate plasticity, no odor (CH)	065_A007_11.0 (11.0' - 11.5')	_ _12
_ _13 _	<u>1.9</u> 5.0					_13
_14						_14
_15		0.7	45.0 45.0	As Above (44 Cl. 44 Cl. Transitions into fine year fine and little slev (Cl.)	005 0007 45 01/45 01 45 51)	_15
_ _16		1.2		As Above (11.6' - 11.9'), Transitions into fine-very fine sand, little clay (CL)  Brown (7.5YR 5/3) medium-fine SAND, trace coarse sand & fine subangular	065_A007_15.0 (15.0' - 15.5')	_ _16
_ _17		1.5	10.0	gravel, loose, wet, no odor (SW), Transitions to Reddish Brown (5YR 4/4)	PID bkgd: 0.7 to 1.3 ppm	_ _17
_ _18	<u>3.4</u> 5.0	1.3 1.3		SILT, little very fine sand & coarse-fine red sandstone gravel, stiff, moist-dry, no odor (ML)	(high humidity)	_ _18
_ _19						_ _19
_ _20						_20
_ _21			End of Bor	ing at 20' bgs.		_ _21
_ _22						_ _22
_ _23						_23
_ _24 _						_24
_ _25						_ _25

72-	TRATE	CH GEO		PROJECT NO.: 117-0509160.02		Boring No: 065_A008	
				PROJECT NAME: PPG Site 065		LOCATION SKETCH	
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVICE:		GEOLOGIST / OFFICE:	
8/1/2011	20			PID MiniRAE 20	000	Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	k:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ AJ Benjamin			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 1.3'					No		
MEMO:							

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	] _
(Feet)	(feet)	(PPM)	00 07	Dorle Drawn (7 EVD 2/2) fine CAND little medium cond maint lease (CD)	SAMPLE SUMMARY	<del> </del> _0
_ _1		42.5	0.0 - 0.7 0.7 - 1.4	Dark Brown (7.5YR 3/2) fine SAND, little medium sand, moist, loose (SP) Black (2.5Y 2.5/1) medium-fine SAND, little coal & fine gravel (slag), loose,	065_A008_0.0 (0.0' - 0.5')	_ _1
_ _2			1.4 - 1.8	moist, wet at 1.3', faint sheen, staining (SW) Black (2.5Y 2.5/1) Silty coarse-fine SAND & coarse-fine subround-angular		_ _2
_ _3	<u>3.7</u> 5.0	74.3 14.0	1.8 - 2.1	GRAVEL (slag & coal), loose, wet, faint sheen, staining (GW) Dark Gray (2.5Y 4/1) medium SAND, little gray-green Silty CLAY 2'-2.1',	Slight solvent odor in 0' - 5' interval	_ _3
_ _4		20.7	2.1 - 2.5	loose, wet, faint sheen, staining (SP/OH) As Above (1.4' - 1.8') (GW)		_ _4
_ _ _5			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)		5
_ <del></del> _ _6			5.0 - 5.5 5.5 - 7.5	Olive Gray (5Y 4/2) fine SAND, little medium sand, loose, wet (SP) Grayish Brown (2.5Y 5/2) Silty fine SAND, little medium sand & coarse-	065_A008_5.0 (5.0' - 5.5')	_ _ _6
_		3.1		fine angular gray gravel, trace clay, very loose, wet (SM)	Slight solvent odor	_
_7 _	<u>2.5</u>	4.3 3.4			in 5' - 10' interval 065_A008_7.0 (7.0' - 7.5')	_7 _
_8 _	5.0					_8
_9 _					Fill/native soil interface between 7.5' - 10', not	_9
_10					recovered	_10
_ _11		9.6 3.0		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')	_ _11
_ _12				Black (2.5Y 2.5/1) coarse angular GRAVEL (GP) Greenish Gray (GLEY2 6/5BG) coarse-medium SAND, little silt & gray		12
_ _13	<u>0.9</u> 5.0			subangular sandstone gravel, loose, moist, no odor (SM)		_ _13
_ _14						_ _14
_ _15					_	_ _15
_ _16		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,	065_A008_15.0 (15.0' - 15.5')	_ _16
_ _17			16.5 - 19.1	medium-dense, wet, no odor (SM) Brown (7.5YR 4/3) SILT, little clay & coarse-fine subround gravel (gray-green	PID bkgd: 0.2 ppm	_17
_ _18	<u>4.1</u> 5.0	0.2 0.2		to red-brown), stiff, moist, no odor (ML)	(high humidity)	18
_ _19		0.2 0.2				19
_ _20						
_ _21			End of Bor	ing at 20' bgs.		_ _2
						22
_ _23						23
_ _24						_ _24
_ _25						_ _25

72	TRATE	CH GEO		PROJECT NO.: 117-0509160.02		Boring No: 065_A009	
I L				PROJECT NAME:		LOCATION SKETCH	
	,				PPG Site 06!	5	
COMPLETION DATE:	TOTAL DE	EPTH OF BOREH	OLE:	MONITORING DEVICE: G		GEOLOGIST / OFFICE:	
8/1/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ AJ Benjamin			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE ELEVATION:		WELL INSTALLED?	
5' Sleeves, 1.25" ~ 1.8'			No				
МЕМО:							

DEPTH	RECOVERY	OVM		DUDUELOTED OVOTELLOOU DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1 _		1883.0 2190.0	f 0.4 - 0.7 E	Grayish Brown (2.5Y 5/2) fine SAND & coarse gray angular GRAVEL, little fine gray angular gravel, trace silt, loose, dry (GP) Black (2.5Y 2.5/1) coarse-medium angular GRAVEL some medium-	065_A009_0.0 (0.0' - 0.5')	_ _1 _
_2 _ _3	<u>2.5</u> 5.0	940.0 475.0	0.7 - 1.0 E	fine sand, little coal & slag, medium dense, moist (GW) Black (2.5Y 2.5/1) medium-fine SAND, little slag & coal, medium- dense, moist (SW)	065_A009_2.0 (2.0' - 2.5')	_2 _ _3
_ _4 _			1.8 - 2.5 (	Black (2.5Y 2.5/1) coarse-medium & medium-fine gravel (coal & slag), ittle fine sand, medium-dense, wet at 1.8', slight staining/sheen (SW) Gray (2.5Y 6/1) medium SAND, little fine sand, trace coarse sand & fine	Strong solvent odor in 0' - 5' interval	_ _4 _
_5		05.0		angular gravel, loose, moist-wet (SW)		_5
_ _6 _		2.6	(	Yellowish Red (5YR 5/6) subround sandstone COBBLES, some Dark Gray (2.5Y 4/1) Clayey SILT, medium-dense, moist, slight sulfurous odor (GM) As Above (1.8' - 2.5'), no odor (SW)	065_A009_6.0 (6.0' - 6.5')	_ _6 _
_7 _ _8	<u>1.5</u> 5.0			Black (2.5Y 2.5/1) coarse-medium GRAVEL & COBBLES (coal), some wood fragments, loose, dry, no odor (GW)		_7 - _8
_8 _ _9	3.0					_8 _ _9
_ _10						_ _10
<del></del> _ _11			10.0 - 15.0 N	No Recovery	No sample - no recovery	  _  _11
_ _12	<u>0.0</u>					_ _12
_ _13 _	5.0					_13
_14						_14
_15		0.0	150-176 (	Gray (2.5Y 2.5/1) SILT, some very fine sand, little subround coarse-medium	065_A009_15.0 (15.0' - 15.5')	_15
_ _16 _		0.0 0.0	Ç	gravel & cobbles, stiff, dry, no odor (ML), Transitions into Brown (10YR 5/3) SILT, little very fine sand & medium-fine subround-subangular gray gravel,	(15.5 - 15.5)	_ _16
_17	0.0	0.0	s	some coarse-fine gray gravel 16.9' - 17.2' (moist-wet), stiff, dry, no odor (ML)		_17
_ _18	<u>2.6</u> 5.0	0.0				_ _18
_ _19 _						_ _19 _
_20			End of Boris	ng at 20' bgs.		_20
_ _21			LIIU OI BOIII	ng at 20 bys.		_ _21
_ _22 _						_22
_ _23 _						_ _23 _
_24 _						_24 _
_25						_25

72	TE	TRA TECH GEO			PROJECT NO.: 117-0509160.02		Boring No: 065_A010
				PROJECT NAME: PPG Site 065		LOCATION SKETCH	
COMPLETION DATE: TOTAL DEPTH OF BOREHOLE:			OLE:	MONITORING DEVICE: GEOLOGIST / OFFICE:		1	
8/1/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ AJ Benjamin			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 5'					No		
МЕМО:							
MEMO:				<u> </u>			

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	] _
(Feet)	(feet)	(PPM) N/A	0.0 - 0.2	White concrete cobbles, loose, dry (SP)	SAMPLE SUMMARY 065_A010_0.0 (0.0' - 0.5')	0
_ _1			0.2 - 0.8	Dark Grayish Brown (2.5Y 4/2) fine SAND, little medium sand & medium-	(0.00	_1
_ _2	0.0			fine slag gravel, trace coal fragments, loose, dry, no odor (SP)	PID not working - lamp issue	_ _2
_ _3	<u>0.8</u> 5.0					_ _3
_ _4						_ _4
_ _5						5
_ _6		N/A		Black (2.5Y 2.5/1) medium-fine SAND, little slag & coal gravel, little silt, loose, wet, no odor (SM) Brown (7.5YR 5/4) SILT, little fine sand, little gray & red subround fine	065_A010_5.0 (5.0' - 5.5')	_ _6
_ _7				gravel, stiff, dry-moist, no odor (ML)		_7
_ _8	<u>0.9</u> 5.0					_ _8
_ _9						_ _9
_ _10						_ _10
_ _11		N/A	10.0 - 15.0	No Recovery	No sample - no recovery	_ _11
_ _12						_ _12
_ _13	<u>0.0</u> 5.0					_ _13
_ _14						_ _14
_ _15						_ _15
_ _16		N/A		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')	) _16
_ _17	0.0			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,		_ _17
_ _18	<u>2.6</u> 5.0			no odor (ML)		_ _18
_ _19						19
_ _20						20
_ _21			End of Bori	ing at 20' bgs.		21
_ _22						22
_ _23						23
_ _24						_ _24
_ _25						_ _25

72	TRATE	CH GEO		PROJECT NO.: 117-0509160.02		Boring No: 065_A011	
10				PROJECT NAME:		LOCATION SKETCH	
				PPG Site 065			
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVICE: G		GEOLOGIST / OFFICE:	
7/28/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	<b>₹</b> :	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE ELEVATION:		WELL INSTALLED?	
5' Sleeves, 1.25" ~ 2.3'		No					
МЕМО:	•						

DEPTH	RECOVERY	OVM			FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		0.0 0.4		Gray (GLEY1 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
_ _2		3.5 5.2		Dark Gray (2.5Y 4/1) medium SAND, little fine sand & medium-fine gray angular gravel & coal, loose, moist, no odor (SP)		2
_	<u>2.8</u>	2.0	1.1 - 1.7	Black (2.5Y 2.5/1) medium-fine SAND, little coarse subround slag sand &		_
_3 _	5.0	0.3		medium-fine slag gravel, little coal, loose, moist, no odor (SW) Yellowish Brown (10YR 5/4) coarse-medium SAND & coarse-fine subround		_3
_4			2.1 - 2.8	quartz GRAVEL, loose, moist, no odor (GW)  Dark Gray (10YR 4/1) Silty medium-fine SAND, little subround-subangular		_4
_ _5				gray gravel, trace slag & coal, loose, wet at 2.3', no odor (SM)		_ _5
_ _6		0.0	5.2 - 5.7	As Above (2.1' - 2.8'), wet (SM) Olive Gray (5Y 5/2) SILT, some very fine sand, little clay, firm, moist-wet,	065_A011_5.0 (5.0' - 5.5')	_ _6
_ 7		0.0 0.0		no odor (ML) Reddish Brown (5YR 4/3) Silty fine SAND, little medium sand & clay, trace		7
 _ _8	<u>2.1</u> 5.0			fine red subround sandstone gravel, dense, moist-wet, no odor (SM) As Above (5.2' - 5.7')		_ _ _8
_	5.0		0.0 - 7.1	AS ABOVE (0.2 - 0.1 )		_
_9 _						_9 _
_10		0.6	10.0 - 10.5	As Above (5.2' - 5.7'), but Silty CLAY with trace very fine sand, soft, wet,	065_A011_10.0 (10.0' - 10.5')	_10
11		2.6		Brown (10YR 5/3) mottling slight sulfurous odor (CH or OH)	,	_11
_ _12		5.0 6.8	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'	_ _12
_ _13	<u>2.9</u> 5.0	4.9 3.7				_ _13
_ _14						_ _14
_ _15						_ _15
_ 		0.0 0.0		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,	065_A011_15.0 (15.0' - 15.5')	_ 
_ 		0.0 0.0		trace medium gravel, stiff, moist, no odor (ML)		
_1 <i>/</i>  _	<u>3.5</u>	0.0				_1/  _
_18	5.0	0.0 0.0			065_A011_18.0 (18.0' - 18.5')	_18
_ _19		-			,	_19
_ _20						
_ _21			End of Bor	ing at 20' bgs.		_ _21
_ _22						22
_ _23						_ _23
_ _24						_ _24
_ _25						25

TETRA TECH GEO				PROJECT NO.: 117-050916 PROJECT NAME: PPG Site 065		Boring No: 065_A012 LOCATION SKETCH	
COMPLETION DATE: 8/1/2011	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE:		GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR EPI \ AJ Benjamin			DRILLING EQUIPMENT Geoprobe Track				
SAMPLING METHOD: DEPTH TO GROUNDWATER  5' Sleeves, 1.25"  2.0'				WELL INSTALLED? No			
MEMO:							

DEPTH	RECOVERY	OVM		DUDMERCTED OVOTEM CON DECORRIDADA	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		0.0		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')	_ _1
_ _2	2.2	0.0 0.0	;	Very Dark Gray (10YR 3/1) to Yellowish Brown (10YR 5/4) medium-fine SAND, little coarse-medium yellowish brown gravel, medium-dense, moist,		_ _2
_ _3	<u>2.3</u> 5.0		1.6 - 2.3	no odor (SW) Olive Gray (5Y 4/2) to Black (5Y 2.5/1) Silty medium-fine SAND, some wood		_3
_ _4			1	fragments, loose, moist-wet, wet at 2', no odor (SW)		_ _4
_ _5						_ _5
_ _6		0.0		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),	065_A012_5.0 (5.0' - 5.5')	_ _6
_ _7	1.0	0.0 0.0	5.3 - 6.1	loose, wet, no odor (GW) Olive (5Y 5/3) Clayey medium-fine SAND, little silt, loose, moist-wet,		_ _7
_ _8	<u>1.9</u> 5.0		6.1 - 6.9	no odor (SC) Grayish Brown (10YR 5/2) Clayey medium-fine SAND, little silt & coarse sand, trace medium-fine angular gravel, loose, wet, no odor (SC)		_8
_ _9			,	sand, trace mediani-line angular graver, loose, wet, no odor (50)		_9
_ _10						10
_ _11		8.1 27.0		Gray (2.5Y 5/1) medium-fine SAND & coarse-fine subround gravel, loose, dry-moist, no odor (GW) Very Dark Grayish Brown (10YR 3/2) PEAT, little Dark Gray (2.5Y 4/1)	065_A012_10.0 (10.0' - 10.5')	_ _11
_ _12	2.2	77.1 6.9 42.7		Silty CLAY, soft, moist, strong sulfurous odor (PT)		_ _12
_ _13	<u>3.3</u> 5.0	24.8				_13
_ _14						_ _14
_ _15						_ _15
_ _16		0.0		Gray (2.5Y 5/1) Silty medium-fine SAND, little clay, loose, wet, no odor (SM)	065_A012_15.0 (15.0' - 15.5')	_ _16
_ _17	4.0	0.1		Gray (5Y 5/1) Sandy CLAY, some silt, soft, low plasticity, moist-wet, no odor (CL)		_ _17
_ _18	<u>4.0</u> 5.0	0.0 0.0 0.0		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)		_ _18
_ _19		0.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	odor (ME)	065_A012_18.5 (18.5' - 19.0')	_19
_ _20						_20
_ _21			End of Bori	ng at 20' bgs.		_ _21
_ _22						22
_ _23						23
_ _24						_24
_ _25						_ _25

72-	TETRA TECH GEO				PROJECT NO.: 117-0509160.02		Boring No: 065_A013
			PROJECT NAME: PPG Site 065		5	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	
7/28/2011	20			PID MiniRAE 2000 Jim M. / Whitehouse Station			
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:		1	
EPI \ Bob Fleming			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"	5" ~ 3.5'				No		
MEMO:							

DEPTH	RECOVERY	OVM	DUDMEIOTED OVOTEM COUL DECODIDATION	FIELD NOTES &	7
(Feet)	(feet)	(PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		0.0 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') trace COPR noted 0.1' - 0.5'	_1
_ _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,		_ _2
_ _3	<u>4.1</u> 5.0	0.0	moist-dry, moist-wet at 3.5', no odor (SW)		3
_ _ _4			3.5 - 3.8 Dark Gray (10YR 4/1) SILT, some fine sand, little subangular coarse-fine gravel. Stiff, moist, no odor (ML)		- 4
 _ _5		0.0	3.5 - 4.1 Brown (7.5YR 4/2) medium SAND, little fine sand, coarse sand, & medium-		 _ _5
_5		0.0	fine subround gravel, medium-dense, moist-wet, no odor (SW) 5.0 - 5.7 As Above (3.5' - 4.1') but Silty, wet, no odor (SM)	065_A013_5.0 (5.0' - 5.5')	<sup>1_3</sup>
_ _6			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,	(6:6 6:6)	_6
_ _7	2.2	0.0 0.0	wet, no odor (SM)		_ _7
_ _8	<u>3.3</u> 5.0	0.0			_8
_ _9					_ _9
_ _10					_ _10
_ _11		25.1	10.0 - 10.5 As Above (5.7' - 8.3') 10.5 - 12.7 Very Dark Grayish Brown (10YR 3/2) PEAT & Dark Olive Gray (2.5Y 3/2)	065_A013_10.0 (10.0' - 10.5') Fill/native soil interface	 _11
_ _12		11.0 27.0	clay, little silt, soft, moist, strong sulfurous odor (PT/OH)	at 10.5'	_ _12
_ _13	<u>2.7</u> 5.0	140.0 126.0			_ _13
_ _14					_ _14
_ _15					_ 15
_ _ _16		54.6 42.2	15.0 - 15.9 As Above (10.5' - 12.7')	065_A013_15.0 (15.0' - 15.5')	
 _ 17			15.9 - 17.5 Grayish Brown (2.5Y 5/2) grading to Greenish Gray (GLEY2 6/5BG) clayey SILT, some very fine SAND, soft, moist-wet, slight sulfurous odor (ML),		- - 17
_''	<u>2.5</u>	0.6	Transitions to Brown (10YR 4/3) SILT, some fine sand, little red medium-	065_A013_17.0 (17.0' - 17.5')	_
_18	5.0		fine sand, firm, moist, no odor (ML)		_18
_ _19					_19
_ _20			End of Boring at 20' bgs.		20
_ _21			End of Borning at 20 bys.		_ _21
_ _22					_ _22
_ _23					23
_ _24					_ _24
_ _25					_ _25

72-	TE	TRATI	ECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 065_A014
10				PROJECT NAME:		LOCATION SKETCH	
OMPLETION DATE: TOTAL DEPTH OF BOREHOLE:			OLE:	PPG Site 065  MONITORING DEVICE: GEOLOGIST / OFFICE:		-	
8/1/2011	20				Jim M. / Whitehouse Station		
DRILLING CONTRACTOR			DRILLING EQUIPMEN	<u> </u>		1	
EPI \ AJ Benjamin			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25" ~ 2.2'				No			
МЕМО:							

DEPTH	RECOVERY	OVM		FIELD NOTES &	1
(Feet)	(feet)	(PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1 _ _2 _ _3	<u>4.3</u> 5.0	0.0 0.0 0.0 0.0 0.0	<ul> <li>Grayish Brown (2.5Y 5/2) fine SAND, little medium-fine angular gray grave trace silt, trace COPR gravel 0.2' - 1.1' (SP)</li> <li>Yellowish Brown (10YR 5/6) fine SAND, little medium sand &amp; fine angular gray gravel, trace slag, trace COPR gravel, dry, loose, no odor (SP)</li> <li>Very Dark Gray (10YR 3/1) fine SAND &amp; medium-fine GRAVEL (slag &amp; coalittle gray coarse-fine angular gravel, moist, moist-wet 2.2' - 3.4', no odor (COM)</li> </ul>	Trace COPR noted 0.2' - 1.5'  065_A014_1.5 (1.5' - 2.0')	_ _1 _ _2 _ _ _3
_ _4 _ _5		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)  5.0 - 5.5 As Above (3.4' - 4.3') but some silt, trace coal (SM)		_ _4 _ _5
_ _6 _ _7 _ _8	<u>2.0</u> 5.0	0.0 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)  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)	n- 065_A014_5.5 (5.5' - 6.0')	6 7 7 8
_ _9 _ _10		0.0	10.0 - 10.7 As Above (6.3' - 7'), some silt (SM)		_ _9 _ _10
_ _11 _ _12	<u>2.3</u>		10.7 - 12.3 Very Dark Grayish Brown (10YR 3/2) PEAT, some Dark Olive Gray (2.5Y 3 clay, little silt, soft, moist, strong sulfurous odor (PT)	/2) 065_A014_10.2 (10.2' - 10.7') Fill/native soil interface at 10.7'	_ _11 _ _12
 _13  _14  _15	5.0				13 14 15
<del></del>  _16		84.4 61.3 393.0	15.0 - 16.9 As Above (10.7' - 12.3')	065_A014_15.0 (15.0' - 15.5')	16  16
 _17 _ _18	<u>2.2</u> 5.0		16.9 - 17.2 Light Gray (GLEY1 7/N) coarse-medium SAND & coarse-fine subround sandstone GRAVEL, loose, moist, no odor (GW)	065_A014_16.7 (16.7' - 17.2')	_ _ _ _ _18
_ _19 _ _20					_ _19 _ _20
			End of Boring at 20' bgs.		21
_ _22 _ _23					
_ _24 _ _25					_ _24 _ 25

72-	TE	TRATI	ECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 065_A015
				PROJECT NAME: PPG Site 065		LOCATION SKETCH	
COMPLETION DATE:	OMPLETION DATE: TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE: GEOLOGIST / OFFICE:		1	
8/1/2011	20				Jim M. / Whitehouse Station		
DRILLING CONTRACTOR	r / DRILLER	R:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:		7	
EPI \ AJ Benjamin			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 2.4'				No			
МЕМО:	•						

DEPTH	RECOVERY	OVM		DUDMEICTED CYCTEM COULDECCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
				Asphalt	065_A015_0.0 (0.0' - 0.5')	-,
_1		0.0 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)		_1
_ _2			1.2 - 1.4	Light Grayish Brown (2.5Y 6/2) fine SAND, loose, dry, no odor (SP)		_2
	<u>4.2</u>			As Above (0.3' - 1.2'), no asphalt (SP)		
_ _3	5.0			Very Dark Gray (2.5Y 3/1) coarse-fine SAND, some medium-fine gravel		_3
_		0.0		(slag & coal) loose, moist, wet at 2.4', no odor (SW)		_
_4		0.0	3.5 - 3.7	Dark Yellowish Brown (10YR 4/4) medium SAND & medium-fine subround		_4
_ _5			3.7 - 4.2	gravel, trace silt, moist-wet, loose, no odor (GW) As Above (1.6' - 3.5'), mostly coal & slag fragments, moist-wet (GW)		_ _5
_5		0.0		As Above (3.7' - 4.2') (GW)	065_A015_5.0 (5.0' - 5.5')	┨_~
_ _6				Very Dark Gray (2.5Y 3/1) fine SAND, some silt, little glass, coal & slag,	(0.00 0.00)	_6
_		0.0		red brick cobbles 5.4'-5.5', medium-dense, moist, no odor (SM)		_
_7			6.2 - 7.3	Dark Gray (10YR 4/1) medium-fine SAND, little medium-fine subround gray		_7
_	<u>2.3</u>	0.0		gravel, trace silt, trace glass, red brick cobble & 7.1', loose, moist-wet,		-
_8	5.0			no odor (SW)		_8
_ _9						_9
_						
_10						_10
		1.0	10.0 - 10.8	Very Dark Gray (2.5Y 3/1) fine SAND & coarse-fine GRAVEL (slag), some	005 4045 40 0 (40 0) 40 0)	
_11		45.5 251.0	10.8 - 12.2	silt, little coal, loose, wet, slight sulfurous odor (GW) Very Dark Grayish Brown (10YR 3/2) PEAT, some Dark Olive Gray (2.5Y 3/2)	065_A015_10.3 (10.3' - 10.8')	_11
_ _12		19.0	10.0 - 12.2	clay, little silt, soft, moist, strong sulfurous odor (PT)		12
	<u>2.2</u>	10.0		ciay, mas sin, con, mois, chong canalous such (i 1)	Fill/native soil interface	
_13	5.0				at 10.8'	_13
						<u> -,,</u>
_14						_14
_ 15						_ 15
_10		103.0	15.0 - 18.5	As Above (10.8' - 12.2')	065_A015_15.0 (15.0' - 15.5')	
_ _16		66.8		` ,	,	_16
		62.6				
_17	4.5	17.5				_17
_ _18	<u>4.5</u> 5.0	37.0 179.0				_ _18
_10	3.0	35.9				-'0
_ _19			18.5 - 19.5	Greenish Gray (GLEY2 6/5BG) fine SAND, some silt, little clay, loose,		_19
_		243.0		moist-wet, strong sulfurous odor (SM), Transitions to Silty CLAY, moderate	065_A015_19.0 (19.0' - 19.5')	
_20			Ford (15)	plasticity, soft grading to firm, moist-dry, strong sulfurous odor (CH)		_20
_ _21			End of Bor	ing at 20' bgs.		21
_21						-21
22						_22
_23						_23
_24						_24
_ _25						_ _25

72	TE	TRA TECH GEO			PROJECT NO.: 117-0509160.02		Boring No: 063_B003
					PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE:	TOTAL DEP	FOTAL DEPTH OF BOREHOLE:		MONITORING DEVICE:		GEOLOGIST / OFFICE:	
7/22/2011	20	20		PID MiniRAE 2000 Jim		Jim M / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER:		DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GF	OUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25"	ľ	~ 2.7'				No	
MEMO:							

DEPTH	RECOVERY	OVM		DUDUE CONTROL OF DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1 _		0.0 4.0 0.3		Gray (10YR 5/1) medium-fine SAND & gray coarse-fine gravel, 5% COPR 0.2'-0.5' & 15% COPR 0.5'-1' (fine round gravel), loose, dry, no odor (SP) Black (7.5YR 2.5/1) coarse-fine SAND & medium-fine subangular gravel	063_B003_0.0 (0.0' - 0.5') 063_B003_0.5 (0.5' - 1.0') 063_B003_1.0 (1.0' - 1.5')	_ _1
_2		0.1		(slag), little coal fragments, loose to medium-dense, moist, wet at 2.7',	5% COPR noted 0.2' - 0.5'	_2
_	<u>3.6</u>	8.0		slight solvent odor & staining from 2.5' - 2.8' (SW)	15% COPR noted 0.5' - 1.0'	
_3	5.0	9.7 363.0		Brown (7.5YR 4/2) SILT, little fine sand & clay, firm grading to soft, moist, strong solvent odor & staining (ML)		_3
_4 _						_4 _
_5		505.0	50.04	D /7 5 / D. 4 / O. O. H. T. 15 / L	1000 B000 5 0 1/5 01 5 51)	_5
_ _6		42.2 22.8		Brown (7.5YR 4/2) SILT, little fine sand & clay, coarse-fine subround gray gravel, cobbles from 5.5'-5.9', moist, wet from 5.5'-5.9', firm, strong solvent odor and staining throughout (ML)	063_B003_5.0 (5.0' - 5.5')	_ _6
_ 7				Reddish Brown (5YR 5/3) clayey SILT, little fine sand, trace medium-fine		7
 _ _8	<u>3.0</u> 5.0	2.7 1.0		Red round sandstone gravel, firm grading to soft, moist to moist-wet, slight solvent odor (ML)	063_B003_6.9 (6.9' - 7.4') Fill/native soil interface	_ _ _8
_				Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray	at 7.4'	
_9 _				(5Y 3/1) CLAY, moderate plasticity, soft, moist, abundant plant fibers, strong sulfurous odor (PT)		_9 _
_10		0.0	10.0 11.1	A A) (7.4) 0.0) (DT)		_10
_ _11		0.6 0.3 3.9	10.0 - 11.4	As Above (7.4' - 8.0') (PT)	063_B003_11.0 (11.0' - 11.5')	_ _11
_ _12			11.4 - 12.0	Greenish Gray (GLEY2 5/5BG) Clayey fine SAND, little silt, soft, moist,	063_B003_11.0](11.0 - 11.5)	12
<del>_</del> _ _13	<u>2.0</u> 5.0			no odor (SC), Transitions into Reddish Brown (5YR 4/4) fine SAND, some silt, little medium sand, trace fine round sandstone gravel, dense, moist, no		13
				odor (SM)		L.
_14						_14
_ 15						_ 15
_				Reddish Brown (2.5YR 5/4) SILT & fine SAND, trace fine red round	063_B003_15.0 (15.0' - 15.5')	_
_16		1.6 0.0		sandstone gravel, dense, dry-moist, no odor (ML) Brown (7.5YR 5/3) fine SAND, some gravel (Gray 7.5YR 5/1 coarse-medium		_16
_ _17	0.7	0.0 0.0		round gravel, Red 2.5YR 4/6 flat siltstone, Greenish Gray GLEY1 5/5GY		_ _17
_ _18	<u>2.7</u> 5.0	0.0		medium-fine subangular sandstone), dense, moist, no odor (SP)		_ _18
_ _19						_ _19
_ _20						_ _20
_ _21			End of Bor	ing at 20' bgs.		_ _21
_ _22						_ _22
_ _23						_ _23
_ _24						_ _24
_ _25						_ _25

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

DEPTH	RECOVERY	OVM		DUDMEICTED SYSTEM SOUL DESCRIPTION	FIELD NOTES &	7
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_			0.0 - 0.5	Brown (7.5YR 5/4) medium-fine SAND, little Reddish Brown (2.5YR 4/4)	063_B004_0.0 (0.0' - 0.5')	-
_1			0.5 - 0.8	fine subround sandstone gravel, loose, dry, no odor (SP) Bluish Gray (GLEY2 7/10B) GRAVEL & COBBLES (broken-up concrete)		_1
_ _2				(GP), Olive Gray (5Y 5/2) fine SAND & SILT from 0.7' - 0.8' (ML), medium-	PID not working - lamp issue	_2
	<u>3.5</u>			dense/firm, dry, no odor		
_3	5.0		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)	063_B004_3.0 (3.0' - 3.5')	_3
_ 4				Grayish Brown (10YR 5/2) SILT, some fine sand, little medium sand, firm,	003_B004_3.0 (3.0 - 3.5)	4
				moist, slight solvent odor (ML)		
_5			3.1 - 3.5	Very Dark Gray (10YR 3/1) coarse-fine SAND, little silt & fine		_5
_ _6			5.0 - 5.4	angular gravel, very loose, wet, strong solvent odor (SW)  As Above (3.1' - 3.5'), some silt, little coarse-fine angular gravel, strong		_ _6
_0			0.0 0.4	solvent odor (SM)		
_7			5.4 - 6.3	Brown (7.5YR 5/3) SILT & fine SAND, little medium sand, trace medium-fine		_7
_ 8	<u>1.3</u> 5.0			subangular gray gravel, abudant wood fragments (creosote-treated) from 6' to	Fill/native soil interface not	
_0	5.0			6.3', firm, moist, strong solvent odor (ML)	recovered in 5'-10' core. Sampled 10'-10.5' section	_8
_ _9					in native soil	_9
_						
_10			10.0 - 10.5	Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray	063_B004_10.0 (10.0' - 10.5')	_10
_ _11			10.0	(5Y 3/1) CLAY, moderate plasticity, soft, moist, abundant plant fibers,	(10.0)	_ _11
_				slight sulfurous odor (PT)		
_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,		_12
_ 13	<u>1.5</u> 5.0			medium-dense, moist, no odor (SP)		13
_						
_14						_14
_ 15						_ 15
			15.0 - 16.7	Reddish Brown (5YR 5/3) fine SAND, little medium sand & silt, dense, moist,	063_B004_15.0 (15.0' - 15.5')	_
_16				no odor (SP), Transitions into Brown (7.5YR 4/3) SILT, little fine sand & fine-		_16
_ 17				medium gray angular gravel, abundant from 16' - 16.2', stiff, moist, no odor (ML)		-  17
_ ' '	<u>1.7</u>			(IVIL)		_''
_18	5.0					_18
_ _19					No sample 19' - 19.5' due to	_ 19
_13					low recovery	_'
_20					·	_20
_ _21			End of Bor	ing at 20' bgs.		21
22						_22
_ _23						23
_23						_23
_ _24						_24
_25						_25

T	) TI	ETRAT	TECH GEO		PROJECT NO.:  117-0509160.02  PROJECT NAME: PPG Site 063		Boring No: 063_B004a LOCATION SKETCH
COMPLETION DATE: 7/22/2011	TOTAL DE	EPTH OF BOREH	-			GEOLOGIST / OFFICE:  Jim M / Whitehouse Station	
DRILLING CONTRACTO EPI \ Bob Fleming		ER:	DRILLING EQUIPMEN Geoprobe Track				
SAMPLING METHOD: 5' Sleeves, 1.25"		DEPTH TO GRO	DUNDWATER	GROUND SURFACE		WELL INSTALLED? No	
МЕМО:							

DEPTH	RECOVERY	OVM			FIELD NOTES &	7
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
		0.0 4.2	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') 063_B004a_0.5 (0.5' - 1.0')	_ _ _1
<u> </u>			1.0 - 1.2	Light Yellowish Brown (2.5Y 6/4) COBBLES, loose, dry, no odor (GP)	063_B004a_1.2 (1.2' - 1.7')	-·
_2		0.5	1.2 - 2.5	Black (7.5YR 2.5/1) coarse-fine SAND, little medium-fine subround to	20% COPR noted 0.2' - 1.0'	_2
_	<u>3.5</u>	6.0		subangular gravel (Slag), loose, moist, wet at 2', slight solvent odor (SW),		_
_3	5.0	15.6		Transitions into coarse-fine SAND & medium-fine subround to aubangular		_3
_		6.8		gravel (Slag), loose, wet, slight solvent odor (GW)		_
_4			2.5 - 3.5	Brown (7.5YR 4/3) SILT & fine SAND, little medium sand, trace Red medium		_4
				to coarse sandstone gravel, medium-dense, moist-wet, slight solvent		
_5		0.0	F 0 0 0	odor (ML)	000 D004- F0 (F0) FF)	_5
_		0.0 0.0	5.0 - 6.8	Dark Grayish Brown (2.5Y 4/2) Silty CLAY, trace fine sand & medium-fine	063_B004a_5.0 (5.0' - 5.5')	-
_6		0.0		red sandstone gravel, soft, moist-wet, no odor (CL)		_6
_ _7			6.8 - 8.6	Reddish Brown (5YR 4/4) Silty medium-fine SAND, little coarse-fine		7
_'	<u>3.6</u>	0.0	0.0 0.0	Yellowish-Red (5YR 4/6) sandstone gravel & cobbles, trace Greenish Gray		-'
_ 8	5.0	0.0		(GLEY 2 5/5BG) medium-coarse angular shale gravel, medium-dense,		_8
_		0.0		moist-wet, no odor (SM)	063_B004a_8.1 (8.1' - 8.6')	
_9					Fill/native soil interface not	_9
_					recovered	_
_10						_10
		4.0	10.0 - 11.8	Black (10YR 2.5/1) PEAT & organic SILT, little Very Dark Gray (5Y 3/1)		-,,
_11		14.2		CLAY, moderate plasticity, soft, moist, abundant plant fibers, strong		_11
_ 12		43.1 67.7	110 111	sulfurous odor (PT)  Park Croy (2.5 V. 4/1) grading to Crossish Croy (CLEVE 5/5PC) CLAV some		_ 12
_12	16	54.2	11.0 - 14.1	Dark Gray (2.5Y 4/1) grading to Greenish Gray (GLEY5 5/5BG) CLAY, some fine sand, little silt, soft, low to moderate plasticity, moist, slight	063_B004a_12.0 (12.0' - 12.5')	_
_ 13	<u>4.6</u> 5.0	43.9		hydrocarbon odor (CL)	003_B004a_12.0 (12.0 - 12.5)	′ - _13
_10	5.0	414.0		Trydrocarbon odor (GE)		-'0
_ 14		1006.0				14
_		639.0	14.1 - 14.6	Reddish Brown (5YR 4/4) medium-fine SAND, little coarse sand & medium		
_15				sandstone gravel, medium-dense, moist-wet, strong hydrocarbon odor (SW)		_15
_		446.0	15.0 - 18.0	As Above (14.1' - 14.6'), little silt, Transitions into Reddish Brown (5YR 4/4)		]_
_16		590.0		SILT & fine SAND, little medium-coarse Red (5YR 4/6) subround gravel,		_16
		660.0		firm, moist, strong hydrocarbon odor (ML)	063_B004a_16.0 (16.0' - 16.5')	
_17	4.7	975.0				_17
_ _18	<u>4.7</u> 5.0	818.0		Gravish Brown (10VP 5/2) fine subangular ciltatons CPAVEL 9 coores		_ _18
_10	5.0	871.0		Grayish Brown (10YR 5/2) fine subangular siltstone GRAVEL & coarse SAND, little medium gravel & medium sand, trace fine sand & silt, loose,		-'0
_ _19		828.0		wet, strong hydrocarbon odor (GW), Transitions into Grayish Brown		_ 19
		759.0		(10YR 5/2) medium-fine SAND, little silt, trace medium-fine subangular gray		
_ _20				siltstone gravel, loose, wet, strong hydrocarbon odor (SP)		_20
_			End of Bo	ring at 20' bgs.		]_
_21						_21
_22						_22
_						
_23						_23
_ _24						24
_47						
_ _25						25

Tŧ	TETRA TECH GEO					60.02	Boring No: 063_B005 LOCATION SKETCH
					PPG Site 063	3	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:		MONITORING DEVICE:		GEOLOGIST / OFFICE:	]	
7/19/2011	37			PID MiniRAE 2000		Jim M / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	l:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"		~ 2.0'				No	
мемо: <b>Hand-dug</b>	2'x2' ho	le to 1.3' to r	emove liner.				

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)			SAMPLE SUMMARY	_0
_ _1			0.0 - 0.6 0.6 - 1.3	QP Stone (coarse subangular gravel & cobbles) (GP) Olive Gray (5Y 4/2) fine SAND, little m. sand, loose, moist-wet, no odor (SP)		_1
	<u>3.0</u>	2144.0 596.0	1.3 - 2.0 2.0 - 3.3	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) Brown (7.5YR 4/3) SILT & fine SAND, little subangular-subround gray gravel, stiff, moist, strong solvent odor (ML)	063_B005_1.3 (1.3' - 1.8')	
 _4 _ _5	3.8	3999.0	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')	_ _4 _ _5
 _ _6			5.0 - 10.0	No recovery		_ _ _6
0  _7	<u>0.0</u>					 7
_8	5.0					_8
_ _9 _						_9 _
_10			100 100			_10
_ _11		2258.0 447.0 23.7		Reddish Brown (2.5YR 4/3) medium SAND, some fine sand, trace silt, loose, moist-wet, strong solvent odor (SP) Brown (2.5YR 4/3) SILT & fine SAND, trace medium sand, little coarse-fine		_ _11
_ _12 _ _ _13	<u>3.8</u> 5.0	62.1 35.9 18.2		subangular-subround gray gravel, dense, moist, slight solvent odor (ML) Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist, abundant plant fibers,	063_B005_11.4 (11.4' - 11.9') Fill/native soil interface at 11.9'	_ _12 _ _ _13
_ _ _14 _		0.0 0.0	12.8 - 13.8	slight sulfurous odor (PT) Greenish-Gray (GLEY2 6/5BG) Clayey fine SAND, little medium sand & silt, medium-dense, moist, no odor (SC)		_ _14 _
_15			1-0 100			_15
_ _16 _		53.6 0.0	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	063_B005_15.5 (15.5' - 16.0')	_ _16 _
_17				medium-fine dark gray angular gravel, dense, dry-moist, no odor (ML)		_17
_ _18	1.0 5.0					_ _18
_ _19						_19
_ _20						20
_ _21		332.0 14.0 0.0		Dark Gray (10YR 4/1) coarse-fine angular siltstone gravel & coarse sand, dense, moist-wet, slight hydrocarbon odor (GW)  Brown (7.5YR 5/3) SILT, some fine sand, little medium sand & coarse-fine	063_B005_20.0 (20.0' - 20.5')	_ _21
_ _22		0.0	20.2 - 21.4	subangular gray siltstone gravel, stiff, wet, slight hydrocarbon odor (ML)		_ _22
_ _23	<u>1.4</u> 5.0					_ _23
_ _24						_ _24
_ _25						_ _25

73	TETR	ΑТ	ECH GEO		PROJECT NO.: 117-050916	60.02	Boring No: 063_B005
					PROJECT NAME: PPG Site 063		LOCATION SKETCH
0011015710115175		005	0.5				_
COMPLETION DATE:	TOTAL DEPTH OF I	OREH	OLE:	MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	
7/19/2011	37			PID MiniRAE 2	000	Jim M / Whitehouse Station	
DRILLING CONTRACTOR	R / DRILLER:		DRILLING EQUIPMEN	T:	DRILLING METH	OD / BIT:	
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:	DEPTH 1	O GRC	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"	~ 2.0'					No	
мемо: Hand-dug	2'x2' hole to 1.	3' to	remove liner.				
0							

DEPTH	RECOVERY	OVM	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	$\neg$
(Feet)	(feet)	(PPM)		SAMPLE SUMMARY	_
_ _26		76.2 0.0 14.0	25.0 - 27.8 Brown (7.5YR 5/3) SILT & Dusky Red (2.5YR 3/2) coarse-fine gravel & cobbles from 25' - 26', little mediuim-fine gravel from 26' - 27.8', little fine sand, trace medium sand, very stiff, moist, slight hydrocarbon odor (GM)		_ _26
_ _27	2.8	0.0	Sana, trace mediam sana, very san, moist, siight nyarosarbon odor (Sivi)		_ _27
_ _28	<u>2.8</u> 5.0	0.0			28
_ _29					29
_ _30					_30
_ _31		0.0	30.0 - 30.9 Grayish Brown (10YR 5/2) SILT, some fine sand, little coarse-medium Greenish Gray (GLEY1 5/10Y) siltstone gravel, very stiff, dry, no odor (ML),		_ _31
_ _32		0.0	Transitions into Brown (10YR 4/3) SILT, little Weak Red (10R 4/3) coarsemedium siltstone gravel, very dense, dry, no odor (ML)		_ _32
_ _33	<u>2.2</u> 5.0		30.9 - 32.2 Yellowish Red (5YR 5/6) fine SAND, little very fine & medium sand, trace Weak Red (10R 4/3) stilstone gravel, very dense, moist, no odor (SP)		_ _33
_ _34					_ _34
_ _35					_ _35
_ _36	2.3	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		_ _36
_ _37	2.3	0.0 0.0	(GLEY1 6/5G) medium-coarse sand & fine subangular sandstone gravel 35.9'-36.2' and at 37'-37.3' (GLEY1 7/5GY), very dense, dry, no odor (ML)		
_ _38			End of Boring at 37.2' bgs. (refusal)		
_ _39					39
_ _40					_ _40
_ _41					_ _41
_ _42					_ _42
_ _43					_43
_ _44					_44
_ _45					_ _45
_ _46 _					_ _46 _
_ _47 _					_ _47 _
_ _48 _					_48 _
_ _49					_49
_ _50					_50

Th	TI	ETRAT	ECH GEO	)	PROJECT NO.: 117-050916	60.02	Boring No: 063_B006 / 063_MW01
					PROJECT NAME: PPG Site 063	3	LOCATION SKETCH
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	1
7/15/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMENT	T: DRILLING METHOD / BIT:			
EPI \ Ray Smith			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"		~1.5'				Yes - 063_MW01	
мемо: Moved 8' 1	toward E	Burma road fi	rom original locat	ion, hand-dug 2	'x2' hole to 1'	to remove liner. Geoprobe	
refusal at	2' on two	attempts (s	tone). Moved 5' t	owards original	location and s	successfully advanced boring	

DEPTH	RECOVERY	OVM	DUDMEIOTED OVOTEM COIL DECODIDATION	FIELD NOTES &	7
(Feet)	(feet)	(PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1			<ul> <li>0.0 - 0.5 QP Stone (coarse subangular gravel &amp; cobbles) (GP)</li> <li>0.5 - 1.0 Olive Gray (5Y 4/2) fine SAND, little m. sand, loose, moist-wet, no odor (SP)</li> </ul>		1
_ _2			1.0 - 1.5 As Above (0.5'-1'), moist, strong solvent odor (SP) 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,	063_B006_1.0 (1.0' - 1.5') 063_B006_1.5 (1.5' - 2.0') 063_B006_2.0 (2.0' - 2.5')	_ _2
_ _3	<u>2.4</u> 4.0	44.4	moist-wet, strong solvent odor (SW)  2.0 - 3.0 Dark Yellowish Brown (10YR 4/4) SILT, little fine sand, stiff, moist, slight	20% COPR noted 1.5' - 1.7'	_3
_ _4	4.0	11.3	solvent odor (ML)  3.0 - 3.4 Dark Brown (10YR 3/3) coarse-fine SAND, some silt, little fine subround		_ _4
_ _5		13.6	quartz gravel, medium-dense, moist-wet, slight solvent odor (SM)  5.0 - 7.0 Dark Brown (10YR 3/3) medium-fine SAND, little silt & gravel, trace wood		_5
_ _6		1.4 1.0	fragments (treated, has strong odor), medium-dense, wet, strong creosote or solvent odor (SP)		_ _6
_ _7	<u>1.4</u>	1.0	7.0 - 8.0 Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray	063_B006_6.5 (6.5' - 7.0') Fill/native soil interface	_ _7
_8	5.0		(5Y 3/1) CLAY, moderate plasticity, soft, moist-wet, abundant plant fibers, strong sulfurous odor (PT)	at 7.0'	_8
_ _9 _					_9
_10					_10
_ _11		1.3	10.0 - 12.2 As Above (7.0' - 8.0') 12.2 - 13.8 Greenish Gray (GLEY2 5/5BG) Silty CLAY, moderate plasticity, soft, moist,	063_B006_10.0 (10.0' - 10.5')	)  _ _11
_ _12	2.0	2.4 3.1 0.9	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)	063_B006_12.2 (12.2' - 12.7')	12
_ _13	<u>3.8</u> 5.0	3.4 10.2	rragments), dense, moist-wet, slight hydrocarbon odor (SF)	003_6006_12.2](12.2 - 12.7)	/
_ _14		10.2			14
_ _15					_ 15
_ _16		6.9 0.0	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, gravel (sandstone fragments), dense, moist-wet, slight hydrocarbon odor, gravel (sandstone fragments).	,	_ _16
_ _17	2.0	0.0	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		_ _17
_ _18	<u>3.0</u> 5.0	0.0 0.0	sand from 17.2' - 17.4', stiff, moist, no odor (ML)		_ _18
_ _19					_ _19
_ _20					_ _20
_ _21			End of Boring at 20' bgs.		_ _21
_ _22			Well Information: 2-inch diameter 10-slot SCH40 PVC screen set at 2.0' - 7.0' bgs.		22
_ _23			2-inch diameter SCH40 PVC riser from 2.0' bgs. to 2.5' above grade #1 Sand from 1.5' to 7.0' bgs., Grout from 1.0' to 1.5'		23
_ _24			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		_ _24
_ _25			Chok up completion		_ _25

72-	TE	TRATE	CH GEO		PROJECT NO.: 117-050916	60.02	Boring No: 063_B007
					PROJECT NAME: PPG Site 063	3	LOCATION SKETCH
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVIC		GEOLOGIST / OFFICE:	1
7/19/2011	28		PID MiniRAE 2000		Jim M. / Whitehouse Station		
DRILLING CONTRACTOR			DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"		~ 1.3'				No	
мемо: <b>Hand-dug</b>	2'x2' ho	le to 1.0' to r	emove liner.				

DEPTH	RECOVERY	OVM		DUDMEIGTED SVOTEM COULDESCADIDATION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
			0.0 - 0.5	QP Stone (coarse subangular gravel & cobbles) (GP)		
_1		244.0	0.5 - 1.0 1.0 - 1.3	Olive Gray (5Y 4/2) fine SAND, little m. sand, loose, moist-wet, no odor (SP) As Above (0.5' - 1.0'), strong solvent odor (SP)	063_B007_1.0 (1.0' - 1.5')	<del> </del> _1
_ _2			1.0 - 1.3	Black (10YR 2.5/1) coarse-fine SAND, little fine subround gravel (slag), little	063_B007_1.0 (1.0' - 1.5')	_ _2
		17.6	1.3 - 1.6	coarse-fine angular gravel, loose, moist-wet, strong solvent odor (SW)		-
_ _3	<u>2.2</u>		1.8 - 3.2	Brown (7.5YR 4/3) fine SAND, some coarse-fine subangular-subround gravel,		_3
	4.0	109.0		little silt, loose, wet, strong solvent odor (SP), Transitions into Brown		
_ _4				(7.5YR 4/3) medium-fine SAND, some silt, some coarse-fine subangular to		_4
_				subround gravel, soft grading to firm, wet, strong petroleum odor, petroleum		
_5				staining at 2.5' (SM)		_5
_			5.0 - 6.2	Reddish Brown (5YR 4/3) medium-fine SAND, some silt & coarse-fine	063_B007_5.0 (5.0' - 5.5')	
_6		0.0		subangular to subround gravel, Weak Red (10R 4/2) siltstone gravel 6.1'-6.2',		_6
		42.6		firm, moist-wet, slight solvent odor (SM)		
_7	2.6	0.0 0.0		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')	_7
_ _8	<u>2.6</u> 5.0	0.0		Olive Brown (2.5Y 4/4) medium-fine SAND, some silt & coarse-fine angular	(1.1 - 1.0)	_ _8
	0.0		7.0	gravel, Very Dark Grayish Brown (10YR 3/2) Peat in bottom of sleeve,	Fill/native soil interface	-°
_ _9				medium-dense, moist- no odor (SM)	at 7.6'	_9
_						_
_10						_1(
		6.6	10.0 - 12.2	Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray		<u> -</u>
_11		7.9		(5Y 3/1) CLAY, low plasticity, soft, moist-wet, abundant plant fibers,	062 0007 44 4 (44 4) 44 6)	_1
_ _12		2.2 1.2	122 127	slight sulfurous odor (PT) Greenish Gray (GLEY2 6/5BG) Clayey fine SAND, little medium sand & silt,	063_B007_11.1 (11.1' - 11.6')	12
_12	<u>2.9</u>	0.2	12.2 - 12.1	medium-stiff, moist, no odor (SC)		-'
_ 13	5.0		12.7 - 12.9	Reddish Brown (5YR 4/3) medium-fine SAND, little subround medium-fine		1:
				sandstone gravel & coarse sand, dense, moist, no odor (SW)		
_14						_14
_15		0.0	45.0 40.0	(10 T) (10 C) (1 T) (10 C) (1 T) (10 T) (10 T)	000 000 45 0 45 0 45 50	15
_		0.0	15.0 -18.3	As Above (12.7' - 12.9'), but Brown (7.5YR 4/3), Transitions into Reddish	063_B007_15.0 (15.0' - 15.5')	-  16
_16		0.0 0.0		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)		-"
_ 17		0.0		Greenish Gray (GLETT 4/3GT) Shale graver, dense, moist, no odor (ML)		1
-''	<u>3.3</u>	0.0				-'
_ _18	5.0	0.0				18
_						
_19						_19
						-
_20		0.0	20.0 24.0	Doddish Drown (EVD 4/2) CILT come fine cond little modium cond 9 fine		20
_ _21		0.0 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',		_2
'		0.0		dense, moist, no odor (ML)		-
		0.0		20.00,		_22
_	<u>4.0</u>	0.0				
_ _23	5.0	0.0				_2
_		0.0				_
_24		0.0				_24
_25						_2

T-	TE	TRATE	CH GEO		PROJECT NO.: 117-0509160.02 PROJECT NAME: PPG Site 063		Boring No: 063_B007
COMPLETION DATE: TOT. 7/19/2011  PRILLING CONTRACTOR / DR EPI \ Bob Fleming SAMPLING METHOD: 5' Sleeves, 1.25"							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	k:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"		~ 1.3'				No	
мемо: Hand-dug	2'x2' ho	le to 1.0' to i	emove liner.				

DEPTH (Foot)	RECOVERY (feet)	OVM (DDM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	
(Feet)	(IGGL)	(PPM) 0.0	25.0 - 28.0 As Above (20' - 24'), some Light Olive Brown (2.5Y 5/6) coarse-medium	SAMPLE SUMMARY	-
_26	3.0	0.0	SAND & fine gravel from 25' - 25.4', dense, moist, wet at 26.1' & 26.7', no odor (ML)		_26
_ _27	<u>3.0</u> 3.0	0.0	TIO OCIOT (IVIL)		_ _27
_ _28		0.0			_ _28
 _ _29			End of Boring at 28.0' (Refusal)		
_					_
_30					_30
_ _31					_31
_ _32					
_ _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

72-	TE	TRATE	A TECH GEO		PROJECT NO.: 117-0509160.02 PROJECT NAME: PPG Site 063		Boring No: 063_B008
							LOCATION SKETCH
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE: GEOLG		GEOLOGIST / OFFICE:	
7/20/2011	20			PID MiniRAE 2000 Jim M / Whitehouse Station		Jim M / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLEF	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25" ~ 1.6'					No		
мемо: Hand-dug							

DEPTH	RECOVERY	OVM		DUDMEIGTED OVOTEM COIL DECORPOTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1			0.5 - 1.0	QP Stone (coarse subangular gravel & cobbles) (GP) Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)		1
_ _2			1.6 - 2.2	As Above (0.5' - 1'), strong solvent odor (SP) 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,	063_B008_1.0 (1.0' - 1.5') 063_B008_1.7 (1.7' - 2.2') 063_B008_2.2 (2.2' - 2.6')	_ _2
_ _3 _	<u>2.7</u> 4.0	76.3		strong solvent odor (SW)  Grayish Brown (2.5YR 5/2) Silty medium-fine SAND, moist-wet, loose,	15% COPR 1.7' - 2.0'	_3
_4 _				strong solvent odor (SM)		_4 _
_5		0.0	5.0 - 7.0	Dark Gray (10YR 4/1) medium-fine SAND, little coarse-fine subround gray		_5
_ _6		0.0 0.0 0.0		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,		_ _6
_ _7 _	<u>2.0</u>	0.0		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')	_7 _7
_8 _	5.0					_8
_9 _						_9 _
_10		0.0	10.0 10.5	Dad (2 CVD 4/C) CILT little fire agend exiff dry, recoder (ML)	000 000 40 5 (40 5 44 0)	_10
_ _11		0.0 2.2 6.8	10.5 - 12.5	Red (2.5YR 4/6) SILT, little fine sand, stiff, dry, no odor (ML) 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,	063_B008_10.5 (10.5 - 11.0') Fill/native soil interface at 10.5'	_ _11
_ _12	0.0	8.6		slight sulfurous odor (PT)		_12
_ _13	<u>3.3</u> 5.0	1.3 0.7		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')	_ _13
_ _14				Table line angular graves, early moist, no each (m2)		_ _14
_15						_15
_ _16		0.0 0.0 0.0		Reddish Brown (2.5YR 5/3) SILT, little fine sand, trace fine gravel, stiff, dry, no odor (ML)		_ _16
_ _17		0.0			063_B008_16.5 (16.5' - 17.0')	_ _17
_ _18	<u>2.8</u> 5.0	0.0 0.0				_ _18
_ _19 _						_ _19
_20						_20
_ _21			End of Bori	ing at 20' bgs.		_ _21
_ _22						_ _22
_ _23						_23
_ _24						_ _24
_ _25						_ _25

TETRA TECH GEO				PROJECT NO.: 117-0509160.02 PROJECT NAME: PPG Site 063		Boring No: 063_B009 / 063_MW02	
						LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:		MONITORING DEVICE: G		GEOLOGIST / OFFICE:	]	
7/11/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	k:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Ray Smith			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 2.0'			Yes - 063_MW02		Yes - 063_MW02		
МЕМО:							

DEPTH	RECOVERY	OVM	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		SAMPLE SUMMARY	_0
_ _1			<ul><li>0.0 - 0.3 Wood fragments, strong odor (solvents or creosote)</li><li>0.3 - 0.9 Black (10YR 2.5/1) coarse-medium SAND, 75% COPR (coarse-fine round)</li></ul>	063_B009_0.0 (0.0' - 0.5') 063_B009_0.5 (0.5' - 1.0')	_ _1
		0.0	gravel) from 0.3' -0.5', little-some slag & coal f	75% COPR noted 0.3' - 0.5'	_
_2	<u>2.7</u>	0.0 0.0	odor (SW) 0.9 - 2.7 Very Dark Gray (10YR 3/1) medium-fine SAND, little coarse-fine angular	063_B009_1.7 (1.7' - 2.2')	_2
_3	5.0	0.0	gravel, little silt, loose, moist, wet at 2'	(1.7 - 2.2)	_3
_ _4					_ _4
_ _5					_ _5
_ _6			5.0 - 9.4 No recovery - drilling difficult and rocky		_ _6
_ _7					_ _7
_ _8	<u>0.7</u> 5.0				_ _8
_ _9			9.3 - 9.8 Olive Brown (2.5YR 4/3) Clayey SILT, trace fine sand, little coarse-fine		_ _9
_ _10			gray angular gravel, soft, low plasticity, moist, no odor (ML) 9.8 - 10.0 Dark Brown (10YR 3/3) PEAT, soft, moist, strong sulfurous odor (PT)	063_B009_9.3 (9.3' - 9.8') (fill/native soil interface)	_ _10
_ _11		6.4 3.4	10.0 - 11.7 As Above (9.8' - 10.0')		_ _11
_ _12		0.6 0.4	11.7 - 13.7 Gray to Grayish Brown (10YR 5/1 - 5/2) SILT, little fine sand, little		_ _12
_ _13	<u>3.7</u> 5.0	0.0 0.0	coarse-fine angular gravel, firm, moist, no odor (ML)		_ _13
_ _14		0.0		063_B009_13.0 (13.0' - 13.5')	_ _14
_ _15					_ _15
_ _16			15' - 20' No Recovery		_ _16
_ _17					_ _17
_ _18	<u>0.0</u> 5.0				_ _18
_ _19					_ _19
_ _20					20
_ _21			End of Boring at 20' bgs.		21
_ _22			Well Information: 2-inch diameter 10-slot SCH40 PVC screen set at 5.0' - 10.0' bgs.		_ _22
_ _23			2-inch diameter SCH40 PVC riser from 5.0' bgs. to 2.5' above grade #1 Sand from 3.0' to 10.0' bgs., Grout from 1.0' to 3.0'		_ _23
_ _24			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		_ _24
_ _25			Stick-up completion		_ _25

72-	TETRA TECH GEO				PROJECT NO.: 117-0509160.02		Boring No: 063_B010
				PROJECT NAME: PPG Site 063			LOCATION SKETCH
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	
7/28/2011	20			PID MiniRAE 2000 Jim M. /		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:		1	
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"		~ 2.0'				No	
MEMO:							

DEPTH	RECOVERY	OVM	Ī		FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_		25.3	0.0 - 0.5	Light Brownish Gray (2.5Y 6/2) medium-fine SAND, little subround-	063_B010_0.0 (0.0' - 0.5')	1_
_1		7430.0		subangular tan/light gray gravel, loose, dry, slight solvent odor (SW)	Trace COPR 0.5' - 0.5'	_1
-		9999.0 327.0	0.5 - 3.3	Very Dark Gray (3.5Y 3/1) medium-fine SAND & medium-fine COPR	063_B010_1.5 (1.5' - 2.0')	_ _2
_2	<u>3.6</u>	438.0		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	50% COPR 0.5' - 3'	-2
_ _3	5.0 5.0	124.0		(GM/SM)	30 / 0 001 1 0.3 - 3	_ _3
_		77.0	3.4 - 3.6	Reddish Brown (5YR 4/4) coarse-medium SAND & medium-fine subround -	063_B010_3.0 (3.0' - 3.5')	
_4				subangular sandstone GRAVEL, loose, dry, slight solvent odor (GW)		_4
					Strong solvent odor	
_5		12.9	50 5.5	Very Dark Gray (3.5Y 3/1) Silty fine SAND little subround to subangular	throughout 0' - 5' interval 063_B010_5.0 (5.0' - 5.5')	_5
_ _6		3.0	00. 0.0	medium-fine gravel, medium-dense, moist-wet, slight solvent odor (SM)	(0.0 0.0)	_6
_			5.5 - 6.4	Dark Grayish Brown (10YR 4/2) grading to Olive Gray (5Y 5/2) Silty fine		
_7		2.6		SAND, trace clay & medium-fine subangular gravel, medium-dense,		_7
_	<u>2.8</u>	0.6	0.4.7.0	moist-wet, slight solvent odor (SM)	000 D040 7 0 1/7 01 7 01)	_
_8	5.0		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	063_B010_7.3 (7.3' - 7.8')	_8
_ _9				odor (ML)	Fill/native soil interface	_ _9
_				Dark Brown Peat in bottom of sleeve	at 7.8'	_
_10						_10
- 11		4.9 1.3	10.0 - 11.9	Very Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray		_ _11
-''		0.7		(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')	-''
_ _12		0.0	11.9 - 12.1	Brown (7.5YR 4/2) Clayey SILT, little fine-very fine sand, soft, moist, no	(**************************************	_12
_	<u>2.5</u>	0.0		odor (ML)		_
_13	5.0		12.1 - 12.3	Light Greenish Gray/White (GLEY2 8/5BG) coarse-medium SAND &		_13
- 14			100 105	subround sandstone COBBLES, loose, dry no odor (GP) Brown (7.5YR 4/2) SILT, little clay & fine sand, some coarse-medium		_ _14
-14			12.3 - 12.3	subround red/gray siltstone gravel, stiff, moist, no odor (ML)		-'4
_ _15						_15
		0.0	15.0 - 16.7	Grayish Brown (10YR 5/2) SILT, little fine sand, little coarse-fine subround	063_B010_15.0 (15.0' - 15.5')	]
_16		0.0		reddish brown & dark gray gravel, stiff, moist, no odor (ML)		_16
_ 17		0.0				_ 17
_''	<u>1.7</u>					l-''
_ _18	5.0					_18
_						
_19						_19
_ _20						20
			End of Bor	ring at 20' bgs.		1
_21						_21
_22						_22
						_ _23
_24						_24
_25			<u> </u>			_25

72	TE	TRATE	CH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_B010a
			PROJECT NAME: PPG Site 063		LOCATION SKETCH		
COMPLETION DATE:	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 EQUIPMEN	T: DRILLING METHOD / BIT:		]	
EPI \ Bob Fleming			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	]
5' Sleeves, 1.25" ~ 1.7'		No					
МЕМО:							]

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	] _
(Feet)	(feet)	(PPM) 46.1	0.0 - 0.3		SAMPLE SUMMARY  063 B010a 0.0 (0.0' - 0.5')	_0
_ _1		74.6	0.3 - 2.7	Black (2.5Y 2.5/1) medium-fine SAND, little coal, trace slag & fine red	(0.0 0.0)	_1
_ _2		541.0 24.7		subround gravel (non-COPR), moist, wet 1.7' - 2.7'), slight solvent odor (SW)		_ _2
	<u>4.0</u>		2.7 - 3.2	Yellowish Brown (10YR 5/4) coarse-medium SAND & medium-fine subround		
_3	5.0	1.1		gravel, loose, wet, dark staining 3.0' - 3.2', slight sheen, strong solvent odor (S)	N	_3
_ 4		2.7 2.5	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)		_ _4
_				3 ,		_
_5		0.7	5.0 - 8.0	Olive Gray (5Y 5/2) Clayey SILT, trace fine sand & shells, trace glass	063_B010a_5.0 (5.0' - 5.5')	_5
_ _6		1.2	0.0 0.0	fragments, firm, low plasticity, moist, no odor (ML), Transitions to	(0.0 0.0)	_6
_ 7		0.4 0.0		Clayey SILT, trace glass, soft, moist, slight sulfurous odor (ML)		- 7
_' _	4.0	0.0				-'
_8	5.0	0.0	0.0.0	Vome Doub Crouish Brown (40VD 2/2) DEAT little Vome Doub Crou	063_B010a_7.5 (7.5' - 8.0') Fill/native soil interface	_8
_ _9		0.0 9.2	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,	at 8'	_9
_				strong sulfurous odor (PT)		_
_10		0.4	10.0 - 11.4	As Above (8' - 9')		_10
_11		0.3				_11
_ _12		0.0 0.0	11.4 - 13.2	Brown (7.5YR 4/2) Clayey fine-very fine SAND, little silt, slight red and gray	063_B010a_11.5 (11.5' - 12.0')	_ 12
_	<u>3.2</u>	0.0		mottling, trace greenish gray coarse-fine siltstone gravel & medium sand,	(**************************************	
_13	5.0	0.0		loose, moist, slight sulfurous odor (SC), Transitions to Grayish Brown (2.5Y 5/2) SILT, little fine sand, some gray medium-fine angular sandstone		_13
_ _14				gravel & medium-fine subround reddish-brown siltstone gravel, little clay,		_14
_ _15				trace gray angular gravel, stiff, moist-dry, no odor (ML)		_ 15
_13		0.0	15.0 - 16.8	Grayish Brown grading to Brown (10YR 5/2-5/3) SILT, little fine sand &	063_B010a_15.0 (15.0' - 15.5')	_
_16		0.0		medium-fine gray angular gravel, trace medium sand, Pale Yellow (7.5Y 7/3)		_16
_ _17		0.0		coarse-medium sand & coarse subround sandstone flat gravel & cobbles 16' - 16.3', Light Greenish Gray (GLEY1 8/10Y) coarse-medium sand &		-  _17
	<u>1.8</u>			coarse subround flat sandstone gravel & cobbles 16.6' - 16.8', stiff, moist,		
_18	5.0			no odor (ML)		_18
_ _19						_19
_ _20						20
_			End of Bor	ing at 20' bgs.		1_
_21						_21
_ _22						_22
_ _23						
_						_
_24						_24
_ _25						_ _25

72	TE	TRATE	CH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_B011
						3	LOCATION SKETCH
COMPLETION DATE:	TOTAL DE	TOTAL DEPTH OF BOREHOLE:		MONITORING DEVICE:		GEOLOGIST / OFFICE:	
7/28/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
		DRILLING EQUIPMENT:		DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	k Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"		~ 2.2				No	
MEMO:							

DEPTH	RECOVERY	OVM		DUDMEIGTED OVOTEM COULDECODIDATION	FIELD NOTES &	7
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		261.0 724.0 50.6	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',	063_B011_0.0 (0.0' - 0.5') 063_B011_0.5 (0.5' - 1.0') 30% COPR 0.2' - 0.5'	_ _1
_ _2	0.4	8.5	1.8 - 2.2	medium-dense, dry, strong solvent odor (SP) Yellowish Brown (10YR 5/6) coarse-fine SAND & coarse-fine subround	30% COFR 0.2 - 0.5	_2
_ _3	<u>3.1</u> 5.0	4.5 3.9	2.2 - 3.1	gravel, moist, wet at 2.2', loose, slight solvent odor (SW)  Dark Gray (10YR 4/1) Silty medium-fine SAND, some coarse-fine gravel		_3
_ _4				(slag & coal), loose, wet, slight solvent odor (SM)		_ _4
_ _5						_ _5
_ _6		8.7	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')	_ _6
_ _7			6.5 - 7.9	Olive Gray (5Y 5/2) SILT, some very fine sand & clay, dark gray staining		_ _7
_ _8	<u>2.9</u> 5.0	5.8 4.0		6.4' - 6.8', soft, moist, slight solvent odor (ML)		_8
_ _9						_9
_ _10						_ _10
_ _11		0.4 0.5		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') Fill/native soil interface	  _11
_ _12		1.1 0.7	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,	at 10.3'	12
_ _13	<u>3.4</u> 5.0		12.8 - 13.4	slight sulfurous odor (PT) Greenish Gray (GLEY2 6/10BG) CLAY, some medium-fine SAND, little silt,		_ _13
_ _14		0.0		trace medium-fine subround gravel, little Yellowish Red (5YR 4/6) mottling, loose, moist-wet, no odor (CL/SC)		_ _14
_ _15						_ _15
_ _16		0.2		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')	_ _16
_ _17		0.0	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)		_ _17
_ _18	<u>3.5</u> 5.0	0.0			222 2244 42 2442 24 42 70	_ _18
_ _19		0.0			063_B011_18.0 (18.0' - 18.5')	_ _19
_ _20			End (5	to a colonia		_ _20
_ _21			End of Bor	ing at 20' bgs.		21
_ _22						22
_ _23						23
_ _24						_ _24
_ _25						_ _25

TETRA TECH GEO				PROJECT NO.: 117-0509160.02		Boring No: 063_B012 / 063_MW03	
IC				PROJECT NAME: PPG Site 063		LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE: G		GEOLOGIST / OFFICE:	
7/11/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Ray Smith			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"		~2.3'				Yes - 063_MW03	
мемо: Moved 8'							

DEPTH	RECOVERY	OVM	DUDMEIOTED OVOTEM COULDECORDITION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		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
_ _2		0.0 0.0	1.2 - 2.0 Black (10YR 2/1) medium-fine S medium-dense, dry, no odor (SP)		_ _2
_ _ _3	<u>3.2</u> 5.0	0.0 0.0	2.0 - 2.3 Olive (2.5Y 5/4) medium-fine SAND, trace medium-fine gray round gravel (non-COPR) (SP)		_ _3
_ _4			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)		_ _4
_ _5					_ _5
_ <del></del> 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')	_ _ _6
_0 _ _7		0.0	5.5 - 5.8 Dark Gray (5YR 4/1) SILT, little fine SAND, little clay, trace fine gray angula gravel, soft, moist-wet, no odor (ML)		- <sup>0</sup>  -   7
_' _ _8	<u>0.8</u> 5.0		graver, sort, moist-wet, no odor (ML)		_ _ _8
_	3.0			Fill/native soil interface not	_
_9 _				recovered - sampled 10'-10.5'	_9 _
_10		0.0	10.0 - 10.5 Reddish Brown (2.5YR 4/4) Clayey SILT, trace fine sand, low plasticity, soft.	016_B012_10.0 (10.0' - 10.5')	_10
_11		1.5 3.6	moist-wet, no odor (ML) 10.5 - 12.5 Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant	( 3 2 2 2 )	_11
_ _12	2.7	3.3 1.6	plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)		_ _12
_ _13	<u>2.7</u> 5.0	1.0	12.5 - 12.7 Dark Grayish Brown (10YR 4/2) clayey fine SAND, little silt, trace gravel,		_ _13
_ _14			moist-wet, loose, slight sulfurous odor (SC)		_ _14
_ _15					_ _15
_ _16		0.4	15.0 - 17.5 Greenish-Gray (GLEY2 6/6BG) fine-medium SAND, some clay, little silt, loose, moist-wet, slight sulfurous odor (SC), Transitions into Reddish Brown		_ _16
_ _17		0.0 0.0	(2.5YR 5/3) SILT, little fine sand & medium-fine subangular gray gravel, stiff moist, no odor (ML)		-  _17
_ _18	<u>2.5</u> 5.0	0.0		016_B012_17.0 (17.0' - 17.5')	_ _18
_ _19					_19
_ _20					_ _20
_ _21			End of Boring at 20' bgs.		_ _21
_ _22			Well Information: 2-inch diameter 10-slot SCH40 PVC screen set at 5.0' - 10.0' bgs.		_ _22
_ _23			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		23
_ _24			Stick-up completion with cement protective pad		_ _24
_ _25					_ _25

TETRA TECH GEO				PROJECT NO.: 117-0509160.02 PROJECT NAME: PPG Site 063		Boring No: 063_B013 LOCATION SKETCH	
COMPLETION DATE: 7/28/2011	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE:		GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR EPI \ Bob Fleming			DRILLING EQUIPMENT Geoprobe Track				
SAMPLING METHOD:  5' Sleeves, 1.25"  MEMO:  DEPTH TO GRO  3.3'		UNDWATER	GROUND SURFACE		WELL INSTALLED? No		

DEPTH	RECOVERY	OVM	Ī	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)	0.0.0.7		SAMPLE SUMMARY	_0
_ _1 _ _2		0.0 0.0 0.0 0.0		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,	063_B013_0.0 (0.0' - 0.5') 063_B013_1.0 (1.0' - 1.5')	_ _1 _ _2
_ <del>2</del> _ _3	<u>3.9</u> 5.0	0.0 0.0		little coal & cinders, medium-dense, moist, moist-wet 3.3'-3.9', no odor (GW)	50% COPR 0.2' - 3.9'	_2 _ _3
_ _4 _ _5		0.0		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')	_ _4 _ _5
_ <del></del> _ 6		0.0 0.0 0.0		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')	_6
_ _7 _	<u>1.8</u>	0.0		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 _ _9	5.0			Dark Gray (2.5Y 4/1) medium-fine SAND, little silt & medium-fine slag gravel, trace shells, loose, wet, no odor (SW)		_8 _ _9
_ _10		0.0	10.0 10.4	As Above (6' - 6.8')	063_B013_10.0 (10.0' - 10.5')	_ _10
_ _11 _		0.0 0.0 30.1	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'	_ _11
_12 _ _13	<u>1.0</u> 5.0			Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)		_12 _ 13
_13 _ _14	3.0					_ 13  -  _14
_ _15		4.0	45.0.45.7	A = A   A = (40.0)	200 P040 45 0 (45 0) 45 5)	_ _15
_ _16 _			15.7 - 17.4	As Above (10.6' - 11') Greenish Gray (GLEY2 6/5BG) to Gray (2.5Y 5/1) Clayey fine SAND, little silt, soft, moist, slight sulfurous odor (SC), Transitions to fine SAND, little	063_B013_15.0 (15.0' - 15.5')	_ _16
	<u>3.4</u>	0.0		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,		_ _ _ _
_18 _ _19	5.0	0.0		firm, moist, no odor (ML)		_18 _ _19
 _ _20						
_ _21			End of Bori	ing at 20' bgs.		_ _21
_ _22 _						_ _22 _
						23 
_24 _ _25						_24 _ _25

TI-	TETRA TECH GEO				PROJECT NO.: 117-0509160.02		Boring No: 063_B014
			PROJECT NAME: PPG Site 063			LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:					GEOLOGIST / OFFICE:	
7/25/2011	42.0'			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	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 ge	ological	exploration.	Refusal at 42'				

DEPTH	RECOVERY	OVM		DUDUE CONTROL OF DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1 _2 _ _3 _ _4 	<u>4.7</u> 5.0	0.0 0.0 0.0 0.0 0.0 0.0	4.1 - 4.7	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)  Black (2.5Y 2.5/1) medium-fine subround GRAVEL (slag), little coal, loose, moist, no odor (SW)	063_B003_0.0 (0.0' - 0.5') 25% COPR 0.2' - 1.0' 063_B003_1.25 (1.25' - 1.75') 063_B003_2.25 (2.25' - 2.75') 40% COPR 2.0' - 3.0' 063_B003_3.0 (3.0' - 3.5')	_2 _ _3 _ _4 _
_5		0.0	5.0 - 5.2	As Above (4.1' - 4.7')		_5
_ _6 _ _7 _	<u>4.2</u> 5.0	0.0 0.0 0.0 0.0	5.2 - 6.0 6.0 - 9.2	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) Black (2.5Y 2.5/1) medium-fine SAND, little silt & medium-fine black angular gravel (lignite & coal), Light Gray (GLEY1 7/N) CLAY 6.5' - 6.7',	063_B003_7.0 (7.0' - 7.5')	_ _6 _ _7 _
_8 - _9 - _10	5.0	0.0 0.0 1.6		loose, wet, slight sulfurous odor 8.8' - 9.2' (SM)		_8 _ _9 _ 10
11 12 13 14 15	<u>3.3</u> 5.0	3.1 0.7 0.4 175.0 339.0 365.0		As Above (6' - 9.2') but medium-fine SAND & medium-fine black angular gravel (lignite & coal), wet, slight sulfurous odor (SW/GW)  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_B003_11.2 (11.2' - 11.7') Fill/native soil interface at 11.7'	11 12 13 14 15
	<u>3.8</u> 5.0	442.0 552.0 625.0 818.0 755.0		As Above (11.7' - 13.3'), very strong sulfurous odor (PT)  Greenish Gray (GLEY2 5/5BG) clayey fine SAND, little silt & medium sand, trace fine subround gravel, soft, moist-wet, strong sulfurous odor (SC)	063_B003_15.0 (15.0' - 15.5')	
_20		1.0	20.0 . 21.6	Groonich Grov (GLEV2.5/5PG) fine SAND little clay 8 medium acad trace	063 R003 30 0 (30 0) 30 5"	_20
	<u>4.7</u> 5.0	1.0 3.6 56.1 3.7 0.3	21.6 - 23.2	Greenish Gray (GLEY2 5/5BG) fine SAND, little clay & medium sand, trace silt & fine subround gravel (SC), medium-dense, moist-wet, strong sulfurous odor (SC) Brown (7.5YR 5/2) Silty medium-fine SAND, trace clay & fine round gravel, loose, moist-wet, no odor (SM)  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)	063_B003_20.0 (20.0' - 20.5')	21 22 23 24 25

77-	TE	TRATI			PROJECT NO.: 117-0509160.02		Boring No: 063_B014
	J			PROJECT NAME:		LOCATION SKETCH	
				PPG Site 063			
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	
7/25/2011	41.7'			PID MiniRAE 2000 Jim M. / Whitehouse Station			
DRILLING CONTRACTOR	/ DRILLER	l:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			7
EPI \ Bob Fleming			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25" ~ 5.4'					No		
MEMO:		-		_			1
Boring for deep ge	ological	exploration.	Refusal at 42'				

DEPTH	RECOVERY	OVM	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	
(Feet)	(feet)	(PPM) 0.0	25.0 - 26.0 Reddish Brown (5YR 5/4) Silty medium-fine SAND, little coarse-fine	SAMPLE SUMMARY	
_ _26		0.0	subround gray gravel, loose, wet, no odor (SM)		_ _26
_ _27		0.0 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,		_ _27
	<u>4.8</u>	0.0	no odor (ML)		_
_28	5.0	0.0 0.0	28.0 - 29.8 Brown (7.5YR 5/3) SILT, little fine sand & coarse-fine subround gray gravel,		_28
_ _29		0.0	stiff, moist, no odor (ML)		_ _29
_ _30		0.0			_ _30
		0.0	30.0 - 34.7 As Above (28.0 - 29.8) but with some fine sand, moist-wet, soft/firm, grading		_
_31		0.0 0.0	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	Sand, Still, Moist-dry, no odor (ML)		_32
_ _33	<u>4.7</u> 5.0	0.0 0.0			_ _33
	0.0	0.0			_
_34		0.0 0.0			_34
_ _35					_ _35
_ 36		0.0 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)		
		0.0	casangalar gray graves, motet the throughout, min, no each (mz)		
_37	<u>3.6</u>	0.0 0.0			_37
_38	5.0	0.0	37.5 - 38.6 Brown (7.5YR 4/2) SILT & coarse-fine dark gray GRAVEL & COBBLES,		_38
_ 39		0.0	little/trace fine sand, wet, dense, no odor (GM/ML)		_ 39
_					_
_40		0.0	40.0 - 41.7 Brown (7.5YR 4/3) Silty fine SAND & Dark Gray coarse SAND & coarse-fine		40
_41	<u>1.7</u>	0.0	GRAVEL, little dark gray cobbles, medium-dense to loose, wet, no odor (GM)		_41
_ _42	2.0	0.0			_ _42
_			End of Boring at 42' bgs. (Refusal)		$\neg$ _
_43					_43
_44					_44
_ _45					_ _45
_ _46					_ _46
_					
_47					_47
_ _48					_ _48
_ _49					_ _49
_					
_50					_50

72-	TE	TETRA TECH GEO			PROJECT NO.: 117-0509160.02 PROJECT NAME:		Boring No: 063_B015 / 063_MW04
							LOCATION SKETCH
					PPG Site 063	3	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:		MONITORING DEVICE:		GEOLOGIST / OFFICE:		
7/14/2011	20		PID MiniRAE 2000		Jim M. / Whitehouse Station		
DRILLING CONTRACTOR	7 DRILLER	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Ray Smith			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"		~ 3.5'				Yes - 063_MW04	
MEMO:				_			7
Used combination	of hang	augering, sh	noveling, and air	knifing with vacu	uum to soft dig	g to 5' bgs.	

DEPTH	RECOVERY	OVM	DUDINGSTED OVETEN CON DECODIDATION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		0.0	<ul> <li>0.0 - 0.2 Grayish Brown (10YR 5/2) fine SAND, little coarse gray gravel &amp; cobbles, trace medium-fine gravel &amp; medium sand, dry, loose, no odor (SP)</li> <li>0.2 - 0.3 Concrete (shoveled out)</li> </ul>	063_B015_0.0 (0.0' - 0.5')	_ _1
_ _2	N/A	0.0	0.3 - 0.5 As Above (0' - 0.2'), little slag, loose, dry, no odor (SP)		_ _2
_ _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)		_ _3
_ _4		0.0	<ul><li>1.0 - 2.0 As Above (0.5' - 1'), moist, trace slag (SP)</li><li>2.0 - 2.5 No auger recovery - rocky, used air-knife to vacuum to 2.5'</li></ul>		_ _4
_ _5		0.0 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')	_ _5
_ _6			4.0 - 4.5 Yellowish Brown (10YR 5/6) medium SAND, some coarsemedium gravel & cobbles, loose, moist-wet, no odor (SW)		_ _6
 _ _7		0.0	4.5 - 5.0 Auger refusal at 4.5', used air knife to vacuum to 5' 5.0 - 5.3 Brown (10YR 4/3) medium-fine SAND, little silt, loose, wet, slight sulfurous		 _ _7
_ _8	<u>2.8</u> 5.0	0.0 0.0	odor (SM) 5.3 - 7.8 Black (2.5Y 2.5/1) medium-fine SAND, some medium-fine gravel, little silt,	063_B015_7.3 (7.3' - 7.8')	_ _8
_ _9			loose, wet, slight sulfurous odor (SM)	,	_ _9
_ _ _10					_ _ 10
 _ _11		0.0 0.0	10.0 - 11.0 As Above (5.3' - 7.8')	063_B015_10.5 (10.5' - 11.0')	_ _ _11
_ _12		3.2 38.3	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)		_ _12
_ _13	<u>3.2</u> 5.0	12.4 67.9			_ _13
_ _14					_ _14
_ _15					_ _15
_ _16		76.8 846.0	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')	_ _16
_ _17		107.0 222.0			_ _17
_ _18	<u>2.8</u> 5.0	1041.0	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')	_ _18
_ _19					_ _19
_ _20			End of Doring at 201 has		_ _20
_ _21			End of Boring at 20' bgs.		_ _21
_ _22			Well Information: 2-inch diameter 10-slot SCH40 PVC screen set at 5.0' - 10.0' bgs.		_ _22
_ _23			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		_ _23
_ _24			Stick-up completion with cement protective pad		_ _24
_ _25					_ _25

TETRA TECH GEO					PROJECT NO.: 117-0509160.02 PROJECT NAME:		Boring No: 063_C003 LOCATION SKETCH
COMPLETION DATE: TOTAL DEPTH OF POPEHOLE:					PPG Site 063		
COMPLETION DATE: 7/21/2011	TOTAL DEPTH OF BOREHOLE:  20				GEOLOGIST / OFFICE: Jim M. / Whitehouse Station		
DRILLING CONTRACTOR		:	DRILLING EQUIPMEN	<u> </u>			
EPI \ Bob Fleming			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25" ~ 1.6'				No			
MEMO:					]		
PID not working - I	PID not working - lamp issue						

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)	0.0.00		SAMPLE SUMMARY	_0
1			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') 063_C003_0.5 (0.5' - 1.0')	_1
<u> </u>			0.2 - 0.8	Black (2.5Y 2.5/1) SAND, little medium sand, 30% COPR gravel 0.2' - 0.5',	30% COPR 0.2' - 0.5'	
_2	0.7			dry, loose, no odor (SP)		_2
_3	<u>3.7</u> 5.0		0.8 - 1.2 1.2 - 1.6	Brown (7.5YR 4/2) SILT, some fine sand, firm, dry, no odor (ML) Black (2.5Y 2.5/1) coarse-fine SAND, some fine subround slag gravel, loose,		_3
	0.0		1.2 1.0	moist, no odor (SW)		
_4			1.6 - 3.7	Dark Grayish Brown (2.5Y 4/2) SILT, some fine sand, trace coarse-fine		_4
_ _5				gray subround gravel, little wood fragments, firm grading to soft, moist-wet, strong solvent odor (ML)		_ _5
			5.0 - 7.2	Grayish Brown (2.5Y 5/2) CLAY, some silt, trace fine sand,	063_C003_5.0 (5.0' - 5.5')	
_6				moderate plasticity, soft, moist-wet, slight solvent odor (OH/CH)		_6
_ 7					063_C003_6.7 (6.7' - 7.2')	7
	<u>3.7</u>		7.2 - 8.6	Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant	(0.7 7.2)	
_8	5.0			plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	Fill native soil interface	_8
9					at 7.2'	_ _9
_10			100 110	Date Over (5)( 4(4) Object Co. CAND Fill with a file water (50)		_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')	_ 11
			11.0 - 12.5	Reddish Brown (5YR 4/3) fine SAND, some silt, little medium sand, medium-	(10.0	_
_12	0.7			dense, moist-dry, no odor, little coarse-fine Greenish Gray (GLEY1 5/10GY)		_12
_ 	<u>3.7</u> 5.0		12.5 - 13.0	gravel 12.4' - 12.8', no odor (SM) Brown (7.5YR 4/3) Silty medium-fine SAND, moist-wet, dense, no odor, little		_ 13
	0.0		12.0	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,		_14
_ 15				dry, no odor (GW)		_ 15
_			15.0 - 15.2	Dark Greenish Gray (GLEY1 4/5G) medium SAND, some fine sand, little	063_C003_15.5 (15.0' - 15.5')	1_
_16			45.0 40.0	silt, loose, moist, no odor (SM)		_16
_ 17			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)		17
_	<u>3.2</u>		16.0 - 17.2	Brown (7.5YR 4/3) SILT, little fine sand, trace coarse-fine subround gray		
_18	5.0		470 477	gravel & cobbles, firm, moist, no odor (ML)		_18
_ 19				Gray subangular coarse GRAVEL & COBBLES, little fine sand & silt, wet, loose, no odor (GM)		_ 19
_				As Above (16' - 17.2')		
_20			End of Bor	ing at 20' bgs.		_20
_ _21			Elia di Bor	ing at 20 bys.		21
_22						_22
23						23
_24						_24
_ _25						_ _25

72-	TE	TRATI	ECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_C004
10				PROJECT NAME: PPG Site 063			LOCATION SKETCH
COMPLETION DATE: TOTAL DEPTH OF BOREHOLE:			OLF:				4
		PTH OF BOREH	OLE:	MONITORING DEVIC		GEOLOGIST / OFFICE:	
7/21/2011	20			PID MiniRAE 2000 Jim M. / Whitehouse Station			
DRILLING CONTRACTOR	R / DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 2.2'					No		
MEMO:				_		_	

DEPTH	RECOVERY	OVM		DUDMENTED OVOTEN CON DECORPORTON	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1				Grayish Brown (2.5Y 5/2) fine SAND & coarse gray angular gravel, little medium sand, dry, loose, no odor (GP)  Dark Brown (7.5YR 3/2) fine SAND, little medium sand, trace silt, trace	063_C004_0.2 (0.2' - 0.7') 063_C004_0.7 (0.7' - 1.2') 063_C004_1.2 (1.2' - 1.7')	_ _1
_ _2	<u>3.1</u>			medium-fine gray ang. Gravel, 20% COPR gravel, loose, dry, no odor (SP) As Above (0.2' - 0.7'), 40% COPR, bright yellow-green hue to some of the	20% COPR 0.2' - 0.7' 40% COPR 0.7' - 1.2'	_2
_ _3	5.0			gravel (SP)  Dark Brown (7.5YR 3/2) Silt, some fine-medium sand, little coarse-fine gray	140 % GOF R 0.7 - 1.2	_3
_ _4				angular gravel, m. dense, moist, no odor (ML)		_ _4
_ _5				Dark Yellowish Brown (10YR 4/4) SILT, some fine sand, little medium-fine gray angular gravel, dense, dry, no odor (ML)		_ _5
_ _6				Dark Grayish Brown (10YR 4/2) SILT, some fine sand, wet, soft, wood fragments with strong creosote/solvent odor, staining (ML)		_ _6
_ _7				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
_ _8	<u>1.4</u> 5.0			Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)	Fill/native soil interface at 6.4'	_ _8
_ _9						_9
_ _10						_ _10
_ _11			10.3 - 11.5	As Above (6.2' - 6.4') Greenish Gray (GLEY2 6/5BG) CLAY, some fine sand & silt, soft, moist,	063_C004_10.0 (10.0' - 10.5')	_ _11
_ _12			11.5 - 11.9	no odor (CL) Reddish Brown (5YR 4/4) medium-fine SAND, little clay & silt, little medium-		_ _12
_ _13	<u>2.7</u> 5.0		11.9 - 12.7	fine subangular gravel, medium-dense, moist-wet, no odor (SC) Grayish Brown (10YR 5/2) coarse-medium GRAVEL & COBBLES, little		_ _13
_ _14				medium-fine sand & silt, loose, wet, no odor (GM)		_ _14
_ _15						_ _15
_ _16				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')	_ _16
_ _17	4.4					_ _17
_ _18	<u>1.1</u> 5.0					_ _18
_ _19						_ _19
_ _20			End of Bar	ing at 20' has		_ _20
_ _21			Elia of Bori	ing at 20' bgs.		_ _21
_ _22						_22
_ _23						_23
_ _24						_ _24
_ _25						_ _25

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

DEPTH	RECOVERY	OVM			FIELD NOTES &	T
(Feet)	(feet)	(PPM)		STER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1				medium-fine SAND, little metal fragments, 15% angular gravel, loose, dry, no odor (SW)	063_C004a_0.2 (0.2' - 0.7') 063_C004a_0.7 (0.7' - 1.2') 15% COPR 0.2' - 0.7'	_ _1
_2	<u>3.1</u>		•	se-fine SAND, some medium-fine slag gravel, loose,		_2
_3	5.0	00.2	6 - 3.1 Dark Grayish Brown (10	OYR 4/2) Silty medium-fine SAND, trace medium- on-COPR), loose, wet, no odor (SM), Transitions to		_3
_ _4 			Dark Brown (5Y 4/1) SII	LT, some fine sand, little subround medium-fine gravel, vet, strong hydrocarbon odor (ML)		_4 
_5		111.0	0 - 7.2 Dark Grayish Brown (10	OYR 4/2) Silty CLAY, some fine sand, trace fine		_5
_ _6		117.0 48.8	,	t-wet, slight hydrocarbon odor (CL)		_6
_ _7		17.5			063_C004a_6.7 (6.7' - 7.2')	_7
_ _8	3.4 5.0	22.4	-	vn (2.5YR 3/2) PEAT, trace clay & silt, abundant ty, soft, moist-wet, slight hydrocarbon odor (PT)		_8_
_ _9		26.4				_ _9
_ _10						_ _10
_ _11		34.1 32.0	sand, little silt, soft, moi	ransitions to Dark Gray (2.5Y 4/1) CLAY, some fine st, slight hydrocarbon odor (OL)		_ _11
_ _12		903.0	subround red/gray siltst	5/4) SILT, some fine sand, little medium-fine one gravel, stiff, moist, slight hydrocarbon odor (ML),	063_C004a_11.0 (11.0' - 11.5')	_ _12
_ _13	<u>3.4</u> 5.0	855.0 716.0 788.0	coarse-fine subround sa	y (5YR 4/1) to Brown (7.5YR 4/3) coarse SAND & andstone & siltstone GRAVEL, little medium-fine sand,		_ _13
_ _14		788.0	loose, wet, strong hydro 3.0 - 13.4 Weak Red (2.5YR 4/2) hydrocarbon odor (ML)	SILT, some fine SAND, firm, moist-wet, strong		_ _14
_ _15			Hydrocarbon odor (ML)			_ _15
_ _16		890.0	, , ,	, some fine sand, little medium sand & medium- avel, stiff, moist-wet, strong hydrocarbon odor (ML)	063_C004a_15.0 (15.0' - 15.5')	_ _16
_ _17	4.6	1106.0				_ _17
_ _18	<u>1.6</u> 5.0					_18
_ _19						_19
_ _20			nd of Boring at 20' bgs.			20
_ _21			nd of borning at 20 bgs.			_ _21
_ _22						_22
_ _23						23
_ _24						_24
_ _25						_ _25

72-	TE	TRATE	A TECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_C005
					PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE:	TOTAL DE			MONITORING DEVICE:		GEOLOGIST / OFFICE:	
7/13/2011	20		PID MiniRAE 20	000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR	/ DRILLEF	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			7
EPI \ Ray Smith			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	GROUND SURFACE ELEVATION: WELL INSTALLED?		7
5' Sleeves, 1.25" ~ 4'				No			
мемо: *Hand-duç	g 2'x2' h	ole to 1' to re	emove liner.				

DEPTH	RECOVERY	OVM		DUDMERSTED SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1			0.0 - 0.5 0.5 - 1.0	QP Stone (coarse subangular gravel & cobbles) (GP) Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)		_ _1
_ _2		0.6	1.0 - 1.4 1.4 - 2.4	As Above (0.5'-1'), moist, slight solvent odor (SP)  Dark Brown (7.5YR 3/2) SILT, some fine sand, 60% COPR GRAVEL 2' - 2.4',	063_C005_1.0 (1.0' - 1.5')	_ _2
_ _3	<u>3.5</u> 4.0	1.4 2.5		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')	_3
_ _4		3.9	2.4 - 3.1 3.1 - 4.5	Bright Green (unknown munsell color) SILT, some fine SAND (ML)  Dark Grayish Brown (7.5YR 4/2) SILT, some fine sand, trace gray angular	60% COPR 2.0' - 2.4'	_ _4
_ _5		10.8		gravel, soft, wet at 4', strong solvent odor, wood in bottom of sleeve (ML)		_ _5
_ _6		169.0 186.0 12.8	5.0 - 8.0	Reddish Brown (2.5YR 4/3) SILT, some fine sand, firm, moist-wet, slight solvent odor (ML)		_6
_ _7 _	<u>4.0</u>	7.3 7.5				
_8	5.0		8.0 - 9.0	Very Dark Grayish Brown (2.5YR 3/2) PEAT, trace clay & silt, abundant	063_C005_7.5 (7.5' - 8.0')	_8
_ _9 _			0.0 0.0	plant fibers, low plasticity, soft, moist-wet, strong sulfurous odor (PT)		_9
_ _10						10
_ _11		1.4		As Above (8' - 9'), Transitions to Greenish Gray (GLEY2 5/6BG) Clayey SILT, trace fine sand, soft, low plasticity, moist, slight hydrocarbon odor (ML) Greenish Gray (GLEY2 5/6BG) medium-fine SAND, trace fine shale gravel,		_ _11
_ _12	2.2	5.9		medium-dense, moist-wet, slight hydrocarbon odor (SW)	063_C005_11.5 (11.5' - 12.0')	_ _12
_ _13	<u>3.3</u> 5.0	1.1 1.6	12.1 - 13.3	Yellowish Red (5YR 5/6) SILT, little fine sand, trace fine shale gravel, very dense, dry, slight hydrocarbon odor (ML)		13
_ _14						_14
_ _15						_ 15
_ _16		1483.0		As Above (12.1' - 13.3'), but little medium-fine sand, stron hydrocarbon odor (ML)  Dark Grayish Brown (10YR 4/2) Silty fine SAND, race fine angular	063_C005_15.5 (15.5' - 16.0')	_ _16
_ _17	<u>3.8</u>	416.0 92.8		shale gravel, high gravel content 16.1' - 16.6', medium-dense, moist, strong hydrocarbon odor (SM)		_ _17
_ _18	5.0	44.6 8.5		Trydrocarbon odor (OW)		_18
_ _19		0.0				_19
_20			End of D	in a colonia		20
_ _21			End of Bor	ing at 20' bgs.		21
_ _22						22
_ _23						23
_ _24						24
_ _25						_ _25

72-	TETRAT	RA TECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_C006
				PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE:	DMPLETION DATE: TOTAL DEPTH OF BOREHOLE:		MONITORING DEVICE:		GEOLOGIST / OFFICE:	
7/13/2011	18		PID MiniRAE 2000 Jim M /		Jim M / Whitehouse Station	
DRILLING CONTRACTOR	R / DRILLER:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Ray Smith		Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:	DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"	~ 1.75'				No	
мемо: *Hand-duç	the state of the s					

DEPTH	RECOVERY	OVM		DUDMERCTED OVOTEM COULDECORDATION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ 1			0.0 - 0.5 0.5 - 1.0	QP Stone (coarse subangular gravel & cobbles) (GP) Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)		-  1
_'		2464.0	1.0 - 1.5	As Above (0.5'-1'), moist, strong solvent odor (SP)	063_C006_1.0 (1.0' - 1.5')	I
_ _2			1.5 - 1.75	Dark Brown (7.5YR 3/2) fine SAND & SILT, medium-dense, moist, strong	(***	_2
		43.7		solvent odor (ML)	063_C006_1.75 (1.75' - 2.25')	_
_3	<u>3.0</u>	41.8	1.75 - 2.25	Black (7.5YR 2.5/1) coarse-fine SAND & SLAG, 30% COPR, loose, wet,	063_C006_2.25 (2.25' - 2.75')	_3
_	4.0*	23.9		slight solvent odor (SP)	30% COPR noted 2.25'-2.75'	_
_4		244.0	2.3 - 4.0	Brown (10YR 4/3) fine SAND & SILT, little clay & medium-fine gray angular		_4
_				gravel, treated wood fragments in bottom of sleeve (creosote odor), soft		_
_5				grading to firm, moist, strong solvent odor throughout (ML)		_5
_			5.0 - 8.0	Brown (7.5YR 4/3) SILT, some fine sand, little medium-fine gray angular		_
_6		4.5		gravel, stiff, moist, strong odor (solvents?) (ML), Transitions into Olive Gray		_6
		1.1		(5Y 5/2) SILT, little clay & fine sand, soft, moist, slight solvent odor (ML)	063_C006_6.5 (6.5' - 7.0')	
_7		0.3				_7
_	<u>4.0</u>	1.0			200 200 75 (7.5) 200	_
_8	5.0	1.8	0.0.0	Name Dade Oracials Brazza (40)/D 0/0) DEAT trace Dade Orace (5)/ 4/4)	063_C006_7.5 (7.5' - 8.0')	_8
_			8.0 - 9.0	Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1)	(fill/native soil interface)	<u> </u>
_9		16.6		CLAY, moderate plasticity, soft, moist-wet, strong sulfurous odor (PT)		_9
_ _10						_ 10
_10		18.0	10.0 - 11.7	Dark Brown (10YR 3/3) PEAT grading to Greenish Gray (GLEY2 6/5BG)		<del> </del> −''
_ _11		10.9	10.0 - 11.7	SILT, some fine sand & clay, soft, moist, slight hydrocarbonodor (ML)		_ 11
			11 7 - 12 1	Reddish Brown (5YR 4/4) medium-fine SAND, loose, wet, strong hydrocarbon		l
_ 12		1580.0		odor (SW)	063_C006_11.5 (11.5' - 12.0')	_ 12
	<u>3.4</u>			Yellowish Red (5YR 5/6) SILT, little fine sand & clay, trace medium-fine	(**************************************	
_ 13	5.0	11.4		angular gray gravel, stiff, slight hydrocarbon odor (ML)		_13
_14						_14
_						_
_15						_15
		0.8	15.0 - 18.0	As Above (12.1' - 13.4'), some fine sand from 16.5' - 17.2', refusal at 18'		
_16		0.8		(gravel & cobbles)	063_C006_15.5 (15.5' - 16.0')	_16
	<u>3.0</u>	2.4				
_17	3.0	2.2				_17
_ _18		1.1 0.7				_ _18
_10		0.7	End of Bor	ing at 18' bgs. (refusal)		-'°
_ 19			Elia di Boi	ing at 10 bgs. (reidsai)		_ _19
_13						-'3
_ _20						_20
_ _21						_21
_22						_22
_	1					<u> </u>
_23						_23
_						<u> </u>
_24						_24
_25						_25

TETRA TECH GEO					PROJECT NO.: 117-0509160.02		Boring No: 063_C007
				PROJECT NAME: PPG Site 063	LOCATION SKETCH		
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE: G		GEOLOGIST / OFFICE:	
7/14/2011	2011 20			PID MiniRAE 2000 Jim M / Whitehouse Station			
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Ray Smith			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 1.7'					No		
MEMO: *Hand-dug 2'x2' hole to 1' to remove liner.							

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)			SAMPLE SUMMARY	_0
_ _1				QP Stone (coarse subangular gravel & cobbles) (GP) Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)		_ _1
_ _2				As Above (0.5'-1'), moist, strong solvent odor (SP) Very Dark Grayish Brown (7.5YR 3/2) Silty fine SAND, dry, medium-dense,	063_C007_1.0 (1.0' - 1.5')	_ _2
	<u>4.0</u>	27.8		slight solvent odor (SM)	063_C007_2.3 (2.3' - 2.8')	-
_ _3	4.0		1.7 - 2.8	Black (10YR 2.5/1) coarse-fine SAND & medium-fine slag GRAVEL, trace	063_C007_2.8 (2.8' - 3.3')	_3
_ 4		44.4 3.2		COPR gravel 2.3' - 2.8', loose, wet, slight solvent odor (GW) Brown (10YR 4/3) SILT, little fine sand & clay, trace gray angular gravel,	Trace COPR 2.3' - 2.8'	_ 4
_		5.2		stiff, moist, slight solvent odor (ML)		
_5		31.6	50.00	As Above (2.8) Fix Transitions to Olive Cray (EV E/2) CILT some fine and		_5
_ _6		30.0 25.6		As Above (2.8' - 5'), Transitions to Olive Gray (5Y 5/2) SILT, some fine sand, soft, moist, slight solvent odor (ML)		_ _6
_		7.1				
_7	<u>3.5</u>	0.3 1.1				_7
_ _8	5.0		8.0 - 8.5	Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1)		_8
_		0.3		CLAY, moderate plasticity, soft, moist-wet, strong sulfurous odor (PT)	063_C007_7.5 (7.5' - 8.0')	_
_9 _					Fill/native soil interface at 8'	_9
_10			10.0			_10
_ 11		0.0 0.0		As Above (8' - 8.5'), Transitions to Greenish Gray (GLEY2 6/5BG) SILT, little clay & fine sand, soft, moist, no odor (ML)		_ 11
_		0.0				
_12	<u>3.3</u>	0.0 0.0		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')	_12
_ _13	5.0	0.0		angular graver, still, ary, no oder (will)	(12.0	_13
_ 14						_ 14
_''						-'"
_15			450 000			_15
_ 16		0.0 0.0		As Above (11.3' - 13.3'), some medium-fine sand, soft, moist-wet at 16' - 18.5', otherwise stiff, dry, no odor (MI)		_ 16
		0.0		canerines can, aly, no cae. (iii)	063_C007_16.0 (16.0' - 16.5')	_
_17	<b>5</b> 0	0.0				_17
_ _18	<u>5.0</u> 5.0	0.0				18
_		0.0				_
_19		0.0 0.0				_19
_ _20		0.0				_20
_ _21			End of Bor	ing at 20' bgs.		21
_ _ _22						
_23						_23
_ _24						_24
_ _25						_ _25

72-	TE	TRATE	ECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_C008
					PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE:	TOTAL DE	TOTAL DEPTH OF BOREHOLE:		MONITORING DEVICE:		GEOLOGIST / OFFICE:	
7/20/2011	20		PID MiniRAE 20	000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR	/ DRILLEF	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	GROUND SURFACE ELEVATION: WELL INSTALLED?		
5' Sleeves, 1.25" ~ 1.5'					No		
мемо: *Hand-duç	g 2'x2' h	ole to 1' to re	move liner.				

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)	0.0.0.5		SAMPLE SUMMARY	_0
_ 1			0.0 - 0.5 0.5 - 1.0	QP Stone (coarse subangular gravel & cobbles) (GP) Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)		-   
_ _ _2	2.2		1.0 - 1.5 1.5 - 2.2	As Above (0.5'-1'), moist, strong solvent odor (SP) Black (2.5Y 2.5/1) coarse-medium SAND & medium-fine slag GRAVEL, little silt, loose, moist-wet, slight solvent odor (GM)	063_C008_1.0 (1.0' - 1.5')	2
_ _3 _	4.0		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		_ _3 _
_4 _ _5				(Light Grayish Brown 2.5Y 6/2) 3' - 3.2', (ML)		_4 _ _5
				As Above (2.2' - 3.2') but Silty CLAY, trace fine sand, no gravel,	063_C008_5.0 (5.0' - 5.5')	1_
_6 _		0.0		moderate plasticity, soft, moist, Olive Gray (5Y 5/2) Silty CLAY 5.8' - 5.9' (CH)		_6 _
_7	<u>3.1</u>	0.0 0.3	7.2 - 8.1	Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1)	063_C008_6.7 (6.7' - 7.2') Fill/native soil interface at 7.2'	_7
_ _8	5.0	1.5		clay, low plasticity, soft, moist-wet, strong sulfurous odor (PT)		_8
_ _9						_ _9
_ _10						_10
_ _11		0.0 0.0 0.0		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')	_ _11
_ _12		0.0		Reddish Brown (5YR 4/3) SILT, little fine sand, trace medium-fine angular	(**************************************	_12
_ _13	<u>3.3</u> 5.0	0.0		flat shale gravel, stiff, moist, no odor (ML), Transitions to Strong Brown (7.5YR 5/6) SILT, little fine sand, Light Greenish Gray (GLEY1 7/5GY) coarse sandstone fragments & medium sand 2' - 2.4', stiff, moist, no odor (ML)		_ _13
_ _14						_14
_ _15						_ _15
_ _16		0.0 0.0 0.0		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')	_ _16
_ _17		0.0				_ _17
_ _18	<u>2.2</u> 5.0					_ _18
_ _19						_19
_ _20						_20
_ _21			End of Bor	ing at 20' bgs.		_ _21
_ _22						_22
_ _23						_ _23
_ _24						_24
_ _25						_ _25

72	TE	TRATE	CH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_C009
10				PROJECT NAME:		LOCATION SKETCH	
					PPG Site 06	3	
COMPLETION DATE:	TOTAL DE	TOTAL DEPTH OF BOREHOLE:		MONITORING DEVICE:		GEOLOGIST / OFFICE:	
7/20/2011	20			PID MiniRAE 2000 Jim M. / Whitehouse		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	R / DRILLEF	₹:	DRILLING EQUIPMEN	: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 1.7'				No			
MEMO:		-					

DEPTH	RECOVERY	OVM	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	7
(Feet)	(feet)	(PPM)		SAMPLE SUMMARY	_0
_ 1			0.0 - 0.5 QP Stone (coarse subangular gravel & cobbles) (GP) 0.5 - 1.0 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)		1
			1.0 - 1.7 As Above (0.5'-1'), moist, strong solvent odor (SP)	063_C009_1.0 (1.0' - 1.5')	1_
_2			1.7 - 2.4 Black (10YR 2.5/1) medium-fine SAND, little slag gravel, loose, moist-wet,		_2
_	<u>3.0</u>	711.0	strong solvent odor (SW)		
_3	4.0	3756.0	2.4 - 2.7 Very Dark Grayish Brown (10YR 3/2) coarse-fine SAND & medium-fine slag GRAVEL, wet, loose, strong solvent odor (GW)		_3
_ 4			2.7 - 4.0 Olive Gray (5Y 4/2) SILT, some fine sand, trace fine angular gravel, moist,		- <sub>4</sub>
_			firm, stron solvent odor (ML), Transitions to Dark Grayish Brown (10YR 4/2)		
_5			Silty fine SAND, little medium sand, moist-wet, loose, stron solvent odor (SM)	<b>,</b>	5
_			5.0 - 7.0 Grayish Brown (10YR 5/2) Silty CLAY, soft grading to firm, moist, strong	063_C009_5.0 (5.0' - 5.5')	
_6		4044.0 3891.0	solvent odor (CH)		_6
_ 7		463.0		063_C009_6.5 (6.5' - 7.0')	7
_	<u>3.0</u>	14.0	7.0 - 8.0 Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1)	, , , , , , , , , , , , , , , , , , ,	
_8	5.0		clay, low plasticity, soft, moist-wet, slight solvent odor (PT)		_8
_ _9					_ _9
_9					_9
_ _10					 10
					<u>]</u>
_11					_11
_ _12					12
_''-	<u>0.8</u>		Poor recovery - geology representative more of 14' then 10' based on nearby borings		-'-
_13	5.0		, , , , , , , , , , , , , , , , , , , ,		_13
					- <u>,</u> ,
_14		0.0	14.2 - 15.0 Dark Reddish Gray (5YR 3/2) SILT, some clay, little medium-fine red	063_C009_14.0 (14.0' - 14.5')	_14
_ _15		0.0	angular siltstone gravel, soft-firm, moist, no odor (ML)	003_009_14.0 (14.0 - 14.5)	' -  _15
		0.0	15.0 - 16.1 As Above (14' - 15') (ML), Transitions to Light Olive Brown (2.5Y 5/4) coarse-fir	ne	1
_16		0.0	sandstone angular GRAVEL, some coarse-medium sand, trace silt & fine		_16
_			sand, Very Dark Grayish Brown (10YR 3/2) Siltstone fgravel at 15.6', loose,		-,-
_1/	<u>1.1</u>		wet, no odor (GW)		-1/
_ _18	5.0				18
_					
_19					_19
_ _20					20
_20			End of Boring at 20' bgs.		<del></del>
_ _21					_21
_					_
_22					_22
					23
_25					_23
_ _24					_24
_25					25

TETRA TECH GEO				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 J		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:		1	
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25"	, 1.25" ~ 1.8'		No		No		
МЕМО:				_			

DEPTH	RECOVERY	OVM		DIDMEISTED SYSTEM SOIL DESCRIPTION	FIELD NOTES &	Ţ
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		0.0 0.9	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')	_ _1
_ _2		736.0 67.3	0.5 - 1.2	Dark Yellowish Brown (10YR 4/4) fine SAND, little coarse light gray gravel, dry, loose, slight solvent odor (SP)		2
_	<u>2.1</u>		1.2 - 1.8	Very Dark Gray (5Y 3/1) medium SAND, little fine sand, trace fine slag		
_3 _	5.0		1.8 - 2.1	gravel & coal, little wood fragments, moist, wet at 1.8', strong solvent odor (SP) Dark Gray (2.5Y 4/1) fine SAND, little medium sand, trace silt & mica,		_3
_4				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		_4
_ _5		07.0	50.00	solvent odor (ML)		_ _5
_ _6		5.8	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)		_ _6
_ _7		54.3 162.0		SILT, some fine sand, trace red sandstone gravel, firm, moist, slight solvent odor (ML)	063_C009a_6.4 (6.4' - 6.9')	_ _7
_ _8	<u>2.7</u> 5.0	41.1	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,		_ _8
_ _ _9				some clay, little fine sand, some red & green-gray mottling, soft, wet, slight solvent odor (ML)		_ _9
_ _10						_ _10
		1.3 3.8	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		40.1 13.7	11.3 - 11.6	Light Greenish Gray (GLEY1 7/5GY) siltstone & shale GRAVEL & COBBLES (GW)		12
_ 12 _ _13	<u>2.8</u> 5.0		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)		13
 _ 14				( <u>-</u> /		_ - 14
_ · · _ _15						_ · · _ 15
_		34.3	15.0 - 24.7	Grayish Brown (10YR 5/2) SILT, some medium-fine gray angular gravel, little	063_C009a_15.0 (15.0' - 15.5')	<u> </u>
_16		6.5 26.4		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		_16
_ _17	4.7	17.0 21.8		(7.5YR 5/4) SILT, some fine sand, little gray & red-gray subangular siltstone gravel, stiff, moist, no odor (ML)	No odor in 15' - 20' interval	_17
_ _18	<u>4.7</u> 5.0	17.1		graver, stirr, moist, no odor (ML)	high PID response likely due to	18
_ _19		22.5 17.6			high humidity	_ _19
_ _20		19.3				_ _20
_ _21			End of Bori	ing at 20' bgs.		_ _21
_ _22						22
_ _23						23
_ _24						_ _24
_ _25						_ _25

77-	TE	TRATI	A TECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_C010
10					PROJECT NAME:		LOCATION SKETCH
COMPLETION DATE: TOTAL DEPTH OF BOREHOLE:			MONITORING DEVIC	PPG Site 063		_	
	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVIC		GEOLOGIST / OFFICE:	
7/27/2011	20			PID MiniRAE 2000 Jim M. / Whitehouse Station			
DRILLING CONTRACTOR	/ DRILLER	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25" ~ 1.7'				No			
MEMO:		-					

DEPTH	RECOVERY	OVM		DUDINFICITED OVOTEN CON DECODIDATION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1 _ _2		22.6 33.5	0.0 - 0.7	Dark Gray (2.5Y 4/1) fine SAND & medium-coarse subangular gray gravel, trace silt & medium sand, greenish gray stilstone gravel 0.6' - 0.7', dry, loose, slight solvent odor (GP) Black (2.5Y 2.5/1) medium-fine SAND & medium-fine slag GRAVEL, little	063_C003_0.0 (0.0' - 0.5') 063_C003_0.7 (0.7' - 1.2') 063_C003_1.2 (1.2 - 1.7') 50% COPR 0.7' - 1.2'	_ _1 _ _2
 _ _3	<u>3.5</u> 5.0	20.2 38.5		50% mediuim-fine COPR gravel 0.7' - 1.2', coal, medium-dense, wet at 1.7', slight solvent odor (GW)	30 % 30 TK 311 TIL	
_ _4 _		145.0		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)		_ _4 
_5		89.3	5.0 - 6.9	Olive Gray (5Y 5/2) Clayey SILT, trace very fine sand, moist, soft-firm, trace		_5
_ _6 _		13.5 16.1		shells, slight solvent odor (ML)		_6 _
_7	<u>3.0</u>	2.8 2.3	6.9 - 8.0	Very Dark Grayish Brown (10YR 3/2) PEAT, trace Dark Gray (5Y 4/1)	063_C003_6.4 (6.4 - 6.9')	_7
_ _8 _	5.0	0.3		clay, low plasticity, soft, moist-wet, strong sulfurous odor odor (PT)		_8
_9						_9
_ _10						_ _10
_ _ _11		0.0		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	063_C003_10.5 (10.5 - 11.0')	_ _ _11
_ _12		0.0 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)		_12
_ _13	<u>3.0</u> 5.0	0.0 0.0				_ _13
_ _14						_ _14
_ _15						_ _15
_ _16		0.0 0.0 0.0		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')	_ _16
_ _17		0.0				_17
_ _18	<u>2.0</u> 5.0					_ _18
_ _19						_19
_ _20						_20
_ _21			End of Bor	ing at 20' bgs.		_ _21
_ _22						22
_ _23						_23
_ _24 _						_ _24 _
_ _25						_25

TETRA TECH GEO					PROJECT NO.: 117-0509160.02		Boring No: 063_C011
			PROJECT NAME: PPG Site 063			LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE:		GEOLOGIST / OFFICE:	
7/25/2011	35			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	R / DRILLER	<b>!</b> :	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 2.2'				No			
MEMO: Boring for deep geological exploration							

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)			SAMPLE SUMMARY	_0
_ _1			0.0 - 0.4 0.4 - 1.2	Grayish Brown (10YR 5/2) coarse GRAVEL & COBBLES, loose, dry (GP) Dark Yellowish Brown (10YR 3/4) fine SAND, some medium sand & medium-fine subround gravel, white cobbles 0.5' - 0.6', loose, dry, slight	063_C011_0.4 (0.4' - 0.9') 063_C011_0.9 (0.9' - 1.4')	_1
_ _2		21.5		solvent odor (SW)	063_C011_1.4 (1.4' - 1.9')	_2
_ _3	<u>3.9</u> 4.0	1099.0	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 &	25% COPR 0.9' - 1.2'	_3
_ _4		49.6 16.5		medium-fine slag GRAVEL, wet at 2.2', loose, strong solvent odor & staining (GW)		_ _4
_ _5			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)		_ _5
_ _6		648.0 238.0 99.3	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')	_ _6
_ _7	2.5	32.2	70.05	Name David Crassials Drawn (40VD 2/0) DEAT little Vans David Crass (5V 2/4)	000 0044 0.7 (0.7) 7.0)	_7
_ _8	<u>3.5</u> 4.0	37.1 5.3 4.0	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') Fill/native soil interface at 7.2'	_ _8
_ _9		2.0				_9
_ _10		0.4	10.0 10.0	A. Abour (7.0), 0.5) (DT)		10
_ _11		0.4 0.4 0.4		As Above (7.2' - 8.5') (PT) 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	063_C011_10.5 (10.5' - 11.0')	_ _11
_ _12	2.5	0.4		Brown (2.5Y 4/3) Silty coarse-fine SAND, some fine gray angular gravel,	DID bloods 0.4 mmm	12
_ _13	<u>3.5</u> 4.0	0.4 0.4 0.4		little coarse-medium angular gravel & cobbles, medium-dense, wet, no odor (SW)	PID bkgd: 0.4 ppm	_ _13
_ _14		0.4				_ _14
_ _15						_ 15
_ _16		0.4 0.4 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')	_ _16
_ _17	0.0	0.4		Sand a Sin, 1888, 118 Sast (SVV)	DID II a L O A a a a	_17
_ _18	<u>3.3</u> 4.0	0.4 0.4 0.4			PID bkgd: 0.4 ppm	_ _18
_ _19		0.4				_19
_ _20			00.6			_20
_ _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,		21
_ _22	4.0	0.4		medium-dense, moist-wet, no odor (SM)	PID bkgd: 0.4 ppm	22
_ _23	4.2 4.0	0.4 0.4 0.4				_ _23
_ _24		0.4				_24
_ _25						_ _25

72	TET	ETRA TECH GEO			PROJECT NO.: 117-0509160.02		Boring No: 063_C011
				PROJECT NAME:		LOCATION SKETCH	
				PPG Site 063			
COMPLETION DATE:	TOTAL DEP	TH OF BOREH	OLE:	MONITORING DEVICE: GEO		GEOLOGIST / OFFICE:	
7/25/2011	011 35			PID MiniRAE 2000 Jim M. / Whiteho		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER:		DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:		7	
EPI \ Bob Fleming			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:	D	DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25" ~ 2.2'				No			
мемо: Boring for deep geological exploration				•	1		
0	. •						

DEPTH	RECOVERY	OVM	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	
(Feet)	(feet)	(PPM)		SAMPLE SUMMARY	
_ _26		0.4 0.4 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 &		_ _26
_ _27 _	<u>3.3</u>	0.4 0.4	reddish-brown gravely clay (weathered siltstone), stiff, dry-moist, no odor (ML)	PID bkgd: 0.4 ppm	_ _27 _
_28 _	<u>3.3</u> 4.0	0.4			_28 _
_29					_29
_30		0.4	30.0 - 34.6 Reddish Brown (2.5YR 4/3) SILT, little fine sand & medium-fine angular		_30
_ _31 _		0.4 0.4	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,		_ _31 _
_32		0.4	no odor (ML)		_32
_ _33	<u>4.6</u> 4.0	0.4 0.4 0.4		PID bkgd: 0.4 ppm	_ _33
_ _34 _		0.4 0.4			_ _34 _
_35					_35
_ _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

77-	TE	TRATE			PROJECT NO.: 117-0509160.02		Boring No: 063_C012
				PROJECT NAME:		LOCATION SKETCH	
					PPG Site 063		
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVICE:		GEOLOGIST / OFFICE:	
7/28/2011	7/28/2011 20			PID MiniRAE 2000 Jim M. / Whitehouse Station		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	R / DRILLEF	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:		7	
EPI \ Bob Fleming			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25"	~ 2.0'				No		
MEMO:				_			7

DEPTH	RECOVERY	OVM		DUDMEIOTED OVOTEM CON DECODIDATION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ 1		0.0 0.0	0.0 - 0.8 Brown (7. dry, no od	.5YR 4/2) medium-fine SAND, little subangular coarse gravel, loose,	063_C012_0.0 (0.0' - 0.5')	-
_'		0.0		lowish Brown (2.5Y 6/3) grading to Dark Grayish Brown (2.5Y 4/2)		-'
_ _2		0.0		SAND, little fine sand, trace coarse sand, loose, moist, no odor (SP)		_2
_	<u>3.4</u>	0.0		5Y 2.5/1) medium-fine SAND & coarse-fine subround slag GRAVEL,		_
_3	5.0	0.0	little coal,	, silt & fine sand 2.9' - 3.4', moist, wet at 2', no odor (SW)		_3
_ 4		0.0				4
_•						-"
_ _5						_5
_				y (10YR 4/1) SILT, little fine sand & fine subround gray gravel, stiff,		]_
_6		0.0		t, no odor (ML)		_6
_ 7		0.0 0.0		Brown (5YR 4/3) SILT, little fine sand & coarse-fine gray angular coarse-medium red sandstone gravel, stiff, moist, no odor (ML)	063_C012_6.4 (6.4' - 6.9')	- <sub>7</sub>
_'	<u>1.9</u>	0.0		ay (5Y 4/2) SILT, some clay, little fine sand, soft, low plasticity,	003_0012_0.4 [(0.4 - 0.9)	-'
_ _8	5.0			furous odor (ML)		_8
_						_
_9						_9
_ _10						-  _10
_10		1.1	10.0 - 11.9 Very Darl	k Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray (5Y 3/1)		┤-'`
_ _11		0.5	,	plasticity, soft, moist-wet, strong sulfurous odor odor (PT)	063_C012_10.5 (10.5' - 11.0')	1-1
		0.3				
_12	0.0	0.0		Gray (5YR 5/2) Clayey fine SAND, some silt & coarse-fine		_12
_ _13	<u>2.2</u> 5.0		subround	I red sandstone gravel, firm, moist-wet, slight sulfurous odor (SC)		13
_10	0.0					-'`
_ _14						_14
_15		0.0	15 0 15 7 Dork Cro	yish Brown (10YR 4/2) coarse-fine subangular GRAVEL & COBBLES.		15
_ _16		0.0 0.0		e sand & silt, medium-dense, wet, no odor, abundant coarse gray	, 	16
		0.0		cobbles 15.5' - 15.7' (GM)	063_C012_15.8 (15.8' - 16.3')	
_ _17				wn (7.5YR 6/3) SILT, little clay & fine sand, little medium-fine gray	,	_17
_	<u>1.3</u> 5.0		subround	l/subangular gravel, firm, moist, no odor (ML)		
_18	5.0					_18
_ _19						-  _19
_20						_20
			End of Boring at 20'	bgs.		
_21						_21
						_22
_23						_23
_						
_24						_24
_ _25						25

TETRA TECH GEO					PROJECT NO.: 117-0509160.02		Boring No: 063_D003 / 063_MW05
			PROJECT NAME: PPG Site 063		3	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:					GEOLOGIST / OFFICE:	
7/13/2011	1 20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	l:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Ray Smith			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 5.0'		Yes - 063_MW05					
МЕМО:							

DEPTH	RECOVERY	OVM		DUDINECTED OVOTEN COULDECORDATION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1			0.2 - 1.4	coarse angular gray gravel (GP) Brown (7.5YR 4/2) medium-fine SAND, litle silt, trace medium-fine angular	063_D003_0.0 (0.0' - 0.5')	_ _1
_ _2		1.1 0.3		gray gravel, medium-dense, dry, no odor (SM) Black (2.5Y 2.5/1) medium-fine SAND & medium-fine slag GRAVEL, dry,		_ _2
_ _3	<u>4.1</u> 5.0	8.0		loose, no odor (GW) Brown (10YR 4/2) SILT, some fine sand, soft, moist, no odor (ML)		_ _3
_ _4					063_D003_3.8 (3.8' - 4.2')	_ _4
_ _5						_ _5
_ _6		0.0 0.3 0.4		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 odor (ML)		_ _6
7	<u>2.2</u>		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')	_ _7
_8	5.0		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)		_8
_9				3 3 . ,		_9
_10		30.8	10.0 11.2	Greenish Gray (GLEY2 5/5BG) Clayey SILT, little fine sand, low palsticity,		_10
_ _11		210.0 16.5		soft, moist, strong hydrocarbon odor (ML)		_ _11
_ _12	2.4	5.7		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)		12
_ _13	<u>3.4</u> 5.0	1.1 0.5 0.5			063_D003_13.0 (13.0' - 13.5')	_13
_ _14		0.5			003_0003_13.0](13.0 - 13.3)	_ _14
_ _15						_ _15
_ _16		0.0		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		_ _16
_ _17	2.2	0.0 0.0 0.0		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')	_ _17
_ _18	<u>3.3</u> 5.0	0.0		graver in bottom or sieeve	063_D003_17.0](17.0 - 17.5)	
_ _19						19
_ _20			End of Don't	ing at 201 has		_ _20
_ _21				ing at 20' bgs.		_ _21
_ _22				eter 10-slot SCH40 PVC screen set at 2.0' - 7.0.0' bgs.		22
_ _23			#1 Sand fro	eter SCH40 PVC riser from 2.0' bgs. to 0' bgs. m 1.0' to 2.0' bgs., Grout from 1.0' to surface		23
_ _24			riusn moun	t completion with cement protective pad		_ _24
_ _25						_ _25

TŁ	TETRA TECH GEO					60.02	Boring No: 063_D004 LOCATION SKETCH
			PPG Site 063				
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	
7/25/2011	32			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 2.0'		No		No			
мемо: Boring for deep geological exploration							
Refusal at 18' 1st a	attempt,	refusal at 32	2' second attemp	t. 2nd boring atte	emp logged &	sampled	

DEPTH	RECOVERY	OVM			FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_			0.0 - 0.5	Brown (10YR 5/3) medium-fine SAND & dark gray asphalt gravel, loose,	063_D004_0.0 (0.0' - 0.5')	]_
_1		0.5		dry, no odor (SW)	063_D004_0.5 (0.5' - 1.0')	_1
_			0.5 - 1.0	Black (2.5Y 2.5/1) coarse-fine SAND, trace slag gravel & coal, trace COPR	063_D004_1.0 (1.0' - 1.5')	_
_2	0.4	0.5	40 40	(coarse sand & fine round gravel) 0.5'-1', dry, loose, no odor (SW)	Trace COPR 0.5' -1.0'	_2
-	<u>3.4</u> 5.0		1.0 - 1.2	Light Gray (10YR 7/2) medium SAND, trace fine sand, loose, moist (SP)		_
_3	5.0	3.0 1.2	1.2 - 2.0	Black (2.5Y 2.5/1) coarse-fine SAND & fine-medium slag GRAVEL, little silt,		_3
4		1.2	2.0 - 3.4	medium-dense, moist-wet at 2', slight hydrocarbon odor (GW) Black (2.5Y 2.5/1) SILT, some fien sand, trace fine angular gravel, firm,		_ _4
-"			2.0 - 5.4	moist-wet, slight solvent odor (ML), Transitions to Brown (7.5YR 4/4) SILT,		-
_ _5				some fine sand, soft, moist-wet, slight hydrocarbonodor (ML)		_5
		2.0	5.0 - 7.2	Dark Gray (10YR 4/1) SILT, some fine sand, little clay, trace fine gravel &	063_D004_5.0 (5.0' - 5.5')	1_
_6		7.4		shells, soft grading to firm, moist-wet, strong hydrocarbon odor & staining	,	_6
_		9.0		5.7' - 5.9' (ML), Transitions to Olive (5Y 5/3) Clayey SILT, little fine sand &		_
_7		0.7		coarse-fine subround gravel, soft, moist, slight hydrocarbon odor (ML)	063_D004_6.7 (6.7' - 7.2')	_7
_	<u>3.8</u>	10.4	7.2 - 8.8	Brown (7.5YR 4/3) Silty medium-fine SAND, some coarse-fine gray		_
_8	5.0	21.9		angular gravel, trace cobbles, greenish-gray shale fragments & clay 8.2' -	Fill/native soil interface at 7.2'	_8
_		3.8		8.5', dense, moist, slight hydrocarbon odor (SM)	no meadow mat	_
_9						_9
_ _10						_ 10
_10		2.7	10.0 -13.2	Brown (7.5YR 4/3) SILT, some fine sand, little fine angular gray to greenish	063_D004_10.5 (10.5' - 11.0')	┨ <sup>_</sup> 'Ŭ
_ _11		6.7	10.0 10.2	gray gravel throughout, trace strong brown (7.5YR 5/6) medium-fine round	(10.0 11.0)	_11
		1460.0		sandstone gravel 10'-11', greenish-gray coarse-fine sand & fine gravel at 10.5',	1	
_12		50.9		Silty fine sand 10.5' - 12', some dark greenish gray coarse siltstone gravel		_12
_	<u>3.2</u>	8.7		12.5' - 13.2', white medium sand & sandstone cobbles 12.1' - 12.3',		_
_13	5.0	1.0		moist-wet & stiff throughout, stron hydrocarbon odor (ML)		_13
_14						_14
_ 15						_ 15
_15		0.8	15 O - 10 O	Brown (10YR 5/3) Silty medium-fine SAND, some coarse sand & medium-	063_D004_15.0 (15.0' - 15.5)	<del> -</del> '3
_ 16		0.0	13.0 - 13.0	fine angular gravel, loose grading to medium-dense, wet, slight hydrocarbon	003_D004_13.0   (13.0 - 13.3)	_ 16
-''		0.2		odor 15' - 16' (SM)		-'
_ _17		0.2		casi io io (em)		_ _17
	<u>5.0</u>	0.2			PID background:	
_18	5.0	0.2			0.2 ppm	_18
_		0.2				<u> </u> _
_19		0.2	19.0 - 20.0	Brown (7.5YR 5/4) SILT, some fine sand, little medium-fine angular dark		_19
-20		0.2		gray gravel, very dense, moist, no odor (ML)		-
_20		0.2	20.0 . 22.0	Brown (7.5YR 5/4) Silty medium-fine SAND, some medium-fine gray angular	<u> </u>	_20
_ _21		0.0 0.0	20.0 - 23.0	gravel, moist-wet, loose, no odor (SM), Transitions to SILT, some fine sand,		_ _21
'		0.0		moist, very dense, little gravel, no odor (ML)		
		0.0		most, very defice, intie graver, no eder (ML)		_22
	3.0	0.0				
_23	5.0	0.0				_23
_						_
_24						_24
_25						_25

72-	TE	TRATI	ECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_D004
					PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE:	LETION DATE: TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE: GEOLOGIST / OFFICE:		GEOLOGIST / OFFICE:	7
7/25/2011	32			PID MiniRAE 2000 Jim M. / White		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER:	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:	İ	DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 2.0'				No			
MEMO:							

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

72-	TE	TRATI	TECH GEO		PROJECT NO.: 117-0509160.02		Boring No: 063_D005
10				PROJECT NAME:			LOCATION SKETCH
COMPLETION DATE: TOTAL DEPTH OF BOREHOLE:			PPG Site 063			-	
				MONITORING DEVIC		GEOLOGIST / OFFICE:	
7/14/2011	20			PID MiniRAE 2000 Jim M / Whitehouse Station			
DRILLING CONTRACTOR	R / DRILLER	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:		1	
EPI \ Ray Smith			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25" ~ 1.3'					No		
MEMO:		_				_	1

DEPTH	RECOVERY	OVM		FIELD NOTES &	7
(Feet)	(feet)	(PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		77.7	0.0 - 0.9 Grayish Brown (10YR 5/2) medium-fine SAND, trace silt & coarse-fine Dark Gray (10YR 4/1) angular gravel, dry, loose, no odor (SP)	063_D005_0.0 (0.0' - 0.5')	_1
_ _2		71.2	0.9 - 1.3 Gray (GLEY1 6/N) coarse-medium SAND & GRAVEL (concrete) (GP) 1.3 - 1.6 Black (10YR 2/1) coarse-medium SAND, some slag, 50% COPR (fine round	063_D005_0.8 (0.8' - 1.3') 063_D005_1.3 (1.3' - 1.8')	_ _2
_ _3	<u>2.8</u> 4.0	19.0	gravel) 1.4'-1.7', medium-dense, moist-wet, strong solvent odor, (SW)  1.6 - 2.8 Brown (7.5YR 4/3) SILT, little fine sand & coarse-fine gray angular gravel	063_D005_1.8 (1.8' - 2.3') 50% COPR noted 1.4' - 1.7'	_3
_ _4			(ML), Transitions into Brown (7.5YR 4/3) fine SAND & SILT, firm, moist, slight solvent odor (ML)		_ _4
_ _5					_ _5
_ _6		243.0	5.0 - 6.5 Dark Grayish Brown (2.5Y 4/2) Clayey fine SAND, little silt, treated wood fragments with creosote odor at 5.8', medium-stiff, moist-wet, strong solvent	200 P005 0 0 1/0 0 0 5 0	_ _6
_ _7	<u>3.0</u>	364.0 1260.0 596.0	odor (SC) 6.5 - 6.9 Black (10YR 2/1) CLAY, some fine sand, little silt, soft, moist, strong solvent odor, low to moderate plasticity (OL)	063_D005_6.0 (6.0' - 6.5') (fill/native soil interface)	_ _7
_8	5.0		6.9 - 7.3 Greenish Gray (GLEY2 5/5BG) Clayey fine SAND, little silt, soft, moist-wet, strong solvent odor (SC)		_8
_ _9 _			7.3 - 8.0 Reddish Brown (5YR 5/3) SILT, little fine sand & fine-medium gray angular gravel, trace clay, trace Olive (5Y 5/6) gravel (sandstone fragments), stiff,		_ _9 _
_10		40.0	moist-wet, slight hydrocarbon (ML)	200 0005 40 0 (40 0) 40 5)	_10
_ _11		42.2 1487.0 1278.0	10.0 - 13.0 As Above (7.3' - 8.0'), Transitions into Brown (10YR 4/3) SILT & fine SAND, some Olive (5Y 5/4) & Reddish Brown (5YR 4/4) subround sandstone gravel and Dark Gray (GLEY1 4/N) angular gravel, trace clay, stiff, dry-moist,	063_D005_10.0 (10.0' - 10.5')	_ _11
_ _12	<u>3.0</u>	466.0 564.0	strong hydrocarbon odor, gray petroleum staining in bottom of sleeve (ML)		_12
_ _13 _	5.0	58.3			_13
_14 _					_14
_15		470.0	45.0. 45.0. Deels Occ. (7.5.VD 4/4) access (inc. OAND 0. comes (inc. occ.)	000 0005 45 0 (45 0) 45 5"	_15
_ _16		176.0 1008.0 29.4	15.0 - 15.9 Dark Gray (7.5 YR 4/1) coarse-fine SAND & coarse-fine angular to subround gravel (Olive 5Y 5/4, Reddish Brown 5YR 4/4, & Dark Gray GLEY1 4/N), very dense, moist, slight hydrocarbon odor (GW)	063_D005_15.0 (15.0' - 15.5')	_ _16
_ _17	2.5	2.1	15.9 - 18.5 Brown (10YR 5/3) fine SAND & SILT, little medium-fine dark gray angular		_17
_ _18	<u>3.5</u> 5.0	1.0 2.8 0.5	gravel, stiff, dry, no odor (ML)		_ _18
_ _19 _		0.0			_ _19
_20			E. I. ( D		_20
_ _21			End of Boring at 20' bgs.		_ _21
_ _22					22
_ _23					23
_ _24					_24
_ _25					_ _25

72	TE	TRATE	A TECH GEO		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 DEVIC	E:	GEOLOGIST / OFFICE:	
7/12/2011	17			PID MiniRAE 20	000	Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	R / DRILLEF	₹:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Ray Smith			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	7
5' Sleeves, 1.25" ~ 1.6'				Yes - 063_MW06			
мемо: Hand-dug							

DEPTH	RECOVERY	OVM	DUDMEISTED SYSTEM SOUL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ 1			<ul> <li>0.0 - 0.5 QP Stone (coarse subangular gravel &amp; cobbles) (GP)</li> <li>0.5 - 1.0 Olive Gray (5Y 4/2) fine SAND, little m. sand, loose, moist-wet, no odor (SP)</li> </ul>		_1
		0.0	1.0 - 1.6 As Above (0.5' - 1.0'), slight solvent odor (SP)	063_D006_1.0 (1.0' - 1.5')	-  -
_2			1.6 - 2.5 Black (2.5Y 2.5/1) medium-fine SAND & medium-fine slag GRAVEL,		_2
_ _3	<u>3.4</u> 4.0	0.0 0.0	loose, moist-wet, slight solvent odor (GW) 2.5 - 4.4 Reddish Brown (5YR 4/4) SILT, little fine sand, trace medium-fine subangular		3
_5	4.0	0.0	gravel, trace clay, moist, firm, no odor (ML), Transitions to Olive Gray		
_4		0.0	(5Y 5/2) Silty CLAY, little fine sand, trace subangular coarse-fine gravel,		_4
		0.0	soft, moist, no odor (CL)		
_5		0.0	5.0 - 6.8 Olive Gray (5Y 5/2) Silty CLAY, little fine sand, trace subangular coarse-	063_D006_5.0 (5.0' - 5.5')	_5
_ _6		0.0	fine gravel, soft, moist-wet, no odor (CL)	(0.0 0.0)	_6
		0.0		40 00 000	
_7	<u>3.0</u>	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,	063_D006_6.5 (6.5' - 7.0')	_7
_ _8	5.0	0.0	slight sulfurous odor (PT)	Fill/native soil interface	_8
_			7.9 - 8.1 Brown (10YR 5/3) fine SAND, loose, moist-wet, no odor (SP)	at 7'	_
_9					_9
_ _10					10
_		0.0	10.0 - 12.5 As Above (7.9' - 8.1'), Transitions to Reddish Brown (2.5YR 4/3) SILT,	063_D006_10.0 (10.0' - 10.5')	-[-
_11		0.0	little subround-subangular coarse-fine gravel, white cobbles at 11.8', dry,		_11
_ 		0.0	very stiff, no odor (ML)		_ 12
_ ' _	<u>2.5</u>	0.0			_'_
_13	5.0				_13
_ 					_ 14
-14					-'*
_ _15					15
_ 16	2.0	1800.0 1500.0	15.0 - 17.0 Brown (10YR 4/3) Silty medium-fine SAND, trace clay & medium-fine subround-aubangular gravel, strong hydrocarbon odor (SM)	063_D006_15.0 (15.0' - 15.5')	_ _16
_10	<u>2.0</u> 2.0	850.0	subround-aubangular graver, strong hydrocarbon odor (SM)		-10
_ _17		1371.0			 17
_			End of Boring at 17' bgs. (Refusal)		
_18					_18
_ _19			Well Information:		_19
_			2-inch diameter 10-slot SCH40 PVC screen set at 2.0' - 7.0' bgs.		
_20			2-inch diameter SCH40 PVC riser from 2.0' bgs. to 2.57' above grade #1 Sand from 1.5' to 7.0' bgs., Grout from 1.0' to 1.5'		_20
_ _21			2' x 2' section of PVC liner placed on top of HDPE liner		21
_			Cemented-in 2' x 2' hole for well pad from 1.0' bgs to surface		
_22			Stick-up completion		_22
					23
_24					_24
_ _25					_ _25

TETRA TECH GEO					PROJECT NO.: 117-0509160.02		Boring No: 063_D007
			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. / W		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			1
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25" ~ 1.5'				No			
MEMO:							

DEPTH	RECOVERY	OVM			FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		1078.0		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')	_ _1
_ _2				Green (GLEY2 6/10G) coarse-fine GRAVEL, loose, dry, no odor (GW) Black (2.5Y 2.5/1) medium SAND, little fine sand, trace fine slag gravel,		2
	<u>3.6</u>	1.9		loose, moist-wet, strong solvent odor (SP), Transitions to fine SAND &		
_ _3	5.0	5.8		coarse-fine subround slag GRAVEL, some silt & coal, loose, wet at 1.5',		_3
_ 4		1.6		strong solvent odor (GW)		_ 4
_4				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		-4
_ _5				shells, moderate plasticity, slight sulfurous odor (CH)		_5
-				Olive Gray (5Y 4/2) CLAY, little silt, trace shells, wood fragments at 6.2',	062 0007 5 7 (5 7) 6 2)	_
_6		0.0 0.5		very soft, high plasticity, slight sulfurous odor (OH) Black (2.5Y 5.2/1) organic SILT, little clay, soft, low plasticity, moist,	063_D007_5.7 (5.7' - 6.2') Fill/native soil interface at 6.2'	_6
_ _7		2.1		strong sulfurous odor (ML)	I militario con micriaco at c.2	_7
_	<u>2.8</u>	0.0		Pinkish Gray (7.5YR 6/2) Clayey fine SAND, little silt, medium-dense,		_
_8	5.0			moist, slight sulfurous odor (SC)		_8
_ _9						_9
_						
_10		0.0	10.0 - 12.6	Reddish Gray (5YR 5/2) Silty medium-fine SAND, trace subround medium-	063_D007_10.0 (10.0' - 10.5')	_10
_ _11		0.0		fine sandstone gravel, dense, moist-wet, no odor (SM), Transitions to	(10.0)	_11
_		0.0		Light Reddish Brown (5YR 6/3) SILT, some very find sand, stiff, moist,		
_12	<u>2.6</u>	0.0 0.0		no odor (ML)		_12
_ _13	5.0	0.0				_13
						- <u>,</u> ,
_14						_14
_ _15						15
				Brown (7.5YR 5/3) SILT, little fine-very fine sand & medium-fine gray	063_D007_15.0 (15.0' - 15.5')	_
_16		0.0 0.0		angular gravel, Yellowish Brown (10YR 5/6) coarse-medium sand & fine sandstone gravel 16.9' - 17.2', moist, very stiff, no odor (ML)		_16
_ _17		0.0		canasishe graver reis 17.2, molet, very still, he saer (w.2)		_17
	<u>4.4</u>	0.0				
_18	5.0	0.0 0.0				_18
_ _19		0.0				_19
		0.0				
_20			End of Bori	ing at 20' bgs.		_20
_ _21				g		_21
_22						_22
_ _23						_23
_24						_24
_ _25						_25

TETRA TECH GEO					PROJECT NO.: 117-0509160.02		Boring No: 063_D008
				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 EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE ELEVATION:		WELL INSTALLED?	
5' Sleeves, 1.25" ~ 1.6'				No			
MEMO:							

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)			SAMPLE SUMMARY	_0
_ _1		0.0		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
_ _2		0.0 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,		_ _2
_ _3	<u>3.6</u> 5.0	0.0 0.0		moist, wet at 1.6', no odor (SW/SP) Reddish Brown (5YR 4/3) SILT, some very fine sand, little round gray gravel		_ _3
_ _ 4		0.0		& subround fine red sandstone gravel, soft, moist-wet, no odor (ML) Olive Gray (5Y 5/2) Silty CLAY, trace shells, soft, moderate palsticity,		_ _ 4
 _ _5				moist-wet, slight sulfurous odor (CH or OH)		_
_5		0.0	5.0 - 5.5	Very Dark Gray (10YR 3/1) CLAY, little silt, moderate plasticity, trace	063_D008_5.0 (5.0' - 5.5')	_ <sup>3</sup>
_ _6		0.0		shells, soft, moist, slight sulfurous odor (OH)  Olive Gray (5Y 5/2) Clayey SILT, soft, moist, low palsticity, slight sulfurous	(native soil?)	_ _6
_ _7		0.0		odor (ML), Transitions to Clayey SILT, little very fine sand, soft, moist (ML)		_ _7
_ _8	<u>3.0</u> 5.0	0.0		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		_ _8
_ _9				(SM)		_ _9
_ _10						_ _10
_ 11		0.0 0.0		As Above (6.8' - 8') Yellowish Brown (10YR 5/4) grading to Light Brown (7.5YR 6/3)	063_D008_10.0 (10.0' - 10.5')	_ _ _11
_ _ _12		0.0		medium-fine SAND, some silt, coarse sand, & fine subround/subangular gray & red siltstone gravel, moist-wet, dense, no odor (SM)		_ _ 12
_	<u>2.9</u>	0.0	12.3 - 12.9	Dark Grayish Brown (2.5Y 4/2) coarse angular GRAVEL & COBBLES,		
_13 _	5.0	0.0		some shale, trace silt & fine sand (Light Brownish Gray, 2.5Y 5/2), loose, wet, no odor (GP)		_13 _
_14						_14
_15						_15
_ _16		0.0 0.0		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
_ _17		0.0 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),		_ _17
_ _18	<u>3.3</u> 5.0	0.0 0.0		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)		_ _18
 _ _19	0.0	0.0		(WE)		19
_						13
_20 _			End of Bor	ing at 20' bgs.		1_
_21						_21
_ _22						_22
_ _23						_23
_ _24						_ _24
_ _25						_ _25

Tt-	TETRA TECH GEO					80.02	Boring No: 063_D009 / 063_MW07
				PROJECT NAME: PPG Site 063		LOCATION SKETCH	
COMPLETION DATE: TOTAL DEPTH OF BOREHOLE:			OLE:	MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	1
7/12/2011	7/12/2011 20			PID MiniRAE 2000 Jim M. / Whitehouse Station		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:		]	
EPI \ Ray Smith			Geoprobe Track	Rig Direct Push			
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 1.5'				Yes - 063_MW07			
МЕМО:							
*Hand-duç	g 2'x2' h	ole to 1.5' to	remove liner.				

DEPTH	RECOVERY	OVM	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		SAMPLE SUMMARY	_0
_ _1			<ul> <li>0.0 - 0.5 QP Stone (coarse subangular gravel &amp; cobbles) (GP)</li> <li>0.5 - 1.5 Olive Gray (5Y 4/2) medium-fine SAND, loose, moist, no odor (SP)</li> </ul>		_ _1
_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')	_2
_3	<u>2.7</u> 3.5*		2.5 - 4.2 Olive Gray (5Y 5/2) Silty CLAY, little fine sand & subangular coarse- fine gravel, soft, moist, no odor (CL/OL)		_3
_ _4	3.5	0.0	line graver, sort, moist, no odor (CDOL)		_4
_ _5					_5
_ _6		0.0	5.0 - 5.7 As Above (2.5' - 4.2'), no gravel, trace fine sand, soft, moist, no odor (CH) 5.7 - 6.5 Very Dark Grayish Brown (10YR 3/2) organic SILT, some fine sand, little	063_D009_5.0   (5.0' - 5.5')   Fill/native soil interface at	_ _6
_ _7			clay, low plasticity, moist, soft, slight sulfurous odor (ML) 6.5 - 7.7 Brown (7.5YR 4/2) SILT, little fine sand & clay, little coarse-fine subround-	5.7'	_ _7
_ _8	<u>2.7</u> 5.0	0.0	subangular gravel, firm, moist, no odor (ML)		_ _8
_ _9					_ _9
_ _10					_ _10
_ _11		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
_ _12		0.0 0.0			_ _12
_ _13	<u>3.7</u> 5.0	0.0 0.0	12.0 - 13.7 Brown (10YR 5/3) SILT, little fine sand & coarse-fine subangular-subround gravel, stiff, moist, no odor (ML)		_ _13
_ _14		0.0		063_D009_13.2 (13.2' - 13.7')	_ _14
_ _15					_ _15
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)		_ _16
_ _17		0.0			_ _17
_ _18	<u>3.6</u> 5.0	0.0 0.0			_ _18
_ _19		0.0			19
					20
21			End of Boring at 20' bgs.		_ _21
22			Well Information: 2-inch diameter 10-slot SCH40 PVC screen set at 5.0' - 10.0' bgs.		22
23			2-inch diameter SCH40 PVC riser from 5.0' bgs. to 2.5' above grade #1 Sand from 3.0' to 10.0' bgs., Grout from 1.0' to 3.0'		23
_ _24			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		24
_ _25			Stick-up completion		25

72-	TETRA TECH GEO				PROJECT NO.: 117-050916	60.02	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 EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"		~ 2.0'				No	
MEMO:							

DEPTH	RECOVERY	OVM			FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
-,		0.0	0.0 - 1.2	Grayish Brown (10YR 5/2) fine SAND, little medium sand & coarse-fine	063_D010_0.0 (0.0' - 0.5')	<u> </u>
_1		1.2 3.5	1.2 - 1.8	subangular gravel, trace COPR gravel 0.2' - 0.5', dry, loose, no odor (SP) Very Dark Gray (10YR 3/1) medium-fine SAND, little silt & medium-coarse	063_D010_0.5 (0.5' - 1.0') Trace COPR 0.2' - 0.5'	_1
_ _2		0.0	1.2 - 1.0	gray angular gravel (SM)	Trace COPR 0.2 - 0.5	_2
	<u>3.7</u>	0.0	1.8 - 3.3	Black (10YR 2.5/1) medium-fine SAND, little fine subround slag gravel,		
_3	5.0	0.0		Grayish-Brown Silt 2.3' - 2.7', loose, moist, wet 2' - 3.3' (SW/SP)		_3
<b>-</b> ,		0.0	3.3 - 3.7	Olive Gray (5Y 5/2) SILT, some very fine sand, some reddish-brown to		l-,
_4				gray mottling, stiff, moist, no odor (ML)		_4
_ _5						_ _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')	1_
_6			5.6 - 6.4	Very Dark Gray (10YR 3/1) Clayey organic SILT, soft, moist, strong	Fill/native soil interface at 5.6'	_6
		109.0	0.4.00	sulfurous odor (ML)		
_7	3.8	51.0 45.5	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		_7
_ _8	5.0	10.6		sand & subround medium-fine gray gravel, firm, moist, strong sulfurous odor		_8
_		3.7		(ML), then to Grayish Brown (10YR 5/2) SILT, little fine SAND & medium-fine		_
_9				subround red-yellow sandstone gravel, subround gray gravel, subround gray		_9
_ _10				gravel, & greenish-gray fine subangular gravel, stiff, moist, slight sulfurous odor (ML)		_ _10
_10		34.1	10.0 - 13.7		063_D010_10.0 (10.0' - 10.5')	┨_''
_11		5.5		(as above), stiff, moist, slight sulfurous odor (ML), Transitions to Strong		_11
_		0.3		Brown (7.5YR 4/6) Silty fine SAND, some medium sand, little medium-fine		
_12	2.7	0.0 0.0		gray angular gravel & subround red siltstone gravel, medium-dense,		_12
_ 13	<u>3.7</u> 5.0	0.0		moist-wet, no odor (SM)		_ 13
		0.0				
_14						_14
						_,_
_15		0.0	15.0 - 19.4	Strong Brown (7.5YR 4/6) SILT, some fine sand, little medium sand &	063_D010_15.0 (15.0' - 15.5')	_15
_ _16		0.0	10.0 10.4	medium-fine gray angular gravel & subround red siltstone gravel, stiff,	(10.0)	_16
		0.0		moist, no odor (ML), Transitions to Silty medium-fine sand, little gravel,		
_17		0.0		dense, moist-wet, no odor (SM)		_17
_ _18	<u>4.4</u> 5.0	0.0 0.0				_ _18
- <sup>10</sup>	5.0	0.0				-'0
_ _19		0.0				_19
		0.0				
_20			End of Bor	ing at 201 has		_20
_ _21			Ena or Bor	ing at 20' bgs.		21
_22						_22
_23						_23
_ 24						24
_						
_25						_25

72-	TETRA TECH GEO				PROJECT NO.: 117-050916	60.02	Boring No: 063_D011
					PROJECT NAME: PPG Site 063		LOCATION SKETCH
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE: G		GEOLOGIST / OFFICE:	
7/28/2011	20			PID MiniRAE 2000		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \Bob Fleming			Geoprobe Track	Rig	Rig Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"		~ 1.4'				No	
MEMO:							

DEPTH	RECOVERY	OVM		PURMEINTER OVETEN CON DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		0.0	sub	ry Dark Grayish Brown (10YR 3/2) medium-fine SAND, little silt & pangular medium-fine gravel, loose, dry, no odor (SM)	063_D011_0.0 (0.0' - 0.5')	_ _1
_ _2		0.0		ck (2.5Y 2.5/1) medium-fine SAND, little fine subround slag gravel, ce coal, loose, moist, moist-wet at 1.4', no odor (SW/SP)		2
_	<u>2.4</u>		1.6 - 2.4 Dar	rk Grayish Brown (2.5Y 4/2) SILT, little fine sand & coarse-fine gray		_
_3 _	5.0		ang	gular gravel, light gray concrete 1.9' - 2.1', moist, firm, no odor (ML)		_3
_4						_4
_ _5			50.50	44.01.0.40	DOO DOM 5 0 1/5 01 5 51)	_5
_ _6		0.0	5.3 - 7.5 Oliv	Above (1.6' - 2.4') ve Gray (5Y 5/2) Clayey SILT, little fine-very fine sand, low palsticity,	063_D011_5.0 (5.0' - 5.5')	_ _6
_ _7		0.0 0.0		n, moist, no odor (ML), Transitions to Dark Gray (2.5Y 4/1) Clayey SILT, ce shells, soft, moist, slight sulfurous odor (ML)		_ _7
_ _ _8	3.3 5.0	0.0 0.0	7.5 - 8.3 Very	y Dark Grayish Brown (10YR 3/2) PEAT, little Very Dark Gray  ´3/1) CLAY, low plasticity, soft, moist-wet, slight sulfurous odor (PT)	063_D011_7.0 (7.0' - 7.5') Fill/native soil interface	_ _8
 _ _9	0.0	0.0	(0.1		at 7.5'	_ _ _9
 _ _10						_ _ _10
		0.0		Above (7.5' - 8.3')		1_
_11		0.0		ayish Brown (10YR 4/2) SILT, some fine sand & coarse-fine subround red stone gravel, stiff, moist, no odor (ML), Transitions to Brown (10YR 5/3)	063_D011_11.0 (11.0' - 11.5')	_11
_ _12	2.2	0.0	SIL	T, little very fine sand & medium-fine subangular gray to greenish-gray	, , ,	_12
_ _13	<u>2.2</u> 5.0		grav	vel, stiff, moist, no odor (ML)		_ _13
_ _14						_ _14
_ _15						_ _15
_ _16		0.0		own (10YR 5/3) SILT, little very fine sand & medium-fine subangular y to greenish-gray gravel, stiff, moist, no odor (ML), Transitions to	063_D011_15.0 (15.0' - 15.5')	_ _16
_ 17		0.0		own (7.5YR 5/4) SILT, some very fine sand, little coarse-fine subround y gravel, firm, moist, no odor (ML)		-  17
_	<u>1.8</u>		gia	y gravor, mini, moiot, no odor (ME)		
_18 _	5.0					_18
_19						_19
_ _20			End of Dealers	at 201 bas		20
_ _21			End of Boring a	at zu bys.		_ _21
_ _22						22
_ _23						23
_ _24						_ _24
_ _25						_ _25

72-	TETRA TECH GEO				PROJECT NO.: 117-050916	50.02	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 Ji		Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25" ~ 5'				No			
МЕМО:	_						

DEPTH	RECOVERY	OVM	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	] _
(Feet)	(feet)	(PPM)		SAMPLE SUMMARY e 063_E003_0.0 (0.0' - 0.5')	_0
_ _1		0.0	Document 20.0 -3.1 Dark Yellowish Brown (10YR 3/4) to Dark Brown (7.5YR 4/3) medium-fin SAND, little silt, trace subangular medium-fine gravel, white concrete columns of the silt, trace subangular medium-fine gravel.		_ _1
_ _2		0.0	3' - 3.1', dry-moist, loose, no odor (SM)		2
_	<u>3.1</u>	0.0			
_3 _	5.0	0.0			_3
_4					_4
_ _5					_5
_ _6		6.6 21.6	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),	063_E003_5.0 (5.0' - 5.5')	_ _6
_ _ _7		54.2 94.5	pink/gray flat siltstone gravel 6.5'-7' (dry), trace silt, wet, loose, slight hydrocarbon odor (SW)	063_E003_6.0 (6.0' - 6.5')	_ 
_/ _	<u>2.9</u> 5.0		7.0 - 7.9 Dark Grayish Brown (10YR 4/2) SILT, some fine sand, little medium san	d & Fill/native soil interface at 7'	-'
_8	5.0	149.0	coarse-fine subround-subangular gray gravel, little clay, firm, moist-wet, hydrocarbon odor (ML)	slight	_8
_ _9			.,, .,		_9
_ _10					_ _10
_ 		137.0 42.7	10.0 - 13.7 As Above (7' - 7.9') (ML), Transitions to Brown (10YR 5/2) Silty fine-med SAND, little coarse-fine subangular gray gravel, little clay, dense, moist-		_ _11
_ _ 12		334.0 120.0	slight hydrocarbon odor (SM)		_ _ 
_	<u>3.7</u>	56.7			
_13	5.0	38.3 6.6			_13
_ _14					_14
_ _15					_ 15
_ 16		5.7 81.9	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	063_E003_15.0 (15.0' - 15.5')	_ _16
_ _ 17		5.5 433.0	hydrocarbon odor (SM), Transitions to Brown (7.5YR 5/4) Silty fine SANI medium sand & moist-wet 17.2' - 19.2'; SILT, little fine sand 19.3' - 19.7'	D, some	_ _ _17
_	<u>4.7</u>	14.7	medium-dense grading to dense, moist, slight hydrocarbon odor (SM)		
_18	5.0	2.9 2.6			_18
_ _19		3.4 2.1			_19
_ _20		11.0			_ _20
_ _21			End of Boring at 20' bgs.		21
_					
_23					_23
_ _24					_24
_ _25					_ _25

72	TETRA TECH GEO				PROJECT NO.: 117-0509160.02		Boring No: 063_E004
				PROJECT NAME: PPG Site 063			LOCATION SKETCH
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:			MONITORING DEVICE: G		GEOLOGIST / OFFICE:	
7/26/2011	20		PID MiniRAE 2000		Jim M. / Whitehouse Station		
DRILLING CONTRACTOR	R / DRILLER	:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	DUNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	1
5' Sleeves, 1.25"		~ 2.3'				No	
MEMO:							

DEPTH (Fact)	RECOVERY (feet)	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	] ,
(Feet)	(leet)		0.0 - 1.2	Dark Grayish Brown (10YR 4/2) to Strong Brown (7.5YR 4/6) medium-fine	SAMPLE SUMMARY 063_E004_0.0 (0.0' - 0.5')	_0 _
_1		0.0 0.0		SAND, little subangular-subround medium-fine gravel, trace glass, dry, loose, no odor (SW)		_1
_ _2		0.0	1.2 - 1.9	Black (2.5Y 2.5/1) coarse SAND & fine-medium GRAVEL (slag & coal), loose,		_2
_ _3	<u>2.9</u> 5.0	0.0 0.0	1.9 - 2.3	moist, no odor (GW) Brown (7.5YR 4/3) SILT, some fine sand, trace red coarse-medium subround		_3
_	0.0	0.0		sandstone gravel, mosit, 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)		_4
_ _5		0.0	50.70			_5
_ _6		0.0 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'		_ _6
_ _7		23.2 121.0			063_E004_6.5 (6.5' - 7.0')	_ _7
_ <b>'</b> _	<u>2.2</u>	13.7			063_E004_6.5 (6.5 - 7.0)	-'
_8	5.0					_8
_ _9						_9
_ _10						_ _10
		7.3	10.0 - 11.5	Dark Gray (10YR 4/1) Coarse-fine SAND & fine subround GRAVEL, some		1_
_11		21.3 62.7		coarse-medium gravel, little silt, loose, wet, slight hydrocarbon odor (GM/GW) Transitions to Dark Grayish Brown (10YR 4/2) Silty medium-fine SAND,	063_E004_11.0 (11.0' - 11.5')	_11
_ _12	0.5	12.6	44.5.40.5	some fine gravel, little medium gravel, wet, moist, slight hydrocarbon odor (SM)	` `	_12
_ _13	<u>3.5</u> 5.0	2.1 3.0	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		_ _13
_ 14		1.0		medium-fine sand, moist, soft grading to firm, little medium-fine subangular		-  14
_14		1.6		gray gravel, no odor (ML)		-"
_15		0.0	15.0 - 19.9	Brown (7.5YR 5/3) SILT, some fine sand, little medium sand & medium-	063_E004_15.0 (15.0' - 15.5')	_15
_ _16		0.0		fine subangular gray gravel, stiff, dry, no odor (ML), Transitions to Strong	(15.0 - 15.5)	_ _16
_ 		0.0 0.0		Brown (7.5YR 5/6) Silty medium-fine SAND, little medium-fine subangular gray gravel, dense, moist-wet, no odor (SM)		-  17
_	<u>3.8</u>	0.0		gray graver, derice, most wet, no eder (em)		
_18	5.0	0.0 0.0				_18
_ _19		0.0			063_E004_18.3 (18.3' - 18.8')	_19
_ _20						_ _20
 _ _21			End of Bor	ing at 20' bgs.		_ 2-
						_
_22						_22
_ _23						_23
_ _24						_ _24
						_
_25			l			_2

72-	TETRA TECH GEO				PROJECT NO.: 117-0509160.02		Boring No: 063_E005
				PROJECT NAME: PPG Site 063			LOCATION SKETCH
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVICE:		GEOLOGIST / OFFICE:	]
7/26/2011	20		PID MiniRAE 2000 Jim M. / W		Jim M. / Whitehouse Station		
DRILLING CONTRACTOR	/ DRILLER	k:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25" ~ 2.0'				No			
MEMO:							

DEPTH	RECOVERY	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	1
(Feet)	(feet)	(PPM)		BURINEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	0
_ _1		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	063_E005_0.0 (0.0' - 0.5') 063_E005_0.5 (0.5' - 1.0')	_ _1
_ _2			1.3 - 2.2	sand, loose, moist, no odor, shell fragments 0.7' - 0.8' (SP) Black (2.5Y 2.5/1) coarse-medium SAND & medium-fine subround slag	Trace COPR 0.2' - 0.5'	_ _2
_	<u>3.6</u>	0.0		GRAVEL, moist, wet at 2', loose, no odor (GW)		_
_3	5.0	0.0 85.6	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		_3
_4 _				hydrocarbon odor 3.3' - 3.6'		_4
_5						_5
_ _6		144.0	5.0 - 6.5	Olive Gray (5Y 5/2) SILT, little fine sand & clay, soft, moist-wet, strong hydrocarbon odor (ML)		_ _6
_ _7		418.0 1141.0	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') Fill/native soil interface	_ _7
_	<u>3.8</u>	580.0	7.2 - 8.1	Dark Reddish Gray (5YR 4/2) Silty medium-fine SAND, little medium-fine	at 6.5'	_
_8 _	5.0	31.4 16.6		subround gravel, light greenish-gray siltstone gravel 7.6'-7.9', medium-dense, moist-wet, slight hydrocarbon odor (SM)		_8
_9		7.0	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,		_9
_ _10				slight hydrocarbon odor (SM)		_10
_		0.0	10.0 - 11.7	As Above (8.1' - 8.8')	063_E005_10.0 (10.0' - 10.5')	
_11		0.0				_11
_		0.0				
_12	0.0		11.7 - 12.5	Brown (10YR 5/3) Silty fine SAND, some fine angular gravel, little medium		_12
_ _13	<u>2.9</u> 5.0	0.0 0.0	12.5 - 12.9	sand, dense, moist, no odor (SM) Weak Red (10R 4/2) thin-bedded shale fragments, dry, dense, no odor (GW)		_ _13
_ _14						_ _14
_ _15						_ _15
_		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')	
_16		0.0				_16
			16.4 - 17.7	Brown (7.5YR 5/4) Silty medium-fine SAND, little coarse-fine subround to		l
_17	0.7	0.0		subangular gray siltstone gravel, medium-dense grading to dense, wet		_17
_ _18	<u>2.7</u> 5.0	0.0		grading to moist, no odor (SM)		_ _18
_10	5.0					-'6
_ _19						_19
_ _20						20
_ _21			End of Bor	ring at 20' bgs.		21
_ _22						
						24
_ <b>_</b> -						
_25	<u></u>					_25

72-	TE	TRATE	CH GEO		PROJECT NO.: 117-050916	60.02	Boring No: 063_E006
					PROJECT NAME: PPG Site 063	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DE	PTH OF BOREH	OLE:	MONITORING DEVIC	E:	GEOLOGIST / OFFICE:	
7/26/2011	20			PID MiniRAE 20	000	Jim M. / Whitehouse Station	
DRILLING CONTRACTOR	/ DRILLER	k:	DRILLING EQUIPMEN	T: DRILLING METHOD / BIT:			
EPI \ Bob Fleming			Geoprobe Track	Rig	Direct Push		
SAMPLING METHOD:		DEPTH TO GRO	UNDWATER	GROUND SURFACE	ELEVATION:	WELL INSTALLED?	
5' Sleeves, 1.25"	Sleeves, 1.25" ~ 1.5'					No	
МЕМО:							

DEPTH (Fact)	RECOVERY (feet)	OVM		BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES &	] _
(Feet)	(leet)	(PPM) 0.0	0.0 -1.1	Brown (10YR 5/3) fine SAND, little medium sand, little coarse-fine gray	SAMPLE SUMMARY  063_E006_0.0 (0.0' - 0.5')	0
_1		0.0	4.4.4.5	subangular gravel, loose, dry, no odor (SP)		_1
_ _2			1.1 - 1.5 1.5 - 2.0	Black (2.5Y 2.5/1) fine SAND, some silt & clay, moise, soft, no odor (SC) Black (2.5Y 2.5/1) coarse-medium SAND & coarse-fine slag GRAVEL, little		_2
_	<u>3.7</u>	0.0		fine sand, loose, wet, no odor (GW)		_
_3	5.0	0.0 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)		_3
_ _4		0.0		moderate plasticity, moist, slight sulfurous odor (OTI)		_4
_ _5						_ _5
_				As Above (2' - 3.7')		1_
_6 _		0.0 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')	_6
_ _7		0.0	6.6 - 8.8	Brown (10YR 5/3) medium-fine SAND, some silt, little subangular-subround	Fill/native soil interface	_7
_ 8	<u>3.8</u> 5.0	0.0 0.0		red siltstone gravel, medium-dense, moist-wet, no odor (SM), Transitions to Reddish Brown (5YR 5/3) SILT, some fine sand, little subround-subangular	at 6.6'	_ _8
_0	0.0	0.0		siltstone gravel, dry, stiff, no odor (ML)		
_9						_9
_ _10						
_ _11		0.0 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	063_E006_10.0 (10.0' - 10.5')	)  -   11
_		0.0		(7.5YR 5/4) SILT, some fine sand, little medium-fine subangular gray to		
_12	<u>2.5</u>	0.0 0.0		greenish gray gravel, dry, very stiff, no odor (ML)		_12
_ _13	5.0	0.0				_13
_ _14						_ _14
_ _15						_ 15
_10		0.0	15.0 - 18.0	Brown (10YR 5/3) Silty medium-fine SAND, some coarse-fine subangular -	063_E006_15.0 (15.0' - 15.5')	
_16		0.0		subround gray gravel, dense, moist-wet, no odor (SM), Transitions to		_16
_ 17		0.0 0.0		SILT, little fine sand, little subangular grayu gravel, very stiff, moist, no odor (ML)		-   17
_	<u>3.0</u>	0.0				
_18	5.0	0.0				_18
_ _19						_19
_ _20						_ _20
_ _21			End of Bor	ing at 20' bgs.		21
_						
_23						_23
_ _24						_24
_ _25						

TŁ	TE	TRATE	CH GEO		PROJECT NO.: 117-050916 PROJECT NAME: PPG Site 063		Boring No: 063_E007 LOCATION SKETCH
COMPLETION DATE: 7/27/2011	TOTAL DE	PTH OF BOREH		MONITORING DEVIC	E:	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station	
DRILLING CONTRACTOR EPI \ Bob Fleming			DRILLING EQUIPMENT Geoprobe Track		DRILLING METHO		
SAMPLING METHOD: 5' Sleeves, 1.25"		DEPTH TO GRO ~ 1.5'	UNDWATER	GROUND SURFACE		WELL INSTALLED? No	
MEMO:							

DEPTH	RECOVERY	OVM	DUDMERCTED OVOTEM COLL DECORRIDATION	FIELD NOTES &	7
(Feet)	(feet)	(PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	SAMPLE SUMMARY	_0
_ _1		0.0 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
_ _2		0.0 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)		_ _2
_ _3	<u>3.5</u> 5.0	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)		_ _3
_	0.0		2.0 - 3.5 Olive (5Y 5/3) CLAY with slight Reddish Brown (5Y 5/3) mottling, little silt,		_
_4 _			moderate plasticity, trace shells, moist, slight sulfurous odor (OH/CH)		_4 _
_5		0.0	5.0 - 5.5 As Above (2' - 3.5'), slight sulfurous odor (OH/CH)	063_E007_5.0 (5.0' - 5.5')	_5
_ _6		0.0	5.5 - 8.0 Olive Gray (5Y 5/2) Silty CLAY, soft, moist, moderate plasticity, slight	,	_ _6
_ _7		1.3 0.0	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	Fill/native soil interface at 5.5'	_ _7
_ _8	<u>3.0</u> 5.0	0.0	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 &		_ _8
 _ _9			fine-medium round red siltstone gravel, medium-dense, moist-wet, no odor (SM)		_ _ _9
_			odoi (OM)		_
_10		0.0	10.0 -11.2 Yellowish Red (5YR 5/6) medium-fine SAND, some silt, little Dark Reddish	063_E007_10.0 (10.0' - 10.5')	_10
_11		0.0	Brown (5YR 3/3) medium-fine sand & medium-fine gravel, medium-dense, moist-wet, no odor (SM)	,	_11
_ _12		0.0	11.2 - 11.5 Light Gray (10YR 7/2) coarse-medium subround sandstone GRAVEL &		_12
_ _13	<u>2.9</u> 5.0	0.0 0.0	COBBLES, some coarse-medium sand, loose, dry, no odor (GW) 11.5 - 12.9 Brown (7.5YR 5/4) Silty medium-fine SAND, little medium-fine gray		_ _13
_ _14			angular gravel, medium-dense, moist-wet, no odor (SM)		_ _14
_ _15					_ _15
_ _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	063_E007_15.0 (15.0' - 15.5')	_ _16
_ _17		0.0	fine sand, little subround to subangular grayish brown medium-fine gravel, trace medium sand, stiff, moist, no odor (ML)		_ _17
_ _18	<u>2.9</u> 5.0	0.0 0.0			_ _18
_ _19					_ _19
_ _20					_ _20
_ _21			End of Boring at 20' bgs.		_ _21
_ _22					22
_ _23					23
_ _24					_ _24
_ _25					_ _25

# FIELD BORING LOG SHEET

Page 4 of 4

		Contact (A, H, U)																
		Comments																
		Old (mdd)	000	0	00	0			۵	٥	0	Ø	Ø	0	0	٥	0	0
	81/2	FID (ppm)																
	15/121	Depth of PID/FID (ff)						j										
		DATE							3									
	DATE STARTED: DATE COMPLETED: NATER DEPTH (FT): UD ELEVATION (FT): X COORDINATE: Y COORDINATE: DATUM:	TIME					T									-	130	
BORING LOG SHEET	DATE STARTED:  DATE COMPLETED:  GROUNDWATEH DEPTH (FT):  GROUND ELEVATION (FT):  X COORDINATE:  Y COORDINATE:  DATUM:	Description	7 Syle Frie Silty sound		Fire soundy 3:14	( -1.5">, Local	saturates.	المراد مادم المعتمد	me d. By moistice	2			43.		DN 14-19, bys (2"PLD)	- grade	-12' Sticky mount	4
		Color	75%												1 P	13 1	<u>a</u>	ع في
	6. E.A.	Geologic Unit Code													weens.	1	ر لا	4
	PROJECT: PRCA PROJECT NO.: 19-14-82.14 LOCATION (well or boring ID): OLG 3 - SCC/2.4 TOTAL DEPTH (FT): 35 GEOLOGIST: T/C DRILLER: EP 1 IILLING/SAMPLING METHOD: Greepwbe	USCS Soil Classification or Material	T.S.		ŷ			r.	•						K BOKIN	Risa o	Benton	Sand po
	PROJECT: PROJECT: PROJECT NO.: 1642- NO (well or boring ID): O6-3 TOTAL DEPTH (FT): 355 GEOLOGIST: TXC DRILLER: EP 1 SAMPLING METHOD: GA	Consolidated ?																
	PROJ V (well or E OTAL DEL GEC	Racovery (ft)	38=															
	PROJECT: PROJECT NO.: LOCATION (well or boring ID): TOTAL DEPTH (FT): GEOLOGIST: DRILLING/SAMPLING METHOD:	BLOWS per 6"			7													
	ECH &C	End Depth (feet)	25		20			33										
	LOCA' TETRATECH &C INC	Start Depth (feet)	36		32			33										C
	BORING NUMBER:	Sample ID	30.35	***														

Boring Log Sheet (FF-3) Tetra Tech EC, Inc. Proprietary Information - Copyright 2002

Version Date: 01/22/2008 Revision 3

TETRA TECH GEO	PROJECT NO: 19L1-82		Boring No: 063_ その02
TE TETRATECH GEO	PROJECT NAME PPG 5	NE 63	LOCATION SKETCH
COMPLETION DATE TOTAL DEPTH OF BOREHOLE. M	ONITORING DEVICE: GEO	PAUS KOT	
DRILLING CONTRACTOR/DRILLER: DRILLING EQUIPMENT:	DRILLING METHODIE	oush	
SAMPLING METHOD: DEPTH TO GROUNDWATER \ GI	ROUND SURFACE ELEVATION WEB	LINSTALLED?	
MEMO:			

DEPTH (Feel)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY	] 。
	(roon)	(PPM)	0-4 Black m-c SAND, some sit, m-fangular	CAMP EL COMMANT	1
_1	2 11		gravel and slag, moust, no odor		
_2	3.66				-2
_3	5.0		4-5 DK gray mf silty SAHD and gravel,		_3
_4			med-dense, morst-wet, hydrocarbon odor, Z" white subangular gravel at		_4
_5			1.5-3 bg/4		5
6		O	5-9 Reddish-brown fine sitty CLAY, firm		_6
_7	2.0		dense, moist, no odor (7.54R3/2).		-7
_8	5.0	0-1	9-10 PEAT, abundant vegetation, solfer		. 8
_9			odor. Native I fill interface at 9 bgs.		- 9
_ /					-1
_10		0	10-11.5 PEAT, abundant vegetation, moist,		
_11			soft.		-
_12	3.0	0	115-12 5 Com Lines CLAY w/ selt and little	063_2002_13,0	-
_13	5.0		11.5-12.5 Gray-brown CLAY w/ selt and little vegetation throughout.  12.5-15 Ovange-brown fine CLAY w/ little silt, m-c gravel, firm, dry-moist	00 )_ 2002 2 10 /0	-1
_14		0	12.5-15 Ovange - brown Fine CLAY w/ little		_1
15			silt, m-c gravel, tirm, dry-moust		-
_16		0	15-16 Orange-brown CLAY, little selt and		_1
_17	3.0		subangular med gravel very loose,		_1
18	5.0		wet from 15.5-15.8 bgs, no odor.		-
			16-20 Orange-brown from SAND, some silt and m-c subangular gravel throughout,		- 1
_20			dense fun morst-wet, no odor		
			503 @ 20' bgs	ALCO TO SALES	2
_21			20 Ggs		#
_22			MW-10:		_2
_23			2" PVC riser O-2' bgs.		_2
_24			2" PVC screen 2-7' bgs		_2
_25			Flushmount		_2

TE TETRA TECH GEO	PRO	JECT NO. 1941-8214	Boring No: 063_7005
	PRO	PCG SITE 63	LOCATION SKETCH
COMPLETION DATE TOTAL DEPTH OF BOREHOLE 12-21-12 25 Day	MONITORING DEVICE	GEOLOGIST / OFFICE:	
DRILLING CONTRACTOR/DRILLER: DRILLING EQUIPMEN	1 "	LINGMETHOD/BIT: Direct outh	
SAMPLING METHOD: DEPTH TO GROUNDWATER \	GROUND SURFACE ELEV	ATION: WELLINSTALLED?	
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,	063-205-0.5	-
	725		loose, mosst, no odor.		
3	2.25	0	0.66-5 Black m-f SAND, little with,		-3
4	2,0		abundant med-coarse slag from		4
5			1-2' bgs. 2" of red vocks frags, mosst-wet of 4' bgs (FIL)		5
_6		0	5-9 Black sandy SILT and med-coarse	063_2005_5,0	6
7	2.3		subangular gravel, saturated, m-dense		7
8	5.0		strong hydrocarbon odor.		- 8
_9	0,0		9-10 Black fine sandy SILT and gravel, saturated. Sheen observed at 9-9.5,		9
_ _10			dense strong hydrocarbon odor		_ _10
_: ⊑11		0	10-15' Black CK brown PEAT, trace sand,		
_ _12	0.00		med-vegetation, both, strong		_ _12
_ _13	5.0	£0	hydrocarbon odor, noist.		- _13
_ _14			Staining from previous sleeve.		_ _14
_ _15					_ _15
_ _16		0	15-16 Green-gray voch fragments (55),		_ _16
_ _17	2.0		dry		_ _17
_ _18	50	0	16-20 Red-brown fine sandy SLT, little		_18
_19			coarse-med gravel, firm, moist,		_ _19
_20			no odor.		_ _20
_ _21		0	20-22 Red brown SILT w/ fine sound and	063-7005-20.0	_ _21
_ _22	2.0		subongular gravel, very loose, wet		_22
_ _23	5.0		22-25 Red-brown SILT w/ fine sound,		_ _23
_ _24			dense, moist-wet		_24
_ _25			EOB @ 25' bgs		_ _25



Tax Map Address:

County:

CB&I

200 Horizon Center Blvd Trenton, NJ 08691 Phone: 609.588.6384

Fax: 609.689.7771

Sheet 1 of 1

Project Name: PPG

Street Address: 1 Burma Road, Jersey City, NJ

Soil Boring Permit Number (if > 50 feet in depth): NA

F-010A

Drilling Method: H.C./Geoprobe

Borehole Diameter: 2 inch

Boring Identification:

CB&I Project Manager: Thomas Gibbons Sampling Method: 5-foot long, acetate sample sleeves

Logged By: Spencer Waybrant

Completion Date: 3/25/13

									3/23/13
Depth (feet)	Sample ID	Sample Int.	Antimony aby IGSSL	Nickel abv IGSSL	PID (ppmV)	Recovery (inches)	Depth to Water (feet)	al sosn	Lithology/Remarks (Modified Burmister Classification)
0-0.5	F-010A 0.0-0.5	0-0.5			0.0	0-12		ΟI	Brown to gray brown SILT with some sand and organic matter, moist
0.5-1	F-010A 0.5-1.0	0.5-1			0.0	0-12		OL	blown to gray blown oich with some sand and organic matter, moist
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	L	Х	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		IVIL	Diack Sici, some large angular graver, trace sand, saturated
5-6		T			0.0	60-72		ML	Dark grayish brown SILT, trace clay, saturated
6-7		T			0.0	72-84		ML	Light brown SILT, trace clay, saturated, soft
7-8									
8-9								No	Recovery
9-10									

### 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.



CB&I

C-014A

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Sheet 1 of 1

Project Name: PPG

Street Address: 1 Burma Road, Jersey City, NJ

Drilling Method:

Boring Identification:

Soil Boring Permit Number (if > 50 feet in depth): NA

Tax Map Address:

CB&I Project Manager:

H.C./Geoprobe

County:

Thomas Gibbons

Borehole Diameter: 2 inch Sampling Method:

5-foot long, acetate sample sleeves

Logged By: Spencer Waybrant

Completion Date:

Depth (feet)	Sample ID	Sample Int.	Antimony abv IGSSL	Nickel abv IGSSL	РІВ (рршV)	Recovery (inches)	Depth to Water (feet)	al sosn	Lithology/Remarks (Modified Burmister Classification)
0-1	C-014A 0-0.5	0-0.5		Χ	0.0	0-12		$\cap$	Dark brown SILT, some sand, small gravel and organics, moist
0-1	C-014A 0.5-2.0	0.5-2		Х	0.0	0-12		OL	Dark brown Sier, some sand, sman graver and organics, moist
1-2	C-014A 1.5-2.0	1.5-2			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		Χ	0.0	24-36		NAI	Brownish gray SILT, some small subrounded gravel, trace sand, moist
3-4	C-014A 3.5-4.0	3.5-4		Х	0.0	36-48		IVIL	Blownish gray Sich, some small sublounded graver, trace sand, moist
4-5					0.0	48-60		ML	Light gray brown SILT with trace sand, moist
5-5.5		<u> </u>			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		<u> </u>			0.0	84-90		SW	esturated
7.5-8					0.0	90-96		SM	Gray to light brown SAND with silt, moist
8-9		-	-				·	No	Recovery
9-10								140	riccovery

### 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.



Project Name:

Street Address:

Tax Map Address:

CB&I

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Sheet 1 of 1

Boring Identification: C-013A

Soil Boring Permit Number (if > 50 feet in depth): NA 1 Burma Road, Jersey City, NJ

> Drilling Method: H.C./Geoprobe Borehole Diameter: 2 inch

County: CB&I Project Manager: Sampling Method: Thomas Gibbons 5-foot long, acetate sample sleeves

PPG

Logged By: Spencer Waybrant

Completion Date:

									3/23/13			
Depth (feet)	Sample ID	Sample Int.	Antimony aby IGSSL	Nickel abv IGSSL	PID (ppmV)	Recovery (inches)	Depth to Water (feet)	USCS ID	Lithology/Remarks (Modified Burmister Classification)			
	C-013A 0-0.5	0-0.5	Х	Х								
0-1	Dup1	0-0.5	Χ	Х	0.0	0-12		OL	Dark brown SILT, some organic matter, trace sand, moist			
	C-013A 0.5-1.0	0.5-1	Χ	Х								
1-2	C-013A 1.5-2	1 5 2	Χ	Х	0.0	12-24	Ī	N/I	Dark brown SILT, some sand and small angular gravel, moist			
1-2	Dup2	1.5-2	Х	Х	0.0	12-24		IVIL	Dark brown Sill, some sand and small angular graver, moist			
2-3	C-013A 2.5-3	2.5-3	Χ	Х	0.0	24-36	1	ML	Brown sandy SILT, trace small gravel, moist			
3-4	C-013A 3.5-4	3.5-4	Х	Х	0.0	36-48	Ī	ML	Gray brown clayey SILT, trace sand, moist			
4-5					0.0	48-60	Ī	ML	Brown gray SILT, some sand, trace small sub-rounded gravel, moist			
5-6		T			0.0	60-72	5	ML	Gray sandy SILT with some small angular gravel, saturated			
6-6.5		T			0.0	72-78		ML	Yellowsh brown sandy SILT, saturated			
6.5-7		T			0.0	78-84		SM	Brownish yellow SAND, some silt, saturated			
7-7.5		Ī			0.0	84-90	1	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					. <b></b>	· <b></b>	<u> </u>	No	Recovery			
9-10								INC	Necovery			

### 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.



CB&I

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609.689.7771

Sheet 1 of 1

Boring Identification: Project Name: PPG MW-12

Street Address: Soil Boring Permit Number (if > 50 feet in depth): NA 1 Burma Road, Jersey City, NJ

Tax Map Address: Drilling Method: H.C./Geoprobe County: Borehole Diameter: 2 inch

CB&I Project Manager: Sampling Method: Thomas Gibbons 5-foot long, acetate sample sleeves

Logged By: Spencer Waybrant

Completion Date:

									0/25/10
Depth (feet)	Sample ID	Sample Int.	Antimony aby IGSSL	Nickel abv 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	0.40			
0-1	MW-12 0.5-1	0.5-1			0.0	0-12		ML	Dark brown SILT and small angular gravel, some sand, moist
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		L	L	Ll	L	L	1		l
8-9								No	Recovery
9-10									

### 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.



CB&I

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Sheet 1 of 1

Project Name: PPG

Street Address: 1 Burma Road, Jersey City, NJ Soil Boring Permit Number (if > 50 feet in depth): NA Drilling Method: H.C./Geoprobe

Tax Map Address:

Boring Identification:

County:

Borehole Diameter: 2 inch

CB&I Project Manager: Thomas Gibbons Sampling Method: 5-foot long, acetate sample sleeves

MW-9

Logged By: Completion Date: Spencer Waybrant

3/25/13

Depth (feet)	Sample ID	Sample Int.	Antimony abv IGSSL	Nickel abv IGSSL	PID (ppmV)	Recovery (inches)	Depth to Water (feet)	OSCS ID	Lithology/Remarks (Modified Burmister Classification)
0-0.5	MW-9 0-0.5	0-0.5			0.0	0-12		<u> </u>	Black to dark brown SILT, some sand and organic matter, moist
0.5-1	MW-9 0.5-1	0.5-1			0.0	0-12		OL	Diack to dark brown Sill, Some Sand and Organic matter, moist
1-2		T			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	(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		N 41	Drawn against CII T. against and
7-8		T			0.0	84-96		IVIL	Brown sandy SILT, saturated
8-9		T			0.0	96-108		N 41	Drawn Cll T with brown and block strictions trace and actuated
9-9.5		T			0.0	108-114		IVIL	Brown SILT with brown and black striations, trace sand, saturated
9.5-10					·	L		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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### **SOIL BORING LOG**

PROJECT NUMBER: 146429	P	P&G - SITE 6	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 DEF	PTH: 10.0 Ft				
Geologist: Spencer Waybrant			WEATHER:	60's°F, sur	nny					
DRILLING METHOD: 2" Macro Core Track		1 of 1								
DEPTH RECOVERY [	DEPTH DESCR	RIPTION		USCS	SAMPLE	PID DATA				

DEPTH	7B. 2 1110	RECOVERY			USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)	DECOMM NOW	SYMBOL	DEPTH (Ft)	(ppm)	remarks
(11)		(72)		no recovery	01202	<u> </u>	(PP)	Tomarko
			0.5-1.0					
			1.0-1.5					
			1.5-2.0 2.0-2.5					
			2.0-2.5					
		50%	2.5-3.0	light gray to dark gray sandy SILT with fine to medium angular pebbles, dry	ML		0.4	trace COPR
				dark gray sandy SILT with organics, moist	OL		0.5	trace COPR
				dark gray fine to medium angular pebbles, sand and silt, saturated	sw	3.5-4.0	690.0	trace COPR
				dark gray sand, fine to coarse pebbles and silt, saturated			469.0	trace COPR
5.0			4.5-5.0	dark gray SILT with sand and fine to medium angular pebbles	ML		66.0	
			5.0-5.5	no recovery				
			5.5-6.0					
			6.0-6.5					
				gray brown SILT with some sand, saturated	ML	6.5-7.0	6.0	
		70%		gray brown sandy SILT with fine to coarse subrounded	IVIL	7.0-7.5	2.4	
		10%		subangular pebbles		7.5-8.0	1.1	
			8.0-8.5		GP	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			0.2	
10.0			9.5-10.0		ML		0.3	

NOTES:

Drilling Contractor: EP

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429		F	PP&G - SITE 6	63/65 - 1 BURMA RD						
SOIL BORING - AD002										
DATE STARTED: 08.02.2013 DATE COMPLETED: 08.02.2013										
Northing: 680291.7348	E	Easting:	612266.9034	Elevation:	±8-ft MSL	TOTAL DEF	PTH: 10.0 Ft			
Geologist: Spencer Waybrant				WEATHER:	70°F, sunr	ny, humid				
DRILLING METHOD: 2" Macro Core Track	mounted		PAGE:		1 of 1					
DEPTH RECOVERY DEPTH DESCRIPTION USCS SAMPLE										

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		0.0-0.5 0.5-1.0	no recovery				
			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
	80%	2.0-2.5	brown gray to light gray sandy SILT with fine to medium angular pebbles, moist			91.2	5% COPR
		2.5-3.0	dark gray, same as above			102.0	5% COPR
<b>▼</b>		3.0-3.5	dark gray to black, saturated	ML		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
5.0		4.5-5.0	gray brown SILT with sand and brick chunks			167.0	trace COPR
		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	
	100%	7.0-7.5	same as above with seashells			415.0	
	100%	7.5-8.0				41.9	
		8.0-8.5		GW		17.6	
		8.5-9.0		GVV		11.5	
		9.0-9.5				55.0	
10.0		9.5-10.0				61.6	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SIT	TE 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, sunr	ny, humid						
DRILLING METHOD: 2" Macro Core Trac	k mounted Geoprobe	PAGE:		1 of 1						

	DEPTH		RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)	ı	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				0.0-0.5	no recovery				
			1	0.5-1.0					
				•••					
				1.0-1.5	gray, fine to coarse subangular pebbles, SAND and silt	014/		000.0	50/ OODD
						SW		298.0	5% COPR
				1.5-2.0	moist		1.5-2.0	142.0	5% COPR
l				0005	was all showles		2.0	_	
				2.0-2.5	wood chunks	PT		14.4	5% COPR
			80%	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				
				0.0 0.0	basicaliaca mediam to imo possica, moiot			7.0	trace COPR
				3.5-4.0		GP		0.0	
								3.8	trace COPR
				4.0-4.5	light grayish brown silty SAND with gray clay chunks, moist	SM/SC		4.8	
l				4550	gray brown silty SAND with subrounded fine to medium				
				4.5-5.0	pebbles, moist			4.7	
	5.0				<u> </u>				
				5.0-5.5	saturated	SM/SW			
				5.5-6.0		SIVI/SVV			
				6.0-6.5					
$\ -\ $			-	65-70	light gray brown to dark gray sandy SILT				
				0.5-7.0	linghit gray brown to dark gray samuy SILT	ML	6.5-7.0	2.2	
			1	7.0-7.5	gray brown fine to medium angular/subangular pebbles,		7075	2.4	
			4000/		moist		7.0-7.5	2.4	
		100%		7.5-8.0			7.5-8.0	4.4	
				0005		GP			
				8.0-8.5			8.0-8.5	3.6	
$\vdash$			1	8.5-9.0					
			0.0-9.0				3.2		
			1	9.0-9.5	light brown SILT, dry	ML		8.0	
					IVIL		0.0		
	40.0			9.5-10.0	dark brown to dark gray SILT with clay and organic matter	OH/PT		2.6	
	10.0				(meadow mat), moist			_	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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1 of 1

### **SOIL BORING LOG**

DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

PROJECT NUMBER: 146429	PP	PP&G - SITE 63/65 - 1 BURMA RD							
SOIL BORING - AD004									
	DATE STARTED:	09.09.2013	DATE COM	PLETED: 09	0.09.2013				
Northing: 680388.712	Easting:	612338.2873	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft				
Geologist: Jeff Alexander					·				

PAGE:

DEPTH		RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	Ī	(%)	(ft)	fine gray SAND, gravel, cobbles	SYMBOL	DEPTH (Ft)	(ppm)	remarks
				line gray SAND, graver, cobbles	sw			
			0.5-1.0		300		30.9	
			1.0-1.5	black to dark gray SILT, moist				
			1.5-2.0				10.3	
			2.0-2.5					
		100%	2.5-3.0		ML		1283	
		:	3.0-3.5				562	
			3.5-4.0				1562	
				red brown crushed brick	GW	4.0-4.5	174	
5.0			4.5-5.0	brick pieces, saturated		4.5-5.0	80.3	
			5.0-5.5			5.0-5.5		
				dark gray silt mixed with brick pieces		5.5-6.0	350	
			6.0-6.5		ML/GW		57	
			6.5-7.0		111.27011		12.7	
		100%	7.0-7.5				16.9	
		8		SILT, SAND, and gravel angualr to subangular			12.8	
			8.0-8.5		ML/SW			
			8.5-9.0				12.4	
				meadow mat, organic material	PT			
10.0			9.5-10.0		''		4.4	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429	PP	&G - SITE 63	/65 - 1 BUF	RMA 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		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			0.0-0.5	SAND and gravel	sw			
			0.5-1.0	fill material, pieces of glass, plastic			2.0	
			1.0-1.5				44.5	5% COPR
			1.5-2.0	same as above, gravel, slag			1242	
		100%	2.0-2.5		GW		122.4	
		_	2.5-3.0		0.11	2.5-3.0		
			3.0-3.5			3.0-3.5	20.7	
				gray SAND and Silt, and large gravel, saturated		3.5-4.0		
			4.0-4.5		sw	4.0-4.5	8.2	
5.0			4.5-5.0				1.4	
			5.0-5.5	gray SAND, fine, saturated			4.3	
			5.5-6.0					
			6.0-6.5					
			6.5-7.0				3.1	
		100%	7.0-7.5		SP			
		100 /6	7.5-8.0		3F		2.4	
			8.0-8.5					
			8.5-9.0				0.8	
			9.0-9.5					
10.0			9.5-10.0				0.4	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass ▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429	PP	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				1 of 1					

DEPTH	RECOVER		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	concrete/cloth				
		0.5-1.0	dark gray silt and sand and trace COPR and slag material			1027	5% COPR
		1.0-1.5		ML/SW		737.4	
		1.5-2.0				2453	15% COPR
	100%		clayey gray SAND with light gray banding and angular large gravel			367	
	10078	2.5-3.0			2.5-3.0	74.4	
		3.0-3.5		SC/SW	3.0-3.5	14.2	
			same as above, wet		3.5-4.0	3.2	
		4.0-4.5		  -	4.0-4.5		
5.0		4.5-5.0				5.7	
		5.0-5.5	gray to brown SAND, clayey, saturated	sc			
		5.5-6.0				6.1	
			same as above, gravel to cobbles subrounded				
		6.5-7.0				6.7	
	100%	7.0-7.5					
		7.5-8.0		SC/GW		1.7	
		8.0-8.5					
		8.5-9.0				1.7	
		9.0-9.5					
10.0		9.5-10.0				1.6	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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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 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

DRILLING		D: 2" Ma	cro Core Trac		•		1 of 1		
	DEPTH		RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
					brown SAND and gravel, fine, abundant gravel				5% COPR
				0.5-1.0		SW		0.0	5% COPR
				1.0-1.5				0.0	5% COPR
					black SILT and gravel, (fill), (slag), dry			0.0	10% COPR
			100%	2.0-2.5		GM		0.0	20% COPR
			10070	2.5-3.0		J		0.0	20% COPR
				3.0-3.5				0.0	10% COPR
					greenish SAND with black mottled, black gravel	sw		1.4	5% COPR
				4.0-4.5		<b></b>		0.0	5% COPR
	5.0				black SILT and gravel (fill)	GM		0.0	15% COPR
					gray SAND, and gravel	sw	5.0-5.5	0.0	
				5.5-6.0			5.5-6.0	0.0	
					dark gray SILT and gravel, wet (fill material)		6.0-6.5	0.0	
				6.5-7.0		GM	6.5-7.0	0.0	
			100%	7.0-7.5		J		0.0	
			,	7.5-8.0				0.0	
					tan SAND, clayey, moist, some gravel, angular to subangular			0.0	
				8.5-9.0		SC/SW		0.0	
				9.0-9.5		20,0.1		0.0	
	10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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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
 Total Depth: 10.0 Ft
 Total Depth: 10.0 Ft

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

BITTELLITO	DEPTH	D. Z. IVIG	RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				0.0-0.5	no recovery				
				0.5-1.0	dark gray sand and gravel (magnetic)			0.0	80% COPR
				1.0-1.5		sw		0.0	80% COPR
				1.5-2.0		344		0.0	80% COPR
			90%	2.0-2.5	tan SAND (3-inch layer)			0.0	10% COPR
			90%	2.5-3.0	black SAND, SILT, and gravel			0.0	15% COPR
				3.0-3.5				0.0	15% COPR
					same as above, wet	SM/SW		0.0	15% COPR
				4.0-4.5		SINI/SVV		0.0	5% COPR
	5.0			4.5-5.0			4.5-5.0	0.0	
				5.0-5.5			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	
			100%	7.0-7.5		GW		0.0	
			10076	7.5-8.0				0.0	
				8.0-8.5				0.0	
				8.5-9.0				0.0	
			]		wood material, saturated, black	PT		0.0	
	10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429		8/65 - 1 BURMA RD									
SOIL BORING - AD009											
	DATE START	ED: 09.12.2013	DATE COM	IPLETED: 09	9.12.2013						
Northing: 680703.66	Easting:	612557.998	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft						
Coologist: Joff Alexander											

Geologist: Jeff Alexander

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

DEPTH	2.2	RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			0.0-0.5	gravel	GP			
			0.5-1.0	dark gray SAND and gravel, asphalt-like material, slightly moist, trace COPR (magnetic)			0.0	
			1.0-1.5	a.o.a., og,o.o., a.a.o. o o (ago.o.,			0.0	10% COPR
			1.5-2.0				0.0	10% COPR
		100%	2.0-2.5				4.2	15% COPR
		10076	2.5-3.0		sw		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
5.0			4.5-5.0				0.0	5% COPR
				gray SAND, moist, clay and gravel		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	
				same as above, wet	SC/SW	6.5-7.0	0.0	
		100%	7.0-7.5		30.0.1		0.0	
		,	7.5-8.0				0.0	
			8.0-8.5				0.0	
			8.5-9.0				0.0	
				red brown CLAY and gravel, cobbles, moist	CL		0.0	
10.0			9.5-10.0		<b>0</b> 2		0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PF	<b>P&amp;G - SITE 63</b>	8/65 - 1 BURMA RD							
SOIL BORING - AD011										
	DATE STARTED:	09.11.2013	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	2.2	RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				brown SAND, fine, dry	SP		0.0	
			0.5-1.0		31		0.0	
			1.0-1.5	black gravel (like asphalt), dry, trace C	OPR		0.0	5% COPR
			1.5-2.0				0.0	5% COPR
		100%	2.0-2.5				0.0	5% COPR
		10076	2.5-3.0		GP		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
5.0				tan SAND, fine, slightly moist			0.0	5% COPR
			5.0-5.5		SP	5.0-5.5	0.0	
			5.5-6.0			5.5-6.0	0.0	
				black asphalt-like material	GP	6.0-6.5	0.0	
			6.5-7.0		<u> </u>	6.5-7.0	0.0	
		100%		brick material	GW		0.0	
		10078	7.5-8.0	black SILT and some gravel, wet			0.0	
			8.0-8.5				0.0	
			8.5-9.0		OL		0.0	
			9.0-9.5				0.0	
10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SITE 63	3/65 - 1 BURMA RD							
SOIL BORING - BD001										
	DATE STARTE	ED: 08.05.2013	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, sui	nny					

PAGE:

DEPTH	RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.5-1.0	no recovery				
		1.0-1.5	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
	70%	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	
			dark gray SAND, fine to medium angular pebbles, silt, saturated.			245.0	
<u> </u>		4.0-4.5		SW/SM		306.0	
5.0		4.5-5.0			4.5-5.0	558.0	
		5.0-5.5	no recovery				
		5.5-6.0				0.4	
		6.0-6.5				3.2	
		6.5-7.0				1.5	
	60%		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	
			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	
10.0		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.



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**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PP&G - SITE 6	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	RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	no recovery				
		1.0-1.5					
		1.5-2.0					
		2.0-2.5					
		2.0-2.3					
	50%	2.5-3.0	gray silty SAND, saturated. Liner at 32 inches	SP		3.2	•
			dark gray to gray brown SAND, pebbles and silt, saturated	51		40.0	5% COPR
			gray brown to brown SILT with some sand, seashells and subrounded medium to fine			4.4	5% COPR
			pebbles	ML/SW		0.9	
5.0		4.5-5.0			4.5-5.0	0.5	
		5.0-5.5	no recovery				
		5.5-6.0					
		6.0-6.5					
			grayish brown SILT and medium to coarse subrounded pebbles with some sand and		6.5-7.0	3.2	
	70%		subangular pebbles, moist		7.0-7.5	2.3	
			gray brown to brown SILT and fine to medium subrounded pebbles with sand, moist	ML/SW	7.5-8.0	1.6	
		8.0-8.5				0.7	
		8.5-9.0				0.3	
			dark gray SILT with clay and organics (meadow mat), moist	OH/PT		0.2	
10.0		9.5-10.0	,	51,,, 1		0.1	

NOTES:

EPI Drilling Contractor:

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass **▼** Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429	PP	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		RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks	
			100%	0.0-0.5	gravel	GP			5% COPR
				0.5-1.0	dark brown SAND and gravel	SW		0.0	5% COPR
				1.0-1.5	green gray SAND and gravel			0.4	5% COPR
				1.5-2.0				55.0	
					slag material, saturated			4.4	5% COPR
			10070	2.5-3.0				1.6	5% COPR
				3.0-3.5		<b>5.</b>		1.1	5% COPR
				3.5-4.0				0.4	5% COPR
					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	
					light brown SAND, wet			0.3	
				6.5-7.0				0.9	
			100%		greenish gray SAND, fine, moist	SP		0.1	
				7.5-8.0		<b>5.</b>		0.1	
				8.0-8.5					
				8.5-9.0				0.0	
				9.0-9.5	red brown SAND and gravel	sw			
	10.0			9.5-10.0		OW		0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SITE 63	/65 - 1 BURMA RD				
SOIL BORING - BD004							
	DATE STARTE	ED: 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							

PAGE:

DEPTH	RECOVER		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			gray SAND and gravel	sw		367.0	5% COPR
		0.5-1.0					5% COPR
		1.0-1.5		PT		563.2	5% COPR
		1.5-2.0	dark gray SAND and gravel, brick material			1890	5% COPR
	100%	2.0-2.5		sw		1353	5% COPR
	100%	2.5-3.0				2124	5% COPR
		3.0-3.5				214.3	20% COPR
			SILT, SAND, and gravel, COPR nodules (magnetic), moist			134.2	20% COPR
		4.0-4.5		SM/SW		24.7	80% COPR
5.0		4.5-5.0				13.5	80% COPR
			gray SAND, medium, moist		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	
			gray SAND, fine to medium, saturated	SP	6.5-7.0	47.2	
	100%	7.0-7.5				20.5	
	130%	7.5-8.0				54.3	
		8.0-8.5				21.0	
			red brown CLAYEY SAND, gravel			11.3	
		9.0-9.5		sc		11.1	
10.0		9.5-10.0				5.9	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**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

DRILLING		ט: 2" Ma	cro Core Trac				1 of 1		
	DEPTH RECOVER (%)		RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)	1	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				0.0-0.5	gravel brown SAND and gravel, wood, dry	GP			
					brown SAND and gravel, wood, dry			1.6	trace COPR
				1.0-1.5		sw		1.6	trace COPR
				1.5-2.0				73.8	15% COPR
			100%		black gravel, COPR (magnetic), slag			1071	80% COPR
				2.5-3.0				45.3	75% COPR
				3.0-3.5				15.0	15% COPR
				3.5-4.0		GW		1.9	15% COPR
				4.0-4.5				1.6	5% COPR
	5.0			4.5-5.0				1.3	5% COPR
					saturated gravel, black, angular (slag)			3.7	5% COPR
				5.5-6.0			5.5-6.0	13.8	
					brown sandy CLAY mottled with dark gray and green		6.0-6.5	1.2	
				6.5-7.0			6.5-7.0		
			100%	7.0-7.5			7.0-7.5	16.6	
				7.5-8.0		CL		2.9	
				8.0-8.5				2.4	
				8.5-9.0				0.2	
					red brown CLAY and gravel, angular, large			1.1	
	10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429	MARD											
SOIL BORING - BD006												
DATE STARTED: 08.08.2013 DATE COMPLETED: 08.08.2013												
Northing: 680553.7094	Easting:	612418.6608	Elevation:	±8-ft MSL	TOTAL DEF	PTH: 10.0 Ft						
Geologist: Spencer Waybrant			WEATHER:	70's°F, ove	ercast, very h	numid						
DRILLING METHOD: 2" Macro Core Track m	PAGE:	1 of 1										
DEPTH RECOVERY DE	PTH DESCRIPTION			USCS	SAMPLE	PID DATA						

	DEPTH	D. Z IVIG	RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)		(%)	(ft)	5200iii 110ii		DEPTH (Ft)	(ppm)	remarks
			,	. ,	no recovery			N. I	
					light brown silty SAND with fine to medium subrounded pebbles, moist			0.0	5% COPR
					dark red brown silt with sand and rounded pebbles, moist	SM/SW		0.0	90% COPR
			80%		dark gray medium sand with fine angular pebbles, silt, and wood chunks			21.1	10% COPR
				2.5-3.0				19.3	10% COPR
					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
	5.0			4.5-5.0	gray sandy SILT with chunks of wood, moist	ML		5.0	trace COPR
				5.0-5.5	no recovery				
				5.5-6.0					
					gray brown SILT with sand, moist		6.0-6.5	1.7	
				6.5-7.0		ML	6.5-7.0	39.5	
<u>▼</u>			80%	7.0-7.5	gray brown SILT with sand, saturated		7.0-7.5	10.8	
			<b>0U</b> 70		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			2.1	
					gray brown to red brown SILT with sand and black striations, moist	ML		0.0	
				9.0-9.5				0.2	
	10.0			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.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429	F	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: .leff Alexander										

DRILLING METHOD:				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				0.0	trace COPR
		1.0-1.5	dark gray SAND and gravel, COPI	R (magnetic)			0.1	60% COPR
		1.5-2.0			SW		0.3	60% COPR
		2.0-2.5					0.0	40% COPR
	100%	2.5-3.0					0.0	40% COPR
		3.0-3.5	greenish SAND, moist		SP		0.0	10% COPR
		3.5-4.0	dark gray to black angular gravel, material, saturated	slag			0.0	30% COPR
		4.0-4.5	material, Saturateu		GW		0.0	30% COPR
5.0		4.5-5.0					0.0	15% COPR
		5.0-5.5	brown SAND, clayey, wet, gravel (	angular)		5.0-5.5	0.0	
		5.5-6.0				5.5-6.0	0.0	
		6.0-6.5			SC/SW	6.0-6.5	0.0	
		6.5-7.0				6.5-7.0	0.0	
		7.0-7.5					0.0	
	100%	7.5-8.0	green SAND, clayey, moist				0.0	•
		8.0-8.5			sc		0.0	•
		8.5-9.0					0.0	•
		9.0-9.5	red brown, clayey, and gravel (cob	bles), wet			0.0	•
10.0		9.5-10.0			GC		0.0	

NOTES:

Drilling Contractor: EP

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**SOIL BORING LOG** 

	63/65 - 1 BURMA RD									
SOIL BORING - BD008										
DATE START	ED: 09.10.2013	DATE CON	1PLETED: 09	9.10.2013						
Easting:	612490.964	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft						
-	SOIL DATE START	SOIL BORING - BD  DATE STARTED: 09.10.2013	SOIL BORING - BD008  DATE STARTED: 09.10.2013 DATE COM	SOIL BORING - BD008  DATE STARTED: 09.10.2013 DATE COMPLETED: 09						

Geologist: Jeff Alexander

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

DEPTH	RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5					5% COPR
		0.5-1.0				0.0	5% COPR
			reddish brown SILT and gravel, COPR			1.2	80% COPR
		1.5-2.0				5.7	80% COPR
	100%		black SILT, slightly moist, trace COPR	ML		27.3	5% COPR
	10070	2.5-3.0				223.3	5% COPR
		3.0-3.5				168.1	5% COPR
			greenish yellow SAND, fine, and gravel			167.2	5% COPR
		4.0-4.5		sw		738.3	5% COPR
5.0			dark gray SAND and gravel, angular		4.5-5.0	551.6	
		5.0-5.5			5.0-5.5	41.9	
			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	
	100%	7.0-7.5					
	100%	7.5-8.0		GW		1.3	
		8.0-8.5				2.0	
		8.5-9.0				1.7	
		9.0-9.5				2.7	
10.0		9.5-10.0				1.7	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

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



**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PP	PP&G - SITE 63/65 - 1 BURMA RD								
SOIL BORING - BD009										
	DATE STARTED:	09.11.2013	DATE COM	PLETED: 09	9.11.2013					
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

DRILLING METH						1 of 1		
DEPTH	DEPTH RECOVERY		DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				tan SAND, fine, and gravel	sw		0.0	15% COPR
				brown SAND/SILT and gravel, COPR (3 mm nodules)			0.0	80% COPR
			1.5-2.0 2.0-2.5		SM/SW		0.0	80% COPR
		100%		dark gray SAND and gravel, slag			0.0	80% COPR 15% COPR
			3.0-3.5		sw		0.0	15% COPR
			3.5-4.0				0.0	15% COPR
				black SILT, slightly moist gray green SAND and gravel	ML SW		0.0	
5.0			4.5-5.0	igray green Sand and graver		4.5-5.0	0.0	
			5.0-5.5			5.0-5.5	0.0	
			5.5-6.0	hroup CAND alovey maint		5.5-6.0	0.0	
			6.0-6.5	brown SAND, clayey, moist	sc	6.0-6.5	0.0	
							0.0	
		100%		gray SAND, gravel, saturated	SW		0.0	
			7.5-8.0 8.0-8.5	abundant gravel, angular to subangular (fill)			0.0	
			8.5-9.0		OW.		0.0	
					GW		0.0	
			9.0-9.5				0.0	
10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**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

DRILLING METHOD: 2" Macro Core Track mounted						1 of 1		
DEPTH RECOVERY		DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA		
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				brown/tan SAND, fine	SP		0.0	
				brown COPR-impacted SILT/SAND and gravel			0.0	60% COPR
			1.0-1.5				0.0	80% COPR
			1.5-2.0				0.0	80% COPR
		100%	2.0-2.5		SM/SW		0.0	15% COPR
		100%	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
5.0				asphalt-type gravel	GP	4.5-5.0	0.0	
				shells, fill material	GW	5.0-5.5	0.0	
				brown SAND, slightly moist	SP	5.5-6.0	1.5	
			6.0-6.5			6.0-6.5	0.5	
				brick material	GW		22.4	
		100%		black 3-inch layer			16.9	
				gray SAND and gravel			0.7	
			8.0-8.5		SW		0.3	
			8.5-9.0				0.5	
				green gray SAND and gravel, clay	SW/SC		0.1	
10.0			9.5-10.0		3,00		0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SI	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, Partl	y Cloudy					
DRILLING METHOD: 2" Macro Cor	e Track mounted Geoprobe	PAGE:		1 of 1						

	DEPTH		RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)	ı	(%)	(ft) 0.0 - 1.5	light gray brown SAND, SILT, and fine to medium angular	SYMBOL	DEPTH (Ft)	(ppm)	remarks
				0.0 - 1.5	gravel (pebbles), trace COPR			0.0	5% COPR
						SP			5% COPR
									5% COPR
				2.5 - 5.0	light brown to gray SILT with sand and gravel, some wood			0.0	5% COPR
					pieces at 4 feet, saturated at 4.5 feet, trace COPR				trace COPR
			100%					0.0	trace COPR
						ML		2.3	trace COPR
									trace COPR
							4.0-4.5	12.8	
	5.0						4.5-5.0	12.0	
lacksquare				5.0 - 7.0	brown to gray SILT with trace clay, saturated at top to moist				
					at bottom				
<b>∥</b> }									
								0.3	
						ОН			
			100%				7.0-7.5	0.2	
			100%				7.5-8.0	0.2	
							8.0-8.5		
							8.5-9.0	0.5	
				9.0 - 10.0	brown clayey SILT with organics (meadow mat), moist				
						OH/PT		1.1	
	10.0								

### NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SI	ΓΕ 63/65 - 1 BUR	MA 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, Part	ily Cloudy					
DRILLING METHOD: 2" Macro Core Track n	nounted Geoprobe	PAGE:		1 of 1						

DEPTH (ft)	RECOVERY (%)		DESCRIPTION TAGE:	USCS	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
(15)	(70)	0.0 - 4.0	gray to dark gray SAND, some silt and gravel (angular pebbles), trace COPR, moist			0.4	5% COPR
				SP		46.9	trace COPR 5% COPR
	100%			OI		370.0	trace COPR
						170	5% COPR
5.0		4.0 - 9.0	grayish brown with dark gray striations SILT, moist, trace COPR 4-5 feet		4.5-5.0		
				ОН	6.0-6.5	23.0	
					6.5-7.0		
	80%				7.0-7.5 7.5-8.0	0.9	
						0.2	
10.0		9.0 - 10.0	brown clayey SILT with organics (meadow mat), moist	ОН/РТ		0.4	•

### NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SI	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, Par	ly Cloudy				
DRILLING METHOD: 2" Macro Core Track mou	unted Geoprobe	PAGE:		1 of 1					

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		0.0 - 3.0	gray to dark gray SAND, some silt and gravel (angular pebbles), trace COPR, moist			0.4	5% COPR
				SP		46.9	trace COPR
	100%					370.0	trace COPR
		3.0 - 5.0	grayish brown SILT with some sand and gravel (medium to coarse)			3.5	trace COPR
			ocarso)	ML	3.5-4.0		
					4.0-4.5	0.6	
5.0					4.5-5.0		
		5.0 - 6.5	no recovery			127.0	
		6.5-7.0	grayish brown clayey SILT, moist, with brown striations	ОН	6.5-7.0	50.9	
		7.0 - 9.0	light brown SILT with some fine to medium angular gravel		7.0-7.5	0.9	
	70%			ОН	7.5-8.0	0.9	
				on.		1.3	
10.0		9.0 - 10.0	dark brown clayey SILT with organics (meadow mat), moist	ОН/РТ		4.4	

### NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PP&G - SITE 63/65 - 1 BURMA RD							
	SOIL B	ORING - C	D004					
	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, sui	nny			
DRILLING METHOD: 2" Macro Core Track	PAGE:		1 of 1					

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



**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PP	&G - SITE 63	3/65 - 1 BURMA RD							
	SOIL BORING - CD005									
	DATE STARTED:	08.02.2013	B 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, sunr	ny, humid					

DEPTH	D: 2" Macro Core Tra	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remark
		0.0-0.5	gravel	GP			
		0.5-1.0	gray SAND, large gravel	sw		0.8	
		1.0-1.5	SILT, gravel, dark brown (all magnetic soil)	ML			COPF
		1.5-2.0	liner				
	4000/	2.0-2.5	concrete, light gray				
	100%	2.5-3.0	brown silty SAND, gravel	sw		0.3	
			cobbles, angular	GP			
		3.5-4.0	dark gray SILT, gravel			35.9	
		4.0-4.5		ML		16.0	
5.0		4.5-5.0			4.5-5.0		
		5.0-5.5	red brown SILT with large gravel, subrounde	d	5.0-5.5	1.2	
		5.5-6.0			5.5-6.0	1.3	
		6.0-6.5		ML	6.0-6.5	1.8	
		6.5-7.0				1.8	
			dark gray SILT				
	100%	7.5-8.0					
		8.0-8.5	dark brown, SILT (meadow mat)			1.2	
		8.5-9.0		OL		1.1	
		9.0-9.5				1.8	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PP	PP&G - SITE 63/65 - 1 BURMA RD				
	SOIL BO	RING - CD	006			
	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, sui	nny	

PAGE:

DEPTH		RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			0.0-0.5	no recovery				
			1.0-1.5					
			1.5-2.0					
		60%		gray silty SAND, moist. Liner at 2.5 ft	SM		1.4	5% COPR
		00 /6		gray brown sandy SILT with subrounded and subangular medium to fine pebbles, moist			48.4	trace COPR
			3.0-3.5				11.1	5% COPR
			3.5-4.0	_	ML/GW		269.8	5% COPR
				grayish brown SILT with sand and trace fine to medium subangular pebbles			221.0	trace COPR
5.0			4.5-5.0				399.0	trace COPR
			5.0-5.5	no recovery				
			6.0-6.5					
			0.0-0.3					
			6.5-7.0					
		60%		gray brown sandy SILT with fine to coarse subrounded pebbles, moist		7.0-7.5	8.5	
		60%	7.5-8.0		ML/GW	7.5-8.0	3.1	
				same as above, except fine to medium subrounded pebbles		8.0-8.5	2.5	
				dark brown to dark gray SILT with some clay and organic material (meadow mat)		8.5-9.0	4.9	
			9.0-9.5		OL		2.7	
10.0			9.5-10.0				6.2	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

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



**SOIL BORING LOG** 

PROJECT NUMBER: 146429	OJECT 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							

DEP	PTH	RE	COVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft	ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				0.0-0.5	light brown SILT with some sand, moist			0.5	trace COPR
					gray brown to dark gray SAND, some silt, angular fine to medium pebbles, small chunks of coal, yellow staining (evidence of possible	SP		1.0	10% COPR 15% COPR
			100% 2	2.0-2.5 2.5-3.0	hex chromium impacts). Liner at 15 inches			335	
			•	3.0-3.5	dark gray brown SILT with sand and gravel,		3.0-3.5	1	
			•	3.5-4.0	moist, small pieces of coal		3.5-4.0	1.5	
				4.0-4.5		ML -	4.0-4.5	15.7	
5.	.0			4.5-5.0			4.5-5.0	15.7	
				5.0-5.5	no recovery			2.2	
			•	5.5-6.0				0.3	
				6.0-6.5 6.5-7.0	grayish brown SILT with seashells and subrounded fine to medium gravel, saturated			0.4	
			80%	7.0-7.5		ОН		0.3	
			5070	7.5-8.0		<b>0</b> 11			
			8.8	8.0-8.5 8.5-9.0				0.3	
10	0.0			9.0-9.5 9.5-10.0	dark brown clayey SILT with organics (meadow mat), moist	ОН/РТ		0.3	

NOTES:

EPI **Drilling Contractor:** 

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass **▼** Groundwater Level intercepted in Soil Boring.



### **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	PAGE: 1 of 1									
DEPTH RECOVERY	DEPTH DESCRIPTION	USCS SAMPLE PID DATA								

D	OEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
			. ,	no recovery			W /	
			1.0-1.5 1.5-2.0	light gray to gray SAND and SILT, fine to medium angular pebbles, some to trace silt			0.5	trace COPR trace COPR 5% COPR trace COPR
		80%	2.0-2.5 2.5-3.0		SP		0.3	
				dark gray brown SILT with sand and gravel, moist, subrounded pebbles with few pieces of coal	ML	3.5-4.0	0.4	5% COPR
	5.0		4.0-4.5 4.5-5.0		IVIL	4.0-4.5 4.5-5.0	0.4	
			5.5-6.0	no recovery				
				light brown SILT, moist to dark brown clayey SILT with some sand toward the bottom		6.5-7.0	0.3	
		70%	7.0-7.5		ОН		0.5	
				dark brown to dark gray clayey SILT with organics (meadow mat), moist			0.2	
	10.0		9.0-9.5 9.5-10.0	,	OH/PT		0.4	

NOTES:

Drilling Contractor: EP

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PP&G - SITE 6	3/65 - 1 BURMA RD			
	SOIL BORING - CD	0009			
	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 m	PAGE: 1 of 1				

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



### **SOIL BORING LOG**

PROJECT NUMBER: 146429 PP&G - SITE 63/65 - 1 BURMA RD							
	SOIL BO	ORING - CDO	)10				
	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 METH					PAGE:		1 of 1		
DEPTI (ft)	Н	RECOVERY (%)	DEPTH (ft)	DESCRIPTION		USCS	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
(10)	Т	(70)		SAND and gravel		SW	DEFIII (Ft)	(ррііі)	5% COPR
			0.5-1.0	brown SAND, fine, dry		344			
				•				0.0	5% COPR
			1.0-1.5	greenish gray fine SAND		SP		0.0	
			1.5-2.0					7.5	15% COPR
		100%	2.0-2.5	dark gray Gravel with sand, COPR	t impact			634.2	80% COPR
		100%	2.5-3.0			SW		109.7	15% COPR
			3.0-3.5	SAND and gravel				121.3	5% COPR
			3.5-4.0	concrete pieces		GW		34.2	5% COPR
			4.0-4.5			GW		22.1	
5.0			4.5-5.0	brown sandy SILT, fine		ML	4.5-5.0	7.4	
			5.0-5.5	sand, moist		SP	5.0-5.5	2.9	
			5.5-6.0	brown SAND, some gravel, wet			5.5-6.0	4.5	
			6.0-6.5			SW	6.0-6.5	4.8	
			6.5-7.0					11.9	
		100%	7.0-7.5	meadow mat (black organic)				2.4	
		100%	7.5-8.0					0.1	
			8.0-8.5			PT		5.0	
			8.5-9.0		PT			5.0	
			9.0-9.5					1.6	
10.0			9.5-10.0					0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass ▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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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
 Jeff Alexander
 48-ft MSL
 TOTAL DEPTH: 10.0 Ft

PAGE:

DEPTH	RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	gray SAND and gravel	sw			
		0.5-1.0	gray SAND, fine			2.6	
		1.0-1.5				2.6	
		1.5-2.0		CD.		0.8	15% COPR
	4000/	2.0-2.5		SP		4.7	15% COPR
	100%	2.5-3.0				34.7	15% COPR
		3.0-3.5				117.2	15% COPR
			black gravel, saturated, COPR, slag	GW		46.6	60% COPR
		4.0-4.5		GW		12.2	60% COPR
5.0			brown SAND and gravel		4.5-5.0	12.4	
		5.0-5.5			5.0-5.5	9.4	
		5.5-6.0			5.5-6.0		
		6.0-6.5		sw	6.0-6.5	1.3	
		6.5-7.0				1.1	
	100%		gray SAND, some gravel subangular			0.6	
	100 /6	7.5-8.0				0.3	
			meadow mat, organic			0.3	
		8.5-9.0		PT		0.3	
		9.0-9.5		PI		0.8	
10.0		9.5-10.0				0.4	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

SOIL BO	RING - CDO	)12								
SOIL BORING - CD012										
DATE STARTED: 09.09.2013 DATE COMPLETED: 09.09.2013										
asting:	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	RECOV	RY DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			light gray sand and gravel, dry				
		0.5-1.0				2.5	
			gray SAND and gravel, trace COPR, moist	sw		0.1	5% COPR
		1.5-2.0				0.5	
	100%	2.0-2.5				0.8	100% COPR
	1007	2.5-3.0	black SILT, wood pieces, wet, organic, petroleum odor			40.7	80% COPR
		3.0-3.5		OL		816.7	
		3.5-4.0				1438	60% COPR
			black SILT and gravel			127.6	
5.0		4.5-5.0		ML	4.5-5.0	57.3	
		5.0-5.5			5.0-5.5	41.7	
			gray SAND and gravel	sw	5.5-6.0	21.3	
			large gravel suborunded		6.0-6.5		
		6.5-7.0				7.1	
	100%	7.0-7.5					
		7.5-8.0		GP		2.4	
		8.0-8.5		J			
		8.5-9.0				0.7	
		9.0-9.5					
10.0		9.5-10.0				1.5	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

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

PAGE:

DRILLING METHOD: 2" Macro Core Track mounted Geoprobe
| DEPTH | RECOVERY | DEPTH | DI DESCRIPTION USCS | SAMPLE | PID DATA |

(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	light gray fine SAND and gravel				
		0.5-1.0		sw		0.0	5% COPR
		1.0-1.5	green gray SAND and gravel			0.0	5% COPR
		1.5-2.0	liner			0.0	
	42224	2.0-2.5	brown CLAY and gravel	CL		0.0	5% COPR
	100%	2.5-3.0	abundant gravel, trace COPR (magnetic), slag material, moist			0.0	15% COPR
		3.0-3.5	inaterial, moist			45.5	
		3.5-4.0		GW		20.5	15% COPR
		4.0-4.5				24.7	
5.0		4.5-5.0				21.3	5% COPR
		5.0-5.5	gray clayey SAND, moist, gravel		5.0-5.5	17.7	
		5.5-6.0			5.5-6.0	2.0	
		6.0-6.5		00/01/	6.0-6.5	0.1	
		6.5-7.0		SC/SW	6.5-7.0	0.4	
	4000/	7.0-7.5				0.1	
	100%	7.5-8.0				0.1	
		8.0-8.5	red brown clay, moist	011			
		8.5-9.0		ОН		0.1	
		9.0-9.5	meadow mat, black organic				
10.0		9.5-10.0		PT		0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass **▼** Groundwater Level intercepted in Soil Boring.



### **SOIL BORING LOG**

PROJECT NUMBER: 146429 PP&G - SITE 63/65 - 1 BURMA RD											
	SOIL BORING - CD014										
	DATE STARTED:	08.08.2013	3 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, ove	ercast, very humid						
DRILLING METHOD: 2" Macro Core Track	mounted Geoprobe	PAGE:		1 of 1							

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

 $\underline{\blacktriangledown}$  Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SITE 63	3/65 - 1 BURMA RD					
SOIL BORING - CD015								
	DATE START	ED: 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								

PAGE:

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS	SAMPLE DEPTH (Ft)	PID DATA (ppm)	ua ma ulca
(11)	(70)	0.0-0.5	gravel	GP	DEFIII (Ft)	(ррііі)	remarks
		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
	100%	2.0-2.5			2.0-2.5	256.2	
	10078		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	ML		11.9	5% COPR
5.0		4.5-5.0				2.0	
		5.0-5.5			5.0-5.5	3.0	
			gray sandy SILT		5.5-6.0	14.9	
		6.0-6.5		IVIL	6.0-6.5	10.1	
			gray sandy SILT, some gravel		6.5-7.0	1.8	
	4000/	7.0-7.5				4.3	
	100%	7.5-8.0					
		8.0-8.5	SAND, silty	SM			
		8.5-9.0		SIVI		0.3	
			meadow mat	PT		0.5	
10.0		9.5-10.0	organic			0.2	

NOTES:

Drilling Contractor: EP

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**SOIL BORING LOG** 

SOIL BO	RING - CDO	116	-		
SOIL BORING - CD					
DATE STARTED:	08.08.2013	013 DATE COMPLETED: 08.08.2013			
Easting:	612393.9726	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft	
t				DATE STARTED:         08.08.2013         DATE COMPLETED: 08           Easting:         612393.9726         Elevation: ±8-ft MSL	

Geologist: Jeff Alexander

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

D. W.E.LIIVO	DEPTH	D. 2 IVIG	RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)		(%)	(ft)			DEPTH (Ft)	(ppm)	remarks
				0.0-0.5	gray SAND and gravel	sw		2.2	15% COPR
					black silty SAND and gravel, wood material			7.8	15% COPR
				1.5-2.0		SM			15% COPR
			100%	2.0-2.5					15% COPR
					brown sandy SILT	NA.		56.3	15% COPR
					•	ML			5% COPR
					black silty SAND and gravel		3.5-4.0	68.3	15% COPR
				4.0-4.5 4.5-5.0		SM		10.2	15% COPR
	5.0			4.5-5.0				16.2	15% COPR
					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	
					gray sandy SILT	ML	6.5-7.0	0.0	
			100%	7.0-7.5					
			10070		black organic material			0.0	
					meadow mat				
				8.5-9.0		PT		0.0	
				9.0-9.5					
	10.0			9.5-10.0				1.2	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&	G - SITE 63/65 - 1 BURMA R	RD							
	SOIL BORING - CD017										
	DATE STARTED:	08.08.2013	DATE COMPLETED: 08.08.2013	3							
Northing: 680594.7964	Easting:	612412.0035	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft						
Geologist: Spencer Waybrant			WEATHER:	70's°F, ov	ercast, very humid						
DRILLING METHOD: 2" Macro Core Track			PAGE:		1 of 1						

DEPTH	RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	no recovery				
			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
	80%		dark gray medium to coarse SAND with subrounded fine to medium pebbles, some silt, moist			8.0	5% COPR
			same as above with chunks of wood, moist			0.0	trace COPR
		3.0-3.5		sw		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
5.0		4.5-5.0	gray brown SILT with sand, moist	ML		0.0	
		5.0-5.5	no recovery				
		5.5-6.0					
			reddish light brown sandy SILT with subrounded fine to medium pebbles, moist		6.0-6.5	0.0	
		6.5-7.0			6.5-7.0	0.0	
	80%	7.0-7.5	light brown SILT, some sand, moist	ML	7.0-7.5	0.0	
	80 /6	7.5-8.0	same as above with gray brown striations	IVIL	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	
10.0		9.5-10.0	(made many, motor	WIL/FI		0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PP	&G - SITE 63	3/65 - 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		D: 2" Ma	cro Core Trac				1 of 1		
	DEPTH		RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				0.0-0.5		GP			
					brown SAND and gravel, slightly moist, loose (fill)			0.0	trace COPR
				1.0-1.5				0.0	60% COPR
				1.5-2.0				0.0	60% COPR
			100%	2.0-2.5				0.0	60% COPR
			100%	2.5-3.0	dark gray SAND and gravel, slightly moist, loose	sw		0.0	15% COPR
				3.0-3.5		SVV		0.0	15% COPR
				3.5-4.0				0.0	5% COPR
				4.0-4.5		_		0.0	5% COPR
	5.0			4.5-5.0	yellowish brown SAND and gravel, moist		4.5-5.0	0.0	
				5.0-5.5			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		sc	6.0-6.5	0.0	
				6.5-7.0		30		0.0	
			100%	7.0-7.5				0.0	
			100 /6		light orange sandy CLAY and gravel			0.0	
				8.0-8.5				0.0	
				8.5-9.0		CL/GC		0.0	
				9.0-9.5				0.0	
	10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429	P	P&G - SITE 63	3/65 - 1 BUF	RMA 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				1 of 1					

DEP.		RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	t)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			0.0-0.5	gravel	GP			
				dark brown SAND and gravel, some COPR, slag			0.0	
			1.0-1.5	one				15% COPR
			1.5-2.0				0.0	15% COPR
		100%	2.0-2.5					15% COPR
		10078	2.5-3.0				30.5	15% COPR
			3.0-3.5		sw			15% COPR
			3.5-4.0				106.3	5% COPR
				yellowish SAND and gravel, moist		4.0-4.5		
5.0	.0		4.5-5.0			4.5-5.0	1.2	
				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)				
				light gray sandy CLAY, wet			48.2	
		100%	7.0-7.5					
		100 /6	7.5-8.0				1.2	
			8.0-8.5		CL			
			8.5-9.0				0.0	
			9.0-9.5					
10.	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.



### **SOIL BORING LOG**

<b>PROJECT</b>	NUMBER: 146429		PP&G - SI	TE 63/65 - 1 BUI	RMA RD					
	SOIL BORING - DD001									
		DATE STARTED:	07.30.2013	DATE COMPLETI	ED: 07.31.2013					
Northing:	680255.9534	Easting:	612112.2866	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft				
Geologist: S	pencer Waybrant			WEATHER:	77° F, Par	ly Cloudy				
DRILLING M	ETHOD: 2" Macro Core Track n	nounted Geoprobe	PAGE:		1 of 1					

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

### NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**SOIL BORING LOG** 

PROJECT NUMBER: 146429		PP&G - SITE 63	3/65 - 1 BURMA RD						
SOIL BORING - DD002									
	DATE START	ED: 08.05.2013	DATE COM	IPLETED: 08	3.05.2013				
Northing: 680303.796	Easting:	612149.3101	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft				
Goologist: Joff Alexander									

Geologist: Jeff Alexander

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

DIVILLING	DEPTH	D. Z IVIA	RECOVERY		DESCRIPTION PAGE:	USCS	SAMPLE	PID DATA	
	(ft)		(%)	(ft)		SYMBOL		(ppm)	remarks
				0.0-0.5	brown SAND with roots	SP		0.3	
				0.5-1.0	brown SAND and gravel, COPR-impacted (magnetic)			0.6	COPR
				1.0-1.5	(magnono)	CW		0.3	
				1.5-2.0		SW		0.3	
			4000/	2.0-2.5					•
<b>V</b>			100%	2.5-3.0	black gravel, wet				
				3.0-3.5	some COPR			1.6	COPR
				3.5-4.0		GP		0.6	
				4.0-4.5	trace COPR			0.8	trace COPR
	5.0			4.5-5.0	wood	PT		0.3	
				5.0-5.5	no recovery (or just compression)				
				5.5-6.0					
				6.0-6.5	sandy SILT and gravel, subangular		6.0-6.5		
				6.5-7.0			6.5-7.0	0.8	
			80%	7.0-7.5			7.0-7.5	0.7	
			] 0070	7.5-8.0		ML/GM	7.5-8.0	0.7	
				8.0-8.5				0.6	
				8.5-9.0				0.3	
				9.0-9.5				0.6	
	10.0			9.5-10.0	meadow mat	PT		0.7	

NOTES:

Drilling Contractor: EP

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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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 COMPLET	ED: 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, sui	nny					
DRILLING METHOD: 2" Macro Core Track	mounted Geoprobe	PAGE:		1 of 1						

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

NOTES:

Drilling Contractor: EP

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



### **SOIL BORING LOG**

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

D	EPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
	-		0.0 - 1.0	brownish gray SAND, some silt and gravel (angular pebbles), trace COPR			0.4	trace COPR 5% COPR
	-		1.0 - 2.5	dark gray fine SAND and gravel, moist, trace COPR, yellow staining (evidence of possible hex chromium impacts)	sw		46.9	50% COPR 60% COPR
	_	100%	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			370.0	5% COPR trace COPR
					ML		3.5	
	5.0						0.6	
			5.0 - 7.0	grayish brown clayey SILT, moist, with brown striations		5.0-5.5	127.0	
					ОН	5.5-6.0		
					0	6.0-6.5	50.9	
						6.5-7.0	00.0	
	-	100%	7.0 - 10.0	Brown clayey SILT with organics (meadow mat), moist			0.9	
	-				ОН/РТ		1.3	
	10.0						4.4	

### NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



### **SOIL BORING LOG**

PROJECT NUMBER: 146429	F	/65 - 1 BU	RMA RD		
	SOIL E	BORING - DDO	005		
	DATE STARTE	D: 09.12.2013	DATE COM	IPLETED: 09	9.12.2013
Northing: 680445.6253	Easting:	612258.7945	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Coologist: Joff Mayandar					

Geologist: Jeff Alexander

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

DEPTH	RECOVERY	DEPTH	DESCRIPTION TAGE.	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			light gray SAND and gravel, fine	sw			
		0.5-1.0				4.2	
		1.0-1.5	medium to large gravel	GP			10% COPR
		1.5-2.0	brown SAND and gravel, COPR (magnetic)			9.4	80% COPR
	4000/	2.0-2.5		sw			80% COPR
	100%	2.5-3.0	dark gray SAND and gravel			18.1	15% COPR
		3.0-3.5	slag material	GP		32.1	15% COPR
		3.5-4.0		GP		106.2	
		4.0-4.5	green gray CLAY/SAND		4.0-4.5	80.3	
5.0		4.5-5.0		CL/SC	4.5-5.0	57.6	
		5.0-5.5			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		sc		8.6	
	100%	7.0-7.5				0.0	
	100 /6	7.5-8.0				0.0	
		8.0-8.5				0.0	
		8.5-9.0	meadow mat, brown black organics			0.0	
		9.0-9.5		PT		0.0	
10.0		9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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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 Jeff Alexander 10.0 Ft DATE COMPLETED: 08.07.2013

PAGE:

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

NOTES:

Drilling Contractor: EP

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

 $\underline{\blacktriangledown}$  Groundwater Level intercepted in Soil Boring.



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### **SOIL BORING LOG**

PROJECT NUMBER: 146429		3/65 - 1 BURMA RD				
	SOIL	007				
	DATE START	ED: 08.07.2013	DATE COM	MPLETED: 08	3.07.2013	
Northing: 680541.0091	Easting:	612332.5539	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft	
Geologist: Jeff Alexander						

Geologist: Jeff Alexander

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

I I	DEPTH	D. Z Wia	RECOVERY		DESCRIPTION PAGE.	USCS	SAMPLE	PID DATA	
	(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				0.0-0.5	gravel	GP			
				0.5-1.0	dark brown SAND and gravel			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
			100%	2.0-2.5		sw		0.2	30% COPR
			100%	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
					brown sandy SILT	ML		0.0	
	5.0			4.5-5.0		IVIL	4.5-5.0	0.1	
					brown sandy SILT some gravel		5.0-5.5	0.0	
				5.5-6.0			5.5-6.0	0.2	
				6.0-6.5		ML/GM	6.0-6.5	0.1	
				6.5-7.0				0.0	
			100%	7.0-7.5				0.0	
			10078	7.5-8.0	organic material (meadow mat)			0.0	
				8.0-8.5				0.0	
				8.5-9.0		PT		0.0	
				9.0-9.5				0.0	
	10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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### **SOIL BORING LOG**

PP&G - SITE 63/65 - 1 BURMA RD PROJECT NUMBER: 146429 **SOIL BORING - DD008** DATE COMPLETED: 08.09.2013 DATE STARTED: 08.09.2013 612369.5774 Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft Northing: 680588.8517 Easting: Geologist: Jeff Alexander

PAGE:

DEPTH	RECOVERY			USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5		GP			
			gray SAND and gravel small to pebble sized			7.8	20% COPR
		1.0-1.5					20% COPR
		1.5-2.0				9.4	10% COPR
	100%	2.0-2.5		sw			10% COPR
	10076	2.5-3.0	"slag" material			5.8	15% COPR
		3.0-3.5					10% COPR
			"slag" material, some magnetic				10% COPR
			red brown sandy SILT, pebbles			898.1	
5.0		4.5-5.0		ML	4.5-5.0		
			red brown sandy SILT		5.0-5.5		
			brown silty SAND		5.5-6.0	10.2	
		6.0-6.5		SM	6.0-6.5		
		6.5-7.0			6.5-7.0	9.4	
	100%	7.0-7.5	black organics, roots (meadow mat)				
		7.5-8.0 8.0-8.5					
		8.5-9.0		PT			
		9.0-9.5				2.8	
10.0		9.5-10.0					

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass  $\underline{\blacktriangledown}$  Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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PAGE:

### **SOIL BORING LOG**

PROJECT NUMBER: 146429	PP	&G - SITE 63	3/65 - 1 BUI	RMA 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				•					

		RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	T	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			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
		100%	2.5-3.0				0.7	5% COPR
			3.0-3.5					5% COPR
				brown SAND and medium gravel			0.0	5% COPR
			4.0-4.5	red brown silty SAND and large gravel				
5.0			4.5-5.0				0.0	
				red brown silty SAND and small gravel blue- green pebbles	SM/SW SW		0.0	
			5.5-6.0			5.5-6.0	0.0	
			6.0-6.5			6.0-6.5	0.0	
				gray SAND and gravel		6.5-7.0	0.0	
		100%	7.0-7.5			7.0-7.5	0.0	
		.0070	7.5-8.0				0.0	
			8.0-8.5	black organic (meadow mat)			0.0	
			8.5-9.0				0.0	
			9.0-9.5				0.0	
10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EP

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

 $\underline{\blacktriangledown}$  Groundwater Level intercepted in Soil Boring.



### **SOIL BORING LOG**

PROJECT NUMBER: 146429 PP&G - S			SITE 63/65 - 1 BURMA RD						
SOIL BORING - ED001									
	DATE START	ED: 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, Par	tly Cloudy					
DRILLING METHOD: 2" Macro Core Track	mounted Geoprobe	PAGE:		1 of 1					

DEPTH (ft)	l RI	ECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
			0.0 - 1.0	gray brown SAND, angular gravel (fine to medium pebbles)			0.0	5% COPR
		-					0.0	trace COPR
			1.0	1.0 - 2.5	dark gray fine SAND and gravel, moist, trace COPR, yellow staining (evidence of possible hex chromium impacts)	sw		0.0
				3(			0.0	trace COPR
		100%				0.0	trace COPR	
								trace COPR
		5.0 - 8.0 brownish gray SILT with some sand and gravel, fine to medium angular pebbles, seashells and organic material toward bottom			0.0	trace COPR		
					ML			trace COPR
						4.0-4.5	58.2	trace COPR
5.0			50.00	brownish grov SILT with some send and grovel fine to		4.5-5.0		
			medium angular pebbles, seashells and organic material		5.0-5.5	258		
					5.5-6.0			
						24.4		
					ОН		175	
						367		
							307	
			8.0 - 12.0	brown gray SILT			45.2	
10.0							40.2	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



### **SOIL BORING LOG**

PROJECT N	NUMBER: 146429		PP&G - SITE 63/65 - 1 BURMA RD					
SOIL BORING - ED002								
		DATE STARTED:	07.29.2013	DATE COMPLETI	ED: 07.31.2013			
Northing:	680273.4258	Easting:	612087.875	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft		
Geologist: Sp	encer Waybrant		WEATHER:	70's° F, Pa	irtly Cloudy			
DRILLING ME	THOD: 2" Macro Core Track r	nounted Geoprobe	PAGE:		1 of 1			

	DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
			0.0 - 3.0	gray brown SAND, angular fine to coarse gravel			0.0	
					sw		0.0	5% COPR trace COPR
		100%					0.0	trace COPR
			3.0 - 5.0	dark gray brown SILT with sand and gravel, moist to saturated	ML		25.2	trace COPR
					IVIL	4.0-4.5	00.0	
lacktriangle	5.0					4.5-5.0	88.6	
			5.0 - 7.0	grayish brown SILT with seashells and subrounded fine to medium gravel, moist			N/A	
						6.0-6.5	400	
						6.5-7.0	192	
		100%	7.0 - 9.0	grayish brown with dk brown striations SILT, moist	ОН		197	
							195	
	10.0		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.



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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 COMPLETE	ED: 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, P	artly Cloudy					
DRILLING METHOD: 2" Macro Core Track mou	nted Geoprobe		PAGE:		1 of 1					

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

#### NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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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 COMPL	ETED: 08.06.	2013				
Northing: 680344.6738	Easting:	612142.9295	Elevation:	ation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft					
Geologist: Spencer Waybrant			WEATHER:	60's°F, sur	nny				
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1									
DEPTH RECOVERY	DEPTH DESCRI	PTION		USCS	SAMPLE   PID DATA				

DEPTH	RECOVERY		DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	no recovery				
		1.0-1.5					
		1.5-2.0	gray medium to fine subrounded and angular pebbles	GP		0.0	
	700/	2.0-2.75	light brown to gray to dark gray silty SAND, moist	SM		7.1	
	70%	2.75-3.0	dark gray silty SAND with angular fine pebbles, moist	SIVI		1060.0	
			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	ML		41.9	
		4.0-4.5	rounded pebbles, moist		4.0-4.5	24.3	
5.0		4.5-5.0	red brown silty SAND, moist	SM	4.5-5.0	40.6	
		5.0-5.5	no recovery				
		6.0-6.5					
		6.5-7.0					
		7.0-7.5					
	50%	7.5-8.0	brown SILT with some sand, moist		7.5-8.0	893.3	
<u> </u>		8.0-8.5	brown SILT with some sand, saturated	ML	8.0-8.5	311.5	
			brown to dark brown to dark gray SILT with trace clay and sand, with organic matter (meadow mat),			70.6	
		9.0-9.5	moist	OH/PT		40.9	
10.0		9.5-10.0				30.9	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



#### **SOIL BORING LOG**

ROJECT NUMBER: 146429 PP&G - SITE 63/65 - 1 BURMA RD									
SOIL BORING - ED005									
	DATE STARTED:	08.06.2013	DATE COMPLETE	ED: 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, sur	nny				
DRILLING METHOD: 2" Macro Core Track mounted (	Geoprobe		PAGE:		1 of 1				

DEPTH	RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	no recovery				
		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
	80%	2.5-3.33	dark gray to black coarse SAND with fine angular pebbles and silt, saturated	sw		939.0	10% COPR
			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	
5.0		4.5-5.0	red brown sandy SILT with subrounded medium to fine pebbles, moist	III C	4.5-5.0	5.2	
		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	possios, maist	IVIL/GIVI	6.5-7.0	811.0	
	80%	7.0-7.5	brown SILT with some sand, saturated	ML		767.0	
	OU 70	7.5-8.0		IVIL		734.0	
		8.0-8.5	dark brown to dark gray clayey SILT with organic material (meadow mat)			132.8	
		8.5-9.0		ОН/РТ		116.9	
		9.0-9.5		JHIFT		174.7	
10.0		9.5-10.0				93.7	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**SOIL BORING LOG** 

PROJECT NUMBER: 146429	PI	PP&G - SITE 63/65 - 1 BURMA RD							
SOIL BORING - ED006									
	DATE STARTED:	08.07.2013	DATE COMP	LETED: 08.0	7.2013				
Northing: 680392.1713	Easting:	612179.6571	Elevation: ±8-ft MSL TOTAL DEPTH: 10.0 Ft						
Geologist: Spencer Waybrant			WEATHER:	70's°F, ov	ercast, humid				
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1									
DEPTH RECOVERY DEPTH DESCRIPTION USCS SAMPLE PID DATA									

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		0.0-0.5 0.5-1.0	no recovery				
		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	O.W		1.2	trace COPR
	80%		grayish brown sandy SILT with subangular pebbles, moist	ML/GM		83.9	30% COPR
	30 /6	2.5-3.0	,	IVIL/GIVI		431.3	trace COPR
			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			7.0	
		4.0-4.5		ML/GM	4.0-4.5	2.2	
5.0		4.5-5.0			4.5-5.0	0.5	
		5.0-5.5	no recovery				
		5.5-6.0	light brown with gray brown striations SILT with sand, moist		5.5-6.0	143.2	
		6.0-6.5	,	ML	6.0-6.5	14.8	
		6.5-7.0		IVIL		8.0	
	90%	7.0-7.5				5.8	
	90%	7.5-8.0	dark grayish brown with organic material and trace sand and clay (meadow mat)			14.2	
		8.0-8.5	mass same and say (moddon mary			21.9	
		8.5-9.0		OH/PT		1.5	
		9.0-9.5				6.4	
10.0		9.5-10.0				3.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

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



**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

DRILLING	<u>3 METHO</u>	D: 2" Ma	cro Core Trac	k mounte	ed Geoprobe PAGE:		1 of 1		
	DEPTH		RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
	(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
				0.0-0.5	light gray gravel - railroad	GP		0.0	
				0.5-1.0	sand and gravel (liner)			0.0	
			1	1.0-1.5	trace COPR - nodules	sw		3.1	trace COPR
				1.5-2.0				3.7	
				2.0-2.5	wood - black, moist	PT	2.0-2.5	11.7	
			100%	2.5-3.0	black silt and gravel. COPR (magnetic) soils			10.2	COPR
			1	3.0-3.5				2.8	
				3.5-4.0				1.1	
				4.0-4.5	gray SILT, abundant coarse gravel	ML/GM	4.0-4.5	0.3	
	5.0			4.5-5.0			4.5-5.0	0.3	
				5.0-5.5	gray SILT, some sand, some gravel		5.0-5.5	0.3	
				5.5-6.0			5.5-6.0	0.3	
				6.0-6.5	gray SILT, some sand			0.4	
				6.5-7.0	same as above, increasing moisture			0.2	
			100%	7.0-7.5		ML		0.6	
			10076		same as above, no to little gravel	] IVIE		1.3	
					gray SILT, trace organic material			0.4	
				8.5-9.0				0.3	
					dark organic	OH/PT		0.4	
	10.0			9.5-10.0	same as above, meadow mat	OH/F1		0.2	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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#### **SOIL BORING LOG**

PROJECT NUMBER: 146429	&G - SITE 63	3/65 - 1 BURMA RD				
	SOIL BO	RING - ED	800			
	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						

PAGE:

DEPTH	RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	gravel and SILT light gray	ML/GM		0.0	
			gray SAND and gravel. Liner at 12-18 inches.	sw		165.3	
		1.5-2.0	gray SAND and gravel		1.5-2.0		
	100%		black SILT and gravel, magnetic			148.2	30% COPR
	10070	2.5-3.0		ML/GM		98.3	
		3.0-3.5					
			gray silty SAND, brick pieces			0.5	
		4.0-4.5				0.3	
5.0		4.5-5.0			4.5-5.0	0.3	
			gray silty SAND	SM	5.0-5.5		
		5.5-6.0	SILT and SAND mix		5.5-6.0	0.5	
		6.0-6.5			6.0-6.5	0.5	
		6.5-7.0				0.5	
	100%		gray SILT with roots	ML		0.4	
	100%	7.5-8.0		IVIL		0.4	
			organic PEAT (meadow mat)			0.3	
		8.5-9.0		PT		0.3	
		9.0-9.5				0.3	
10.0		9.5-10.0				0.3	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



1 of 1

#### **SOIL BORING LOG**

PROJECT NUMBER: 146429 PP&G - SITE 63/65 - 1 BURMA RD								
	SOIL	BORING - EDO	009					
	DATE START	ED: 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	<u>.                                      </u>							

PAGE:

Geologist: Jeff Alexander DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

I	DEPTH	RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
I	(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	ſ
Ī			0.0-0.5	gravel	GP			

	(ft)	(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			0.0-0.5	gravel	GP			
			0.5-1.0	gray SAND and gravel. Liner at 18 inches.			3.2	
			1.0-1.5		SW			
lacksquare			1.5-2.0	gray to black silty sand and gravel, wet.			573.0	
		4000/	2.0-2.5	same as above, COPR-impact slag	SM/SW		117.0	COPR
		100%	2.5-3.0				108.0	
			3.0-3.5	brown SILT and gravel				
			3.5-4.0		ML/GM		13.2	
			4.0-4.5		WIL/GIVI	4.0-4.5	0.9	
	5.0		4.5-5.0			4.5-5.0		
			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	
		100%	7.0-7.5	black organic material (meadow mat)			0.3	
		100 /6	7.5-8.0				0.3	
			8.0-8.5		OH/PT		0.4	
			8.5-9.0				0.0	
			9.0-9.5	same as above, some gray SILT			0.1	
	10.0		9.5-10.0	same as above, some gray SILT and gravel			0.0	

NOTES:

Drilling Contractor:

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass **▼** Groundwater Level intercepted in Soil Boring.



#### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SI	ΓE 63/65 - 1 BUF	RMA RD	·			
SOIL BORING - ED010								
	DATE STARTED:	DATE COMPLETE	ED: 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, ove	ercast, humid					
DRILLING METHOD: 2" Macro Core Track mou	PAGE:		1 of 1					

DEPTH		RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			0.0-0.5	no recovery				
•		-	0.5-1.0					
•			1.0-1.5					
			1.5-2.0					
			2.0-2.33	light gray brown SILT, some sand, moist	ML	0005	0.1	
		60%	2.33-2.5	liner at 28 inches		2.0-2.5		trace COPR
			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		20	4.0-4.5	2.2	
			4.5-5.0	same as above with chunks of mica, wood, and red brick	МН	4.5-5.0	2.5	
			5.0-5.5	no recovery				
			5.5-6.0					
			6.0-6.5					
		1	6.5-7.0					
		1	7.0-7.5					
		50%	7.5-8.0	light brown with grayish brown striations, sandy SILT with wood chunks, moist		7.5-8.0	0	
			8.0-8.5	gray brown with gray striations sandy SILT	ML	8.0-8.5	162.2	
			8.5-9.0	light brown with gray brown striations, sandy SILT, moist			347.1	
5.0 9.0		9.0-9.5	dark brown to gray SILT with organic matter and trace sand (meadow mat), moist			211.5		
10.0			9.5-10.0	made: may, moot	OH/PT		20.9	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



#### **SOIL BORING LOG**

			III 00/01 / D			
PROJECT NUMBER: 146429		PP&G - S	ITE 63/65 - 1 B	URMA RD		
	SO	IL BORING	- ED011			
	DATE STARTED:	08.07.2013	DATE COMPLET	ED: 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, ov	ercast, humid	
DRILLING METHOD: 2" Macro Core Track	k mounted Geoprobe		PAGE:		1 of 1	

DRILLING ME	ETHOD	: 2" Macro Core Tra				1 of 1		
	EPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
		(70)		no recovery	STIMBOL	DEFINITY	(ррш)	remarks
				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
		80%		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		3.0-3.5	0.8	
			3.5-4.0		SM	3.5-4.0	0.1	
			4.0-4.5		Sivi	4.0-4.5	0.0	
5	5.0		4.5-5.0			4.5-5.0	0.0	
			5.0-5.5	no recovery				
			5.5-6.0	dark gray sandy SILT with chunks of wood			9.2	
▼			6.0-6.5	grayish brown SILT with sand, saturated	ML		11.0	
			6.5-7.0	light gray brown SILT with sand, saturated			6.2	
		90%	7.0-7.5	dark brown to dark gray SILT, some sand and organics (meadow mat), moist			7.0	
		30 /0	7.5-8.0		OH/PT		0.7	
			8.0-8.5		OH/P1		1.3	
			8.5-9.0				1.4	
			9.0-9.5	light brown sandy SILT with rounded fine to medium pebbles moist	•		0.4	
10	0.0		9.5-10.0		ML/GM		0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



**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 Jeff Alexander 48-ft MSL TOTAL DEPTH: 10.0 Ft

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

DEPTH	212	RECOVERY	DEPTH	DESCRIPTION PAGE.	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			0.0-0.5		GP			
				gray SAND and gravel			0.0	10% COPR
			1.0-1.5	dark gray SAND and gravel (magnetic)				50% COPR
			1.5-2.0		sw		0.2	50% COPR
		100%	2.0-2.5		0		0.2	50% COPR
		10070	2.5-3.0				0.1	50% COPR
			3.0-3.5				0.3	10% COPR
			3.5-4.0	gray sandy SILT some gravel				
			4.0-4.5		ML/GM		0.0	
5.0			4.5-5.0			4.5-5.0	0.0	
			5.0-5.5			5.0-5.5	0.3	
			5.5-6.0			5.5-6.0	0.0	
			6.0-6.5		WIL/GIVI	6.0-6.5	0.0	
			6.5-7.0				0.2	
		4000/	7.0-7.5				0.3	
		100%	7.5-8.0				0.1	
			8.0-8.5					
				black meadow mat, organic				
			9.0-9.5		OH/PT		0.0	
10.0			9.5-10.0				0.0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

▼ Groundwater Level intercepted in Soil Boring.



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#### **SOIL BORING LOG**

PROJECT NUMBER: 146429	PP8	PP&G - SITE 63/65 - 1 BURMA RD					
	DATE STARTED:	08.09.2013	DATE COM	IPLETED: 08	3.09.2013		
Northing: 680592.48	Easting:	612351.761	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft		
Geologist: Jeff Alexander							
DRILLING METHOD: 2" Macro Core Track	PAGE:		1 of 1				

DRILLING METH		PAGE:		1 of 1					
DEPTH (ft)		RECOVERY (%)	(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		sw		0.0	trace COPF
			1.0-1.5	silty SAND, blue gray gravel				0.0	5% COPR
			1.5-2.0			SM/SW			5% COPR
		100%	2.0-2.5					0.0	5% COPR
		100%	2.5-3.0	dark brown SAND and gravel, "s	slag" material	0144			15% COPR
			3.0-3.5			SW		0.0	15% COPR
			3.5-4.0	dark brown silty SAND and grav	el			1.3	15% COPR
			4.0-4.5	same as above, angular pebbles	3	SM/SW	4.0-4.5		
5.0			4.5-5.0	same as above, possible mica p	ieces, coal			10.2	
<u> </u>			5.0-5.5	wood, saturated with possible pr	oduct	PT		70.6	
			5.5-6.0			FI	5.5-6.0	8.3	
			6.0-6.5	dark brown sandy silt			6.0-6.5	0.0	
			6.5-7.0				6.5-7.0	0	
		100%	7.0-7.5			ML	7.0-7.5	0	
		100 /6	7.5-8.0					4.3	
			8.0-8.5					0	
				dark brown organics, roots				2.1	
			9.0-9.5			OH/PT		0.0	
10.0			9.5-10.0					0	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass ▼ Groundwater Level intercepted in Soil Boring.



#### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - S	SITE 63/65 - 1 BUF	RMA RD	·	
	SO	- 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, sur	nny		
DRILLING METHOD: 2" Macro Core Track r	mounted Geoprobe	PAGE:		1 of 1		

DEPTH		RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)		(%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
			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
		60%	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
5.0			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		WIL/GIVI	6.5-7.0	84	
		80%	7.0-7.5	dark brown SILT with trace clay, organic moist matter and some seashells (meadow mat)		7.0-7.5	723.5	
	_		7.5-8.0		OH/PT		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	IVIL		1139.0	
10.0			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.



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#### **SOIL BORING LOG**

PROJECT NUMBER: 146429	F	PP&G - SITE 63	/65 - 1 BU	RMA RD		
	SOIL E	ORING - FDO	002			
	DATE STARTE	D: 08.06.2013	DATE CON	MPLETED: 08	3.06.2013	
Northing: 680386.2501	Easting:	612137.1982	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft	
Geologist: Jeff Alexander						

PAGE: DRILLING METHOD: 2" Macro Core Track mounted Geoprobe 1 of 1 DEPTH RECOVERY DEPTH DESCRIPTION SAMPLE PID DATA USCS (ft) (%) (ft) SYMBOL DEPTH (Ft) (ppm) remarks **0.0-0.5** gravel GP 0.5-1.0 light gray SAND and gravel. Liner at 1 foot. 8.3 1.0-1.5 SAND and gravel, gray 9.0 1.5-2.0 SW 24.3 2.0-2.5 SAND and gravel greenish gray 235.2 100% 10% COPR 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 53.2 4.0-4.5 SW 4.0-4.5 8.2 4.5-5.0 4.5-5.0 9.3 5.0 5.0-5.5 gray SILT and SAND 5.0-5.5 SM 5.5-6.0 5.5-6.0 15.2 6.0-6.5 dark gray organic 30.1 6.5-7.0 47.2 7.0-7.5 same as above, some wood OL 81.2 100% 7.5-8.0 dark gray organic 70.7 8.0-8.5 41.9 8.5-9.0 red brown sand 26.8 9.0-9.5 SAND and gravel red brown SW 67.3 9.5-10.0 16.7

NOTES:

10.0

EPI Drilling Contractor:

**Drilling Equipment:** Track-mounted Geoprobe

Driller: John Brass ▼ Groundwater Level intercepted in Soil Boring.



DRILLING METHOD: 2" Macro Core Track mounted Geoprobe

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1 of 1

#### **SOIL BORING LOG**

PROJECT NUMBER: 146429		PP&G - SITE 63	/65 - 1 BUI	RMA RD	
	SOIL	BORING - FD	004		
	DATE STARTE	ED: 08.08.2013	DATE COM	IPLETED: 08	3.08.2013
Northing: 680565.93	Easting:	612346.466	Elevation:	±8-ft MSL	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander					

PAGE:

DEPTH	RECOVERY	DEPTH	DESCRIPTION	USCS	SAMPLE	PID DATA	
(ft)	 (%)	(ft)		SYMBOL	DEPTH (Ft)	(ppm)	remarks
		0.0-0.5	gravel	GP			
		0.5-1.0	dark brown SAND and gravel			3.2	15% COPR
		1.0-1.5	black sand and gravel	sw		103.5	15% COPR
			same as above, "slag"			58.2	5% COPR
		2.0-2.5	same as above, mostly gravel		2.0-2.5	109.0	5% COPR
	100%	2.5-3.0		GW		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	
5.0		4.5-5.0			4.5-5.0	0.2	
		5.0-5.5			5.0-5.5		
		5.5-6.0		SM	5.5-6.0	7.4	
		6.0-6.5			6.0-6.5		
		6.5-7.0				138.2	
	4000/	7.0-7.5					
	100%	7.5-8.0				2.3	
		8.0-8.5	dark brown organics/roots (meadow mat)			4.5	
		8.5-9.0		ОН/РТ		1.2	
		9.0-9.5		011/11		0.1	
10.0		9.5-10.0				0.1	

NOTES:

Drilling Contractor: EPI

Drilling Equipment: Track-mounted Geoprobe

Driller: John Brass

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

# 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	<b>COMPLETED</b> 3/18/16	GROUND ELEVATION 9 ft HOLE SIZE 8 inches
DRILLING CONTRACTOR EPI		GROUND WATER LEVEL:
DRILLING METHOD See Notes		□ DURING DRILLING 4.00 ft / Elev 5.00 ft
LOGGED BY K. Treacy	CHECKED BY J. Alexander	NORTHING 680250.5
NOTES		<b>EASTING</b> 612203.9

33-65 3-18-2016.GPJ O DEPTH O (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
O		100			DGA	NOTE: 8" hollow stem auger to target depth of 1.2' BGS / 6.8' MSL, then 3" macro core use for soil sampling
2.5 2.5	SS S01		PID = 0		Dark Brown silty SAND, little coarse angular gravel, semi dense, moist	B13-A_2.5-3
IE/SITE 63	SS S02		PID = 0			B73-A_3-3.5 B73-A_3.5-4
- CHRON	SS S03		PID = 0		4.0   5.0	_
ORAN/PPG			PID = 200		Black silty SAND, little coarse angular gravel, semi dense, wet	
5.0					5.0 A.0  Bottom of borehole at 5.0 feet.	

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:40 - \"ITREFS01\COMMON\MORAN\MORAN\PPG - CHROME\SITE 63-65\", FIELD DATABURMA GINT BORING LOGS\SITE 63-65 3-18-2016.GPJ

### **BORING NUMBER ED012-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 8 ft HOLE SIZE 8 inches
DRILLING CONTRACTOR EPI	GROUND WATER LEVEL:
DRILLING METHOD See Notes	$\overline{\ \ }$ DURING DRILLING 6.00 ft / Elev 2.00 ft
LOGGED BY K. Treacy CHECKED BY J. Alexander	NORTHING 680582.2
NOTES	<b>EASTING</b> 612326.5

63-65 3-18-2016.GPJ O DEPTH O (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
- 3/1/17 08:40 - \"ITREFS01\COMMONMORAN\MORAN\MORAN\PG - CHROME\SITE 63-65\\[\frac{1}{2}\] FIELD DATA\BURMA GINT BORING LOGS\SITE 63-65 3-18-2016.GPJ \\ \frac{1}{2}\] O DEPTH \\ \frac{1}{2}\] O DEPTH \\ \frac{1}{2}\]		100			DGA	NOTE: 8" hollow stem auger to target depth of 6.5' BGS / 1.7' MSL, then 3" macro core use for soil sampling
S LAB GDT - 3/1/17 08:40 - \NTREFS01\CO\ 	ss	100	PID = 0  PID = 0  PID = 0  PID = 0		Gray m-c SAND, semi dense, wet	ED012-A_7.3-7.8 ED012-A_7.8-8.3
ENVIRONMENTAL BH - GINT STD US LAB.GDT  100  0.0	ss		PID = 0 PID = 0 PID = 0		8.5 -0.5 Brownish Black meadow mat, organic	ED012-A_ 8.3-8.8
型 10.0				<u>''</u>	10.0 -2.0  Bottom of borehole at 10.0 feet.	

### **BORING NUMBER SB5-A**

<b>B</b>	CB&I 200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314

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	DURING DRILLING 6.00 ft / Elev 2.50 ft
LOGGED BY K. Treacy CHECKED BY J. Alexander	NORTHING 680244.7
NOTES	<b>EASTING</b> 612179.5

Hard Hard One PiD = 0	BGS / -1.9'
NOTE: 8" hollow ste target depth of 10.5" MSL, then 3" macro soil sampling  2.5  100  100	BGS / -1.9'
PID = 0 PID =	
PID = 0 PID =	
SB5-A_10.4-10.9  SB5-A_10.4-10.9  SB5-A_10.4-10.9	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
SB5-A_11.4-11.9 SS S03	

### **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	<b>COMPLETED</b> <u>3/18/16</u>	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		<b>EASTING</b> 612277.4

33-65 3-18-2016.GPJ O DEPTH O (ff)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:40 - \text{VIREFS01/COMMON/MORAN/PPG} - CHROMEISITE 63-65, FIELD DATABURMA GINT BORING LOGSISTIE 63-65 3-18-2016.GPJ   C	ss ss ss	100	PID = 0 PID = 0 PID = 0 PID = 0 PID = 0		7.5  7.5  Brownish Gray SILT, trace sand, semi dense, wet  9.0  Dark Brown meadow mat, organic  11.0  -2.0	NOTE: 8" hollow stem auger to target depth of 8.0" BGS / 0" MSL, then 3" macro core use for soil sampling  SB11-A_9.4-9.9  SB11-A_9.9-10.4
	ı	<u>.                                    </u>			Bottom of borehole at 11.0 feet.	

### **BORING NUMBER SB13-A**

CLIENT PPG		PROJECT NAME PPG Site 63
PROJECT NUMBER 151136		PROJECT LOCATION 1 Burma Rd. Jersey City, NJ
DATE STARTED 3/18/16	<b>COMPLETED</b> <u>3/18/16</u>	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 680517.2
NOTES		<b>EASTING</b> 612314.2

53-65 3-18-2016.GPJ O DEPTH O (ff)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:40 - \text{VIREFS01/COMMON/MORAN/PPG} - CHROMEISITE 63-65, FIELD DATABURMA GINT BORING LOGS/SITE 63-65 3-18-2016.GPJ		100			DGA	NOTE: 8" hollow stem auger to target depth of 8.5' BGS / -0.1' MSL, then 3" macro core use for soil sampling
GINT STD US LAB.GDT - 3/1/17 08:40 - NTREFS01/COMMONMORANWOR.	SS S01	100	PID = 0			
NTAL BH - 10.0			PID = 0 PID = 0	<u> </u>		SB13-A_9.5-10 SB13-A_10-10.5
ENVIRONME	SS S03		-	71 71 7 71 7	11.0 -2.0  Bottom of borehole at 11.0 feet.	

### **BORING NUMBER BR001 (AD006)** CB&I PAGE 1 OF 1 Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314 ENVIRONMENTAL BH - GINT STD US LAB GDT - 3/1/17 08:52 - NTREFS01/COMMONWORANWORANWORANIPPG - CHROMEISITE 63-65 LREPORTS/2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANBORING LOGS/SITE 63-65 11-30-2016, GP. CLIENT PPG PROJECT NAME PPG Site 63 PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Road, Jersey City, NJ DATE STARTED 11/11/16 GROUND ELEVATION 7.7 ft HOLE SIZE 2 inches \_\_\_\_ COMPLETED <u>11/11/16</u> **DRILLING CONTRACTOR** EPI **GROUND WATER LEVEL:** DRILLING METHOD Hollow Stem Auger 2" **DURING DRILLING** ---LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 680490.1 **NOTES** EASTING 612405.2 SAMPLE TYPE NUMBER ENVIRONMENTAL DATA (ppm) % GRAPHIC LOG DEPTH (ft) RECOVERY MATERIAL DESCRIPTION **REMARKS** 0.0 DGA 2.5 100 0. BR001\_4.2-4.7 Gray silty SAND, little coarse angular gravel, semi SS S01 dense, wet 5.0 Bottom of borehole at 5.0 feet.

### BORING NUMBER BR002 PAGE 1 OF 1

<b>B</b> T	B&I 00 Horizon Center renton, NJ 08691 elephone: 6095886328 ax: 6095886314
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GPJ.	CLIEN	IT PPG					PROJECT NAME PPG Site 63			
11-30-2016.GPJ		ECT NUMI					PROJECT LOCATION 1 Burma Roa			
					COMPLETED 11/11/16 GROUND ELEVATION 9 ft			HOLE SIZE 3 inches		
				<u>EPI</u>						
LOGS	NOTE		rreacy		CHEC	KED BY J. Alexander	NORTHING 680647.7 EASTING 612446.1			
RING										
ATION WORKPLANBO	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MAT	ERIAL DESCRIPTION		REMARKS	
ENVIRONMENTAL BH - GINT STD US LAB GDT - 3/1/17 08:52 - \ TREFS01\COMMONIMORAN\MORAN\PPG - CHROME\SITE 63-65\REPORTS\Z016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANBORING LOGS\SITE 63-65\REPORTS\Z016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANBORING LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAND LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAND LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAND LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAND LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAND LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATION LOGS\Z016-10 - SUPPLEMENTAL INVESTIGATI	0.0  2.5  5.0	SS S01	100			Blackish Brown fine moist  Brown fine SAND,	e SAND, some metal fill, semi dense, loose, moist  m of borehole at 5.0 feet.	5.5	BR002_3.5-4.0	

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### BORING NUMBER BR003 (CD005) PAGE 1 OF 1

CLIE	NT PPG	ax. 0000000				DDO IECT NAME DDO 984 69		
5		BER 151				PROJECT NAME PPG Site 63 PROJECT LOCATION 1 Burma		sev City NJ
SI .						GROUND ELEVATION 8.1 ft		
٠١	ING CONT					GROUND WATER LEVEL:		<u> </u>
)								
5						NORTHING 680309.2		
NOTE	s					<b>EASTING</b> 612191.1		
	ш	%	ᅱ					
O DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATE	RIAL DESCRIPTION		REMARKS
0.0				000	DGA			
2.5		100			DGA			
7.5	SS S01	100			Dark Brown sandy S gravel, semi dense,	ILT, some coarse subangular wet	0.0	BR003_8.1-8.6

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### BORING NUMBER BR004 (CD007) PAGE 1 OF 1

						PPO 1505 NAME   PPO 011   00				
1	NT <u>PPG</u>									
	ECT NUMI			COMP	LETED 11/0/16	PROJECT LOCATION 1 Burma				
1	LING CON			COMP		GROUND ELEVATION 8.3 ft GROUND WATER LEVEL:	н	JLE SIZE S INCHES		
· I				Geonrol		DURING DRILLING				
						NORTHING 680357.5				
	S			. 020.	<u> </u>	<b>EASTING</b> 612229.1				
O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATE	RIAL DESCRIPTION		REMARKS		
	SS S01	100				e fine subrounded gravel, dense,	1.1	BR004_7.3-7.8		
10.0	-				0.0		-1.7			

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### BORING NUMBER BR005 (FD002) PAGE 1 OF 1

PROJECT LUMBER   151136	,		ax: 6095886				PD0 (F0T )   11   12   12   12   12   12   12	00		
DATE STARTED   11/11/16	5		DED 151							
DRILLING METHOD   Track mounted Geoprobe	:I									
DRILING METHOD   Track mounted Geogrobe   DURING DRILLING	-							<u>ıı H</u>	OLE SIZE 3 INCHES	
Coccept BY K. Treacy	21									
NOTES	: I									
A SUBJECT OF SET	₹I				CHEC	NED BY J. Alexander				
DGA  DGA  1.5.0 SS SS SS SS SS SS SS SS SS SS SS SS SS	Non	1								
2.5 75 60 60 60 60 60 60 60 60 60 60 60 60 60	5	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)			RIAL DESCRIPTION		REMARKS	
10.0 -0.7	2.5	SS S01	75			4.6  Grayish Brown SILT  7.5  No Recovery, Rock		1.8		

### BORING NUMBER BR006 PAGE 1 OF 1

		ax: 60958863	14								
CLIENT											
PROJEC		BER <u>1511</u>						PROJECT LOCATION 1 Burma Road, Jersey City, NJ			
DATE S					PLETED 11	/11/16	_ GROUND EL	EVATION	8.9 ft	_ H	OLE SIZE 3 inches
DRILLIN	NG CONT	RACTOR	EPI				_ GROUND WA	ATER LEVE	EL:		
DRILLIN	NG METH	IOD Track	k mounted	Geopro	be		_ DURING D	RILLING _			
LOGGE	D BY K	. Treacy		CHEC	KED BY <u>J.</u>	Alexander	NORTHING	680406.	5		
NOTES							_ EASTING _	612158	.8		
CLIENT PROJECT DATE S DRILLIN LOGGE NOTES  1.0.0	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC	DGA		TERIAL DESCRI	PTION			REMARKS
2.5	SS S01	100			4.2	yish Brown SI	LT, trace shells,	trace orgar	nics, dense,	4.7	BR006_4.4-4.9
5.0		100			9.0 Blac	ck ASH, little f	ine sand, trace b	rick, dense	, wet	-0.1	

#### **BORING NUMBER BR007**

CBI	CB&I 200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314		BURII	NG NUN	PAGE 1 OF 1
CLIENT PPG			PROJECT NAME PPG Site 63		
PROJECT NUM	IBER <u>151136</u>		PROJECT LOCATION 1 Burma Road,	Jersey City, N	J
DATE STARTE	<b>D</b> 11/11/16	<b>COMPLETED</b> 11/11/16	GROUND ELEVATION 8.6 ft	HOLE SIZE	3 inches
DRILLING CON	TRACTOR EPI		GROUND WATER LEVEL:		

	BER <u>151136</u> D 11/11/16	COMPLETED 11		LOCATION <u>1 Burm</u> ELEVATION <u>8.6 ft</u>	_	
	TRACTOR <u>E</u>			NATER LEVEL:	52	
		nounted Geoprobe				
OGGED BY _	K. Treacy	CHECKED BY J				
OTES			EASTING	612177.1		
SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm) GRAPHIC LOG	MATERIAL DESCI	RIPTION		REMARKS
- - - 2.55	100		A			
- SS S01		6 0 4.1 Gra	nyish Brown sandy SILT, semi	i dense, moist	4.5	BR007_4.1-4.6
	-					
5.0	1		Bottom of borehole	at 5.0 feet.	3.6	

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# BORING NUMBER BR008 (BD010) PAGE 1 OF 1

	IT PPG									
		BER _151				PROJECT LOCATION 1 Burma Ro				
				_ COMPLI		GROUND ELEVATION 10 ft HOLE SIZE 3 inches				
		TRACTOR								
					)					
				_ CHECK	ED BY _J. Alexander	NORTHING 680702.2				
NOTE	s	1				<b>EASTING</b> 612519.5				
SAMPLE TYPE NUMBER NUMBER RECOVERY % ENVIRONMENTAL DATA (ppm)				GRAPHIC LOG	MATERIAL DESCRIPTION			REMARKS		
0.0				000	DGA					
		100								
	SS			6.7	Orange medium to c	coarse SAND, some fine rounded	3.3	BR008_6.7-7.2		
-	SS S01				gravel, semi dense,	wet				
7.5		100		7.3	Black ASH, semi der	nse, wet	2.7			
<u> </u>										
-				<b>3</b>						
L _										
10.0				10.	.0		0.0			

### **BORING NUMBER BR009**

5.8

CB&I 200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314	PAGE 1 OF 1
CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
<b>DATE STARTED</b> <u>11/10/16</u> <b>COMPLETED</b> <u>11/10/16</u>	GROUND ELEVATION 9.8 ft HOLE SIZE 3 inches
DRILLING CONTRACTOR EPI	GROUND WATER LEVEL:
DRILLING METHOD Track mounted Geoprobe	DURING DRILLING

DRILLI	ING METH	HOD Trac	k mounted	l Geopro	be	DURING DRILLING				
LOGGI	GGED BY K. Treacy CHECKED BY J. Alexander N						NORTHING 680654.1			
NOTES	S					<b>EASTING</b> 612376.1				
O DEPTH O (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG		ERIAL DESCRI	DESCRIPTION REMARKS			
2.5	SS 501	80			DGA  3.3  Black ASH, loose,	dry		6.5	BR009_3.3-3.8	

Bottom of borehole at 4.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:52 - \|\trefs01\COMMON\MORAN\PORAN\PPG - CHROME\SITE 63-65\Begin{equation} Reports\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN\BORING LOGS\SITE 63-65 11-30-2016. GPJ

# BORING NUMBER BR010 PAGE 1 OF 1

.GPJ	CLIEN	IT PPG					PROJECT NAME PPG Site 63				
-2016	PROJ	ECT NUM	BER <u>151</u>	136			PROJECT LOCATION 1 Burma Roa	d, Jers	sey City, NJ		
11-30							GROUND ELEVATION 10.4 ft	HO	HOLE SIZE 3 inches		
63-65		ING CON					GROUND WATER LEVEL:				
SITE						De					
OGS/		LOGGED BY K. Treacy				KED BY _J. Alexander					
INGL	NOTE	NOTES					EASTING 612025.8				
SATION WORKPLANBOR	SAMPLE TYPE NUMBER NUMBER RECOVERY % ENVIRONMENTAL DATA (ppm)				GRAPHIC LOG				REMARKS		
116-10 - SUPPLEMENTAL INVESTIG						.8 Grayish Brown me	8.6	BR010_1.9-2.4			
RTS\20	25	SS S01				trace shells, semi	dense, moist		_		
REPC	2.5										
33-65					3	.0		7.4			
SITE (						dense, moist	medium sand, little metal fill, semi				
ROME											
3 - CH					4	.0 Gravish Brown san	dy SILT, little metal fill, little green silt	6.4			
AN/PPC						lenses, semi dense	e, moist				
IMOR											
ORAN	5.0					.0 Botto	m of borehole at 5.0 feet.	5.4			
ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:52 - NTREFS01/COMMONIWORANIMORANIPPG - CHROMEISITE 63-65 REPORTS'2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANIBORING LOGSISITE 63-65 11-30-2016. GPJ											
EN											

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### BORING NUMBER PPG63/65\_SW119 PAGE 1 OF 1

(i)	··	T PPG					PROJECT NAME PPG Site 63 PROJECT LOCATION 1 Burma Road, Jersey City, NJ				
<b>P</b> 2016	ROJ	ECT NUMI	BER _151	136							
<u>م</u>	<b>DATE STARTED</b> <u>11/9/16</u> <b>COMPLETED</b> <u>11/9/16</u>					LETED 11/9/16	GROUND ELEVATION 10.6 ft	н	OLE SIZE 3 inches		
- 65 1	RILL	ING CONT	<b>TRACTOR</b>	EPI			DURING DRILLING				
D E 63				k mounted	l Geoprol						
SISIT						KED BY _J. Alexander					
	OTE					<u> </u>	<b>EASTING</b> 612029.6				
SN							<u> </u>				
ATION WORKPLAN/BOF	O DEFIN	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MAT	ERIAL DESCRIPTION	REMARKS			
- SUPPLEMENTAL INVESTIGA	-					DGA	e SAND, some black ash, little roots,	9.1	PPG63/65_SW119_1.6-2.1		
2016-10	_	SS S01				semi dense, moist	O OAND, Some black ash, little roots,		11 000/00_0W110_1.0 2.1		
\\MORAN\PPG - CHROME\SITE 63-65\_REF	2.5		80			2.2 Grayish Brown coa gravel, semi dense	rsee SAND, little medium subangular , moist	8.4			
NA H	5.0				5	_	m of borehole at 5.0 feet.	5.6			
ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \"TREFS01\COMMONIM											

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### BORING NUMBER PPG63/65\_SW25R2 PAGE 1 OF 1

9 C		T PPG					PROJECT NAME PPG Site 63					
P-201	ROJ	ECT NUM	BER _151	136			PROJECT LOCATION 1 Burma Road, Jersey City, NJ					
D/	<b>DATE STARTED</b> 11/22/16 <b>COMPLETED</b> 11/22/16					LETED 11/22/16	GROUND ELEVATION 9.3 ft	H	OLE SIZE 2 inches			
D   92	RILL	ING CON	TRACTOR	EPI			_ GROUND WATER LEVEL:					
[일 ] [일 ]	RILL	ING METI	HOD Holle	ow Stem A	uger 2"							
ISISI LO	LOGGED BY K. Treacy CHECKED BY J. Alexander											
N E	OTE						<b>EASTING</b> 612561.7					
N O	(#) 0.0	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG		ERIAL DESCRIPTION		REMARKS			
ZE C					500	DGA						
NVE L	_				200	0.5		8.8				
<u> </u>						Dark Brown fine to coarse angular gra	medium SAND, some roots, some					
MEN.	_					oodioc diigalal gid	(Vel, 1000e, dry					
띪												
-S-	-											
10												
S\201	-											
S ST	2.5							6.8				
							e SAND, little ash, loose, dry					
3-65												
TE 63												
EISI_												
RON NO												
하	_											
\PPG									PPG63/65_SW25R2_4.3-4.8			
A P	-	SS S01										
NWW F	5.0					5.0		4.3				
AORA -	<i>,</i> .υ		1		1,1111111		m of borehole at 5.0 feet.	4.3	<u>I</u>			
01/0												
08:52												
1/17 (												
T - 3/												
3.GD												
SLA												
ë E												
NTS												
- G												
무												
ENT												
ONM												
ENVIRONMENTAL BH - GINT STD US LAB,GDT - 3/1/17 08:52 - \TREFS01\COMM												

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### BORING NUMBER PPG63/65\_SW93 PAGE 1 OF 1

GPJ	CLIENT PPG						PROJECT NAME PPG Site 63				
2016.	PROJ	ECT NUMI					PROJECT LOCATION 1 Burma Ro	ad, Jers	sey City, NJ		
1-30-	DATE STARTED 11/10/16 COMPLETED					PLETED _ 11/10/16	GROUND ELEVATION 11.3 ft	н	OLE SIZE 3 inches		
-65 1	DRILL	ING CONT	RACTOR	EPI			GROUND WATER LEVEL:				
TE 63	DRILL	ING METH	HOD Trac	ck mounted			_ DURING DRILLING				
SS/SI	LOGGED BY K. Treacy				CHEC	KED BY J. Alexander					
3 LOC	NOTE	s					<b>EASTING</b> 612337.4				
ORIN											
ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - "ITREFS01/COMMON/MORAN/MORAN/MORAN/MORAN/MORAN/FG - CHROME/SITE 63-65_REPORTS/2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN/BORING LOGS/SITE 63-65 11-30-2016.GPJ	O DEPTH O (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC	MATERIAL DESCRIPTION			REMARKS		
ESTIG					0.00	0.3 DGA	SAND some medium sub angular	11.1	PPG63/65_SW93_0.3-0.8		
INVE		SS S01				gravel, loose, dry	e SAND, some medium sub angular		11 000,00_01100_0.0 0.0		
ENTAI											
LEME											
SUPP						1.5		9.8			
-10 -	7-101:1					Gray fine SAND, lit	ttle fine rounded gravel, loose, dry				
3/2016	1										
ORTS	2.5		400								
REP	100										
3-65						3.0	5 0 A N D	8.3			
SITE 6							fine SAND, loose, dry				
)ME\						3.5 Black fine ASH, loc	ose, dry	7.8			
CHRC						•					
PG-					3						
RAN/P											
NMOF											
ORAN	5.0					5.0 Bottoi	m of borehole at 5.0 feet.	6.3			
N/M(						201101	0. 50. 0.10.0 0. 0.0 1.00.				
OMMC											
01/C											
REFS											
2 - \\T											
08:5											
3/1/17											
DT - 3											
AB.G											
NS L											
TSTD											
- GIN											
L BH.											
ENTA											
ONME											
ENVIR											

### **BORING NUMBER SWR001**

	BI	CB&I 200 Horizon C Trenton, NJ 00 Telephone: 60 Fax: 6095886	3691 095886328				BOR	ING I	PAGE 1 OF 1	
PROJ DATE	STARTE	MBER <u>151</u> ED <u>11/9/16</u>	136	COMPLE	TED 11/9/16	PROJECT LO	CATION <u>1 Burma R</u> EVATION <u>11.5 ft</u>		sey City, NJ  OLE SIZE _3 inches	
DRILI LOGO	LING MET	THOD Trac	ck mounted	d Geoprobe		GROUND WATER LEVEL:  DURING DRILLING  NORTHING680312.8  EASTING612010.3				
	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MAT	ERIAL DESCRI			REMARKS	
2.5	SS S01	100		4.0 4.0	Light Brown sandy	netal fill, some f	ine sand, loose, dry	9.3 7.5	SWR001_2.5-3.0	
INCONNIENTAL BH - GINT STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/17 06.32 - NI REF 30/1/CONNINCONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/CONNICATOR CONTROLL STD OS LAB. 3D T - 5/1/CONTROLL STD					Bottor	n of borehole at	5.U feet.			

### BORING NUMBER SWR002 PAGE 1 OF 1

CB&I 200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314
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16.GPJ		NT PPG				PROJECT LOCATION 1 Purms Read Jarrey City N.L.					
-30-20	PROJECT NUMBER         151136           DATE STARTED         11/9/16         COMPLETED         11/9/16										
-65 11			TRACTOR			1110			<u> </u>		
TE 63	DRILL	ING METH	HOD Trac	k mounted		be	DUDING DDU LING				
GS\SI	LOGG	LOGGED BY K. Treacy			CHEC	KED BY J. Alexander	NORTHING 680345.7				
NG LC	NOTE	s					<b>EASTING</b> 612042.9				
ATION WORKPLANBORI	SAMPLE TYPE NUMBER NUMBER NUMBER GRAPHIC LOG LOG						ERIAL DESCRIPTION		REMARKS		
ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:52 - \"ITREFS01\COMMONIMORANIMORANIMORANIPPG - CHROMEISITE 63-65\"_REPORTS\"\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANIBORING LOGS\"\SITE 63-65 11-30-2016. GP\"	2.5 	SS S01	100			Grayish Brown silty gravel, semi dense  2.5  2.7  Sandstone Gravel, Medium Brown fine semi dense, moist  4.0  Light Brown sandy dense, moist		9.0 8.0 7.8 6.5			
ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\\											

# BORING NUMBER SWR003 PAGE 1 OF 1

	CBI	CB&I 200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314		
GЫ	CLIENT PPG	<b>}</b>	PROJECT NAME F	PG

Ð.	CLIENT PPG						PROJECT NAME PPG Site 63				
-2016	PROJ	ECT NUMI	BER _151	136							
1-30-	DATE	STARTED	11/9/16		COMI	PLETED 11/9/16	GROUND ELEVATION 9.4 ft HOLE SIZE 3 inches				
-65 1	DRILL	ING CON	TRACTOR	EPI							
re 63	DRILL	ING METH	HOD Trac	k mounted	d Geopro	bbe	DURING DRILLING				
S\SI	LOGG	ED BY K	C. Treacy		CHEC	CKED BY J. Alexander					
LOG	NOTE		-				<b>EASTING</b> 612078.4				
RING							<u> </u>				
ATION WORKPLANBO	SAMPLE TYPE NUMBER NUMBER SAMPLE TYPE NUMBER SAMPLE TYPE NUMBER COVERY % GRAPHIC LOG						ERIAL DESCRIPTION		REMARKS		
ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:52 - \TREFS01\COMMONIMORANIMORANIMORANIMORANIPG - CHROMEISITE 63-66 I_REPORTS\2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANIBORING LOGS\SITE 63-66 11-30-2016\GR		SS S01	100			2.5  Black metal subanç moist  4.0	gular FILL, some black ash, loose, reen fine sand lenses, little medium nse, moist	6.9 5.4	SWR003_2.5-3.0		
MOR					<u> </u>	Bottor	n of borehole at 5.0 feet.				
WIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON											

# BORING NUMBER SWR004 PAGE 1 OF 1

<b>B</b> T	B&I 00 Horizon Center renton, NJ 08691 elephone: 6095886328 ax: 6095886314
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를 CLI	ENT PPG					PROJECT NAME PPG Site 63 PROJECT LOCATION 1 Burma Road, Jersey City, NJ				
2016. Substitution	OJECT NUM	IBER <u>15</u> 11								
MAT DAT	TE STARTEI	<b>D</b> 11/9/16		COME	PLETED 11/9/16	GROUND ELEVATION 9.1 ft				
F DRI	ILLING CON	TRACTOR	EPI			GROUND WATER LEVEL:				
<sup>8</sup> □ DRI	ILLING MET	HOD Trac	k mounted	l Geopro	obe					
ISS LOC	LOGGED BY K. Treacy				KED BY J. Alexander	NORTHING 680400.3				
∂ NO.	TES					<b>EASTING</b> 612101.4				
SATION WORKPLANBORIN O DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG		ERIAL DESCRIPTION		REMARKS		
ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - NTREFS01/COMMONWORANIPPG - CHROMEISITE 63-65/, REPORTS22016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANIBORING LOGSISITE 63-65 11-30-2016.GR.	SS S01	100			Grayish Brown fine gravel, semi dense	SAND, some silt, little fine rounded, moist	7.1 5.6	SWR004_2.5-3.0		
//RONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 UB:52 - 1/1 KEF-5UT/COMMYON WOR.					Bottor	n of borehole at 5.0 feet.				

# BORING NUMBER SWR005 PAGE 1 OF 1

GPJ	CLIENT PPG						PROJECT NAME PPG Site 63				
.2016.	PROJ	ECT NUM	BER _151	136							
11-30	DATE	STARTED	11/9/16		COMF	PLETED 11/9/16	GROUND ELEVATION 9.2 ft	OLE SIZE 3 inches			
3-65 1	DRILL	ING CON	TRACTOR	EPI			_ GROUND WATER LEVEL:				
TE 60	DRILL	ING METH	HOD Trac	k mounted	l Geopro	be	DURING DRILLING				
3S\SI	LOGG	LOGGED BY K. Treacy			CHEC	KED BY J. Alexander	NORTHING 680425.4				
3 LO	NOTE	s					<b>EASTING</b> 612131.5				
ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:52 - NTREFS01/COMMONIMORANIMORANIMORANIMOPG - CHROMEISITE 63-65 I. REPORTS/2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANIBORING LOGS/SITE 63-65 11-30-2016.	10 DEPTH OF DEPTH OF ORDER SAMPLE TYPE NUMBER SAMPLE				SON ON ON ORAPHIC CRAPHIC LOG	Gray fine SAND, li	2 SWR005_2.5-3.0				
RANIMORANIPPG - CHROMEISITE 6	   5.0					4.0 Gray SILT, trace s	some ash, semi dense, moist hells, dense, moist	5.2			
IMOF						Botto	m of borehole at 5.0 feet.				
NVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \( \text{TREFS01\COMMON} \)											

### BORING NUMBER SWR006 PAGE 1 OF 1

CB&I 200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314
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.GPJ	CLIEN	NT PPG					PROJECT NAME PPG Site 63				
-2016	PROJ	ECT NUM	BER <u>151</u>	136							
11-30	DATE						GROUND ELEVATION 9.3 ft	но	OLE SIZE 3 inches		
33-65	DRILL						_ GROUND WATER LEVEL:				
SITE (	DRILL					oe					
3\S9C	LOGG						<b>NORTHING</b> 680457.7				
NGL	NOTE	S	T	Ī			<b>EASTING</b> 612157.5				
ATION WORKPLANBORI	SAMPLE TYPE NUMBER NUMBER RECOVERY % ENVIRONMENTAL DATA (ppm)			ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MAT	TERIAL DESCRIPTION		REMARKS		
ENVIRONMENTAL BH - GINT STD US LAB GDT - 3/1/17 08:52 - "ITREFS01/COMMON/MORAN/MORAN/MORAN/MORAN/STE 63-65" REPORTS/2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLAN/BORNG LOGS/SITE 63-65 11-30-2016.GPJ		SS S01	100			Brownish Gray me gravel, semi dense	7.3 5.8	SWR006_2.5-3.0			
VVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\M											

### BORING NUMBER SWR007 PAGE 1 OF 1

	B	CB&I 200 Horizon Ce Trenton, NJ 08 Telephone: 60	691				BOF	KING I	PAGE 1 OF 1		
E CLIEN	NT PPG	Fax: 60958863	314			PROJECT NAME PPG Site 63					
ROJ	ECT NUM	<b>IBER</b> _151′	136			PROJECT LO	CATION 1 Burma	Road, Jers	sey City, NJ		
일 DATE	STARTE	<b>D</b> 11/9/16		COMPLE	ETED <u>11/9/16</u>	GROUND ELE	VATION 9.4 ft	Н			
÷  8  DRILI		TRACTOR						-	-		
DDILL											
									_		
တ္တု LOGO		K. Treacy		CHECKE	ED BY J. Alexander		680491.4				
NOTE	<u> </u>					_ EASTING	612191.2				
O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MAT	ERIAL DESCRIF	PTION		REMARKS		
-ROMEISTE 63-65/, REPORTSIZO16-10 - SUPPLEMENTAL INVESTIGA	DGA  DGA  I.5  Dark Brown SILT, li							7.9	SWR007_2.5-3.0		
40NMORANIMORANIPPG - C. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.				5.0	Botto	m of borehole at	5.0 feet.	4.4			
CLE PORTISE GARGOT - 37/17 08:52 - 1/1 KEF-S01/COMMONWORKANIPIOS - CHROMENIAL BA - GINTS ID US LAB. GD 1 - 37/17 08:52 - 1/1 KEF-S01/COMMONWORKANIPIOS - CHROMENIAL BA - GINTS ID US LAB. GD 1 - 37/17 08:52 - 1/1 KEF-S01/COMMONWORKANIPIOS - CHROMENIAL BA -											

### **BORING NUMBER SWR008**

200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314			PAGE 1 OF 1
CLIENT PPG		PROJECT NAME PPG Site 63	
PROJECT NUMBER 151136		PROJECT LOCATION 1 Burma Roa	ad, Jersey City, NJ
DATE STARTED 11/10/16	<b>COMPLETED</b> <u>11/10/16</u>	GROUND ELEVATION 11.5 ft	HOLE SIZE 3 inches
DRILLING CONTRACTOR EPI		_ GROUND WATER LEVEL:	
DRILLING METHOD Track mounted	Geoprobe	DURING DRILLING	
LOGGED BY K Treacy	CHECKED BY   Alexander	NORTHING 680655.7	

LOGS\SITE 63-65 11-30-2016.	PROJI DATE DRILL DRILL DGG	STARTED ING CONT ING METH ED BY <u>K</u>	11/10/1    TRACTOR   Trace	136 6 EPI ck mounted	<b>COMI</b> Geopro	PLETED         11/10/16         GROUND           be         DURING           KED BY         J. Alexander         NORTHING	LOCATION 1 Burma Road ELEVATION 11.5 ft WATER LEVEL:	_ Н	
ATION WORKPLANBORIP	0.0 DEPTH 0.0 (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESC	ERIAL DESCRIPTION		REMARKS
3 - CHROME\SITE 63-65\(\text{REPORTS\(\text{2016-10}\) - SUPPLEMENTAL INVESTIGATION WORKPLAN\(\text{BORING}\)	- - - 2.5	SS S01	80			DGA  O.7  Grayish Brown fine to medium S gravel, loose, dry  3.2  Quartzite COBBLE  NO RECOVERY  4.0  Bottom of borehole	SAND, trace fine rounded	8.3 8.0 7.5	SWR008_2.5-3.0

Bottom of borehole at 4.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \TREFS01\COMMON\MORAN\MORAN\PPG - CHROME\STE 63-65\REPORTS\2016-10 -

CB&I

#### **BORING NUMBER SWR009**

200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314	PAGE 1 OF 1
CLIENT PPG	PROJECT NAME PPG Site 63
PROJECT NUMBER 151136	PROJECT LOCATION 1 Burma Road, Jersey City, NJ
DATE STARTED 11/10/16 COMPLETE	D
DRILLING CONTRACTOR EPI	GROUND WATER LEVEL:
DRILLING METHOD Track mounted Geoprobe	DURING DRILLING
LOGGED BY K. Treacy CHECKED B	Y J. Alexander NORTHING 680714.6
NOTES	<b>EASTING</b> 612499.9

CLIEN	IT PPG					PROJECT NAME PPG Site 63					
PROJ	ECT NUM	BER <u>151</u>	136			PROJECT LOCATION 1 Burma Road, Jersey City, NJ					
									HOLE SIZE 3 inches		
							TER LEVEL:				
							' <u>-</u>				
		C. Treacy		CHEC	CKED BY J. Alexander						
NOTE	s	T	T			_ EASTING	612499.9				
0.0 DEPTH 0.0 (#)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC		TERIAL DESCRIF	PTION		REMARKS		
-	SS S01					andy SILT, semi d	ense, dry	9.7	SWR009_1-1.5		
- 2.5 - -		100			Light Orange fine		AND, loose, moist				
_					4.5	•		6.2			
					_	SAND, loose, mois	st				
5.0				<u> </u>		om of borehole at	5.0 feet.	5.7			
	PROJ DATE DRILL LOGG NOTE	DRILLING CON' DRILLING METH LOGGED BY K NOTES  WANTE TABLE  SS S01  2.5	PROJECT NUMBER 151 DATE STARTED 11/10/1 PRILLING CONTRACTOR PRILLING METHOD Trace OGGED BY K. Treacy NOTES WARREN  SS 901  2.5 100	PROJECT NUMBER 151136  DATE STARTED 11/10/16  DRILLING CONTRACTOR EPI DRILLING METHOD Track mounted LOGGED BY K. Treacy NOTES  WICH (##)  SS S01  2.5  100	PROJECT NUMBER 151136  DATE STARTED 11/10/16 COMI DRILLING CONTRACTOR EPI DRILLING METHOD Track mounted Geopre LOGGED BY K. Treacy NOTES  BY CHECK  BY CHECK  CHECK	PROJECT NUMBER 151136  DATE STARTED 11/10/16 COMPLETED 11/10/16  PRILLING CONTRACTOR EPI  DRILLING METHOD Track mounted Geoprobe  COGGED BY K. Treacy CHECKED BY J. Alexander  NOTES  THE HAND WAS SOIL TO THE TRACK	PROJECT NUMBER 151136  PROJECT NUMBER 151136  PROJECT LO GROUND ELE GROUND WAY DRILLING CONTRACTOR EPI  DRILLING METHOD Track mounted Geoprobe  LOGGED BY K. Treacy  NOTES  DHAW BY BY BY BY BY BY BY BY BY BY BY BY BY	PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma R DATE STARTED 11/10/16 COMPLETED 11/10/16 GROUND ELEVATION 10.7 ft  PRILLING CONTRACTOR EPI  PRILLING METHOD Track mounted Geoprobe  COGGED BY K. Treacy  CHECKED BY J. Alexander  NORTHING 680714.6  EASTING 612499.9  MATERIAL DESCRIPTION  BY AND AND AND AND AND AND AND AND AND AND	PROJECT NUMBER 151136 PROJECT LOCATION 1 Burma Road, Jers DATE STARTED 11/10/16 COMPLETED 11/10/16 GROUND ELEVATION 10.7 ft HORIZON 10.7 ft HO		

### BORING NUMBER SWR010 PAGE 1 OF 1

	BI	CB&I 200 Horizon C Trenton, NJ 08 Telephone: 60 Fax: 6095886	8691 095886328			BORII	NG I	NUMBER SWR010 PAGE 1 OF 1			
CLIE	NT PPG					PROJECT NAME PPG Site 63					
PRO	JECT NUM	BER _151	136			PROJECT LOCATION 1 Burma Roa	PROJECT LOCATION 1 Burma Road, Jersey City, NJ				
DAT	E STARTE	11/10/1	6	COMF	PLETED 11/10/16	GROUND ELEVATION 9.9 ft	H	OLE SIZE 3 inches			
3						GROUND WATER LEVEL:					
<u> </u>	LING METI	-				DURING DRILLING					
ΥI		C. Treacy		_ CHEC	KED BY J. Alexander						
NOT	ES	ı	1			<b>EASTING</b> 612537.3					
O DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATI	ERIAL DESCRIPTION		REMARKS			
2.5	- SS S01	100			dry	some medium rounded gravel, loose,	8.9 7.4	- SWRUIU_1.0-1.5			

Bottom of borehole at 3.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB, GDT - 3/1/17 08:52 - \\TREFS01\COMMON\MORAN\MORAN\PPG - CHROME\S\TE 63-65\REF

### **BORING NUMBER SWR011**

	RI	CB&I 200 Horizon Ce Trenton, NJ 08 Telephone: 60	691				ВОН	RING	NUMBER SWR011 PAGE 1 OF 1	
G. CLIE		Fax: 60958863	314							
PRO	PROJECT NUMBER 151136						CATION 1 Burma F	Road, Jers	sey City, NJ	
PATE	STARTE	11/10/1	6	COMPL	ETED <u>11/10/16</u>	_ GROUND ELE	VATION 8.7 ft	но	OLE SIZE 3 inches	
န္ခြ DRIL	LING CON	TRACTOR	EPI			_ GROUND WAT	TER LEVEL:			
ပ္ပု DRILI	LING MET	HOD Trac	k mounted				ILLING			
S LOG	GED BY	K. Treacy		CHECK	ED BY J. Alexander					
S NOTE						EASTING	612563.5			
ATION WORKPLANBORING O DEPTH O (#)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MAT	TERIAL DESCRIP	TION		REMARKS	
IENTAL INVESTIGA				000	DGA			7.7	SWR011 1-1.5	
S/2016-10 - SUPPLEN	\$\$ \$01				Brownish Black fin gravel, trace roots		angular coarse		ownert_r is	
OME\SITE 63-65\_REPORTS	_	100		2.5	Black Metal FILL,	little fine sand, sei	mi dense, dry	6.2		
호				4.0	)	an of boundaries of A	1.0.5	4.7		
ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:52 - NTREFSOTICOMMONWORANWORANWORANWORANWORANWORANWORANWOR					Botto	m of borehole at 4	4.0 feet.	4./		

# BORING NUMBER SWR013 PAGE 1 OF 1

CB&I 200 Horizon Center Trenton, NJ 08691 Telephone: 6095886328 Fax: 6095886314
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GPJ	CLIENT PPG						PROJECT NAME PPG Site 63			
-2016.	PROJ	ECT NUM	BER _151							
1-30						PLETED 11/10/16	GROUND ELEVATION 10.3 ft HOLE SIZE 3 inches			
3-65										
TE 6	DRILL	ING MET	HOD Trac	k mounted	l Geopro	be	DURING DRILLING			
GS/S	LOGG	ED BY _k	C. Treacy		CHEC	KED BY J. Alexander	NORTHING 680705.5			
10 L0	NOTE	s					<b>EASTING</b> 612500.6			
SATION WORKPLANBORIN	SAMPLE TYPE NUMBER RECOVERY % ENVIRONMENTAL DATA (ppm)						ERIAL DESCRIPTION		REMARKS	
EMENTAL INVESTIG	· -					Dark Brown coarse	e SAND, some fine subangular gravel,	9.3	SWR013_1-1.5	
TS\2016-10 - SUPPI	SS   S01					little rubber, semi o				
3 - CHROME\SITE 63-65\ REPOR						fine angular gravel  4.0  Brown sandy SILT				
AN/MORAN/PP	5.0					5.0	,	5.3		
MOR						Botto	m of borehole at 5.0 feet.			
ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - NTREFS01/COMMONIMORANIMORANIPPG - CHROMEISITE 63-65_REPORTS/2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANIBORING LOGSISITE 63-65 11-30-2016.GPJ										

### BORING NUMBER SWR017 PAGE 1 OF 1

Trentor Teleph	orizon Center n, NJ 08691 one: 6095886328 095886314
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.GPJ	CLIEN	IT PPG					PROJECT LOCATION 1 Burma Road, Jersey City, NJ GROUND ELEVATION 8.3 ft HOLE SIZE 2 inches GROUND WATER LEVEL:					
-2016												
11-30						TED <u>11/11/16</u>						
63-65			TRACTOR									
SITE												
OGS\						D BY J. Alexander						
ING L	NOTE	S					<b>EASTING</b> 612215	NG 612215				
ATION WORKPLANBOR	OEPTH O (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MAT	ERIAL DESCRIPTION		REMARKS			
STIG/					0.3	3/4" Gravel		8.1				
INVE					0.5	DGA	AND	7.8				
016-10 - SUPPLEMENTAL I	Dark Brown silty SAI semi dense, moist						AND, some coarse subangular gravel,	6.3				
RTS/2			100			Black silty SAND, I staining, odor, loos	ittle fine angular gravel, petroleum					
EPOF	2.5					J. J. J. J. J. J. J. J. J. J. J. J. J. J	o,		SWR017_2.5-3.0			
65\_R		SS S01			3.0			5.3				
TE 63-		<u>I</u>	l l		1. 1. 1. 10.0	Bottor	m of borehole at 3.0 feet.	0.0				
ENVIRONMENTAL BH - GINT STD US LAB. GDT - 3/1/17 08:52 - NTREFS01/COMMONIWORANIMORANIPPG - CHROMEISITE 63-65 LREPORTS/2016-10 - SUPPLEMENTAL INVESTIGATION WORKPLANIBORING LOGS/SITE 63-65 11-30-2016.												
NVIRONME												

### TEST PIT NUMBER TP001 PAGE 1 OF 1

		CB&I 200 Horizon C Frenton, NJ 08 Felephone: 60 Fax: 6095886	3691 095886328			TES	ST PI	T NUMBER TP001 PAGE 1 OF 1	
CLIEN	NT PPG					PROJECT NAME PPG Site 63			
PROJ	ECT NUM	BER <u>151</u>	136			PROJECT LOCATION 1 Burma R	oad, Jer	sey City, NJ	
DATE	STARTE	11/10/1	6	COMI	PLETED 11/10/16	GROUND ELEVATION 12.4 ft	TI	EST PIT SIZE 36 x 36 inches	
EXCA	VATION C	ONTRACT	TOR EPI			GROUND WATER LEVEL:			
EXCA	VATION N	IETHOD _	Test Pit			DURING EXCAVATION			
LOGG	SED BY <u>k</u>	C. Treacy		CHEC	KED BY J. Alexander	NORTHING 680315.8			
NOTE	S Test P	it				<b>EASTING</b> 612025.8			
O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATE	ERIAL DESCRIPTION		REMARKS	
5				XXX	0.2 ASPHALT millings,		12.2		
					Gray coarse milling	s and FILL, loose, dry	11.7	TP_SW01_ 0.5-1.0	
					Dark Brown fine SA subangular gravel, I 1.5	ND, little shells, little coarse loose, dry	10.9	TP-SW02_1.0-1.5, TP-SW03_1.0-1.5, TP-SW04_1.0-1.5	

Bottom of test pit at 1.5 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/1/17 08:52 - \\TREFS01\COMMON\WORAN\WORAN\WORAN\PG - CHROME\SITE 63-65\REPORTS\2016-10 - SUPPL