

## **Attachment 5**

### **Boring Logs**


# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber Inc.  
 DRILLING METHOD Hollow Stem Auger  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE DURING DRILLING 8.0'  
 WELL LEVEL N/A  
 NORTHING 876867.98  
 EASTING 2161935.24

BORING NO. PPG4-B55  
 G.S. ELEV. 8.83  
 CASING ELEV. N/A  
 START DATE 8/24/92  
 FINISH DATE 8/24/92

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID/FID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
0.5		80	0/0	0180B55001	Brown coarse to fine SAND and SILT, little coarse to fine Gravel, trace to little cement, dry. (SM)	482/9.70J		(FILL)	
1.5		52	0/0	0180B55002	Brown coarse to fine (+) SAND and SILT, trace coarse to fine Gravel, trace Roots and Coal, dry. (SP-SM)				
0.4		58	0/0	0180B55003	Same as above, trace Glass, trace fine Gravel.	873/9.50J			
0.8		28	0/0	0180B55004	Gray/Reddish brown coarse to fine SAND, little medium to fine Gravel, trace Silt, trace Shells, very wet. (SP)			▼	
2.0		12	0/0		Same as above.				
2.0		18	0/0	0180B55005					
2.0		11	0/0		Same as above.				
2.0		12	0/0	0180B55008					
					End of Boring 12.0 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>DURING DRILLING 4.0'</u>	BORING NO. <u>PP34-B58</u>
PROJECT LOCATION <u>Site 018/112A, Jersey City</u>	WELL LEVEL <u>N/A</u>	G.S. ELEV. <u>8.19</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	NORTHING <u>676972.02</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	EASTING <u>2161855.14</u>	START DATE <u>8/21/92</u>
LOGGED BY <u>Don Wendt</u>		FINISH DATE <u>8/21/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
5	0.8	18	0.8	0180B58001	Brown coarse to fine SAND, little coarse to fine Gravel, trace Silt, moist. (SP)	29.1J/7.00		(FILL)	5
	1.8	18	0.2	0180B58002	Same as above, trace Brick.				
	2.0	20		0180B58003	Gray coarse to fine SAND, wet. (SP)				
	1.2	20	0.2	0180B58004	Same as above, trace fine Gravel, trace fine Shells, very wet.	32.1J/8.20U			
	2.0	7	0	0180B58005	Same as above, color change to gray/red, no Gravel, very wet.				
	2.0	12	1.0	0180B58006	Same as above, color change to Gray brown.	25.9J/8.20U			
	1.0	8	0.4	0180B58007	Same as above.				
	1.2	9	0	0180B58008	Gray black organic CLAY, some Silt (moderate to low plastic), wet. (OH)	25.3J/8.00U			
	1.7	2	0.2	0180B58009	Same as above, moist to dry.				
	1.8	3	0	0180B58010	Same as above.	21.6J/7.50U			
	1.0	2	0	0180B58011	Same as above.	22.5J/8.40U			
	1.0	2	0	0180B58012	Bright brown MEADOW MAT. (PT)	22.3J/13.7U			

- NOTES:
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  4. NA - Not Analyzed
  5. R - Rejected
  6. J - Estimated
  7. U - Not Detected

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber Inc.  
 DRILLING METHOD Hollow Stem Auger  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE  
 DURING DRILLING 4.0'  
 WELL LEVEL N/A  
 NORTHING 676972.02  
 EASTING 2161855.14

BORING NO. PPG4-B55  
 G.S. ELEV. 8.19  
 CASING ELEV. N/A  
 START DATE 8/21/92  
 FINISH DATE 8/21/92

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.0	2	1.0	0180B56013	Same as above.				
		3							
		4			End of Boring at 22.0 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B56</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>7.0'</u>	G.S. ELEV. <u>8.05</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>877045.12</u>	START DATE <u>8/21/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161757.43</u>	FINISH DATE <u>8/21/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
5	1.0	14	0	0180B58001 0180B58002	Brown coarse to fine SAND, trace Silt, trace fine Gravel, trace Plant matter, moist. (SP)	1100J/11.0 383J/5.80U			
	0.1	17	0		Gray brown coarse to fine SAND, little coarse to fine Gravel, moist. (SP)				
		14	0	0180B58003	Same as above, No Gravel, moist.				
	1.4	11	0.8		Gray black coarse to fine SAND, trace Silt, trace coarse to fine Gravel, moist. (SP)			Reddish brown Silt top 1"	
	8			0180B58004		405J/8.00U		Petroleum Odor	5
	1.8	29	1.8	0180B58005	Reddish brown medium to fine SAND, trace fine Gravel, wet. (SP)				
		16		0180B58006	Gray coarse to fine SAND, little Shells, very wet. (SP)			▼ Petroleum Odor	
		18	0.8	0180B58007	Same as above.				
10	1.1	13	0.4		Gray black CLAY and SILT (low to moderately plastic), very wet. (OH)				10
	2			0180B58008					
	2				End of Boring 12.0 ft.				

**NOTES:**

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- 2. USCS Classification based on visual-manual procedures

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>6.0'</u>	BORING NO. <u>PPG4-B03</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>6.0'</u>	G.S. ELEV. <u>8.17</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>877087.66</u>	START DATE <u>8/20/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>216127.01</u>	FINISH DATE <u>8/20/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
1.8	19	0	0180B59001	Brown coarse to fine SAND, trace Brick, trace plant matter, moist. (SP)	332/14.2J			Piece of mica schist in bottom of spoon.	
1.8	18	0	0180B59002	Yellow brown coarse to fine SAND, trace roots, wet. (SP)					
1.8	15	0	0180B59003	Gray black SILT, trace Clay, moist. (OL)					
1.8	15	0	0180B59004	Gray brown to Gray to Gray black to Yellow brown coarse to fine SAND, trace Silt lenses, trace fine Gravel, moist. (SP)	442/8.30UJ				
1.2	4	0	0180B59005	Same as above, wet.					
1.2	4	0	0180B59105	Same as above, very wet.					
2.2	5	0	0180B59006	Red brown SILT, trace to some fine Sand, very wet. (ML)					
2.2	10	0	0180B59007	Gray coarse to fine SAND, trace shells, very wet. (SP)					
2.2	10	0	0180B59008	Same as above, trace gray black Clay bottom of spoon.					
1.1	7	0	0180B59009	Gray black CLAY, trace Silt (moderately plastic), moist. (OH)					
1.1	7	0	0180B59010	End of Boring 12.0 ft.					

- NOTES:
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  4. NA - Not Analyzed
  5. R - Rejected
  6. J - Estimated
  7. U - Not Detected

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B61</u>
PROJECT LOCATION <u>Site 018/112A, Jersey City</u>	DURING DRILLING <u>7.0'</u>	G.S. ELEV. <u>7.17</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>677121.72</u>	START DATE <u>8/20/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2181650.55</u>	FINISH DATE <u>8/20/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTO (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		0.7	0		Concrete top 4 inches.			(FILL)	
		9		0180B81001	Gray brown coarse to fine SAND, little coarse to fine Gravel, moist. (SP)	22.5/5.80UJ			
		14		0180B81002	Same as above, trace Wood.				
		0.8	0	0180B81003	Gray brown organic CLAY, trace Silt, moist. (OH)				
		5			Same as above.				
		2		0180B81004	Same as above.	39.7/20UJ			
5		1.8	0	0180B81005	Dark gray coarse to fine SAND, trace plant matter. (SP)	13.1/8.40UJ			5
		3		0180B81006	Gray black SILT and CLAY, trace plant matter. (OH)	24.1/8.40UJ			
		4		0180B81007	Same as above.				
		1.8	0.1	0180B81008	Reddish brown CLAY (moderately plastic), moist. (OH)				
		4		0180B81009	Gray coarse to fine SAND, very wet. (SP)				
		9		0180B81010	Gray black/red brown CLAY, some Silt (moderately plastic), moist. (OH)				
		1.5	0	0180B81011	Gray coarse to fine SAND, trace Shells. (SP)				
10		7		0180B81012	Gray black organic CLAY and SILT, trace fine to medium Sand lenses, (moderately plastic), moist. (OH)				10
		1.9	0		End of Boring 12.0 ft.				
		2							
		2							
15									15
20									20

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B74</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.3'</u>	G.S. ELEV. <u>9.24</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>876946.55</u>	START DATE <u>8/19/92</u>
LOGGED BY <u>Rich Feinberg</u>	EASTING <u>2161810.19</u>	FINISH DATE <u>8/19/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
				No Sample	Top 2 feet ASPHALT.				
	1.1	23	0	0180B74001 0180B74101	Red gray brown medium to fine SAND, trace fine Gravel, moist (1/2" piece of Gravel in sample), trace Asphalt.	18.2J/5.5U 18.7J/5.5U			
	1.8	13	0	0180B74002	Gray brown/brown gray coarse to fine SAND, trace Silt, trace fine Gravel, trace Shell fragments, wet.				
	1.2	7	0	0180B74003	Same as above, trace Plant matter, (medium sand), wet.	8.03J/8.2U			
	1.0	8	0	0180B74004	Gray fine SAND, trace Shell fragments, wet.			Petroleum Odor	
	1.4	8	0	0180B74005	Same as above				
		8			End of Boring 12.0 ft.				

**NOTES:**

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2. USCS Classification based on visual-manual procedures

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



# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B75</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>8.84</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676910.61</u>	START DATE <u>8/24/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161854.03</u>	FINISH DATE <u>9/9/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.3		0		Asphalt top 0.8'.		(FILL)		
	18			0180B75001	Brown coarse to fine SAND, some coarse to fine Gravel, trace Concrete, trace to some Asphalt, dry. (SP)	131/5.3UJ			
	61		0	0180B75002	Same as above.				
	0.3								
	55								
	78		0	0180B75003	Gray/dark gray to gray brown coarse to fine SAND, trace Silt, very wet. (SP)	131/11.2U			
5	34								5
	33		N/A	0180B75004	Same as above, trace medium to fine Gravel.			Boring stopped On 8/24/92 due to injury, hole offset 3 feet.	
	1.5								
	36								
	32		N/A	0180B75005	Same as above, trace Shells.				
	2.0								
10	12								10
	2.0		N/A	0180B75008	Same as above, trace gray black Clay bottom 1" of spoon.				
	7								
	8								
					End of Boring at 12.0 ft.				

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- NOTES:
1. Depths and Elevations in feet unless otherwise noted
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  3. N/A - Not Applicable
  4. NA - Not Analyzed
  5. R - Rejected
  6. J - Estimated
  7. U - Not Detected

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B77</u>
PROJECT LOCATION <u>Site 018/112A, Jersey City</u>	DURING DRILLING <u>6'</u>	G.S. ELEV. <u>9.37</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676899.56</u>	START DATE <u>8/19/92</u>
LOGGED BY <u>Rich Feinberg</u>	EASTING <u>2161797.27</u>	FINISH DATE <u>8/19/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	0.8	40	0	0180B77001	Dark brown SILT, some fine SAND, little asphalt, moist, trace fine Gravel, (piece 2" diameter Gravel). (MH-ML)	49.8J/5.4U	▨	(FILL)	
	0.8	22		0180B77002	Gray brown coarse to fine SAND. (SP-SW)	29.7J/5.3U			
	N/A	37	0	N/A	No Recovery.				
	0.8	53	0	0180B77003	Gray brown coarse to fine SAND, trace Shell fragments, moist. (SP-SW)	10.4J/5.9U			
5	1.5	17	0	0180B77004	Same as above, very wet, trace Silt. (SP-SW)			▼	
	2.0	13	0	0180B77005	Same as above, no Shell fragments, wet. (SP-SW)				
	0.8	12	0	0180B77006	Gray fine SAND, trace Shell fragments, wet. (SP-SW)				
10	0.8	18	0	0180B77007	Same as above.				10
		12							
		9			End of Boring 12.0 ft.				

**NOTES:**

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE DURING DRILLING <u>4.0'</u>	BORING NO. <u>PPG4-B78</u>
PROJECT LOCATION <u>Site 018/112A, Jersey City</u>	WELL LEVEL <u>N/A</u>	G.S. ELEV. <u>9.13</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	NORTHING <u>676828.47</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	EASTING <u>2161806.48</u>	START DATE <u>8/25/92</u>
LOGGED BY <u>Don Wendt</u>		FINISH DATE <u>8/25/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.0	88	0	0180B78001	Asphalt top 8 inches.		●	Chromite Ore Residue	
		131	0	0180B78002	Brown coarse to fine SAND and SILT, some Concrete, little Asphalt, little coarse to fine Gravel, dry. (SM)	525J/8.5	○		
	1.3	28	0	0180B78003	Black/red brown coarse to fine SAND, trace cement, trace Roots, moist to wet. (SP)	2090J/8.2U	○		
		88	0		Gray/Gray brown coarse SAND, trace fine Gravel, wet. (SW)	57.3J/5.7U	○		
5	1.5	18	0	0180B78004	Same as above, very wet.	132J/12.5U	○		5
		27	0		Same as above, trace Shells.		○		
	2.0	16	0	0180B78005	Same as above, trace medium Gravel.		○		
		24	0		Same as above, grading to medium to fine SAND.		○		
	2.0	7	0	0180B78006			○		
10		6	0				○		10
	1.8	4	0	0180B78007			○		
		3			End of Boring 12.0 ft.				

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**NOTES:**

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2. USCS Classification based on visual-manual procedures

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B79</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>9.55</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676777.28</u>	START DATE <u>8/25/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161883.30</u>	FINISH DATE <u>8/25/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH	
	0.3	100/0.2	0	0180B79001 0180B79101	Brown medium to fine SAND, some Silt, little coarse to fine Gravel, trace organic matter, dry. (SP-SW)	100J/5.4U 84.8J/13.3		Chromite Ore Residue Trace Chrome Nodules		
	1.0	60	0	0180B79002 0180B79003	Same as above, trace concrete. Red brown coarse to fine SAND, moist.	27.40J/18.4				
5	1.2	58	0	0180B79004	Gray brown coarse to fine SAND, little fine Gravel, trace shells, very wet. (SP)	138J/5.7U				5
	2.0	34	0	0180B79005	Same as above, Gray brown/Gray					
	2.0	17	0	0180B79006	Same as above.					
	2.0	24	0	0180B79008	Same as above.					
10	2.0	18	0	0180B79007	Same as above.					10
	2	8			End of Boring 12.0 ft.					

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Petroleum Odor

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber Inc.  
 DRILLING METHOD Hollow Stem Auger  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE  
 DURING DRILLING 4.0'  
 WELL LEVEL N/A  
 NORTHING 676758.81  
 EASTING 2161818.44

BORING NO. PPG4-B80  
 G.S. ELEV. 8.91  
 CASING ELEV. N/A  
 START DATE 8/25/92  
 FINISH DATE 8/25/92

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
0.3		150/3'	0	0160B80001	Brown coarse to fine SAND, trace coarse to fine Gravel, trace Roots, dry. (SP)	82.6J/5.6U			
1.8		41	0.2	0160B80002	Same as above.				
4.4		44	0	0160B80003	Gray brown coarse to fine SAND, trace fine Gravel, trace concrete, moist. (SP)				
5.0		24	0	0160B80004	Same as above, trace coarse to fine Gravel, trace shells, very wet.	128J/5.7U		▼ Chromite Ore Residue from 2.6-2.7'	5
7.4		24	0.2	0160B80005	Same as above.				
9.4		19	N/A	0160B80006	Same as above, Gray/Gray brown.				
10.0		12	N/A	N/A	No Recovery.				10
10.3		3	N/A	N/A					
12.0		4			End of Boring 12.0 ft.				

DRAFT

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B81</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>9.41</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676748.47</u>	START DATE <u>8/26/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161746.51</u>	FINISH DATE <u>8/26/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		1.2	0/0	0180B81001	Asphalt top 8 inches.			(FILL)	
		30				85/5.4UJ			
		1.0	0/0	0180B81002	Brown/Red brown coarse to fine SAND, some Silt, little coarse to fine Gravel, trace Asphalt, dry. (SP)				
		92							
		38			Same as above, trace fine Gravel, trace Shells, No asphalt, moist.				
		1.7	0/0	0180B81003	Same as above, color change to gray/gray brown, very wet. (SP)				
5		64				34.2/5.8UJ			5
		27							
		2.0	0/8	0180B81004	Same as above, grading to medium to fine SAND. (SP-SW)				
		39							
		13			Same as above.			Running Sands	
		2.0	0/8	0180B81005	Same as above.				
		37				38.7/5.9UJ			
		14							
10		1.0	0/200	0180B81006	Same as above. (SW)				10
		15							
		7							
		1.8	0/40	0180B81007	Gray black CLAY, little Silt (moderately plastic), moist. (OH)				
		10				18.4/7.2UJ			
		2							
		0.2	0/13	0180B81008	Gray black fine SAND, some Silt, wet. (SM)				
		2				5.87/8.3UJ			
15		2			Gray black CLAY, some Silt (moderately plastic), wet. (OH)				15
		2							
		1.8	0/0	0180B81010	Same as above, Sub-bituminous Coal/lignite, moist.				
		2							
		3							
		2.0	0/10	0180B81011	Same as above.				
		4				23.4/7.5UJ			
		2							
20									20

NOTES:

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B81</u>
PROJECT LOCATION <u>Site 018/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>9.41</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>876748.47</u>	START DATE <u>8/26/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161746.51</u>	FINISH DATE <u>8/26/92</u>

DEPTH	S.S. SAMPLE	RECOVERY	BLOWS/FT.	PID/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		2.0	3	0/4	0180B81012	Same as above, trace Meadow Mat.	20.3/8.1UJ			
		2.0	2	NA	0180B81013	Same as above.				
			3		0180B81014	Gray line SAND and SILT, little Pyrite staining, wet. (SM)				
25			18			End of Boring 24.0 ft.				25
30										30
35										35
40										40

DRAFT

**NOTES:**

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6. J- Estimated
7. U - Not Detected

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B83</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>9.33</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>678674.31</u>	START DATE <u>8/27/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161752.65</u>	FINISH DATE <u>8/27/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
5-10	1.7	38	0/0	0180B83001	Brown coarse to fine SAND, some Silt, little coarse to fine Gravel, dry. (SP-SW)	353/5.5UJ		Chromite Ore Residue trace Chrome Nodules  Chromite Ore may have fallen from above  Chromite Ore Residue	5-10
		39		0180B83002	Red brown coarse to fine SAND, dry. (SP-SW)	1720/18.3J			
	1.3	25	0/0	0180B83003	Same as above.				
		38		0180B83004	Same as above.				
	1.5	12	0/0	0180B83005	Gray/Red brown coarse to fine SAND, trace medium to fine Gravel, very wet	300/6.0J			
		18		0180B83006	Same as above, trace Spells				
	2.0	12	0/0	0180B83008	Same as above.				
		22		0180B83007	Same as above.				
10	2.0	13	0/0	0180B83007	Same as above.			10	
	24		0/40	0180B83008	Same as above.				
	12								
	15				End of Boring 12.0 ft.				

DRAFT

**NOTES:**

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



# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B85</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>9.61</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676687.31</u>	START DATE <u>8/24/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2181885.04</u>	FINISH DATE <u>8/24/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD/FTD (ppm)/ (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.1	48	0/1	0180B85001	Asphalt top 8 inches.				
				0180B85002	Gray brown/Orange brown medium to fine SAND, trace medium Gravel, moist. (SP)	375/15.1J		Chromite Ore Residue	
	0.8	52/7.5	0/0	0180B85003	Red brown coarse to fine SAND, trace wood, moist. (SP)	5250/52.2J			
				0180B85004					
		52			Red brown medium to fine SAND, grading to coarse to fine, trace Gravel, moist. (SP)				
	1.8	47	0/0		Same as above, trace Shells, very wet.				
5		18		0180B85005		158/11.2J			5
	2.0	20	0/1		Same as above.				
		6		0180B85006					
	2.0	7	0/25		Same as above.				
		13		0180B85007					
10	2.0	15	0/80		Same as above, trace Gray black CLAY, bottom of spoon.				10
		6		0180B85008					
		4			End of Boring 12.0 ft.			Odor	

DRAFT

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B27</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>10.00</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676595.90</u>	START DATE <u>9/10/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161628.46</u>	FINISH DATE <u>9/10/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PIID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		1.2	NA/0	No Sample	Asphalt Top 8 inches				
		25		0180B87001	Yellow brown fine SAND, some Silt, trace coarse to fine Gravel, dry. (SM)	420J/22.2J			
				0180B87101		541J/28.5J			
				0180B87002		5430J/242J			
		68		0180B87003	Reddish brown coarse SAND, little coarse to fine Gravel, dry. (SP)				
		1.5	0.4/12		Same as above, no Gravel, moist.				
		50		0180B87004					
		51			Gray brown coarse to fine SAND, trace coarse to fine Gravel, moist.				
5		1.5	NA		Gray red brown coarse to fine SAND, trace coarse to fine Gravel, trace Shells, very wet.				
		23		0180B87005		210J/17.5J			5
		24			Same as above.				
		1.7	0/4	0180B87008					
		10			Same as above.				
		1.5	0/10	0180B87007					
10		35			Same as above.				10
		1.9	0/100	0180B87008					
		16			End of Boring 12.0 ft.				
		16							
		16							
15									15
20									20

DRAFT

NOTES:

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3. N/A- Not Applicable
4. NA- Not Analyzed
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6. J- Estimated
7. U - Not Detected

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B89</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>9.50</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676517.98</u>	START DATE <u>9/10/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161640.96</u>	FINISH DATE <u>9/10/92</u>

DEPTH	S.S. SAMPLE	RECOVERY	BLOWS/FT.	PIID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
5		1.5	90	NA	0180B89001	Gray brown coarse to fine SAND, some coarse to fine Gravel, dry. (SP)	217J/8.7J	▼		5
					0180B89002	Same as above, trace fine Gravel, moist.	2730J/119J			
		1.0	130	NA	0180B89003	Same as above, gray brown, trace Shells, wet.				
			21							
		1.8	40	0		Same as above, gray brown/yellow brown very wet.				
			18		0180B89004		140J/8.2J			
		1.7	12	0		Same as above, Gray brown.				
			10		0180B89005					
10		1.7	11	0		Same as above.		10		
			16		0180B89006					
		1.5	14	0		Same as above.				
		8			0180B89007					
		8				End of Boring 12.0 ft.				

DRAFT

**NOTES:**

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B90</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>2.0'</u>	G.S. ELEV. <u>7.35</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>876499.02</u>	START DATE <u>9/8/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161498.41</u>	FINISH DATE <u>9/8/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		1.0	0/50		Top 8 inches Asphalt.				
		58		0180B90001	Gray brown coarse to fine SAND, trace medium to fine Gravel, moist to wet. (SP)	174/12.3			
		33			Same as above, trace shells, very wet.				
		1.5	0/10	0180B90002	Same as above.				
		20							
		21			Same as above.				
		1.4	0/34	0180B90003	Same as above.	199/10.3			
		4							
		10			Same as above.			Running Sands	
		1.0	0/8	0180B90004	Same as above.				
		28							
		125/0.8	N/A	N/A	No Recovery				
		0							
		10			Same as above, grading to fine SAND (Bottom 4"). (SP-SW)				
		1.4	0/30	0180B90005	Same as above, grading to fine SAND (Bottom 4"). (SP-SW)				
		12							
		14		0180B90006	Same as above. (SW)	14.8/8.8U			
		1.5	0/28	0180B90007	Gray black organic SILT, some Clay (moderately plastic), moist. (OL)	328/8.4U			
		5			Same as above.				
		2.0	0/NA	0180B90008	Same as above.				
		4							
		5			End of Boring 18.0 ft.				

NOTES:

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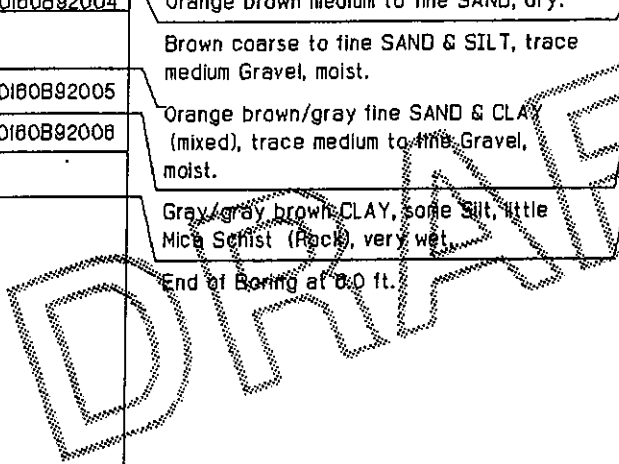
3. N/A- Not Applicable
4. NA- Not Analyzed
5. R- Rejected
6. J- Estimated
7. U - Not Detected

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B92</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.7'</u>	G.S. ELEV. <u>10.76</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>876637.05</u>	START DATE <u>9/1/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2160994.36</u>	FINISH DATE <u>9/1/92</u>

DEPTH	S.S. SAMPLE	RECOVERY	BLOWS/FT.	PID/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
5		1.5	22	3/4	0180B92001	Brown coarse to fine SAND, little Silt, trace coarse to fine Gravel, little Slag, trace mica, dry.	30.3/5.3UJ			
					0180B92002		17.2/5.9UJ			
		1.0	24	0/1	0180B92003	Brown CLAY, little coarse to fine Sand, little mica Schist (moderately plastic), dry.				
					0180B92004	Orange brown medium to fine SAND, dry.				
		1.3	17	0/0	0180B92005	Brown coarse to fine SAND & SILT, trace medium Gravel, moist.	9.6/8.3UJ			
					0180B92006	Orange brown/gray fine SAND & CLAY (mixed), trace medium to fine Gravel, moist.	28.9/6.4UJ			
				26		Gray/gray brown CLAY, some Silt, little Mica Schist (Rock), very wet.				
						End of Boring at 8.0 ft.				
									AUGER REFUSAL	5



**NOTES:**

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- 6. J- Estimated
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# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-893</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>9.09</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676867.44</u>	START DATE <u>9/1/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161181.01</u>	FINISH DATE <u>9/1/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.5	35	0/0	0180B93001	Brown coarse to fine SAND, little silt, little coarse to fine Gravel, trace Brick, dry. (SP)	254/5.5J		(FILL)	
				0180B93002		32.7/5.3UJ		(FILL)	
	N/A	27	NA/NA	N/A	Dark Gray/gray coarse to medium SAND, little coarse to fine Gravel, dry. (SP)				
	N/A				No sample collected, large amount of Gravel.				
5	2.0	28	0.4/0.8	0180B93003	Black organic SILT and fine SAND, trace roots, very wet. (OH)	5070/9.8UJ	▼		5
		23		0180B93004	Red brown/gray coarse to fine SAND, trace medium to fine Gravel, very wet. (SP)	55.9/8.5J			
	1.3	4	0/40	0180B93005	Gray CLAY, moderately plastic, trace fine Sand lenses, moist. (OH)				
	2.0	4	1/1	0180B93006	Gray/gray-brown micaceous SILT, some Clay, trace Shells, moist. (OH)				
10	3				Same as above, trace fine Sand lenses.				10
	2.0	2	0/14	0180B93007					
		2			End of Boring 12.0 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE DURING DRILLING <u>6.0'</u>	BORING NO. <u>PPG4-B94</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	WELL LEVEL <u>N/A</u>	G.S. ELEV. <u>10.04</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	NORTHING <u>676821.03</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	EASTING <u>21612.52</u>	START DATE <u>9/8/92</u>
LOGGED BY <u>Don Wendt</u>		FINISH DATE <u>9/8/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	P10/F10 (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
0.8		10	0/0	0180B94001	Brown coarse to fine SAND, some Silt, little fine to coarse Gravel, trace Roots, dry. (SP)	97.7/5.4U			
1.0		28	0/0	0180B94002	Same as above, trace coarse to fine Gravel, little Silt, trace Clay bottom of spoon mixed with Sand, trace Orange brown medium to fine SAND, dry to moist.				
1.5		53	0/0	0180B94003	Dark brown micaceous SILT and coarse to fine SAND, little coarse to fine Gravel, moist. (MH-SP)	179/5.7U			
1.8		44	0/0	0180B94004	Gray brown coarse to fine SAND, trace Silt, moist to wet. (SP)	21.8/6.0U	▼		
1.8		74	0/10	0180B94104		28.9/5.9U			
2.0		28	0/10	0180B94005	Same as above, trace fine Gravel, trace shell, very wet.				
2.7		27	0/400	0180B94006	Same as above, trace Silt lenses.	6.27/6.5U			
3.0		8	0/0	0180B94007	Same as above.				
3.5		12	0/0	0180B94008	Gray SILT, little Clay (low plastic), moist. (OL)	19.7/8.2U			
4.0		4	0/19	0180B94009	Black organic SILT, some Clay, trace Mica (moderately plastic), trace meadow mat, moist.	34.4/8.4U			
4.5		5	0/800	0180B94010	Gray SILT, little Clay, trace meadow mat, bottom of spoon (low plastic).				
5.0		8	0/800	0180B94010	Same as above.				
5.5		14	0/0	0180B94011	Red brown SILT, trace Clay, little coarse to fine Gravel, trace Green blue coarse to fine Sand, trace Wood. (ML)	18.4/7.7U			
6.0		28	0/30	0180B94012	Gray/Red brown Weathered SILTSTONE.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B94</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>8.0'</u>	G.S. ELEV. <u>10.04</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676821.03</u>	START DATE <u>9/8/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161212.52</u>	FINISH DATE <u>9/8/92</u>

DEPTH	S.S. SAMPLE	RECOVERY	BLOWS/FT.	PID/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		1.0	20	NA/NA	no sample taken	Dark Reddish brown weathered SILTSTONE, some fragments of Sandstone.				
		1.5	75	NA/NA	no sample taken	Same as above.				
			48							
			58			End of Boring 24.0 ft.				

DRAFT

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



# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-B95</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>7.94</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>677004.50</u>	START DATE <u>9/1/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161289.23</u>	FINISH DATE <u>9/1/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.7	38	0/0	0180B95001	Brown coarse to fine SAND, little Silt, some coarse to fine Gravel, dry to moist. (SP)	42/5.2UJ		(FILL)	
	N/A	47	NA/NA	N/A	No sample taken due to large amount of Gravel at this interval.				
	N/A								
5	2.0	18	0/2	0180B95002	Gray brown coarse to fine SAND, trace fine Gravel, trace Shells, very wet. (SP)	159/8.0UJ			5
		19			Same as above.				
	2.0	25	0/100	0180B95003	Same as above.	18.2/5.8UJ			
		25			Same as above.				
	2.0	10	0/80	0180B95004					10
10		7			Same as above.				
	2.0	2	0/8	0180B95005					
		3		0180B95006	Gray black SILT. some Clay, moderately plastic, moist. (OH)				
					End of Boring 12.0 ft.				

DRAFT

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>6.0'</u>	BORING NO. <u>PPG4-B96</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>N/A</u>	G.S. ELEV. <u>9.26</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676942.56</u>	START DATE <u>9/8/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161302.27</u>	FINISH DATE <u>9/8/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID/FID (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	0.9	37	0/0	0180B98001 0180B98101	Brown coarse to fine SAND, trace fine Gravel. (SP)	6.84/5.3U 8.15/5.4U			
	0	100/3	NA/NA	No Recovery	No Recovery.				
5	1.4	54	1/80	0180B98002	Brown coarse to fine SAND and SILT, trace fine Gravel (mica Schist), moist	408/5.7U			5
	1.7	87	0/100	0180B98003	Gray brown coarse to fine SAND, trace fine Gravel, very wet.			▼ Large Rock Top of Spoon.	
	1.3	52	0/100	0180B98004	Same as above, trace Shells.				
10	1.8	19	0/100	0180B98005	Same as above.				10
	4	4	NA/NA	0180B98006	Gray black SILT and CLAY (moderately plastic), moist. (OH-OL)				
	4	4			End of Boring 12.0 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>3.0'</u>	BORING NO. <u>PPG4-B97</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>N/A</u>	G.S. ELEV. <u>7.76</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>677205.60</u>	START DATE <u>9/1/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161427.69</u>	FINISH DATE <u>9/1/92</u>

DEPTH	S.S. SAMPLE	RECOVERY	BLOWS/FT.	PID/FID (ppm)/ (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
7.5			37	0/0	0180B97001	Brown coarse to fine SAND, some Silt, little coarse to fine Gravel, dry to moist. (SP)	58.8/5.2UJ			
1.5			51	0/90	0180B97002	Brown coarse to fine SAND, trace coarse to fine Gravel, moist to very wet. (SP)				
2.0			53	0/50	0180B97003	Same as above, color change to Gray brown.	2.38/6.00J			
2.0			8	1/100	0180B97004	Same as above				
7			7		0180B97005	Gray/Gray brown SILT, some Clay, moderately plastic, trace peat, trace fine Sand, moist. (OH)				
8			8	NA/NA	N/A	No Recovery				
0.0			6							
10			3	0/0	0180B97008	Gray brown fine SAND, some Silt, grading to coarse to fine Sand, very wet. (SP)				
8			8							
8			8			End of Boring 12.0 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber Inc.  
 DRILLING METHOD Hollow Stem Auger  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE  
 DURING DRILLING 6.0'  
 WELL LEVEL N/A  
 NORTHING 677099.12  
 EASTING 2161422.15

BORING NO. PPG4-B96  
 G.S. ELEV. 8.52  
 CASING ELEV. N/A  
 START DATE 9/9/92  
 FINISH DATE 9/9/92

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD/FTD (ppm)/(ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
1.4	7	0/1	0180B98001	Brown coarse to fine SAND, little Silt, little Asphalt, little coarse to fine Gravel, trace Brick, trace Plastic, dry. (Mica Schist bottom 4 inches of spoon.) (SP)	74.8J/5.3U		(FILL)		
1.0	17	0/50	0180B98002	Reddish brown SILT, little coarse to fine Sand, little coarse to fine Gravel, trace Glass, moist. (ML-SP)			(FILL)		
1.2	18	0/90	0180B98003	Gray brown coarse to fine SAND, trace medium to fine Gravel, trace Shells, moist. (SP)	150J/5.7U		ASPHALT TOP 2"		
1.8	9	0/110	0180B98004	Same as above, trace Silt lenses, trace wood, very wet.			▼		
2.0	8	0/80	0180B98005	Same as above, no wood, trace fine Gravel.					
0.3	10	0/4	0180B98006	Gray black SILT, little Clay, moderately plastic, wet. (OL)					
	10			End of Boring 12.0 ft.					

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>5.0'</u>	BORING NO. <u>PPG4-B99</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>N/A</u>	G.S. ELEV. <u>10.06</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>876886.70</u>	START DATE <u>8/25/92</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161731.87</u>	FINISH DATE <u>8/25/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.1	58	0	0180B99002 0180B99003	Brown coarse to fine SAND, some Silt, little coarse to fine Gravel, trace plant matter, dry. (SP)	12.5J/5.5U			
	1.1	36	0		Reddish brown SILT, little coarse to fine Sand, trace medium to fine Gravel, dry. (OH-SP)				
		31							
		27			Gray brown coarse to fine SAND, trace coarse to fine Gravel, trace Silt, moist. (SP)	4980J/32.5		Silt sent for analysis	
5	1.0	31	0	0180B99005	Same as above, Red brown Silt lenses, trace medium to fine Gravel, very wet. (SP)	225J/7.3		▼	5
		45			Same as above, very wet.	2040J/12.4		Chromite Ore Residue	
	0.3	14	0						
		14			Gray/gray brown coarse to fine SAND, trace Shells, trace fine Gravel. (SP)				
	2.0	12	NA	0180B99007					
10		12			Same as above, grading downward to medium to fine SAND. (SP)				10
	2.0	8	0	0180B99008					
		10			End of Boring 12.0 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>DURING DRILLING Not Encountered</u>	BORING NO. <u>PPG4-BB8</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	WELL LEVEL <u>N/A</u>	G.S. ELEV. <u>10.25</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	NORTHING <u>877065</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Tripod/Cat head</u>	EASTING <u>2161665</u>	START DATE <u>1/12/92</u>
LOGGED BY <u>Don Wendt</u>		FINISH DATE <u>1/12/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.1		0	0180BB8001	CONCRETE top 0.5 ft.	22.8/8.0UJ			
		11		0180BB8002	Red brown coarse to fine SAND and fine GRAVEL, trace Silt, trace Coal, moist. (FILL) (SP)	4.11J/5.2UJ			
		124	NA	No Sample	Yellowish brown coarse to fine SAND, little Silt, trace coarse to fine Gravel, moist. (FILL) (SP)				
		88		No Sample	No Sample				
		127	0	0180BB8003	Gray coarse to fine SAND, some mica Schist, moist. (FILL) (SP)	12.8/5.7UJ			
5	1.0	108		0180BB8103	Gray coarse to fine SAND, trace medium to fine Gravel, moist. (FILL) (SP)	12.2/5.2UJ			5
		57	0.2	0180BB8004	Gray coarse to fine SAND, trace medium to fine Gravel, moist. (FILL) (SP)				
		28			Dark gray MEADOW MAT and Clay and Silt, moist. (PT/OL)				
		11			Bottom of boring at 8.0 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-BB9</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>3.0'</u>	G.S. ELEV. <u>10.90</u>
DRILLING FIRM <u>Hardin and Huber Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Tripod/Cat head</u>	NORTHING <u>678704</u>	START DATE <u>1/13/92</u>
LOGGED BY <u>Don wendt</u>	EASTING <u>2161550</u>	FINISH DATE <u>1/13/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PIID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
0.9		24	0		CONCRETE top 0.75 ft.				
				0180BB9001	Yellowish brown coarse to fine SAND, trace Silt, trace coarse to fine Gravel, trace Coal, moist. (SP)	80.4/5.7U			
0.8		278	0	0180BB9002	Same as above, moist to wet.				
1.2		195/3	0	0180BB9003 0180BB9103	CONCRETE top 0.5 ft. Red brown coarse to fine SAND, trace medium to fine Gravel, wet. (SP)	45.9/5.9 51.4/5.5U		▼ Last 2 inches accidentally thrown out.	
1.3		88	0	0180BB9004	Same as above, red brown gray trace Shells, wet.				
1.2		59	0	0180BB9005	Same as above, wet.				
10		31			End of boring at 10.0 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-BC1</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.0'</u>	G.S. ELEV. <u>10.90</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Tipod/Cat head</u>	NORTHING <u>676835</u>	START DATE <u>1/14/93</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161369</u>	FINISH DATE <u>1/14/93</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.0		0		CONCRETE top 0.5 ft.				
		138		0180BC1001	Yellowish brown coarse to fine SAND, little Silt, moist. (SP)	12J/5.3UJ			
				0180BC1002		15.7J/5.8UJ			
		30		0180BC1003	Dark brown coarse to fine SAND, little coarse to fine Gravel, little Silt, moist. (SP)				
	1.3		0	0180BC1004					
		14			Same as above, trace medium to fine Gravel, moist. (SP)				
		16		0180BC1005		8.5J/6.8UJ			
5	0.9		0	0180BC1105	Black SILT, moderately plastic, moist (ML)	182/6.9UJ			5
		18			Dark gray coarse to fine SAND, trace Shells, wet. (SP)				
		17		0180BC1008					
	1.4		0	0180BC1007	Black/dark gray coarse to fine SILT, trace fine Sand, wet. (ML)				
		18			Dark gray coarse to fine SAND, trace Shells, wet. (SP)				
		39		0180BC1008		7.77J/6.2UJ			
	1.0		0		Same as above, wet. (SP)				
		29							
10	0.9		0	0180BC1009	Same as above, little Silt, wet. (SP)				10
		21			Same as above, little Silt, wet. (SP)				
		10		0180BC1010		9.48J/6.2UJ			
	0.4		0.2		Dark gray Silt, low plasticity, moist to wet. (OL)				
		8							
		4		0180BC1011		24.8/7.1UJ			
15	0.7		0		End of Boring at 18 feet.				15
		2							
		3							
20									20

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



# ICF KAISER ENGINEERS

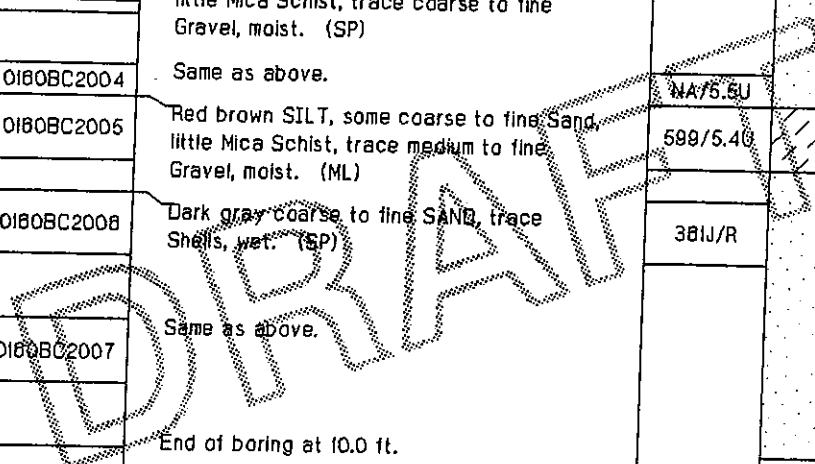
# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber, Inc.  
 DRILLING METHOD Tripod/Cat head  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE  
 DURING DRILLING 6.0'  
 WELL LEVEL N/A  
 NORTHING 676991  
 EASTING 2161755

BORING NO. PPG4-BC2  
 G.S. ELEV. 10.25  
 CASING ELEV. N/A  
 START DATE 1/14/93  
 FINISH DATE 1/14/93

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	0.7		0.2		CONCRETE top 0.5 ft.				
		104		0180BC2001	Black/yellowish brown coarse to fine SAND, little coarse to fine Gravel, trace Silt, trace Slag, trace Coal, dry. (SP)	35.2/NA			
		101							
	1.1		0.2	0180BC2002	Gray brown coarse to fine SAND, little Silt, little Mica Schist, trace coarse to fine Gravel, moist. (SP)				
		49							
		82							
	1.5		0	0180BC2004	Same as above.	NA/5.5U			
5									
		86		0180BC2005	Red brown SILT, some coarse to fine Sand, little Mica Schist, trace medium to fine Gravel, moist. (ML)	599/5.4U			5
		83							
	1.4		0.2	0180BC2006	Dark gray coarse to fine SAND, trace Shells, wet. (SP)	361J/R			
		48							
		25							
	NA		NA	0180BC2007	Same as above.				
		11							
10		15			End of boring at 10.0 ft.				10



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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>Not Encountered</u>	BORING NO. <u>PPG4-BC3</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>Not Encountered</u>	G.S. ELEV. <u>10.90</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Tripod/Cat head</u>	NORTHING <u>678503</u>	START DATE <u>1/14/93</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2181343</u>	FINISH DATE <u>1/14/93</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1	19	0	0180BC3001	CONCRETE top 0.55 ft.				
		92	0	0180BC3002	Yellowish brown/brown coarse to fine SAND, little coarse to fine Gravel, trace Silt, trace Mica Schist, moist. (SP)	152/8.8			
	0.9	78	0	0180BC3003	MICA SCHIST, crushed, Mica Schist. (FILL)				
		400/3"	0	0180BC3003	Same as above.				
5	0.7	78	0						5
		200/3			End of Boring at 5.7 feet.				

DRAFT

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

# ICF KAISER ENGINEERS

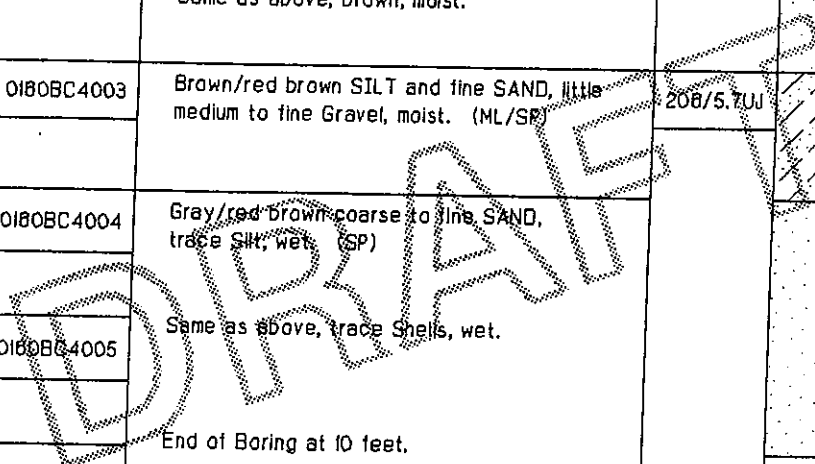
# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber, Inc.  
 DRILLING METHOD Tripod/Cat head  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE  
 DURING DRILLING 6.0'  
 WELL LEVEL N/A  
 NORTHING 676908  
 EASTING 2161619

BORING NO. PPG4-BC4  
 G.S. ELEV. 10.50  
 CASING ELEV. N/A  
 START DATE 1/14/93  
 FINISH DATE 1/14/93

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1		0		CONCRETE top 0.5 ft.				
		77		0180BC4001	Brown/yellowish brown coarse to fine SAND, little coarse to fine Gravel, trace Silt, trace red Brick, trace mica Schist, moist. (SP)	34.5/5.8UJ			
		80		0180BC4002					
	0.8		0		Same as above, brown, moist.				
		84							
		87							
5	0.9		0	0180BC4003	Brown/red brown SILT and fine SAND, little medium to fine Gravel, moist. (ML/SP)	208/5.7UJ			5
		35							
		33							
	1.2		0	0180BC4004	Gray/red brown coarse to fine SAND, trace Silt, wet. (SP)				
		23							
		29							
	1		0	0180BC4005	Same as above, trace Shells, wet.				
		41							
10		38			End of Boring at 10 feet.				10



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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-BC5</u>
PROJECT LOCATION <u>Site 018/112A, Jersey City</u>	DURING DRILLING <u>5.0'</u>	G.S. ELEV. <u>10.90</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Tripod/Cat head</u>	NORTHING <u>676523</u>	START DATE <u>1/15/93</u>
LOGGED BY <u>Don Wendt</u>	EASTING <u>2161203</u>	FINISH DATE <u>1/15/93</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		1.0	.2		CONCRETE top 0.55 ft.				
		35		0180BC5001	Brown/yellowish brown coarse to fine SAND, trace coarse to fine Gravel, moist. (SP)	12.1J/5.5U			
		85	0	0180BC5002	MICA SCHIST, crushed mica schist, dry. (FILL)		+		
		25					+		
		18	0	0180BC5003	Same as above, wet.		+		
5		98					+		5
		27	0	0180BC5004	Same as above.		+		
		32					+		
		11	0	0180BC5005	Same as above.		+		
		19					+		
10		23			Bottom of Boring at 10 feet.		+		10
							+		
15							+		15
							+		
20							+		20

DRAFT



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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber, Inc.  
 DRILLING METHOD Tripod/Cat head  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE  
 DURING DRILLING Not Encountered  
 WELL LEVEL N/A  
 NORTHING 676526  
 EASTING 2161069

BORING NO. PPG4-BC6  
 G.S. ELEV. 10.90  
 CASING ELEV. N/A  
 START DATE 1/18/93  
 FINISH DATE 1/18/93

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PIID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
0	1	79	.2	0160BC8001	CONCRETE top 0.5 ft.	11/5.8U	■		0
0.3	0.3	58	0	0160BC8002	Brown/yellowish brown coarse to fine SAND, trace Silt, moist. (SP)		+		0.3
0.3	0.3	79	0	0160BC8003	MICA SCHIST and QUARTZ, moist. (FILL)		+		0.3
0.3	0.3	79	0		MICA SCHIST, dry. (FILL)		+		0.3
5		400/8			End of Boring at 3.5 feet.				5

DRAFT

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>Not Encountered</u>	BORING NO. <u>PPG4-BD2</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>Not Encountered</u>	G.S. ELEV. <u>7.17</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>677209.56</u>	START DATE <u>4/19/93</u>
LOGGED BY <u>Julie Winfield</u>	EASTING <u>2161539.94</u>	FINISH DATE <u>4/19/93</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.1	4	0	112ABD2001	CEMENT top 0.4 ft.				
		12			Very dark brown coarse to fine SAND, trace Silt, trace fine Asphalt (possible < trace coal), moist.	280/5.7U			
					End of Boring at 2.0 feet.				

DRAFT

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>DURING DRILLING Not Encountered</u>	BORING NO. <u>PPG4-BD3</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	WELL LEVEL <u>N/A</u>	G.S. ELEV. <u>8.45</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	NORTHING <u>677029.57</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	EASTING <u>2161772.23</u>	START DATE <u>4/20/93</u>
LOGGED BY <u>Julie Winfield</u>		FINISH DATE <u>4/20/93</u>

DEPTH	S.S. SAMPLE	RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		1.8		NA	0180BD3001	Grass, Weeds.				
			45		0180BD3002	Dark brown coarse to fine SAND, trace Silt, trace coarse to fine Gravel, trace Mica, molst.	335/8.7J			
		1.9		0.75	0180BD3003	MICA SCHIST.				
			9		0180BD3004	Very dark brown coarse to fine SAND, trace Silt, coarse to fine Gravel, trace Asphalt.	1750/8.8U		Odor, Oily Sheen	
			17		0180BD3005	Same as above, trace organic material, no Asphalt (2.3 - 2.8').	315/20.8J		Odor, Oily Sheen	
5					0180BD3008	Dark brown organic SILT, trace Clay, trace fine Sand.				5
						Dark brown coarse to fine organic SAND, trace Silt, trace Clay, trace Wood.				
						Same as above, no Clay, trace coarse to fine Gravel.				
						Very dark brown fine to medium SAND, trace fine Gravel, trace Silt.				
10						End of boring at 8.3 ft.				10
15										15
20										20

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-BD4</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>8.2</u>	G.S. ELEV. <u>10.24</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL <u>N/A</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>876908.01</u>	START DATE <u>4/20/93</u>
LOGGED BY <u>Julie Winfield</u>	EASTING <u>2161712.62</u>	FINISH DATE <u>4/20/93</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
5	1.8	44	0	0180BD4001	Grass, Weeds.	92.9/5.9J		Deflected down at bottom of spoon.	5
				0180BD4002	Brown coarse to fine SAND, little Asphalt, little coarse to fine Gravel, trace Roots on top, dry.				
	1.7	29	0	0180BD4003	Dark reddish brown fine to medium SAND, little Silt, trace Clay, some red Brick, little coarse Gravel.	120/8.IU			
				0180BD4004	Same as above, trace Mica.				
	1.4	38	0	0180BD4005	MICA SCHIST.	501/32.2J			
				0180BD4006	Very dark red coarse to fine SAND, little Silt, trace red Brick, trace Mica, trace Clay				
	1.7	30	NA	0180BD4007	Dark brown coarse to fine SAND, little red Brick, trace coarse to fine Gravel, moist.	148/23.8J			
				0180BD4008	Same as above, trace Roots, bottom of spoon (0.1 ft.)				
	1.8	18	NA	0180BD4009	Dark reddish brown coarse to fine SAND, trace coarse to fine Gravel, moist.	42.8/8.IU			
				0180BD4010	Same as above.				
10					Same as above, trace broken Shell fragments, wet.			10	
					Same as above.				
					End of boring at 10.2 ft.				

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



# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>DURING DRILLING Not Encountered</u>	BORING NO. <u>PP64-BD6</u>
PROJECT LOCATION <u>Site 018/112A, Jersey City</u>	WELL LEVEL <u>N/A</u>	G.S. ELEV. <u>10.52</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	NORTHING <u>876609.18</u>	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	EASTING <u>2161560.21</u>	START DATE <u>4/20/93</u>
LOGGED BY <u>Julie Winfield</u>		FINISH DATE <u>4/20/93</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	1.9	21	0.5	0180BD8001	ASPHALT.		(Fill)		
				0180BD8002	Yellow brown medium to fine SAND, trace coarse to fine Gravel, moist.	200/17.0J	(Fill)	Chrome Ore Residue	
	1.9	38	0	0180BD8003	Dark brown coarse to fine GRAVEL, little Coal Ash, trace Chrome Nodules.		(Fill)	Chrome Ore Residue	
		29		0180BD8004	Same as above.	4830/67.8J	(Fill)	Chrome Ore Residue	
		25	0	0180BD8005	Red brown coarse to fine SAND, trace Silt, trace medium to fine Gravel, little Chrome Nodules, moist.		(Fill)	Chrome Ore Residue	
5	1.1	14	0	0180BD8006	Dark brown coarse to fine SAND, trace fine Gravel, very moist.	379/31.1J			5
	2.0	20	0.3	0180BD8007	Same as above, yellowish brown, trace Shell fragments, trace coarse to fine Gravel, wet.	305/36.9J			
		15		0180BD8008	Same as above.				
		13		No Sample	Same as above, trace Clay, trace Silt, little Wood.				
10					WOOD.				10
					End of boring at 8.5 ft.				

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE <u>Not Encountered</u>	BORING NO. <u>PPG4-BD8</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>Not Encountered</u>	G.S. ELEV. _____
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL _____	CASING ELEV. _____
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING _____	START DATE <u>4/21/93</u>
LOGGED BY <u>Julie Winfield</u>	EASTING _____	FINISH DATE <u>4/21/93</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PIU (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
	0.8		0		ASPHALT top 0.7 ft.				
		18		112ABD8001	Dark brown coarse to fine SAND, trace medium to fine Gravel, moist.	120			
		12		112ABD8002	Same as above.	180			
	1.8	18	0.2	112ABD8003	Same as above, Wood at bottom of spoon.				
		4		112ABD8004	Same as above, wet.	624			
5	1.9	4	0	112ABD8005					5
	1.2		0	112ABD8006	Same as above, trace clay.	23			
	2/8"				End of boring at 7 ft.				

DRAFT

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

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-BD9</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>3.2'</u>	G.S. ELEV. _____
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL _____	CASING ELEV. _____
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING _____	START DATE <u>4/20/93</u>
LOGGED BY <u>Julie Winfield</u>	EASTING _____	FINISH DATE <u>4/20/93</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
		1.0	0	0180BD9001	ASPHALT.		█	Chrome Ore	
		29		0180BD9002	Dark yellow brown medium to fine SAND, trace fine to coarse Gravel, trace Silt, trace Coal Ash.	10300	○ ○	possible Coal Ash	
		15		0180BD9003	Reddish brown medium to fine SAND, trace Clay, Chrome Ore Residue.	428	█		
		1.7	0		Black coarse to fine SAND, trace medium to fine Gravel, very moist.	100	█		
		27		0180BD9004	Very dark Gray coarse to fine SAND, trace medium to fine Gravel, trace Shell fragments, wet.	100	█		
5	2.0	10	0	0180BD9005	Same as above				5
		12		0180BD9006	Same as above, trace coarse to fine Gravel, moist				
		12		0180BD9007	Same as above				
		22			End of Boring at 3.2-ft.				

DRAFT

**NOTES:**

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- 2. USCS Classification based on visual-manual procedures
- 3. N/A - Not Applicable
- 4. NA - Not Analyzed
- 5. R - Rejected
- 6. J - Estimated
- 7. U - Not Detected

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber Inc.  
 DRILLING METHOD Hollow Stem Auger  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE \_\_\_\_\_  
 DURING DRILLING 4.0  
 WELL LEVEL \_\_\_\_\_  
 NORTHING 676575.98  
 EASTING 2161555.40

BORING NO. PPG4-MW13\*  
 G.S. ELEV. 9.58  
 CASING ELEV. 9.24  
 START DATE 8/27/92  
 FINISH DATE 8/27/92

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	WELL DIAGRAM	DEPTH
0			0/0		Asphalt top 8 inches.				
1.4		47	0/0	0180B88001	Brown coarse to fine SAND, some Silt, trace fine Gravel, moist. (SP)	1910/13J		<p>2" Sch. 40 PVC grout bentonite seal #000 Morie Sand 0.01 slotted 2" PVC Screen</p>	
1.0		19	0/8	0180B88002 0180B88003 0180B88004 0180B88005	Orange brown medium to fine SAND, moist.	345/8.2J 5820/59J			
5.3		53	0/0	0180B88006	Reddish brown coarse to fine SAND, and Chrome Nodules, moist, Chrome Ore Residue. (SP)				
8.3		83	0/0	0180B88007	Gray brown coarse to fine SAND, some Silt, trace fine Gravel, moist. (SP)	575/28.8J			
10.4		40	0/0	0180B88008	Stained Black coarse to fine SAND, moist.				
12.4		40	0/0	0180B88008	Gray brown coarse to fine SAND, trace Shells, very wet.				
14.4		32	0/0	0180B88008	Same as above.				
16.4		35	0/0	0180B88008	Same as above, trace Clay lenses.				
18.4		2	0/0	0180B88009		8.39/5.7UJ			
20.4		8	0/30	0180B88010	Same as above.				
22.4		10	0/0	0180B88010	Same as above, trace CLAY bottom of spoon.				
24.4		4	0/0	0180B88011					
26.4		3	0/10	0180B88012	Gray black organic SILT and CLAY (moderately plastic), moist.				
28.4		2			End of Boring 18.0 ft.				
29.4		2							

\* MW13 corresponds with B88.

**NOTES:**

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- 2. USCS Classification based on visual-manual procedures

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

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: PPG Industries, Inc.  
Name of Facility: Levy Warehouse  
Location: 45 East Linden Avenue  
Jersey City, NJ  
NJPDES Permit No: NJ 26-30577

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

		<u>26-30577</u>
Longitude (one tenth of a second):	West	<u>74°05'02.8"</u>
Latitude (one tenth of a second):	North	<u>40°41'21.4"</u>
Elevation of Top of Casing (cap off)		<u>9.62</u>
Distance from Top of Casing (cap off) to ground		<u>0.04</u>
Owner's Well Number (As shown in the application or Plans):		<u>PPG-13</u>

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

William E. Telling  
Professional Land Surveyor's Signature

William E. Telling  
Professional Land Surveyor's Name

SEAL

NJPLS License No. 37211  
Professional Land Surveyor's License #

(general13\wp51\ppg-13.wet)

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber, Inc.  
 DRILLING METHOD Hollow Stem Auger  
 LOGGED BY Don Wendt/Rich Feinberg

WATER LEVELS RELATIVE TO G.SURFACE  
 DURING DRILLING 2.0'  
 WELL LEVEL N/A  
 NORTHING 676971.61  
 EASTING 216855.14

BORING NO. PPG4-MW14  
 G.S. ELEV. 6.86  
 CASING ELEV. 6.33  
 START DATE 8/28/92  
 FINISH DATE 8/28/92

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	WELL DIAGRAM	DEPTH
1.7		18	0/0	0180B57001	Brown medium to fine SAND, some Silt, trace fine Gravel, trace fine Roots, dry. (SP)	1190/22.0J	○ ○ ○ ○	<p>2" Sch. 40 PVC                      0.01 slotted 2" PVC Screen                      bentonite seal                      #1 Marie Sand                      grout</p>	1.7
1.8		10	0/200	0180B57002	Reddish brown coarse to fine SAND, some Silt, trace Slag, trace brick, moist. (SP)	3200J/48.7	○ ○ ○ ○		1.8
1.8		10	0/200	0180B57003	Gray brown coarse to fine SAND, wet. (SP)	1570/58.2J			1.8
2.0		7	0/16	0180B57004	Same as above, some Silt, trace shells, very wet.	90.0J/7.10U			2.0
2.0		13	0/0	0180B57005	Gray black SILT and CLAY, very wet. (CI)		▨		2.0
2.0		15	0/0	0180B57006	Gray brown coarse to fine SAND, trace shells, very wet.	17.9/6.30UJ			2.0
2.0		15	0/1	0180B57007	Same as above, trace Silt, trace Clay lenses.				2.0
2.0		8	0/1	0180B57008	Same as above.				2.0
2.0		5	0/30	0180B57009	Same as above.				2.0
2.0		3	0/30	0180B57010	Gray black SILT and CLAY (moderately plastic), moist to wet. (OL)		▨		2.0
5		5			End of boring at 12.0 ft.				5

\* MW14 corresponds with B57

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

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: PPG Industries, Inc.  
Name of Facility: Levy Warehouse  
Location: 45 East Linden Avenue  
Jersey City, NJ  
NJPDES Permit No: NJ 26-30578

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

Longitude (one tenth of a second):	West	<u>26-30578</u> <u>74°04'59.6"</u>
Latitude (one tenth of a second):	North	<u>40°41'26.1"</u>
Elevation of Top of Casing (cap off)		<u>6.97</u>
Distance from Top of Casing (cap off) to ground		<u>0.09</u>
Owner's Well Number (As shown in the application or Plans):		<u>PPG-14</u>

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

William E. Telling  
Professional Land Surveyor's Signature

William E. Telling  
Professional Land Surveyor's Name

SEAL

NJPLS License No. 37211  
Professional Land Surveyor's License #

(general3\wp51\ppg-14.wet)

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 018/112A, Jersey City  
 DRILLING FIRM Hardin and Huber Inc.  
 DRILLING METHOD Hollow Stem Auger  
 LOGGED BY Don Wendt

WATER LEVELS RELATIVE TO G.SURFACE  
 DURING DRILLING 4.0  
 WELL LEVEL N/A  
 NORTHING 677232.67  
 EASTING 2181568.16

BORING NO. PPG4-MW15\*  
 G.S. ELEV. 7.59  
 CASING ELEV. 7.04  
 START DATE 8/31/92  
 FINISH DATE 8/31/92

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	WELL DIAGRAM	DEPTH
0.8		80	O/O		0.8 feet of concrete.			<p>2" Sch. 40 PVC                      0.01 slotted 2" PVC Screen                      #00N Marble Sand                      bentonite seal                      grout</p>	
1.5		15		0180B91001	Brown coarse to fine SAND and SILT, little coarse to fine Gravel, trace Brick, dry. (SP-ML) (FILL)	298/14.2J			
1.8		32	NA/40	0180B91002	Concrete top 2". Brown coarse to fine SAND, little medium to fine Gravel, trace Silt bottom of spoon, moist. (SP-SW) (FILL)				
1.5		14	NA/800	0180B91003	Same as above, very wet.	7.81/5.8UJ			
1.1		11		0180B91004	Gray black CLAY (highly plastic, moist. (OH))	184/10.2J			
0.7		10	O/NA	0180B91005	Gray brown medium to fine SAND, trace fine Gravel, very wet. (SP-SW)				
0.5		5		0180B91006	Gray black medium SILT, trace fine Sand, moist. (OL-ML)				
1.8		4	O/O	0180B91007	Same as above, trace red Brown Clay lenses, trace shells, very wet.				
1.4		3	O/O	0180B91008	Same as above.				
2.0		2	O/O	0180B91009	Same as above.				
2.0		2			End of Boring 14.0 ft.				

\* MW15 corresponds with B91.

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



THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: PPG Industries, Inc.  
Name of Facility: Levy Warehouse  
Location: 45 East Linden Avenue  
Jersey City, NJ  
NJPDES Permit No: NJ 26-30579

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

		<u>26-30579</u>
Longitude (one tenth of a second):	West	<u>74°05'02.6"</u>
Latitude (one tenth of a second):	North	<u>40°41'27.9"</u>
Elevation of Top of Casing (cap off)		<u>7.62</u>
Distance from Top of Casing (cap off) to ground		<u>0.03</u>
Owner's Well Number (As shown in the application or Plans):		<u>PPG-15</u>

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

William E. Telling  
Professional Land Surveyor's Signature

William E. Telling  
Professional Land Surveyor's Name

SEAL

NJPLS License No. 37211  
Professional Land Surveyor's License #

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME PPG Non-Residential Chrome Sites  
 PROJECT LOCATION Site 016/112A, Jersey City  
 DRILLING FIRM Hardin and Huber Inc.  
 DRILLING METHOD Hollow Stem Auger  
 LOGGED BY Gerry Maresca

WATER LEVELS RELATIVE TO G.SURFACE \_\_\_\_\_  
 DURING DRILLING Not Defined  
 WELL LEVEL \_\_\_\_\_  
 NORTHING 676821.81  
 EASTING 2161210.81

BORING NO. PPG4-MW18\*  
 G.S. ELEV. 10.05  
 CASING ELEV. 9.5  
 START DATE 9/14/92  
 FINISH DATE 9/14/92

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	WELL DIAGRAM	DEPTH
0					AUGERED TO 8.0 FEET			<p>2" Sch. 40 PVC                      0.01 slotted 2" PVC Screen                      #000 Marine Sand                      grout                      bentonite seal</p>	0
8		28	0	0180BB8001	Gray fine SAND, trace Shell fragments, wet (SP)	7.44/8.40			8
12		30			AUGERED TO 12.0 FEET				12
12					End of Boring 12.0 ft.				12

DRAFT

\* MW18 corresponds with 888.

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

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: PPG Industries, Inc.  
Name of Facility: Levy Warehouse  
Location: 45 East Linden Avenue  
Jersey City, NJ  
NJPDES Permit No: NJ 26-30580

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

Longitude (one tenth of a second):	West	<u>26-30580</u> <u>74°05'07.3"</u>
Latitude (one tenth of a second):	North	<u>40°41'23.9"</u>
Elevation of Top of Casing (cap off)		<u>10.19</u>
Distance from Top of Casing (cap off) to ground		<u>0.14</u>
Owner's Well Number (As shown in the application or Plans):		<u>PPG-16</u>

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

*William E. Telling*

Professional Land Surveyor's Signature

William E. Telling

Professional Land Surveyor's Name

SEAL

NJPLS License No. 37211

Professional Land Surveyor's License #

(general3\wp51\ppg-16.wet)

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE	BORING NO. <u>PPG4-MW2</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING <u>4.5</u> <u>1130 1/14/92</u>	G.S. ELEV. <u>8.48</u>
DRILLING FIRM <u>Hardin and Huber, Inc.</u>	WELL LEVEL <u>4.5</u>	CASING ELEV. <u>11.31</u>
DRILLING METHOD <u>Hollow Stem Auger</u>	NORTHING <u>676864.92</u>	START DATE <u>1/14/92</u>
LOGGED BY <u>Rich Feinberg</u>	EASTING <u>2161966.29</u>	FINISH DATE <u>1/14/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PID (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	WELL DIAGRAM	DEPTH
0	.9	11	0	0180W02001	Dark brown coarse to fine SAND, trace Silt, trace Clay, trace fine Gravel (SW-SP)	294J/NA			0
1.4	7	0	0180W02002	Black coated coarse to fine crushed GRAVEL, trace coarse to fine Sand, trace Silt, moist (SW-SP)	R/NA		5		
1.7	12	0	0180W02003	Dark grayish and reddish brown coarse to fine SAND, little to trace Silt, trace fine Gravel, moist (SW-SP)	224J/NA		10		
1.7	20	0	0180W02004	Same as above.	15.3J/NA		15		
2.0	14	0	0180W02005	Same as above, trace shell fragments	8.19J/NA		20		
2.0	14	0	0180W02006	Same as above.	21.3J/NA		25		
1.7	5	0	0180W02007	Dark gray Clayey Silt (ML)			30		
1.5	2	0	0180W02008				35		
2					End of Boring at 16.0 ft.			40	

DRAFT

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

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: PPG Industries, Inc.  
Name of Facility: Levy Warehouse  
Location: 45 East Linden Avenue  
Jersey City, NJ  
NJPDES Permit No: NJ 26-28184

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

Longitude (one tenth of a second):	West	<u>26-28184</u> <u>74°04'57.5"</u>
Latitude (one tenth of a second):	North	<u>40°41'24.3"</u>
Elevation of Top of Casing (cap off)		<u>11.52</u>
Distance from Top of Casing (cap off) to ground		<u>3.04</u>
Owner's Well Number (As shown in the application or Plans):		<u>PPG-2</u>

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

William E. Telling  
Professional Land Surveyor's Signature

William E. Telling  
Professional Land Surveyor's Name

SEAL

NJPLS License No. 37211  
Professional Land Surveyor's License #

(general3\wp51\ppg-2.wet)

APPENDIX E

SEDIMENT BORING LOGS

DRAFT

# ICF KAISER ENGINEERS

# BORING LOG

PROJECT NAME <u>PPG Non-Residential Chrome Sites</u>	WATER LEVELS RELATIVE TO G.SURFACE _____	BORING NO. <u>PPG4-001</u>
PROJECT LOCATION <u>Site 016/112A, Jersey City</u>	DURING DRILLING _____	G.S. ELEV. <u>11.27 (3)</u>
DRILLING FIRM <u>N/A</u>	WELL LEVEL _____	CASING ELEV. <u>N/A</u>
DRILLING METHOD <u>Split spoon, hand driven (1)</u>	NORTHING <u>676940.21</u>	START DATE <u>5/7/92</u>
LOGGED BY <u>D. Page</u>	EASTING <u>2101190.82</u>	FINISH DATE <u>5/7/92</u>

DEPTH	S.S. SAMPLE RECOVERY	BLOWS/FT.	PTD (ppm)	SAMPLE DEPTH AND ID	MATERIAL DESCRIPTION	TOTAL/HEX CHROMIUM (PPM)	SYMBOL	REMARKS	DEPTH
5		1.5	0	112AD01001	Black organic silt, trace and medium sand, saturated	54.7/0.8 UJ	/ /		5
				112AD01002	Dark grey fine sand, saturated	8.25/0.8 UJ			
5		1.3	0		Dark grey to grey coarse to medium sands saturated				5
					Bottom of Boring @ 3.5 ft.				

DRAFT

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

APPENDIX I

LYSIMETER CONSTRUCTION LOGS

DRAFT



ICF TECHNOLOGY  
INCORPORATED



LYSIMETER

NO. L2

PROJECT AND LOCATION <u>PPG, JERSEY CITY</u>	PROJECT NO. <u>0160</u>
DRILLING COMPANY	DATE STARTED   COMPLETED <u>9/22/92</u>   <u>9/22/92</u>
DRILLING METHOD <u>POST HOLE DIGGER - BUCKET AUGER</u>	INSPECTOR <u>D. PAGE</u>
DEVELOPMENT METHOD & TIME	

ELEVATION/DEPTH

1 0.00 FT  
1 0.64  
1 0.70  
1 0.80'  
1 1.00'

FLUSH MOUNT  
STEEL COVER

PROTECTIVE PVC CASING  
WITH LOCKING CAP

CAP MATERIAL SAKILETE

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TYPE OF ANNULAR SEAL  
BACK FILL

INNER CASING  
MATERIAL PVC  
DIAMETER 1.9 IN

TYPE OF SEAL BENTONITE (POWDER)

FILTER PACK MATERIAL  
SILICA FLOUR #200 MESH

LYSIMETER CUP SIZE 0.45um

BOREHOLE DIAMETER ~4.0


1 2.77'

TOTAL DEPTH DRILLED 3.0'

NOT TO SCALE


REMARKS

# SOIL BORING LOG

		PROJECT NO.:	117-0509160.01	Boring No:	016_D005
		PROJECT NAME:	PPG Site 016	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/8/2011	30	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Warren Atkinson		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 3.0'		No		
MEMO: Stepped out ~ 10 SE from original location due to utilities					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.7 Light Grayish Brown (10YR 6/2) fine SAND, some medium sand, little coarse to fine subangular gravel, dense, dry, no odor (SP)	016_D005_0.0 (0.0' - 0.5')
1		0.0		
2		0.0	1.7 - 3.0 Brown (7.5YR 4/2) medium-fine SAND, little subangular gravel, 40% COPR (medium-fine subround gravel) from 1.7' - 2.2' and 2.5' - 3.0', dense, dry, no odor (SP)	016_D005_1.2 (1.2' - 1.7') 016_D005_1.7 (1.7' - 2.2')
3	4.4	0.0		
4	5.0	0.0	3.0 - 4.4 Dark Reddish Gray (5YR 4/2) coarse-medium SAND, trace medium-fine subround gravel (non-COPR), moist-wet, loose, no odor (SW)	016_D005_2.5 (2.5' - 3.0') 016_D005_3.0 (3.0' - 3.5')
5		0.0		40% COPR noted 1.7' - 2.2' & 2.5' - 3.0'
6		0.0	5.0 - 6.0 As Above (3' - 3.5'), Dark Gray (10YR 4/1), moist-wet (SW)	
7		0.0	6.0 - 6.4 Very Dark Gray (5Y 3/1) CLAY, trace silt, soft, moderate plasticity, slight sulfurous odor (OH)	
8	3.3	0.0	6.4 - 6.9 Weak Red (2.5YR 4/3) fine SAND, some medium sand, loose, wet, slight sulfurous odor (SP)	016_D005_7.0 (7.0' - 7.5')
9	5.0	0.0	6.9 - 8.3 Dark Gray (2.5Y 4/1) medium-fine SAND, little silt & coarse sand, loose, wet, slight sulfurous odor (SW)	
10		0.0		
11		0.0	10.0 - 10.3 As Above (6.9' - 8.3'), mostly fine SAND (SP)	016_D005_10.0 (10.0' - 10.5')
12		0.0	10.3 - 12.3 Dark Gray (5Y 4/1) CLAY, high plasticity, soft, moist, slight sulfurous odor (OH)	Fill/native soil interface at 10.3'
13	4.5	0.0	12.3 - 14.5 As Above (10.3' - 12.3'), hue change to Black (5Y 2.5/1) (OH)	
14	5.0	0.0		
15		0.0	15.0 - 16.0 As Above (10.3' - 12.3')	016_D005_14.0 (14.0' - 14.5')
16		0.0	16.0 - 18.3 Dark Brown (10YR 3/3) PEAT and Dark Gray (5Y 4/1) CLAY, soft, moderate plasticity, moist, strong sulfurous odor (PT/OH)	
17	3.3	0.1		
18	5.0	0.6		016_D005_17.8 (17.8' - 18.3')
19		2.2		
20		2.1		
21		0.0	20.0 - 21.0 Greenish Gray (GLE Y2 5/5BG) Clayey SILT, little subround cobbles & fine-coarse gravel, trace fine sand, stiff, low plasticity, moist, no odor (ML)	
22		0.0	21.0 - 21.2 Reddish-Brown (5YR 4/3) Clayey SILT, little fine-coarse gravel and fine sand, stiff, low plasticity, moist, no odor (ML)	
23	1.2			
24	5.0			
25				

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_D005
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 7/8/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Warren Atkinson		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 3.0'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: No
MEMO: Stepped out ~ 10 SE from original location due to utilities			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26		0.0	25.0 - 28.2 Reddish Brown (5YR 4/3) Silty medium-fine SAND, little clay, firm, moist-wet, no odor (SM)	016_D005_25.0 (25.0' - 25.5')
_27		0.0		_26
_28	4.6 5.0	0.0	28.2 - 28.5 Reddish Brown (5YR 4/3) medium-coarse SAND (SW) 28.5 - 29.6 Red (2.5Y 4/6) SILT, some fine sand, little subround to subangular fine-coarse gravel, stiff, moist, no odor (ML)	_27
_29		0.0		_28
_30		0.0	<b>End of Boring at 30' b.g.s.</b>	_29
_31				_30
_32				_31
_33				_32
_34				_33
_35				_34
_36				_35
_37				_36
_38				_37
_39				_38
_40				_39
_41			_40	
_42			_41	
_43			_42	
_44			_43	
_45			_44	
_46			_45	
_47			_46	
_48			_47	
_49			_48	
_50			_49	

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_F005
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 7/8/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Warren Atkinson		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 2.3'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.0	0.0 - 0.8 Brown (10YR 5/3) grading to very Dark Grayish Brown (10YR 3/1) fine-medium SAND, trace coarse gray angular gravel, loose to medium dense, dry, no odor (SP)	016_F005_0.0 (0.0' - 0.5') 016_F005_1.1 (1.1' - 1.6')
2	4.4	0.0	0.8 - 2.3 Reddish Brown (2.5YR 4/3) fine-medium SAND, little subround to subangular gravel, moist, medium-dense, moist-wet at 2.3', no odor (SP)	016_F005_1.6 (1.6' - 2.1') 016_F005_2.1 (2.1' - 2.6')
3	5.0	0.0	2.3 - 4.4 Very Dark Grayish Brown (10YR 3/2) medium SAND, little fine sand, trace coarse sand & silt, 80% COPR from 1.6' - 2.1', loose to medium dense, moist-wet, no odor (SP)	80% COPR noted 1.5' - 2.1'
4		0.0		
5		0.0		
6		0.0	5.0 - 5.4 Reddish Brown (5YR 4/3) medium-fine SAND, little coarse sand, trace silt, loose, moist-wet, no odor (SW)	016_F005_5.0 (5.0' - 5.5')
7	1.1	0.0	5.4 - 6.1 Dark Gray (2.5YR 4/1) medium SAND, some fine sand, trace clay & silt stringers, loose, moist-wet, slight sulfurous odor (SP)	
8	5.0			
9				
10				
11		0.0	10.0 - 10.2 As Above (5.4' - 6.1')	016_F005_10.0 (10.0' - 10.5')
12	4.6	0.0	10.2 - 14.6 Dark Gray (5Y 4/1) CLAY, little silt, high plasticity, soft, moist, slight sulfurous odor (OH)	Fill/native soil interface at 10.5'
13	5.0	0.0		
14		0.0		
15		0.0		016_F005_14.0 (14.0' - 14.5')
16		0.0	15.0 - 16.3 Black (5Y 2.5/1) CLAY, trace peat, soft, high plasticity, moist, slight sulfurous odor (OH)	
17	3.1	1.2	16.3 - 18.1 Very Dark Grayish Brown (10YR 3/2) to Dark Yellowish Brown (10YR 4/6) PEAT, little Dark Gray (5Y 4/1) CLAY throughout, soft, high plasticity, moist, strong sulfurous odor (PT)	
18	5.0	1.7		
19		8.8		
20		12.2		
21		0.0	20.0 - 20.5 Very Dark Gray (5Y 3/1) CLAY, trace peat, moderate to high plasticity, soft, moist, slight sulfurous odor (OH)	016_F005_20.0 (20.0' - 20.5')
22	3.5	0.0	20.5 - 22.1 Greenish Gray (GLE2 5/5BG) CLAY, little very fine sand, low plasticity, grades from soft to stiff, moist, no odor (CL)	
23	5.0	0.0	22.1 - 22.5 Dark Reddish Gray (5YR 4/2) medium SAND, some fine sand, little round cobbles & coarse round sand, medium dense, wet, no odor (SP)	
24		0.0	22.5 - 23.5 Dark Reddish Gray (5YR 4/2) SILT, little coarse-fine subround gravel, stiff, moist, no odor (ML)	016_F005_23.0 (23.0' - 23.5')
25				

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_F005
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 7/8/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Warren Atkinson		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 2.3'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
		0.0	25.0 - 28.7 As Above (22.5' - 23.5'), little medium-fine sand throughout (ML)	25
26		0.0		26
27	3.7	0.0		27
28	5.0	0.0		28
29		0.0		29
30				30
31			<b>End of Boring at 30' b.g.s.</b>	31
32				32
33				33
34				34
35				35
36				36
37				37
38				38
39				39
40				40
41				41
42				42
43				43
44				44
45				45
46				46
47				47
48				48
49				49
50				50

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_I009
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 8/9/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ John Brass		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 3'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.1 Asphalt	016_I009_0.0 (0.0' - 0.5')
1		0.0	0.1 - 2.9 Dark Grayish Brown (2.5Y 4/2) fine SAND, some silt & gray coarse-fine angular to round gravel, little schist gravel & mica, dense, dry, no odor (SM)	
2	3.8	0.0		
3	5.0	0.0	2.9 - 3.8 Brown (7.5YR 4/2) coarse-medium SAND, trace fine subround gravel, loose, wet 3' - 3.8', no odor (SW)	
4		0.0		
5		0.0		
6		0.0	5.0 - 8.3 As Above (2.9' - 3.8'), grades into Dark Gray (7.5YR 4/1) medium SAND, some fine sand, trace coarse sand & fine subround gravel, trace shells, loose, wet, slight sulfurous odor (SW)	016_I009_5.0 (5.0' - 5.5')
7		0.0		
8	3.3	0.0		
9	5.0	0.0		
10		0.0		
11		0.0	10.0 - 12.0 Dark Gray (7.5YR 4/1) medium SAND, some fine sand, trace coarse sand, fine subround gravel, & shells, wet, loose, slight sulfurous odor (SW)	
12		0.0		016_I009_11.5 (11.5' - 12.0')
13	3.2	0.0	12.0 - 13.2 Dark Gray (5Y 4/1) CLAY, trace silt, lense of silty fine-very fine sand, little clay at 12.6' and 12.8'-13', moist, soft, slight sulfurous odor (OH)	Fill/native soil interface at 12'
14	5.0	0.0		
15		0.0	15.0 - 16.5 As Above (12'-13.2') (OH)	
16		0.0		016_I009_15.5 (15.5' - 16.0')
17		0.0	16.5 - 16.9 As Above (12'-13.2'), hue change to Very Dark Gray (5Y 3/1), little organic silt and shell fragments (OH)	
18	1.9	0.0		
19	5.0	0.0		
20		0.0		
21		0.6	20.0 - 21.5 As Above (12.0' - 13.2'), trace peat, strong sulfurous odor (OH)	016_I009_20.0 (20.0' - 20.5')
22		0.3		
23	2.2	0.0	21.5 - 22.2 Greenish Gray (GLE Y2 6/10BG) CLAY, trace silt, high plasticity, soft, moist, no odor (CH), Transitions into Grayish Brown (10YR 5/2) fine-very fine SAND, little silt, medium-dense, moist, no odor (SP/SM)	
24	5.0	0.0		
25		0.0		

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_I009
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 8/9/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ John Brass	DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 3'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: No
MEMO:			

DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26		0.0	25.0 - 25.4 Grayish Brown (10YR 5/2) mottled Greenish Gray (GLE Y2 6/10BG) and Olive (5Y 5/4) fine-very fine SAND, little silt, medium-dense, moist, no odor (SP/SM)	016_I009_25.0 (25.0' - 25.5')
_27		0.0		
_28	3.9 5.0	0.0	25.4 - 28.9 Dark Grayish Brown (10YR 4/2) coarse-medium SAND, trace fine sand & fine subround-subangular gravel, loose, wet, no odor (SW)	_26
_29		0.0		_27
_30		0.0		_28
_31			<b>End of Boring at 30' b.g.s.</b>	_29
_32				_30
_33				_31
_34				_32
_35				_33
_36				_34
_37				_35
_38				_36
_39				_37
_40				_38
_41			_39	
_42			_40	
_43			_41	
_44			_42	
_45			_43	
_46			_44	
_47			_45	
_48			_46	
_49			_47	
_50			_48	


# SOIL BORING LOG

		PROJECT NO.:	117-0509160.01	Boring No:	016_J005
		PROJECT NAME:	PPG Site 016	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/8/2011	30	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:	DRILLING EQUIPMENT:	DRILLING METHOD / BIT:			
EPI \ Warren Atkinson	Geoprobe Track Rig	Direct Push			
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 5.0'		No		
MEMO:					

DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 2.0	016_J005_0.0 (0.0' - 0.5')
1		0.0	Brown (10YR 5/3 grading to 7.5YR 4/3) medium-fine SAND, trace coarse to fine gray angular gravel, broken-up white cobbles (concrete) at 1.7', medium-stiff, dry, no odor (SP)	
2	3.2	0.0	2.0 - 2.7	016_J005_2.2 (2.2' - 2.7')
3	5.0	52.0	2.7 - 3.2	016_J005_2.7 (2.7' - 3.2')
4			Black (2.5Y 2.5/1) medium-fine SAND, 50% COPR (fine-medium subround gravel) from 2.9' - 3.2', strong petroleum odor & thick petroleum product, moist-wet, medium-dense (SW)	50% COPR noted from 2.9' - 3.2'
5				
6		10.7	5.0 - 5.9	016_J005_5.0 (5.0' - 5.5')
7	3.6	4.5	Reddish Brown (5YR 4/3) Silty medium-fine SAND, 50% COPR throughout, little coarse-medium subround gravel, slight petroleum odor and black staining, medium-dense, wet (SM)	016_J005_5.9 (5.9' - 6.4')
8	5.0	3.0	5.9 - 8.6	50% COPR noted from 5.0' - 5.9'
9		3.7	Very Dark Gray (2.5Y 3/1) medium-fine SAND, loose, wet, slight petroleum odor and staining. No petroleum staining from 7.0' - 8.6' (2.5Y 4/1) (SP)	
10		2.5		
		0.0		
11		0.0	10.0 - 10.5	016_J005_10.0 (10.0' - 10.5')
12	2.8	0.0	Dark Gray (2.5Y 4/1) coarse-fine SAND, trace shells, loose, wet, no slight sulfurous odor (SW)	Fill/native soil interface at 10.5'
13	5.0	0.0	10.5 - 12.8	
14		0.0	Dark Gray (5Y 4/1) CLAY, little silt, soft, high plasticity, moist, slight sulfurous odor (OH)	
15		0.0		
16		0.0	15.0 - 16.0	016_J005_15.0 (15.0' - 15.5')
17	2.7	0.0	As Above (10.5' - 13.0') (OH)	
18	5.0	0.0	16.0 - 16.6	
19		0.0	As Above (10.5' - 13.0'), hue change to Black (5Y 2.5/1), little peat, strong sulfurous odor (OH)	
20		0.0	16.6 - 17.7	
			As Above (10.5' - 13.0'), strong sulfurous odor (OH)	
21		4.6	20.0 - 21.4	016_J005_20.0 (20.0' - 20.5')
22	2.5	16.2	Dark Grayish Brown (10YR 4/2) PEAT, little Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist, strong sulfurous odor (PT)	
23	5.0	1.1	21.4 - 22.1	
24		0.0	Gray (GLE Y1 5/N) Clayey SILT, some fine sand, low plasticity, grades from soft to stiff with depth, moist, no odor (ML)	
25		0.0		




# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_J005
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 7/8/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Warren Atkinson	DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 5.0'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26			25.0 - 30.0 No Recovery	_26
_27				_27
_28	0.0 5.0			_28
_29				_29
_30				_30
_31			End of Boring at 30' b.g.s.	_31
_32				_32
_33				_33
_34				_34
_35				_35
_36				_36
_37				_37
_38				_38
_39				_39
_40				_40
_41				_41
_42				_42
_43				_43
_44				_44
_45				_45
_46				_46
_47				_47
_48				_48
_49				_49
_50				_50

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_J014
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 8/9/2011	TOTAL DEPTH OF BOREHOLE: 25	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ John Brass		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 2.3'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY	
		0.0	0.0 - 0.7 Asphalt GRAVEL (GP)		_0
_1		0.0	0.7 - 2.3 Yellowish Brown (10YR 5/4) medium SAND, trace fine sand & shells, Transitions into Brown (10YR 5/3) medium-fine SAND, trace shells, wet 2.1'-2.3', loose, no odor (SP)	016_J014_0.7 (0.7' - 1.2')	_1
_2	3.8	0.0			_2
_3	5.0	0.0	2.3 - 3.8 Gray (10YR 5/1) coarse-medium SAND, some fine round to subround gravel, trace medium subround gravel and fine sand, loose, wet, no odor (SW)		_3
_4		0.0			_4
_5		0.0			_5
_6		0.0	5.0 - 7.2 Brown (7.5YR 4/2) coarse-medium SAND, little medium-fine subround gravel, trace fine sand and shells, loose, wet, slight sulfurous odor (SW)	016_J014_5.0 (5.0' - 5.5')	_6
_7		0.0			_7
_8	2.2	0.0			_8
_9	5.0				_9
_10					_10
_11			10.0 - 15.0 No Recovery - rod jammed	No sample - no recovery	_11
_12					_12
_13	0.0				_13
_14	5.0				_14
_15					_15
_16		0.0	15.0 - 16.5 Black (5Y 2.5/1) CLAY, little silt, trace fine sand, very soft, moderate plasticity, slight sulfurous odor (OH)	016_J014_15.0 (15.0' - 15.5')	_16
_17		0.0			_17
_18	1.5	0.0			_18
_19	5.0				_19
_20					_20
_21		2.8	20.0 - 20.4 Very Dark Brown (10YR 2/2) Organic SILT, little clay and peat, some shells @ 20.5', very soft, wet, strong sulfurous odor (ML/PT)	016_J014_20.0 (20.0' - 20.5')	_21
_22		0.5	20.4 - 23.3 Bluish Gray (GLE Y2 6/10B) Silty CLAY, moderate plasticity, soft, moist-wet, slight sulfurous odor (CH), Transitions into Greenish Gray (GLE Y2 6/5BG) fine sand, little silt & clay, medium-dense, moist-wet, no odor (SC)		_22
_23	3.8	0.0			_23
_24	5.0	0.0	23.3 - 23.7 Gray (2.5Y 5/1) fine-very fine SAND, little silt, medium-dense, moist-wet, (SM) Transitions into Gray (2.5Y 4/1) medium-fine SAND, trace coarse subround sand & fine gravel, medium-dense, wet, no odor (SW)	016_J014_23.3 (23.3' - 23.8')	_24
_25		0.0			_25

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_K007 / 016_MW06
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 8/3/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ AJ Benjamin	DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push	
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 4'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: Yes - 016_MW06
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 0.2 Gray (GLEY 1 5/N) coarse-fine GRAVEL & COBBLES, loose, dry (GW)	016_K007_0.0 (0.0' - 0.5')
1		0.0	0.2 - 0.5 Greenish Gray (GLEY2 6/5BG) flat subround COBBLES, some coarse-medium gravel, little very fine sand, dry, loose, no odor (GW)	
2	4.0	0.0	0.5 - 2.3 Olive Gray (5Y 5/2) medium-fine SAND & mica, some coarse-fine schist gravel, dry, loose, no odor (SW)	15% COPR noted 2.8'-3.3'
3	5.0	0.0	2.3 - 3.3 Reddish Brown (5YR 4/4) SILT & very fine-fine SAND, some light gray coarse gravel & cobbles from 2.3'-2.8', 15% COPR (m-f round gravel) from 2.8'-3.3', little Olive Yellow (2.5Y 6/6) to Pale Yellow (2.5Y 7/3) coarse gravel & medium-fine sand, medium-dense, moist, no odor (ML/SM)	016_K007_2.3 (2.3' - 2.8') 016_K007_2.8 (2.8' - 3.3') 016_K007_3.3 (3.3' - 3.8') 016_K007_3.8 (3.8' - 4.0')
4		0.0	3.3 - 3.8 Gray (2.5Y 6/1) coarse-fine SAND, some coarse-fine white subround-subangular quartz gravel, loose, dry, no odor (SW/GW)	40% COPR noted 3.8'-4.0'
5		0.0	3.3 - 4.0 Reddish Brown (5YR 4/3) fine SAND, some gray coarse-fine sand, 40% COPR (fine round gravel), moist-wet @ 4', loose, no odor (SW)	016_K007_5.0 (5.0 - 5.5')
6	3.5	0.0	5.0 - 6.2 Grayish Brown (10YR 5/2) medium-fine SAND, little coarse sand, trace shells, wet, loose, no odor (SW). Transitions in Very Dark Gray (10YR 3/1), same lithology, slight sulfurous odor (SW)	
7	5.0	0.0	6.2 - 8.5 Grayish Brown (10YR 5/2) medium SAND, some coarse sand, little fine sand, trace fine subround gravel, loose, wet (SW), Transitions into Gray (2.5Y 5/1) medium-fine SAND, trace coarse sand, trace shells, loose, wet, slight sulfurous odor (SW)	
8		0.0	10.0 - 11.9 Gray (2.5Y 5/1) fine SAND, little medium sand, trace shells, fine round gravel, & coarse sand, wet, loose, slight sulfurous odor (SW)	
9		0.0	11.9 - 14.3 Dark Gray (5Y 4/1) CLAY, trace silt, moderate to high plasticity, soft to firm, fine sand 12.3' - 12.6', medium-fine sand 13.3'-13.5', moist, slight sulfurous odor (OH)	016_K007_11.4 (11.4 - 11.9')
10		0.0	15.0 - 16.1 As Above (11.9' - 14.3') (OH)	Fill/native soil interface at 11.9'
11	4.3	0.0	16.1 - 17.0 As Above (11.9' - 14.3'), but Black (5Y 2.5/1) (OH)	
12	5.0	0.0	17.0 - 18.0 As Above (11.9' - 14.3'), trace shells (OH)	016_K007_15.5 (15.5' - 16.0')
13		0.0	20.0 - 21.0 As Above (11.9' - 14.3'), trace shells, abundant 20.8'-21', trace peat, strong sulfurous odor (OH)	
14		0.0	21.0 - 21.9 Dark Brown (7.5YR 3/3) PEAT & Black (10YR 2.5/1) organic SILT, trace clay, moist-wet, very soft, strong sulfurous odor (PT)	016_K007_20.0 (20.0' - 20.5')
15		0.0	21.9 - 22.8 Greenish Gray (GLEY2 6/10BG) Clayey SILT, some very fine sand, firm, moist, slight sulfurous odor (ML), Transitions into Greenish Gray (GLEY2 6/10BG) Silty CLAY, stiff, moist, low plasticity, no odor (CL)	
16	3.0	0.0	22.8 - 23.2 Light Olive Brown (2.5Y 5/3) very fine SAND, some silt, little clay, medium-dense, moist, no odor (SM)	
17	5.0	0.0		
18		0.9		
19		1.8		
20		2.3		
21		0.0		
22		0.0		
23		0.0		
24		0.0		
25		0.0		

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_K007 / 016_MW06
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 8/3/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ AJ Benjamin		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 4'	GROUND SURFACE ELEVATION:	WELL INSTALLED? Yes - 016_MW06
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
		0.0	25.0 - 26.3 As Above (22.8' - 23.2'), Transitions into Light Olive Brown (2.5Y 5/3)	016_K007_25.0 (25.0' - 25.5')
_26		0.0	Clayey SILT, little very fine SAND, firm, moist-wet, no odor (ML)	
		0.0	26.3 - 27.7 Brown (7.5YR 5/2) medium SAND, some fine sand, trace silt, medium-	
_27		0.0	dense, wet, no odor (SW/SP), Transitions into fine SAND, some silt,	
	4.6	0.0	trace clay, medium-dense, moist-wet, no odor (SM)	
_28	5.0	0.0	27.7 - 29.1 Brown (7.5YR 5/2) medium SAND, some fine sand, little coarse sand,	
		0.0	trace subround gravel, wet, medium-dense, no odor (SW)	
_29		0.0		
		0.0	29.1 - 29.6 Reddish Brown (5YR 5/3) fine SAND, some medium sand, medium-	
_30		0.0	dense, wet, no odor (SW/SP)	
_31			<b>End of Boring at 30' b.g.s.</b>	
_32			<b>016_MW07 Well Information:</b>	
_33			016_MW07 installed on 8/3/11 using 8" hollow stem augers equipped on a	
_34			geoprobe track rig	
_35			2-inch diameter 10-slot SCH40 PVC screen set at 4.0' - 9.0' bgs.	
_36			2-inch diameter SCH40 PVC riser from 4.0' bgs. to surface	
_37			#1 Sand from 2.0' to 10.0' bgs.	
_38			Cement-bentonite grout from 2.0' to 0.5'	
_39			Flush-mount completion with concrete protective padding around casing	
_40				
_41				
_42				
_43				
_44				
_45				
_46				
_47				
_48				
_49				
_50				

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_K009
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 7/8/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Warren Atkinson		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 3.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.1 Dark Greenish-Gray (GLE Y1 4/10GY) weathered schist: medium-fine SAND, some mica & schist gravel/cobbles, trace silt, dense, dry, no odor (SP)	016_K009_0.0 (0.0' - 0.5')
1		0.0		
2	4.0	0.0	1.1 - 2.4 Yellowish Brown (10YR 5/6) fine SAND, Light Gray (GLE Y1 7/N) COBBLES (broken-up concrete) from 1.2' - 1.5', 35% COPR 2.1' - 2.4', little slag and gray angular gravel, dry, dense, no odor (SP)	016_K009_1.4 (1.4' - 1.9') 016_K009_1.9 (1.9' - 2.4')
3	5.0	0.0		016_K009_2.4 (2.4' - 2.9')
4		0.0	2.4 - 4.0 Reddish Gray (5YR 5/2) coarse-medium SAND, little fine subround gravel, loose, moist-wet at 3.5', no odor (SW)	35% COPR noted 2.1' - 2.4'
5		0.0		
6		0.0	5.0 - 8.1 As Above (2.4' - 4.0'), Transitions into Dark Gray (2.5YR 4/1) medium SAND, little fine sand, trace coarse sand & shells, loose, wet, no odor (SP)	
7		0.0		
8	3.1	0.0		016_K009_7.0 (7.0' - 7.5')
9	5.0	0.0		
10		0.0		
11		0.0	10.0 - 11.2 Dark Gray (5YR 4/1) fine SAND, little medium sand, loose, wet, slight sulfurous odor (SP)	016_K009_10.7 (10.7' - 11.2')
12		0.0	11.2 - 13.3 Dark Gray (5Y 4/1) CLAY, occasional thin (<1") lense of little very fine sand, soft, high plasticity, moist, slight sulfurous odor (OH)	Fill/native soil interface at 12.2'
13	3.3	0.0		
14	5.0	0.0		
15		0.0		
16		0.0	15.0 - 16.3 As Above (11.2' - 13.3') (OH)	
17		0.0	16.3 - 16.7 As Above (11.2' - 13.3'), hue change to Black (5Y 2.5/1), little peat, strong sulfurous odor (OH)	016_K009_16.0 (16.0' - 16.5')
18	3.3	0.0	16.7 - 17.1 Black (GLE Y1 2.5/N) Lignite fragments, loose, dry, strong sulfurous odor (GW)	
19	5.0	0.0	17.1 - 18.3 As Above (11.2' - 13.3'), little shells, strong sulfurous odor (OH)	
20		0.0		
21		0.0	20.0 - 21.0 As Above (11.2' - 13.3'), abundant shell fragments from 20.6' - 20.9', strong sulfurous odor (OH)	016_K009_20.0 (20.0' - 20.5')
22		0.0	21.0 - 22.1 Dark Grayish Brown (10YR 4/2) PEAT, little Dark Gray (GLE Y1 4/N) CLAY, moderate plasticity, soft, moist, strong sulfurous odor (PT)	
23	3.1	0.0	22.1 - 23.1 Dark Gray (GLE Y2 4/N) Silty CLAY, soft, moderate plasticity, moist (CL), Transitioning into Greenish Gray (GLE Y2 6/6BG) SILT & very fine sand, little fine sand & clay, stiff, moist-wet, no odor (ML)	
24	5.0	0.0		
25		0.0		

# SOIL BORING LOG

		PROJECT NO: 117-0509160.01	Boring No: 016_K009
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 7/8/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Warren Atkinson		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 3.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26		0.0	25.0 - 27.2 As Above (22.1' - 23.2')	016_K009_25.0 (25.0' - 25.5')
_27		0.0		
_28	4.6 5.0	0.0	27.2 - 29.6 Reddish Brown (5YR 4/3) Clayey SILT, low plasticity (ML), Transitioning into Reddish Brown (5YR 4/3) Silty fine SAND, trace clay, dense, wet (SM), Transitioning into Reddish Gray (5YR 5/2) coarse SAND & fine subrou GRAVEL, little medium sand, trace medium-coarse gravel, loose, wet, no odor (SW/GW)	
_29		0.0		
_30		0.0		
_31				<b>End of Boring at 30' b.g.s.</b>
_32				
_33				
_34				
_35				
_36				
_37				
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_40				
_41				
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_43				
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_45				
_46				
_47				
_48				
_49				
_50				

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_K013 / 016_MW08
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 8/3/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ AJ Benjamin		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 3.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: Yes - 016_MW08
MEMO:			

DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0				
1		0.0	0.0 - 0.9 Gray (GLEY 1 5/N) coarse-fine GRAVEL & COBBLES, loose, dry (GW)	Due to high gravel content, no sample taken 0' - 0.5'
2		0.0	0.9 - 1.2 Light Greenish Gray (GLEY1 8/10Y) coarse-medium subround sandstone GRAVEL & COBBLES, little medium-fine sand, dry, medium dense (GW)	016_K013_1.2 (1.2' -1.7')
3	3.6	0.0	1.2 - 2.1 Yellowish Red (5YR 5/6) SILT & fine SAND, 25% COPR (medium-fine round gravel) through, trace fc subangular gray gravel, moist, loose, no odor (ML)	25% COPR noted 1.2' - 2.1'
4	5.0	0.0	2.1 - 3.6 Reddish Gray (5YR 5/2) medium SAND, some fine sand, trace coarse sand & fine subround gravel, moist, wet 3.5'-3.6', loose, no odor (SW)	016_K013_2.1 (2.1' -2.6')
5		0.0		
6		0.0	5.0 - 7.5 Dark Gray (2.5Y 4/1) medium-fine SAND, little silt, trace shells, wet, loose, slight sulfurous odor (SM), Transitions into Dark Reddish Gray (5YR 4/2) coarse-medium SAND, little fine subround to subangular gravel, trace shells, loose, wet, slight sulfurous odor (SW)	016_K013_6.0 (6.0' -6.5)
7	2.5	0.0		
8	5.0	0.0		
9		0.0		
10		0.0	10.0 - 11.8 Dark Gray (10YR 4/1) coarse-medium SAND, little fine sand, trace fine subround gravel & shells, loose, wet, slight sulfurous odor (SW), Transitions into (10YR 4/1) Dark Grayish Brown (10YR 4/2) medium-fine SAND, little silt, trace shells, loose, wet, slight sulfurous odor (SM)	016_K013_11.3 (11.3' -11.8)
11		0.0		
12	1.8	0.0		
13	5.0			Fill/native soil interface not recovered
14				
15				
16			15' - 20' No Recovery	
17				
18	0.0			
19	5.0			
20				
21		0.0	20.0 - 21.3 Dark Gray (5Y 4/1) CLAY, little silt & shells, very soft, moist-wet, moderate plasticity, slight sulfurous odor (OH)	016_K013_20.0 (20.0' -20.5)
22		0.0	21.3 - 22.4 Dark Brown (10YR 3/3) PEAT, trace Dark Gray (5Y 4/1) CLAY, soft, low plasticity, moist, strong sulfurous odor (PT)	
23	3.2	1.8	22.4 - 23.2 Dark Gray (10YR 4/1) CLAY, trace peat, moderate to high plasticity, soft, moist, slight sulfurous odor (OH), Transitions into Greenish Gray (GLEY2 6/5BG) very fine SAND, little clay & silt, medium-dense, moist-wet, no odor (SC)	
24	5.0	12.5		
25		0.4		
		0.0		


# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_K013 / 016_MW08
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 8/3/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ AJ Benjamin		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER ~ 3.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? Yes - 016_MW08
MEMO:			

DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_25		0.0	25.0 - 27.6 Greenish Gray (GLEY2 6/5BG) CLAY, little silt, moderate plasticity, firm, moist, no odor (CH), Transitions into fine-very fine SAND, little silt & clay, medium-dense, moist-wet, no odor (SC)	016_K013_25.0 (25.0' -25.5)
_26		0.0		_26
_27		0.0		_27
_28	3.6 5.0	0.0	27.6 - 28.6 Grayish Brown (10YR 5/2) fine SAND, little very fine sand & silt, medium-dense, moist-wet, no odor (SM), Transitions into Gray (10YR 5/1) coarse-medium SAND, little fine sand, trace fine subround gravel, wet, loose, no odor (SW)	_28
_29		0.0		_29
_30		0.0		_30
_31			<b>End of Boring at 30' b.g.s.</b>	_31
_32			<b>016_MW08 Well Information:</b>	_32
_33			016_MW08 installed on 8/3/11 using 8" hollow stem augers equipped on a geoprobe track rig	_33
_34			2-inch diameter 10-slot SCH40 PVC screen set at 3.5' - 8.5' bgs.	_34
_35			2-inch diameter SCH40 PVC riser from 3.5' bgs. to surface	_35
_36			#1 Sand from 1.5' to 10.0' bgs.	_36
_37			Cement-bentonite grout from 1.5' to 0.5'	_37
_38			Flush-mount completion with concrete protective padding around casing	_38
_39			DTW: 4.0' bgs, measured on 8/09/11	_39
_40				_40
_41				_41
_42				_42
_43				_43
_44				_44
_45				_45
_46				_46
_47				_47
_48				_48
_49				_49
_50				_50




# SOIL BORING LOG

		PROJECT NO.:	117-0509160.01	Boring No:	016_L005
		PROJECT NAME:	PPG Site 016	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
7/8/2011	30	PID MiniRAE 2000	Jim M / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:		DRILLING EQUIPMENT:	DRILLING METHOD / BIT:		
EPI \ Warren Atkinson		Geoprobe Track Rig	Direct Push		
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 5.0'		No		
MEMO:					


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY	
0				016_L005_0.0 (0.0' - 0.5')	0
1		0.0	0.0 - 2.0 Pale Brown (10YR 6/3) grading to Very Dark Grayish Brown (10YR 3/2) medium-fine SAND, trace coarse gray angular gravel, loose to medium dense, dry, no odor (SP)		1
2		0.0			2
3	2.5	0.0	2.0 - 2.5 Light Gray (10YR 7/1) COBBLES & GRAVEL (broken-up concrete), dry, loose, no odor (GW)		3
4	3.0				4
5					5
6		0.0	5.0 - 7.7 Brown (10YR 4/2) medium SAND, little coarse sand, trace fine sand, loose, wet, no odor (SP). Zone of Dark Reddish Gray (2.5YR 4/1) Clayey SILT from 6.6' - 7.0' (ML)	016_L005_5.0 (5.0' - 5.5')	6
7		0.0			7
8	2.7	0.0			8
9	5.0				9
10					10
11		0.0	10.0 - 11.3 Dark Gray (10YR 4/1) fine SAND, little medium sand, trace shells, loose, wet, slight sulfurous odor (SP). Transitions to Dark Gray (10YR 4/1) coarse-medium SAND & fine subround GRAVEL, loose, wet, slight sulfurous odor (GW/SW)	016_L005_10.7 (10.7' - 11.3')	11
12		0.0		Fill/native soil interface at 11.3'	12
13	2.2	0.0	11.3 - 12.2 Dark Gray (5Y 4/1) CLAY, little silt, soft, high plasticity, moist, slight sulfurous odor (OH)		13
14	5.0				14
15					15
16		0.0	15.0 - 15.3 Dark Gray (5Y 4/1) CLAY, very soft, moderate plasticity, moist, slight sulfurous odor (OH)	016_L005_15.0 (15.0' - 15.5')	16
17		0.0	15.3 - 17.0 As Above (15.0' - 15.3'), hue change to Black (5Y 2.5/1), little peat, strong sulfurous odor (OH)		17
18	2.0				18
19	5.0				19
20					20
21		2.3	20.0 - 21.3 Dark Grayish Brown (10YR 4/2) PEAT, little Very Dark Gray (5Y 3/1) CLAY, moderate plasticity, soft, moist, strong sulfurous odor (PT)	016_L005_20.0 (20.0' - 20.5')	21
22		5.5			22
23	2.6	0.3	21.3 - 22.6 Dark Gray (5Y 4/1) Silty CLAY, soft, moderate plasticity, moist (CL) Transitioning to Greenish Gray (GLE Y2 6/5BG) SILT, little fine sand & clay, firm, low plasticity, moist, no odor (ML)		23
24	5.0	0.0			24
25		0.0			25

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_L005
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 7/8/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ Warren Atkinson		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 5.0'	GROUND SURFACE ELEVATION:	WELL INSTALLED?: No
MEMO:			


DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
_26		0.0	25.0 - 28.4 Greenish Gray (GLEY2 6/5BG) SILT, little fine sand & clay, firm, low plasticity, moist, no odor (ML), transitions into Dark Reddish Gray (5YR 4/2) medium-coarse SAND, little fine subround gravel, trace fine sand, loose, wet, no odor (SW)	016_L005_25.0 (25.0' - 25.5')
_27		0.0		_26
_28	3.4 5.0	0.0		_27
_29		0.0		_28
_30		0.0		_29
_31				_30
_32			<b>End of Boring at 30' b.g.s.</b>	_31
_33				_32
_34				_33
_35				_34
_36				_35
_37				_36
_38				_37
_39				_38
_40				_39
_41				_40
_42				_41
_43				_42
_44				_43
_45				_44
_46				_45
_47				_46
_48				_47
_49				_48
_50				_49

# SOIL BORING LOG

		PROJECT NO.:	117-0509160.01	Boring No:	016_L010 / 016_MW07
		PROJECT NAME:	PPG Site 016	LOCATION SKETCH	
COMPLETION DATE:	TOTAL DEPTH OF BOREHOLE:	MONITORING DEVICE:	GEOLOGIST / OFFICE:		
8/3/2011	30	PID MiniRAE 2000	Jim M. / Whitehouse Station		
DRILLING CONTRACTOR / DRILLER:	DRILLING EQUIPMENT:	DRILLING METHOD / BIT:			
EPI \ AJ Benjamin	Geoprobe Track Rig	Direct Push			
SAMPLING METHOD:	DEPTH TO GROUNDWATER	GROUND SURFACE ELEVATION:	WELL INSTALLED?		
5' Sleeves, 1.25"	~ 3.5'		Yes - 016_MW07		
MEMO: Cored through ~ 0.4' of concrete before advancing with geoprobe					

DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
0		0.0	0.0 - 1.3 Dark Grayish Brown (2.5Y 5/2) medium-fine SAND & mica flakes, some coarse-fine schist gravel, white cobbles 0.4' -0.5', loose, dry, no odor (SP)	016_L010_0.0 (0.0' - 0.5')
1		0.0		
2	4.5	0.0	1.3 - 2.0 Olive Brown (2.5Y 4/3) SILT & fine SAND, trace gray subround fine gravel, white cobbles 1.8'-1.9', medium-dense, dry, no odor (SM)	016_L010_1.6 (1.6' -2.1')
3	5.0	0.0	2.0 - 2.2 Light Gray (2.5Y 7/2) coarse-fine SAND, little subangular gravel, loose, dry, no odor (SW), 20% COPR (medium-fine subround gravel) 2.1'-2.2'	016_L010_2.1 (2.1' -2.6')
4		0.0	2.2 - 2.5 Reddish Brown (2.5YR 4/4) SILT, little very fine sand, 20% COPR (medium-fine round gravel) 2.2'-2.5', moist, firm, no odor (ML)	016_L010_2.6 (2.6' -3.1')
5		0.0	2.5 - 4.5 Reddish Gray (2.5YR 5/2) coarse SAND, some medium sand, little shells & fine subround to subangular gravel, moist-wet, wet at 3.5', loose, no odor (SW)	20% COPR noted 2.1' - 2.5'
6		0.0	5.0 - 9.0 As Above (2.5' - 4.5'), but with medium-fine subround gravel, Transitions into Gray (7.5YR 5/1) coarse-medium SAND, trace medium-fine subround gravel, fine sand, & shells, loose, wet, slight sulfurous odor (SW)	016_L010_5.0 (5.0' - 5.5')
7		0.0		
8	4.0	0.0		
9	5.0	0.0		
10		0.0		
11		0.0	10.0 - 12.6 Gray (7.5YR 5/1) coarse-medium SAND, trace medium-fine subround gravel, fine sand, & shells, loose, wet, slight sulfurous odor (SW)	016_L010_10.0 (10.0' - 10.5')
12		0.0	Transitions into Dark Gray (2.5Y 4/1) medium SAND, some fine sand, trace coarse sand, fine subround gravel, & shells, loose, wet, slight sulfurous odor (SW)	Fill/native soil interface not recovered
13	2.6	0.0		
14	5.0	0.0		
15		0.0		
16		0.0	15.0 - 15.5 Dark Gray (2.5Y 4/1) medium-fine SAND, trace coarse sand, fine subround gravel, & shells, loose, wet, slight sulfurous odor (SW)	016_L010_15.0 (15.0' - 15.5')
17		0.0	15.5 - 17.7 Dark Gray (5Y 4/1) CLAY, trace shells & silt, high plasticity, soft, moist, slight sulfurous odor (OH), hue change to Very Dark Gray (5Y 3/1) from 16.4' - 16.8'	
18	2.7	0.0		
19	5.0	0.0		
20		0.0		
21		0.0	20.0 - 22.1 As Above (15.5' - 17.7'), little fine-very fine sand 20.4' - 20.5' (OH)	016_L010_20.0 (20.0' - 20.5')
22		0.3		
23	3.2	0.1	22.1 - 22.7 Dark Brown (7.5YR 3/3) PEAT & Black (10YR 2.5/1) organic SILT, trace dark gray clay, soft, moist, strong sulfurous odor (PT)	
24	5.0	4.5		
25		0.0	22.7 - 23.2 Bluish Gray (GLE Y2 6/10B) Clayey fine-very fine SAND, little silt, firm, moist-wet, slight sulfurous odor (SM)	

# SOIL BORING LOG

		PROJECT NO.: 117-0509160.01	Boring No: 016_L010 / 016_MW07
		PROJECT NAME: PPG Site 016	LOCATION SKETCH
COMPLETION DATE: 8/3/2011	TOTAL DEPTH OF BOREHOLE: 30	MONITORING DEVICE: PID MiniRAE 2000	GEOLOGIST / OFFICE: Jim M. / Whitehouse Station
DRILLING CONTRACTOR / DRILLER: EPI \ AJ Benjamin		DRILLING EQUIPMENT: Geoprobe Track Rig	DRILLING METHOD / BIT: Direct Push
SAMPLING METHOD: 5' Sleeves, 1.25"	DEPTH TO GROUNDWATER: ~ 3.5'	GROUND SURFACE ELEVATION:	WELL INSTALLED? Yes - 016_MW07
MEMO:			

DEPTH (Feet)	RECOVERY (feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION	FIELD NOTES & SAMPLE SUMMARY
		0.0	25.0 - 27.5 Greenish Gray (GLE Y2 5/5BG) CLAY, little silt, firm, moist-wet, moderate plasticity, slight sulfurous odor (CH), Transitions into Clayey SILT, some fine-very fine sand, soft, moist-wet, low plasticity, no odor (ML)	016_L010_25.0 (25.0' - 25.5')
_26		0.0		
_27		0.0		
	4.3	0.0	27.5 - 29.3 Brown (7.5YR 5/2) Silty fine-very fine SAND, little clay, medium-dense, moist-wet, no odor (SM), Transitions into medium-fine SAND, trace coarse sand & fine subround gravel, medium-dense, moist-wet, no odor (SW)	
_28	5.0	0.0		
_29		0.0		
_30		0.0		
_31			<b>End of Boring at 30' b.g.s.</b>	
_32			<b>016_MW07 Well Information:</b> 016_MW07 installed on 8/3/11 using 8" hollow stem augers equipped on a geoprobe track rig	
_33			2-inch diameter 10-slot SCH40 PVC screen set at 3.5' - 8.5' bgs.	
_34			2-inch diameter SCH40 PVC riser from 3.5' bgs. to surface	
_35			#1 Sand from 1.5' to 10.0' bgs.	
_36			Cement-bentonite grout from 1.5' to 0.5'	
_37			Flush-mount completion with concrete protective padding around casing	
_38			DTW: 3.87' bgs, measured on 8/19/11	
_39				
_40				
_41				
_42				
_43				
_44				
_45				
_46				
_47				
_48				
_49				
_50				



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

### SOIL BORING LOG

**PROJECT NUMBER: 146429** **PPG - SITE 16 - 45 LINDEN AVENUE EAST**  
**SOIL BORING - CD001**

DATE STARTED: 09.06.2013 DATE COMPLETED: 09.06.2013  
 Northing: Easting: Elevation: ±4-ft msl TOTAL DEPTH: 20.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: Geoprobe with HSA, 2" Split-Spoon, and 140-lb Hammer PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	Blow Counts	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
2.0	80%	13-14	CONCRETE underlain by GRAVEL (road base material)	ML		0.0	COPR
		11-13	red brown SILT, 8-inch COPR layer				
4.0	100%	14-13	brown M-F SAND, trace shells, saturated	SP	3.5-4.0	0.0	
		13-11					
6.0	100%	6-6	gray M-F SAND, trace shell fragments, saturated	SM	4.0-4.5, 4.5-5.0	0.0	
		5-5					
8.0	100%	2-2			5.0-5.5	0.0	
		3-1					
10.0	80%	2-1				0.0	
		1-0				0.0	
12.0	80%	2-1	gray SILT, saturated	ML		0.0	W/H = weight of hammer
		1-0					
14.0	100%	W/H				0.0	
		W/H				0.0	
16.0	100%	0-0	MEADOW MAT, brown organic material, roots	PT		0.0	
		3-2					
18.0	100%	0-0	gray SILT, very loose, saturated	ML		0.0	
		3-2					
20.0	10%	3-2	20-ft End of Boring			0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429** **PPG - SITE 16 - 45 LINDEN AVENUE EAST**  
**SOIL BORING - FD002**

DATE STARTED: 07.29.2013 DATE COMPLETED: 07.30.2013  
 Northing: Easting: Elevation: ±4-ft msl TOTAL DEPTH: 20.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: Geoprobe with HSA, 2" Split-Spoon, and 140-lb Hammer PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	Blow Counts	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
2.0	80%	16-13	ASPHALT	SP		0.0	
		12-5	brown SAND, some gravel				
4.0	80%	3-4				0.0	
		7-9					
6.0	80%	6-6			4.5-5.0	0.0	
		5-5					
8.0	80%	2-2			5.0-5.5, 5.5-6.0	0.0	
		3-1	black SILT (organic) 7.5-8 ft				
10.0	80%	2-1	brown SAND, moist	OL	6.0-6.5	0.0	
		1-0	gray SILT, wet	SM			
12.0	60%	1-0	gray SAND, loose, saturated	ML		0.0	
		W/H					
14.0	60%	W/H		SM		0.0	W/H = weight of hammer
		W/H					
16.0	60%	0-0	MEADOW MAT, brown organic material, roots	PT		0.0	
		3-2					
18.0						0.0	
20.0			18-ft End of Boring			0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - GD002</b>			
DATE STARTED: 08.27.2013		DATE COMPLETED: 08.27.2013	
Northing: 676798.7485	Easting: 607767.3075	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks					
5.0	100%	0.0-0.5	SAND and gravel, fill material, angular pieces of concrete and asphalt	SP								
		0.5-1.0										
		1.0-1.5										
		1.5-2.0										
		2.0-2.5	red brown COPR layer			5% COPR						
		2.5-3.0										
		3.0-3.5						SM	3.5-4.0	0.0	80% COPR	
		3.5-4.0										brown SAND fine to medium, moist
		4.0-4.5										
		4.5-5.0										
10.0	100%	5.0-5.5	SM	5-5.5								
		5.5-6.0										
		6.0-6.5										
		6.5-7.0										
		7.0-7.5										
		7.5-8.0					gray SAND, abundant shells					
		8.0-8.5										
		8.5-9.0										
		9.0-9.5										
		9.5-10.0										

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - HD001</b>			
DATE STARTED: 08.27.2013		DATE COMPLETED: 08.27.2013	
Northing: 676779.0547	Easting: 607789.882	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	brown SAND and gravel	SP		0.0	
		0.5-1.0	dark brown to black pebbles (asphalt material)				5% COPR
		1.0-1.5				0.0	5% COPR
		1.5-2.0					10% COPR
		2.0-2.5	dark brown sandy SILT with COPR nodules	SM		0.0	10% COPR
		2.5-3.0					50% COPR
		3.0-3.5					50% COPR
		3.5-4.0				1.2	50% COPR
		4.0-4.5					50% COPR
		4.5-5.0	COPR layer (about 6 inches) right at 5 feet below ground surface			0.0	100% COPR
10.0	100%	5.0-5.5		SM	5.5-6.0		100% COPR
		5.5-6.0	dark gray SAND medium to coarse			0.0	50% COPR
		6.0-6.5	trace shells				
		6.5-7.0		6.5-7		0.0	
		7.0-7.5		7-7.5			
		7.5-8.0	brown SAND medium to coarse	SP		0.0	
		8.0-8.5					
		8.5-9.0	light gray SAND, silty	SM		0.0	
		9.0-9.5	some shells				
		9.5-10.0				0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface





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### SOIL BORING LOG

**PROJECT NUMBER: 146429** **PPG - SITE 16 - 45 LINDEN AVENUE EAST**  
**SOIL BORING - HD002**

DATE STARTED: 07.29.2013 DATE COMPLETED: 07.30.2013  
 Northing: Easting: Elevation: ±4-ft msl TOTAL DEPTH: 20.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: Geoprobe with HSA, 2" Split-Spoon, and 140-lb Hammer PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	Blow Counts	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
2.0	80%	17-19	ASPHALT			0.0	
		19-13	GRAVEL fill material (road base)				
4.0	80%	14-15	brown fine SAND, COPR material	SP		0.0	COPR
		9-5	red brown fine SAND, COPR material	SP			COPR
6.0	60%	1-0			4.0-4.5, 4.5-5.0	0.0	
		3-4			5.0-5.5, 5.5-6.0		
8.0	60%	5-4	dark grey to black SILT (organic)	OL		0.0	
		5-5					
10.0	60%	4-3				0.0	
		3-4	gray F-M SAND, wet				
12.0	80%	3-3				0.0	
		2-1	gray SAND, loose, saturated	SM			
14.0	60%	W/H				0.0	W/H = weight of hammer
16.0	60%	W/H	gray F-M SAND, shell fragments, wet	SM		0.0	
18.0	80%	W/H	MEADOW MAT, brown organic material, roots	PT		0.0	
20.0			18-ft End of Boring			0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - ID001</b>			
DATE STARTED: 08.26.2013		DATE COMPLETED: 08.26.2013	
Northing: 676739.4355	Easting: 607834.9893	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	sand and gravel	SP				
		0.5-1.0	same as above, angular, dry					
		1.0-1.5	brown red SILT with COPR					50% COPR
		1.5-2.0						50% COPR
		2.0-2.5						50% COPR
		2.5-3.0						50% COPR
		3.0-3.5	COPR layer (about 18 inches), red brown with darker blobs					100% COPR
		3.5-4.0						100% COPR
		4.0-4.5	same as above, moist					100% COPR
		4.5-5.0	gray SAND fine, wet					SM
10.0	100%	5.0-5.5		SM	5.0-5.5			
		5.5-6.0			5.5-6.0			
		6.0-6.5	brown SAND fine to medium, moist		6.0-6.5			
		6.5-7.0						
		7.0-7.5						
		7.5-8.0	gray SAND medium to coarse, abundant shell fragments	SP				
		8.0-8.5						
		8.5-9.0						
9.0-9.5								
9.5-10.0								

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - ID002</b>			
DATE STARTED: 08.26.2013		DATE COMPLETED: 08.26.2013	
Northing: 676718.109	Easting: 607856.7017	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	sand and gravel	SP					
		0.5-1.0	fine sand, angular large gravel						
		1.0-1.5							
		1.5-2.0	same as above, some COPR						
		2.0-2.5						10% COPR	
		2.5-3.0						10% COPR	
		3.0-3.5	gray SAND medium, moist	SM					
		3.5-4.0						3.5-4.0	
		4.0-4.5						4.0-4.5	
		4.5-5.0	same as above, wet					4.5-5.0	
10.0	100%	5.0-5.5	same as above, some shells	SM					
		5.5-6.0							
		6.0-6.5							
		6.5-7.0							
		7.0-7.5							
		7.5-8.0							
		8.0-8.5							
		8.5-9.0							
		9.0-9.5							
		9.5-10.0							

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - JD001</b>			
DATE STARTED: 08.26.2013		DATE COMPLETED: 08.26.2013	
Northing: 676708.7283	Easting: 607887.3349	Elevation:	TOTAL DEPTH: 10.0 Ft
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	brown SAND and gravel, dry	SP			
		0.5-1.0					
		1.0-1.5	fine angular gravel to cobble	GP			
		1.5-2.0					
		2.0-2.5					
		2.5-3.0					
		3.0-3.5					
		3.5-4.0					
		4.0-4.5	dark gray clayey				
		4.5-5.0	fill, plastic pieces, moist	SP			
10.0	100%	5.0-5.5	dark gray clay, petroleum odor, product sheen, saturated	CH	5.0-5.5		
		5.5-6.0			5.5-6.0	53.8	
		6.0-6.5	gray SAND fine to medium, wet	SM	6.0-6.5		
		6.5-7.0			6.5-7.0	50.1	
		7.0-7.5					
		7.5-8.0				5.1	
		8.0-8.5					
		8.5-9.0				1.8	
		9.0-9.5					
		9.5-10.0				1.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - JD002</b>			
DATE STARTED: 08.26.2013		DATE COMPLETED: 08.26.2013	
Northing: 676681.7781	Easting: 607904.4752	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	SAND and gravel, fill material dry	SP		0.0	5% COPR
		0.5-1.0				0.0	
		1.0-1.5	SAND and gravel material			0.0	
		1.5-2.0				0.0	
		2.0-2.5				0.0	
		2.5-3.0	concrete pieces			0.0	
		3.0-3.5					
		3.5-4.0	concrete			4.2	
		4.0-4.5	black tar-like substance, petroleum odor, wood pieces, plastic	PT			
		4.5-5.0				11.2	
10.0	100%	5.0-5.5	gray SAND fine to medium, shells	SP	5.0-5.5		
		5.5-6.0			5.5-6.0	10.9	
		6.0-6.5			6.0-6.5		
		6.5-7.0			6.5-7.0	0.0	
		7.0-7.5					
		7.5-8.0				0.0	
		8.0-8.5					
		8.5-9.0				0.0	
		9.0-9.5					
		9.5-10.0				0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - JD003</b>			
DATE STARTED: 08.26.2013		DATE COMPLETED: 08.26.2013	
Northing: 676673.0569	Easting: 607859.7832	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	asphalt				
		0.5-1.0				0.0	
		1.0-1.5					
		1.5-2.0	fill material road base			0.0	
		2.0-2.5	cobbles, concrete				
		2.5-3.0	brown SAND and gravel			0.0	
		3.0-3.5		SP			5% COPR
		3.5-4.0				0.0	10% COPR
		4.0-4.5	brown black silty SAND	SM			50% COPR
		4.5-5.0	brown red COPR layer	GP		0.0	100% COPR
10.0	100%	5.0-5.5	dark gray SILT, cobble	SM	5.0-5.5		
		5.5-6.0	gray SAND, fine to medium, some shell fragments		5.5-6.0	0.0	
		6.0-6.5			6.0-6.5		
		6.5-7.0			6.5-7.0	0.0	
		7.0-7.5					
		7.5-8.0		SW		0.0	
		8.0-8.5					
		8.5-9.0				0.0	
		9.0-9.5					
		9.5-10.0				0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - JD004</b>			
DATE STARTED: 08.26.2013		DATE COMPLETED: 08.26.2013	
Northing: 676682.0627	Easting: 607876.8487	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	asphalt fill material		2.5-3.0	0.0	15% COPR
		0.5-1.0					
		1.0-1.5	concrete				
		1.5-2.0	COPR-impacted				
		2.0-2.5					
		2.5-3.0	brown SAND medium to coarse	SW			
		3.0-3.5	fine gravel	GP			
		3.5-4.0					
		4.0-4.5					
		4.5-5.0					
10.0	100%	5.0-5.5		GP	3.0-3.5	0.0	15% COPR
		5.5-6.0					
		6.0-6.5					
		6.5-7.0					
		7.0-7.5					
		7.5-8.0	gray silty SAND fine to medium	SW			
		8.0-8.5	some shell fragments				
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - JD005</b>			
DATE STARTED: 08.21.2013		DATE COMPLETED: 08.21.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	asphalt			0.0		
		0.5-1.0				0.0		
		1.0-1.5				0.0		
		1.5-2.0	light gray fine SAND and gravel (road base)			0.0		
		2.0-2.5				0.0		
		2.5-3.0			SP			
		3.0-3.5						
		3.5-4.0	asphalt mix with SILT, black		SM			5% COPR
		4.0-4.5	black SILT with trace to some COPR		ML			15% COPR
		4.5-5.0	gray silty SAND, some staining (black) at top		SM	4.5-5.0	1.4	
10.0	100%	5.0-5.5				1.2		
		5.5-6.0				0.0		
		6.0-6.5	gray SAND, medium to coarse, some shells			6.0-6.5	0.0	
		6.5-7.0				0.0		
		7.0-7.5				0.0		
		7.5-8.0				0.0		
		8.0-8.5			SW		0.0	
		8.5-9.0					0.0	
		9.0-9.5					0.0	
		9.5-10.0					0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface





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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - JD006</b>			
DATE STARTED: 08.21.2013		DATE COMPLETED: 08.21.2013	
Northing: 676629.4225	Easting: 607835.1804	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	asphalt					
		0.5-1.0	road base - tar, black					
		1.0-1.5	brown clayey sand, trace COPR	SC			5% COPR	
		1.5-2.0	brown silty SAND, trace COPR	SM			15% COPR	
		2.0-2.5	same as above, moist				15% COPR	
		2.5-3.0	dark gray to black silty sand, saturated				5% COPR	
		3.0-3.5				3.0-3.5		
		3.5-4.0				3.5-4.0		
		4.0-4.5		gray SAND, medium to coarse, some shell fragments, wet	SW		4.0-4.5	
		4.5-5.0					4.5-5.0	
10.0	100%	5.0-5.5		SW				
		5.5-6.0						
		6.0-6.5						
		6.5-7.0						
		7.0-7.5						
		7.5-8.0						
		8.0-8.5						
		8.5-9.0						
		9.0-9.5						
		9.5-10.0						

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - JD007</b>			
DATE STARTED: 08.26.2013		DATE COMPLETED: 08.26.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	asphalt				80% COPR	
		0.5-1.0	fill material road base					
		1.0-1.5						
		1.5-2.0	COPR layer (8 inches)	GP		0.0		
		2.0-2.5						
		2.5-3.0	brown SAND medium to coarse, fine gravel, trace shells, moist	SW		2.5-3.0		0.0
		3.0-3.5				3.0-3.5		
		3.5-4.0				3.5-4.0		0.0
		4.0-4.5				4.0-4.5		
		4.5-5.0						0.0
10.0	100%	5.0-5.5	gray SAND, some shells, fine to medium	SP				
		5.5-6.0					0.0	
		6.0-6.5						
		6.5-7.0					0.0	
		7.0-7.5						
		7.5-8.0					0.0	
		8.0-8.5						
		8.5-9.0					0.0	
		9.0-9.5						
		9.5-10.0					0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429** **PPG - SITE 16 - LINDEN AVENUE EAST**  
**SOIL BORING - KD001**

DATE STARTED: 07.29.2013 DATE COMPLETED: 07.30.2013  
 Northing: Easting: Elevation: ±4-ft msl TOTAL DEPTH: 20.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: Geoprobe with HSA, 2" Split-Spoon, and 140-lb Hammer PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	Blow Counts	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
2.0	80%	16-13	SILT, organic material, grass	GM		0.0	
		12-5	FILL MATERIAL, asphalt millings, silt, concrete pieces				
4.0	80%	3-4				0.0	
		7-9					
6.0	80%	6-6			5.0-5.5, 5.5-6.0	0.0	
		5-5					
8.0	80%	2-2	dark gray SAND, moist	SM	6.0-6.5, 6.5-7.0	0.0	
		3-1					
10.0	80%	2-1	gray SAND, silty, saturated	SM		0.0	
		1-0					
12.0	60%	2-1		SM		0.0	
		1-0					
14.0	60%	W/H	gray SAND, some shell fragments, very loose, saturated			0.0	W/H = weight of hammer
		W/H					
16.0	60%	W/H		OL		0.0	
		W/H	gray silty CLAY, soft, wet				
18.0	60%	W/H				0.0	
		W/H					
20.0	60%		20-ft End of Boring			0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429**      **PPG - SITE 16 - LINDEN AVENUE EAST**  
**SOIL BORING - KD002**

DATE STARTED: 08.21.2013    DATE COMPLETED: 08.21.2013  
 Northing: 676646.5815    Easting: 607899.9287    Elevation:    TOTAL DEPTH: 10.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe    PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	fine SAND and large gravel	SP	4.5-5.0	0.0	100% COPR
		0.5-1.0	road base material			0.0	
		1.0-1.5				0.0	
		1.5-2.0	asphalt layer (8-12 inches), very stiff			0.0	
		2.0-2.5				0.0	
		2.5-3.0	asphalt/silt mixture	SM		0.0	
		3.0-3.5	COPR layer (2-3 inches), red brown	GP		0.0	
		3.5-4.0	grey SAND, medium to coarse, moist	SW		0.0	
		4.0-4.5				0.0	
		4.5-5.0	some shell			0.0	
10.0	100%	5.0-5.5		SW	5.0-5.5	0.0	
		5.5-6.0	brown gray SAND, medium to coarse, saturated		5.5-6.0	0.0	
		6.0-6.5	same as above, some shells		6.0-6.5	0.0	
		6.5-7.0			0.0		
		7.0-7.5			0.0		
		7.5-8.0	gray SAND, fine to medium, shell fragments decrease toward 10 feet	SP	0.0		
		8.0-8.5			0.0		
		8.5-9.0			0.0		
		9.0-9.5			0.0		
		9.5-10.0			0.0		

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD003</b>			
DATE STARTED: 08.21.2013		DATE COMPLETED: 08.21.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	asphalt				
		0.5-1.0					
		1.0-1.5					
		1.5-2.0					
		2.0-2.5	wood piece with asphalt tar				
		2.5-3.0	asphalt				
		3.0-3.5					
		3.5-4.0	COPR layer (1-2 inches)	GP			60% COPR
		4.0-4.5	gray brown SAND medium to coarse	SW			
		4.5-5.0			4.5-5.0		
10.0	100%	5.0-5.5		SW	5.0-5.5		
		5.5-6.0			5.5-6.0		
		6.0-6.5			6.0-6.5		
		6.5-7.0	brown clayey SILT	ML			
		7.0-7.5					
		7.5-8.0	gray SAND, medium to coarse, shell fragments	SW			
		8.0-8.5					
		8.5-9.0					
9.0-9.5							
9.5-10.0							

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD004</b>			
DATE STARTED: 08.21.2013		DATE COMPLETED: 08.21.2013	
Northing: 676623.3151	Easting: 607864.4039	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	SAND and gravel road material	SP	4.0-4.5	0.0	60% COPR	
		0.5-1.0	asphalt layer (about 4 inches)			0.0		
		1.0-1.5	asphalt (tarry) mixture with silt			0.0		
		1.5-2.0				0.0		
		2.0-2.5				0.0		
		2.5-3.0	concrete layer (0.5-1 inch)			0.0		
		3.0-3.5	COPR layer (1-2 inches), black to brown red	GP		0.0		
		3.5-4.0				0.0		
		4.0-4.5	gray SAND, medium to coarse, moist	SW		0.0		
		4.5-5.0				0.0		
10.0	100%	5.0-5.5	same as above, some shells	SW	5.0-5.5	0.0		
		5.5-6.0				5.5-6.0		0.0
		6.0-6.5				0.0		
		6.5-7.0				0.0		
		7.0-7.5				0.0		
		7.5-8.0				0.0		
		8.0-8.5				0.0		
		8.5-9.0				0.0		
		9.0-9.5				0.0		
		9.5-10.0				0.0		

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD005</b>			
DATE STARTED: 08.20.2013		DATE COMPLETED: 08.20.2013	
Northing: 676593.9413	Easting: 607858.2604	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: sunny, 80°F	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	light gray GRAVEL and fine SAND, dry	GM	4.5-5.0	0.0			
		0.5-1.0	light brown fine SAND and gravel, dry	SP					
		1.0-1.5							
		1.5-2.0							
		2.0-2.5							
		2.5-3.0	concrete pieces						
		3.0-3.5	COPR layer (about 12 inches), red brown and black	GP				0.0	50% COPR
		3.5-4.0						0.0	100% COPR
		4.0-4.5	clayey SILT, brown to black	ML				0.0	15% COPR
		4.5-5.0	gray SAND medium to coarse	SW				0.0	
10.0	100%	5.0-5.5	same as above, some shells	SW	5.0-5.5	0.0			
		5.5-6.0	same as above, small pebbles		5.5-6.0	0.0			
		6.0-6.5			6.0-6.5	0.0			
		6.5-7.0				0.0			
		7.0-7.5				0.0			
		7.5-8.0				0.0			
		8.0-8.5				0.0			
		8.5-9.0				0.0			
		9.0-9.5				0.0			
		9.5-10.0				0.0			

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD006</b>			
DATE STARTED: 08.20.2013		DATE COMPLETED: 08.20.2013	
Northing: 676556.5344	Easting: 607881.0311	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: sunny, 80°F	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	light gray fine SAND and gravel to cobbles, concrete pieces	SP		0.0			
		0.5-1.0				0.0			
		1.0-1.5				0.0			
		1.5-2.0				0.0			
		2.0-2.5				0.0			
		2.5-3.0	gray SAND, silt, and gravel			0.0			
		3.0-3.5				0.0		5% COPR	
		3.5-4.0	dark brown			0.0		60% COPR	
		4.0-4.5	black and red brown COPR material			0.0		100% COPR	
		4.5-5.0				0.0		80% COPR	
10.0	100%	5.0-5.5	brown SAND, medium to coarse, some shell fragments	SW	5.0-5.5	0.0			
		5.5-6.0				0.0			
		6.0-6.5				0.0			
		6.5-7.0				0.0			
		7.0-7.5				0.0			
		7.5-8.0				0.0			
		8.0-8.5	gray silty SAND, fine to medium, small pebbles			SP		8.0-8.5	0.0
		8.5-9.0							0.0
		9.0-9.5							0.0
		9.5-10.0							0.0

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface





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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD007</b>			
DATE STARTED: 08.21.2013		DATE COMPLETED: 08.21.2013	
Northing: 676572.6007	Easting: 607823.2027	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	light gray SAND and gravel, road base, angular	SP	4.5-5.0	0.0	
		0.5-1.0					
		1.0-1.5	gray SAND and gravel				
		1.5-2.0	brown silty SAND and SILT	SM			
		2.0-2.5	some gravel, trace COPR				
		2.5-3.0	concrete piece	GP			
		3.0-3.5	COPR layer (2-3 inches), moist				
		3.5-4.0	gray sand, medium to coarse	SW			
		4.0-4.5	black at 4 feet (possible staining at groundwater interface?)				
		4.5-5.0	brown SAND, medium to coarse, trace shells, fine pebbles				
10.0	100%	5.0-5.5		SW	5.0-5.5	0.0	
		5.5-6.0			5.5-6.0	0.0	
		6.0-6.5			6.0-6.5	0.0	
		6.5-7.0				0.0	
		7.0-7.5				0.0	
		7.5-8.0				0.0	
		8.0-8.5				0.0	
		8.5-9.0	gray SAND, fine to coarse, some shells			0.0	
		9.0-9.5				0.0	
		9.5-10.0				0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD008</b>			
DATE STARTED: 08.23.2013		DATE COMPLETED: 08.23.2013	
Northing: 676523.982	Easting: 607837.8393	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	sand and gravel	SP	4.5-5.0			
		0.5-1.0	road base material					
		1.0-1.5						
		1.5-2.0						
		2.0-2.5						
		2.5-3.0	brown SILT, SAND, gravel					
		3.0-3.5		SM				
		3.5-4.0	black silt and gravel, moist					80% COPR
		4.0-4.5	red brown COPR (about 2 inches)	GP				100% COPR
		4.5-5.0	gray SAND, medium to coarse, and some gravel and trace shell fragments	SW				
10.0	100%	5.0-5.5			5.0-5.5			
		5.5-6.0			5.5-6.0			
		6.0-6.5	same as above, saturated		6.0-6.5			
		6.5-7.0						
		7.0-7.5						
		7.5-8.0		SW				
		8.0-8.5						
		8.5-9.0						
		9.0-9.5						
		9.5-10.0						

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD009</b>			
DATE STARTED: 08.23.2013		DATE COMPLETED: 08.23.2013	
Northing: 676495.6733	Easting: 607827.8805	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	gravel, road material, angular concrete pieces			0.0			
		0.5-1.0				0.0			
		1.0-1.5				0.0			
		1.5-2.0				0.0			
		2.0-2.5				0.0			
		2.5-3.0				0.0			
		3.0-3.5	asphalt material, dry			0.0			
		3.5-4.0	COPR layer (about 4 inches), moist			GP		0.0	80% COPR
		4.0-4.5	brown SAND medium to coarse, some fine gravel (rounded)			SW		4.0-4.5	
		4.5-5.0						4.5-5.0	0.0
10.0	100%	5.0-5.5	same as above, wet	SW		5.0-5.5	0.0		
		5.5-6.0				5.5-6.0	0.0		
		6.0-6.5				0.0			
		6.5-7.0				0.0			
		7.0-7.5				0.0			
		7.5-8.0	gray SAND fine to medium, some to abundant shell fragments			SP	0.0		
		8.0-8.5					0.0		
		8.5-9.0					0.0		
		9.0-9.5					0.0		
		9.5-10.0				0.0			

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD010</b>			
DATE STARTED: 08.23.2013		DATE COMPLETED: 08.23.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	SAND and gravel	SP			15% COPR		
		0.5-1.0							
		1.0-1.5	road fill material					0.0	
		1.5-2.0							
		2.0-2.5	concrete (about 4 inches thick)					0.0	
		2.5-3.0	SAND and gravel	SP					
		3.0-3.5	COPR-impacted SILT, brown, moist	SM				0.0	
		3.5-4.0	brown SAND medium to coarse, trace shells, moist	SW					
		4.0-4.5						4.0-4.5	0.0
		4.5-5.0						4.5-5.0	
10.0	100%	5.0-5.5		SW	5.0-5.5	0.0			
		5.5-6.0			5.5-6.0				
		6.0-6.5				0.0			
		6.5-7.0							
		7.0-7.5				0.0			
		7.5-8.0	gray SAND medium to coarse, fine gravel, some shell fragments, saturated						
		8.0-8.5				0.0			
		8.5-9.0							
		9.0-9.5				0.0			
		9.5-10.0							

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD011</b>			
DATE STARTED: 08.19.2013		DATE COMPLETED: 08.19.2013	
Northing: 676467.3646	Easting: 607817.9216	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: cloudy, no rain, slight breeze	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gray SAND and GRAVEL, fine to medium, pieces of coal	SP	3.5-4.0		trace COPR
		0.5-1.0				0.0	trace COPR
		1.0-1.5				0.0	trace COPR
		1.5-2.0	CONCRETE pieces			0.0	trace COPR
		2.0-2.5	red brown sandy SILT	SM			70% COPR
		2.5-3.0	brownish red SILT, COPR pieces 1mm-3mm			0.0	100% COPR
		3.0-3.5					15% COPR
		3.5-4.0	brown SAND medium to coarse, some shells	SP			
		4.0-4.5				0.0	
		4.5-5.0					
10.0	100%	5.0-5.5		SP	5.0-5.5		
		5.5-6.0				0.0	
		6.0-6.5				0.0	
		6.5-7.0	gray SAND medium to coarse abundant shells, wet			0.0	
		7.0-7.5				0.0	
		7.5-8.0				0.0	
		8.0-8.5				0.0	
		8.5-9.0					
		9.0-9.5	gray SAND some shells fine to medium, clay lenses	SC			
		9.5-10.0				0.0	

**NOTES:**

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

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bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD012</b>			
DATE STARTED: 08.20.2013		DATE COMPLETED: 08.20.2013	
Northing: 676448.9799	Easting: 607779.6419	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: sunny, 80°F	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	light gray SAND and gravel	SP	3.5-4.0 4.0-4.5 4.5-5.0 5.0-5.5 5.5-6.0 6.0-6.5 6.5-7.0 7.0-7.5 7.5-8.0 8.0-8.5 8.5-9.0 9.0-9.5 9.5-10.0	0.0	15% COPR 5% COPR 100% COPR
		0.5-1.0				0.0	
		1.0-1.5				0.0	
		1.5-2.0	sandy SILT and gravel			0.0	
		2.0-2.5	FILL material dry	0.0			
		2.5-3.0	concrete layer	0.0			
		3.0-3.5	brown red COPR layer 3 inches	0.0			
		3.5-4.0	brown SAND medium to coarse, fine pebbles, trace shells	0.0			
		4.0-4.5		0.0			
		4.5-5.0		0.0			
10.0	100%	5.0-5.5		SP	3.5-4.0 4.0-4.5 4.5-5.0 5.0-5.5 5.5-6.0 6.0-6.5 6.5-7.0 7.0-7.5 7.5-8.0 8.0-8.5 8.5-9.0 9.0-9.5 9.5-10.0	0.0	15% COPR 5% COPR 100% COPR
		5.5-6.0				0.0	
		6.0-6.5				0.0	
		6.5-7.0	gray SAND medium to coarse, some shells and pebbles subrounded			0.0	
		7.0-7.5		0.0			
		7.5-8.0		0.0			
		8.0-8.5		0.0			
		8.5-9.0	same as above, more shells	0.0			
		9.0-9.5		0.0			
		9.5-10.0	gray silty SAND trace shells	SM		0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD013</b>			
DATE STARTED: 08.21.2013		DATE COMPLETED: 08.21.2013	
Northing: 676370.51	Easting: 607716.025	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	road base, sand and gravel		2.0-2.5	0.0	5% COPR 60% COPR
		0.5-1.0				0.0	
		1.0-1.5				0.0	
		1.5-2.0	about 6 inches red brown COPR impact	GP		0.0	
		2.0-2.5	brown SAND fine to medium	SP		0.0	
		2.5-3.0				0.0	
		3.0-3.5				0.0	
		3.5-4.0	gray SAND, medium to coarse, trace shell fragments, wet	SW		0.0	
		4.0-4.5				0.0	
		4.5-5.0				0.0	
10.0	100%	5.0-5.5	same as above, saturated	SW		0.0	
		5.5-6.0				0.0	
		6.0-6.5				0.0	
		6.5-7.0				0.0	
		7.0-7.5				0.0	
		7.5-8.0				0.0	
		8.0-8.5				0.0	
		8.5-9.0				0.0	
		9.0-9.5				0.0	
		9.5-10.0				0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD014</b>			
DATE STARTED: 08.23.2013		DATE COMPLETED: 08.23.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	road fill gravel		2.0-2.5		
		0.5-1.0	brick piece				
		1.0-1.5	about 2-inch layer of clean yellow (tumeric) fine SAND	SM			
		1.5-2.0					
		2.0-2.5	brown SAND, fine to medium to coarse	SW			
		2.5-3.0	fine gravel (rounded)	GP			
		3.0-3.5					
		3.5-4.0					
		4.0-4.5					
		4.5-5.0					
10.0	100%	5.0-5.5		GP	2.0-2.5		
		5.5-6.0					
		6.0-6.5					
		6.5-7.0	gray SAND medium to coarse, some fine gravel (rounded)	SW			
		7.0-7.5					
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface





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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD015</b>			
DATE STARTED: 08.27.2013		DATE COMPLETED: 08.27.2013	
Northing: 676337.229	Easting: 607666.0788	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5		SM	2.0-2.5		50% COPR	
		0.5-1.0				0.0		
		1.0-1.5	COPR layer (about 3 inches)					
		1.5-2.0				0.0		100% COPR
		2.0-2.5	brown SAND medium, moist.					
		2.5-3.0	native material, laminations			0.0		
		3.0-3.5						
		3.5-4.0				0.0		
		4.0-4.5						
		4.5-5.0	gray SAND medium, moist to wet			0.0		
10.0	100%	5.0-5.5	some shell fragments	SM				
		5.5-6.0				0.0		
		6.0-6.5						
		6.5-7.0				0.0		
		7.0-7.5						
		7.5-8.0				0.0		
		8.0-8.5						
		8.5-9.0				0.0		
		9.0-9.5						
		9.5-10.0				0.0		

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD016</b>			
DATE STARTED: 08.27.2013		DATE COMPLETED: 08.27.2013	
Northing: 676312.2764	Easting: 607682.7499	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	fine sand, gravel, roots, dry	SP	2.5-3.0		30% COPR
		0.5-1.0					
		1.0-1.5	COPR-impacted (about 18 inches)				
		1.5-2.0	brown SAND				
		2.0-2.5	brown SAND medium to coarse, fine gravel, laminations				
		2.5-3.0					
		3.0-3.5	same as above, moist				
		3.5-4.0					
		4.0-4.5					
		4.5-5.0					
10.0	100%	5.0-5.5	gray SAND fine to medium, some shell fragments, wet	SM			
		5.5-6.0					
		6.0-6.5					
		6.5-7.0					
		7.0-7.5					
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD017</b>			
DATE STARTED: 08.27.2013		DATE COMPLETED: 08.27.2013	
Northing: 676295.6359	Easting: 607657.7768	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	tan fine SAND and gray gravel, roots	SP		0.0	100% COPR 80% COPR
		0.5-1.0					
		1.0-1.5					
		1.5-2.0					
		2.0-2.5					
		2.5-3.0					
		3.0-3.5	brown SAND medium to coarse	SW	3.0-3.5		
		3.5-4.0			3.5-4	0.0	
		4.0-4.5			4-4.5		
		4.5-5.0			4.5-5	0.0	
10.0	100%	5.0-5.5	gray SAND fine to medium, shell fragments	SP			
		5.5-6.0				0.0	
		6.0-6.5					
		6.5-7.0				0.0	
		7.0-7.5					
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429** **PPG - SITE 16 - LINDEN AVENUE EAST**  
**SOIL BORING - KD018**

DATE STARTED: 09.04.2013 DATE COMPLETED: 09.04.2013  
 Northing: Easting: Elevation: TOTAL DEPTH: 10.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	asphalt and asphalt base material	GP	3.5-4.0 4.0-4.5 4.5-5.0	0.0 0.0 0.0 0.0 0.0	15% COPR 100% COPR 15% COPR	
		0.5-1.0						
		1.0-1.5	brown SAND, fine, and gravel, dry					
		1.5-2.0						
		2.0-2.5	red brown to black COPR layer, approx. 6"					
		2.5-3.0						
		3.0-3.5	brown SAND medium to coarse, moist					SP
		3.5-4.0						
		4.0-4.5						
4.5-5.0								
10.0	100%	5.0-5.5	brown SAND, medium to coarse, moist to wet	SM	5.0-5.5	0.0 0.0		
		5.5-6.0						
		6.0-6.5						
		6.5-7.0						
		7.0-7.5						
		7.5-8.0						
		8.0-8.5						
		8.5-9.0						
		9.0-9.5						
9.5-10.0								

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - KD019</b>			
DATE STARTED: 08.27.2013		DATE COMPLETED: 08.27.2013	
Northing: 676295.6359	Easting: 607657.7768	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	tan fine SAND and gray gravel, roots	SP		0.0	100% COPR 80% COPR
		0.5-1.0					
		1.0-1.5					
		1.5-2.0					
		2.0-2.5					
		2.5-3.0					
		3.0-3.5	brown SAND medium to coarse	SW	3.0-3.5		
		3.5-4.0			3.5-4	0.0	
		4.0-4.5			4-4.5		
		4.5-5.0			4.5-5	0.0	
10.0	100%	5.0-5.5	gray SAND fine to medium, shell fragments	SP			
		5.5-6.0				0.0	
		6.0-6.5					
		6.5-7.0				0.0	
		7.0-7.5					
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429** **PPG - SITE 16 - LINDEN AVENUE EAST**  
**SOIL BORING - KD020**

DATE STARTED: 09.04.2013 DATE COMPLETED: 09.04.2013  
 Northing: Easting: Elevation: TOTAL DEPTH: 10.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	ashpalt and asphalt base material	GP	3.0-3.5 3.5-4.0 4.0-4.5 4.5-5.0	0.0	60% COPR 60% COPR 10% COPR
		0.5-1.0					
		1.0-1.5	red brown SILT, COPR layer	ML			
		1.5-2.0					
		2.0-2.5	dark gray SAND, fine, moist	SM			
		2.5-3.0					
		3.0-3.5					
		3.5-4.0	gray SAND, medium to coarse, wet	SM			
		4.0-4.5					
4.5-5.0							
5.0-5.5							
5.5-6.0							
10.0	100%	6.0-6.5				0.0	
		6.5-7.0					
		7.0-7.5					
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD001</b>			
DATE STARTED: 08.23.2013		DATE COMPLETED: 08.23.2013	
Northing: 676645.4471	Easting: 607952.0909	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	brown SAND and gravel, angular	SP		0.0		
		0.5-1.0						
		1.0-1.5						
		1.5-2.0	dark brown silty SAND	SM		0.0		5% COPR
		2.0-2.5						
		2.5-3.0						
		3.0-3.5						
		3.5-4.0	black clayey SILT, moist	ML		0.0		15% COPR
		4.0-4.5	wood piece at about 4 feet	PT				15% COPR
		4.5-5.0	black clayey SILT	ML		5.8		5% COPR
10.0	90%	5.0-5.5	no recovery		5.0-5.5			
		5.5-6.0	gray SAND, fine to medium, wet, some shell fragments	SP	5.5-6.0	0.0		
		6.0-6.5			6.0-6.5			
		6.5-7.0	same as above, clay lense	SP	6.5-7.0	0.0		
		7.0-7.5						
		7.5-8.0			0.0			
		8.0-8.5	meadow mat - black SILT with organics, roots	PT				
		8.5-9.0			0.0			
		9.0-9.5						
		9.5-10.0			0.0			

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD002</b>			
DATE STARTED: 08.23.2013		DATE COMPLETED: 08.23.2013	
Northing: 676604.9928	Easting: 607952.5481	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	wet SAND and gravel	SP	4.0-4.5 4.5-5.0		
		0.5-1.0				0.0	
		1.0-1.5					
		1.5-2.0				0.0	
		2.0-2.5					
		2.5-3.0	asphalt layer (about 3 inches)			0.0	
		3.0-3.5	red brown COPR layer (about 12 inches)	GP			80% COPR
		3.5-4.0	brown SAND, medium to coarse, trace shell fragments	SW		0.0	10% COPR
		4.0-4.5					
		4.5-5.0				0.0	
10.0	100%	5.0-5.5	gray SAND, fine to medium, abundant shells	SP	5.0-5.5		
		5.5-6.0			5.5-6.0	0.0	
		6.0-6.5					
		6.5-7.0				0.0	
		7.0-7.5					
		7.5-8.0				0.0	
		8.0-8.5					
		8.5-9.0				0.0	
		9.0-9.5					
		9.5-10.0				0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface





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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD003</b>			
DATE STARTED: 08.23.2013		DATE COMPLETED: 08.23.2013	
Northing: 676611.1002	Easting: 607923.1667	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gray SAND and gravel	SP	4.5-5.0	0.0	100% COPR
		0.5-1.0	angular to rounded large gravel	GP			
		1.0-1.5					
		1.5-2.0					
		2.0-2.5					
		2.5-3.0	asphalt layer (about 4 inches)				
		3.0-3.5	COPR layer (about 8 inches)	GP			
		3.5-4.0	red brown with turquoise staining				
		4.0-4.5					
		4.5-5.0	brown SAND, medium to coarse, wet	SW			
10.0	100%	5.0-5.5		SW	5.0-5.5	0.0	
		5.5-6.0			5.5-6.0		
		6.0-6.5			6.0-6.5		
		6.5-7.0					
		7.0-7.5					
		7.5-8.0					
		8.0-8.5	gray SAND, medium to coarse, shell fragments				
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD004</b>			
DATE STARTED: 08.19.2013		DATE COMPLETED: 08.19.2013	
Northing: 676475.8251	Easting: 607884.5223	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: cloudy, no rain, slight breeze	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	tan SAND and gravel pebbles to cobble	SP	4.5-5.0	0.0	trace COPR		
		0.5-1.0				0.0			
		1.0-1.5				0.0	5% COPR		
		1.5-2.0	brown SAND and gravel, trace COPR			0.0			
		2.0-2.5				0.0	5% COPR		
		2.5-3.0				0.0			
		3.0-3.5				0.0	15% COPR		
		3.5-4.0	100%			dark brown SILT, abundant COPR, moist	SM	0.0	50% COPR
		4.0-4.5				0.0	5% COPR		
		4.5-5.0				tan SAND medium to coarse, small pebbles (rounded), shells	SP	0.0	
10.0	100%	5.0-5.5		SP	5.0-5.5	0.0			
		5.5-6.0			5.5-6.0	0.0			
		6.0-6.5			6.0-6.5	0.0			
		6.5-7.0	gray SAND and very fine-fine abundant shells saturated		0.0				
		7.0-7.5			0.0				
		7.5-8.0			0.0				
		8.0-8.5			0.0				
		8.5-9.0			0.0				
		9.0-9.5			0.0				
		9.5-10.0			0.0				

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD005</b>			
DATE STARTED: 08.19.2013		DATE COMPLETED: 08.19.2013	
Northing: 676485.7492	Easting: 607856.2014	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: cloudy, no rain, slight breeze	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	brown SAND and gravel, large to pebbles subrounded to angular	SP	4.0-4.5 4.5-5.0	0.0	trace COPR
		0.5-1.0				0.0	5% COPR
		1.0-1.5				0.0	trace COPR
		1.5-2.0				0.0	trace COPR
		2.0-2.5	concrete at 25 inches			0.0	trace COPR
		2.5-3.0	cobbles	GP		0.0	trace COPR
		3.0-3.5	dark red brown SILT, high COPR	SM		0.0	100% COPR
		3.5-4.0	brown SAND medium to coarse, shells and pebbles, moist	SP		0.0	
		4.0-4.5				0.0	
		4.5-5.0				0.0	
10.0	100%	5.0-5.5	same as above, saturated	SP	5.0-5.5 5.5-6.0	0.0	
		5.5-6.0				0.0	
		6.0-6.5				0.0	
		6.5-7.0				0.0	
		7.0-7.5	dark gray sandy SILT, abundant shells, wet	SM		0.0	
		7.5-8.0				0.0	
		8.0-8.5				0.0	
		8.5-9.0				0.0	
		9.0-9.5				0.0	
		9.5-10.0	gray SAND, very fine-fine trace shells, clay lenses	SC		0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429** **PPG - SITE 16 - LINDEN AVENUE EAST**  
**SOIL BORING - LD006**

DATE STARTED: 08.19.2013 DATE COMPLETED: 08.19.2013  
 Northing: 676419.2077 Easting: 607864.6046 Elevation: TOTAL DEPTH: 10.0 Ft  
 Geologist: Jeff Alexander Weather: cloudy, no rain, slight breeze  
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	light brown coarse gravel and SAND	SP		0.0	trace COPR
		0.5-1.0				0.0	trace COPR
		1.0-1.5	brown SAND and gravel, moist			0.0	trace COPR
		1.5-2.0				0.0	5% COPR
		2.0-2.5				0.0	5% COPR
		2.5-3.0				0.0	5% COPR
		3.0-3.5	brown red SILT, COPR, moist, about 6 inches			0.0	60-100% COPR
		3.5-4.0	light brown SAND, medium to coarse, shells, moist			3.5-4.0	0.0
		4.0-4.5				4.0-4.5	0.0
		4.5-5.0	same as above, saturated			4.5-5.0	0.0
10.0	100%	5.0-5.5		SP	5.0-5.5	0.0	
		5.5-6.0	gray SAND, some shells			0.0	
		6.0-6.5				0.0	
		6.5-7.0				0.0	
		7.0-7.5				0.0	
		7.5-8.0	gray SAND and abundant shells subrounded to rounded pebbles			0.0	
		8.0-8.5				0.0	
		8.5-9.0				0.0	
		9.0-9.5				0.0	
		9.5-10.0	SAND and shells and pebbles (medium subangular)			0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD008</b>			
DATE STARTED: 08.19.2013		DATE COMPLETED: 08.19.2013	
Northing: 676439.0558	Easting: 607807.9628	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: cloudy, no rain, slight breeze	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	gray gravel	GP	4.0-4.5 4.5-5.0	0.0	
		0.5-1.0	gray SAND and gravel, metal pieces	SP		0.0	5% COPR
		1.0-1.5				0.0	5% COPR
		1.5-2.0	dark gray SAND with gravel			0.0	
		2.0-2.5				0.0	5% COPR
		2.5-3.0				0.0	10% COPR
		3.0-3.5	brown SAND mixed with COPR medium to coarse			0.0	50% COPR
		3.5-4.0				0.0	10% COPR
		4.0-4.5	brown SAND medium to coarse some shells			0.0	
		4.5-5.0				0.0	
10.0	100%	5.0-5.5	gray SAND medium to coarse some shells		SM	5.0-5.5	0.0
		5.5-6.0		5.5-6.0		0.0	
		6.0-6.5		0.0			
		6.5-7.0		0.0			
		7.0-7.5		0.0			
		7.5-8.0		0.0			
		8.0-8.5	gray SAND, fine to medium some shells	0.0			
		8.5-9.0		0.0			
		9.0-9.5		0.0			
		9.5-10.0		0.0			

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD007</b>			
DATE STARTED: 08.19.2013		DATE COMPLETED: 08.19.2013	
Northing: 676429.1318		Easting: 607836.2837	Elevation: TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: cloudy, no rain, slight breeze	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	brown SAND and gravel, angular to subangular	SP		0.0	trace COPR	
		0.5-1.0				0.0	trace COPR	
		1.0-1.5				0.0	trace COPR	
		1.5-2.0				0.0	trace COPR	
		2.0-2.5	dark gray SAND, soft pebbles appear to be process/material waste			0.0	trace COPR	
		2.5-3.0				0.0	trace COPR	
		3.0-3.5	dark brown and orange moist SILT and gravel			0.0	100% COPR	
		3.5-4.0	brown to orange SAND medium to coarse, shells, saturated			3.5-4.0	0.0	
		4.0-4.5				4.0-4.5	0.0	
		4.5-5.0				4.5-5.0	0.0	
10.0	100%	5.0-5.5	dark gray to gray SAND medium to coarse and shells and small pebbles rounded	SP	5.0-5.5	0.0		
		5.5-6.0				0.0		
		6.0-6.5				0.0		
		6.5-7.0				0.0		
		7.0-7.5				0.0		
		7.5-8.0				0.0		
		8.0-8.5				0.0		
		8.5-9.0				0.0		
		9.0-9.5				0.0		
		9.5-10.0				0.0		

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429**      **PPG - SITE 16 - LINDEN AVENUE EAST**  
**SOIL BORING - LD009**

DATE STARTED: 08.20.2013      DATE COMPLETED: 08.20.2013  
 Northing: 676410.7471      Easting: 607798.004      Elevation:      TOTAL DEPTH: 10.0 Ft  
 Geologist: Jeff Alexander      Weather: sunny, 80°F  
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe      PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	light gray gravel, fine SAND	SP	4.0-4.5 4.5-5.0	0.0	15% COPR 15% COPR 80-100% COPR 30% COPR
		0.5-1.0	light gray SAND and gravel, soft pebbles, pieces of concrete, brick material			0.0	
		1.0-1.5				0.0	
		1.5-2.0				0.0	
		2.0-2.5		0.0			
		2.5-3.0	COPR layer about 8 inches, dry to moist	GP		0.0	
		3.0-3.5	brown SAND, medium to coarse	SP		0.0	
		3.5-4.0	brown to tan SAND, medium to coarse, wet			0.0	
		4.0-4.5				0.0	
		4.5-5.0				0.0	
10.0	100%	5.0-5.5		SP	5.0-5.5 5.5-6.0	0.0	
		5.5-6.0	gray SAND, medium to coarse, some small pebbles, rounded, some shells, wet			0.0	
		6.0-6.5				0.0	
		6.5-7.0				0.0	
		7.0-7.5				0.0	
		7.5-8.0				0.0	
		8.0-8.5				0.0	
		8.5-9.0				0.0	
		9.0-9.5	dark gray fine SAND and abundant shells			0.0	
		9.5-10.0				0.0	

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD010</b>			
DATE STARTED: 08.20.2013		DATE COMPLETED: 08.20.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: sunny, 80°F	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	light gray gravel and fine SAND	SP	4.0-4.5 4.5-5.0		
		0.5-1.0					
		1.0-1.5	same as above, concrete pieces				
		1.5-2.0	gravel, dry	GP			
		2.0-2.5	brown SAND and gravel	SP			
		2.5-3.0	fill material				
		3.0-3.5	red brown COPR layer (8 inches)				
		3.5-4.0	brown to gray SAND, moist, medium to coarse, some shells				
		4.0-4.5					
		4.5-5.0	same as above, wet				
10.0	100%	5.0-5.5		SP	5.0-5.5		
		5.5-6.0	same as above, saturated		5.5-6.0		
		6.0-6.5	same as above, abundant shells				
		6.5-7.0					
		7.0-7.5	dark gray SAND, medium to coarse, abundant shells				
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5	dark gray silty SAND, fine to medium, trace shells	SM			
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface





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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD011</b>			
DATE STARTED: 08.20.2013		DATE COMPLETED: 08.20.2013	
Northing: 676364.2729	Easting: 607811.9319	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander		Weather: sunny, 80°F	
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	fine SAND and gravel	SP	3.5-4.0 4.0-4.5 4.5-5.0	0.0	5% COPR 100% COPR		
		0.5-1.0	pieces of concrete, fill			0.0			
		1.0-1.5	same as above, dry			0.0			
		1.5-2.0				0.0			
		2.0-2.5				0.0			
		2.5-3.0	red brown COPR layer (about 8 inches)	GP					
		3.0-3.5	brown SAND, medium to coarse, some small pebbles	SW				0.0	
		3.5-4.0						0.0	
		4.0-4.5	same as above, moist to wet					0.0	
		4.5-5.0						0.0	
10.0	100%	5.0-5.5		SW	5.0-5.5	0.0			
		5.5-6.0						0.0	
		6.0-6.5	gray SAND, medium to coarse, some shells, saturated					0.0	
		6.5-7.0						0.0	
		7.0-7.5						0.0	
		7.5-8.0						0.0	
		8.0-8.5						0.0	
		8.5-9.0						0.0	
		9.0-9.5	gray SAND, fine to medium, abundant shell fragments			SP			0.0
		9.5-10.0							0.0

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429**      **PPG - SITE 16 - LINDEN AVENUE EAST**  
**SOIL BORING - LD012**

DATE STARTED: 08.26.2013      DATE COMPLETED: 08.26.2013  
 Northing: 676362.1978      Easting: 607757.6692      Elevation:      TOTAL DEPTH: 10.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe      PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	tan SAND, gravel	SP		0.0			
		0.5-1.0							
		1.0-1.5	concrete						
		1.5-2.0	gray SAND and gravel	SP				0.0	
		2.0-2.5							
		2.5-3.0	red SAND and gravel	0.0					
		3.0-3.5	wood piece, dry	PT				5% COPR	
		3.5-4.0	brown silty SAND and gravel, moist	SP				0.0	10% COPR
		4.0-4.5							
		4.5-5.0	pieces of glass and metal, styrofoam at 5 feet	0.0				5% COPR	
10.0	100%	5.0-5.5	brown SAND medium to coarse, some fine gravel, trace shell, wet	SW	5.0-5.5	0.0			
		5.5-6.0			5.5-6.0				
		6.0-6.5			6.5-7.0				
		6.5-7.0			7.0-7.5			0.0	
		7.0-7.5							
		7.5-8.0	gray SAND fine to medium, some shells	SP	0.0				
		8.0-8.5							
		8.5-9.0	0.0						
		9.0-9.5							
		9.5-10.0	0.0						

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD013</b>			
DATE STARTED: 08.21.2013		DATE COMPLETED: 08.21.2013	
Northing: 676345.5573	Easting: 607732.6961	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	road base, SAND and gravel light gray, dry	GP	3.0-3.5		80% COPR
		0.5-1.0					
		1.0-1.5					
		1.5-2.0	tan SAND, fine to medium	SP			
		2.0-2.5					
		2.5-3.0	red brown COPR (about 6 inches)	GP			
		3.0-3.5	brown gray SAND, fine to medium, moist	SP			
		3.5-4.0	same as above, dry				
		4.0-4.5	same as above, wet				
		4.5-5.0	same as above, saturated				
10.0	100%	5.0-5.5	brown SAND, medium to coarse, saturated	SW	3.0-3.5		80% COPR
		5.5-6.0	gravel, trace shells	GP			
		6.0-6.5		SP			
		6.5-7.0	gray SAND, abundant shell fragments, fine to medium				
		7.0-7.5					
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD014</b>			
DATE STARTED: 08.23.2013		DATE COMPLETED: 08.23.2013	
Northing: 676320.6047	Easting: 607749.3672	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	road base gravel			0.0	10% COPR	
		0.5-1.0				0.0		
		1.0-1.5				0.0		
		1.5-2.0				0.0		
		2.0-2.5	possible concrete layer			0.0		
		2.5-3.0	COPR-impacted SILT, 1 foot			0.0		
		3.0-3.5		SM		0.0		
		3.5-4.0	brown SAND, medium to coarse, moist		SW	3.5-4.0		0.0
		4.0-4.5			SW	4.0-4.5		0.0
		4.5-5.0	brown SAND medium to coarse, fine gravel (rounded)		SW	4.5-5.0		0.0
10.0	100%	5.0-5.5			SW	5.0-5.5	0.0	
		5.5-6.0				0.0		
		6.0-6.5				0.0		
		6.5-7.0				0.0		
		7.0-7.5				0.0		
		7.5-8.0				0.0		
		8.0-8.5				0.0		
		8.5-9.0				0.0		
		9.0-9.5				0.0		
		9.5-10.0				0.0		

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - LD015</b>			
DATE STARTED: 08.27.2013		DATE COMPLETED: 08.27.2013	
Northing: 676287.3237	Easting: 607699.421	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks						
5.0	100%	0.0-0.5	tan SAND fine, dry, some roots	SM	3.5-4.0	0.0	50% COPR						
		0.5-1.0											
		1.0-1.5											
		1.5-2.0	brown SAND and gravel	SP				4.0-4.5	0.0	80% COPR			
		2.0-2.5									COPR-impacted sand and gravel		
		2.5-3.0	brown SAND medium to coarse, moist	SP							4.5-5.0	0.0	15% COPR
		3.0-3.5											
		3.5-4.0											
		4.0-4.5											
		4.5-5.0											
10.0	100%	5.0-5.5	gray SAND, trace to some shell fragments	SP	5.0-5.5	0.0							
		5.5-6.0											
		6.0-6.5											
		6.5-7.0											
		7.0-7.5											
		7.5-8.0											
		8.0-8.5											
		8.5-9.0											
		9.0-9.5											
		9.5-10.0											

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface





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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - SD-017</b>			
		DATE STARTED: 10.16.2013	DATE COMPLETED: 10.16.2013
Nothing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	Gray	ML	1.0-1.5 1.5-2.0 2.0-2.5 2.5-3.0	0.0	0% COPR
		0.5-1.0	Dark brown SILT, slag, some COPR				40% COPR
		1.0-1.5	Light brown SAND, medium	SP		0.0	0% COPR
		1.5-2.0				0% COPR	
		2.0-2.5				0% COPR	
		2.5-3.0				0% COPR	
		3.0-3.5				0% COPR	
		3.5-4.0				0% COPR	
		4.0-4.5				0% COPR	
		4.5-5.0				0% COPR	
10.0	100%	5.0-5.5	Light brown SAND, medium	SP	1.0-1.5 1.5-2.0 2.0-2.5 2.5-3.0	0.0	0% COPR
		5.5-6.0					0% COPR
		6.0-6.5	Gray SAND, wet, shell fragment				0% COPR
		6.5-7.0		GW		0.0	0% COPR
		7.0-7.5	GRAVEL, fine, some pebbles			0.0	0% COPR
		7.5-8.0				0% COPR	
		8.0-8.5				0% COPR	
		8.5-9.0				0% COPR	
		9.0-9.5				0% COPR	
		9.5-10.0				0% COPR	

END OF BORING 10 FT

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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### SOIL BORING LOG

**PROJECT NUMBER: 146429** **PPG - SITE 16 - LINDEN AVENUE EAST**  
**SOIL BORING - LD016**

DATE STARTED: 10.16.2013 DATE COMPLETED: 10.16.2013  
 Northing: Easting: Elevation: TOTAL DEPTH: 10.0 Ft  
 Geologist: Jeff Alexander  
 DRILLING METHOD: 2" Macro Core Track mounted Geoprobe PAGE: 1 of 1

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	Gray SAND, fine	SW		0.0	0% COPR
		0.5-1.0				0% COPR	
		1.0-1.5	Brown COPR, 6" layer			0.0	80% COPR
		1.5-2.0	Brown SAND, medium, moist, some pebbles	SP		0.0	10% COPR
		2.0-2.5				2.0-2.5	0% COPR
		2.5-3.0				2.5-3.0	0% COPR
		3.0-3.5				3.0-3.5	0% COPR
		3.5-4.0				3.5-4.0	0% COPR
		4.0-4.5				0.0	0% COPR
		4.5-5.0				0.0	0% COPR
10.0	100%	5.0-5.5	Brown SAND, medium, moist, some pebbles	SP		0.0	0% COPR
		5.5-6.0				0% COPR	
		6.0-6.5	Gray SAND, med, wet, shell fragments			0.0	0% COPR
		6.5-7.0		GW		0.0	0% COPR
		7.0-7.5	GRAVEL, fine			0.0	0% COPR
		7.5-8.0				0.0	0% COPR
		8.0-8.5				0.0	0% COPR
		8.5-9.0				0.0	0% COPR
		9.0-9.5				0.0	0% COPR
		9.5-10.0				0.0	0% COPR

END OF BORING 10 FT

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface





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### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - DD001</b>			
DATE STARTED: 09.04.2013		DATE COMPLETED: 09.04.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	road fill material	GP	4.5-5.0		
		0.5-1.0	gravel				
		1.0-1.5	concrete				
		1.5-2.0	dark brown silty SAND, wood pieces	OH/PT			
		2.0-2.5	black SILT/CLAY, petroleum odor	OH			
		2.5-3.0	COPR impacted				
		3.0-3.5					
		3.5-4.0					
		4.0-4.5	black clay, wood, roots, and fill material	OH/PT			
		4.5-5.0					
10.0	100%	5.0-5.5	brown clay, saturated	OH	5.0-5.5		
		5.5-6.0			5.5-6.0		
		6.0-6.5	gray SAND fine to medium	SP	6.0-6.5		
		6.5-7.0					
		7.0-7.5					
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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 Fax: (609) 689-7771

### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - DD002</b>			
DATE STARTED: 09.04.2013		DATE COMPLETED: 09.04.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks		
5.0	100%	0.0-0.5	road gravel material	GP	3.0-3.5 3.5-4.0 4.0-4.5 4.5-5.0				
		0.5-1.0							
		1.0-1.5							
		1.5-2.0	approximately 10-inch COPR layer, red	SW					100% COPR
		2.0-2.5							100% COPR
		2.5-3.0	brown medium to coarse SAND, saturated						15% COPR
		3.0-3.5							
		3.5-4.0							
		4.0-4.5							
		4.5-5.0	same as above, some clay	SW/CL					
5.0-5.5									
10.0	100%	5.5-6.0		SP					
		6.0-6.5	gray fine to medium SAND, saturated						
		6.5-7.0							
		7.0-7.5							
		7.5-8.0							
		8.0-8.5							
		8.5-9.0							
		9.0-9.5							
9.5-10.0									

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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

### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - ED001</b>			
DATE STARTED: 09.05.2013		DATE COMPLETED: 09.05.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	road fill material	GP	3.5-4.0	0.0	100% COPR 80% COPR
		0.5-1.0					
		1.0-1.5	12-inch COPR layer, red brown				
		1.5-2.0		SW		0.0	
		2.0-2.5	brown SAND and gravel, medium to coarse, wet			0.0	
		2.5-3.0				0.0	
		3.0-3.5				0.0	
		3.5-4.0				0.0	
		4.0-4.5	same as above, some black organic material			0.0	
		4.5-5.0				0.0	
10.0	100%	5.0-5.5	gray fine SAND, saturated, shells	SP	5.0-5.5	0.0	
		5.5-6.0					
		6.0-6.5			0.0		
		6.5-7.0					
		7.0-7.5			0.0		
		7.5-8.0					
		8.0-8.5			0.0		
		8.5-9.0					
		9.0-9.5			0.0		
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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 Fax: (609) 689-7771

### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - ED002</b>			
DATE STARTED: 09.05.2013		DATE COMPLETED: 09.05.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks	
5.0	100%	0.0-0.5	road FILL material	GP	4.5-5.0	0.0	10% COPR	
		0.5-1.0	concrete pieces/gravel					
		1.0-1.5	red brown SILT, COPR-impacted	ML				15% COPR
		1.5-2.0						
		2.0-2.5						
		2.5-3.0						
		3.0-3.5						
		3.5-4.0	concrete layer/pieces	GW				15% COPR
		4.0-4.5	brown medium to coarse SAND, wet	SP				0.0
		4.5-5.0						
10.0	100%	5.0-5.5	dark gray CLAY, organic	OH	5.0-5.5	0.0		
		5.5-6.0	gray fine to medium SAND, saturated		5.5-6.0			
		6.0-6.5		SP	6.0-6.5			
		6.5-7.0			0.0			
		7.0-7.5			0.0			
		7.5-8.0						
		8.0-8.5			0.0			
		8.5-9.0						
		9.0-9.5						
		9.5-10.0	0.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



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 Trenton, NJ 08691  
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 Fax: (609) 689-7771

### SOIL BORING LOG

<b>PROJECT NUMBER: 146429</b>		<b>PPG - SITE 16 - LINDEN AVENUE EAST</b>	
<b>SOIL BORING - FD001</b>			
DATE STARTED: 09.05.2013		DATE COMPLETED: 09.05.2013	
Northing:	Easting:	Elevation:	TOTAL DEPTH: 10.0 Ft
Geologist: Jeff Alexander			
DRILLING METHOD: 2" Macro Core Track mounted Geoprobe		PAGE: 1 of 1	

DEPTH (ft)	RECOVERY (%)	DEPTH (ft)	DESCRIPTION	USCS SYMBOL	SAMPLE DEPTH (Ft)	PID DATA (ppm)	remarks
5.0	100%	0.0-0.5	sand and gravel road base	SW	3.0-3.5		
		0.5-1.0					
		1.0-1.5	brown red SAND, trace COPR	SP			10% COPR
		1.5-2.0					10% COPR
		2.0-2.5					5% COPR
		2.5-3.0					5% COPR
		3.0-3.5					
		3.5-4.0	gray SAND and gravel	SW		3.5-4.0	
		4.0-4.5	lustrous (mica) material	MH		4.0-4.5	
		4.5-5.0	soft rock, fill rock	GW		4.5-5.0	
10.0	100%	5.0-5.5	dark brown CLAY, organic, soft, wet	OH			
		5.5-6.0					
		6.0-6.5					
		6.5-7.0					
		7.0-7.5	gray fine to medium SAND, some shell fragments, wet	SW			
		7.5-8.0					
		8.0-8.5					
		8.5-9.0					
		9.0-9.5					
		9.5-10.0					

**NOTES:**

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

▼ Groundwater Level intercepted in Soil Boring.

bgs = Below ground surface



CB&I Environmental & Infrastructure, Inc.  
 200 Horizon Center  
 Trenton, New Jersey 08691  
 Telephone: +1 609 584-8900  
 Fax: +1 609 588 6300

# BORING NUMBER 3C-1

PAGE 1 OF 1

**CLIENT** PPG **PROJECT NAME** Site-016 - Loading Dock Investigation  
**PROJECT NUMBER** 151137.05000000 **PROJECT LOCATION** 45 Linden Avenue East, Jersey City, NJ  
**DATE STARTED** 10/24/14 **COMPLETED** 10/24/14 **GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** 1.5" inches  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVELS:**  
**DRILLING METHOD** Geoprobe 7720DT **AT TIME OF DRILLING** ---  
**LOGGED BY** M. Grob **CHECKED BY** M. Grob **AT END OF DRILLING** ---  
**NOTES** Visual COPR identified @ 0.5-1.0' **AFTER DRILLING** ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Dry, concrete and gravel fill	
0.5			PID = 0		SILTY SAND, reddish brown, fine grained, dry, 10% COPR nodules	
1.0			PID = 0		SILTY SAND, grayish tan, moist, trace round rocks <0.25" diameter	
1.5-2.0'	3C-1		PID = 0			
2.5			PID = 0			
2.5-3.0'	3C-1		PID = 0			
3.0			PID = 0		SILTY SAND, tannish gray, wet, trace round rocks <0.25" diameter	
3.5-4.0'	3C-1		PID = 0			
4.5-5.0'	3C-1		PID = 0			
5.0			PID = 0			
5.5-6.0'	3C-1		PID = 0			
7.0			PID = 0		WELL GRADED SAND, grayish tan, coarse grained, wet	
7.5			PID = 0			
9.5			PID = 0		LEAN CLAY, SILTY, dark blueish gray, wet	
10.0			PID = 0			

Bottom of borehole at 10.0 feet.

ENVIRONMENTAL\_BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ



CB&I Environmental & Infrastructure, Inc.  
 200 Horizon Center  
 Trenton, New Jersey 08691  
 Telephone: +1 609 584-8900  
 Fax: +1 609 588 6300

# BORING NUMBER 3C-2

**CLIENT** PPG **PROJECT NAME** Site-016 - Loading Dock Investigation  
**PROJECT NUMBER** 151137.05000000 **PROJECT LOCATION** 45 Linden Avenue East, Jersey City, NJ  
**DATE STARTED** 10/24/14 **COMPLETED** 10/24/14 **GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** 1.5" inches  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVELS:**  
**DRILLING METHOD** Geoprobe 7720DT **AT TIME OF DRILLING** ---  
**LOGGED BY** M. Grob **CHECKED BY** M. Grob **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_ **AFTER DRILLING** ---

ENVIRONMENTAL\_BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Dry, concrete with gravel fill	
0.5			PID = 0.3		SILTY SAND, tan, moist, trace round rocks <0.25" diameter	
2.0	3C-2 1.5'-2.0'		PID = 0.2		SILTY SAND, grayish tan, moist, trace round rocks <0.25" diameter	
2.5			PID = 0		SILTY SAND, grayish tan, wet, trace round rocks <0.25" diameter and layers of shell fill	
3.5	3C-2 3.5'-4.0'		PID = 0			
5.0			PID = 0		WELL GRADED SAND, reddish brown, coarse grained, wet	
5.5	3C-2 5.5'-6.0'		PID = 0			
7.0			PID = 0		SILTY SAND, greenish gray, wet, with round rocks <0.25" diameter	
7.5	3C-2 7.5'-8.0'		PID = 0			
9.5	3C-2 9.5'-10.0'		PID = 0			
10.0						

Bottom of borehole at 10.0 feet.



CB&I Environmental & Infrastructure, Inc.  
 200 Horizon Center  
 Trenton, New Jersey 08691  
 Telephone: +1 609 584-8900  
 Fax: +1 609 588 6300

# BORING NUMBER 3C-3

**CLIENT** PPG **PROJECT NAME** Site-016 - Loading Dock Investigation  
**PROJECT NUMBER** 151137.05000000 **PROJECT LOCATION** 45 Linden Avenue East, Jersey City, NJ  
**DATE STARTED** 10/24/14 **COMPLETED** 10/24/14 **GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** 1.5" inches  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVELS:**  
**DRILLING METHOD** Geoprobe 7720DT **AT TIME OF DRILLING** ---  
**LOGGED BY** M. Grob **CHECKED BY** M. Grob **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_ **AFTER DRILLING** ---

ENVIRONMENTAL\_BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Dry, concrete and gravel fill	
0.5			PID = 0		SILTY SAND, grayish tan, dry, with round rocks <0.25" diameter	
1.0					SILTY SAND, greenish gray, fine grained, moist, with round rocks <0.5" diameter	
1.5-2.0'	3C-3		PID = 0.1			
2.0					SILTY SAND, greenish gray, fine grained, moist, with round rocks <0.25" diameter	
2.5			PID = 0			
3.0					SILTY SAND, tannish gray, fine grained, wet, with round rocks <0.25" diameter	
3.5-4.0'	3C-3		PID = 0			
4.0					SILTY SAND, tannish gray, fine grained, wet, layers of dark gray lean clay	
5.0			PID = 0			
5.5-6.0'	3C-3		PID = 0		WELL GRADED SAND, tannish gray, coarse grained, wet, with round rocks <0.25" diameter	
6.0						
7.5			PID = 0			
7.5-8.0'	3C-3		PID = 0			
8.0					SILTY SAND, brownish gray, fine grained, wet, with round rocks <0.25" diameter	
9.5			PID = 0			
9.5-10.0'	3C-3		PID = 0		LEAN CLAY, SILTY, gray, wet	
10.0						

Bottom of borehole at 10.0 feet.





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# BORING NUMBER 3C-4

<b>CLIENT</b> PPG	<b>PROJECT NAME</b> Site-016 - Loading Dock Investigation
<b>PROJECT NUMBER</b> 151137.05000000	<b>PROJECT LOCATION</b> 45 Linden Avenue East, Jersey City, NJ
<b>DATE STARTED</b> 10/24/14	<b>COMPLETED</b> 10/24/14
<b>DRILLING CONTRACTOR</b> EPI	<b>GROUND ELEVATION</b> _____ <b>HOLE SIZE</b> 1.5" inches
<b>DRILLING METHOD</b> Geoprobe 7720DT	<b>GROUND WATER LEVELS:</b>
<b>LOGGED BY</b> M. Grob	<b>CHECKED BY</b> M. Grob
<b>NOTES</b> _____	<b>AT TIME OF DRILLING</b> ---
	<b>AT END OF DRILLING</b> ---
	<b>AFTER DRILLING</b> ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Concrete and Gravel fill	
0.5			PID = 0		SILTY SAND, gray	
1.0			PID = 0		SILTY SAND, grayish brown, round rocks <0.25" diameter	
1.5-2.0'	3C-4		PID = 0			
2.5			PID = 0			
3.5-4.0'	3C-4		PID = 0			
5.0			PID = 0			
5.5-6.0'	3C-4		PID = 0			
6.0			PID = 0		SILTY SAND, grayish tan, round rocks <0.25" diameter	
7.5			PID = 0			
7.5-8.0'	3C-4		PID = 0			
9.0			PID = 0		SANDY SILT, dark grayish brown	
9.5-10.0'	3C-4		PID = 0			
10.0						

Bottom of borehole at 10.0 feet.

ENVIRONMENTAL\_BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFO11COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ



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 200 Horizon Center  
 Trenton, New Jersey 08691  
 Telephone: +1 609 584-8900  
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# BORING NUMBER 3C-5

CLIENT PPG PROJECT NAME Site-016 - Loading Dock Investigation  
 PROJECT NUMBER 151137.05000000 PROJECT LOCATION 45 Linden Avenue East, Jersey City, NJ  
 DATE STARTED 10/24/14 COMPLETED 10/24/14 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 1.5" inches  
 DRILLING CONTRACTOR EPI GROUND WATER LEVELS:  
 DRILLING METHOD Geoprobe 7720DT AT TIME OF DRILLING ---  
 LOGGED BY M. Grob CHECKED BY M. Grob AT END OF DRILLING ---  
 NOTES \_\_\_\_\_ AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Concrete and Gravel fill	
0.5			PID = 1.7		SILTY SAND, grayish tan, layers of shell fill	
1.0					SILTY SAND, grayish tan	
1.5'-2.0'	3C-5		PID = 0			
2.0					SILTY SAND, grayish tan, round rocks <0.25" diameters	
2.5			PID = 0			
3.5'-4.0'	3C-5		PID = 0			
4.0					WELL GRADED SAND, reddish tan, coarse grained, round rocks <0.25" diameters	
5.0			PID = 0			
5.5'-6.0'	3C-5		PID = 0			
6.0					SILTY SAND, tannish gray, round rocks <0.5" diameters	
7.5			PID = 0			
7.5'-8.0'	3C-5		PID = 0			
8.0			PID = 0			
9.5'-10.0'	3C-5		PID = 0			
10.0						

Bottom of borehole at 10.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFO11\COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ



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 200 Horizon Center  
 Trenton, New Jersey 08691  
 Telephone: +1 609 584-8900  
 Fax: +1 609 588 6300

# BORING NUMBER 3C-6

**CLIENT** PPG **PROJECT NAME** Site-016 - Loading Dock Investigation  
**PROJECT NUMBER** 151137.05000000 **PROJECT LOCATION** 45 Linden Avenue East, Jersey City, NJ  
**DATE STARTED** 10/24/14 **COMPLETED** 10/24/14 **GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** 1.5" inches  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVELS:**  
**DRILLING METHOD** Geoprobe 7720DT **AT TIME OF DRILLING** ---  
**LOGGED BY** M. Grob **CHECKED BY** M. Grob **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_ **AFTER DRILLING** ---

ENVIRONMENTAL\_BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Dry, Concrete and Gravel fill	
0.5			PID = 0.7		SILTY SAND, tannish gray, fine grained, dry, trace round rocks <0.25" diameter	
1.0					SANDY SILT, black, moist, layers of lean clay, slight petroleum odor	
1.5 - 2.0'	3C-6		PID = 0.3			
2.5			PID = 4.8			
3.0					SILTY SAND, dark gray, moist, trace round rocks <0.25" diameter	
3.5 - 4.0'	3C-6		PID = 2.3			
4.0					SILTY SAND, tannish gray, wet, trace round rocks <0.25" diameter	
5.0			PID = 0		WELL GRADED SAND, grayish brown, wet, trace round rocks <0.25" diameter	
5.5 - 6.0'	3C-6		PID = 0			
6.0					SILTY SAND, grayish brown, wet, trace round rocks <0.25" diameter	
7.5			PID = 0			
7.5 - 8.0'	3C-6		PID = 0			
9.0					SILTY SAND, dark gray, fine grained, wet	
9.5 - 10.0'	3C-6		PID = 0			
10.0						

Bottom of borehole at 10.0 feet.



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 200 Horizon Center  
 Trenton, New Jersey 08691  
 Telephone: +1 609 584-8900  
 Fax: +1 609 588 6300

# BORING NUMBER 3C-7

<b>CLIENT</b> PPG	<b>PROJECT NAME</b> Site-016 - Loading Dock Investigation
<b>PROJECT NUMBER</b> 151137.05000000	<b>PROJECT LOCATION</b> 45 Linden Avenue East, Jersey City, NJ
<b>DATE STARTED</b> 10/24/14	<b>COMPLETED</b> 10/24/14
<b>DRILLING CONTRACTOR</b> EPI	<b>GROUND ELEVATION</b> _____ <b>HOLE SIZE</b> 1.5" inches
<b>DRILLING METHOD</b> Geoprobe 7720DT	<b>GROUND WATER LEVELS:</b>
<b>LOGGED BY</b> M. Grob	<b>AT TIME OF DRILLING</b> ---
<b>CHECKED BY</b> M. Grob	<b>AT END OF DRILLING</b> ---
<b>NOTES</b> _____	<b>AFTER DRILLING</b> ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0						
0.5			PID = 0		WELL GRADED GRAVEL WITH SILT AND SAND, dark grayish brown, dry, asphalt fill - gravel 0.25-0.5" diameter	
1.0			PID = 0		SILTY SAND, grayish tan, fine grained, dry, trace round rocks <0.25" diameter	
1.5'-2.0'	3C-7		PID = 0		SILTY SAND, grayish tan, fine grained, moist, trace layers of silty clay	
2.5			PID = 0			
3.5'-4.0'	3C-7		PID = 0			
5.0			PID = 0			
5.5'-6.0'	3C-7		PID = 0		SILTY SAND, grayish tan, fine grained, wet, trace layers of silty clay - slight reddish tint	
7.0			PID = 0			
7.5			PID = 0		SILTY SAND, grayish tan, coarse grained, wet, trace layers of silty clay	
7.5'-8.0'	3C-7		PID = 0			
8.0			PID = 0		SILTY SAND, grayish tan, fine grained, wet, trace layers of silty clay	
9.5'-10.0'	3C-7		PID = 0			
10.0						

Bottom of borehole at 10.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ



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 Trenton, New Jersey 08691  
 Telephone: +1 609 584-8900  
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# BORING NUMBER 3C-8

<b>CLIENT</b> PPG	<b>PROJECT NAME</b> Site-016 - Loading Dock Investigation
<b>PROJECT NUMBER</b> 151137.05000000	<b>PROJECT LOCATION</b> 45 Linden Avenue East, Jersey City, NJ
<b>DATE STARTED</b> 10/24/14	<b>COMPLETED</b> 10/24/14
<b>DRILLING CONTRACTOR</b> EPI	<b>GROUND ELEVATION</b> _____
<b>DRILLING METHOD</b> Geoprobe 7720DT	<b>HOLE SIZE</b> 1.5" inches
<b>LOGGED BY</b> M. Grob	<b>CHECKED BY</b> M. Grob
<b>NOTES</b> _____	<b>GROUND WATER LEVELS:</b>
	<b>AT TIME OF DRILLING</b> ---
	<b>AT END OF DRILLING</b> ---
	<b>AFTER DRILLING</b> ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					WELL GRADED GRAVEL WITH SILT AND SAND, dark grayish tan, dry, 0.25-0.5" diameter	
1.0			PID = 0.7			
1.5-2.0'	3C-8		PID = 0		SILTY SAND, dark grayish tan, fine grained, moist, trace round rocks <0.25" diameter	
2.5			PID = 0		SILTY SAND, grayish tan, fine grained, moist, trace round rocks <0.25" diameter	
3.5-4.0'	3C-8		PID = 0			
5.0			PID = 0		FAT CLAY, SILTY CLAY, brownish tan, wet, medium plasticity	
5.5-6.0'	3C-8		PID = 0		SILTY SAND, brownish tan, coarse grained, wet, trace round rocks <0.25" diameter	
7.5			PID = 0		SILTY SAND, grayish tan, fine grained, wet, trace round rocks <0.25" diameter	
7.5-8.0'	3C-8		PID = 0			
9.5-10.0'	3C-8		PID = 0			
10.0						

Bottom of borehole at 10.0 feet.

ENVIRONMENTAL\_BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ



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 200 Horizon Center  
 Trenton, New Jersey 08691  
 Telephone: +1 609 584-8900  
 Fax: +1 609 588 6300

# BORING NUMBER 3C-9

**CLIENT** PPG **PROJECT NAME** Site-016 - Loading Dock Investigation  
**PROJECT NUMBER** 151137.05000000 **PROJECT LOCATION** 45 Linden Avenue East, Jersey City, NJ  
**DATE STARTED** 10/24/14 **COMPLETED** 10/24/14 **GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** 1.5" inches  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVELS:**  
**DRILLING METHOD** Geoprobe 7720DT **AT TIME OF DRILLING** ---  
**LOGGED BY** M. Grob **CHECKED BY** M. Grob **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_ **AFTER DRILLING** ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					POORLY GRADED GRAVEL WITH SILT AND SAND, (GP-GM) dark grayish brown, fine grained, dry, 0.25-0.5" diameter fill	
1.0			PID = 5			
1.5-2.0'	3C-9		PID = 0		SILTY SAND, (SM) grayish tan, fine grained, wet, trace round rocks <0.25" diameter	
2.5			PID = 0			
3.5-4.0'	3C-9		PID = 0			
5.0			PID = 0			
5.5-6.0'	3C-9		PID = 0		SILTY SAND, (SM) grayish tan, coarse grained, wet, trace round rocks <0.25" diameter	
6.0			PID = 0			
7.0			PID = 0		SILTY SAND, (SM) dark grayish tan, fine grained, wet, trace round rocks <0.25" diameter	
7.5	3C-9		PID = 0			
7.5-8.0'			PID = 0			
10.0	3C-9		PID = 0			
9.5-10.0'						

Bottom of borehole at 10.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 3/9/15 12:47 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\CONSTRUCTION\FIELD DATA\10\_24\_14\_BORING.LOGS.GPJ



CB&I  
200 Horizon Center  
Trenton, NJ 08691  
Telephone: 6095886328  
Fax: 6095886314

# BORING NUMBER B01

**CLIENT** PPG Industries, Inc. **PROJECT NAME** Site 16  
**PROJECT NUMBER** 151137 **PROJECT LOCATION** Linden Avenue, Jersey City, NJ  
**DATE STARTED** 5/27/15 **COMPLETED** 5/27/15 **GROUND ELEVATION** 10 ft **HOLE SIZE** inches  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVEL:**  
**DRILLING METHOD** Track mounted Geoprobe  **DURING DRILLING** 5.00 ft / Elev 5.00 ft  
**LOGGED BY** K. Treacy **CHECKED BY** J. Alexander **NORTHING** 676228  
**NOTES** 20% COPR observed 2-2.5 ft bgs **EASTING** 607425

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					
		PID = 0		Brown Loam, trace fine schist Gravel, roots	
		PID = 0		Light Brown SAND, fine, some mica and qtz gravel, dry	
		PID = 0		Orange yellow SAND, fine, some silt, trace rounded qtz gravel, very dense	
		PID = 0		Dark brown fine SAND, trace clay, subangular qtz gravel, 20% COPR	20% COPR observed 2-2.5 ft bgs
		PID = 0		Light Brown SAND, medium to coarse, moderately dense, dry	
		PID = 0		Medium Brown SAND, coarse, some red gravel, dry	soil sample collected 4-4.5 ft bgs
	GB S01	PID = 0			soil sample collected 4.5-5 ft bgs
	GB S02	PID = 0			soil sample collected 5-5.5 ft bgs
	GB S03	PID = 0		Gray SAND, coarse, some rounded qtz gravel, dry	
		PID = 0			soil sample collected 6-6.5 ft bgs
	GB S04	PID = 0			soil sample collected 6-6.5 ft bgs
	GB S05	PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
10.0					

Bottom of borehole at 10.0 feet.



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200 Horizon Center  
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Telephone: 6095886328  
Fax: 6095886314

# BORING NUMBER B02

PAGE 1 OF 1

CLIENT PPG Industries, Inc. PROJECT NAME Site 16  
 PROJECT NUMBER 151137 PROJECT LOCATION Linden Avenue, Jersey City, NJ  
 DATE STARTED 5/27/15 COMPLETED 5/27/15 GROUND ELEVATION 10 ft HOLE SIZE inches  
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:  
 DRILLING METHOD Track mounted Geoprobe  DURING DRILLING 5.00 ft / Elev 5.00 ft  
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 676228  
 NOTES 10% COPR observed from 2-2.5 ft bgs EASTING 607402

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					
		PID = 0		Brown Loam, fine sand, trace schist gravel, loose, dry	
		PID = 0			
		PID = 0			
		PID = 0		(SP) Orange yellow SAND, medium, some silt, trace rounded qtz gravel,	
		PID = 0			
		PID = 0		(SP) Dark brown SAND, fine, some subangular reddish brown medium gravel, moderately dense, dry	10% COPR observed from 2-2.5 ft bgs
2.5		PID = 0			
		PID = 0		(SP) Light brown SAND, medium to coarse, some subangular gravel, moderately dense, moist	
		PID = 0			
	GB S01	PID = 0			soil sample collected 3.5-4 ft bgs
	GB S02	PID = 0			soil sample collected 4-4.5 ft bgs
	GB S03	PID = 0			soil sample collected 4.5-5 ft bgs
5.0		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
	GB S04	PID = 0			soil sample collected 7-7.5 ft bgs
7.5		PID = 0			
	GB S05	PID = 0		(SP) Gray SAND, coarse, some gravel and shells, loose, moist	soil sample collected 7.5-8 ft bgs
		PID = 0			
		PID = 0		No recovery	
		PID = 0			
		PID = 0			
10.0					

Bottom of borehole at 10.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 6/10/16 11:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\FIELD DATA\LOGS\B02 - BORING LOGS.GPJ





CB&I  
200 Horizon Center  
Trenton, NJ 08691  
Telephone: 6095886328  
Fax: 6095886314

# BORING NUMBER B03

CLIENT PPG Industries, Inc. PROJECT NAME Site 16  
 PROJECT NUMBER 151137 PROJECT LOCATION Linden Avenue, Jersey City, NJ  
 DATE STARTED 5/27/15 COMPLETED 5/27/15 GROUND ELEVATION 10 ft HOLE SIZE inches  
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:  
 DRILLING METHOD Track mounted Geoprobe  DURING DRILLING 5.00 ft / Elev 5.00 ft  
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 676233  
 NOTES 20% COPR observed from 1.5-2 ft bgs EASTING 607343

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0				Concrete sidewalk	
		PID = 0			
		PID = 0		(SP) Dark Brown SAND, coarse, some subangular reddish brown COPR gravel, dense, dry	20% COPR observed from 1.5-2 ft bgs
		PID = 0			
		PID = 0		(SP) Light Brown SAND, coarse, some rounded qtz gravel, loose, dry	soil sample collected 2-2.5 ft bgs
2.5	GB S01	PID = 0			soil sample collected 2.5-3 ft bgs
	GB S02	PID = 0			soil sample collected 3-3.5 ft bgs
	GB S03	PID = 0			soil sample collected 3.5-4 ft bgs
	GB S04	PID = 0			
		PID = 0		No recovery	
		PID = 0			
5.0		PID = 0		(SP) Dark Brown coarse SAND, some gravel, moderately dense, moist	soil sample collected 6.5-7 ft bgs
		PID = 0			
		PID = 0			
		PID = 0			
	GB S05	PID = 0			
		PID = 0		(SP) Dark Gray SAND, coarse, some gravel, moist	
7.5		PID = 0			
		PID = 0			
		PID = 0		No recovery	
		PID = 0			
		PID = 0			
		PID = 0			
10.0					

Bottom of borehole at 10.0 feet.



CB&I  
200 Horizon Center  
Trenton, NJ 08691  
Telephone: 6095886328  
Fax: 6095886314

# BORING NUMBER B04

CLIENT PPG Industries, Inc. PROJECT NAME Site 16  
 PROJECT NUMBER 151137 PROJECT LOCATION Linden Avenue, Jersey City, NJ  
 DATE STARTED 5/27/15 COMPLETED 5/27/15 GROUND ELEVATION 10 ft HOLE SIZE inches  
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:  
 DRILLING METHOD Track mounted Geoprobe  DURING DRILLING 5.00 ft / Elev 5.00 ft  
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 676236  
 NOTES EASTING 607279

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					
		PID = 0		Brown Loam, trace coarse schist sand, grass, roots, loose, dry	
		PID = 0		(SP) Light Brown SAND, fine to medium, trace silt, some subangular gravel, some shells, loose, dry	
		PID = 0			soil sample collected 2-2.5 ft bgs
2.5	GB S01	PID = 0			soil sample collected 2.5-3 ft bgs
	GB S02	PID = 0			soil sample collected 3-3.5 ft bgs
	GB S03	PID = 0		(SP) Brown SAND, fine to medium, some gray sand, loose, dry	soil sample collected 3.5-4 ft bgs
	GB S04	PID = 0			soil sample collected 4-4.5 ft bgs
		PID = 0		No Recovery	
5.0		PID = 0		(SP) Brown SAND, fine to coarse, some angular qtz gravel, loose, moist	
		PID = 0			soil sample collected 4-4.5 ft bgs
	GB S05	PID = 0			
		PID = 0			
7.5		PID = 0		(SP) Black SAND, some schist gravel, loose, moist	
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0		No recovery	
		PID = 0			
10.0					

Bottom of borehole at 10.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 6/10/16 11:52 - \\TREFS01\COMMON\MORAN\PPG - CHROME\SITE 016\FIELD DATA\LOGS\SITE 16 LINDEN AVE. BORING LOGS.GPJ



CB&I  
 200 Horizon Center  
 Trenton, NJ 08691  
 Telephone: 6095886328  
 Fax: 6095886314

**BORING NUMBER B05**

CLIENT PPG Industries, Inc. PROJECT NAME Site 16  
 PROJECT NUMBER 151137 PROJECT LOCATION Linden Avenue, Jersey City, NJ  
 DATE STARTED 5/27/15 COMPLETED 5/27/15 GROUND ELEVATION 10 ft HOLE SIZE inches  
 DRILLING CONTRACTOR EPI GROUND WATER LEVEL:  
 DRILLING METHOD Track mounted Geoprobe  DURING DRILLING 5.00 ft / Elev 5.00 ft  
 LOGGED BY K. Treacy CHECKED BY J. Alexander NORTHING 676211  
 NOTES EASTING 607556

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 6/10/16 11:52 - \\TRFES01\COMMON\MORAN\PPG - CHROME\SITE 016\FIELD DATA\LOGSITE 16 LINDEN AVE. BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					
		PID = 0		Asphalt	
		PID = 0		(SP) Brownish Black SAND, fine to medium, trace subangular gravel, dense, dry	
		PID = 0		Concrete, some gravel	
2.5	GB S01	PID = 0		(SP) Brown SAND, medium to coarse, trace silt, little subrounded gravel and shells, moderately dense, moist	soil sample collected 2-2.5 ft bgs
	GB S02	PID = 0			soil sample collected 2.5-3 ft bgs
	GB S03	PID = 0			soil sample collected 3-3.5 ft bgs
	GB S04	PID = 0			soil sample collected 3.5-4 ft bgs
	GB S05	PID = 0		(SP) Dark grown SAND, medium to coarse, some subrounded gravel and shells, moderately dense, moist	soil sample collected 4-4.5 ft bgs
5.0		PID = 0		▽	
7.5		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
10.0		PID = 0		(SP) Dark gray SAND, fine to medium, little subrounded gravel, medium dense, moist	

Bottom of borehole at 10.0 feet.



ENVIRONMENTAL BH - GINT STD US LAB.GDT - 10/16/18 15:32 - \\TREPFS01\COMMON\MORAN\PPG - CHROME\SITE 016\REPORTS\2018-04 RAR FOR EXTERIOR\PRRC\ATTACHMENTS\ATTACHMENT 5 BORING LOGS\PPG 016 SUPPLEMENTAL SAMPLE



# BORING NUMBER 2B-BOTTOM

PAGE 1 OF 1

<b>CLIENT</b> PPG	<b>PROJECT NAME</b> PPG Site 016
<b>PROJECT NUMBER</b> 151137	<b>PROJECT LOCATION</b> 45 Linden Avenue East, Jersey City,
<b>DATE STARTED</b> 12/8/17 <b>COMPLETED</b> 12/8/17	<b>NJ GROUND ELEVATION</b> 5.8 ft <b>HOLE SIZE</b> 3"
<b>DRILLING CONTRACTOR</b> EPI	<b>GROUND WATER LEVEL:</b>
<b>DRILLING METHOD</b> Direct Push	<input checked="" type="checkbox"/> <b>DURING DRILLING</b> 2.50 ft / Elev 3.30 ft
<b>LOGGED BY</b> K. Treacy <b>CHECKED BY</b> M.Coller	<b>NORTHING</b> 676941.6
<b>NOTES</b>	<b>EASTING</b> 607578.4

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0				DGA	
		PID = 0			
		PID = 0			
		PID = 0			
2.5		PID = 0	▽		
		PID = 0			
		PID = 0		Grayish Brown coarse SAND, some fine gravel, semi dense, wet	2.5
		PID = 0			
		PID = 0		Dark Red coarse SAND, loose, wet	1.8
		PID = 0			
5.0	ss				2B-Bottom collected from 4.5-5.0' bgs
		PID = 0			
				Bottom of borehole at 5.0 feet.	0.8



**CLIENT** PPG **PROJECT NAME** PPG Site 016  
**PROJECT NUMBER** 151137 **PROJECT LOCATION** 45 Linden Avenue East, Jersey City,  
**DATE STARTED** 12/7/17 **COMPLETED** 12/7/17 **NJ GROUND ELEVATION** 6.5 ft **HOLE SIZE** 3"  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVEL:**  
**DRILLING METHOD** Direct Push **DURING DRILLING** ---  
**LOGGED BY** K. Treacy **CHECKED BY** M.Coller **NORTHING** 676583  
**NOTES** **EASTING** 608019.6

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0		PID = 0		DGA	
1.0	ss	PID = 0		Light Gray medium SAND, some fine rounded gravel, semi dense, moist	2U-SW-NORTH collected from 1-1.5' BGS
2.0		PID = 0		Bottom of borehole at 2.0 feet.	



ENVIRONMENTAL BH - GINT STD US LAB.GDT - 10/16/18 15:32 - \\TREFFS01\COMMON\MORAN\PPG - CHROME\SITE 016\REPORTS\2018-04 RAR FOR EXTERIOR\PRRC\ATTACHMENTS\ATTACHMENT 5 BORING LOGS\PPG 016 SUPPLEMENTAL SAMPLE



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# BORING NUMBER 3W-BOTTOM

<b>CLIENT</b> PPG	<b>PROJECT NAME</b> PPG Site 016
<b>PROJECT NUMBER</b> 151137	<b>PROJECT LOCATION</b> 45 Linden Avenue East, Jersey City,
<b>DATE STARTED</b> 12/7/17 <b>COMPLETED</b> 12/7/17	<b>NJ GROUND ELEVATION</b> 7.3 ft <b>HOLE SIZE</b> 3"
<b>DRILLING CONTRACTOR</b> EPI	<b>GROUND WATER LEVEL:</b>
<b>DRILLING METHOD</b> Direct Push	<input checked="" type="checkbox"/> <b>DURING DRILLING</b> 5.00 ft / Elev 2.30 ft
<b>LOGGED BY</b> K. Treacy <b>CHECKED BY</b> M.Coller	<b>NORTHING</b> 676542
<b>NOTES</b>	<b>EASTING</b> 608057.9

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					
2.5		PID = 0  PID = 0  PID = 0  PID = 0	X	DGA	
5.0	ss	PID = 0	.	5.0 ▽ Dark Gray coarse SAND, semi dense, wet	2.3 3W-Bottom collected from 5-5.5' BGS and placed on hold at lab.
6.0		PID = 0	.	6.0 Bottom of borehole at 6.0 feet.	1.3



ENVIRONMENTAL BH - GINT STD US LAB.GDT - 10/16/18 15:32 - \\TREPPS01\COMMON\MORAN\MORAN\PPG - CHROME\SITE 016\REPORTS\2018-04 RAR FOR EXTERIOR\PRRC\ATTACHMENTS\ATTACHMENT 5 BORING LOGS\PPG 016 SUPPLEMENTAL SAMPLE



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# BORING NUMBER 4W-BOTTOM

<b>CLIENT</b> PPG	<b>PROJECT NAME</b> PPG Site 016
<b>PROJECT NUMBER</b> 151137	<b>PROJECT LOCATION</b> 45 Linden Avenue East, Jersey City,
<b>DATE STARTED</b> 12/7/17	<b>COMPLETED</b> 12/7/17
<b>DRILLING CONTRACTOR</b> EPI	<b>NJ GROUND ELEVATION</b> 8.7 ft
<b>DRILLING METHOD</b> Direct Push	<b>HOLE SIZE</b> 3"
<b>LOGGED BY</b> K. Treacy	<b>GROUND WATER LEVEL:</b>
<b>CHECKED BY</b> M.Coller	<input checked="" type="checkbox"/> <b>DURING DRILLING</b> 6.00 ft / Elev 2.70 ft
<b>NOTES</b>	<b>NORTHING</b> 676511.7
	<b>EASTING</b> 608042.8

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0				DGA	
2.5		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
5.0		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
		PID = 0			
6.0	ss	PID = 0		Gray fine silty SAND, dense, wet	2.7
7.5		PID = 0		Dark grayish black coarse SAND, semi dense, wet	1.7
		PID = 0		Light gray coarse SAND, some fine rounded gravel, semi dense, wet	0.7
		PID = 0		Light gray fine SAND, semi dense, moist	-0.3
10.0		PID = 0		Bottom of borehole at 10.0 feet.	-1.3

4W-BOTTOM collected from 6-6.5' BGS

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 10/16/18 15:32 - \\TREPFS01\COMMON\MORAN\PPG - CHROME(SITE 016)\_REPORTS\2018-04 RAR FOR EXTERIOR\PRRC\ATTACHMENTS\ATTACHMENT 5 BORING LOGS\PPG 016 SUPPLEMENTAL SAMPLE



**CLIENT** PPG **PROJECT NAME** PPG Site 016  
**PROJECT NUMBER** 151137 **PROJECT LOCATION** 45 Linden Avenue East, Jersey City,  
**DATE STARTED** 12/8/17 **COMPLETED** 12/8/17 **NJ GROUND ELEVATION** 7.2 ft **HOLE SIZE** 3"  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVEL:**  
**DRILLING METHOD** Direct Push **DURING DRILLING** 4.00 ft / Elev 3.20 ft  
**LOGGED BY** K. Treacy **CHECKED BY** M.Coller **NORTHING** 676543.7  
**NOTES** **EASTING** 607803.1

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0					
		PID = 0		DGA	8P-BOTTOM collected from 3.5-4.0 BGS
		PID = 0			
2.5		PID = 0			
		PID = 0			
	ss			Red gray medium to coarse SAND, little shells, semi dense, wet	
		PID = 0		▽	
5.0		PID = 0			

Bottom of borehole at 5.0 feet.

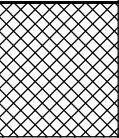

# BORING NUMBER 150-SW-WEST



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ENVIRONMENTAL BH - GINT STD US LAB.GDT - 10/16/18 15:32 - \\TREPPS01\COMMON\MORAN\PPG - CHROME\SITE 016\REPORTS\2018-04 RAR FOR EXTERIOR\PRRC\ATTACHMENTS\ATTACHMENT 5 BORING LOGS\PPG 016 SUPPLEMENTAL SAMPLE

**CLIENT** PPG **PROJECT NAME** PPG Site 016  
**PROJECT NUMBER** 151137 **PROJECT LOCATION** 45 Linden Avenue East, Jersey City,  
**DATE STARTED** 12/8/17 **COMPLETED** 12/8/17 **NJ GROUND ELEVATION** 8.2 ft **HOLE SIZE** 3"  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVEL:**  
**DRILLING METHOD** Direct Push **DURING DRILLING** ---  
**LOGGED BY** K. Treacy **CHECKED BY** M.Coller **NORTHING** 676391.8  
**NOTES** \_\_\_\_\_ **EASTING** 607659.3

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS	
0.0		PID = 0		DGA		
	ss	PID = 0		1.0	7.2	150-SW-WEST collected from 1-1.5' BGS
		PID = 0				
2.5		PID = 0		3.0	5.2	

PID = 0 Bottom of borehole at 3.0 feet.

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 10/16/18 15:32 - \\TREPFS01\COMMON\MORAN\PPG - CHROME\SITE 016\REPORTS\2018-04 RAR FOR EXTERIOR\PRRC\ATTACHMENTS\ATTACHMENT 5 BORING LOGS\PPG 016 SUPPLEMENTAL SAMPLE



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<b>CLIENT</b> PPG	<b>PROJECT NAME</b> PPG Site 016
<b>PROJECT NUMBER</b> 151137	<b>PROJECT LOCATION</b> 45 Linden Avenue East, Jersey City,
<b>DATE STARTED</b> 12/7/17	<b>COMPLETED</b> 12/7/17
<b>DRILLING CONTRACTOR</b> EPI	<b>NJ GROUND ELEVATION</b> 6.9 ft <b>HOLE SIZE</b> 8"
<b>DRILLING METHOD</b> Hollow Stem Auger	<b>GROUND WATER LEVEL:</b>
<b>LOGGED BY</b> K. Treacy	<b>CHECKED BY</b> M.Coller
<b>NOTES</b>	<b>DURING DRILLING</b> ---
	<b>NORTHING</b> 607971.2
	<b>EASTING</b> 676620.9

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0					
5					
10					
15					
18.0				Gray SILT, semi dense, wet	-11.1
19.0				Meadow Mat	-12.1
20.0	SS				-13.1
Bottom of borehole at 20.0 feet.					

016\_L005 collected from 19.5-20 BGS



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# BORING NUMBER 17/18U-SW-EAST

<b>CLIENT</b> PPG	<b>PROJECT NAME</b> PPG Site 016
<b>PROJECT NUMBER</b> 151137	<b>PROJECT LOCATION</b> 45 Linden Avenue East, Jersey City,
<b>DATE STARTED</b> 12/8/17 <b>COMPLETED</b> 12/8/17	<b>NJ GROUND ELEVATION</b> 9.5 ft <b>HOLE SIZE</b> 3"
<b>DRILLING CONTRACTOR</b> EPI	<b>GROUND WATER LEVEL:</b>
<b>DRILLING METHOD</b> Direct Push	<b>DURING DRILLING</b> ---
<b>LOGGED BY</b> K. Treacy <b>CHECKED BY</b> M.Coller	<b>NORTHING</b> 676234.6
<b>NOTES</b>	<b>EASTING</b> 607738.1

DEPTH (ft)	SAMPLE TYPE NUMBER	ENVIRONMENTAL DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS
0.0		PID = 0		DGA	
	AU	PID = 0	X		17/18U-SW-EAST collected from 1-1.5' BGS
			X		
			X	Dark brown fine SAND, little fine rounded gravel, semi dense, dry	
		PID = 0	X		

Bottom of borehole at 2.0 feet.



**CLIENT** PPG Site 16 **PROJECT NAME** \_\_\_\_\_  
**PROJECT NUMBER** 151137 **PROJECT LOCATION** 45 Linden Avenue, Jersey City  
**DATE STARTED** 4/12/19 **COMPLETED** 4/12/19 **GROUND ELEVATION** 7.7 ft **HOLE SIZE** 3 inches  
**DRILLING CONTRACTOR** EPI **GROUND WATER LEVELS:**  
**DRILLING METHOD** Direct Push **AT TIME OF DRILLING** 6.00 ft / Elev 1.70 ft  
**LOGGED BY** KT **CHECKED BY** CL **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_ **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 2/14/20 08:35 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\KD008. SITE 16.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0.0			DGA	PID = 0
2.5				PID = 0
5.0				PID = 0
6.0				PID = 0
6.0	SS KD008		Brown fine to medium SAND, little medium semi angular gravel, semi dense, wet	PID = 0
7.5			Gray silty SAND, little medium sub rounded gravel, semi dense, wet	PID = 0
8.5			Brownish Gray silty SAND, trace medium sub rounded gravel, semi dense, wet	PID = 0
9.0			Brown silty SAND, little medium sub rounded gravel, semi dense, wet	PID = 0
10.0			Bottom of borehole at 10.0 feet.	PID = 0