



***INVENTUM ENGINEERING, PC***

**DRAFT**

**Remedial Investigation Report**

**Volume # 4 – Appendices E through I**

Riverview Innovation & Technology Campus

Brownfield Cleanup Program Site No. C915353

3875 River Road

Tonawanda, New York 14150

August 18, 2023

## Appendices





## Appendix E - Purge and Ground Water Sample Collection Logs



GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-01A					Depth to Water (ft BTOC): 5.14			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 9.37			
Purge Details								
Time Start: 10:30					Comments/Notes: Purge volume is approximate			
Time Ended: 11:05								
Total Purge Volume: 2 Gallons								
Time	Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	5.1	13.24	6.52	13.6	165	84.00
NA	1 Well Volume	NA	6.1	11.49	7.70	949	94.0	31.3
NA	2 Well Volume	NA	6	10.06	7.48	889	96.7	41.6
NA	3 Well Volume	NA	5.6	9.80	7.33	880	96.7	35.0
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides, Herbicides, PCBs, PFOS, 1,4 Dioxane			
			Sample Time: 11:05					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-01B					Depth to Water (ft BTOC): 5.64			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 24.11			
Purge Details								
Time Start: 9:25					Comments/Notes: Purge volume is approximate			
Time Ended: 10:05								
Total Purge Volume: 9 Gallons								
Time	Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	9.4	9.48	8.00	1173	68.7	0.69
NA	1 Well Volume	NA	10.1	8.86	7.61	1178	75.8	151.0
NA	2 Well Volume	NA	10	8.29	7.46	1176	83.0	158.0
NA	3 Well Volume	NA	10.4	8.29	7.40	1167	85.0	234.0
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 10:05					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-01C					Depth to Water (ft BTOC): 24.28			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 43.87			
Purge Details								
Time Start: 8:30					Comments/Notes: Purge volume is approximate			
Time Ended: 9:00								
Total Purge Volume: 8 Gallons								
Time	Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	9.3	12.1	7.93	1856	80.7	8.95
NA	1 Well Volume	NA	10.1	8.45	9.53	1255	69.3	693.0
NA	2 Well Volume	NA	10.1	7.90	8.15	1302	77.8	692.0
NA	3 Well Volume	NA	10.3	7.31	8.09	1254	76.4	503.0
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 9:00					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-02A					Depth to Water (ft BTOC): 7.60			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/11/2021					Total Depth (ft BTOC): 9.27			
Purge Details								
Time Start: 16:25					Comments/Notes: Purge volume is approximate			
Time Ended: 16:45								
Total Purge Volume: 0.6 gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Conductivity	ORP	Turbidity
16:30	100	8.10	7.7	NA	7.46	NA	-127.7	8.25
16:35	100	9.00	7.8	NA	8.00	NA	-135.8	15.22
16:40	150	9.05	7.3	NA	5.88	NA	-11.3	17.33
Purged dry at approximately 2 well volumes and 0.6 gallons								
Well recharged to DTW 7.82 before sampling								
Sample Details								
NA = Not Available				Sample Date: 1/11/2021		Analysis: VOCs, SVOCs, Cyanide, Mercury, Metals MS and MSD collected for Mercury and Metals		
				Sample Time: 16:55				
				Sampled By: James Edwards				



## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-02B

Depth to Water (ft BTOC): 9.09

Inventum Sampler: James Edwards

Depth to Product (ft BTOC): Not Present

Date: 1/11/2021

Total Depth (ft BTOC): 29.15

## Purge Details

Time Start: 13:25

Comments/Notes: Purge volume is approximate

Time Ended: 15:06

Total Purge Volume: 9.8 Gallons

Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Conductivity	ORP	Turbidity
13:30	100	9.20	11.2	3.94	7.38	NA	72.3	48.91
13:35	110	10.70	11.7	5.04	7.47	NA	77.1	102.1
13:40	110	11.86	11.8	5.37	7.48	NA	79.4	78.11
Transition from low flow to standard purge due to drop in water level								
13:45	180	13.60	12.2	5.14	7.47	NA	82.6	100.21
13:50	300	14.91	12.6	5.54	7.46	NA	84.8	133.9
13:55	400	17.33	12.9	5.56	7.45	NA	86.2	225.72
14:00	420	18.60	13.1	6.10	7.46	NA	87.7	35.91
14:05	420	19.10	13.1	6.21	7.45	NA	88.3	145.96
14:10	480	20.42	13.3	5.93	7.45	NA	90.6	278.31
14:15	500	21.31	13.4	5.41	7.40	NA	93.3	255.9
14:20	500	22.09	13.6	5.38	7.36	NA	96.2	234.97
14:25	580	23.20	13.7	4.18	7.30	NA	103.5	220.52
14:30	580	23.72	13.7	3.65	7.29	NA	103.6	165.21
14:35	580	24.59	13.7	3.44	7.27	NA	100.4	363.21
14:40	580	25.53	13.6	3.61	7.27	NA	104.9	101.22
14:45	400	26.00	12.4	3.05	7.31	NA	96.4	68.71
14:50	400	26.45	13.3	3.54	7.30	NA	85.6	235.1
14:55	400	26.55	12.7	6.02	7.36	NA	92.2	165.2
15:00	400	26.90	13.1	4.71	7.29	NA	90.8	180.83
15:05	400	27.11	12.8	6.74	7.34	NA	99.3	165.21

## Sample Details

NA = Not Available

Sample Date: 1/11/2021

Analysis: VOCs, SVOCs, Cyanide, Mercury, Metals

Sample Time: 15:15

Sampled By: James Edwards

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-03A					Depth to Water (ft BTOC): 4.74			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/11/2021					Total Depth (ft BTOC): 9.00			
Purge Details								
Time Start: 11:30					Comments/Notes: Purge volume is approximate			
Time Ended: 11:57								
Total Purge Volume: 2.1 Gallons								
Time	Flow Rate (ml/minute) or Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
11:33	300	4.96	NA	11.84	8.30	1247	29.9	3.22
11:39	300	5.05	NA	10.89	7.60	1236	43.0	3.17
11:41	150	5.09	NA	10.26	7.32	1223	52.3	3.27
11:45	100	5.14	NA	9.60	7.09	1212	61.7	2.30
11:48	<75	5.23	NA	8.72	7.05	972	62.7	1.93
Transition from low flow to standard purge due to drop in water level								
11:54	2 well volumes	6.65	NA	7.18	6.95	7.1	61.1	2.21
11:57	3 well volumes	6.10	NA	6.6	6.33	819	68.9	2.43
Sample Details								
NA = Not Available			Sample Date: 1/11/2021		Analysis: VOCs, SVOCs, Cyanide Duplicate collected			
			Sample Time: 12:05					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-03B					Depth to Water (ft BTOC): 9.70			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/11/2021					Total Depth (ft BTOC): 27.86			
Purge Details								
Time Start: 13:16					Comments/Notes: Purge volume is approximate			
Time Ended: 13:55								
Total Purge Volume: 8.8 Gallons								
Time	Flow Rate (ml/minute) or Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
13:16	300	10.50	11.1	9.35	7.02	1450	NA	25.68
13:19	125	11.58	10.4	8.56	7.00	1440	NA	62.37
Transition from low flow to standard purge due to drop in water level								
13:29	1 Well Volume	16.65	11.4	8.10	7.18	1444	NA	271.0
13:45	2 Well Volume	19.18	11.7	6.60	7.15	1443	NA	501.0
13:55	3 Well Volume	20.21	11.8	6.47	7.10	1449	NA	503.0
Sample Details								
NA = Not Available			Sample Date: 1/11/2021		Analysis: VOCs, SVOCs, Cyanide MS / MSD collected			
			Sample Time: 14:10					
			Sampled By: Todd Waldrop					



GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-03C					Depth to Water (ft BTOC): 30.12			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 42.59			
Purge Details								
Time Start: 7:15					Comments/Notes: Purge volume is approximate			
Time Ended: 8:05								
Total Purge Volume: 5 Gallons								
Time	Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	10.5	11.35	8.57	1610	17.6	412.0
NA	1 Well Volume	NA	10.9	9.04	8.51	1461	20.0	184.0
NA	2 Well Volume	NA	11.1	8.50	8.06	1405	27.9	233.0
NA	3 Well Volume	NA	10.9	8.55	7.82	1392	87.6	165.0
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide			
			Sample Time: 8:05					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-04A					Depth to Water (ft BTOC): 4.43			
Inventum Sampler: Bryan Hann					Depth to Product (ft BTOC): Not Present			
Date: 1/11/2021					Total Depth (ft BTOC): 8.52			
Purge Details								
Time Start: 13:20					Comments/Notes: Purge volume is approximate			
Time Ended: 13:42								
Total Purge Volume: 0.5 Gallons								
Time	Volume Purged (Gallons)	DTW	Temperature	DO	pH	Specific Conductivity (ms/cm)	ORP	Turbidity
13:22	0.1	4.78	5.1	2.40	9.14	0.787	30.3	51.96
13:24	0.2	4.83	4.9	2.17	9.16	0.790	29.4	44.21
13:27	0.3	4.88	5.0	2.03	9.20	0.792	28.2	48.77
13:30	0.4	4.88	5.0	1.95	9.21	0.790	26.6	65.34
13:41	0.5	4.89	5.0	1.85	9.23	0.792	21.8	26.79
Sample Details								
NA = Not Available			Sample Date: 1/11/2021		Analysis: VOCs, SVOCs, Cyanide			
			Sample Time: 13:30					
			Sampled By: Bryan Hann					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-04B					Depth to Water (ft BTOC): 5.29			
Inventum Sampler: Bryan Hann					Depth to Product (ft BTOC): Not Present			
Date: 1/11/2021					Total Depth (ft BTOC): 29.19			
Purge Details								
Time Start: 13:45					Comments/Notes: Purge volume is approximate			
Time Ended: 14:46								
Total Purge Volume: 6.0 Gallons								
Time	Volume Purged (Gallons)	DTW	Temperature	DO	pH	Specific Conductivity (ms/cm)	ORP	Turbidity
13:45	0.1	5.75	11.5	7.19	7.13	1.875	78.6	5.18
13:49	0.2	7.60	11.8	6.21	6.99	1.880	83.3	25.31
14:01	1	12.90	11.3	6.11	6.99	1.886	90.8	199.60
14:20	4	18.61	11.7	6.00	6.98	1.905	97.1	172.80
14:33	5	20.06	12.3	5.88	6.93	1.965	100.3	73.50
14:34	5.1	20.18	12.3	5.85	6.93	1.97	100.7	79.70
14:35	5.2	20.30	12.3	5.80	5.8	1.966	100.9	90.1
14:37	5.3	20.55	12.3	5.70	5.70	1.977	102.1	109.0
14:45	6	21.08	12.6	6.00	6.00	2.025	103.9	121.1
Sample Details								
NA = Not Available			Sample Date: 1/11/2021		Analysis: VOCs, SVOCs, Cyanide			
			Sample Time: 14:37					
			Sampled By: Bryan Hann					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-05A					Depth to Water (ft BTOC): 4.46			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 8.94			
Purge Details								
Time Start: 13:20					Comments/Notes: Purge volume is approximate.			
Time Ended: 14:00								
Total Purge Volume: 0.5 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
13:26	100	4.74	6.1	8.11	7.92	7549	136.0	125.0
13:29	100	4.95	5.9	5.80	8.35	8114	127.0	104.0
13:32	75	5.00	5.2	4.50	8.46	8252	122.0	92.0
13:35	75	5.00	5.5	3.98	8.48	8287	120.0	89.0
13:39	75	5.00	5.5	3.70	8.49	8292	118.0	62.0
13:42	75	5.00	5.4	3.43	8.51	8269	93.0	41.0
13:45	75	5.00	5.3	3.15	8.57	8157	96.7	24.0
13:48	75	5.00	5.2	2.92	8.62	8167	73.3	7.2
Sample Details								
NA = Not Available			Sample Date: 1/14/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides, Herbicides, PFAS, PCBs, 1,4- Dioxane, Ammonia MS and Duplicate collected for Ammonia			
			Sample Time: 14:00					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-05C					Depth to Water (ft BTOC): 24.47			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 43.00			
Purge Details								
Time Start: 12:15					Comments/Notes: Purge volume is approximate			
Time Ended: 13:15								
Total Purge Volume: 7.5 Gallons								
Time	Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	11.8	11.13	8.82	NA	88.6	126.0
NA	1 Well Volume	NA	12.2	7.37	8.01	NA	101.6	190.0
NA	2 Well Volume	NA	11.8	7.31	7.76	NA	102.2	779.0
Purged dry at 2.5 well Volume								
Sample Details								
NA = Not Available			Sample Date: 1/15/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 7:35					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-05D					Depth to Water (ft BTOC): 41.06			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 68.89			
Purge Details								
Time Start: 13:00					Comments/Notes: Purge volume is approximate. Low-flowed sampled with QED bladder pump.			
Time Ended: 14:03								
Total Purge Volume: 5 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
13:05	300	41.59	11.1	0.99	7.22	2259	-96.0	13.51
13:10	300	41.60	11.0	1.42	7.17	2241	-94.9	16.54
13:15	300	41.62	11.0	1.08	7.08	2211	-89.6	17.41
13:20	300	41.63	11.2	0.60	7.08	2199	-87.8	17.92
13:25	300	41.68	11.0	0.52	7.03	2196	-86.2	15.91
13:30	300	41.68	11.1	0.51	7.03	2194	-85.3	14.38
13:35	300	41.68	11.3	0.49	7.02	2190	-85.0	14.08
13:40	300	41.69	11.5	0.48	7.02	2189	-85.0	12.3
13:45	300	41.69	11.3	0.46	7.01	2184	-84.8	12.22
13:50	300	41.69	11.4	0.45	7.00	2182	-84.8	11.48
13:55	300	41.69	11.4	0.44	7.00	2182	-83.9	10.01
14:00	300	41.69	11.2	0.43	7.00	2180	-82.6	9.15
14:03	300	41.68	11.3	0.42	6.99	2180	-82.3	9.09
Sample Details								
NA = Not Available			Sample Date: 1/14/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 14:05					
			Sampled By: James Edwards					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-06A					Depth to Water (ft BTOC): 3.69			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 8.72			
Purge Details								
Time Start: 8:25					Comments/Notes: Purge volume is approximate.			
Time Ended: 9:00								
Total Purge Volume: 1.5 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
8:27	200	3.93	5	12.16	9.55	462.1	22.4	52.20
8:30	200	3.93	4.7	8.49	8.96	460.0	29.7	94.20
8:34	200	3.93	4.3	7.34	8.73	458.8	32.0	64.20
8:37	200	3.93	4.5	6.53	8.59	449.0	31.2	27.60
8:40	200	3.93	4.4	5.94	8.46	442.0	30.2	18.80
8:45	200	3.93	4.1	4.40	8.1	422.3	21.6	4.77
Sample Details								
NA = Not Available			Sample Date: 1/13/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides, Herbicides, PFAS, PCBs, 1,4- Dioxane MS / MSD collected			
			Sample Time: 9:00					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-06C					Depth to Water (ft BTOC): 20.65			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 43.70			
Purge Details								
Time Start: 14:30					Comments/Notes: Purge volume is approximate			
Time Ended: 15:00								
Total Purge Volume: 7 Gallons								
Time	Flow Rate (ml/minute) or Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	9.9	11.67	8.40	1083	75.9	434
NA	1 Well Volume	NA	9.7	8.40	10.34	1113	87.0	>1700
NA	2 Well Volume	NA	9.8	6.11	9.2	973	95.0	>2000
Purged dry at approximately 7 gallons								
Sample Details								
NA = Not Available			Sample Date: 1/13/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 7:50					
			Sampled By: Todd Waldrop					



GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-7C					Depth to Water (ft BTOC): 8.87			
Inventum Sampler: Bryan Hann					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 44.30			
Purge Details								
Time Start: 13:35					Comments/Notes: Purge volume is approximate			
Time Ended: 15:05								
Total Purge Volume: 0.75 Gallons								
Time	Volume Purged (Gallons)	DTW	Temperature	DO	pH	Specific Conductivity (M/cm)	ORP	Turbidity
13:35	0.1	8.87	9.8	11.00	10.54	0.303	167.6	54.41
13:46	6.0	33.55	11.0	4.06	8.17	1.146	105.4	593.43
14:18	10.0	Dry	10.3	4.53	7.67	1.570	130.3	2,106.73
15:05	10	Dry	9.6	6.32	7.60	1.266	122.6	320.40
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 15:05					
			Sampled By: Bryan Hann					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-8A					Depth to Water (ft BTOC): 5.18			
Inventum Sampler: Bryan Hann					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 10.72			
Purge Details								
Time Start: 12:09					Comments/Notes: Purge volume is approximate			
Time Ended: 12:15								
Total Purge Volume: 0.35 Gallons								
Time	Volume Purged (Gallons)	DTW	Temperature	DO	pH	Specific Conductivity (M/cm)	ORP	Turbidity
12:09	0.1	5.18	6.4	3.85	7.26	1.185	-76.8	75.78
12:11	0.15	5.21	7.8	2.30	6.99	1.123	-89.2	59.94
12:13	0.2	5.21	8.5	1.95	6.90	1.100	-97.0	41.97
12:14	0.25	5.22	8.6	1.87	6.88	1.094	-99.8	34.9
12:15	0.3	5.22	8.4	1.79	6.84	1.094	-103.0	25.58
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 12:15					
			Sampled By: Bryan Hann					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-8B					Depth to Water (ft BTOC): 6.30			
Inventum Sampler: Bryan Hann					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 29.06			
Purge Details								
Time Start: 12:27					Comments/Notes: Purge volume is approximate			
Time Ended: 12:50								
Total Purge Volume: 0.75 Gallons								
Time	Volume Purged (Gallons)	DTW	Temperature	DO	pH	Specific Conductivity (M/cm)	ORP	Turbidity
12:27	0.1	6.30	12.2	3.61	6.95	1.596	-3.9	15.74
12:29	0.15	7.65	12.5	2.31	6.94	1.629	8.3	18.11
12:33	0.25	9.80	12.2	4.39	8.00	1.471	31.8	20.68
12:38	0.35	12.05	12.2	4.34	7.48	1.498	59.8	28.27
12:45	0.5	15.10	11.8	5.01	8.01	1.472	82.3	36.47
12:48	0.6	15.90	11.9	4.99	7.96	1.474	86.6	39.14
12:50	0.65	16.50	11.9	5.02	8.00	1.476	89.7	41.3
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 12:50					
			Sampled By: Bryan Hann					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-09A					Depth to Water (ft BTOC): 5.66			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 8.10			
Purge Details								
Time Start: 10:21					Comments/Notes: Purge volume is approximate			
Time Ended: 10:36								
Total Purge Volume: 2.2 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
10:25	180	6.32	5.9	10.34	7.14	3140	245.6	30.46
Transition from low flow to standard purge due to drop in water level								
10:30	420	7.42	6.1	9.98	6.98	3149	264.5	23.51
10:35	0	8.05	6.2	8.88	7.00	3150	279.6	48.50
Purged dry at approximately 2.2 gallons								
Well recharged to DTW 7.19 before sampling								
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Mercury, Metals			
			Sample Time: 11:00					
			Sampled By: James Edwards					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-09B					Depth to Water (ft BTOC): 16.32			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 24.00			
Purge Details								
Time Start: 8:15					Comments/Notes: Purge volume is approximate			
Time Ended: 9:08								
Total Purge Volume: 5.2 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
8:20	150	17.01	10.5	6.46	7.36	949	73.3	5.92
8:25	180	17.40	10.4	7.22	7.36	937	80.9	8.34
8:30	400	17.80	10.8	7.81	7.34	949	84.1	255.61
Transition from low flow to standard purge due to drop in water level								
8:40	400	18.95	12.2	8.15	7.32	980	86.2	75.06
8:45	420	20.11	12.3	8.33	7.29	1034	93.2	144.06
8:55	420	21.32	12.4	6.10	7.34	1050	99.6	221.01
9:00	420	22.70	12.3	5.21	7.30	1170	101.4	344.11
9:05	300	23.91	11.9	6.18	7.98	1080	81.75	150.22
Purged dry at approximately 3 well volumes and 3.6 gallons								
Well recharged to DTW 22.91 before sampling								
Sample Details								
NA = Not Available				Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Mercury, Metals		
				Sample Time: 10:10				
				Sampled By: James Edwards				

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-10A					Depth to Water (ft BTOC): 4.08			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 8.64			
Purge Details								
Time Start: 11:15					Comments/Notes: Purge volume is approximate.			
Time Ended: 12:00								
Total Purge Volume: 1.5 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
11:19	200	3.85	5.9	10.45	8.96	1305	55.0	26.70
11:22	175	3.85	4.8	7.20	9.88	1285	48.6	92.90
11:25	175	3.85	4.6	6.22	9.93	1278	50.5	70.47
11:28	175	3.85	4.5	5.23	9.04	1255	57.9	40.80
11:31	175	3.85	4.5	4.44	9.02	1214	52.4	23.47
11:34	100	3.85	4.5	3.92	9.89	1197	52.3	21.30
11:38	100	3.85	4.5	3.51	9.86	1183	51.0	13.60
11:42	100	3.85	4.5	3.26	9.83	1172	49.4	10.50
Sample Details								
NA = Not Available			Sample Date: 1/14/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides, Herbicides, PFAS, PCBs, 1,4- Dioxane			
			Sample Time: 12:00					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-10C					Depth to Water (ft BTOC): 19.87			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 43.10			
Purge Details								
Time Start: 9:10					Comments/Notes: Purge volume is approximate			
Time Ended: 10:50								
Total Purge Volume: 7.5 Gallons								
Time	Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	11.7	11.39	7.77	1399	48.5	12
NA	1 Well Volume	NA	12.5	7.67	7.45	1370	68.2	12.5
NA	2 Well Volume	NA	12.4	7.14	7.35	1400	70.1	12.4
Purged dry at approximately 7.5 gallons								
Sample Details								
NA = Not Available			Sample Date: 1/15/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 7:35					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-11A					Depth to Water (ft BTOC): 7.01			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 11.18			
Purge Details								
Time Start: 8:00					Comments/Notes: Purge volume is approximate.			
Time Ended: 8:30								
Total Purge Volume: 2 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
8:02	300	7.01	8	8.98	8.28	854	31.2	18.10
8:07	300	7.15	8.4	6.66	7.27	876	31.7	72.30
8:10	300	7.15	9.0	5.51	7.10	884	54.3	30.50
8:13	300	7.15	9.1	4.85	7.01	836	56.1	19.30
8:16	300	7.15	9.0	4.20	6.92	886	58.8	11.50
8:23	300	7.15	9.2	3.23	6.82	902	62.4	7.87
Sample Details								
NA = Not Available			Sample Date: 1/14/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 8:30					
			Sampled By: Todd Waldrop					



GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-11B					Depth to Water (ft BTOC): 10.51			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 28.21			
Purge Details								
Time Start: 8:40					Comments/Notes: Purge volume is approximate.			
Time Ended: 9 :07								
Total Purge Volume: 2.8 Gallons								
Time	Flow Rate (ml/minute) or Well Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
8:43	200	10.59	12.8	9.10	7.03	2204	76.2	50.0
8:46	200	11.58	12.9	6.92	6.92	2382	75.8	26.6
8:50	160	12.55	12.5	5.99	6.92	2402	75.6	27.2
8:53	100	13.28	12.3	5.61	6.92	2398	76.2	28.0
8:56	<100	14.01	12.2	5.36	6.92	2401	76.8	28.5
8:59	75	14.60	12.3	5.26	6.92	2399	77.4	29.9
Transition to standard purge								
9:07	1 Well Volume	5.01	15.7	5.01	6.69	2432	76.4	98.0
Purged dry at 1 Well Volume								
Sample Details								
NA = Not Available			Sample Date: 1/15/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 7:15					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-12A					Depth to Water (ft BTOC): 3.69			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 8.72			
Purge Details								
Time Start: 10:40					Comments/Notes: Purge volume is approximate.			
Time Ended: 11:05								
Total Purge Volume: 1.5 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
10:45	300	3.80	4.6	11.41	7.61	919	38.2	26.20
10:48	300	3.81	4.5	8.34	7.65	947	32.1	6.05
10:51	300	3.81	4.6	6.55	7.67	951	27.7	<1
10:54	300	3.81	4.5	5.85	7.69	950	23.2	<1
10:57	300	3.81	4.6	5.13	7.71	945	18.8	<1
11:02	300	3.81	4.6	5.03	7.71	945	17.9	<1
Sample Details								
NA = Not Available			Sample Date: 1/13/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides, Herbicides, PFAS, PCBs, 1,4- Dioxane			
			Sample Time: 11:05					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-12B					Depth to Water (ft BTOC): 8.20			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 29.37			
Purge Details								
Time Start: 11:30					Comments/Notes: Purge volume is approximate.			
Time Ended: 11:46								
Total Purge Volume: 5.1 Gallons								
Time	Well Volume or Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
11:34	300	8.30	10	10.95	7.85	1052	8.6	1.10
11:39	125	9.75	9.2	8.39	7.89	1069	3.4	15.00
11:42	100	10.35	9.2	7.70	7.87	1067	3.0	18.45
11:46	100	10.93	8.5	7.41	7.85	1065	4.5	22.00
Transition to standard purge								
NA	1 Well Volume	NA	11.0	9.64	7.66	1004	20.0	96.00
Purged dry at approximately 1.5 well volumes								
Sample Details								
NA = Not Available			Sample Date: 1/14/2021		Analysis: VOCs, SVOCs, Cyanide, Metals,			
			Sample Time: 7:05					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-13A					Depth to Water (ft BTOC): 4.82			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 10.53			
Purge Details								
Time Start: 13:30					Comments/Notes: Purge volume is approximate.			
Time Ended: 14:00								
Total Purge Volume: 1.2 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
13:35	200	4.93	6.7	9.4	7.6	807	60.2	353.0
13:38	200	4.93	5.9	7.08	7.21	814	61.7	380.0
13:41	200	4.93	6.0	7.32	6.94	791	62.1	17.3
13:44	200	4.93	6.1	5.70	6.83	825	56.0	20.5
13:47	200	4.93	6.1	4.94	6.77	829	50.8	10.1
13:50	200	4.93	6.0	4.30	6.69	832	44.0	14.8
13:53	200	4.93	6.1	4.23	6.68	833	43.0	15.0
Sample Details								
NA = Not Available			Sample Date: 1/13/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides, Herbicides, PFAS, PCBs, 1,4 Dioxane			
			Sample Time: 14:00					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-13B					Depth to Water (ft BTOC): 11.55			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 33.21			
Purge Details								
Time Start: 14:10					Comments/Notes: Purge volume is approximate			
Time Ended: 14:30								
Total Purge Volume: 3.5 Gallons								
Time	Flow Rate (ml/minute) or Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	10.4	8.61	6.56	1326	32.4	236.0
NA	1 Well Volume	NA	10.9	5.26	6.87	1457	3.7	>1700
Purged dry at 1 well Volume								
Sample Details								
NA = Not Available			Sample Date: 1/14/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 7:30					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-15A					Depth to Water (ft BTOC): 5.85			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 8.85			
Purge Details								
Time Start: 13:25					Comments/Notes: Purge volume is approximate			
Time Ended: 14:00								
Total Purge Volume: 1.4 Gallons								
Time	Flow Rate (ml/minute) or Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
	100 ml/min	5.83	6.8	9.87	7.67	1354	102	0.00
13:30	100 ml/min	6.52	6.6	7.47	7.36	1339	107.0	0.0
13:34	70 ml/min	7.00	6.4	6.37	7.2	1537	108.0	0.0
Transition from low flow to standard purge due to drop in water level								
NA	2 Well Volume	NA	7.0	5.89	7.16	1350	107.0	2.0
NA	3 Well Volume	NA	7.0	6.09	7.14	1352	106.5	2.0
Purged dry at approximately 1.4 gallons								
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 14:00					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-15C					Depth to Water (ft BTOC): 29.50			
Inventum Sampler: Todd Waldrop					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 42.90			
Purge Details								
Time Start: 11:15					Comments/Notes: Purge volume is approximate			
Time Ended: 12:45								
Total Purge Volume: 6.5 Gallons								
Time	Flow Rate (ml/minute) or Volume	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
NA	0 Well Volume	NA	10.9	11.82	6.96	2390	123	15.60
NA	1 Well Volume	NA	11.5	7.87	7.12	2631	117.1	88.0
NA	2 Well Volume	NA	11.5	7.16	7.09	2627	114.0	85.0
NA	3 Well Volume	NA	11.3	7.38	7.12	2541	112.0	86.0
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 12:45					
			Sampled By: Todd Waldrop					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: Riverview Innovation and Technology Campus								
Well ID: MW-BCP-16A					Depth to Water (ft BTOC): 1.02			
Inventum Sampler: Bryan Hann					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 5.19			
Purge Details								
Time Start: 8:45					Comments/Notes: Purge volume is approximate			
Time Ended: 9:00								
Total Purge Volume: 0.5 Gallons								
Time	Volume Purged (Gallons)	DTW	Temperature	DO	pH	Specific Conductivity (M/cm)	ORP	Turbidity
8:48	0.1	1.02	2.3	12.42	8.15	1.563	168.2	19.54
8:53	0.15	2.20	2.2	10.21	7.89	7.813	182.6	4.95
8:57	0.2	3.01	5.3	8.98	6.75	7.941	182.9	6.48
8:59	0.25	3.09	4.6	9.93	6.77	6.951	177.7	6.21
9:05	0.4	3.65	4.9	9.86	6.7	6.972	174.9	4.33
Well purged dry at 0.5 Gallons								
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia			
			Sample Time: 9:05					
			Sampled By: Bryan Hann					



GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-16B					Depth to Water (ft BTOC): 9.41			
Inventum Sampler: Bryan Hann					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 20.88			
Purge Details								
Time Start: 10:20					Comments/Notes: Purge volume is approximate			
Time Ended: 10:30								
Total Purge Volume: 0.35 Gallons								
Time	Volume Purged (Gallons)	DTW	Temperature	DO	pH	Specific Conductivity (M/cm)	ORP	Turbidity
10:21	0.1	9.41	11.1	8.22	7.35	3.621	163.8	4.34
10:24	0.15	10.55	11.8	7.58	7.21	3.520	159.7	60.58
10:26	0.5	10.65	11.9	7.49	7.19	3.512	160.4	109.68
10:28	0.25	10.85	11.8	7.46	7.18	3.511	161.8	148.50
10:30	0.3	11.10	11.8	7.45	7.17	3.512	163.4	116.41
Well purged dry at 0.35 Gallons								
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia			
			Sample Time: 10:30					
			Sampled By: Bryan Hann					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-16C

Depth to Water (ft BTOC): 26.72

Inventum Sampler: Bryan Hann

Depth to Product (ft BTOC): Not Present

Date: 1/12/2021

Total Depth (ft BTOC): 39.84

## Purge Details

Time Start: 8:20

Comments/Notes: Purge volume is approximate

Time Ended: 9:15

Total Purge Volume: 6 Gallons

Time	Volume Purged (Gallons)	DTW	Temperature	DO	pH	Specific Conductivity (M/cm)	ORP	Turbidity
8:24	2.25	NA	9.4	5.99	7.40	2.494	171.8	131.03
8:33	4.5	NA	10.1	5.54	7.27	2.548	153.7	161.91
8:38	6	Dry	10.4	6.06	7.29	2.637	149.8	108.40

Well purged dry at 6 Gallons. DTW at sampling was 36.78.


## Sample Details

NA = Not Available

Sample Date: 1/12/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 9:15

Sampled By: Bryan Hann

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-17A					Depth to Water (ft BTOC): 8.55			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 9.16			
Purge Details								
Time Start: 7:50					Comments/Notes: Purge volume is approximate			
Time Ended: 8:10								
Total Purge Volume: 0.07 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
8:10	180	Dry	7.5	9.78	7.63	1296	50.9	38.5
Purged dry at 0.7 gallons, well did not recharge. DTW on 1/14/2021 at 11:00 was 9.10. MW-BCP-17A will not be sampled.								
Sample Details								
NA = Not Available			Sample Date:		Analysis: No sample collected			
			Sample Time:					
			Sampled By:					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-17B					Depth to Water (ft BTOC): 15.72			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 24.13			
Purge Details								
Time Start: 8:28					Comments/Notes: Purge volume is approximate			
Time Ended: 10:03								
Total Purge Volume: 3.4 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
8:40	100	16.31	8.7	1.18	7.02	1387	-153.6	7.96
8:45	100	16.70	9.0	1.46	7.11	1356	-123.6	4.23
8:50	100	17.35	9.1	2.72	7.15	1349	-111.8	5.11
8:55	100	17.9	9.1	5.8	7.18	1340	-79.9	4.7
9:05	100	18.15	9.1	6.59	7.26	1302	-59.6	3.91
9:10	100	18.45	9.1	7.24	7.27	1274	-57.1	3.7
9:15	100	18.70	8.9	7.64	7.25	1258	-46.0	2.09
9:20	100	18.90	9.2	7.44	7.24	1260	-33.3	6.1
9:25	100	19.21	9.1	7.27	7.22	1273	-27.1	8.4
9:30	100	19.41	9.1	6.84	7.21	1286	-23.6	3.64
9:35	100	19.63	9	6.61	7.21	1279	-27.0	2.41
9:40	100	20.00	9.2	6.15	7.19	1277	-17.5	20.1
Transition from low flow to standard purge due to drop in water level								
9:45	300	20.83	10.3	5.3	7.16	1304	-12.9	66.14
9:50	300	21.55	10.1	3.69	7.15	1327	-18.9	52.85
9:55	300	22.21	10.3	2.70	7.13	1346	-26.3	30.6
10:00	300	23.71	10.2	2.07	7.02	1380	-100.9	11.7
Purged dry at approximately 3.4 gallons								
Well recharged to DTW 23.12 before sampling								
Sample Details								
NA = Not Available			Sample Date: 1/13/2021		Analysis: VOCs, SVOCs, Cyanide			
			Sample Time: 10:35					
			Sampled By: James Edwards					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-18A					Depth to Water (ft BTOC): 5.27			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 8.31			
Purge Details								
Time Start: 11:18					Comments/Notes: Purge volume is approximate			
Time Ended: 11:53								
Total Purge Volume: 1.6 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
11:25	180	6.07	5.4	NA	7.25	1619	59.7	4.07
11:30	180	6.09	5.3	6.90	6.91	1599	88.7	2.24
11:35	180	6.55	5.2	5.60	6.84	1595	113.8	2.81
11:40	180	6.71	5.5	5.10	6.93	1636	51.7	3.20
11:45	180	7.18	5.6	4.64	6.92	1652	41.4	2.93
11:50	180	7.75	5.1	5.86	6.97	1667	29.8	3.36
Purged dry at approximately 1.6 gallons								
Well recharged to DTW 7.31 before sampling								
Sample Details								
NA = Not Available			Sample Date: 1/13/2021		Analysis: VOCs, SVOCs, Cyanide, PCBs, Pesticides, Herbicides, 1,4-Dioxane, PFAS			
			Sample Time: 11:53					
			Sampled By: James Edwards					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-18B					Depth to Water (ft BTOC): 13.54			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/13/2021					Total Depth (ft BTOC): 23.74			
Purge Details								
Time Start: 12:03					Comments/Notes: Purge volume is approximate			
Time Ended: 13:23								
Total Purge Volume: 4.4 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
12:05	160	13.95	8.9	2.22	6.98	2603	-79.6	6.99
12:10	160	13.33	9.6	3.36	7.02	2557	-31.0	18.42
12:15	160	14.70	9.6	6.00	7.35	2505	9.9	20.11
12:20	160	15.01	9.6	7.45	7.52	2422	19.6	48.61
12:25	160	15.40	9.8	7.24	7.24	2406	22.9	39.08
12:30	160	15.62	9.7	7.51	7.25	2450	24.6	31.60
12:35	160	16.09	9.6	7.35	7.24	2499	22.8	20.2
12:40	160	16.41	9.9	8.51	7.25	2461	23.0	16.04
Transition from low flow to standard purge due to drop in water level								
12:50	400	17.42	9.12	9.12	7.23	2418	5.9	64.60
12:55	400	18.51	8.55	8.55	7.18	2420	12.8	51.50
13:00	400	19.00	8.11	8.11	7.15	2430	23.1	42.60
13:10	420	20.65	7.55	7.55	7.1	2438	31.5	58.60
13:20	420	22.31	7.03	7.03	7.03	2558	4.6	40.80
Purged dry, DTW 23.70, approximately 4.4 gallons								
Well recharged to DTW 22.50 before sampling								
Sample Details								
NA = Not Available			Sample Date: 1/13/2021		Analysis: VOCs, SVOCs, Cyanide			
			Sample Time: 13:40					
			Sampled By: James Edwards					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-19A					Depth to Water (ft BTOC): 4.16			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 10.26			
Purge Details								
Time Start: 13:40					Comments/Notes: Purge volume is approximate			
Time Ended: 14:03								
Total Purge Volume: 1.1 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
13:45	180	5.40	5.4	1.23	6.02	3823	-25.4	99.61
13:50	180	7.41	5.0	2.04	6.03	3865	-26.4	97.2
Transition from low flow to standard purge due to drop in water level								
14:00	600	10.11	7.9	3.40	6.06	3985	-43.0	150.72
Purged dry at approximately 1.1 gallons								
Well recharged to DTW 8.25 before sampling								
Sample Details								
NA = Not Available			Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide			
			Sample Time: 14:25					
			Sampled By: James Edwards					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-19B					Depth to Water (ft BTOC): 15.69			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/12/2021					Total Depth (ft BTOC): 23.74			
Purge Details								
Time Start: 12:08					Comments/Notes: Purge volume is approximate			
Time Ended: 12:45								
Total Purge Volume: 3.75 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
12:10	150	16.15	9.6	1.18	6.77	2458	2.8	68.34
12:15	180	16.62	10	0.82	6.76	2448	0.8	86.87
Transition from low flow to standard purge due to drop in water level								
12:20	420	17.18	11.1	0.97	6.72	2426	-1.3	180.30
12:25	500	18.20	11.5	0.99	6.70	2451	4.0	156.19
12:30	500	18.75	11.6	1.03	6.71	2470	5.1	107.60
12:40	500	21.35	11.3	0.75	6.74	2514	-12.8	543.60
12:45	500	23.60	10.4	4.65	6.78	2221	1	750.06
Purged dry at approximately 3.75 gallons								
Well recharged to DTW 21.50 before sampling								
Sample Details								
NA = Not Available				Sample Date: 1/12/2021		Analysis: VOCs, SVOCs, Cyanide		
				Sample Time: 13:15				
				Sampled By: James Edwards				



GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-20A					Depth to Water (ft BTOC): 4.22			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 9.18			
Purge Details								
Time Start: 9:40					Comments/Notes: Purge volume is approximate			
Time Ended: 10:27								
Total Purge Volume: 1.3 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
9:45	120	5.80	7.9	2.70	6.76	1923	34.7	50.36
9:55	120	6.40	8.1	1.70	6.75	1937	32.0	24.15
10:00	100	6.59	8.2	1.18	6.76	1936	9.5	7.97
10:05	100	6.82	8.5	1.18	6.76	1948	-13.6	10.06
10:00	100	7.15	8.6	0.75	6.73	1964	-19.6	8.46
10:15	100	7.60	9.0	0.75	6.51	2022	-31.1	9.66
10:20	100	8.03	9.2	0.76	6.64	2104	-60.4	13.41
10:25	100	8.80	9.4	1.78	6.64	2178	-71.9	69.01
Purge dry at 10:27 at approximal 1.3 gallons								
Well recharged to DTW 4.75 before sampling on 1/15/2021								
Sample Details								
NA = Not Available			Sample Date: 1/15/2021		Analysis: VOCs, SVOCs, PCBs, Pesticides, Herbicides, 1,4-Dioxane, PFAS			
			Sample Time: 7:20					
			Sampled By: James Edwards					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-20B					Depth to Water (ft BTOC): 14.62			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 1/14/2021					Total Depth (ft BTOC): 24.11			
Purge Details								
Time Start: 7:38					Comments/Notes: Purge volume is approximate			
Time Ended: 9:08								
Total Purge Volume: 6.5 Gallons								
Time	Flow Rate (ml/minute)	DTW	Temperature	DO	pH	Specific Conductivity	ORP	Turbidity
7:50	100	15.25	10.2	4.46	7.16	1387	39.9	29.20
7:55	100	15.80	10.6	5.46	7.12	1400	39.9	90.65
8:00	100	16.07	10.7	5.46	7.11	1426	41.5	140.31
8:05	100	16.53	10.6	5.55	7.10	1420	42.8	144.00
8:10	100	16.91	10.6	6.20	7.12	1413	43.7	147.61
8:15	100	16.92	10.6	5.99	7.11	1410	46.8	138.00
8:20	100	17.09	10.5	5.95	7.10	1392	48.9	51.25
8:25	100	17.21	10.6	5.21	7.11	1409	49.5	50.22
8:30	100	17.55	10.7	5.00	7.10	1421	50.5	40.65
Transition from low flow to standard purge due to drop in water level								
8:35	400	18.4	11.7	5.64	7.1	1417	51.5	61.45
8:40	400	19.05	11.8	5.75	7.1	1408	53.8	54.64
8:45	440	20.30	11.8	4.10	7.09	1401	53.8	118.00
8:50	440	20.79	11.9	3.09	7.08	1392	53.9	127.60
9:00	440	22.22	11.7	1.85	7.08	1392	48.8	85.61
9:05	440	23.01	11.6	2.00	7.09	1364	48.9	25.60
Purged dry, approximately 6.5 gallons								
Well recharged to DTW 22.45 before sampling								
Sample Details								
NA = Not Available			Sample Date: 1/14/2021		Analysis: VOCs, SVOCs, Cyanide			
			Sample Time: 9:25					
			Sampled By: James Edwards					

GROUNDWATER MONITORING WELL PURGE FORM								
Site: <u>Riverview Innovation and Technology Campus</u>								
Well ID: MW-BCP-01A					Depth to Water (ft BTOC): 5.75			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 9/21/2021					Total Depth (ft BTOC): 9.26			
Purge Details								
Time Start: 17:09					Comments/Notes: QED Pump set 1 ft off bottom			
Time Ended: 18:23								
Total Purge Volume: ~1.5								
Time	Flow	pH	Temperature	Turbidity	Conductivity	ORP	DO	DTW
17:35	200	6.95	18.7	170.1	1.592	1.6	4.31	5.95
17:40	200	6.75	18.5	64.64	1.582	-32.5	4.08	6.33
17:45	100	6.73	18.6	5.75	1.592	-46.8	3.21	6.30
17:50	100	6.73	18.7	13.19	1.532	-50.2	3.20	6.30
17:55	100	6.73	18.7	12.11	1.546	-51	3.10	6.30
18:00	100	6.74	18.9	19.30	1.546	-52.9	3.64	6.30
18:05	100	6.75	18.8	18.37	1.545	-53.0	3.92	6.32
18:10	100	6.75	18.6	31.75	1.548	-54.9	3.71	6.32
18:15	100	6.76	18.5	30.70	1.552	-56.5	3.68	6.32
18:20	100	6.76	18.3	29.33	1.553	-59.7	3.72	6.33
18:23	100	6.76	18.4	28.11	1.553	-60.0	3.68	6.34
18:25	Collect Sample							
Sample Details								
NA = Not Available			Sample Date: 9/21/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides, Herbicides, PCBs, PFOS, 1,4 Dioxane, MNA Parameters			
			Sample Time: 18:25					
			Sampled By: James Edwards					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-01B

Depth to Water (ft BTOC): 6.03

Inventum Sampler: Keith Adderley

9/21/2021 Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 24.15

## Purge Details

Time Start: 15:00

Comments/Notes:

Time Ended: 17:10

Tubing was about 3 ft off bottom

Total Purge Volume: ~3.25gal

Time	Flow	pH	Temperature	Turbidity	Conductivity	ORP	DO	DTW
16:00	100	8.77	18.7	0.85	1.347	113.0	4.85	12.89
16:05	100	7.50	17.0	6.13	1.348	112.6	2.73	13.50
16:10	100	7.41	17.1	11.01	1.344	107.4	2.23	13.70
16:15	100	7.33	17.1	15.91	1.348	106.1	1.92	13.81
16:20	100	7.28	17.5	19.91	1.349	105.4	1.48	13.93
16:25	100	7.27	17.8	29.32	1.350	105.1	1.46	13.96
16:30	100	7.26	18.0	34.11	1.353	105.0	1.34	14.00
16:35	100	7.26	18.5	46.09	1.356	104.0	1.32	14.05
16:40	100	7.26	18.8	52.05	1.357	103.9	1.31	14.10
16:45	100	7.26	18.9	60.65	1.357	103.8	1.32	14.15
16:50	100	7.26	18.9	44.38	1.356	103.7	1.34	14.18
16:55	100	7.25	18.5	50.44	1.355	103.9	1.35	14.20
17:00	100	7.24	18.5	54.88	1.354	104.0	1.36	14.31
17:05	100	7.24	18.0	58.70	1.353	104.4	1.38	14.40

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, MNA Parameters

Sample Time: 17:10

Sampled By: Keith Adderley

GROUNDWATER MONITORING WELL PURGE FORM								
Site: Riverview Innovation and Technology Campus								
Well ID: MW-BCP-01C					Depth to Water (ft BTOC): 24.11'			
Inventum Sampler: JEdwards/RBix					Depth to Product (ft BTOC): Not Present			
Date: 9/22/2021					Total Depth (ft BTOC): 43.76'			
Purge Details								
Time Start: 8:35					Comments/Notes:			
Time Ended: 9:00								
Total Purge Volume: ~8 gal.								
	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	6.73	12.8	457.83	1.289	195.2	2.79	
	1	6.90	12.0	960.22	1.296	192.1	3.22	
	2	6.95	11.9	1602.50	1.314	190.3	3.19	
	2.5	DRY						
	2.5 into 3rd vol	7.16	12.7	791.06	1.311	181.2	7.38	
Sample Details								
NA = Not Available			Sample Date: 9/22/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 9:15					
			Sampled By: JEdwards/RBix					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-01D

Depth to Water (ft BTOC): 39.22

Inventum Sampler: James Edwards

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC):

## Purge Details

Time Start: 15:00

Comments/Notes: Pump set 3 ft off bottom

Time Ended: 16:40

Dup collected Time 15:00; MW-BCP-101A; 09/21/2021

Total Purge Volume: 4 gals

Iron= between 0.0 and 0.5

Time	Flow	pH	Temperature	Turbidity	Conductivity	ORP	DO	DTW
15:15	200	9.87	16.0	53.41	2.920	-107.0	1.05	39.30
15:20	200	10.01	14.0	20.20	2.893	-131.9	0.71	39.33
15:25	200	10.28	13.8	16.77	2.897	-144.1	0.65	39.34
15:30	200	10.21	13.6	19.52	2.871	-150.6	0.63	39.34
15:35	200	11.06	13.7	22.41	2.857	-158.8	0.60	39.34
15:40	200	11.35	13.6	25.61	2.874	-164.9	0.58	39.34
15:45	200	11.53	13.6	31.27	2.903	-169.6	0.56	39.34
15:50	200	11.61	13.8	31.22	3.102	-172.6	0.55	39.34
15:55	200	11.97	13.9	30.77	3.496	-181.7	0.52	39.34
16:00	200	12.02	13.8	30.60	3.478	-182.3	0.52	39.34
16:05	200	12.06	13.7	31.52	3.463	-188.6	0.51	39.34
16:08	Collect Sample							

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 16:08

Field Duplicate: VOCs, SVOCs, Cyanide, Metals, Mercury

Sampled By: James Edwards

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus								
Well ID: MW-BCP-02A					Depth to Water (ft BTOC): 7.58			
Inventum Sampler: Tom Webster					Depth to Product (ft BTOC): Not Present			
Date: 9/22/2021					Total Depth (ft BTOC): 9.18			
Purge Details								
Time Start: 9:45					Comments/Notes: Slow Recharge			
Time Ended: 10:30								
Total Purge Volume: ~1								
	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.24	20.1	11.2	2.212	-10.50	6.990	
	1	7.35	19.7	21.4	1.819	-67.9	6.29	
	2	7.35	19.3	36.18	1.490	-61.8	6.35	
	3	7.53	20.4	6.14	1.465	-70.5	7.06	
Sample Details								
NA = Not Available			Sample Date: 9/22/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 10:40					
			Sampled By: Tom Webster					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-02B

Depth to Water (ft BTOC): 9.1

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 29.04

## Purge Details

Time Start: 9:50

Comments/Notes:

Time Ended: 10:20

DTW@ sampling 26.45

Total Purge Volume: ~10 GAL

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.45	16.0	0	1.719	14.2	2.10	
	1	7.53	15.5	130	1.759	50.1	3.30	
	2	7.44	14.0	37.5	1.703	97.4	3.23	
	3	7.62	14.7	6.28	1.788	106.5	4.65	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide, Mercury, Metals

Sample Time: 10:30

Sampled By: Tom Webster



GROUNDWATER MONITORING WELL PURGE FORM								
Site: Riverview Innovation and Technology Campus								
Well ID: MW-BCP-03A					Depth to Water (ft BTOC): 4.73			
Inventum Sampler: KA/JE					Depth to Product (ft BTOC): Not Present			
Date: 9/21/2021					Total Depth (ft BTOC): 8.94			
Purge Details								
Time Start: 11:15					Comments/Notes: well going dry at about 2.0 gal 1 Vol = 0.68 gal			
Time Ended: 11:20								
Total Purge Volume: ≈2 gal								
	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	6.58	17.4	5.19	2.895	66.3	1.83	
	1	6.52	18.2	64.20	2.595	59.6	4.06	
	2 ≈2 gal	6.67	18.7	65.03	1.793	59.3	7.02	
Sample Details								
NA = Not Available			Sample Date: 9/21/2021		Analysis: VOCs, SVOCs, Cyanide			
			Sample Time: 11:50					
			Sampled By: Keith Adderley					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-03B

Depth to Water (ft BTOC): 10.03

Inventum Sampler: Keith Adderley

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 27.78

## Purge Details

Time Start: 10:15

Comments/Notes: Total purge vol ≈8.0 gal

Time Ended: 11:10

Total Purge Volume: ~ 8 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.02	14.0	39.00	1.617	179.4	2.37	
	1	7.20	15.1	173.55	1.643	172.7	3.28	
	2	7.43	14.2	88.07	1.620	151.7	4.99	
	3	7.45	14.2	22.10	1.599	117.3	5.41	

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide

Sample Time: 11:45

Sampled By: Keith Adderley

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-03C

Depth to Water (ft BTOC): 30.33

Inventum Sampler: Keith Adderley

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 42.58

## Purge Details

Time Start: 10:00

Comments/Notes: Purged dry then sampled @ 11:30

Time Ended: 11:05

Total Purge Volume: ~6 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.20	14.4	6.88	1.507	177.0	3.36	
	1	7.45	14.6	63.99	1.532	152.7	3.35	
	2	7.84	14.6	4.02	1.527	113.0	6.80	
	3 (dry)							

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide

Sample Time: 11:30

Sampled By: Keith Adderley

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-03D

Depth to Water (ft BTOC): 37.97

Inventum Sampler: James Edwards

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 71.25

## Purge Details

Time Start: 8:05

Comments/Notes: QED Pump, set 3' off bottom

Time Ended: 11:00

Total Purge Volume: ~.7 Gal

Time	Flow	pH	Temperature	Turbidity	Conductivity	ORP	DO	DTW
8:27	60 ml/min	8.04	16.9	45.98	3.357 SPC	-144.8	1.54	38.52
8:30	60	8.04	16.6	42.22	3.359	-157.5	1.60	38.53
8:35	80	8.03	16.4	35.60	3.355	-168.2	1.44	38.52
8:40	80	8.03	16.1	35.10	3.344	-178.6	1.68	38.55
8:45	80	8.03	16.0	47.10	3.339	-189.2	1.67	38.60
8:50	60	8.02	16.3	90.10	3.338	-177.6	1.60	
8:55	60	8.02	16.2	160.1	3.329	-199.5	1.58	38.60
9:00	60	8.00	16.1	152.2	3.411	-198.6	1.27	38.61
9:05	60	8.00	16.2	117.0	3.399	-204.3	1.12	38.60
9:10	60	7.98	16.2	119.37	3.377	-210.3	0.81	38.60
9:15	60	7.97	16.4	120.30	3.331	-211.6	0.71	38.61
9:20	60	7.97	16.3	150.54	3.330	-219.2	0.77	38.60
Empty Flow through cell, to reduce sediment								
9:35	60	7.99	16.8	262.0	3.332	-215.6	1.66	38.60
9:40	60	7.97	16.6	224.6	3.327	-222.4	0.74	38.60
9:45	60	7.94	16.9	99.3	3.226	-226.3	0.65	38.61
9:50	60	7.94	17.1	101.2	3.331	-227.3	0.60	38.61
9:55	60	7.94	17.5	97.1	3.332	-228.3	0.59	38.62
10:00	60	7.94	17	80.2	3.325	-230.6	0.54	38.61
10:05	60	7.95	16.8	75.6	3.324	-232.6	0.55	38.62
10:10	60	7.94	16.6	81.0	3.321	-223.0	0.54	38.62
10:12	Sample							

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 10:12

Sampled By: James Edwards

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-04A

Depth to Water (ft BTOC): 4.41

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 8.41

## Purge Details

Time Start: 15:35

Comments/Notes:

Time Ended: 15:50

Total Purge Volume: ~3 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	WL
	0	8.21	19.8	72.51	1069	-3	1.83	5.05
	1	8.05	17.8	271.83	1029	-8.3	1.56	5.52
	2	7.97	19.4	292.25	1023	-15	1.70	5.97
	3	8.01	21.0	352.99	1025	9.7	1.88	6.33
	4	8.03	21.2	308.33	1021	18.9	1.99	6.82
	5	8.05	21.2	312.28	1018	625.7	1.95	7.19
	6	8.02	21.0	356.19	1015	82.2	1.95	7.45

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Ammonia

Sample Time: 16:10

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-04B

Depth to Water (ft BTOC): 5.52

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 29.08

## Purge Details

Time Start: 15:05

Comments/Notes:

Time Ended: 15:30

Total Purge Volume: ~12 Gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	WL
	0	7.62	20.4	2.98	1960	176.5	3.27	5.52
	1	7.40	15.9	151.38	1979	98.8	2.35	14.35
	2	7.25	13.9	184.25	1938	84.7	2.84	21.68
	3	7.22	14.4	147.11	1829	97.9	3.35	28.62

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Ammonia

Sample Time: 15:54

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-05A

Depth to Water (ft BTOC): 4.14

Inventum Sampler: James Edwards

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 8.90

## Purge Details

Time Start: 13:30

Comments/Notes: MS/MSD Taken/Dup Taken

Time Ended: 14:00

Dup = MW-BCP-98A-09232021 Time: 12:00

Total Purge Volume: ~5.5 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	9.46	21.5	228.84	8.038	51.9	0.84	
	1	8.07	19.7	111.21	11.856	-85.9	0.56	
	2	8.44	20.0	153.35	9.472	-238.7	0.74	
	3	8.48	19.6	192.10	9.149	-318.2	2.0	
	4	8.53	19.1	172.14	8.380	-305.9	0.70	
	5	8.38	18.5	146.62	8.557	-286.0	1.32	

## Sample Details

NA = Not Available

Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia, PCBs,  
Pesticides, Herbicides, PFAS, 1,2-Dioxane

Sample Time: 14:00

Sampled By: James Edwards

Collect MS/MSD- VOCs, SVOCs, Cyanide, Metals Mercury, Ammonia

GROUNDWATER MONITORING WELL PURGE FORM								
Site: Riverview Innovation and Technology Campus								
Well ID: MW-BCP-05C					Depth to Water (ft BTOC): 19.59			
Inventum Sampler: JEdwards/RBirx					Depth to Product (ft BTOC): Not Present			
Date: 9/23/2021					Total Depth (ft BTOC): 42.82			
Purge Details								
Time Start: 15:40					Comments/Notes:			
Time Ended: 16:15								
Total Purge Volume: ~7 gal								
	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.81	15.2	195.01	1.999	-49.3	1.66	
	1	7.52	13.9	294.64	1.739	-58.8	2.10	
	2	7.29	15.0	370.54	1.702	-43.9	3.47	
Dry at 2 Vols								
Sample Details								
NA = Not Available			Sample Date: 9/23/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia			
			Sample Time: 14:15					
			Sampled By: JE/RB					



## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-05D

Depth to Water (ft BTOC): 41.12

Inventum Sampler: James Edwards

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 68.88

## Purge Details

Time Start: 13:10

Comments/Notes: Pump QE 2' off bottom

Time Ended: 14:31

DTW collected on refill

Total Purge Volume: ~2.25 gal

Water was clear, will calibrate turbidity

Time	Flow	pH	Temperature	Turbidity	Conductivity	ORP	DO	DTW
13:20	100	7.40	15.8	12.54	2.981	-132.0	1.23	41.35
13:25	100	7.43	16.0	12.40	3.038	-133.2	1.02	41.35
13:30	100	7.44	16.0	17.84	3.041	-139.4	0.86	41.35
13:35	100	7.45	15.9	25.11	3.087	-145.5	0.80	41.33
13:40	- -							
13:45	100	7.46	16.0	38.90	3.035	-153.60	0.68	41.33
13:55	100	7.46	16.1	48.11	3.039	-156.00	0.68	41.33
14:00	100	7.44	16.2	64.20	3.032	-158.00	0.65	41.33
14:05	100	7.39	15.7	38.75	2.999	-162.30	0.63	41.33
14:10	100	7.36	15.6	101.20	2.970	-164.30	0.63	41.33
14:15	100	7.32	15.3	110.80	2.938	-167.4	0.63	41.33
14:20	100	7.28	15.2	124.60	2.908	-168.6	0.61	41.32
14:25	100	7.26	15.1	123.25	2.854	-171.0	0.61	
14:28	100	7.22	15.3	125.11	2.855	-171.3	0.60	41.32
14:31	100	7.19	15.5	130.00	2.808	-168.2	0.59	41.32
14:33	Collect Sample							

## Sample Details

NA = Not Available

Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 14:33

Sampled By: James Edwards

GROUNDWATER MONITORING WELL PURGE FORM								
Site: Riverview Innovation and Technology Campus								
Well ID: MW-BCP-06A					Depth to Water (ft BTOC): 3.92			
Inventum Sampler: RBirx/JEdwards					Depth to Product (ft BTOC): Not Present			
Date: 9/22/2021					Total Depth (ft BTOC): 8.65			
Purge Details								
Time Start: 13:00					Comments/Notes:			
Time Ended: 13:13								
Total Purge Volume: ~5 gal								
	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	8.02	19.8	780.54	0.710	-65.7	0.54	
	1	7.92	19.9	739.49	0.597	-22.9	2.71	
	2	7.85	20.1	507.38	0.550	-3.3	4.54	
	3	7.83	20.2	300.15	0.532	2.2	5.07	
	4	8.83	20.3	565.09	0.531	11.4	5.62	
	5	7.84	20.4	644.77	0.528	13.8	5.53	
Sample Details								
NA = Not Available			Sample Date: 9/22/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, PCBs, Pesticides, Herbicides, PFAS, 1,4- Dioxane			
			Sample Time: 14:000					
			Sampled By: RBirx/JEdwards					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus								
Well ID: MW-BCP-06C					Depth to Water (ft BTOC): 20.49			
Inventum Sampler: JEdwards/RBirx					Depth to Product (ft BTOC): Not Present			
Date: 9/22/2021					Total Depth (ft BTOC): 42.05			
Purge Details								
Time Start: 13:20					Comments/Notes: @ -2nd vol, noted heavy red-brown sediment			
Time Ended: 13:50								
Total Purge Volume: 6.5 gal								
	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	9.95	13.2	700.24	0.617	-33.1	3.14	
	1	9.87	12.6	604.32	0.692	3.6	3.28	
	2.8 (Dry)	9.51	15.7	648.48	0.517	9.6	8.03	
Sample Details								
NA = Not Available			Sample Date: 9/22/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 14:05					
			Sampled By: JEdwards/RBirx					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-7C

Depth to Water (ft BTOC): 14.31

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/24/2021

Total Depth (ft BTOC): 44.02

## Purge Details

Time Start: 8:30

Comments/Notes: 1 well vol = 4.84 gal

Time Ended: 9:00

Dry @ ~9

Total Purge Volume: ~9

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	10.25	14.2	5.52	0.714	119.4	2.35	
	1	9.27	12.6	382.68	0.903	95.5	2.98	
	2	7.79	12.8	2,365	1.331	14.6	3.91	
	~2.2 (Dry)	7.67	13.7	37.71	0.914	279.5	6.86	

## Sample Details

NA = Not Available

Sample Date: 9/24/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 11:05

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-8A

Depth to Water (ft BTOC): 5.27

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/24/2021

Total Depth (ft BTOC): 10.51

## Purge Details

Time Start: 9:35

Comments/Notes:

Time Ended: 9:53

Slight black tint

Total Purge Volume: ~4 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	6.83	18.7	107.98	0.955	-84.5	1.64	
	1	6.84	18.2	450.95	0.981	-76.3	2.89	
	2	6.88	18.5	435.43	0.996	-65.2	2.86	
	3	6.81	18.5	422.38	0.998	-71.3	2.82	
	4	6.68	18.3	443.81	1.018	-51.6	2.84	
	~4.1 (Dry)	6.55	17.5	109.53	0.984	-20.5	2.53	Slight black tint

## Sample Details

NA = Not Available

Sample Date: 9/24/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 11:17

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-8B

Depth to Water (ft BTOC): 6.84

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/24/2021

Total Depth (ft BTOC): 28.95

## Purge Details

Time Start: 10:00

Comments/Notes:

Time Ended: 10:21

Total Purge Volume: Dry @ ~7 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.16	12.4	1.41	1.738	-28.6	3.50	
	1	7.36	13.5	2015.3	1.823	36.8	3.02	
	2	7.02	13.8	3492.8	1.647	88.6	3.18	
	~2.2 (Dry)	7.06	13.7	109.94	1.832	106.52	2.06	

## Sample Details

NA = Not Available

Sample Date: 9/24/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 11:35

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-09A

Depth to Water (ft BTOC): 6.28

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 8.00

## Purge Details

Time Start: 12:45

Comments/Notes: 1 well vol = 0.28 g

Time Ended: 12:55

Well went dry-0/5 gal DTW@7.92

Total Purge Volume: ~0.5 gal

Limited Recharge, only VOCs, (1) SVOC, Cyanide collected

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	6.99	18.7	57.75	3.408	142.6	2.03	
	1	7.11	18.7	46.32	3.339	123.1	3.53	

## Sample Details

NA = Not Available

Sample Date: 9/24/2021

Analysis: VOCs, SVOCs, Cyanide, Mercury, Metals

Sample Time: 12:15

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-09B

Depth to Water (ft BTOC): 7.52

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 24.03

## Purge Details

Time Start: 12:58

Comments/Notes:

Time Ended: 13:30

Total Purge Volume: ~9 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.75	18.2	0	1.397	93.4	4.4	
	1	7.75	15.3	129.14	1.472	85.4	4.88	
	2	7.93	14.4	206.56	1.458	78.9	4.53	
	3	7.53	13.9	185.52	1.449	6.1	4.33	

## Sample Details

NA = Not Available

Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Mercury, Metals

Sample Time: 15:35

Sampled By: Tom Webster



**GROUNDWATER MONITORING WELL PURGE FORM**

**Site:** Riverview Innovation and Technology Campus

Well ID: MW-BCP-10A	Depth to Water (ft BTOC): 3.76
Inventum Sampler: James Edwards	Depth to Product (ft BTOC): 8.30 - 8.60
Date: 9/20/2021	Total Depth (ft BTOC): 8.64

**Purge Details**

Time Start: 15:00	Comments/Notes: PRODUCT SAMPLE
Time Ended: 15:20	
Total Purge Volume: 0:00	

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	

**Sample Details**

NA = Not Available	Sample Date: 9/20/2021	Analysis: Product Sample Only for VOCs, SVOCs, Cyanide, Metals, Mercury
	Sample Time: 15:20	
	Sampled By: RBirx/JEdwards	

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-10C

Depth to Water (ft BTOC): 18.23

Inventum Sampler: RBirx/JEdwards

Depth to Product (ft BTOC): Not Present

Date: 9/24/2021

Total Depth (ft BTOC): 43.01

## Purge Details

Time Start: 11:45

Comments/Notes: 1 vol = 4.0 gal

Time Ended: 12:15

Total Purge Volume: 9 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.41	13.9	0	1.680	-84.5	3.21	
	1	7.42	13.5	545.03	1.628	98.7	4.08	
	2	7.08	13.2	375.24	1.617	96.3	3.01	
	2.1 (Dry)	7.08	13.2	319.54	1.611	95.6	4.20	

## Sample Details

NA = Not Available

Sample Date: 9/24/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 12:15

Sampled By: RBirx/JEdwards

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-11A

Depth to Water (ft BTOC): 7.20

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 11.10

## Purge Details

Time Start: 14:00

Comments/Notes:

Time Ended: 14:12

Total Purge Volume: ~2 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.16	19.5	0.31	1.339	66.9	1.98	
	1	7.18	19.4	357.8	1.347	72.8	2.10	
	2	7.27	19.2	429.7	1.349	68.5	2.37	
	3	7.27	19.4	453.28	1.345	53.2	2.43	
	3.2 (Dry)	7.44	19.0	157.87	1.270	117.3	2.59	

## Sample Details

NA = Not Available

Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 14:40

Collect MS/MSD - VOCs, SVOCs, Cyanide, Metals, Mercury

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-11B

Depth to Water (ft BTOC): 8.08

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 29.25

## Purge Details

Time Start: 14:15

Comments/Notes: Well vol = 3.45 gal

Time Ended: 14:35

Well went dry @ ~7

Total Purge Volume: ~7 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.22	19.1	4.97	3.115	62.2	2.88	
	1	7.26	16.2	1353	3.281	71.3	2.56	
	2	7.30	16.0	2195	2.986	-57.2	1.85	
	2.1 (Dry)	7.17	16.0	2141	3.208	92.7	1.97	

## Sample Details

NA = Not Available

Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 15:15

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-12A

Depth to Water (ft BTOC): 4.35

Inventum Sampler: JEdwards/RBix

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 9.09

## Purge Details

Time Start: 9:40

Comments/Notes:

Time Ended: 9:52

Total Purge Volume: ~5 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.11	19.4	356.56	1.685	95.20	2.34	
	2	7.29	19.6	582.29	1.655	-1.70	2.57	
	3	7.32	19.7	666.13	1.640	-26.5	2.31	
	4	7.34	19.8	645.31	1.637	-57.7	1.92	
	5	7.39	19.8	555.87	1.631	-72.3	2.44	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides,  
Herbicides, PFAS, PCBs, 1,4-Dioxane

Sample Time: 11:30

Collect MS/MSD - VOCs, SVOCs, Cyanide, Metals, Mercury, PCBs,  
Pesticides, Herbicides, PFAS, 1,4-Dioxane

Sampled By: James Edwards

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-12B

Depth to Water (ft BTOC): 6.75

Inventum Sampler: JEdwards/RBix

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 29.25

## Purge Details

Time Start: 9:54

Comments/Notes:

Time Ended: 10:21

Total Purge Volume: ~8 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.81	15.7	291.25	1.396	-78.0	2.03	
	1	7.75	15.4	493.52	1.402	26.2	2.87	
	2	7.23	13.8	368.28	1.350	41.5	2.78	
	3.1 (Dry)	7.29	14.0	297.77	1.343	49.5	6.13	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 20:30

Sampled By: James Edwards

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-13A

Depth to Water (ft BTOC): 5.52

Inventum Sampler: JEdwards/RBix

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 10.46

## Purge Details

Time Start: 14:40

Comments/Notes:

Time Ended: 14:47

Total Purge Volume: ~5 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	6.47	19.9	429.33	1.248	-36.3	3.83	
	1	6.42	19.9	384.42	1.175	-35.8	3.42	
	2	6.30	19.8	478.54	1.181	-40.1	2.62	
	3	6.21	19.8	433.76	1.182	-43.3	2.82	
	4	6.14	19.7	403.05	1.177	-46.0	1.90	
	5	6.11	19.7	507.03	1.155	-46.9	1.87	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Pesticides,

Sample Time: 15:30

Herbicides, PFAS, PCBs, 1,4-Dioxane

Sampled By: JEdwards/RBix

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-13B

Depth to Water (ft BTOC): 8.68

Inventum Sampler: JEdwards/RBix

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 32.68

## Purge Details

Time Start: 14:50

Comments/Notes:

Time Ended: 15:20

Total Purge Volume: ~ 8.2 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	6.68	14.4	1250.54	1.866	-66.6	2.86	
	1	6.78	13.6	1660.77	1.789	-50.2	3.47	
	2	6.95	12.9	1105.57	1.920	-23.4	5.28	
	2.2 (Dry)	6.97	13.1	1197.95	1.905	6.2	7.08	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 15:45

Sampled By: JEdwards/RBix



**GROUNDWATER MONITORING WELL PURGE FORM**

<b>Site:</b> Riverview Innovation and Technology Campus								
Well ID: MW-BCP-15A					Depth to Water (ft BTOC): 8.68			
Inventum Sampler: Tom Webster					Depth to Product (ft BTOC): Not Present			
Date: 9/21/2021					Total Depth (ft BTOC): 8.78			
<b>Purge Details</b>								
Time Start:					Comments/Notes: Insufficient vol, no purge or sampling			
Time Ended:								
Total Purge Volume:								
	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
<b>Sample Details</b>								
NA = Not Available			Sample Date:		Analysis: Not Sampled			
			Sample Time:					
			Sampled By:					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-15C

Depth to Water (ft BTOC): 28.48

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 43.75

## Purge Details

Time Start: 10:30

Comments/Notes:

Time Ended: 11:04

Total Purge Volume: ~7.5 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.33	13.8	2.50	3.057	146.2	4.49	
	1	7.54	13.7	280.3	3.082	141.9	4.46	
	2	7.55	14.2	175.1	3.058	146.8	4.42	
	3	7.73	14.6	253.0	3.058	138.2	4.41	

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 14:45

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-16A

Depth to Water (ft BTOC): 2.11

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 5.15

## Purge Details

Time Start: 13:28

Comments/Notes:

Time Ended: 13:32

Well sampling started on 9/21, went dry, and finished on 9/22

Total Purge Volume: ~2 gal

	Volume	pH	Temperature	Conductivity	Turbidity	ORP	DO	
	0	6.61	20.8	8.482	19.0	154.9	2.87	
	1	6.70	20.8	12.126	58.20	130.7	2.98	
	2	6.94	21.2	11.463	28.18	133.8	2.95	
	3	7.01	21.6	10.864	10.74	133.6	3.02	

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia

Sample Time: 14:00

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-16B

Depth to Water (ft BTOC): 4.60

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 20.87

## Purge Details

Time Start: 12:41

Comments/Notes:

Time Ended: 13:25

Total Purge Volume: ~10.5 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.51	17.5	9.32	3.957	109.8	2.67	
	1	7.39	16.2	251.7	4.223	104.8	2.15	
	2	7.36	15.3	363.1	4.267	120.7	2.60	
	3	7.34	15.0	361.8	4.127	130.9	2.61	
	4	7.31	15.1	487.6	4.081	135.9	2.62	

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia

Sample Time: 13:48

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-16C

Depth to Water (ft BTOC): 26.60

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 39.74

## Purge Details

Time Start: 12:19

Comments/Notes:

Time Ended: 12:36

Total Purge Volume: ~6.5 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	10.50	13.5	15.6	2.675	114.7	3.59	
	1	8.58	12.8	407.7	2.634	-35.5	3.28	
	2	7.60	12.5	385.6	2.641	9.8	3.04	
	3	7.29	12.6	155.4	2.659	22.6	3.12	

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 13:38

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-17A

Depth to Water (ft BTOC): 4.37

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 9.10

## Purge Details

Time Start: 8:56

Comments/Notes: Well went dry@ 1.4 gal

Time Ended: 9:05

Total Purge Volume: ~1.4 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.17	15.6	17.21	1.942	83.3	4.49	
	1	7.25	15.9	295.7	1.997	57.7	5.05	
	2	7.27	16.1	142.5	2.001	59.5	4.89	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide, PCBs, Pesticides, Herbicides, PFAS, 1,4-Dioxane

Sample Time: 9:05

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-17B

Depth to Water (ft BTOC): 9.32

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 24.05

## Purge Details

Time Start: 8:24

Comments/Notes:

Time Ended: 8:50

Total Purge Volume: ~9 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.06	12.4	8.27	1.616	18.8	2.70	
	1	7.02	12.1	171.60	1.600	25.0	3.46	
	2	7.15	11.4	144.9	1.612	31.2	2.96	
	3	7.25	11.8	84.15	1.607	24.6	5.03	

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide

Sample Time: 11:40

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-18A

Depth to Water (ft BTOC): 5.65

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 8.30

## Purge Details

Time Start: 9:48

Comments/Notes: 1 well vol = 0.43 gal

Time Ended: 9:59

Started sampling on 9/22/2021

Total Purge Volume: ~1.5 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.24	17.7	50.98	2.146	-5.5	2.17	
	1	7.09	18.0	84.53	2.206	-9.2	2.48	
	2	7.36	18.0	34.99	2.247	-1.0	3.97	
	3	7.45	18.1	8.94	2.151	-3.5	4.58	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide, PCBs, Pesticides, Herbicides, 1,4-Dioxane, PFAS

Sample Time: 8:45

Sampled By: Tom Webster



## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-18B

Depth to Water (ft BTOC): 7.11

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/21/2021

Total Depth (ft BTOC): 23.68

## Purge Details

Time Start: 9:20

Comments/Notes:

Time Ended: 9:49

Total Purge Volume: ~11 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.61	16.0	4.88	3.108	141.5	6.53	
	1	7.35	13.5	139.6	3.145	154.6	5.33	
	2	7.29	12.5	217.1	3.131	82.0	3.61	
	3	7.43	12.9	321.4	3.142	109.4	3.42	
	4	7.46	12.9	327.8	3.148	121.8	3.39	

## Sample Details

NA = Not Available

Sample Date: 9/21/2021

Analysis: VOCs, SVOCs, Cyanide

Sample Time: 11:58

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-19A

Depth to Water (ft BTOC): 5.12

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 10.20

## Purge Details

Time Start: 13:45

Comments/Notes:

Time Ended: 14:03

Total Purge Volume: ~3.5 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	6.37	19.1	30.46	5.051	-52.3	3.23	
	1	6.24	18.0	149.12	5.452	-44.9	3.10	
	2	6.27	17.6	437.70	5.490	-44.9	2.58	
	3	6.36	16.6	461.35	5.510	-46.8	3.26	
	4	6.27	17.1	208.70	5.334	-56.7	3.38	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide

Sample Time: 14:05

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-19B

Depth to Water (ft BTOC): 7.63

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 23.65

## Purge Details

Time Start: 13:40

Comments/Notes:

Time Ended: 14:15

Total Purge Volume: ~8 gal

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.04	14.2	11	3.628	-42.4	2.25	
	1	6.87	14.5	437	3.620	-56.3	2.30	
	2	6.82	13.5	1540	3.562	-82.5	4.38	
	3	7.06	11.6	1373	3.441	-77.0	5.71	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide

Sample Time: 14:17

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-20A

Depth to Water (ft BTOC): 6.45

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 9.00

## Purge Details

Time Start: 11:25

Comments/Notes:

Time Ended: 12:00

Went dry @ ~1 gal DTW @ 8.92

Total Purge Volume: ~1 gal

Well sampling started on 9/22/2021 @ 12:30

	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.13	16.2	39.75	3.321	23.3	2.80	
	1	7.00	16.1	199.0	3.114	-33.5	6.62	
	2	6.95	16.1	36.44	3107	-67.1	6.79	

## Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, PCBs, Pesticides, Herbicides, 1,4-Dioxane, PFAS

Sample Time: 12:30

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Depth to Water (ft BTOC): 7.15

Depth to Product (ft BTOC): Not Present

Total Depth (ft BTOC): 24.02

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Comments/Notes:

Comments/Notes:
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Sample Details	
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Analysis: VOCs, SVOCs, Cyanide
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Analysis: VOCs, SVOCs, Cyanide
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## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-21A

Depth to Water (ft BTOC): 3.65

Inventum Sampler: RBirx/JEdwards

Depth to Product (ft BTOC): Not Present

Date: 9/24/2021

Total Depth (ft BTOC): 8.58

### Purge Details

Time Start: 9:57

Comments/Notes:
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Time Ended: 11:05

Total Purge Volume: ~3.2 gal

Turbidity sensor not working
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[illegible]

Sample Details	Sample ID	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status	Sample Notes
Sample 1	101	Water	Well A	2023-01-01	10:00	OK	Clear water, no odor.
Sample 2	102	Water	Well B	2023-01-01	10:05	OK	Clear water, no odor.
Sample 3	103	Water	Well C	2023-01-01	10:10	OK	Clear water, no odor.
Sample 4	104	Water	Well D	2023-01-01	10:15	OK	Clear water, no odor.
Sample 5	105	Water	Well E	2023-01-01	10:20	OK	Clear water, no odor.
Sample 6	106	Water	Well F	2023-01-01	10:25	OK	Clear water, no odor.
Sample 7	107	Water	Well G	2023-01-01	10:30	OK	Clear water, no odor.
Sample 8	108	Water	Well H	2023-01-01	10:35	OK	Clear water, no odor.
Sample 9	109	Water	Well I	2023-01-01	10:40	OK	Clear water, no odor.
Sample 10	110	Water	Well J	2023-01-01	10:45	OK	Clear water, no odor.

NA = Not Available

Sample Date: 9/24/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia, PCBs

Sample Time: 11:10

Sampled By: RBirx/JEdwards

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-21C

Depth to Water (ft BTOC): 23.08

Inventum Sampler: RBirx/JEdwards

Depth to Product (ft BTOC): Not Present

Date: 9/24/2021

Total Depth (ft BTOC): 42.95

### Purge Details

Time Start: 9:20

Comments/Notes:
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Time Ended: 9:47

Total Purge Volume: ~7.4 gal

Turbidity sensor incorrect
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[illegible]

## Sample Details

NA = Not Available

Sample Date: 9/24/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia

Sample Time: 10:50

Sampled By: RBirx/JEdwards

GROUNDWATER MONITORING WELL PURGE FORM								
Site: Riverview Innovation and Technology Campus								
Well ID: MW-BCP-21D					Depth to Water (ft BTOC): 40.90			
Inventum Sampler: James Edwards					Depth to Product (ft BTOC): Not Present			
Date: 9/23/2021					Total Depth (ft BTOC): 66.48			
Purge Details								
Time Start: 9:10					Comments/Notes: QED Pump, set 3' off bottom			
Time Ended: 10:10								
Total Purge Volume: ~1.6 gal								
Time	Flow	pH	Temperature	Turbidity	Conductivity	ORP	DO	DTW
9:10	100	6.70	12.1	40.40	2.656	118.8	0.88	40.05
9:15	100	6.77	12.1	48.00	2.652	48.7	0.71	40.14
9:20	100	6.81	12.2	36.70	2.645	-10.4	0.69	40.14
9:25	100	6.81	12.4	30.90	2.632	-42.1	0.58	40.14
9:30	100	6.80	12.4	28.85	2.628	-52.5	0.5	40.15
9:35	100	6.80	12.4	25.36	2.619	-59.7	0.50	40.15
9:40	100	6.80	12.2	23.83	2.609	-64.2	0.48	40.15
9:45	100	6.78	12.7	23.63	2.606	-67.8	0.45	40.15
9:50	100	6.82	13.3	24.52	2.612	-72.6	0.43	40.15
9:55	100	6.82	13.4	25.32	2.607	-75.1	0.41	40.15
10:00	100	6.84	13.8	8.24	2.609	-78.2	0.39	40.15
10:05	100	6.84	13.9	9.35	2.608	-80.2	0.38	40.15
10:10	100	6.85	14.2	5.35	2.608	-82.1	0.38	40.15
10:30	Collect Sample							
Sample Details								
NA = Not Available			Sample Date: 9/24/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 10:30		Duplicate ID: MW-BCP-97D-09242021			
			Sampled By: James Edwards		Duplicate Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			



# GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Depth to Water (ft BTOC): 4.88

Depth to Product (ft BTOC): Not Present

Total Depth (ft BTOC): 8.73

Purge Details
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Comments/Notes:
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Water black gray from Coal/Coke fines

Dup ID: MW-BCP-99A-09232021 Time 10:00

[illegible]

Sample Details	
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Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia, PCBs

Field Duplicate - Ammonia

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-23A

Depth to Water (ft BTOC): 4.01

Inventum Sampler: James Edwards

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 8.59

### Purge Details

Time Start: 8:40

Comments/Notes:
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Time Ended: 9:15

Total Purge Volume: ~5 gal

[illegible]

## Sample Details

NA = Not Available

Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia, PCBs

Sample Time: 9:15

Sampled By: James Edwards

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-24A

Depth to Water (ft BTOC): 5.45

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 12.58

## Purge Details

Time Start: 10:25

Comments/Notes: Field Iron Test - 4.25

Time Ended: 11:10

Total Purge Volume: ~1.5 gal

Time	Flow	pH	Temperature	Turbidity	Conductivity	ORP	DO	DTW
10:40	100	7.05	18.5	1.87	0.980	-106.3	0.64	5.63
10:45	100	7.08	18.4	2.85	0.980	-113.6	0.52	5.67
10:50	100	7.08	18.5	1.99	0.976	-116.8	0.44	5.69
10:55	100	7.07	18.4	1.65	0.974	-117.4	0.42	5.71
11:00	100	7.06	18.3	1.51	0.972	-117.7	0.40	5.71
11:05	100	7.05	18.3	1.11	0.971	-117.6	0.38	5.72
11:10	100	7.04	18.3	0.75	0.968	-117.6	0.37	5.73

## Sample Details

NA = Not Available

Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, PCBs, MNA  
Parameters

Sample Time: 11:12

Sampled By: Tom Webster

**GROUNDWATER MONITORING WELL PURGE FORM**

<b>Site:</b> Riverview Innovation and Technology Campus								
Well ID: MW-BCP-24B					Depth to Water (ft BTOC): 7.20			
Inventum Sampler: Tom Webster					Depth to Product (ft BTOC): Not Present			
Date: 9/23/2021					Total Depth (ft BTOC): 28.07			
<b>Purge Details</b>								
Time Start: 10:30					Comments/Notes: Purging dry at 3 volumens			
Time Ended: 11:00								
Total Purge Volume: ~10 gal								
	Volume	pH	Temperature	Turbidity	Conductivity	ORP	DO	
	0	7.28	17.3	0	1.929	131.1	5.95	
	1	7.23	13.4	1,176	2.131	103.5	3.41	
	2	7.05	12.6	2,408	2.072	87.1	3.83	
	3	7.15	13.6	402.39	2.146	84.8	3.43	
<b>Sample Details</b>								
NA = Not Available			Sample Date: 9/23/2021		Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury			
			Sample Time: 11:25					
			Sampled By: Tom Webster					

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-25A

Depth to Water (ft BTOC): 5.55

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/23/2021

Total Depth (ft BTOC): 10.00

## Purge Details

Time Start: 8:10

Comments/Notes: Low Flow, Tubing 1.2' off bottom

Time Ended: 9:05

Field Iron Test 4.25

Total Purge Volume: ~0.4 gal

Time	Flow	pH	Temperature	Turbidity	Conductivity	ORP	DO	WL
8:25	100	7.04	16.4	0	1.166	126.1	0.68	5.62
8:30	100	7.04	16.3	2.33	1.175	115.4	0.59	5.62
8:35	100	7.07	16.4	2.16	1.163	122.3	0.49	5.63
0:00	100	7.09	16.4	1.5	1.161	119.3	0.51	5.63
8:45	100	6.96	16.5	1.38	1.141	-82.6	0.50	5.63
8:50	100	6.87	16.5	1.21	1.160	-104.5	0.54	5.63
8:55	100	7.10	16.4	0.18	1.158	-121.4	0.41	5.64
9:00	100	7.11	16.4	0.16	1.160	-122.9	0.40	5.64
9:05	100	7.18	16.4	0.08	1.160	-125.0	0.39	5.65

## Sample Details

NA = Not Available

Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, PCBs, MNA

Sample Time: 9:07

Parameters

Sampled By: Tom Webster

# GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Depth to Water (ft BTOC): 10.89

Depth to Product (ft BTOC): Not Present

Total Depth (ft BTOC): 27.87

Purge Details	
1	10/1/2023
2	10/1/2023
3	10/1/2023
4	10/1/2023
5	10/1/2023
6	10/1/2023
7	10/1/2023
8	10/1/2023
9	10/1/2023
10	10/1/2023
11	10/1/2023
12	10/1/2023
13	10/1/2023
14	10/1/2023
15	10/1/2023
16	10/1/2023
17	10/1/2023
18	10/1/2023
19	10/1/2023
20	10/1/2023
21	10/1/2023
22	10/1/2023
23	10/1/2023
24	10/1/2023
25	10/1/2023
26	10/1/2023
27	10/1/2023
28	10/1/2023
29	10/1/2023
30	10/1/2023
31	10/1/2023
32	10/1/2023
33	10/1/2023
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39	10/1/2023
40	10/1/2023
41	10/1/2023
42	10/1/2023
43	10/1/2023
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90	10/1/2023
91	10/1/2023
92	10/1/2023
93	10/1/2023
94	10/1/2023
95	10/1/2023
96	10/1/2023
97	10/1/2023
98	10/1/2023
99	10/1/2023
100	10/1/2023

Comments/Notes:
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Well went dry @ ~6 gal

[illegible][illegible]

Sample Details	
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Sample Date: 9/23/2021

Analysis: VOCs, SVOCs, Cyanide, Metals Mercury
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[illegible]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-26B

Depth to Water (ft BTOC): 5.01

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/22/2021

Total Depth (ft BTOC): 27.87

### Purge Details

Time Start: 14:40

Comments/Notes:
-----------------

Time Ended: 15:07

Total Purge Volume: ~11.5 gal

[illegible]

### Sample Details

NA = Not Available

Sample Date: 9/22/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury

Sample Time: 15:12

Sampled By: Tom Webster

## GROUNDWATER MONITORING WELL PURGE FORM

Site: Riverview Innovation and Technology Campus

Well ID: MW-BCP-27A

Depth to Water (ft BTOC): 6.02

Inventum Sampler: Tom Webster

Depth to Product (ft BTOC): Not Present

Date: 9/24/2021

Total Depth (ft BTOC): 9.65

### Purge Details

Time Start: 10:35

Comments/Notes:
-----------------

Time Ended: 10:48

☐ -Slight Blue tint

Total Purge Volume: ~1.75 gal

[illegible]

## Sample Details

NA = Not Available

Sample Date: 9/24/2021

Analysis: VOCs, SVOCs, Cyanide, Metals, Mercury, Ammonia

Sample Time: 12:00

Sampled By: Tom Webster



## Appendix F - Test Pit Logs



**Test Pit No. TP-BCP-01**Date: 11/10/2020End Time: 2:00 PMStart Time: 1:05 PMNotetaker Name: John Black

Surface conditions: Test Trench across the east side of the former heavy equipment and locomotive maintenance building (Building Nos. 4 and 5), a/k/a "The Roundhouse".

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
NW0 to NW20	0 to 20	0 to 6	Dense Black Sandy Gravel	Black	Dense	Dry	0	
		6 to 10	Tan Gravel with some Sand	Tan	Dense	Dry	0	
		10 to 20	Black Sandy Gravel	Black	Dense	Dry	0	
		@20	Brown Silty Clay	Brown	Stiff to Very Stiff	Dry	0	
		Note: there was an abrupt transition at W20. Beyond this point the west and east sides of the pit were different. The test trench must have been at the transition from the historical building excavation and less disturbed ground.						
NW20 to NW59 (East)	20 to 59	0 to 6	Black Dense Sandy Gravel Fill	Black	Dense	Dry	0	Laminated/crusty texture. Similar to materials desiccated by repeated wet/dry cycles.
		6 to 10	Gray Coarse Dense Gravel Fill	Gray	Dense	Dry	0	
		10 to 24	Mixed Black Sandy Gravel Fill and Brown Silty Clay	Black and Brown	Dense	Dry	0	
		@24	Brown Stiff Silty Clay	Brown	Stiff	Dry	0	
NW20 to NW59 (West)	20 to 59	0 to 21	Black Dense Sandy Gravel Fill	Black	Dense	Dry	0	Laminated/crusty texture. Similar to materials desiccated by repeated wet/dry cycles. Slight petroleum odor.
		21 to 36	Black and Reddish Brown Coarse Dense Gravel and Sand (with Nodules) Fill	Gray	Dense	Dry	0	
		@36	Gray Stiff silty Clay	Gray	Stiff	Moist	0	
		3-inch diameter iron pipe @ NW 46 @36-inches BGS						
		Electrical Conduit (Deactivated) across trench @ NW48 and NW49, @24-inches BGS						
		2-inch diameter steel former steam line, 24-inches BGS						

**Test Pit No. TP-BCP-01**Date: 11/10/2020End Time: 2:00 PMStart Time: 1:05 PMNotetaker Name: John Black

Surface conditions: Test Trench across the east side of the former heavy equipment and locomotive maintenance building (Building Nos. 4 and 5), a/k/a "The Roundhouse".

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		62						
		Samples						
		TP-BCP-01-01 collected at 6-inches BGS, NW30						
		TP-BCP-01-CL collected at 54-inches BGS, NW 30						
		Note: @ 2:00 PM a loader dropped a load of scrap into a dumpster upwind of the Test Trench. The downwind station may have detected a particulate anomaly not associated with the test pit activity.						

**Test Pit No. TP-BCP-02**Date: 11/11/2020End Time: 9:40 AMStart Time: 8:15 AMNotetaker Name: John BlackSurface conditions: Test Trench east of the Oil House to the former Tank Foundation. 4-inch thick asphalt pavement, covered with Black Silt.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W10	0 to 10	0 to 4	Asphalt	Black	Hard/Dense	Dry	N.A.	
		4 to 28	Black and Reddish Brown Sandy Gravel (Nodules) Fill	Black and Reddish Brown	Dense	Dry	0	Petroleum Odor
		@28	Brown and Gray Silty Clay	Brown and Gray	Stiff to Very Stiff	Dry	0	
		Note: @ W10 a brick foundation wall was encountered. The foundation wall crossed the trench diagonally to W20.						
W10 to W50	10 to 50	0 to 4	Asphalt	Black	Hard/Dense	Dry		
		4 to varies between 36 to 43	Black and Reddish Brown Sandy Gravel (Nodules) Fill	Black and Reddish Brown	Dense	Dry	0	
		Note: Increasing amounts of Brick and Rubble between 24- and 40-inches BGS from W45 to End.						
		@50	Brown and Gray Silty Clay	Brown and Gray	Stiff to Very Stiff	Dry	0	
		Clay at 36-inches BGS @ W20						
		Clay at 43-inches BGS @ W40						
TOTAL DEPTH		55						
		Samples						
		TP-BCP-02-01-11112020 collected at 9-inches BGS @W5						
		TP-BCP-01-CL collected at 40-inches BGS @ W20						
		Note: Encountered cut off fence posts set in concrete @ 12-foot c/c spacing from W20 east.						



Test Pit No. TP-BCP-03

Date: 11/12/2020

End Time: 9:15 AM

Start Time: 8:40 PM

Notetaker Name: John Black

Surface conditions: Test Trench between Battery Number 1 and the Box Culvert. Immediately east of light oil area. Covered with Coke Fill

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E50	0 to 50	0 to 12	Black silty Sandy Gravel Slag and Large Cobble-Size Coke Pieces (Fill)	Black	Medium Dense	Moist to Wet	0	
		12 to 30	Reddish Brown Sandy Gravel Fill with some Nodules (Not Defined Layer).	Reddish Brown	Dense	Dry		Notably Dry, no evidence of impact from the light oil area
		30 to 32	Gray Silty Clay	Gray	Medium Stiff	Moist	0	
		@32	Brown and Gray silty Clay	Brown and Gray	Soft	Moist	0	
TOTAL DEPTH		40						
		Samples						
			TP-BCP-03-01 @ 6-inches BGS @ E25					
			TP-BCP-03-CL @ 40-inches BGS @ E25					



Test Pit No. TP-BCP-04

Date: 11/11/2020

End Time: 12: 45 PM

Start Time: 11: 15 AM

Notetaker Name: John Black

Surface conditions: Test Trench north of west end of Green Warehouse, east of west flare.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S29	0 to 29	0 to 20	Brownish Reddish Gray Gravel Slag Fill with some Brick	Gray	Dense	Moisture	0	
	@S7	20	2-inch diameter tar filled pipe Tar seeped from end of pipe				0	Pipe removed and placed on polyethylene sheeting, moved to grossly contaminated material stockpile in Thaw Shed.
		20 to 50	Black Sandy Gravel Slag Fill and Brick	Black	Dense	Wet	0.7	Measured PiD in sample from S15
							2.2	Measured PiD in sample from S19, Material collected at Weeping Viscous Tar.
		50 to 53	Gray Brown Silty Clay	Gray and Brown	Stiff	Dry	0	
		@53 to 60	Brown Silty Clay	Brown	Stiff	Dry	0	Depth to clay measured at S6
		@ 60						Depth to clay measured A@ S19



Test Pit No. TP-BCP-04

Date: 11/11/2020

End Time: 12: 45 PM

Start Time: 11: 15 AM

Notetaker Name: John Black

Surface conditions: Test Trench north of west end of Green Warehouse, east of west flare.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S29 to S45	29 to 45	0 to 6	Black Dense Gravel Slag Fill	Black	Hard		0	
		6 to 48	Brown Sandy Gravel Slag Fill	Brown and Gray	Dense	Moist to Wet	0	
		Numerous Railroad Ties with coatings of tar up to 3-inches thick.						
		48 to 50	Gray Silty Clay	Gray	Stiff	Moist	0	
		@50	Brown Stiff Silty Clay	Brown and Gray	Stiff	Moist	0	Measured at S36
		Note: No viscous tar north of S29						
S45 to S50	45 to 50	0 to 6	Black Sandy Gravel Slag Fill	Black	Dense	Dry	0	
		6 to 18	Hard Tar Solidified Gravel Layer	Black	Dense	Moist	0	
		18 to 48	Mixed Reddish Brown Sandy Gravel and Brick Fill.	Reddish Brown	Dense	Very Moist, Wet at Top of Clay	0	
		@ 48	Gray Silty Clay	Gray	Stiff	Moist	0	



Test Pit No. TP-BCP-04

Date: 11/11/2020

End Time: 12: 45 PM

Start Time: 11: 15 AM

Notetaker Name: John Black

Surface conditions: Test Trench north of west end of Green Warehouse, east of west flare.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S50 to S62	50 to 62	0 to 12	Gray Coarse Gravel - Ballast	Gray	Dense	Dry	0	
		12 to 24	Brown Silty Sandy Gravel	Brown	Dense	Dry	0	
		Note @ S62 Heavy flow from the north contained a sheen.						
TOTAL DEPTH		62						
		Samples						
		TP-BCP-04-01 @ 28-inches BGS @ S15						
		TP-BCP-04-CL @ 62-inches BGS @ S19						





Test Pit No. TP-BCP-04 (West to East)

Date: 11/11/2020

End Time: 1:15 PM

Start Time: 1:00 PM

Notetaker Name: John Black

Surface conditions: Small Test Trench advanced north of TP-BCP-04 to investigate the soils along the north fence line.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W15	0 to 15	0 to 24	Gray Coarse Gravel, Ballast	Gray	Dense	Wet	0	Completely saturated with water.
		24 to 29	Inflow made it impossible to definitively characterize. No Tar or sheen.					
		@29	Brown Silty Clay	Brown	Stiff	Moisture	0	Difficult to determine moisture content as all material was excavated through the standing water.
TOTAL DEPTH		32	Estimated					



Test Pit No. TP-BCP-05

Date: 11/11/2020

End Time: PM

Start Time: 1: 20 PM

Notetaker Name: John Black

Surface conditions: Test Trench north of Tar Management Area.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E47	0 to 47	0 to 4	Black Sandy Gravel Slag and Coke Fill	Black	Dense	Moist	0	
		4 to 10	Black Hard Crystalline and Solidified Gravel/Tar Mixture	Black	Hard	N.A.	0	Uniform across South Side of Test Trench
		10 to Top of Clay	Black and Brown Sandy Gravel Slag Fill	Black and Brown	Dense	Moist to Wet	0	
			Small section of solidified Tar at E20 on top of Clay				0	
		Varies	Brown Silty Clay	Brown	Stiff	Dry	0	
		49						Measured @ E0
		53						Measured @ E20
		56						Measured @ E40
		56						Measured @ E47
TOTAL DEPTH		60						
		Sample						
			TP-BCP-05-01 @ 9-inches at S20, just under Solidified Gravel/Tar Layer					



Test Pit No. TP-BCP-06

Date: 11/12/2020

End Time: 8:20 AM

Start Time: 7: 50 PM

Notetaker Name: John Black

Surface conditions: Test Trench on southeast area of Former Battery Number 1.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E50	0 to 50	0 to 16	Black silty Sandy Gravel Slag and Coke Fill	Black	Medium Dense	Moist to Wet	0	
		16- to 32	Top of Old Battery at 16-inches BGS, Yellow and Red Brick, Dry Stacked.	Yellow and Red	Hard	N.A.		@32-inches BGS, water flowed in at a rate that immediately flooded trench.
TOTAL DEPTH		36	Estimated					Did not reach clay



Hand Auger for Test Pit No. TP-BCP-07

Date: 11/17/2020

End Time: 8:40 AM

Start Time: 8: 20 AM

Notetaker Name: John Black

Surface conditions: Hand auger under Coke Conveyor Structure under mezzanine next to Coal Breaker Building, Low Spot east of the Old Transformers.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
		26	Black silty Sand with Coke Breeze.	Black	Dense	Dry	0	Numerous Foundations in Area.
		@26	Brown Silty Clay	Light Brown	Stiff	Moisture	0	
		Sample						
			TP-BCP-07-01-HA @ 7 inches BGS					
TOTAL DEPTH		28						
		Note: The transformer dielectric fluid was subsequently tested and PCBs were not detected.						



Test Pit No. TP-BCP-08

Date: 11/12/2020

End Time: 10:45 AM

Start Time: 9:40 PM

Notetaker Name: John Black

Surface conditions:

Test Trench between Battery Number 2 and the Box Culvert, along former Pusher Track. Surface was Coke Fill with significant amounts of standing water.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E55	0 to 55	0 to 21	Black silty Sand Fill with Coke Fragments	Black	Loose	Moist	0	
		21 to Top of Clay	Brown silty sandy Gravel Fill with significant amounts of Brick	Brown	Dense	Wet	0	
		@48	Gray silty Clay	Gray	Medium Stiff	Moist	0	Measured at E0
		@53	Gray silty Clay	Gray	Medium Stiff	Moist	0	Measured at E20
		@30	Gray silty Clay	Gray	Medium Stiff	Moist	0	Measured at E40
		Note: Concrete Walls (possible former track supports) across test trench at E14, E18, E34, E38, E50.						
TOTAL DEPTH		60						
		Samples						
			TP-BCP-08-01 @ 6-inches BGS @ E39					
			TP-BCP-08-CL @ 42-inches BGS @ E44					



Test Pit No. TP-BCP-09 (South North) , See notes.

Date: 11/02/2020

End Time: 12:30 PM

Start Time: 10:25 AM

Notetaker Name: John Black

Surface conditions:

Black Sand Soil Surface, heavy vegetation. Test Trench near the east end of the South Drainage Area of Investigation (AOI 7)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S54	0 to 54	0 to 20	Black Silty Sand Fill with heavy root penetration, Loose.	Black	Soft/Loose	Moist	0	
		20 to 46	Black Silty Sand Fill with finer root structures.	Black	Loose	Moist	0	
		46 to 47	Black, Silty Clayey Sand Fill, Loose. Some Orange Sand.	Black	Loose	Moist	0	
		47 to 86	Orange Sandy Gravel Fill with Brick and Concrete Debris.	Orange	Loose	Moist to Wet	0	The brick and debris could be old refractory castings.
			<i>Notable odor at depth. Wet and seepage starting at 78 inches below ground surface.</i>					
		@ 86	Brown and Gray Silty Clay	Brown and Gray	Firm	Moist	0	Water does not appear to be in clay.



Test Pit No. TP-BCP-09 (South North) , See notes.

Date: 11/02/2020

End Time: 12:30 PM

Start Time: 10:25 AM

Notetaker Name: John Black

Surface conditions:

Black Sand Soil Surface, heavy vegetation. Test Trench near the east end of the South Drainage Area of Investigation (AOI 7)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S54 to S91	54 to 91	0 to 20	Black Silty Sand Fill with heavy root penetration, Loose.	Black	Soft/Loose	Moist	0	
		20 to 46	Black silty Sand Fill with finer root structures.	Black	Loose	Moist	0	
		46 to 47	Black, Silty Clayey Sand Fill, Loose. Some Orange Sand.	Black	Loose	Moist	0	
		47 to 66	Orange Fill with Brick and Concrete Debris. Some sandy Gravel.	Orange	Loose	Moist	0	The brick and debris could be old refractory castings.
		66 to Top of Clay	Hard Tar Layer, mixed with Coal, strong odor when broken.	Black	Hard	N.A.	0	The Tar Layer is hard mixed coal and tar. Does not soften.
	S60	@ 74	Brown and Gray Silty Clay	Brown and Gray	Firm	Moist to Wet	0	Water does not appear to be in clay. Clay at 70-inches at S77 and S91)
	S77	@ 70						
	S91	@70						



Test Pit No. TP-BCP-09 (South North) , See notes.

Date: 11/02/2020

End Time: 12:30 PM

Start Time: 10:25 AM

Notetaker Name: John Black

Surface conditions:

Black Sand Soil Surface, heavy vegetation. Test Trench near the east end of the South Drainage Area of Investigation (AOI 7)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S91 to S100	91 to 100	0 to 20	Black Silty Sand Fill with heavy root penetration, Loose.	Black	Soft/Loose	Moist	0	
		20 to 46	Black Silty Sand Fill with finer root structures.	Black	Loose	Moist	0	
		46 to 47	Black, Silty Clayey Sand Fill, Loose. Some Orange Sand.	Black	Loose	Moist	0	
		47 to 86	Orange Fill with Brick and Concrete Debris. Some sandy Gravel.	Orange	Loose	Moist	0	The brick and debris looks like old refractory castings.
		@ 86	Brown and Gray Silty Clay	Brown and Gray	Firm	Moist to Wet	0	Water does not appear to be in clay. Clay at 70-inches at S91, 86-inches by S100
S100 to S120	100 to 120	0 to 20	Black Silty Sand Fill with heavy root penetration, Loose.	Black	Loose	Moist	0	
		20 to 46	Black Silty Sand Fill with finer root structures.	Black	Loose	Moist	0	
		46 to 47	Black, Silty Clayey Sand Fill, Loose. Some Orange Sand.	Black	Loose	Moist	0	
		47 to 66	Orange sSandy Gravel Fill with Brick and Concrete Debris. Some rust colored Nodules.	Orange	Loose	Moist	0	
		66 to 86	Hard Mixed Tar and Coal Layer, strong odor when broken.	Black	Hard	N.A.	0	
		86	Brown and Gray silty Clay	Brown and Gray	Firm	Moist to Wet	0	Water does not appear to be in clay.





Test Pit No. TP-BCP-09 (South North) , See notes.

Date: 11/02/2020

End Time: 12:30 PM

Start Time: 10:25 AM

Notetaker Name: John Black

Surface conditions:

Black Sand Soil Surface, heavy vegetation. Test Trench near the east end of the South Drainage Area of Investigation (AOI 7)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S120 to S140	120 to 140	0 to 20	Black Silty Sand Fill with heavy root penetration, Loose.	Black	Loose	Moist	0	
			<i>A layer of Tar slopes from S120 (2-inches thick) to S140 (10-inches thick)</i>					
		20 to 46	Black Silty Sand Fill with finer root structures.	Black	Loose	Moist	0	
		46 to 47	Black, Silty Clayey Sand Fill, Loose. Some orange sand.	Black	Loose	Moist	0	
		47 to 66	Orange Fill with Brick and Concrete Debris. Some Sandy Gravel. Some ust colored nodules.	Orange	Loose	Moist	0	
		66 to 86	Hard Mixed Tar and Coal Layer, strong odor when broken.	Black	Hard	N.A.	0	
			<i>The Mixed Tar and Coal layer does not extend beyond S140.</i>					
		86	Brown and Gray Silty Clay	Brown and Gray	Firm	Moist	0	Water does not appear to be in clay.



Test Pit No. TP-BCP-09 (South North) , See notes.

Date: 11/02/2020

End Time: 12:30 PM

Start Time: 10:25 AM

Notetaker Name: John Black

Surface conditions:

Black Sand Soil Surface, heavy vegetation. Test Trench near the east end of the South Drainage Area of Investigation (AOI 7)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S140 to S200	140 to 200	0 to 24	Black Silty Sand Fill with heavy root penetration, Loose.	Black	Loose	Moist	0	
		24 to 48	Black silty Sand Fill with finer root structures.	Black	Loose	Moist	0	
		48 to 52	Brown and Rust colored fill, broken brick.	Brown to Rust	Loose	Moist	0	Broken Brick
			Red Sandy Gravel Fill between 48- to 64-inches below ground surface.					S176 to End. Old Rail Bed?
		52 to 70	Black Silt and some Gravel Fill, Brick (yellow)	Black	Loose	Moist to Very Moist	0	Yellow brick
		70 to 76	Dark Gray/Black Silty Clay.	Dark Gray	Stiff	Very Moist	0	The dark gray clay varies from 4- to 12-inches thick.
		@76	Brown and Gray Silty Clay	Brown and Gray	Firm	Moist to Wet	0	
TOTAL DEPTH		90						
Sample: TP-BCP-09-01-11022020 collected at 6-inches BGS @ S130								
Notes:								
1. There was a single test pit planned for the TP-BCP-09 Location. There was some tar on the ground surface nearby on Site 110. A Test Pit TP-BCP-09 (East West) was added to investigate the potential there was Tar from Site 110 on the BCP Site.								



Test Pit No. TP-BCP-09 (West East) , See note.

Date: 11/02/2020

End Time: 12:45 PM

Start Time: 12:30 PM

Notetaker Name: John Black

Surface conditions: Rail Bed, Ties, Cleats, Spikes. Test Pit excavated west to east along the BCP/Site 110 boundary to investigate potential for tar migration.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W10	0 to 10	0 to 24	Dark to Light Gray Limestone Gravel Ballast. Some Brick and Broken Concrete.	Dark Gray	Dense	Moist		
		24 to 62	Orange and Brown, and Rust colored Silty Sandy Fill	Orange and Brown	Dense	Moist		
		62 to 70	Gray Silty Clay	Gray	Soft	Moist		
		@ 70	Brown Silty Clay	Brown	Stiff	Moist		
		No tar visible in Test Trench.						
TOTAL DEPTH		75						
Notes:								
1. There was a single test pit planned for the TP-BCP-09 Location. There was some tar on the ground surface nearby on Site 110. This Test Pit TP-BCP-09 (West East) was added to investigate the potential for tar migration onto the BCP Site.								



Test Pit No. TP-BCP-10 (South North)

Date: 11/03/2020

End Time: 11:27 AM

Start Time: 7:50 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the east end of the South Drainage AOI in the vicinity of piles of materials and debris. Surface: Black Coal and Coke, Fine Black Silty Sand, undulating surface cutting through two piles of materials

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S15	0 to 15	0 to 12	Black Loose Silty Sand Fill, some roots to 12-inches.	Black	Soft/Loose	Moist	0	
		12 to 45	Black Silty Sand Fill, Loose.	Black	Loose	Moist	0	
		45 to 51	Hard Solidified Tar	Black	Loose	Moist	0	
S15 to S51	15 to 51	0 to 12	Black Loose Silty Sand Fill, some roots to 12-inches.	Black	Soft/Loose	Moist	0	
		12 to 42	Black Silty Sand Fill, Loose.	Black	Loose	Moist	0	
		42 to 48	Black Loose Silty Sand Fill, some roots in a second layer below the overlying Fill.	Black	Soft/Loose	Moist	0	
		48 to 90	Reddish Brown Sandy Gravel Fill, few Bricks, more Bricks at top of Clay (S28 to S51).	Reddish Brown	Medium Dense	Moist	0.3	The Brick and Debris looks like old refractory castings. Between S35 to S51 the sand was hard with rusty inclusions, partly cemented.
		90 to 96	Hard tar layer with mixed coal fragments between S33 to S37	Black	Loose	Moist	0	Tar and mixed coal, spill cleanup?
		96 to 101	Reddish Brown Sandy Gravel Fill	Reddish Brown	Medium Dense	Moist	0	
		101	Light Brown Silty Clay, Stiff	Light Brown	Stiff	Moist to Wet	0	No seepage



Test Pit No. TP-BCP-10 (South North)

Date: 11/03/2020

End Time: 11:27 AM

Start Time: 7:50 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the east end of the South Drainage AOI in the vicinity of piles of materials and debris. Surface: Black Coal and Coke, Fine Black Silty Sand, undulating surface cutting through two piles of materials

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S51 to S63	51 to 63	0 to 24	Black Loose Silty Sand Fill, some roots to 24-inches.	Black	Soft/Loose	Moist	0	
		24 to 42	Black Silty Sand Fill, Loose. Second layer of roots near 42-inches, previous ground surface?	Black	Loose	Moist	0	
		42 to 83	Black Loose Silty Sand Fill, uniform.	Black	Soft/Loose	Moist	0	Industrial wastes, belting, hose, and debris, 70- to 82-inches (S75 to S105)
		83 to 114	Reddish Brown Sandy Gravel Fill, few Bricks, crushed Brick, and more Bricks at top of Clay.	Reddish Brown	Medium Dense	Moist	0	
		@ 114	Light Gray and Brown silty Clay, Stiff	Light Brown	Stiff	Moist to Wet	0	No seepage. Depth measured at S55.
								Clay at 115-inches at S57 (Ground surface lower, not clay undulations). GPS - GS is 611.00, so clay at 601.42 feet.



Test Pit No. TP-BCP-10 (South North)

Date: 11/03/2020

End Time: 11:27 AM

Start Time: 7:50 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the east end of the South Drainage AOI in the vicinity of piles of materials and debris. Surface: Black Coal and Coke, Fine Black Silty Sand, undulating surface cutting through two piles of materials

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S63 to S100	63 to 100	0 to 24	Black Loose Silty Sand Fill, some roots to 24-inches.	Black	Soft/Loose	Moist	0	S100 is the low point of the ground surface before the ground surface rises again.
		24 to 48	Black Silty Sand Fill, Loose. Industrial debris.	Black	Loose	Moist	0	Debris
		48 to 69	Reddish Brown Sandy Gravel Fill, few Bricks, crushed brick, and more Bricks at top of Clay.	Reddish Brown	Medium Dense	Moist	0	
		@ 69	Brown and Gray Silty Clay, Stiff	Brown and Gray	Stiff	Moist to Wet	0	No seepage. Depth measured at S55.
								Clay at 82 inches at S75
								Clay at 69-inches at S95 (Ground surface lower, not clay undulations). GPS - GS is 607.20, so clay at 601.45 feet.



Test Pit No. TP-BCP-10 (South North)

Date: 11/03/2020

End Time: 11:27 AM

Start Time: 7:50 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the east end of the South Drainage AOI in the vicinity of piles of materials and debris. Surface: Black Coal and Coke, Fine Black Silty Sand, undulating surface cutting through two piles of materials

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S100 to S160	100 to 160	0 to 24	Black Loose Silty Sand Fill, some roots to 24-inches.	Black	Loose	Moist	0	S100 is the low point of the ground surface before the ground surface rises again.
		24 to 69	Black to Reddish Brown sandy with Gravel Fill. Coarser Sand and Gravel at top of Clay.	Black to Reddish Brown	Medium Dense	Moist	0	
		@ 69	Brown and Gray Silty Clay, Stiff	Brown and Gray	Stiff	Moist to Wet	0	
								Clay at 65 at S105 (Ground surface lower, not clay undulations). GPS - GS is 606.68, so clay at 601.26 feet.
S160 to S178	160 to 178	0 to 24	Black Loose Silty Sand Fill, some roots to 24-inches.	Black	Soft/loose	Moist	0	S100 is the low point of the ground surface before the ground surface rises again.
		24 to 64	Black to Reddish Brown sand and Gravel Fill. Coarser sand and Gravel at top of Clay.	Black to Reddish Brown	Medium Dense	Moist	0	
		64 to 81	Gravel with Slag Nodules. Fill or Ballast	Reddish Brown.	Medium Dense	Wet	0	
		@ 81	Brown and Gray Silty Clay, Stiff	Brown and Gray	Stiff	Moist to Wet	0	Measured at S168



Test Pit No. TP-BCP-10 (South North)

Date: 11/03/2020

End Time: 11:27 AM

Start Time: 7:50 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the east end of the South Drainage AOI in the vicinity of piles of materials and debris. Surface: Black Coal and Coke, Fine Black Silty Sand, undulating surface cutting through two piles of materials

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S178	160 to 178	0 to 24	Black Loose Silty Sand Fill, some roots to 24-inches.	Black	Soft/Loose	Moist	0	S100 is the low point of the ground surface before the ground surface rises again.
		24 to 64	Black to Reddish Brown Sandy with Gravel Fill. Coarser Sand and Gravel at top of Clay.	Reddish Brown	Medium Dense	Moist	0	
		64 to 81	Cobbles and Large Gravel. Limestone Ballast.	Reddish Brown.	Medium Dense	Wet	0	Full of water, flowed constantly for more than 30 minutes and filled entire trench.
		@ 81	Brown and Gray Silty Clay, Stiff	Brown and Gray	Stiff	Moist to Wet	0	
TOTAL DEPTH		110						
Sample TP-BCP-10-01 collected at S70 (Surface to 12-inches BGS) Duplicate Sample TP-BCP-100-01 collected at S70								





Test Pit No. TP-BCP-11

Date: 11/06/2020

End Time: 10:26 AM

Start Time: 9:30 AM

Notetaker Name: John Black

Surface conditions: Black, Wet, Silty Sand. Area of flow from the Battery Basement.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SW0 to SW30	0 to 30	0 to 24	Black Silty Fill, Coal Fragments throughout, some larger than 3-inch.	Black	Loose	Wet	0	
		24 to 42	Brown Gravel and Brick Fill. Some Hard Coal Layers. Seepage Starting at 27 - inches below ground surface	Brown	Loose	Wet, Flowing water	0	Brick, Sheen.
			Gray, Weak Concrete and Brick. SW 23 to SW30	Gray	Medium Dense	Wet		At 24-inches BGS
			4-inch diameter steel pipe at 36-inches below ground surface. Water line, discharged into Test Trench. Clear water, no odor					Cut at diagonal, SW8 (west side of pit), SW12 (east side of pit).
		@ 42	Brown and Gray Silty Clay		Stiff	Moist	0	Measured at SW24
TOTAL DEPTH		48						
Samples								
TP-BCP-11-01 @ SW27, 6-inches BGS								
TP-BCP-11-CL @ SW24, 44-inches BGS								



Test Pit No. TP-BCP-12

Date: 11/06/2020

End Time: 8:50 AM

Start Time: 7:30 AM

Notetaker Name: John Black

Surface conditions: Test Pit along South Side of Purifier Boxes, rail encountered at original location, shifted 10-feet South.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E20	0 to 20	0 to 3	Dark Brown Silty Sand Topsoil, Significant root structure from Phragmites	Dark Brown	Soft/Loose	Wet	0	
		3 to 20	Black Silty Sand	Black	Loose	Moist	0	
		20 to 42	Reddish Brown Sandy Gravel with Sand (Nodules)	Reddish Brown	Medium Dense	Wet, Flowing water	0	
		@42	Brown and Gray Silty Clay.		Stiff	Moist	0	
TOTAL DEPTH		48						
Samples								
TP-BCP-12-01 @ 4-inches BGS								
TP-BCP-12-CL @ 44 inches BGS								



Test Pit No. TP-BCP-13 North (South North)

Date: 11/05/2020

End Time: 2:30 PM

Start Time: 1:30 PM

Notetaker Name: John Black

Starting immediately south of the Iron Oxide Pile anchor trench, midway between the Gas Ball and the Compressor Building.  
 Surface conditions: Surface is reworked coke.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S50	0 to 50	0 to 17	Black Silty Sand Coke with cobble size pieces of Coke.	Black	Loose	Dry	0	
		17 to 32	Mixed layers of Brown/Rust and Black Silty Sand.	Black	Medium Dense	Moist	0	
		32 to 45	Blue and White Silt with some pieces of wood (Tie material)	Blue and White	Soft to Stiff	Wet	0	
		Collected Sample TP-BCP-13 at S15 *should this go in lower section with other samples						
		Could not excavate below 45 inches until N12, Hard Solidified Tar Layer.						
		45 to 57	Solidified Tar	Black	Hard	N.A.	0	Tar ends at S21, could not break through between S0 to S12.
		57 to 80	Black Sandy Fill	Black	Dense	Very Wet	0	
		@ 80	Gray Silty Clay	Gray	Stiff	Moist	0	Measured at S25
TOTAL DEPTH		85						
			Sample TP-BCP-13-CL @ N25, 82-inches BGS					



Test Pit No. TP-BCP-14

Date: 11/10/2020

End Time: 10:30 AM Start Time: 9:20 AM

Notetaker Name: John Black

Surface conditions: Former Diesel Tank Area, Spill Area "B". Test Trench along north side of former Spill Excavation.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W50	0 to 50	0 to 9	Black Silty Sand Fill with Coal Fragments	Black	Loose to Medium Dense.	Dry	0	
		9 to 21	Black Gravel with Silt and Sand, possible Ballast, underlain by Reddish Brown Sandy Gravel.	Black	Medium Dense to Dense	Moist	0	
		21 to 42	Gray-Black Silty Sandy Gravel. Significant amount of Reddish Brown Gravel (Nodules), Coal.	Gray - Black	Dense	Moist to Wet	7	PiD in Sample from W14
		42 to 47	Gray-Black Silty Sandy Gravel.	Gray Black	Dense	Wet	0	Produced significant flow with a sheen at W17.
		@47	Gray and Brown Silty Clay	Gray and Brown	Stiff	Moist	0	Measured at W33
TOTAL DEPTH		53						
		Samples						
		TP-BCP-14-01 @ W36 @ 6-inches BGS						
		TP-BCP-140-01 @ W36 @ 6-inches BGS						Duplicate Sample
		TP-BCP-14-40 @ W15 @ 40-inches BGS						Additional sample, not scheduled in RIWP, but at area of notable odor and PiD.



Test Pit No. TP-BCP-15

Date: 11/12/2020

End Time: 1:15 PM

Start Time: 12: 45 PM

Notetaker Name: John Black

Surface conditions: Test Trench in the west end of the Coke Yard.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E80	0 to 80	0 to Top of Clay	Black Silty Sandy Gravel Coke	Black	Medium Dense	Moist	0	
			Brown Silty Clay	Brown	Very Stiff, Brittle	Dry	0	Crumbles, higher silty content than other Clay encountered. @3-inches into Clay, moister and stiff.
		@ 28						Measured @ E0
		@ 28						Measured @ E10
		@ 32						Measured @ E20
		@ 29						Measured @ E30
		@ 33						Measured @ E40
		@ 35						Measured @ E60
		@ 39						Measured @ E80



Test Pit No. TP-BCP-15

Date: 11/12/2020

End Time: 1:15 PM

Start Time: 12: 45 PM

Notetaker Name: John Black

Surface conditions: Test Trench in the west end of the Coke Yard.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E80 to E94	80 to 94	0 to 6	Black Silty Sandy Gravel Coke	Black	Loose	Moist	0	
		6 to 10	Brown Silty Clay	Brown	Stiff	Moist	0	Lens, not base Clay.
		10 to 45	Mixed Fill, Black Silty Sandy Gravel Coke, Clay, some Brick.	Black	Medium Dense	Dry	1	
		@45	Brown Silty Clay	Brown	Stiff	Moist		Measured at E94
TOTAL DEPTH		50						



Test Pit No. TP-BCP-16

Date: 11/12/2020

End Time: 2:15 PM

Start Time: 1:35 PM

Notetaker Name: John Black

Surface conditions: Test Trench in the East Sedimentation Pool #003 Dike.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N50	0 to 50	0 to 1	Black Sandy Gravel Coke	Black	Loose	Dry	0	
		1 to 32	Brown Silty Clay Fill	Brown	Stiff	Dry	0	Placed Fill, not base layer Clay.
		32 to Top of Clay	Black Sandy Gravel Coke	Black	Dense	Dry		Note: seepage from Fill at Top of Clay
		@90	Very Stiff Light Brown to Brown Silty Clay	Light Brown to Brown	Very Stiff	Moisture		Measured at N10
		@ 91						Measured @ N20
		@ 96						Measured @ N30
		@ 93						Measured @ N40
		@ 93						Measured @ N50
TOTAL DEPTH		100						
		Sample						
			TP-BCP-16-01 @ 3-inches BGS @ N25					



Test Pit No. TP-BCP-17

Date: 11/13/2020

End Time: 8:10 AM

Start Time: 7: 40 AM

Notetaker Name: John Black

Surface conditions: Test Trench at mid-point of East Coke Yard

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S55	0 to 55	0 to 25	Black Silty Sandy Gravel Coke, Some Large Cobble Size Pieces	Black	Dense	Moist	0	
		25 to Top of Clay	Black Silty Sandy Gravel Coke, Some Large Cobble Size Pieces	Black	Dense	Wet	0	
			4-inch thick layer of Gray Gravel (Ballast) between S10 and S42, East Pit Face)	Gray	Dense	Saturated		Note, clear seepage from Gray Gravel
		@41	Stiff Brown Silty Clay	Brown	Stiff	Moist		Measured at S0
		@ 52						Measured @ S20
		@ 53						Measured @ S40
		@ 55						Measured @ S55
TOTAL DEPTH		60						





Test Pit No. TP-BCP-18

Date: 11/13/2020

End Time: 9:10 AM

Start Time: 8: 20 AM

Notetaker Name: John Black

Surface conditions:

Test Trench at east end of Coke Yard, south of the west end of the Thaw Shed, north of north Ditch Road.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S25	0 to 25	0 to 10	Gray Silty Sandy Gravel Coke	Gray	Dense	Dry	0	
		10 to 22	Dark gray to Black sandy Gravel Coke and Coal Mixture	Dark Gray to Black	Dense	Moist	0	
		22 to 74	Fine Sandy Gravel Coke with significant amounts of Wood and Brick.	Dark Gray to Black	Dense	Moist	0	Railroad ties had strong creosote odor.
								Water seeping at 74-inches BGS
		74 to 76	Gray Stiff Silty Clay	Gray	Stiff	Moist	0	
		@76	Brown Stiff Silty Clay	Brown	Stiff	Moist	0	Measured at S0
		Samples						
		TP-BCP-18-CL @67-inches BGS @ S20						Note: Clay @65 at S20
		TP-BCP-180-CL @67inches BGS @ S20						Duplicate



Test Pit No. TP-BCP-18

Date: 11/13/2020

End Time: 9:10 AM

Start Time: 8:20 AM

Notetaker Name: John Black

Surface conditions: Test Trench at east end of Coke Yard, south of the west end of the Thaw Shed, north of north Ditch Road.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S25 to S62	25 to 62	0 to 10	Gray Silty Sandy Gravel Coke	Gray	Loose	Dry	0	
		10 to 20	Dark Gray to Black Silty Sandy Gravel Coke.	Dark Gray to Black	Dense	Dry	0	
		20 to 55	Mixed Brown Sandy Gravel and Black Silty Sandy Gravel Coke	Brown and Black	Dense	Dry to Moist	0	
		55 to Top of Clay	Black Brick and Gravel Fill	Black	Dense	Wet	0	
			Note: Between S49 and S53 a layer of mixed Coke and pliable Tar was present between 53- to 60-inched BGS. The Tar became viscous when allowed to warm in the vehicle.				4.0 and 7.3	Seepage from this location produced a sheen.  Water level rose to 61-inches BGS (S50) after 30 minutes.
		@74						Measured @ S0
		@65						Measured @ S20
		@69						Measured @ S40
		@65						Measured @ S58
TOTAL DEPTH		71						



Test Pit No. TP-BCP-19 A (South North), See Note

Date: 11/03/2020

End Time: 1:50 PM

Start Time: 12:50 PM

Notetaker Name: John Black

Surface conditions: Black Coal and Fine Black Silty Sand Coal, flat surface cutting across the north side of multiple debris piles.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W17	0 to 17	0 to 10	Black uniform Silty Fine Sand, with Coal fragments.	Black	Soft/Loose	Moist	0	
		10 to 14	Brown Silty Sand.	Brown	Loose	Moist		
		14 to 34	Black Silty Sand (Coal). Multiple railroad ties and rust colored nodules.	Black	Loose	Moist		Multiple railroad ties.
								Water flowed in and filled pit before reaching clay. Steady state water elevation at 27-inches BGS.
TOTAL DEPTH		36	Estimated					
Note:								
1. Test Trench TP-BCP-19 was planned as a 140-foot long, observation only excavation, to verify the depth to clay. Due to very shallow and productive water bearing zones, the Test Trench was excavated in four distinct sections; TP-BCP-19 A to TP-BCP-19 D.								



Test Pit No. TP-BCP-19 B (South North), See Note

Date: 11/03/2020

End Time: 1:50 PM

Start Time: 12:50 PM

Notetaker Name: John Black

Surface conditions: Black Coal and Fine Black Silty Sand Coal, flat surface cutting across the north side of multiple debris piles.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W22 to W35	22 to 35	0 to 10	Black Uniform Silty Fine Sand, with Coal fragments.	Black	Soft/Loose	Moist	0	
		10 to 28	Brown Silty Sand and Black Silty Grained Coal.	Brown	Loose	Moist		
		28 to 60	Black Sandy Fill with significant numbers of Bricks.	Black	Loose	Moist		Multiple railroad ties.
		@60	Gray Silty Clay					
								Water flowed in and filled pit before reaching clay. Steady state water ~ 29-inches BGS. Steady state water elevation at Elevation 605.83 (GPS reading).
TOTL DEPTH		66	Estimated					

Note:

1. Test Trench TP-BCP-19 was planned as a 140-foot long, observation only excavation, to verify the depth to clay. Due to very shallow and productive water bearing zones, the test trench was excavated in four distinct sections; TP-BCP-19 A to TP-BCP-19 D.



Test Pit No. TP-BCP-19 C (South North), See Note

Date: 11/03/2020

End Time: 1:50 PM

Start Time: 12:50 PM

Notetaker Name: John Black

Surface conditions: Black Coal and Fine Black Silty Sand Coal, flat surface cutting across the north side of multiple debris piles.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PID	Evidence of Waste /Notes
W108 to W152	108 to 152	0 to 27	Black uniform Silty Fine Sand, with Coal fragments.	Black	Soft/Loose	Moist	0	
		27 to 47	Black Sandy Fill with significant numbers of Bricks.	Black	Loose	Moist		Multiple railroad ties.
		47 to 55	Brown Silty Clay Fill					
		56 to 71	Black Sandy Gravel Fill with significant numbers of Bricks.	Black	Loose	Wet		
		@71	Gray Silty Clay					
								Water started seeping in and slowly filled pit. Steady state water depth ~ 29-inches, Elevation at 604.25.
TOTAL DEPTH		75						

Note:

1. Test Trench TP-BCP-19 was planned as a 140-foot long, observation only excavation, to verify the depth to clay. Due to very shallow and productive water bearing zones, the test trench was excavated in four distinct sections; TP-BCP-19 A to TP-BCP-19 D.



Test Pit No. TP-BCP-19 D (South North), See Note

Date: 11/03/2020

End Time: 1:50 PM

Start Time: 12:50 PM

Notetaker Name: John Black

Surface conditions: Black Coal and Fine Black Silty Sand Coal, flat surface cutting across the north side of multiple debris piles.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W222 to W236	222 to 236	0 to 30	Black Uniform Silty Fine Sand, with Coal Fragments.	Black	Soft/Loose	Moist	0	
		30 to 32	Reddish Rusty Brown Silty Gravel (with nodules)	Reddish Brown	Loose	Wet		Depth unknown
			<i>Water Flowed in at 32-inched BGS, could not advance through water at this location</i>					
								Water started seeping in and quickly filled pit. Steady state water at ~30 inches, Elevation 605.5.
TOTAL DEPTH		36						

Note:

1. Test Trench TP-BCP-19 was planned as a 140-foot long, observation only excavation, to verify the depth to clay. Due to very shallow and productive water bearing zones, the test trench was excavated in four distinct sections; TP-BCP-19 A to TP-BCP-19 D.



Test Pit No. TP-BCP-20

Date: 11/09/2020

End Time: 9:30 AM

Start Time: 7:50 AM

Notetaker Name: John Black

Surface conditions: This Test Pit is east of the Shower Building in the west end of the North Coal Yard. Surface: Some vegetation, Black Wet Silty Sand and Gravel Size Coal.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E37	0 to 37	0 to 33	Black Fine Silty Sand size Coal. Moist. Loose to Medium Dense.	Black	Loose to Medium Dense	Moisture	0	10-inches BGS. More coal pieces.
		@33 inches at E0 @44 inches at E37	Very Hard Crystalline Solidified Tar. Cannot break through.	Black	Hard	N.A.	0	
<i>Seepage at 31-inched BGS at E17</i>								
E37 to E71	37 to 71	0 to 10	Black Silty Sand Fill, Coal Fragments throughout.	Black	Loose	Dry	0	
		10 to 44	Black Silty Sand with Large Coke Fragments.	Black	Dense	Moist	0	
		44 to 46	Brown Silty Gravel, Dense. Moist	Brown	Dense	Moist	0	
		46 to 50	Layer of Black Hard Crystalline Solidified Tar	Black	Hard	N.A.	0	
		50 to 68	Black Silty Gravel with Coal Fragments	Black	Stiff	Moist, wet at Base	0	Water at 60-inches BGS at E38
		68 to 70	Reddish Brown Sandy Gravel, with Nodules.	Reddish Brown	Dense	Wet	0	
		@70	Brown and Gray Silty Clay	Brown and Gray	Stiff	Moist	0	Measured at E47



Test Pit No. TP-BCP-20

Date: 11/09/2020

End Time: 9:30 AM

Start Time: 7:50 AM

Notetaker Name: John Black

Surface conditions: This Test Pit is east of the Shower Building in the west end of the North Coal Yard. Surface: Some vegetation, Black Wet Silty Sand and Gravel Size Coal.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E71 to E97	71 to 97	0 to 10	Black Silty Sand Fill, Coal Fragments throughout.	Black	Loose	Dry	0	
		10 to 40	Black Silty sandy Gravel with Large Coke Fragments.	Black	Dense	Moist	0	
		40 to 46	Light Brown Sandy Gravel Fill with mostly Brick.	Light Brown	Dense	Moist	0	
		46 to Top of Clay	Black Silty Gravel with Coal Fragments	Black	Stiff	Moist, wet at Base	0	
		Top of Clay						
		60						Measured at E40
		68						Measured at E60
		54						Measured at E80
		50						Measured at E97
TOTAL DEPTH		76						
			Sample TP-BCP-20-01, at 6-inches BGS, @ E80					





Test Pit No. TP-BCP-21

Date: 11/06/2020

End Time: 12:50 PM

Start Time: 11:10 AM

Notetaker Name: John Black

Surface conditions: Black Silty Wet Silty Sand and Gravel size Coal. Coal Yard southeast of Sedimentation Pond No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SW0 to SW7	0 to 7	0 to 42	Black Silty Gravel Fill, Coal.	Black	Soft/Loose	Wet	0	
			Could not advance beyond 42-inches BGS					
SW7 to SW30	7 to 30	0 to 32	Black Silty Gravel Fill, Coal.	Black	Soft/Loose	Wet	0	
		32 to 42	Hard Crystalline Tar. Brittle, does not soften when warmed.	Black	Hard	N.A.	0	Crystalline Tar at this depth ended at SW30.
		42 to 70	Brown Gravel and Brick Fill. Some Hard Coal Layers. Seepage Starting at 27 - inches below ground surface.	Brown	Soft/Loose	Wet, Flowing water	0	Brick, Sheen.
		70	Brown Silty Clay		Stiff	Moist	0	Measured at SW7
		66	Brown Silty Clay		Stiff	Moist	0	Measured at SW17
		55	Brown Silty Clay		Stiff	Moist	0	Measured at SW30



Test Pit No. TP-BCP-21

Date: 11/06/2020

End Time: 12:50 PM

Start Time: 11:10 AM

Notetaker Name: John Black

Surface conditions: Black Silty Wet Silty Sand and Gravel size Coal. Coal Yard southeast of Sedimentation Pond No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SW30 to SW45	30 to 45	0 to 52	Black, Dense, Fine Sand to Gravel Size Coal Fill. Dry.	Black	Dense	Dry	0	
		52 to 70	Dense Reddish Brown Silty Gravel (Nodules), some Brick.	Reddish Brown	Dense	Wet	0	
		70	Brown Silty Clay		Stiff	Moist	0	
SW45 to SW56	45 to 56	0 to 50	Black, Dense, Fine Sand to Gravel Size Coal Fill. Dry.	Black	Dense	Dry	0	
		50 to 60	Hard Black Crystalline Tar, Ends at SW56.	Reddish Brown	Dense	Wet	0	
		60	Brown Silty Clay	Brown	Stiff	Moist	0	



Test Pit No. TP-BCP-21

Date: 11/06/2020

End Time: 12:50 PM

Start Time: 11:10 AM

Notetaker Name: John Black

Surface conditions: Black Silty Wet Silty Sand and Gravel size Coal. Coal Yard southeast of Sedimentation Pond No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SW56 to SW150	56 to 150	0 to Top of Clay	Black, Dense, Fine Sand to Gravel Size Coal Fill. Dry.	Black	Dense	Dry	0	
		54						Measured at SW64
		65						Measured at SW79
		64						Measured at SW80
		62						Measured at SW100
		65						Measured at SW120
		67						Measured at SW140
TOTAL DEPTH		76						



Test Pit No. TP-BCP-22

Date: 11/16/2020

End Time: 8:45 AM

Start Time: 7: 40 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the mid-section of the North Coal Yard, west of Powers Reject Stockpile. Surface: coal.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N30	0 to 30	0 to 59	Black Silty Sandy Gravel Coal. Some wood and plastic debris.	Black	Soft to Dense	Wet Surface, Dry within 2 inches BGS.	0	
		59 to 64	Solidified Black Coal and Tar Layer of Fill.	Black	Hard	Dry	0	
		@64	Gray and Light Brown silty Clay, Stiff	Gray and Light Brown	Stiff	Moist	0	Some water seepage at top of Clay
N30 to N42	30 to 42	0 to 41	Black Silty Sandy Gravel Coal	Black	Loose to Dense	Dry	0	
		51 to 53	Solidified Black Coal and Tar Layer of Fill.	Black	Hard	Dry		Slight odor, could not break through, Thickness measured at N30
		@53	Grayish Brown Silty Clay	Grayish Brown	Very Stiff, Brittle	Dry	1	Measured at N30



Test Pit No. TP-BCP-22

Date: 11/16/2020

End Time: 8:45 AM

Start Time: 7: 40 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the mid-section of the North Coal Yard, west of Powers Reject Stockpile. Surface: coal.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N42 to N56	42 to 56	0 to 41	Black Silty sandy Gravel Coal	Black	Loose to Dense	Dry	0	
		41 to 46	Solidified Black Coal and Tar Layer of Fill.	Black	Hard	N.A.	0	
		46 to 62	Black and Red Brick, Sand and Coal Fill	Black and Red	Dense	Dry	0	
		@62	Grayish Brown Silty Clay	Grayish Brown	Very Stiff, Brittle	Dry	1	Measured at N47
TOTAL DEPTH		70						
		Samples						
			TP-BCP-22-01 @ 6-inches BGS @ N35					
			TP-BCP-220-01 @ 6-inches BGS @ N35					Duplicate



Test Pit No. TP-BCP-23

Date: 11/13/2020

End Time: 1:10 PM

Start Time: 12: 30 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the North Coal Yard, west of the Mixing Pad, just south of the North Ditch

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N23	0 to 23	0 to 36	Black Silty Sandy Gravel Coal. Some wood and plastic debris.	Black	Medium Dense	Wet Surface, Dry within 2 inches BGS.	0	
		36 to 45	Brown Sandy Gravel Fill with Bricks	Brown	Medium Dense	Dry	0	
		@45	Light Brown Silty Clay, Stiff	Light Brown	Stiff	Moisture	0	Measured @ N0
		@36						Measured @ N20
N23 to N28	23 to 28	0 to 25	Black Silty Sandy Gravel Coal. Some wood and plastic debris.	Black	Medium Dense	Wet Surface, Dry within 2 inches BGS.	0	
		@25	Solidified Tar/Coal Mixture	Black	Hard	N.A.	0	Could not break through



Test Pit No. TP-BCP-23

Date: 11/13/2020

End Time: 1:10 PM

Start Time: 12: 30 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the North Coal Yard, west of the Mixing Pad, just south of the North Ditch

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N28 to N60	28 to 60	0 to 25	Black Silty Sandy Gravel Coal. Some wood and plastic debris.	Black	Medium Dense	Wet Surface, Dry within 2 inches BGS.	0	
		25 to 29	Solidified Tar/Coal Mixture	Black	Hard	N.A.	0	Some odor, some of the tar was pliable.
		29 to Top of Clay	Brown Sandy Gravel Fill with Bricks	Brown	Medium Dense	Dry	0	
			Grayish Brown Silty Clay, Stiff, Dry, Brittle					Crumbled under hand pressure on spoon.
		@45						Measured @ N40
		@52						Measured @ N60
TOTAL DEPTH		58						



Test Pit No. TP-BCP-24

Date: 11/13/2020

End Time: 10:30 AM

Start Time: 9: 40 AM

Notetaker Name: John Black

Surface conditions: Test Trench immediately east of Coal Yard Tunnel entrance Near Mixing Pad. Coal surface.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S54	0 to 54	0 to 21	Dry Gray Silty Sandy Gravel Coal.	Dark Gray to Black	Loose	Dry	0	
		21 to 45	Black Silty Sandy Gravel Coal	Black	Dense	Moist	0	
		45 to 53	Coarse (@-inch size) Black Gravel Coal	Black	Dense	Moist	0	
		53 to 59	Black Silty Sandy Gravel Coal	Black	Dense	Moist	0	
		@59	Brown Silty Clay	Brown	Stiff	Moist	0	No Gray Clay Layer
S54 to S68	54 to 68	0 to 24	Dark Gray Silty Sandy Gravel Coal	Dark Gray	Loose	Dry	0	
		24 to 30	Mixed Coal and Solidified Tar	Black	Hard	N.A.	0	
		30 to 59	Black with Some Dark Brown Silty Gravel, mostly Coal					
		@59	Brown Silty Clay	Brown	Stiff	Moist	0	No Gray Clay Layer
		@59						Measured @ S0
		@54						Measured @ S20
		@50						Measured @ S40
		@59						Measured @ S60





Test Pit No. TP-BCP-24

Date: 11/13/2020

End Time: 10:30 AM

Start Time: 9: 40 AM

Notetaker Name: John Black

Surface conditions: Test Trench immediately east of Coal Yard Tunnel entrance Near Mixing Pad. Coal surface.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		65						
		Samples						
			TP-BCP-24-01 @12-inches BGS @ S64					Note: Clay @65 at S20
			TP-BCP-240-01 @12-inches BGS @ S64					Duplicate



Test Pit No. TP-BCP-25

Date: 10/29/2020

End Time: 3:30 PM

Start Time: 1:30 PM

Notetaker Name: John Black

Surface conditions: Test Trench excavated from RC04 through Tar Seep No. 2 and north beyond limits of Tar. Black Surface, Coal and Coke, wet to standing water, started at RC04 to and through Tar Seep No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SE0 to SE10	0 to 10	0 to 34	Black Silty Gravel Fill, Coal fragments throughout, some larger than 3-inch.	Black	Loose	Moist to Very moist	0	Coal, Brick.
		34 to 36	Black Silty Gravel Fill, Coal fragments throughout, some larger than 3-inch, produced significant water flow with a sheen.	Black	Loose	Wet, Flowing water	0	
		36 to 38	Hard 2-inch layer of Tar.	Black	Hard	N.A.	0	Hard Solidified Tar, this material did not flow.
		38 to 60	Black Silty Gravel Fill, Coal fragments throughout, some larger than 3-inch, produced significant water flow with a sheen.	Black	Loose	Wet, Flowing water	0	Assumed wet, flowing water but below overlying layer, so difficult to differentiate.
		@ 60	Brown Silty Clay	Brown	Stiff	Moist	0	



Test Pit No. TP-BCP-25

Date: 10/29/2020

End Time: 3:30 PM

Start Time: 1:30 PM

Notetaker Name: John Black

Surface conditions: Test Trench excavated from RC04 through Tar Seep No. 2 and north beyond limits of Tar. Black Surface, Coal and Coke, wet to standing water, started at RC04 to and through Tar Seep No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SE10 to SE25	10 to 25	0 to 18	Black Silty Gravel Fill, Coal fragments throughout, some larger than 3-inch.	Black	Loose	Moist to very moist	0	Coal, Brick.
		18 to 24	Brown/Copper Reddish Brown Silty Sand and Gravel (Nodules)	Brown to Reddish Brown	Loose	Very Moist	0	Nodules, Black when broken
		24 to 50	Black Silty Gravel Fill, Coal fragments throughout, some larger than 3-inch.	Black	Loose	Wet	0	Coal fragments. Seepage with sheen, strong odor.
		50 to 52	Greenish Brown Silty Clay	Green-tint	Medium Stiff	Moist	0	
		@52	Brown Silty Clay	Brown	Medium Stiff	Moist	0	
		10	Collected Sample TP-BCP-25-01-10292020 @ SE 10, Surface to 12-inches BGS					



Test Pit No. TP-BCP-25

Date: 10/29/2020

End Time: 3:30 PM

Start Time: 1:30 PM

Notetaker Name: John Black

Surface conditions: Test Trench excavated from RC04 through Tar Seep No. 2 and north beyond limits of Tar. Black Surface, Coal and Coke, wet to standing water, started at RC04 to and through Tar Seep No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SE25 to SE41	25 to 41	0 to 18	Black Silty Fill, Coal fragments throughout, some larger than 3-inch.	Black	Loose	Moist to very moist	0	Coal fragments
		18 to 24	Brown/Copper Sand (Pellets?)	Brown	Loose	Very Moist	0	Pellets, Sand or Manmade?
		24 to 53	Black Silty Fill, Coal fragments throughout, some larger than 3-inch.	Black	Loose	Moist to very moist	0	Coal fragments. Seepage with sheen, strong odor.
		53 to 60	Green Silty Clay/Fill	Green	Medium Stiff	Moist	0	Wood chips, wood particles, sandy Gravel Nodules
		@ 60	Brown Silty Clay	Brown	Medium Stiff	Moist	0	None
SE41 to SE57	41 to 57	0 to 24	Black Silty Gravel Fill, Coal fragments throughout, some larger than 3-inch.	Black	Loose	Moist to very moist	0	Coal Fragments.
		24 to 58	Black Silty Gravel Fill, Coal fragments throughout, some larger than 3-inch. Thin layer of Blue-green Silt.	Black	Loose	Moist to very moist	0	Coal fragments. Water seepage with sheen, strong odor.
		58 to 60	Blue-green Silt/Fill	Green	Medium Stiff	Moist	0	Wood chips, wood particles, sandy Gravel Nodules
		@ 60	Brown Clay	Brown	Medium Stiff	Moist	0	None
	@ 56		Collected TP-BCP-25-SE56-10292020 - From 36 to 42 inches BGS Blue-green Silt					



Test Pit No. TP-BCP-25

Date: 10/29/2020

End Time: 3:30 PM

Start Time: 1:30 PM

Notetaker Name: John Black

Surface conditions: Test Trench excavated from RC04 through Tar Seep No. 2 and north beyond limits of Tar. Black Surface, Coal and Coke, wet to standing water, started at RC04 to and through Tar Seep No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SE57 to SE60	57 to 60	0 to 41	Black Silty Fill, coal fragments throughout, some larger than 3-inch.	Black	Soft/loose	Moist to very moist	0	Coal fragments
		41 to 42	Viscous Tar	Black	Viscous	N.A.	0	Moved into cavity within 5 minutes.
		43 to 60	Black Silty Fill, Coal fragments throughout, some larger than 3-inch.	Black	Loose	Moist to very moist	0	Coal fragments. Seepage with sheen, strong odor.
		@ 60	Brown Silty Clay	Brown	Medium Stiff	Moist	0	None
								Note: Tar Seep 2 Jersey Barrier at SE60.
SE60 to SE78	60 to 78	0 to 24	Black Silty Fill, Coal fragments throughout, some larger than 3-inch.	Black	Soft/Loose	Moist to very moist	0	Coal fragments
		24 to 27	Viscous Tar	Black	Viscous	N.A.	0	Moved into cavity within 5 minutes. Near S70 the tar migrated toward surface.
		27 to 60	Black Silty Fill, coal fragments throughout, some larger than 3-inch.	Black	Soft/loose	Moist to very moist	0	Coal fragments. Water seepage with sheen, strong odor.
		@ 60	Brown Clay	Brown	Medium Stiff	Moist	0	None



Test Pit No. TP-BCP-25

Date: 10/29/2020

End Time: 3:30 PM

Start Time: 1:30 PM

Notetaker Name: John Black

Surface conditions: Test Trench excavated from RC04 through Tar Seep No. 2 and north beyond limits of Tar. Black Surface, Coal and Coke, wet to standing water, started at RC04 to and through Tar Seep No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SE78 to SE92	78 to 92	0 to 30	Black Silty Gravel Fill, coal fragments throughout, some larger than 3-inch.	Black	Soft/Loose	Moist to very moist	0	Coal fragments
		30 to 31	Viscous Tar	Black	Viscous	N.A.	0	Abrupt drop in tar layer, not continuous with SE60 to SE78 layer. Moved into cavity within 5 minutes.
		31 to 60	Black Silty Fill, coal fragments throughout, some larger than 3-inch.	Black	Soft/Loose	Moist to very moist	0	Coal fragments. Seepage with sheen, strong odor.
		@60	Brown Clay	Brown	Medium Stiff	Moist	0	None
		Tar ended at SE 92						



Test Pit No. TP-BCP-25

Date: 10/29/2020

End Time: 3:30 PM

Start Time: 1:30 PM

Notetaker Name: John Black

Surface conditions: Test Trench excavated from RC04 through Tar Seep No. 2 and north beyond limits of Tar. Black Surface, Coal and Coke, wet to standing water, started at RC04 to and through Tar Seep No. 2.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
SE92 to SE105	92 to 105	0 to 56	Black Silty Fill, coal fragments throughout, some larger than 3-inch.	Black	Soft/Loose	Moist to very moist	0	Coal fragments
		56 to 60	Greenish layer with defined fibrous organic content.	Black	Soft/Loose	Moist to very moist	0	Coal fragments. Seepage with sheen, strong odor.
		@ 60	Brown Silty Clay	Brown	Medium Stiff	Moist	0	None
TOTAL DEPTH		66						
		Sample:						
	95		Collected TP-BCP-25-CL-10292020 (TP-BCP-CL-10292020 on Chain) at 60 to 62-inches BGS					



Test Pit No. TP-BCP-26

Date: 11/09/2020

End Time: 2:20 PM

Start Time: 1:45 PM

Notetaker Name: John Black

Surface conditions: Reworked Black silty Sand Coal. TP-BCP-26 is located between the Stormwater Retention Basin and the South Coal Yard (Former dredge pile location).

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S100	0 to 100	0 to 6	Topsoil	Light to dark Gray	Loose	Moist	0	
		6 to 27	Black Sandy Gravel with sand size Coal Fragments.	Black	Loose to Medium Dense.	Moist	0	Note: Clay Fill lens from 6 to 18-inches BGS from S68 to S69
		@27	Brown Silty Clay	Brown	Stiff	Moist	0	
		Top of Clay						
		S20		32	inches BGS			
		S40		33	inches BGS			
		S60		33	inches BGS			
		S80		21	inches BGS			
		S100		10	inches BGS			
TOTAL DEPTH		40						
		Samples:						
			TP-BCP-26-CL @30-inches BGS at S4					
			TP-BCP-26-01 @6-inches BGS at S6					





Test Pit No. TP-BCP-27

Date: 11/16/2020

End Time: 11:10 AM

Start Time: 10:20 AM

Notetaker Name: John Black

Surface conditions: Diagonal (relative to compass direction) Test Trench in newly placed South Coal Yard Fill, east of New Collection Sump.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
NW0 to NW70	0 to 70	0 to Top of Silty Clay	Black reworked, compacted Silty Sandy Gravel Coal	Black	Dense	Moist	0	Test Pit conducted after the South Coal Yard was regraded by OSC.
		@45	Light Brown Stiff Silty Clay	Light Brown	Stiff	Dry	0	Measured at NW0
		@45						Measured at NW10
		@47						Measured at NW20
		@46						Measured at NW30
		@45						Measured at NW40
		@46						Measured at NW50
		@49						Measured at NW60
		@49						Measured at NW70
TOTAL DEPTH		55						
		Samples						
		TP-BCP-27-01 @ 6-inches BGS @ NW15						
		TP-BCP-270-01 @ 6-inches BGS @ NW15						Duplicate



Test Pit No. TP-BCP-28

Date: 10/30/2020

End Time: 10:10 AM

Start Time: 9:15 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the southwest corner of the Coal Yard AOI5, immediately northeast of the South Ditch. Surface was grass covered, recently mowed.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S20	0 to 20	0 to 7	Dark Brown to Gray Topsoil	Dark Brown	Loose	Moist	0	Appears to be a section of coal yard that was covered with a soil cover and revegetated.
		7 to 22	Black Loose Silty Sand Fill, with Coal fragments.	Black	Loose	Moist	0	
		@22	Brown Silty Clay	Brown	Stiff to Very Stiff	Moist	0	
S20 to S40	20 to 40	0 to 7	Dark Brown to Gray Topsoil	Dark Brown	Loose	Moist	0	Appears to be a section of coal yard that was covered with a soil cover and revegetated.
		7 to 24	Black Loose Silty Sand Fill, with Coal fragments.	Black	Loose	Moist	0	
		@24	Brown Silty Clay	Brown	Stiff to Very Stiff	Moist	0	
S40 to S70	40 to 70	0 to 7	Dark Brown to Gray Topsoil	Dark Brown	Loose	Moist	0	Appears to be a section of coal yard that was covered with a soil cover and revegetated.
		7 to 30	Black Loose Silty Sand Fill, with Coal fragments.	Black	Loose	Moist	0	
		@30	Brown Silty Clay	Brown	Stiff to Very Stiff	Moist	0	



Test Pit No. TP-BCP-28

Date: 10/30/2020

End Time: 10:10 AM

Start Time: 9:15 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the southwest corner of the Coal Yard AOI5, immediately northeast of the South Ditch. Surface was grass covered, recently mowed.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S70 to S96	70 to 96	0 to 7	Dark Brown to Gray Topsoil	Dark Brown	Loose	Moist	0	Appears to be a section of coal yard that was covered with a soil cover and revegetated.
		7 to 30	Black Loose Silty Sand Fill, with Coal fragments, Brick, metals and rags.	Black	Loose	Moist	0	
		@30	Brown Silty Clay	Brown	Stiff to Very Stiff	Moist	0	
TOTAL DEPT H		36						
		Sample:						
		TP-BCP-28-CL-10302020 at S10 30-inches below ground surface.						
Notes:								
This area appears to have been regraded, covered and vegetated during the TCC Surface Water Best Management Practices improvement program.								



Test Pit No. TP-BCP-29

Date: 11/16/2020

End Time: 11:40 AM

Start Time: 11:20 AM

Notetaker Name: John Black

Surface conditions: Test Trench Midway Along South Coal Yard. Test Trench advanced after coal yard material was regraded and recompacted.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S50	0 to 50	0 to Top of Clay	Black reworked, compacted Silty Sandy Gravel Coal	Black	Dense	Dry	0	Test Pit conducted after the South Coal Yard was regraded by OSC.
		@34	Gray and Light Brown silty Clay	Light Brown	Very Stiff	Very Dry	0	Fractures in Hand v. Pliable
		@34						Measured at S0
		@38						Measured at S10
		@44						Measured at S20
		@48						Measured at S30
		@52						Measured at S40
		@57						Measured at S50



Test Pit No. TP-BCP-30

Date: 11/18/2020

End Time: 10:50 AM

Start Time: 10: 00 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the east end of the South Coal Yard, South of the Former Coal Yard Tunnel South Entrance.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W110	0 to 110	0 to Top of Clay	Black Silty Sandy Gravel Coal Fill, reworked, placed and compacted.	Black	Dense	Dry	0	Test Trench was advanced after the Coal Yard Materials was placed and compacted by OSC
	30	30						A 6-inch diameter PVC pipe that was filled with coal was encountered at W30.
	65	30						The corrugated drain pipe from CB-08 crossed the Trench at W65
	30 to 60	29						A thin layer of crystalline tar was present at the top of Clay from W30 to W60.



Test Pit No. TP-BCP-30

Date: 11/18/2020

End Time: 10:50 AM

Start Time: 10: 00 AM

Notetaker Name: John Black

Surface conditions: Test Trench in the east end of the South Coal Yard, South of the Former Coal Yard Tunnel South Entrance.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
		Varies	Brown Stiff Silty Clay	Brown	Stiff	Moist	0	
		@39						Measured @ W0
		@39						Measured @ W10
		@39						Measured @ W20
		@29						Measured @ W30
		@36						Measured @ W40
		@30						Measured @ W50
		@29						Measured @ W60
		@29						Measured @ W70
		@30						Measured @ W80
		@29						Measured @ W90
		@26						Measured @ W100
		@29						Measured @ W110
TOTAL DEPTH		36						



Test Pit No. TP-BCP-31

Date: 10/29/2020

End Time: 12:30 PM

Start Time: 10:00 AM

Notetaker Name: John Black

Surface conditions: Test Trench southwest of the South Ditch just east of and parallel to the former Plastics Facility fence line (near the Flare), starting at Rail Car RC01. Dense Phragmites cover, Black Soils Surface, wet to standing water.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S7	0 to 7	0 to 1	Thin layer of organic soil, marginally considered "topsoil".	Gray	Loose	Moist to Wet	0	
		0 to 16	Black Silty Gravel Fill, some Fine Gravel, predominately Coal, some roots and organic matter.	Black	Loose	Moist to very moist	0	Coal Fragments
		16 to 18	2-inch thick layer of Hard Solidified Tar.	Black	Hard	N.A.	0	Solidified tar, neither Pliable or Viscus.
		18 to 24	Black Silty Gravel Fill, some fine Gravel, predominately Coal.	Black	Loose	Moist to very moist	0	Coal Fragments
		Sample						
	7	1 to 2	Collected Sample TP-BCP-31-01-10292020					



Test Pit No. TP-BCP-31

Date: 10/29/2020

End Time: 12:30 PM

Start Time: 10:00 AM

Notetaker Name: John Black

Surface conditions: Test Trench southwest of the South Ditch just east of and parallel to the former Plastics Facility fence line (near the Flare), starting at Rail Car RC01. Dense Phragmites cover, Black Soils Surface, wet to standing water.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S7 to S25	7 to 25	0 to 1	Thin layer of organic soil, marginally considered "topsoil".	Gray	Loose	Moist to Wet	0	
		1 to 23.5	Black Silty Fill, some fine Sandy Gravel, roots and organic matter. Coal fragments	Black	Loose	Moist to very moist	0	None
		23.5 to 24	1/2- to 1/4 inch layer of Pliable Tar. Hard at first, but started to move after 45 minutes.	Black	Pliable	N.A.	0	Pliable Tar Layer
		24 to 26	Brown and Gray very stiff Silty Clay	Brown and Gray	Very Stiff	Moist	0	None
		@26	Brown and Gray very stiff Silty Clay	Brown and Gray	Very Stiff	Dry	0	Silvery black staining in fractures within Clay for top 2 inches of Clay.
	11	26	Collected Sample TP-BCP-31-CL-10292020					This sample was in the zone that appeared to have intrusion of tar staining.





Test Pit No. TP-BCP-31

Date: 10/29/2020

End Time: 12:30 PM

Start Time: 10:00 AM

Notetaker Name: John Black

Surface conditions: Test Trench southwest of the South Ditch just east of and parallel to the former Plastics Facility fence line (near the Flare), starting at Rail Car RC01. Dense Phragmites cover, Black Soils Surface, wet to standing water.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S25 to S40	25 to 40	0 to 1	Thin layer of organic soil, marginally considered "topsoil".	Gray	Loose	Moist to Wet	0	
		1 to 29.5	Black Silty Fill, some fine Gravel, roots and organic matter. Coal fragments.	Black	Soft/Loose	Moist to very moist	0	Coal fragments
		29.5 to 30	1/2- to 1/4 inch layer of Pliable Tar.	Black with silver tone	Hard	N.A.	0	Tar Layer
		30 to 32	Brown and Gray very stiff Silty Clay	Brown and Gray	Very Stiff	Dry	0	Silvery black staining in fractures within clay for top 2 inches of clay.
		@32	Brown and Gray very stiff Clay	Brown and Gray	Very Stiff	Dry	0	None
S40 to S94	40 to 94	0 to 1	Thin layer of organic soil, marginally considered "topsoil".	Gray	Loose	Moist to Wet	0	
		1 to 24	Brown Clayey Silt, with organic matter	Brown	Soft/Loose	Moist to very moist	0	None
		24 to 36	Black Silty Sand, some coal fragments	Black	Loose	Very Moist	0	Coal fragments
		@36	Brown Stiff Silty Clay	Brown	Stiff	Moist	0	None



Test Pit No. TP-BCP-31

Date: 10/29/2020

End Time: 12:30 PM

Start Time: 10:00 AM

Notetaker Name: John Black

Surface conditions: Test Trench southwest of the South Ditch just east of and parallel to the former Plastics Facility fence line (near the Flare), starting at Rail Car RC01. Dense Phragmites cover, Black Soils Surface, wet to standing water.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S94 to S108	94 to 108	0 to 1	Thin layer of organic soil, marginally considered "topsoil".	Gray	Loose	Moist to Wet	0	
		1 to 20	Black Silty Gravel Fill, some fine Gravel, predominately coal fragments, roots and organic matter.	Black	Soft/Loose	Moist	0	Coal fragments
		@ 20	Brown Stiff Silty Clay	Brown	Stiff	Moist	0	None
S108 to S145	108 to 145	0 to 1	Thin layer of organic soil, marginally considered "topsoil".	Gray	Loose	Moist to Wet	0	
		1 to 12	Black Silty Gravel Fill, some fine Gravel and Coal fragments	Black	Soft/loose	Wet	0	Coal fragments in fill
		@12	Brown Stiff Clay	Brown	Stiff	Moist	0	None



Test Pit No. TP-BCP-31

Date: 10/29/2020

End Time: 12:30 PM

Start Time: 10:00 AM

Notetaker Name: John Black

Surface conditions: Test Trench southwest of the South Ditch just east of and parallel to the former Plastics Facility fence line (near the Flare), starting at Rail Car RC01. Dense Phragmites cover, Black Soils Surface, wet to standing water.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S145 to S156	145 to 156	0 to 1	Thin layer of organic soil, marginally considered "topsoil".	Gray	Loose	Moist to Wet	0	
		1 to 12	Black Silty Gravel Fill, some fine Gravel and Coal fragments	Black	Soft/loose	Wet	0	Coal fragments in fill
		@12	Brown Stiff Clay	Brown	Stiff	Moist	0	None
TOTAL DEPTH 72								
Note: Excavated from S145 to S156 to 6-feet deep to confirm it was native clay and not a layer of clay fill.								



Test Pit No. TP-BCP-32

Date: 11/09/2020

End Time: 1:20 PM

Start Time: 12:15 PM

Notetaker Name: John Black

Surface conditions: This Test Pit is in the west end of the former Coke Unloading Rail Yard. Surface: Black sandy Gravel size Coke. Rail debris - plates and spikes.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W42	0 to 42	0 to 34	Black silty sandy Gravel, Coke. Some Light Brown broken Brick.	Black	Loose to Medium Dense	Moist	0	
		34 to 37	Black sandy Gravel with Reddish Brown Nodules.					
		@37	Significant seepage.					
		Seepage at 37-inches BGS at W17						
		37 to 52	Black silty sandy Gravel, Coke. Some Light Brown broken Brick.	Black	Loose to Medium Dense	Wet	0	
		52 to 62	Dense rubble layer, mostly red and yellow Brick.	Red and Yellow	Dense	Wet	0	
		62 to 66	Gray silty Clay, Soft to Stiff	Gray	Soft to Stiff	Moist	0	
		@66	Brown Stiff silty Clay	Brown	Stiff	Moist	0	



Test Pit No. TP-BCP-32

Date: 11/09/2020

End Time: 1:20 PM

Start Time: 12:15 PM

Notetaker Name: John Black

Surface conditions: This Test Pit is in the west end of the former Coke Unloading Rail Yard. Surface: Black sandy Gravel size Coke. Rail debris - plates and spikes.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W42 to W58		0 to 24	Black silty sandy Gravel, Coke	Black	Dense	Dry	0	
		24 to 34	Black and Reddish Brown sandy Gravel Fill	Black and Reddish Brown	Dense	Moist	0	
		34 to 58	Wet clayey Black fill cemented with Solidified Tar.	Black	Dense/Hard	Wet	0.4	PiD @ W45
		58 to 60	Wet clayey Silt Black Fill with some Slag.	Black	Dense	Wet	0	
		@60	Gray silty Clay, Soft to Stiff	Gray	Soft to Stiff	Moist	0	
TOTAL DEPTH		72						



Test Pit No. TP-BCP-33

Date: 11/09/2020

End Time: 11:45 AM

Start Time: 10:00 AM

Notetaker Name: John Black

Surface conditions: Black fine sandy Gravel size Coke. This Test Pit is in the middle of the former Coke Unloading Rail Yard.

ID	Distance from Start	Depth (In.)	Significant seepage @ E20	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E50	0 to 50	0 to 34	Black to Dark Gray silty Gravel, Coke.	Black to Dark Gray	Loose to Medium Dense	Moist	0	
		@34	Significant seepage @ E20					Slight Sheen at first, after initial flow, no additional sheen.
		Seepage at 34-inch BGS at E17						
		34 to 54	Concrete and fill. Foundations at 10-foot c/c spacing.	Gray	N.A.	Wet	0	
			Reddish Brown Gravel with Nodules from 48- to 54- inches BGS from E34 to E50	Reddish Brown	Dense	Wet	0	
		@54	Light Brown silty Clay	Light Brown	Stiff	Moist	0	
TOTAL DEPTH		60						



Test Pit No. TP-BCP-34 (West East Section), See notes.

Date: 10/30/2020

End Time: 1:45 PM

Start Time: 2:45 PM

Notetaker Name: John Black

Surface conditions: This test trench was located along the north side of the three abandoned tank foundations in the Southeast corner of the AOI4 - Coke Yard. Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, sparse vegetation, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W20	0 to 20	0 to 20	Black Silty Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist	0	Coke and Coal Fragments
		20 to 60	Black Silty Fill, some fine gravel, layers of orange/rust fill (nodules).	Black and Orange	Loose to Medium Dense	Moist	0	Orange Rust nodules, black when broken. Appearance of gravel slag, possible rail bed materials.
		@40	Groundwater flowing into test pit	Black		Wet		Some odor, black color, but more of the appearance of sediment in water than dissolved matter.
		@65	Brown Silty Clay	Brown to slightly orange	Firm	Moist to Wet	0	Water does not appear to be in clay.



Test Pit No. TP-BCP-34 (West East Section), See notes.

Date: 10/30/2020

End Time: 1:45 PM

Start Time: 2:45 PM

Notetaker Name: John Black

Surface conditions: This test trench was located along the north side of the three abandoned tank foundations in the Southeast corner of the AOI4 - Coke Yard. Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, sparse vegetation, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W20 to W26	20 to 26	0 to 20	Black Silty Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist	0	Coke and Coal Fragments
		0 to 65	Black Silty Fill, some fine gravel, layers of orange/rust fill (nodules).	Black and Orange	Loose to Medium Dense	Moist	0	Orange Rust nodules, black when broken. Appearance of gravel slag, possible rail bed materials.
		@42	Groundwater flowing into test pit	Black		Wet		Some odor, black color, but more of the appearance of sediment in water than dissolved matter. Appearance of a scum layer (not quite a sheen)
		@65	Brown Silty Clay	Brown to slightly orange	Firm	Moist to Wet	0	Water does not appear to be in clay.





Test Pit No. TP-BCP-34 (West East Section), See notes.

Date: 10/30/2020

End Time: 1:45 PM

Start Time: 2:45 PM

Notetaker Name: John Black

Surface conditions: This test trench was located along the north side of the three abandoned tank foundations in the Southeast corner of the AOI4 - Coke Yard. Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, sparse vegetation, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W26 to W78	26 to 78	0 to 18	Black Silty Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist	0	Coke and Coal Fragments
		18 to 26	Rail road ties in south sidewall (uniform layer suggesting rail track location). Black silty Gravel Fill, some fine Gravel.	Black	Loose to Medium Dense	Moist	0	
		26 to 40	Reddish Brown colored sandy Gravel fill (nodules).	Reddish Brown	Loose to Medium Dense	Wet	0	Slag like appearance, location below ties suggest rail bed material.
	40	@32	<i>Collected sample of sandy Gravel for characterization by radiological consultant. Field Screening was not conducted.</i>					
		40 to 52	<i>Large Gravel/cobble layer. Appearance of limestone fill. (Bridging layer for soft soils?)</i>	Gray	Loose	Wet	0	Produced water quickly
	40	52 to 54	<i>Collected sample of large gravel for characterization by radiological consultant. Field screening was not conducted.</i>					
		54 to 65	<i>Black Silty Fill, some fine gravel.</i>	Black	Soft/loose	Wet		
		@65	<i>Brown (slightly orange) silty Clay</i>	Brown to slightly orange	Firm	Moist to Wet		



Test Pit No. TP-BCP-34 (West East Section), See notes.

Date: 10/30/2020

End Time: 1:45 PM

Start Time: 2:45 PM

Notetaker Name: John Black

Surface conditions: This test trench was located along the north side of the three abandoned tank foundations in the Southeast corner of the AOI4 - Coke Yard. Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, sparse vegetation, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		72						
Note:								
1. In addition to the West-East Section, two side test pits were excavated, one to the south (TP-BCP-34 (South)) into the area of the former foundations and one to the from the south to north (TP-BCP-34 (South-North)) across the former tracks along the east end of TP-BCP-35 (West-East).								



Test Pit No. TP-BCP-34 (South Section), See notes.

Date: 10/30/2020

End Time: 1:45 PM

Start Time: 1:35 PM

Notetaker Name: John Black

Surface conditions: Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, more vegetation, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S <sub>2</sub> 0 to S <sub>2</sub> 5	0 to 5	0 to 36	Black Silty Fill, some fine Gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist		Coke and Coal Fragments
		36 to 38	<i>Bright Orange sandy Gravel Fill some Gravel nodules</i>	Orange	Medium Dense	Wet		
		38 to 48	<i>Black silty Gravel Fill, some fine Gravel.</i>	Black	Soft/loose	Wet		Coke and Coal Fragments
		@48	<i>Black Hard Solidified Tar</i>	Black	Hard	N.A.		Very difficult to break through with excavator, unlike pliable or flowing tar.



Test Pit No. TP-BCP-34 (South Section), See notes.

Date: 10/30/2020

End Time: 1:45 PM

Start Time: 1:35 PM

Notetaker Name: John Black

Surface conditions: Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, more vegetation, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S <sub>25</sub> to S <sub>218</sub>	5 to 18	0 to 18	Black Silty Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist		Coke and Coal Fragments
		18 to 36	Bright Orange Sandy Fill some Gravel nodules	Orange		Wet		
		36 to 56	Black Silty Fill, some fine gravel.	Black	Soft/loose	Wet		Coke and Coal Fragments
		56 to 65	Black Hard Solidified Tar	Black	Hard	N.A.		Very difficult to break through with excavator, unlike pliable or flowing tar.
		@56	Minor seepage from top of tar	Black	Loose to Medium Dense	Moist		Note, step change in hard tar at S <sub>218</sub> . Tar stops.
		@65	Brown silty Clay	Brown	Firm	Moist		
S <sub>218</sub> to S <sub>231</sub>	18 to 31	0 to 66	Black silty Gravel Fill, some fine gravel, roots and organic matter (Near surface).	Black	Soft/loose	Moist to very moist		Coke and Coal Fragments
		66 to 72	Large Gravel/cobble layer. Appearance of limestone fill. (Bridging layer for soft soils?)	Gray	Loose	Wet		Produced water quickly
		@72	Brown silty Clay	Brown	Firm	Moist		



Test Pit No. TP-BCP-34 (South Section), See notes.

Date: 10/30/2020

End Time: 1:45 PM

Start Time: 1:35 PM

Notetaker Name: John Black

Surface conditions: Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, more vegetation, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S <sub>231</sub> to S <sub>245</sub>	31 to 45	0 to 72	<i>Black silty Gravel Fill, some fine Gravel, roots and organic matter (Near surface).</i>	Black	Soft/loose	Moist to very moist		Coke and Coal Fragments
		@72	<i>Brown silty Clay</i>	Brown	Firm	Moist		
TOTAL DEPTH		78						
Note:								
1. In addition to the West-East Section, two side test pits were excavated, one to the south (TP-BCP-34 (South)) into the area of the former foundations and one to the from the south to north (TP-BCP-34 (South-North)) across the former tracks along the east end of TP-BCP-35 (West-East).								



Test Pit No. TP-BCP-34 (South Section), See notes.

Date: 10/30/2020

End Time: 1:15 PM

Start Time: 1:05 PM

Notetaker Name: John Black

Surface conditions: Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, more vegetation than west east alignment, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S15	0 to 15	0 to 30	Black silty Gravel Fill, some fine Gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist		Coke and Coal Fragments
		@30	<i>Groundwater seeping into test pit</i>	Black		Wet		
		@30	<i>Brown silty Clay</i>	Brown to slightly orange	Firm	Moist to Wet		Free water does not appear to be associated with the clay.



Test Pit No. TP-BCP-34 (South Section), See notes.

Date: 10/30/2020

End Time: 1:15 PM

Start Time: 1:05 PM

Notetaker Name: John Black

Surface conditions: Piles of Coke (moved to expose surface soils), Black Soil Surface, Wet to standing water, more vegetation than west east alignment, industrial debris (metal, RR Tie fragments)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S15 to S25	15 to 25	0 to 18	Black silty Gravel Fill, some fine Gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist		Coke and Coal Fragments
		18 to 26	Rail road ties (uniform layer suggesting rail track location). Black silty Gravel Fill, some fine Gravel.	Black	Loose to Medium Dense	Moist		
		26 to 40	Rust colored sandy Gravel fill (nodules).	Orange/rust	Loose to Medium Dense	Wet		Note, step change in depth to clay at S15, excavation for rail? Slag like appearance, location below ties suggest rail bed material.
		40 to 52	Large Gravel/cobble layer. Appearance of limestone fill. (Bridging layer for soft soils?)	Gray	Loose	Wet		Produced water quickly
		@52	Brown silty Clay	Brown to slightly orange	Firm	Moist to Wet		Water does not appear to be in clay.
TOTAL DEPTH		58						
Note:								
1. In addition to the West-East Section, two side test pits were excavated, one to the south (TP-BCP-34 (South)) into the area of the former foundations and one to the from the south to north (TP-BCP-34 (South-North)) across the former tracks along the east end of TP-BCP-35 (West-East).								



Test Pit No. TP-BCP-35 (East West Section), See notes.

Date: 10/30/2020

End Time: 3:45 PM

Start Time: 2:00 PM

Notetaker Name: John Black

Surface conditions: East to West Test Trench along Property line near large pile of Material and South of Tar Seep No. 2. Black Soils Surface, Wet to standing water, Bricks, concrete, industrial debris (metal, hose)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E30	0 to 30	0 to 17	Black silty Gravel Fill, some fine Gravel, roots and organic matter.	Black	Loose	Moist	0	Coal Fragments
		17 to 21	Brown silty Clay Fill	Brown	Stiff	Moist	0	Appears to have been a previous cover.
		21 to 25	Black silty Gravel Fill, some Coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		25 to 29	Orange/Rust sandy Gravel	Orange	Loose to Medium Dense	Wet	0	
		29 to 46	Black silty Gravel Fill, some Coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		@46	Brown silty Clay	Brown	Stiff	Moist	0	





Test Pit No. TP-BCP-35 (East West Section), See notes.

Date: 10/30/2020

End Time: 3:45 PM

Start Time: 2:00 PM

Notetaker Name: John Black

Surface conditions: East to West Test Trench along Property line near large pile of Material and South of Tar Seep No. 2. Black Soils Surface, Wet to standing water, Bricks, concrete, industrial debris (metal, hose)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E30 to E40	30 to 40	0 to 17	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist	0	Coal Fragments
		17 to 21	Brown silty Clay Fill	Brown	Stiff	Moist	0	Appears to have been a previous cover.
		21 to 24	Black silty Gravel Fill, some Coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		24 to 29	Blue silt-like Fill	Blue	Stiff	Wet	0	More Stained Soil-like than other Fill.
		29 to 46	Black silty Gravel Fill, some Coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		@46	Brown silty Clay	Brown	Stiff	Moist	0	



Test Pit No. TP-BCP-35 (East West Section), See notes.

Date: 10/30/2020

End Time: 3:45 PM

Start Time: 2:00 PM

Notetaker Name: John Black

Surface conditions: East to West Test Trench along Property line near large pile of Material and South of Tar Seep No. 2. Black Soils Surface, Wet to standing water, Bricks, concrete, industrial debris (metal, hose)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E40 to 60	40 to 60	0 to 17	Black silty Gravel Fill, some fine Gravel, roots and organic matter.	Black	Loose	Moist to very moist	0	Note: E52 to E60 Interpolated. Excavator sat there.
		17 to 21	Brown silty Clay Fill	Brown	Stiff	Moist	0	Appears to have been a previous cover.
		21 to 24	Black Silty Fill, some Coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		24 to 29	Blue silt-like Fill	Blue	Stiff	Wet	0	More Stained Soil-like than other Fill.
		29 to 36	Black silty Gravel Fill, some Coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		36 to 42	Blue silt-like Fill	Blue	Firm	Wet	0	More Stained Soil-like than other Fill.
		42 to 46	Black silty Gravel Fill, some coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		@46	Brown silty Clay	Brown	Firm	Moist to Wet	0	
	54 to 56	@42	Lump of hardened Tar/Coal Mixture	Black	Hard	N.A.	0	A piece of hardened tar (Approximately 2 feet wide and up to 4 inches thick) was embedded in the fill. The tar had plastic sheeting and other debris mixed in, possible spill cleanup materials?



Test Pit No. TP-BCP-35 (East West Section), See notes.

Date: 10/30/2020

End Time: 3:45 PM

Start Time: 2:00 PM

Notetaker Name: John Black

Surface conditions: East to West Test Trench along Property line near large pile of Material and South of Tar Seep No. 2. Black Soils Surface, Wet to standing water, Bricks, concrete, industrial debris (metal, hose)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E60 to 140	60 to 140	0 to 17	Black silty Gravel Fill, some fine Gravel, roots and organic matter. Significant debris (hose, wire rope, plastic, belting, metal)	Black	Loose	Moist to very moist		
		17 to 21	Brown silty Clay Fill	Brown	Stiff	Moist		Appears to have been a previous cover.
		21 to 24	Black silty Gravel Fill, some coal fragments	Black	Loose to Medium Dense	Moist to Wet		
		24 to 29	Blue silt-like Fill, fibrous, odor of decay,	Blue	Loose	Moist		More fill like.
		29 to 36	Black Silty Fill, some coal fragments	Black	Loose to Medium Dense	Moist to Wet		
		36 to 38	Blue silt-like Fill, fibrous, odor of decay,	Blue	Stiff	Wet		Brightest blue from E70 to E85.
		@38	Collected Sample from E90 for Metals, Cyanide, TCLP Metals (Leachate was to be tested for Cyanide, but the pH of the leachate did not allow analysis for Cn)					
	125 to 140	38 to 46	Black silty Gravel Fill, some coal fragments	Black	Loose to Medium Dense	Moist to Wet		Only excavated to clay from E115 to E140
	125 to 140	@46	Brown Silty Clay	Brown	Stiff	Moist to Wet		



Test Pit No. TP-BCP-35 (East West Section), See notes.

Date: 10/30/2020

End Time: 3:45 PM

Start Time: 2:00 PM

Notetaker Name: John Black

Surface conditions: East to West Test Trench along Property line near large pile of Material and South of Tar Seep No. 2. Black Soils Surface, Wet to standing water, Bricks, concrete, industrial debris (metal, hose)

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		52						
Note:								
1. In addition to the East-West Section, two site test pits were excavated, one to the north (TP-BCP-35 (North)) into the adjacent pile of material and one to the south (TP-BCP-35 (South)) toward the property line.								



Test Pit No. TP-BCP-35 (North Section), See notes.

Date: 10/30/2020

End Time: 2:35 PM

Start Time: 2:25 PM

Notetaker Name: John Black

Surface conditions: Test Pit toward the North into the eastern of the two large piles of fill, Southeast of Tar Seep No. 2. Test pit was excavated to determine if evidence of impact extended to under the pile.  
Pile of Fill, Heavily Overgrown, Black Soils Surface, grading from TP-BCP-35 up at a steep 2H:1V slope.

ID	Distance from Start	Depth (In.) - At Center of Pit/Slope	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S20	10	0	Black silty Gravel Fill, some fine gravel, roots and organic matter near the surface. Significant amounts of industrial debris throughout.	Black	Loose to Medium Dense	Moist to very moist		Significant industrial debris
		75	Blue Fibrous silt-like Fill	Blue	Firm	Wet		A 2- to 4-inch layer of the blue stained silt material from East West Section continuous at least 20 feet (horizontally) under fill pile.
TOTAL DEPTH								
		81	See Note 2					
Notes:								
1. In addiiton to the East-West Section originally planned, two site test pits were excavated, this one to the north (TP-BCP-35 (North)) into the adjacent pile of material and one to the south (TP-BCP-35 (South)) toward the property line. 2.The depth at the north end of the pit was in excess of 12 feet deep, as the slope of the pile rose away from the excavator. The pile was unstable at that point, so the depth could only be safely estimated.								



Test Pit No. TP-BCP-35 (South Section), See notes.

Date: 10/30/2020

End Time: 2:55 PM

Start Time: 2:45 PM

Notetaker Name: John Black

Surface conditions: Test Pit toward the South Property Line in the vicinity of the large piles of fill, Southeast of Tar Seep No. 2. Test pit was excavated to determine if evidence of impact extended to South Property Line.  
Pile of Fill, Heavily Overgrown, Black Soils Surface, grading to soil surface at south end. Gradual slope to south.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0	0	0 to 6	Topsoil, highly organic	Brown, dark brown	Loose	Moist	0	None
		6 to 24	Brown clayey Silt	Brown, dark brown	Loose	Moist to Very Moist	0	None
		@24	Brown to orange silty Clay	Brown	Firm	Moist	0	None
Evidence of waste materials disappears within 10 feet south of Test Pit. Neither waste or blue stained soils extend to within 10 feet if the property line.								



Test Pit No. TP-BCP-35 (South Section), See notes.

Date: 10/30/2020

End Time: 2:55 PM

Start Time: 2:45 PM

Notetaker Name: John Black

Surface conditions: Test Pit toward the South Property Line in the vicinity of the large piles of fill, Southeast of Tar Seep No. 2. Test pit was excavated to determine if evidence of impact extended to South Property Line.  
Pile of Fill, Heavily Overgrown, Black Soils Surface, grading to soil surface at south end. Gradual slope to south.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S20 (At East West Pit)	@20	0 to 17	Black silty Gravel Fill, some fine Gravel, roots and organic matter.	Black	Loose to Medium Dense	Moist to very moist	0	
		17 to 21	Brown silty Clay Fill	Brown	Firm	Moist	0	Appears to have been a previous cover.
		21 to 24	Black silty Gravel Fill, some Coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		24 to 29	Blue silt-like Fill	Blue	Firm	Wet	0	More Stained Soil-like than other Fill.
		29 to 36	Black silty Gravel Fill, some coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	Blue stained material does not extend to property line. Ends no less than 10 feet from property line.
		36 to 42	Blue silt-like Fill	Blue	Firm	Wet	0	More Stained Soil-like than other Fill.
		42 to 46	Black silty Gravel Fill, some Coal fragments	Black	Loose to Medium Dense	Moist to Wet	0	
		@46	Brown (slightly orange) silty Clay	Brown to slightly orange	Firm	Moist to Wet	0	



Test Pit No. TP-BCP-35 (South Section), See notes.

Date: 10/30/2020

End Time: 2:55 PM

Start Time: 2:45 PM

Notetaker Name: John Black

Surface conditions: Test Pit toward the South Property Line in the vicinity of the large piles of fill, Southeast of Tar Seep No. 2. Test pit was excavated to determine if evidence of impact extended to South Property Line.  
Pile of Fill, Heavily Overgrown, Black Soils Surface, grading to soil surface at south end. Gradual slope to south.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		52						
Samples								
TP-BCP-CNB-103020 - TCLP (Requested Cn in TCLP Leachate, but pH did not allow Cn analysis).								
TP-BCP-35 - Bright blue Fill from ~33-inches BGS - Cn and Metals								
Note:								
1. In addition to the East-West Section originally planned, two site test pits were excavated, one to the north (TP-BCP-35 (North)) into the adjacent pile of material and this one to the south (TP-BCP-35 (South)) toward the property line.								





Test Pit No. TP-BCP-36, See notes.

Date: 11/02/2020

End Time: 9:30 PM

Start Time: 8:25 AM

Notetaker Name: John Black

Surface conditions:

Black Sand Soil Surface, Heavy vegetation. This Test Trench was excavated in the Southeast corner of the site, AO17.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W18	0 to 18	0 to 30	Black and brown Sand with heavy root penetration, Loose.	Black	Loose	Moist	0	Much more of a uniformly graded sand than other fill on the property.
		30 to 36	Black and orange, clayey Silt, some Cobbles, Loose	Black	Loose	Moist	0	
		36 to 47	Black, silty clayey Sand, Loose. Some Orange Sand.	Black	Loose	Moist	0	
		47 to 72	Brown and Gray silty clayey Sand, Very Moist	Brown and Gray	Loose	Very Moist	0	
			Seepage at bottom of Sand.					
		@72	Brown silty Clay	Brown to slightly orange	Firm	Moist	0	Water does not appear to be in clay.



Test Pit No. TP-BCP-36, See notes.

Date: 11/02/2020

End Time: 9:30 PM

Start Time: 8:25 AM

Notetaker Name: John Black

Surface conditions: Black Sand Soil Surface, Heavy vegetation. This Test Trench was excavated in the Southeast corner of the site, AO17.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W18 to W65	18 to 65	0 to 24	Black and brown Sand with heavy root penetration, Loose.	Black	Loose	Moist	0	
		24 to 53	Orange Sand, with some Silt and little Clay.	Orange	Loose	Moist	0	
		53 to 55	Layer of 2-inch Gravel.	Gray	Loose	Moist	0	
		55 to 70	Orange Sand, with some Silt and little Clay.	Orange	Loose	Moist	0	
			Seepage at bottom of Sand.					
		@70	Brown and Gray silty Clay	Brown and Gray	Stiff	Moist	0	



Test Pit No. TP-BCP-36, See notes.

Date: 11/02/2020

End Time: 9:30 PM

Start Time: 8:25 AM

Notetaker Name: John Black

Surface conditions: Black Sand Soil Surface, Heavy vegetation. This Test Trench was excavated in the Southeast corner of the site, AO17.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W65 to W105	65 to 105	0 to 20	Black and Brown Sand with heavy root penetration, Loose.	Black and Brown	Loose	Moist	0	
		20 to 36	Black loose Sand with debris and industrial trash (belting, steel, plastic).	Black	Loose	Moist	0	Debris at 20 to 36 inches.
		36 to 55	Black with a little Brown silty Sand.	Black	Loose	Moist	0	
		55 to 70	Orange Sand, with some Silt and little Clay.	Orange	Loose	Moist	0	
			Seepage at top of clay.					
		@70	Brown silty Clay	Brown	Stiff	Moist	0	
		Clay Elevation is 601.43 Feet at W75						
Sample TP-BCP-36-01-11022020 Collected at W95.								
TOTAL DEPTH		78						
Notes:								
1. This West to East test trench was excavated parallel to the South property line toward the potential wetland in the Southeast corner of the property.								



Test Pit No. TP-BCP-38 (East West)

Date: 11/04/2020

End Time: 11:52 AM

Start Time: 10:50 AM

Notetaker Name: John Black

Surface conditions: Between the Bethlehem Collector Mains and Site 110. Black Coal, Fine Black silty Sand, Level Surface, multiple small surface evidence of Tar Seeps south of Test Trench.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E22	0 to 22	0 to 6	Black Loose silty Sand with roots.	Black	Soft/loose	Dry	0	
		6 to 40	Black silty Sand with debris (metal and brick). Moist	Black	Loose to Medium Dense	Moist	0	
		@40	Water seepage starting at 40-inches below ground surface, clear, minor sheen at first.					
		40 to Top of Clay	Brown to Rust colored silty Sand. Contains Nodules. Very Wet.	Brown	Medium Dense	Very Wet	0	
		@67	Brown and Gray silty Clay	Brown and Gray	Very Stiff	Moist	0	Measured at E22



Test Pit No. TP-BCP-38 (East West)

Date: 11/04/2020

End Time: 11:52 AM

Start Time: 10:50 AM

Notetaker Name: John Black

Surface conditions: Between the Bethlehem Collector Mains and Site 110. Black Coal, Fine Black silty Sand, Level Surface, multiple small surface evidence of Tar Seeps south of Test Trench.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E22 to E60	22 to 60	0 to 12	Black Loose Silty Sand with roots.	Black	Soft/loose	Dry	0	Some Pliable Tar at ground surface, none at depth.
		12 to Top of Clay	Black and Reddish Brown silty Sand with Nodules and Brick. Moist	Black	Loose to Medium Dense	Moist to Wet	0	
			<i>After 30 minutes, standing water was at 64-inches below ground surface.</i>					
			<i>Clay at E60 was 58-inches below ground surface.</i>					
		58	Brown and Gray silty Clay	Brown and Gray	Very Stiff	Moist	0	Measured at E60
TOTAL DEPTH		73						
Notes:								
	(1) The "standing" water was from the fill at 40-inches but did not fill the test pit, indicating to Inventum that it was a limited pocket of perched groundwater.							
	Sample:							
	Sample TP-BCP-38-01 collected at E28 from surface to 12-inches BGS.							



Test Pit No. TP-BCP-38 (South North)

Date: 11/04/2020

End Time: 11:52 AM

Start Time: 10:50 AM

Notetaker Name: John Black

Surface conditions: Excavation at the West end of the TP-BCP-38 (East West) test trench. Immediately west of the Northwest corner of Site 110. Wooded area.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E22	0 to 22	3	Hard Solidified Tar	Black	Hard	N.A.		
		24	Black silty Sand with Coal Pieces and rust colored Nodules.	Black	Loose to Medium Dense	Moist		
			Seepage starting at 24-inches below ground surface, clear, no sheen.					
TOTAL DEPTH		30						



Test Pit No. TP-BCP-39

Date: 11/10/2020

End Time: 8:50 AM

Start Time: 7:55 AM

Notetaker Name: John Black

Surface conditions: North Rail Bed, north of stockpiles of gravel and ties. Note: First attempt hit an intact rail east west trending 39 feet south of fence.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W10	0 to 10	0 to 43	Black silty Sand, some Dark Brown to Gray silty Clay Fill.	Light to dark Gray	Loose	Moist	0	Ties and a Concrete Wall in South Side of Test Trench
								Obstruction Prevented deeper pit from W0 to W10.
W10 to W42	10 to 42	0 to 12	Black silty Sand Fill	Black	Loose	Dry	0	
		12 to 43	Black and Brown silty Sand Fill.	Black and Brown	Medium Dense	Dry	0	
			Reddish Brown sandy Gravel from 30- to 40-inches BGS from W23 to W42.					
			Concrete Base @ 55-inches BGS from W32 to W36.					
		43 to 59	Brown and Reddish Brown Brick, Gravel and Sand Fill.	Brown and Reddish Brown	Dense	Wet	0	Significant Flow, flooded Test Trench
		@59	Gray and Brown silty Clay					Measured at W18
W43	42 to 44		Concrete Wall starting 10-inches BGS					



Test Pit No. TP-BCP-39

Date: 11/10/2020

End Time: 8:50 AM

Start Time: 7:55 AM

Notetaker Name: John Black

Surface conditions: North Rail Bed, north of stockpiles of gravel and ties. Note: First attempt hit an intact rail east west trending 39 feet south of fence.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W44 to W49	44 to 49	0 to 22	Black silty Sand Fill with Gravel size Coal.	Black	Medium dense	Dry	0	
		22 to 55	Mixed Brown silty Clay and Black silty Sand Fill	Brown and Black	Dense	Moist to Wet	0	Water seepage from base of Fill
		@55	Light Brown silty Clay	Light Brown	Stiff	Moist	0	
W49 to W100	49 to 100	0 to 22	Black silty Sand Fill with Gravel size Coal.	Black	Medium dense	Dry	0	
		22 to 54	Mixed Brown silty Clay and Black silty Sand Fill.	Brown and Black	Dense	Moist to Wet	0	Seepage from base of Fill
			Some Reddish Brown sandy Gravel (Nodules), seams, but not a continuous layer East of W71.					
		@54	Light Brown silty Clay	Light Brown	Stiff	Moist	0	
		Electrical Cable in North Wall @ W71						





Test Pit No. TP-BCP-39

Date: 11/10/2020

End Time: 8:50 AM

Start Time: 7:55 AM

Notetaker Name: John Black

Surface conditions: North Rail Bed, north of stockpiles of gravel and ties. Note: First attempt hit an intact rail east west trending 39 feet south of fence.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
	Top of Clay							
	W60	52	inches BGS					
	W80	50	inches BGS					
	W100	45	inches BGS					
TOTAL DEPTH		65						



Test Pit No. TP-BCP-40 (North South)

Date: 11/04/2020

End Time: 10:00 AM

Start Time: 8:12 AM

Notetaker Name: John Black

Surface conditions: Black Coal, Fine Black silty Sand, Level Surface From 45-South of the Property Line (Gas Line at 37 Feet from Property Line) toward Site 110.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N15	0 to 15	0 to 11	Black Loose silty Gravel, with Coal Fragments.	Black	Soft/loose	Dry	0	
		11 to 21	Reddish Brown silty sandy Gravel with Nodules).	Reddish Brown	Loose	Moist	0	
			Water seepage starting at 21-inches below ground surface					
		21 to 33	Brown silty Clay.	Brown	Stiff	Moist	0	
		33 to 52	Black Gravel with Brick, Coal pieces, Rail Road Tie.	Black	Dense	Wet	0	
		@52	Brown and Gray silty Clay	Brown and Gray	Very Stiff	Moist	0	Measured at N12
N15 to N52	15 to 52	0 to 11	Black Loose silty Gravel, with Coal Fragments.	Black	Soft/loose	Dry	0	
		11 to 21	Reddish Brown silty sandy Gravel with Nodules).	Reddish Brown	Loose	Moist	0	
			Seepage starting at 21-inches below ground surface					
		21 to 33	Brown silty Clay.	Brown	Stiff	Moist	0	
		33 to 64	Black sandy Gravel with Brick, large Concrete, belting and brick.	Black	Dense	Wet	0	
		@64	Brown and Gray silty Clay	Brown and Gray	Very Stiff	Moist	0	



Test Pit No. TP-BCP-40 (North South)

Date: 11/04/2020

End Time: 10:00 AM

Start Time: 8:12 AM

Notetaker Name: John Black

Surface conditions: Black Coal, Fine Black silty Sand, Level Surface From 45-South of the Property Line (Gas Line at 37 Feet from Property Line) toward Site 110.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N52 to N70	52 to 70	0 to 11	Black Loose silty Gravel, with Coal Fragments.	Black	Soft/loose	Dry	0	
		11 to 21	Reddish Brown silty sandy Gravel with Nodules.	Reddish Brown	Loose	Moist	0	
			Seepage starting at 21-inches below ground surface					
		21 to 33	Brown silty Clay. Layer, not base Clay	Brown	Stiff	Moist	0	
		33 to 60	Black sandy Gravel with Brick, large Concrete, belting and brick.	Black	Dense	Wet	0	
		60 to 64	Hard Solidified Tar, no NAPL	Black	Hard	N.A.	0	
		@64	Brown and Gray silty Clay	Brown and Gray	Very Stiff	Moist	0	Measured at N70

TOTAL  
DEPTH

70

Note:

Samples:

Sample TP-BCP-40-CL and duplicate sample TP-BCP-400-CL collected at N6, 53 to 55 -inches below ground surface.



Test Pit No. TP-BCP-41

 Date: 10/28/2020

 End Time: 3:30 PM

 Start Time: 1:45 PM

 Notetaker Name: Keith Adderley/John Black

 Surface conditions: Test Trench in AOI 6 - Water Treatment Area along the east side of the AOI, immediately west of the property line surrounding the flare. Dense Phragmites Cover, Black Soils Surface, Wet to standing water

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N15	0 to 15	0 to 24	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist	0	
		@24	Brown and Gray Very Stiff silty Clay	Brown and Gray	Very Stiff	Moist	0	
N15 to N35	15 to 35	0 to 18	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist	0	
		@18	Brown and Gray Very Stiff silty Clay	Brown and Gray	Very Stiff	Moist	0	
N15 to N55	15 to 55	0 to 12	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist	0	
		@12	Brown and Gray Very Stiff silty Clay	Brown and Gray	Very Stiff	Moist	0	
N55 to N100	55 to 100	0 to 12	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Moist to very moist	0	
		@12	Brown and Gray Very Stiff silty Clay	Brown and Gray	Stiff	Moisture Increasing	0	



Test Pit No. TP-BCP-41

Date: 10/28/2020

End Time: 3:30 PM

Start Time: 1:45 PM

Notetaker Name: Keith Adderley/John Black

Test Trench in AOI 6 - Water Treatment Area along the east side of the AOI, immediately west of the property line surrounding the flare. Dense Phragmites Cover, Black Soils Surface, Wet to standing water

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N100 to N110	100 to 110	0 to 12	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Wet	0	Standing water east of Test Pit
		@12	Brown and Gray Very Stiff silty Clay	Brown and Gray	Stiff	Moist	0	
N110 to N120	110 to 120	0 to 16	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Wet	0	Coal fragments in fill
		@16	Brown and Gray Very Stiff silty Clay	Brown and Gray	Stiff	Moist	0	
N120 to N140	120 to 140	0 to 16	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Wet	0	Coal fragments in fill
		@16	Brown and Gray Very Stiff silty Clay	Brown and Gray	Stiff	Moist	0	
N130	130	@12	Sample of Fill "TP-BCP-41-01"					
N140 to N155	140 to 155	0 to 24	Black silty Gravel Fill, some fine gravel, roots and organic matter.	Black	Soft/loose	Wet	0	Coal fragments in fill
		@24	Brown and Gray Very Stiff silty Clay	Brown and Gray	Stiff	Moist	0	
TOTAL DEPTH		30						



Test Pit No. TP-BCP-42 (North South)

Date: 11/04/2020

End Time: 1:48 PM

Start Time: 12:35 AM

Notetaker Name: John Black

Surface conditions: Test Trench along the Site 110 Boundary, approximately 10-feet west of the Site 110 boundary. Ground surface was black silty Sand, sparse vegetation.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N110	0 to 110	0 to 25	Black silty Sand, Medium Dense, Dry	Black	Medium Dense	Dry	0	Piece of Hard Tar at N0, no other tar in trench.
		25 to 45	Black with Reddish Brown silty Sand, Loose, Moist.	Black	Loose to Medium Dense	Moist	0	
		45 to 53	Reddish Brown silty Sand, granular Nodules, Very Wet, Loose	Brown	Loose	Moist	0	Some industrial debris
		@53	Yellow broken Brick seam.	Yellow	Dense	Moist		
		53 to Top of Clay	Reddish Brown silty Sand, granular Nodules, Very Wet, Loose	Brown	Loose	Very Wet	0	Measured at N0



Test Pit No. TP-BCP-42 (North South)

Date: 11/04/2020

End Time: 1:48 PM

Start Time: 12:35 AM

Notetaker Name: John Black

Surface conditions: Test Trench along the Site 110 Boundary, approximately 10-feet west of the Site 110 boundary. Ground surface was black silty Sand, sparse vegetation.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
		@80	Brown silty Clay	Brown	Stiff	Moist	0	
		@75						Measured at N20
		@74	Water level at 63-inches					Measured at N40
		@69	Water level at 59-inches					Measured at N60
		@66						Measured at N80
		@80						Measured at N100
		@79						Measured at N110
TOTAL DEPTH		85						

Note:

1. A supplemental 30 foot long test trench was excavated midway (east to west) between TP-BCP-38 (South North) and TP-BCP-42 (North South). There was no tar in that pit.



Test Pit No. TP-BCP-43

Date: 11/11/2020

End Time: 11:00 AM

Start Time: 10: 00 AM

Notetaker Name: John Black

Surface conditions: Test Trench West of Pipe Bridge, West of Warehouse. Immediately South of North Storm Sewer. Paved area with multiple foundations.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N5	0 to 5	0 to 6	Concrete Slab	Gray	Hard/Dense	Dry		
		6 to 20	Black Slag	Black	Dense	Wet	1.7	Strong Odor, noticeable 20-feet from trench. Dissipated within next 5 feet.
		@20	Foundation/Obstruction prevented further excavation					
N5 N20	5 to 20	0 to 4	Asphalt	Black	Hard			
		4 to 20	Black Heavily stained, Slag	Black	Dense	Wet		Strong Odor, noticeable 20-feet from trench. Dissipated within next 5 feet.
		20 to 40	Black slag with Nodules and significant amounts of brick and foundation debris.	Black	Dense	Wet	4.9	
		40 to 45	Dark Gray silty Clay	Dark Gray	Medium Stiff	Moist to Very Moist		
		@45	Brown and Gray silty Clay with Organic Matter	Brown and Gray	Stiff	Moist		





Test Pit No. TP-BCP-43

Date: 11/11/2020

End Time: 11:00 AM

Start Time: 10: 00 AM

Notetaker Name: John Black

Surface conditions: Test Trench West of Pipe Bridge, West of Warehouse. Immediately South of North Storm Sewer. Paved area with multiple foundations.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		51						
		Samples						
		TP-BCP-43-20 collected at 20-inches BGS @N15 Slag with Nodules, strong Odor, added TCLP VOCs						
		TP-BCP-43-CL collected at 46-inches BGS @ N15						



Test Pit No. TP-BCP-44

Date: 11/13/2020

End Time: 12:15 PM

Start Time: 11: 10 AM

Notetaker Name: John Black

Surface conditions: Test Trench through the Spill Area Next to the South Side of the Mixing Pad.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W54	0 to 54	0 to 26	Black silty sandy Gravel Coal	Black	Dense	Moist	0	Spill Excavation was from W8 to W15
		26 to 58	Hard Rust Orange and White and Gray Slag - Concrete-like.	Orange, White and Gray	Hard	Dry	0	Broke through at W19 to end of Trench
								Note: This material has been encountered during IRM activities at other locations west of this test trench along the north side of the former conveyor.
		@58	Light Brown and Gray mottled stiff Very Dry silty Clay	Light Brown	Hard, Brittle	Dry	0	Some seepage at top of Clay
		@59	Brown silty Clay	Brown	Stiff	Moist	0	No Gray Clay Layer, Measured at W19
		@64						Measured at W28
		@51						Measured at W40
		@54						Measured @ W54
TOTAL DEPTH		64						



Test Pit No. TP-BCP-44

Date: 11/13/2020

End Time: 12:15 PM

Start Time: 11: 10 AM

Notetaker Name: John Black

Surface conditions: Test Trench through the Spill Area Next to the South Side of the Mixing Pad.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
		Samples						
			TP-BCP-44-CL @ 66-inches BGS @ W28					
			TP-BCP-44-01 @10-inches BGS @ W12 (Below bottom of Spill Excavation)					
			TP-BCP-440-01 @10-inches BGS @ W12 (Below bottom of Spill Excavation)					Duplicate
			TP-BCP-44A - Light Gray and Black Mottled Slag					NORM Analysis
			TP-BCP-44B - Rust, Black and Gray Mottled Slag					NORM Analysis



Test Pit No. TP-BCP-45

Date: 11/12/2020

End Time: 12:40 PM

Start Time: 12: 10 PM

Notetaker Name: John Black

Surface conditions: Test Trench under the North South Conveyor and Utility Structure, Near the Coke Unloading and Substation. Surface is reworked slag that was seeded. Some grass emerging.  
Western Limit of AOI4 at the Eastern Limit of AOI3.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N60	0 to 60	0 to 10	Black silty Gravel Coke	Black	Loose	Moist	0	Reworked surface after removal of coke rail car.
		10 to 28	Railroad Ties and Gray Ballast, silty Coke fines throughout.	Black and Gray	Medium Dense	Wet	0	Completely saturated with water, flows in as fast as excavation proceeds.
		@28	Brown silty Clay	Brown	Very Stiff, brittle	Dry	0	Crumbles, drier with higher silt content than other Clay encountered.
		Note: Railroad Ties throughout. Treated but no tar coating/accumulation.						
TOTAL DEPTH		34						
		Samples						
		TP-BCP-45-01 @ 6-inches BGS @ N16						
		TP-BCP-45-CL @ 30-inches BGS @ N16						



Test Pit No. TP-BCP-46 South (North South)

Date: 11/04/2020

End Time: 9:00 AM

Start Time: 7:45 AM

Notetaker Name: John Black

Surface conditions: Starting at centerline at South Side of RC10, excavated south. Ground surface, slightly undulating Coke.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N0 to N15	0 to 15	0 to 12	Black silty Sand with Gravel.	Black	Loose to Medium Dense	Dry	0	
		12 to 28	Black silty Sand	Black	Loose to Medium Dense	Dry	0	
			Seepage starting at 28-inches below ground surface.					
		28 to 48	Black sandy Gravel, Wet.	Black	Medium Dense	Wet	1	
		48 to Top of Clay	Large Pieces of Coke, with finer Coke Sand, White discoloration.	Black with white coating.	Dense	Very Wet	1	Significant seepage between N0 and N15.
		@84	Brown and Gray silty Clay	Brown and Gray	Stiff	Moist		84-inch depth measured at N0, at N15 Clay rises to 71-inches Below Ground Surface



Test Pit No. TP-BCP-46 South (North South)

Date: 11/04/2020

End Time: 9:00 AM

Start Time: 7:45 AM

Notetaker Name: John Black

Surface conditions: Starting at centerline at South Side of RC10, excavated south. Ground surface, slightly undulating Coke.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N15 to N47	15 to 47	0 to 20	Fine Black silty Sand with Coke pieces.	Black	Loose to Very Loose	Dry	0	
		20 to 28	Black silty Sand, Gravel sized Coke.	Black	Loose to Medium Dense	Dry		
		28 to 36	Black and Brown Gravel with Sand.	Black and Brown	Loose to Medium Dense	Moist		
			Minor seepage starting at 36-inches below ground surface. Far less than in the N0 to N15 section.					
		36 to Top of Clay	Dense Black and Brown Sand size Fill with minor debris.	Black	Medium Dense	Wet		
		@73	Light Brown silty Clay	Light Brown	Stiff	Moist		Measured at N24
		@69						Measured at N40



Test Pit No. TP-BCP-46 South (North South)

Date: 11/04/2020

End Time: 9:00 AM

Start Time: 7:45 AM

Notetaker Name: John Black

Surface conditions: Starting at centerline at South Side of RC10, excavated south. Ground surface, slightly undulating Coke.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
N47 to N68	47 to 68	0 to 20	Fine Black silty Sand with Coke pieces.	Black	Loose to Very Loose	Dry	0	
		20 to 28	Black silty Sand, Gravel sized Coal.	Black	Loose to Medium Dense	Dry	0	
		28 to 51	Black and Brown Gravel with Sand.	Black and Brown	Loose to Medium Dense	Moist	0	
		51 to 55	Brown silty Clay	Brown	Stiff	Wet	0	
		55 to 70	Dense Fill, mostly Brick.	Black, Brown, Red Yellow	Dense	Wet	0	Between N52 and N57, White hard clay material (Former Battery Coating), 6-inches thick.
		70 to 72	Hard Solidified Tar Mixture with Coal fragments	Black	Hard	N.A.	0	
		@72	Light Brown silty Clay	Light Brown	Very Stiff	Moist		Measured at N50, Minor seepage.



Test Pit No. TP-BCP-46 South (North South)

Date: 11/04/2020

End Time: 9:00 AM

Start Time: 7:45 AM

Notetaker Name: John Black

Surface conditions: Starting at centerline at South Side of RC10, excavated south. Ground surface, slightly undulating Coke.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		90						
								Clay at 71-inches at N63.
Note:								
	1. The whitish clay material was subjected to a field pH shake test. The pH was 7.							





Test Pit No. TP-BCP-46 North (West East)

Date: 11/04/2020

End Time: 10:10 AM

Start Time: 9:10 AM

Notetaker Name: John Black

Surface conditions: Starting at west end of RC10, 15 feet North of RC10, excavated west to east. Groundsurface, flat Black silty Sand, debris..

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W0 to W17	0 to 17	0 to 48	Black silty Sand with Bricks.	Black	Loose to Medium Dense	Very Moist	0	
		46 to 52	Blue and White silty Clay consistency	Blue	Soft	Very Moist	0	
			Sample TP-BCP-46 N-46 Collected for Cyanide and Metals					
		52 to 72	Black sandy Gravel, Wet.					
		48	Significant seepage between W0 and W17. Seepage had a blue tinge. Collected Grab Sample of water TP-BCP-46-W17 for Cyanide and SVOCs.				0	
W17 to W25	17 to 25	0 to 30	Black silty Sand with Bricks.				0	
		@30	Hard Large Concrete obstruction, could not be excavated.					



Test Pit No. TP-BCP-46 North (West East)

Date: 11/04/2020

End Time: 10:10 AM

Start Time: 9:10 AM

Notetaker Name: John Black

Surface conditions: Starting at west end of RC10, 15 feet North of RC10, excavated west to east. Groundsurface, flat Black silty Sand, debris..

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
W25 to W47	25 to 47	0 to 24	Black silty Sand with Bricks.				0	
		24 to 48	Reddish Brown silty Sand with Debris, Moist.				0	
		48 to 60	Dark Brown silty Sand, minor Debris.				0	Seepage at this depth had dark heavy sheen (potential NAPL)
		@48	Significant seepage between W35 and W40. Seepage had a dark sheen. Collected Grab Sample of water TP-BCP-46-W33 for Cyanide and SVOCs.				0	
		60 to 72	Dark Brown to Black silty Sand and Fine Gravel.				0	
		@72	Brown and Gray silty Clay				0	Significant seepage at top of Clay.
TOTAL DEPTH		78						



Test Pit No. TP-BCP-46 North (South North)

Date: 11/04/2020

End Time: 11:20 AM

Start Time: 10:20 AM

Notetaker Name: John Black

Surface conditions: Starting 10 feet east of the West to East Trench, excavated south to north. Groundsurface, flat Black silty Sand, debris. Gap was left to attempt to excavate without flow from West to East Trench.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S40	0 to 40	0 to 10	Black silty Sand with roots.	Black	Loose	Dry	0	
		10 to 24	Black silty sandy Gravel, Medium Dense, Moist.	Black	Medium Dense	Moist	0	
		24 to 48	Black silty sandy coarser Gravel with Nodules, Medium Dense, Moist.	Black	Medium Dense	Wet	0	
			Sample TP-BCP-46-S12-2448 at 24- to 48 inches at S12					
		48 to 58	Brown silty Clay	Brown	Dense	Wet	0	
		58 to 77	Black Gravel Fill, Very Wet	Black	Dense	Very Wet	0	Significant Seepage
		@77	Brown silty Clay	Brown	Dense	Wet	0	
			Sample TP-BCP-46-CL at 72 inches at S0					



Test Pit No. TP-BCP-46 North (South North)

Date: 11/04/2020

End Time: 11:20 AM

Start Time: 10:20 AM

Notetaker Name: John Black

Surface conditions: Starting 10 feet east of the West to East Trench, excavated south to north. Groundsurface, flat Black silty Sand, debris. Gap was left to attempt to excavate without flow from West to East Trench.

ID	Distance from Start	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S40 to S60	40 to 60	0 to 10	Black silty Sand with roots.	Black	Loose	Dry	0	
		10 to 24	Black silty sandy Gravel, Medium Dense, Moist.	Black	Medium Dense	Moist		
		24 to 48	Black silty sandy coarser Gravel with Nodules, Medium Dense, Moist.	Black	Medium Dense	Moist		Significant amounts of large concrete debris.
		48 to 58	Brown silty Clay	Brown	Dense	Wet		
		58 to 70	Black Gravel Fill, Very Wet	Black	Dense	Very Wet		Significant Seepage
		@70	Brown silty Clay	Brown	Dense	Wet	0	
TOTAL DEPTH		83						



Test Pit No. TP-BCP-47

Date: 11/18/2020

End Time: 8:45 AM

Start Time: 7: 20 AM

Notetaker Name: John Black

Surface conditions: Test Trench East Northeast of the Heavy Equipment Maintenance Building in an Area Reputedly used for Parking Heavy Mobile Equipment During TCC Operations. Not in RIWP.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
E0 to E60	0 to 60	0 to 4	Black laminated/crusty silty Sand	Black	Dense	Dry	0	Had appearance of materials that had been desiccated through multiple wet/dry cycles.
		4 to 21	Black Loose silty Sand, slight petroleum odor	Black	Loose	Very Dry	0	Slight petroleum odor
		21 to 27	Reddish Brown silty sandy Gravel (Nodules)	Reddish Brown	Dense	Moist	0	Defined relatively uniform layer.
		27 to 29	Black Loose silty Sand Fill with some Brick	Black	Loose	Moist	0	
		29 to 46	Gray Stiff Wet silty Clay	Gray	Stiff	Wet	0	
		@46	Brown Stiff silty Clay	Brown	Stiff	Moist	0	
TOTAL DEPTH		52						
		Samples						
			TP-BCP-47-01 @ 3-inches BGS @E7					
			TP-BCP-47 @24-inches BGS @ E53, Nodule sample for NORM Testing					
			TP-BCP-47 -CL @35-inches BGS @ E53					



Test Pit No. TP-BCP-48

Date: 11/18/2020

End Time: 9:40 AM

Start Time: 8: 55 AM

Notetaker Name: John Black

Surface conditions: Test Trench immediately West of Site 110, Seep Area No. 1. Not in RIWP, added to verify no tar migrating from Site 110.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S24	0 to 24	0 to 21	Black silty sandy Gravel Coke	Black	Dense	Dry	0	
		21 to 47	Random Fill, Black, Yellow and Red Brick, Metal, Wood and Plastic.	Varied	Dense	Moist	0	
		47 to 62	Reddish Brown to Dark Gray silty sandy Gravel (some Nodules)	Reddish Brown	Dense	Very Wet	0	Seepage throughout
		62 to Top of Clay	Black silty Sand and Gravel	Black	Dense	Wet, not flowing	0	Some with Very Strong Odor, Stained.
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	0	
		@104						Measured @ S14



Test Pit No. TP-BCP-48

Date: 11/18/2020

End Time: 9:40 AM

Start Time: 8: 55 AM

Notetaker Name: John Black

Surface conditions: Test Trench immediately West of Site 110, Seep Area No. 1. Not in RIWP, added to verify no tar migrating from Site 110.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S24 to S65	24 to 65	0 to 21	Black silty sandy Gravel Coke	Black	Dense	Dry	0	
		21 to 47	Random Fill, Black, Yellow and Red Brick, Metal, Wood and Plastic.	Varied	Dense	Moist	0	Large Metal Object S50 to S59 @24-inches BGS
		47 to 62	Reddish Brown to Dark Gray silty sandy Gravel (some Nodules)	Reddish Brown	Dense	Very Wet	0	Seepage throughout
		62 to Top of Clay	Black silty Sand and Gravel. Debris and Industrial Fill more predominant.	Black	Dense	Very Wet, Flowing North of S24	0	Nodules from 56- to 68-inches BGS from S62 to End, Flow flooded Trench
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	0	
		@110						Measured @ E32
		@104						Measured @ E40
		@100						Measured at S65
TOTAL DEPTH		110	Estimated					
		Samples						
			TP-BCP-48-100 @ 100-inches BGS @ S15					



Test Pit No. TP-BCP-49

Date: 07/28/20201

End Time: 11:30 AM

Start Time: 8: 10 AM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately north of West end of TP-BCP-35. Searching for limits of blue fill. Debris and coke pile was moved to allow test pit excavation. Pile contained mostly coke and coke breeze (Black silty Sand) but limited amounts of industrial debris (plastic and belting).

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S38	0 to 38	0 to 24	Dark Gray to Black silty Sand Fill	Dk. Gray to Black	Medium Dense	Dry	NS	
		24 to 40+	Dark Brown silty clayey Sand. Some gravel sized pieces of hard tar.	Varied	Dense	Moist	NS	
		40+ to Top of Clay	6-inch thick layer of Bright Blue silt Fill	Blue	Dense	Moist	NS	Contains wood fibers, likely from purifier boxes.
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log





Test Pit No. TP-BCP-49

Date: 07/28/20201

End Time: 11:30 AM

Start Time: 8: 10 AM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately north of West end of TP-BCP-35. Searching for limits of blue fill. Debris and coke pile was moved to allow test pit excavation. Pile contained mostly coke and coke breeze (Black silty Sand) but limited amounts of industrial debris (plastic and belting).

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S38 to S50	38 to 50	0 to 18	Black silty sandy Gravel Coke fill with miscellaneous wood, plastic and clay.	Black	Dense	Dry	NS	
		18 to 36	Black silty Sand Fill	Black	Dense	Dry	NS	
		36 to 40	Black crystalline Tar	Black	Dense	NA	NS	
		40-70	Black silty Sand Fill, some Brick	Black	Dense	Moist	NS	
		70 to Top of Clay	Greenish Blue Silt with wood fibers.	Greenish Blue	Dense	Moist	NS	Minor seepage
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log



Test Pit No. TP-BCP-49

Date: 07/28/20201

End Time: 11:30 AM

Start Time: 8: 10 AM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately north of West end of TP-BCP-35. Searching for limits of blue fill. Debris and coke pile was moved to allow test pit excavation. Pile contained mostly coke and coke breeze (Black silty Sand) but limited amounts of industrial debris (plastic and belting).

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S50 to S117	50 to 117	1 to 12	Black silty Sand Fill with root structure	Black	Dense	Dry	NS	
		12 to 30	Brown silty Clay Fill	Brown	Dense	Dry	NS	
	50 to 80	30 to 36	Layer of intermixed Black silty Sand, Crystalline Tar, and Pliable Tar	Black	Dense	NA	NS	Between S50 and S80
	50 to 80	36 - 60	Black and Brown silty Sand Fill	Black	Dense	Moist	NS	
	80 to 117	30 to 60						
		60 to Top of Clay	Greenish Blue Silt with wood fibers.	Greenish Blue	Dense	Moist	NS	Minor seepage
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log



Test Pit No. TP-BCP-49

Date: 07/28/20201

End Time: 11:30 AM

Start Time: 8: 10 AM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately north of West end of TP-BCP-35. Searching for limits of blue fill. Debris and coke pile was moved to allow test pit excavation. Pile contained mostly coke and coke breeze (Black silty Sand) but limited amounts of industrial debris (plastic and belting).

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	
		@43						Measured @ S0
		@56						Measured @ S20
		@74						Measured at S40
		@94						Measured at S60
		@96						Measured at S80
		@82						Measured at S100
		@73						Measured at S117



Test Pit No. TP-BCP-49

Date: 07/28/20201

End Time: 11:30 AM

Start Time: 8: 10 AM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately north of West end of TP-BCP-35. Searching for limits of blue fill. Debris and coke pile was moved to allow test pit excavation. Pile contained mostly coke and coke breeze (Black silty Sand) but limited amounts of industrial debris (plastic and belting).

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		79						
		Samples						
		TP-BCP-49-28 @ 28-inches BGS @ S13 (Black dense Fill with Solidified Tar Gravel)						
		TP-BCP-49-48 @ 48-inches BGS @ S13 (Blue dense Silt with wood fibers)						
		TP-BCP-49-CL @ 75-inches BGS @ S40 (Clay)						
		TP-BCP-49-PT @ 38-inches BGS @ SS45 (Pliable Tar)						
		TP-BCP-49-CT @ 36-inches BGS @ SS45 (Crystalline Tar)						



Test Pit No. TP-BCP-50

Date: 07/28/20201

End Time: 2:50 PM

Start Time: 1:00 PM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately north of East end of TP-BCP-35. Searching for limits of blue fill. Debris and coke pile was moved to allow test pit excavation. Pile contained mostly coke and coke breeze (Black silty Sand) but more industrial debris (plastic and belting) that the western pile at TP-BCP-49.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S20	0 to 20	0 to 36	Dark Gray to Black silty Sand Fill (some plastic)	Dk. Gray to Black	Medium Dense	Dry	NS	Plastic
		36 to 48	Blue Silt with wood fibers	Blue	Dense	Moist	NS	Thickness varied 8- to 12 inches
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log
S20 to S50	20 to 50	0 to 30	Dark Gray to Black silty Sand Coke fill with miscellaneous plastic and industrial debris.	Dar Gray to Black	Dense	Dry	NS	
		30 to 36	Lt. Brown silty Sand Fill	Lt. Brown	Dense	Dry	NS	
		36 to 48	Blue Silt with wood Fibers	Blue	Dense	NA	NS	
		48 to Top of Clay	Brown to Gray silty clayey Sand Fill	Brown to Gray	Dense	Moist	NS	
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log



Test Pit No. TP-BCP-50

Date: 07/28/20201

End Time: 2:50 PM

Start Time: 1:00 PM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately north of East end of TP-BCP-35. Searching for limits of blue fill. Debris and coke pile was moved to allow test pit excavation. Pile contained mostly coke and coke breeze (Black silty Sand) but more industrial debris (plastic and belting) that the western pile at TP-BCP-49.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S50 to S85	50 to 85	0 to 12 to 30	Dark Gray to Black silty clayey Sand Fill with debris (Formerly covered by pile of materials).	Black	Dense	Dry	NS	Variation due to ground surface changes, not bottom elevation changes
		12 to 24 to 42	12-inch layer of Blue Silt with wood Fibers	Blue	Dense	Dry	NS	
			18-inch layer of Brown silty Clay Fill	Brown	Dense	Moist	NS	
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log
S85 to S125	85 to 125	0 to 12 to 30	Dark Gray to Black silty clayey Sand Fill with debris (Formerly covered by pile of materials).	Black	Dense	Dry	NS	Variation due to ground surface changes, not bottom elevation changes
			30-inch layer of Brown silty Clay Fill	Brown	Dense	Moist	NS	No Blue layer past S85
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log



Test Pit No. TP-BCP-50

Date: 07/28/20201

End Time: 2:50 PM

Start Time: 1:00 PM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately north of East end of TP-BCP-35. Searching for limits of blue fill. Debris and coke pile was moved to allow test pit excavation. Pile contained mostly coke and coke breeze (Black silty Sand) but more industrial debris (plastic and belting) that the western pile at TP-BCP-49.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	
		@59						Measured @ S0
		@70						Measured @ S20
		@72						Measured at S40
		@70						Measured at S60
		@46						Measured at S80
		@46						Measured at S100
		@47						Measured at S120
TOTAL DEPTH		76						
		Samples						
		TP-BCP-50-35 @ 35-inches BGS @ S20 (Black Dense silty Sand Fill)						
		TP-BCP-50-51 @ 51-inches BGS @ S20 (Hard Blue Silt with wood Fiber Fill)						
		TP-BCP-50-CL @ 71-inches BGS @ S25 (Clay)						



Test Pit No. TP-BCP-51

Date: 07/28/20201

End Time: 4:30 PM

Start Time: 3:10 PM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately south of the east end of TP-BCP-34, investigating the presence of crystallizing tar in TP-BCP-34.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S15	0 to 15	0 to 30	Dark Gray to Black silty Sand Fill	Dk. Gray to Black	Medium Dense	Dry	NS	
		30 to 32	Thin Greenish Blue Silt	Greenish Blue	Dense	Moist	NS	
		32 to Top of Clay	Reddish Brown Sandy Gravel (Nodules)	Reddish Brown	Dense	Wet	NS	Flooded TP
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log
S15 to S44	15 to 44	0 to 30	Dark Gray to Black silty Sand Fill	Dk. Gray to Black	Medium Dense	Dry	NS	
		30 to Top of Clay	Reddish Brown Sandy Gravel (Nodules)	Reddish Brown	Dense	Wet	NS	Flooded TP, Greenish Blue Silt not present.
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log





Test Pit No. TP-BCP-51

Date: 07/28/20201

End Time: 4:30 PM

Start Time: 3:10 PM

Notetaker Name: John Black

Surface conditions:

Test Trench immediately south of the east end of TP-BCP-34, investigating the presence of crystalline tar in TP-BCP-34.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		72						
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	
		@66						Measured @ S0
		@57						Measured @ S20
		@58						Measured at S40
		@58						Measured at S44



Test Pit No. TP-BCP-52

Date: 07/29/2020

End Time: 11:30 AM

Start Time: 10:00 AM

Notetaker Name: John Black

Surface conditions: Test Trench immediately east of the property line shared with the former Plastics Plant near the flare. Started at the edge of the rail track and proceeded north. Ground surface was heavily over grown with phragmites and invasive shrubs. The purpose of this test pit was to investigate the possibility that there were two buried utility lines in parallel with the south rail. No pipes were encountered.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
S0 to S3	0 to 15	0 to 6	Black silty Sand Fill with dense root structure.	Black	Medium Dense	Dry	NS	
		6 to 12	Black silty Sand with significant pliable tar	Black	Dense	Moist	NS	Note: despite cool rainy weather, the tar began moving after 30-minutes.
		12 to Top of Clay	Dark Gray to Black silty Sand Fill, some Gravel-size Coal Fragments.	Dark Gray to Black	Dense	Moist	NS	
		@38	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log
S0 to S3	0 to 15	0 to 6	Black silty Sand Fill with dense root structure.	Black	Medium Dense	Dry	NS	
		6 to 12	Black silty Sand	Black	Dense	Moist	NS	No significant pliable tar after S3.
		12 to Top of Clay	Dark Gray to Black silty Sand Fill, some Gravel-size Coal Fragments.	Dark Gray to Black	Dense	Moist	NS	
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	See end of Log



Test Pit No. TP-BCP-52

Date: 07/29/20201

End Time: 11:30 AM

Start Time: 10:00 AM

Notetaker Name: John Black

Surface conditions: Test Trench immediately east of the property line shared with the former Plastics Plant near the flare. Started at the edge of the rail track and proceeded north. Ground surface was heavily over grown with phragmites and invasive shrubs. The purpose of this test pit was to investigate the possibility that there were two buried utility lines in parallel with the south rail. No pipes were encountered.

ID	Distance from Start (Ft.)	Depth (In.)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste /Notes
TOTAL DEPTH		44						
		Varies	Brown Stiff silty Clay	Brown	Stiff	Moist	NS	
		@38						Measured @ S0
		@38						Measured @ S20
		@32						Measured at S40
		@32						Measured at S60
		@30						Measured at S68



Test Pit No. TP-BCP-53 (South property line)

Date: 5/20/2022

End Time: 1330

Start Time: 1300

Notetaker Name: Peter Zaffram

Former location of South Rail Line. Area appears to be coke breeze, Black Soil Surface, Low moisture, some vegetation.

Surface conditions: Approximately 3-5 feet off south property line

ID	Distance from Start	Depth (in)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste
W0 to E25	0-25	0-10	Black Sand and Gravel, fine to coarse grain, medium dense, loose.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal
		10-26	Black Sand and Gravel, fine to coarse grain, medium dense, loose, with few red slag nodules.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal, with few red slag nodules
		26-30	Gray silty Clay, medium stiff, medium plasticity, medium moisture, with some red slag nodules.	Gray with red veins of slag	Medium Stiff	Medium Moisture	-	Red slag nodules
		30-36	Red Clay, stiff, medium to low plasticity, medium moisture	Reddish Brown	Stiff	Medium Moisture	-	N/A



Test Pit No. TP-BCP-53 (South property line)

Date: 5/20/2022

End Time: 1330

Start Time: 1300

Notetaker Name: Peter Zaffram

Former location of South Rail Line. Area appears to be coke breeze, Black Soil Surface, Low moisture, some vegetation.

Surface conditions: Approximately 3-5 feet off south property line

ID	Distance from Start	Depth (in)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste
E2 to E58	25-58	0-10	Black Sand and Gravel, fine to coarse grain, medium dense, loose.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal
		10-26	Black Sand and Gravel, fine to coarse grain, medium dense, loose, with few red slag nodules.	Black	Medium Dense/ Loose	Medium Moisture	-	Coke breeze and Coal, with few red slag nodules
		26-30	Gray silty Clay, medium stiff, medium plasticity, medium moisture, with some red slag nodules.	Gray with red veins of slag	Medium Stiff	Medium Moisture	-	Red slag nodules
		30-36	Red Clay, stiff, medium to low plasticity, medium moisture	Reddish Brown	Stiff	Medium Moisture	-	N/A
TOTAL DEPTH		42						
Notes: Trench running west to east approximately 3-5 feet off the south property line. No mobile tar was observed in the entire 58 foot trench.								



Test Pit No. TP-BCP-54 (South property line)

Date: 5/20/2022

End Time: 1415

Start Time: 1345

Notetaker Name: Peter Zaffram

Former location of South Rail Line. Area appears to be coke breeze, Black Soil Surface, Low moisture, some vegetation.

Surface conditions: Approximately 5-10 feet off south property line, running south to north

ID	Distance from Start (ft)	Depth (in)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste
S0 to N10	0-10	0-10	Black Sand and Gravel, fine to coarse grain, medium dense, loose.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal
		10-26	Black Sand and Gravel, fine to coarse grain, medium dense, loose, with few red slag nodules.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal, with few red slag nodules
		26-30	Gray silty Clay, medium stiff, medium plasticity, medium moisture, with some red slag nodules and some breeze.	Gray with red veins of slag	Medium Stiff	Medium Moisture	-	Red slag nodules
		30-36	Red Clay, stiff, low plasticity, medium moisture	Reddish Brown	Stiff	Medium Moisture	-	N/A
N10 to N20	10-20	0-10	Black Sand and Gravel, fine to coarse grain, medium dense, loose.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal
		10-26	Black Sand and Gravel, fine to coarse grain, medium dense, loose, with few red slag nodules.	Black	Medium Dense/ Loose	Medium Moisture	-	Coke breeze and Coal, with few red slag nodules
		26-30	Gray silty Clay, medium stiff, medium plasticity, medium moisture, with some red slag nodules and some breeze.	Gray with red veins of slag	Medium Stiff	Medium Moisture	-	Red slag nodules
		30-36	Red Clay, stiff, low plasticity, medium moisture	Reddish Brown	Stiff	Medium Moisture	-	N/A



Test Pit No. TP-BCP-54 (South property line)

Date: 5/20/2022

End Time: 1415

Start Time: 1345

Notetaker Name: Peter Zaffram

Former location of South Rail Line. Area appears to be coke breeze, Black Soil Surface, Low moisture, some vegetation.

Surface conditions: Approximately 5-10 feet off south property line, running south to north

ID	Distance from Start (ft)	Depth (in)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste
N20 to N30	20-30	0-10	Black Sand and Gravel, fine to coarse grain, medium dense, loose.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal
		10-26	Black Sand and Gravel, fine to coarse grain, medium dense, loose, with few red slag nodules.	Black	Medium Dense/ Loose	Medium Moisture	-	Coke breeze and Coal, with few red slag nodules
		26-30	Gray silty Clay, medium stiff, medium plasticity, medium moisture, with some red slag nodules and some breeze.	Gray with red veins of slag	Medium Stiff	Medium Moisture	-	Red slag nodules
		30-36	Red Clay, stiff, low plasticity, medium moisture	Reddish Brown	Stiff	Medium Moisture	-	N/A



Test Pit No. TP-BCP-54 (South property line)

Date: 5/20/2022

End Time: 1415

Start Time: 1345

Notetaker Name: Peter Zaffram

Surface conditions: Former location of South Rail Line. Area appears to be coke breeze, Black Soil Surface, Low moisture, some vegetation. Approximately 5-10 feet off south property line, running south to north

ID	Distance from Start (ft)	Depth (in)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste
N30 to N32		0-10	Black Sand and Gravel, fine to coarse grain, medium dense, loose.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal
		10-24	Black Sand and Gravel, fine to coarse grain, medium dense, loose, with few red slag nodules.	Black	Medium Dense/ Loose	Medium Moisture	-	Coke breeze and Coal, with few red slag nodules
		24-28	Black Sand and Gravel, fine to coarse grain, medium dense, loose, with few red slag nodules. High viscosity tar observed, about 4 inches thick	Black	Medium Dense/ Loose	Medium Moisture		Coke breeze and Coal, with few red slag nodules. Some highly viscous tar observed approximately 4 inches thick
		28-30	Gray silty Clay, medium stiff, medium plasticity, medium moisture, with some red slag nodules and some breeze.	Reddish Brown	Stiff	Medium Moisture	-	N/A
		30-36	Red Clay, stiff, low plasticity, medium moisture	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal





Test Pit No. TP-BCP-54 (South property line)

Date: 5/20/2022

End Time: 1415

Start Time: 1345

Notetaker Name: Peter Zaffram

Surface conditions: Former location of South Rail Line. Area appears to be coke breeze, Black Soil Surface, Low moisture, some vegetation. Approximately 5-10 feet off south property line, running south to north

ID	Distance from Start (ft)	Depth (in)	Soil Type	Color	Consistency	Moisture	PiD	Evidence of Waste
N32 to N40	32-40	0-10	Black Sand and Gravel, fine to coarse grain, medium dense, loose.	Black	Medium Dense/ Loose	Low Moisture	-	Coke breeze and Coal
		10-26	Black Sand and Gravel, fine to coarse grain, medium dense, loose, with few red slag nodules.	Black	Medium Dense/ Loose	Medium Moisture	-	Coke breeze and Coal, with few red slag nodules
		26-30	Gray silty Clay, medium stiff, medium plasticity, medium moisture, with some red slag nodules and some breeze.	Gray with red veins of slag	Medium Stiff	Medium Moisture	-	Red slag nodules
		30-36	Red Clay, stiff, low plasticity, medium moisture	Reddish Brown	Stiff	Medium Moisture	-	N/A
Notes: Trench running north south. A small section of highly viscous tar was observed between 30 to 32 feet from south property line.								

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## **APPENDIX E - FOCUSED RI TEST PIT LOGS**

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**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>09/29/20 - 09/29/20</u>	<b>Test Pit ID:</b>	<u>TP-01-2020</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Grass</u>
<b>Location Description:</b>	<u>In southeast corner of site, on top of berm running along eastern boundary</u>		
<b>Dimensions:</b>	<u>15</u> ft long, <u>2</u> ft wide, <u>10.6</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 2	Stiff, brown, SILT, some coarse, angular Gravel, trace Clay, fine Sand, and organics. PID: 0.8 ppm	TP-01-2020-0.0-0.16-09292020
		TP-01-2020-0.16-1.0-09292020
		NA
2 - 4	Dry, light brown, Fill - SILT, some coarse, angular Gravel, trace Clay, fine Sand, organics, and plastic (piece of plastic at 1.5' bgs), some brick at 2' bgs. PID: 0.6 ppm	TP-01-2020-2.0-3.0-09292020
4 - 5.5	Stiff, reddish brown with some gray mottling, Fill - Blocky CLAY, little fine, rounded Gravel, trace brick. Piece of black material with sulfur odor in 4-4.5' bgs interval. PID: 0.7 ppm	NA
5.5 - 8.5	Moist, reddish brown to black, Fill - Soft CLAY, some rock and concrete fragments, little coarse Sand, brick, and wood, trace pipe fragment. PID: 2.5 ppm	
8.5 - 10.6	Moist, brownish black, Fill - Blocky, moderately soft, CLAY, some rock and concrete fragments, little heat brick and red brick, trace coal. Refusal at 10.6' bgs, likely on old concrete slab. Did not reach native soil. PID: 2.5 ppm	
		TP-01-2020-10.0-10.6-09292020

Notes:

**Photos**



0 - 0.16 ft bgs



0.16 - 2.0 ft



2.0 - 4.0 ft bgs



4.0 - 5.5 ft bgs



5.5 - 8.5 ft bgs



8.5 - 10.6 ft bgs

**PARSONS**  
**TEST PIT RECORD**

<b>Start - End Date</b>	09/29/20 - 09/29/20	<b>Test Pit ID:</b>	TP-01-2020A
<b>Project / Site Name:</b>	Tonawanda Coke Site 109 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Grass
<b>Location Description:</b> In southeast corner of site, on top of berm running along eastern boundary			
<b>Dimensions:</b> 15 ft long, 2 ft wide, 10.8 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 3	Stiff, brown, SILT, some coarse, angular Gravel, trace Clay, fine Sand, and organics	NA
3 - 6	Dry, brown to black, Fill - SILT and Clay matrix with little coal, gray, porous slag, coke, and coke breeze, trace yellow and red brick. Lens of coke breeze 3-3.5' bgs.	
6 - 10.8	Moist, black to gray Fill - Soft to stiff, CLAY, little coke, breeze, and concrete mixed into clay, trace brick, coal, clay tile, and rock fragments. Refusal at 10.8' bgs. Did not reach native soil. PID: 1.6 ppm	

Notes: Offset from original TP-01-2020 to determine if refusal (presumed to be on concrete slab) is continuous. Refusal occurred at 10.8' bgs.

**Photos**



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/28/20 - 09/28/20</u>	<b>Test Pit ID:</b>	<u>TP-02-2020</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Grass</u>
<b>Location Description:</b> <u>East side of northern end of berm along east side of site (parallell to River Rd)</u>			
<b>Dimensions:</b> <u>10</u> ft long, <u>2</u> ft wide, <u>5</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.58	Dry, brown, SILT, little fine Sand and organics. PID: 0.0 ppm	NA
0.58 - 2.9	Dry, black, granular, Fill - Coke breeze and black, porous pieces of coke, slight hydrocarbon odor. PID: 0.0 ppm	
2.9 - 4.6	Moist, black, Fill - Coke breeze and coke, some Clay, slight hydrocarbon odor. PID: 0.0 ppm	
4.6 - 5.0	Moist, soft, gray, CLAY. Native soil. PID: 0.0 ppm	

Notes: Main objective of test pit was to identify what the berm is composed of.

### Photos





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/28/20 - 09/28/20</u>	<b>Test Pit ID:</b>	<u>TP-03-2020</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Grass</u>
<b>Location Description:</b>	<u>Grassy field on north side of site</u>		
<b>Dimensions:</b>	<u>4.5</u> ft long, <u>2</u> ft wide, <u>2</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.75	Dry, stiff, brown, SILT, little fine Sand, and Organics (root material). PID: 0.8 ppm	NA
0.75 - 1.0	Black to brown, Fill - Coke fragments. PID: 1.3 ppm	
1.0 - 2.0	Dry, stiff, reddish brown, CLAY, trace Silt. Native soil. PID: 0.6 ppm	

Notes: Original TP-03-2020. TP-03-2020E was as an extension of this original test pit.

### Photos



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>09/28/20 - 09/28/20</u>	<b>Test Pit ID:</b>	<u>TP-03-2020E</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Grass</u>
<b>Location Description:</b>	<u>Grassy field on north side of site</u>		
<b>Dimensions:</b>	<u>21.5</u> ft long, <u>2</u> ft wide, <u>6</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.75	Dry, stiff, brown, SILT, little fine Sand, and Organics (root material). PID: 0.8 ppm	NA
0.75 - 1.0	Black to brown, Fill - Coke fragments. PID: 1.3 ppm	
1.0 - 4.5	Dry, black to brown to yellow, Fill - ROCK, concrete, and heat brick, little fine to medium Sand and Silt, trace coke and plastic. Piece of plastic sheeting sticking out of south sidewall at 1'. PID: 3.4 ppm	
4.5 - 6.0	Moist, stiff, blocky, reddish brown, CLAY. Native soil. PID: 2.4 ppm	

Notes: TP-03-2020E was as an extension of this original test pit. Recorded length is in addition to original 4.5 ft length of TP-03-2020.

**Photos**



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/28/20 - 09/28/20</u>	<b>Test Pit ID:</b>	<u>TP-03-2020W</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Grass</u>
<b>Location Description:</b>	<u>Grassy field on north side of site</u>		
<b>Dimensions:</b>	<u>21</u> ft long, <u>2</u> ft wide, <u>4</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.5	Dry, stiff, brown, SILT, little fine Sand, and Organics (root material). No odor.	NA
0.5 - 4.0	Dry, stiff, blocky, brownish red, CLAY, little silt, trace organics. Native soil. PID: 2.7 ppm	

Notes: Fill not encountered



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	09/28/20 - 09/28/20	<b>Test Pit ID:</b>	TP-03-2020S
<b>Project / Site Name:</b>	Tonawanda Coke Site 109 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Grass
<b>Location Description:</b> Grassy field on north side of site			
<b>Dimensions:</b> 20 ft long, 2 ft wide, 4 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.25	Dry, loose, brown, SILT, little fine Sand and Organics. PID: 4.1 ppm	NA
0.25 - 1.16	South sidewall: Dry, black, Fill - Coke fragments, trace silt. PID 2.9 ppm North sidewall: Dry, brown, Fill - Coke fragments, little blocky Clay, trace Silt. No odor. PID: 3.2 ppm	
1.16 - 3.0	Dry, black to dark brown, Fill - Coke, brick (yellow heat brick and red brick) and Silt, little concrete fragments. Coke fragments taper out at approximately 2 ft bgs. PID: 5.8 ppm	
3.0 - 4.0	Dry, fill - Fine SAND, some Silt, little brick	
4.0 - 5.0	Moist, blocky, reddish brown with slight gray mottling, CLAY, some Brick (potentially fallen in from shallower depth interval)	
5.0 - 6.0	Moist, blocky, reddish brown with gray mottling, CLAY. Native soil.	

Notes:

### Photos







# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	09/28/20 - 09/28/20	<b>Test Pit ID:</b>	TP-03-2020N
<b>Project / Site Name:</b>	Tonawanda Coke Site 109 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Grass
<b>Location Description:</b> Grassy field on north side of site			
<b>Dimensions:</b> 20 ft long, 2 ft wide, 4 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.25	Dry, loose, brown, SILT, little fine Sand and Organics, no odor	NA
0.25 - 1.0	Dry, reddish brown to black, CLAY, some Silt, no odor. Native soil. PID: 0.4 ppm	
1.0 - 4.0	Dry, reddish brown, blocky, CLAY, trace Silt. Native soil. PID: 1.4 ppm	

Notes: TP-03-2020S and TP-03-2020N were one continuous trench, stretching out roughly the same length from the staked centerpoint. There is a clear vertical interface between clay and fill, approximately 22' from the south end of the south transect.

### Photos



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	09/30/20 - 09/30/20	<b>Test Pit ID:</b>	TP-04-2020N
<b>Project / Site Name:</b>	Tonawanda Coke Site 109 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Soil and plants
<b>Location Description:</b>	Low area in center of site		
<b>Dimensions:</b>	15 ft long, 2 ft wide, 5 ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 0.17	Dry, soft, brown, SILT, some Clay, little organics	NA
0.17 - 1.0	Dry, Fill - Stiff, blocky, reddish brown, CLAY, little Silt, trace organics and creosote treated wood pieces. PID: 10.6 ppm	
1.0 - 3.0	Moist, Fill - Stiff, reddish brown with gray staining, CLAY, trace Silt and fine Sand, some large creosote-treated wood poles. Clay has staining and sheen. PID: 6.7 ppm	
		TP-04-2020-2.5-3.0-09302020
3.0 - 5.0	Moist to dry, stiff, blocky, reddish brown with gray mottling, CLAY, trace Silt, no staining. Native soil. PID: 2.8 ppm	NA

Notes:

### Photos





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/30/20 - 09/30/20</u>	<b>Test Pit ID:</b>	<u>TP-04-2020S</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Soil and plants</u>
<b>Location Description:</b> <u>Low area in center of site</u>			
<b>Dimensions:</b> <u>15</u> ft long, <u>2</u> ft wide, <u>5.5</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 0.5	Soft, brown, SILT, some Clay, little organics	NA
0.5 - 3.0	Dry, stiff, blocky, reddish brown with black and gray staining and mottling, CLAY, some Silt, trace fine sand from 1 to 3 ft bgs. PID: 2.8 - 2.4 ppm	
3.0 - 5.0	Dry, stiff, blocky, reddish brown with gray mottling, CLAY, trace Silt. Native soil.	

Notes: \_\_\_\_\_

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### Photos



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/30/20 - 09/30/20</u>	<b>Test Pit ID:</b>	<u>TP-04-2020W</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Soil and plants</u>
<b>Location Description:</b>	<u>Low area in center of site</u>		
<b>Dimensions:</b>	<u>20</u> ft long, <u>2</u> ft wide, <u>5</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 1.5	Dry, soft, brown, Fill - SILT, some Clay, little organics, trace light, dry wood fragments (does not appear to be treated). PID: 2.0 ppm	NA
1.5 - 3.0	Dry, stiff, blocky, reddish brown with gray mottling, CLAY, some Silt . Native soil.	
3.0 - 5.0	Dry, stiff, blocky, reddish brown with gray mottling, CLAY, trace Silt. Layer of Silt and Sand 3-3.5 ft bgs. Native soil.	

Notes: \_\_\_\_\_

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### Photos



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	09/30/20 - 09/30/20	<b>Test Pit ID:</b>	TP-04-2020E
<b>Project / Site Name:</b>	Tonawanda Coke Site 109 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Soil and plants
<b>Location Description:</b>	Low area in center of site		
<b>Dimensions:</b>	20.5 ft long, 2 ft wide, 6.5 ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 1.0	Soft, brown, SILT, some Clay, little organics	NA
1.0 - 6.5	Dry, stiff, blocky, light brown, CLAY, some Silt, little fine to medium Sand and fine Gravel, trace coal at 3.5' bgs, may have fallen in from shallow sidewall. Likely native soil. PID: 0.5 ppm	

**Notes:** \_\_\_\_\_

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**Photos**





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/29/20 - 09/29/20</u>	<b>Test Pit ID:</b>	<u>TP-05-2020W</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Dark brown, organic soil</u>
<b>Location Description:</b> <u>Adjacent to drainage ditch on north side of site.</u>			
<b>Dimensions:</b> <u>20</u> ft long, <u>2</u> ft wide, <u>3.5</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.16	Dry, soft, dark brown, SILT, little fine Sand, trace Clay, some organics. PID: 2.0 ppm	TP-05-2020-0.0-0.16-09292020
0.16 - 1.3	Dry, soft, brown, SILT, little fine Sand and Clay, trace organics. PID: 1.3 ppm	TP-05-2020-0.16-1.0-09292020
1.3 - 3.5	Dry, stiff, reddish brown, CLAY, little Silt and fine Sand, trace coarse angular Gravel. Native soil. PID: 1.9 ppm	NA

Notes: Fill not encountered.

### Photos





# PARSONS

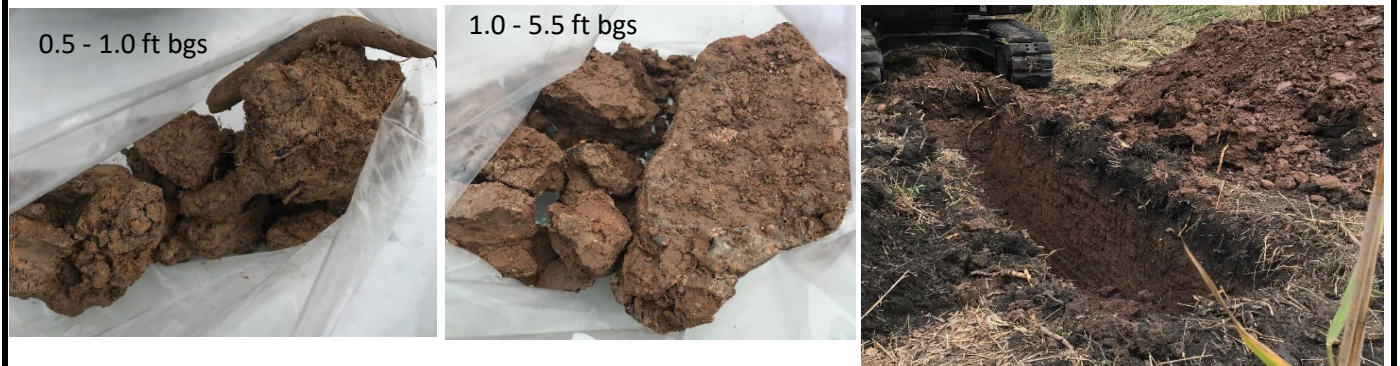
## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/29/20 - 09/29/20</u>	<b>Test Pit ID:</b>	<u>TP-05-2020E</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Dark brown, organic soil</u>
<b>Location Description:</b> <u>Adjacent to drainage ditch on north side of site.</u>			
<b>Dimensions:</b> <u>16.4</u> ft long, <u>2</u> ft wide, <u>5.5</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.5	Dry, soft, dark brown to black, SILT, little Clay and fine Sand, some organics.	NA
0.5 - 1.0	Medium stiff, reddish brown with gray mottling, some orange iron staining, CLAY, little organics (root fibers). PID: 2.7 ppm	
1.0 - 5.5	Grades from medium stiff, medium plasticity, reddish brown with gray mottling CLAY to stiff, low plasticity, reddish brown CLAY and Silt. Native soil. PID: 1.2 ppm	

Notes: Fill not encountered.

### Photos



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/29/20 - 09/29/20</u>	<b>Test Pit ID:</b>	<u>TP-05-2020N</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Dark brown, organic soil</u>
<b>Location Description:</b> <u>Adjacent to drainage ditch on north side of site.</u>			
<b>Dimensions:</b> <u>17.3</u> ft long, <u>2</u> ft wide, <u>4.3</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.5	Dry, soft, light brown to brown, SILT, little fine Sand, trace Clay, little organics (root fibers).	NA
0.5 - 4.3	Dry, stiff, blocky, reddish brown with slight gray mottling, CLAY, little Silt, trace organics. Native soil. PID: 2.1 ppm	

Notes: Fill not encountered.

### Photos



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>09/29/20 - 09/29/20</u>	<b>Test Pit ID:</b>	<u>TP-05-2020S</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 109 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Dark brown, organic soil</u>
<b>Location Description:</b> <u>Adjacent to drainage ditch on north side of site.</u>			
<b>Dimensions:</b> <u>17.3</u> ft long, <u>2</u> ft wide, <u>4.3</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.5	Dry, soft, light brown to brown, SILT, little fine Sand, trace Clay, little organics (root fibers).	NA
0.5 - 4.0	Dry, stiff, blocky, reddish brown with slight gray mottling, CLAY, little Silt, trace organics. Native soil.	
		TP-05-2020-3.0-4.0-09292020

Notes: Fill not encountered.

### Photos

0.0 - 0.5 ft bgs





# PARSONS

## TEST PIT RECORD

Start - End Date	<u>09/29/20 - 09/29/20</u>	Test Pit ID:	<u>TP-06-2020</u>
Project / Site Name:	<u>Tonawanda Coke Site 109 RI</u>	Geologist:	<u>Megan Clark</u>
Site Location:	<u>Tonawanda, NY</u>	Excavation Contractor:	<u>OSC</u>
Client:	<u>Honeywell</u>	Operator:	<u>Jim Hugill</u>
Weather:	<u>70s, sunny</u>	Surface Conditions:	<u>Grass</u>
Location Description: <u>Berm along west side of site near settling ponds</u>			
Dimensions: <u>18.5</u> ft long, <u>2</u> ft wide, <u>8</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 0.5	Dry, soft, brown, SILT, some organics	NA
0.5 - 6.0	Dry, loose, black, Fill - Coke breeze, coke pieces, concrete, little metal scraps and brick. Several, aproximately 6" thick layers of blocky, reddish brown with gray mottling, CLAY, little Silt interspersed throughout horizon of predominantly breeze and coke.	
6.0 - 8.0	Dry, stiff, blocky, reddish brown with gray mottling, CLAY. Native soil.	

Notes: \_\_\_\_\_

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### Photos



TEST PIT RECORD

Start - End Date	09/29/20 - 09/29/20	Test Pit ID:	TP-06-2020E
Project / Site Name:	Tonawanda Coke Site 109 RI	Geologist:	Megan Clark
Site Location:	Tonawanda, NY	Excavation Contractor:	OSC
Client:	Honeywell	Operator:	Jim Hugill
Weather:	70s, sunny	Surface Conditions:	Grass
Location Description:	Berm along west side of site near settling ponds, eastern extension of TP-06-2020		
Dimensions:	20 ft long, 2 ft wide, 10 ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 0.5	Dry, soft, brown, SILT, some organics.	NA
0.5 - 10.0	Dry, loose, black, FILL - Coke breeze, Silt, large concrete and rock pieces, little metal scraps, wood fragments, coal, coke, slag, and brick, trace Clay and plastic sheeting scraps. Large piece of wood at 6.5' bgs. Several, approximately 6" thick layers of blocky, reddish brown with gray mottling, CLAY, little Silt interspersed throughout horizon of predominantly breeze and coke. PID: 0.5 ppm	
At 10.0	Dry, stiff, blocky, reddish brown with gray mottling, CLAY. Native soil. End test pit at 10' due to unsafe extension of excator arm with continued depth. PID: 1.3 ppm	

Notes: Extension of original TP-06-2020E

Photos



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/06/2020-10/06/2020	<b>Test Pit ID:</b>	TP-07-2020
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Near eastern site boundary where tar was previously identified on the surface.			
<b>Dimensions:</b> 18 ft long, 2 ft wide, 10 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 2.5	Loose, dry, black, Fill - Breeze, some coke, little brick. Several large railroad ties covered in coal tar (coated wood material). Also ~0.5' thick chunk of coal from just beneath the surface.	TP-07-2020-0.0-0.16-10062020
		TP-07-2020-0.16-1.0-10062020
2.5 - 3.5	Pliable tar/fill mixture, little tar saturated. Tar is mostly mixed with breeze, but some appears more liquid and can be seen dripping off the sidewall. Some wood and brick. Large pieces of coated wood material at ~3' bgs. PID: 189 ppm	NA
3.5 - 8.0	Fill - Dry, somewhat soft, reddish brown with gray mottling, CLAY, some brick. Very crumbly.	TP-07-2020-4.0-5.0-10062020
		NA
8.0 - 9.0	Dry, somewhat stiff, yellow to gray, CLAY. Native soil.	NA
9.0 - 10.0	Dry, stiff, reddish brown, CLAY. Native soil.	

**Notes:** Excavated within center of concrete blockades.

**Photos**



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>10/06/2020-10/06/2020</u>	<b>Test Pit ID:</b>	<u>TP-07-2020A</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>50s, sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b> <u>Near eastern site boundary where tar was previously identified on the surface.</u>			
<b>Dimensions:</b> <u>20</u> ft long, <u>2</u> ft wide, <u>10.7</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 2.0	Loose, dry, black, Fill - Breeze, some coke, little brick, trace sheet metal. Transition to some brick (red and yellow). Pliable tar/fill mixture on east end of excavation.	NA
2.0 - 3.0	Pliable tar/fill mixture. Most visible on south sidewall. PID: 30 ppm	
3 - 4.7	Loose, dry, black, Fill - Breeze and C&D debris.	
4.7 - 6.8	Fill - Dry, somewhat soft, reddish brown with gray mottling, CLAY, some brick. Very crumbly.	
6.8 - 8.7	Dry, somewhat stiff, yellow to gray, CLAY. Native soil.	
8.7 - 10.7	Dry, stiff, reddish brown, CLAY. Native soil.	

Notes: \_\_\_\_\_

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**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/06/2020-10/06/2020	<b>Test Pit ID:</b>	TP-07-2020B
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Near eastern site boundary where tar was previously identified on the surface.			
<b>Dimensions:</b> 20.6 ft long, 2 ft wide, 11.8 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 5.0	Dry, loose, black, Fill - Breeze, some coke, little brick. Layer of slag on both sidewalls at approximately 1.5' bgs. Layer of potentially asbestos containing material (building siding) at 2' bgs on south wall.	NA
5.0 - 9.4	Dry, Fill - Somewhat soft, reddish brown with gray mottling, CLAY, some brick. Very crumbly.	
9.4 - 10.4	Dry, somewhat stiff, yellow to gray, CLAY. Native soil.	
10.4 - 11.8	Dry, stiff, reddish brown, CLAY. Native soil.	

**Notes:** Tar / tar/fill mixture not observed at this location

**Photos**





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/06/2020-10/06/2020	<b>Test Pit ID:</b>	TP-07-2020C
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Towards east on top of elevated area			
<b>Dimensions:</b> 18.4 ft long, 2 ft wide, 11.8 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 2.6	Loose, black, Fill - Breeze, some coke, little wood, brick, trace plastic and metal sheeting. Large piece of brick wall at ~2' bgs.	NA
2.6 - 3.4	Pliable tar/fill mixture, mixed with breeze and other fill on south, north, and west sidewalls. Stops ~10' from west sidewall.	
3.4 - 5.4	Loose, black, Fill - Breeze, some coke, little wood, brick, trace plastic and metal sheeting. Wet at ~5.4' bgs.	
5.4 - 8.0	Fill - Dry, somewhat soft, reddish brown with gray mottling, CLAY, some brick. Very crumbly.	
8.0 - 10.0	Gray, CLAY. Native soil. Water pouring into hole; sheen observed on water.	

**Notes:** \_\_\_\_\_

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**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/06/2020-10/06/2020	<b>Test Pit ID:</b>	TP-07-2020D
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Towards east on top of elevated area			
<b>Dimensions:</b> 20.6 ft long, 2 ft wide, 7.4 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 4.0	Dry, loose, black, Fill - Breeze, some coke, little brick.	NA
4.0 - 5.3	Wet, Fill - Wood poles and brick, little Clay. Wooden pole was embedded in clay towards bottom of interval; when pole was pulled out, water poured into the hole and filled up with water.	
5.3 - 7.4	Dry, Fill - Somewhat soft, reddish brown with gray mottling, CLAY, some brick. Very crumbly.	

Notes: Test pit stopped prior to reaching native material due to large volume of water entering pit.

**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>10/1/2020-10/01/2020</u>	<b>Test Pit ID:</b>	<u>TP-08-2020</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>70s, sunny</u>	<b>Surface Conditions:</b>	<u>Black breeze</u>
<b>Location Description:</b>	<u>West end of elevated area on south side of site</u>		
<b>Dimensions:</b>	<u>27</u> ft long, <u>2</u> ft wide, <u>10.5</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0.0 - 0.16	Dry, loose, black, Fill - Coke breeze, some organics and coke, trace slag; PID: 0.5 ppm	TP-08-2020-0.0-0.16-10012020
0.16 - 1.0	Dry, loose, black, Fill - Coke breeze, some coke, trace coal, slag, and metal shards, slight odor; PID: 0.6 ppm	TP-08-2020-0.16-1.0-10012020
1.0 - 1.5	Reddish brown, CLAY (not native - potentially used as cap)	NA
1.5 - 5	Black, pliable tar / fill mixture, mixed with breeze. Appears to thin out on north sidewall, minimum thickness of 0.8' on west end of north sidewall, maximum thickness of 4.5 on east end of north sidewall'; PID: 84 ppm. Test pit was extended towards west into adjacent mound and tar tapers out at base of mound	Coal tar/fill mixture sample TP-08-2020-1.5-2.0-10012020
		NA
5 - 8	Loose, black, Fill - Breeze, Clay, brick, some highly viscous globs of coal tar/fill mixture	TP-08-2020-5.0-6.0-10012020
		NA
8 - 10.5	Moist, medium plasticity, reddish brown, CLAY, some breeze and brick in bucket but appears to have fallen in from shallower depth. Native soil.	NA

Notes: Offset three times to determine extent of subsurface coal tar/fill mixture. See below:

TP-08-2020A: Offset 6' to north, same fill on top, coal tar/fill mixture at 3' bgs

TP-08-2020B: Perpendicular to "A" trench, same fill on top, coal tar/fill mixture at 3' bgs

TP-08-2020C: Offset to north on slope, same fill on top, coal tar/fill mixture at 0.8' bgs

**Photos**





Photos (continued)



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/01/2020-10/01/2020	<b>Test Pit ID:</b>	TP-09-2020S
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Breeze and soil
<b>Location Description:</b> In wooded area to the north of road running through site			
<b>Dimensions:</b> 17 ft long, 2 ft wide, 10.8 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 2	Dry, loose, black, Fill - Breeze, little coke, plastic and organics, trace clinkers. Two globs of coal tar/fill mixture approximately 3" wide at approximately 2' bgs. PID: 1.1 ppm	TP-09-2020-0.0-0.16-10012020
		TP-09-2020-0.16-1.0-10012020
2 - 4	Dry, loose, black, Fill - Breeze, some coke, little wood, brick, and scrap metal. Slight odor. PID: 2.6 ppm	NA
4 - 6	Moist, loose, black, Fill - Fine to medium SAND and breeze, some coarse Sand, little organic debris, slag, and yellow brick, trace fine Gravel. Slight odor. PID: 1.7 ppm	
6 - 7	Wet, loose, black, Fill - Fine to medium SAND and breeze, little fine Gravel, trace plastic strips and hardened tar. PID: 1.5 ppm	
7 - 8.5	Moist, soft, mottled gray, CLAY, some small black organics. Native soil. Water trickling in from above interval. PID: 0.9 ppm	
8.5 - 10.8	Stiff, blocky, reddish brown with gray mottling, CLAY, trace organics. Native soil.	

Notes:

**Photos**





Photos (continued)



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/01/2020-10/01/2020	<b>Test Pit ID:</b>	TP-09-2020N
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Breeze and soil
<b>Location Description:</b> In wooded area to the north of road running through site			
<b>Dimensions:</b> 20 ft long, 2 ft wide, 7.4 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 1	Dry, loose, black, Fill - Breeze, some coke, little nodules and organics (roots and root fibers).	NA
1 - 3	Dry, loose, black, Fill - Breeze, some clinkers, trace yellow brick.	
3 - 7	Moist to wet, loose, brown and black, Fill - Fine to medium SAND, some coarse Sand and crumbly white material, little nodules, coarse Gravel, and yellow brick. Wet at 7' bgs.	
		TP-09-2020-6.5-7.0-10012020
7 - 7.4	Moist, soft, mottled gray, CLAY, some small black organics. Native soil.	NA

Notes:

**Photos**





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/01/2020-10/01/2020	<b>Test Pit ID:</b>	TP-09-2020W
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Breeze and soil
<b>Location Description:</b> In wooded area to the north of road running through site			
<b>Dimensions:</b> 19 ft long, 2 ft wide, 7.4 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 3	Dry, loose, black, Fill - Breeze, some nodules, trace yellow brick. Organics in top 1'. Tar/breeze mixture in north wall at 2.5' bgs.	NA
3 - 7	Moist to wet, loose, brown and black, Fill - Fine to medium SAND, some coarse Sand and crumbly white material, little nodules, coarse Gravel, and yellow brick. Wet at 6.75' bgs. Tar/breeze mixture in north wall at 3.75' bgs and on south wall at 5.3' bgs.	
7 - 7.5	Moist, soft, mottled gray, CLAY, some small black organics. Native soil.	

**Notes:** \_\_\_\_\_

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**Photos**





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/01/2020-10/01/2020	<b>Test Pit ID:</b>	TP-09-2020W2
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Breeze and soil
<b>Location Description:</b> In wooded area to the north of road running through site			
<b>Dimensions:</b> 15 ft long, 2 ft wide, 7.3 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 7	Dry, loose, black, Fill - Breeze, some clinkers and other debris including metal and wood fragments, red and yellow brick, plastic tubing, and cable. Organics in top 1'. Pliable tar/fill mixture at 4' bgs, followed by fill below. Grades to sandy fill observed in original TP-09-2020W.	NA
7 - 7.3	Orangish CLAY with waste, which likely fell in from above. Native soil. Wet at 7.3' bgs.	

**Notes:** Excavated to determine extent of subsurface tar/fill mixture observed in TP-09-2020W

**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/01/2020-10/01/2020	<b>Test Pit ID:</b>	TP-09-2020E
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	70s, sunny	<b>Surface Conditions:</b>	Breeze and soil
<b>Location Description:</b> In wooded area to the north of road running through site			
<b>Dimensions:</b> 19.5 ft long, 2 ft wide, 7.5 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 7	Dry, loose, black, Fill - Breeze, some clinkers and other debris including metal and wood fragments, red and yellow brick, plastic tubing, and cable. Organics in top 1'. Grades to sandy fill observed in original TP-09-2020W. Pliable tar/fill mixture 4.3 - 6.5' bgs.	NA
7 - 7.5	Reddish brown to gray, CLAY. Native soil. Water flowing in to bottom of pit, slight sheen on water.	

Notes: \_\_\_\_\_

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**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/05/2020-10/05/2020	<b>Test Pit ID:</b>	TP-10-2020W
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Towards east on top of elevated area			
<b>Dimensions:</b> 22.5 ft long, 2 ft wide, 16 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 1	Dry, loose, black, Fill - Coke breeze, some coke fragments, little red brick and wood fragments	NA
1 - 11.5	Dry, loose, black, Fill - Coke breeze, some coke fragments and wood (dry, large blocks and fragments), little wooden poles and rubber sheets. Layer of fly ash at 4.6' bgs.	
11.5 - 13.5	Moist, stiff, Fill - Reddish brown with gray mottling, CLAY, little Silt, breeze, ash, coke, and clinkers.	
13.5 - 15.0	Moist, soft, Fill - Breeze and shiny tar/fill mixture, some Clay, little coke, odor. PID: 10 ppm	
15.0 - 16.0	Native Soil - Moist, stiff, reddish brown with gray mottling, CLAY. PID: 5.3 ppm.	

**Notes:** At bottom, likely in native soil, but cannot continue to excavate due to unsafe depth.

**Photos**



Photos (continued)





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>10/05/2020-10/05/2020</u>	<b>Test Pit ID:</b>	<u>TP-10-2020E</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>50s, cloudy</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b> <u>Towards east on top of elevated area</u>			
<b>Dimensions:</b> <u>24.8</u> ft long, <u>2</u> ft wide, <u>16.5</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 15.5	Dry, loose, black, Fill - Coke breeze, some coke fragments and debris (hosing, plastic sheeting, rubber mats, wood, metal sheeting), trace fly ash. Bucket at 13.5' bgs has one small (2") piece of pliable tar/fill mixture.	NA
15.5 - 16.0	Loose, wet, black, Fill - Breeze, some coke and coarse Sand, little blocky Clay (gray with organics) and fine Gravel, trace tar chunks and clinkers	
16.0 - 16.5	Native Soil - Moist, stiff, reddish brown with gray mottling, CLAY, little Silt. Breeze and other fill (possibly fallen in from shallower interval).	

Notes: At bottom, likely in native soil, but cannot continue to excavate due to unsafe depth.  
After completion of test pit, water is observed dripping in the hole from on top of clay.

### Photos



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/05/2020-10/05/2020	<b>Test Pit ID:</b>	TP-10-2020N
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Towards east on top of elevated area			
<b>Dimensions:</b> 25 ft long, 2 ft wide, 18.6 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 4	Dry, loose, black, Fill - Breeze and debris (rubber, plastic, and wood). Potential fly ash in eastern wall at approximately 2' bgs. Bucket at 2.3' bgs contained plastic wadded up with pockets of pliable tar/fill mixture (with breeze and coke), pulled from east sidewall. Tar is ~1.5 x 1', and appears to be pocket rather than continuous seam. Large concrete block with steel pole at approximately 3' bgs. PID in tar/fill mixture: 133.9 ppm	NA
4 - 13	Dry, loose, black, Fill - Breeze and fly ash, some wood and organic debris, little coke.	
13 - 16.5	Moist, loose, black to brown, Fill - Coarse SAND and breeze, some coke (small pieces) and fine Gravel, little blocky gray to red, organic-rich Clay. Large piece of wood at 13.5' bgs. Max PID: 6.5 ppm.	
16.5 - 18.6	Moist, slightly soft, crumbly, reddish brown with abundant gray mottling, CLAY. Towards bottom, grades to more blocky, stiff, reddish brown and less mottled, CLAY. Native soil.	

Notes: \_\_\_\_\_

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Photos



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>10/05/2020-10/05/2020</u>	<b>Test Pit ID:</b>	<u>TP-10-2020S</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>50s, cloudy</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b> <u>Towards east on top of elevated area</u>			
<b>Dimensions:</b> <u>22.5</u> ft long, <u>2</u> ft wide, <u>17.4</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 5.5	Dry, loose, black, Fill - Breeze, coke, and debris (plastic sheeting, rubber mats, rubber hosing), potential fly ash grading in at 2.7' bgs, trace coal fragments at 4' bgs. PID: 8.5 ppm	NA
5.5 - 6.0	Dry, black, Fill - Shiny slag, some breze, little coke and coal. PID: 6.3 ppm	
6 - 12	Dry, loose, black, Fill - Breeze, coke, and debris (plastic sheeting, rubber mats, rubber hosing). Excavator caught on cable at 6.5' bgs.	
12 - 15	Moist, loose, black to brown, Fill - Coarse SAND, breeze, some coke (small pieces) and fine Gravel, little blocky gray to red, organic-rich Clay. PID: 3.5 ppm. Towards bottom: Wet, black, FILL - coarse SAND, some small coal fragments, little fine Gravel and clinkers.	
15 - 17.4	Native Soil - Moist, stiff, blocky to crumbly, reddish brown with gray mottling, CLAY, becoming less mottled and crumbly with depth. PID: 3.1 ppm.	

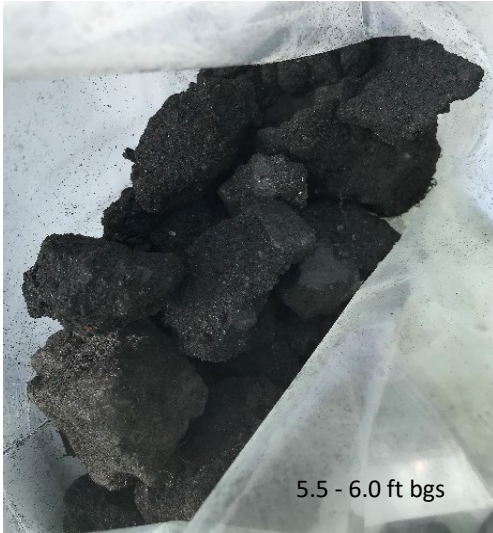
Notes: \_\_\_\_\_

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Photos



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/05/2020-10/05/2020	<b>Test Pit ID:</b>	TP-10-2020A
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Towards east on top of elevated area			
<b>Dimensions:</b> 21.7 ft long, 2 ft wide, 17.4 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 11.5	Dry, loose, black Fill - Breeze, some coke, wood, concrete slabs (2 large slabs in top 3 feet), rubber mats, wood, little brick and sheet metal. Fly ash grades in at 3', starts little grades to some, less debris with depth. Approximately 2' x 2' piece of pliable tar/fill mixture broken out of the wall approximately 0.5' bgs, mixed with breeze, fly ash, and clinkers.	NA
11.5 - 13.5	Moist, loose, black to brown, granular Fill - Coarse SAND, breeze, coke, fine Gravel, clinkers.	
13.5 - 15.5	Black,pliable tar/fill mixture (mixed with breeze)	
15.5 - 16.5	Native Soil - Gray mottled to reddish brown, CLAY.	

**Notes:** \_\_\_\_\_

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**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/05/2020-10/05/2020	<b>Test Pit ID:</b>	TP-10-2020B
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Towards east on top of elevated area			
<b>Dimensions:</b> 21 ft long, 2 ft wide, 14.7 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 8.5	Dry, loose, black, Fill - Breeze, some coke, bricks, concrete, and rubber sheeting, little fly ash.	NA
8.5 - 14.7	Loose, dry, brown to black, Fill - Coarse SAND, some breeze and fine Gravel, little fire brick, clinkers, and small pieces of dark red/maroon Clay. Strong sulfur smell.	
14.7	Top of CLAY, backfilling due to strong sulfur smell. Water trickling into hole from fill.	

Notes:

**Photos**





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	10/05/2020-10/05/2020	<b>Test Pit ID:</b>	TP-11-2020E
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> North of the road through the center of Site 110			
<b>Dimensions:</b> 20 ft long, 2 ft wide, 8.5 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 0.5	Dry, soft, SILT, little fine Sand and organics	NA
0.5 - 1.0	Dry, Fill - Stiff, blocky and crumbly, reddish brown with gray mottling, CLAY, some organics, little coke. PID: 4.8 ppm	
1.0 - 6.5	Dry, loose, black to brown, Fill - Fine SAND and breeze, some nodules, fine Gravel, and small coke pieces, little fire brick, trace yellow slag. Pocket of pliable tar/fill mixture, 2' wide by 0.5' thick. Layer of pliable tar/fill mixture at 2-3' bgs visible on north and south sidewalls.	
6.5-7.5	Moist, slightly soft, gray with yellow mottling, CLAY, some organics. Native soil. PID: 7.7 ppm	
7.5 - 8.5	Reddish brown, somewhat blocky, CLAY. Native soil.	

Notes: \_\_\_\_\_

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### Photos



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/05/2020-10/05/2020	<b>Test Pit ID:</b>	TP-11-2020N
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b>	North of the road through the center of Site 110		
<b>Dimensions:</b>	20.7 ft long, 2 ft wide, 10.2 ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 6.7	Dry, loose, black, Fill - Breeze and fine Gravel. PID: 14.4 ppm Pliable tar/fill mixture on west sidewall at 3.4' bgs.	NA
6.7 - 9.4	Moist, slightly soft, gray with yellow mottling, CLAY, some organics. Native soil.	
9.4 - 10.2	Reddish brown, somewhat blocky, CLAY. Native soil. PID: 5.1 ppm	

Notes: \_\_\_\_\_

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**Photos**





Photos (continued)



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/06/2020-10/06/2020	<b>Test Pit ID:</b>	TP-11-2020W
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> North of the road through the center of Site 110			
<b>Dimensions:</b> 20 ft long, 2 ft wide, 7 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 3.0	Dry, loose, black, Fill - Breeze, some coke pieces, trace nodules and brick. Piece of pliable tar/fill mixture (fill consists of breeze and concrete) approximately 0.5' by 2' at about 1' bgs on west wall. Does not appear to be continuous, appears to be a pocket.	NA
3.0 - 5.0	Dry, loose, black to brown, Fill - Fine SAND and breeze, some brick and nodules, little coke. Brown colors likely due to nodules and heat brick. Little chunks of maroon Clay.	
5.0 - 5.5	Gray and yellow, crumbly, CLAY, little organics. Native soil.	
5.5 - 7.0	Moist, stiff, reddish brown with gray mottling, CLAY. Native soil.	

Notes: \_\_\_\_\_

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**Photos**





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/06/2020-10/06/2020	<b>Test Pit ID:</b>	TP-11-2020S
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	50s, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> North of the road through the center of Site 110			
<b>Dimensions:</b> 30.5 ft long, 2 ft wide, 7 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 0.5	Dry, loose, black, Fill - Breeze and Silt, some organics.	NA
0.5 - 1.0	Dry, blocky, reddish brown, CLAY	
1.0 - 5.5	Dry, loose, black to dark brown, Fill - Breeze, Silt, some coke, little coal, nodules, fine Gravel, chunks of concrete, and brick, trace slag. Pliable tar/fill mixture beginning at 2' bgs on south extent of test pit; small pocket on north end as well, but predominant layer on south end.	
5.5 - 7.0	Gray and yellow, crumbly, CLAY, little organics. Native soil.	
7.0 - 9.0	Moist, stiff, reddish brown with gray mottling, CLAY. Native soil.	

Notes: Continued excavation towards south, tar/fill mixture at 2.5' bgs to 4' bgs. Mixed with breeze and other debris. Gets deeper moving south to 4' - 6' bgs tar/fill mixture layer. Bucket pulls out metal can with tar inside. See TP-11-2020A for delineation south of road.

**Photos**



Tar mixture  
in bucket



Tar mixture  
in sidewall



Photos (continued)



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	10/07/2020-10/07/2020	<b>Test Pit ID:</b>	TP-11-2020A
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	Low 60s, cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> North of the road through the center of Site 110			
<b>Dimensions:</b> 19 ft long, 2 ft wide, 8.2 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 6.0	Dry, loose, black to dark brown, Fill - Breeze, Silt, some coke, little coal, nodules, fine Gravel, chunks of concrete, and brick, trace slag	NA
6.0 - 7.0	Gray and yellow, crumbly, CLAY, little organics. Native soil.	
7.0 - 8.2	Moist, stiff, reddish brown, CLAY. Native soil.	

**Notes:** Excavated to determine southern extent of tar/fill mixture. None encountered.

**Photos**





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>6/25/2021 - 6/25/2021</u>	<b>Test Pit ID:</b>	<u>TP-12-2020S</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>70 degrees, partly cloudy</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b> <u>East side of Site 110</u>			
<b>Dimensions:</b> <u>10</u> ft long, <u>2</u> ft wide, <u>5</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 4.5	Light brown to dark brown to black, loose, dry, Fill - Breeze and Silt, some nodules and fine to coarse Sand, little coke fragments, trace very small (1-inch diameter) chunk of pliable tar/fill mixture. No tar observed in sidewalls. PID: 1.6 ppm	NA
4.5 - 5.0	Stiff, reddish brown with abundant gray mottling, CLAY, little streaks of orange Silt. Native soil. PID: 0.6 ppm	

Notes: \_\_\_\_\_

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### Photos



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	6/24/2021 - 6/24/2021	<b>Test Pit ID:</b>	TP-12-2020W
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Kyle Alexander
<b>Weather:</b>	80 degrees, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> East side of Site 110			
<b>Dimensions:</b> 10 ft long, 2 ft wide, 6.5 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 5.5	Dry to moist (moist at 3 ft bgs), light brown to dark brown to black, Fill - Breeze and Silt, some nodules, little fine to coarse Sand, trace coal and one chunk of pliable tar/fill mixture. Chunk of pliable tar/fill mixture was observed in the material stockpile, so its original depth within the test pit could not be determined. No tar observed in sidewalls. PID: 2.8 ppm	TP-12-2020-0.0-0.16-06242021
		TP-12-2020-0.16-1.0-06242021
		NA
5.5 - 6.0	Moist, soft, medium plasticity, gray with yellow/gold mottling, CLAY, trace Silt. Native soil. PID: 6.1 ppm	
6.0 - 6.5	Dry, very stiff, reddish brown with gray mottling, CLAY. Native soil. PID: 3.9 ppm	

Notes:

### Photos





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	6/24/2021 - 6/24/2021	<b>Test Pit ID:</b>	TP-12-2020E
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Kyle Alexander
<b>Weather:</b>	80 degrees, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> East side of Site 110			
<b>Dimensions:</b> 10 ft long, 2 ft wide, 5.5 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 4.0	Moist, light brown to dark brown to black, Fill - Breeze and Silt, some nodules, little fine to coarse Sand, trace coal, fire brick, and one chunk of pliable tar/fill mixture. No tar observed in sidewalls. PID: 3.9 ppm	NA
4.0 - 5.5	Very stiff, reddish brown with gray mottling, CLAY. Native soil. PID: 5.7 ppm	

**Notes:** \_\_\_\_\_

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**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>6/25/2021 - 6/25/2021</u>	<b>Test Pit ID:</b>	<u>TP-12-2020N</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>70 degrees, sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>East side of Site 110</u>		
<b>Dimensions:</b>	<u>8</u> ft long, <u>2</u> ft wide, <u>5.3</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 4.5	Dry to wet (wet at 4.25 ft bgs) light brown to dark brown to black, Fill - Breeze and Silt, some nodules (some oxidized), little fine to coarse Sand and coke fragments. Approximately 2-inch thick layer of coal at 2 ft bgs. Little yellow brick at 3.5 ft bgs. PID: 2.0 ppm throughout, 1.2 ppm in coal layer.	NA
4.5 - 4.75	Gray, organic-rich (fibrous), CLAY and Silt. Native soil. PID: 0.7 ppm	
4.75 - 5.3	Dry, very stiff, reddish brown with abundant gray and some yellow mottling, CLAY. Native soil. 2.9 ppm	

Notes: \_\_\_\_\_

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**Photos**





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	6/23/2021 - 6/23/2021	<b>Test Pit ID:</b>	TP-13-2020N
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Kyle Alexander
<b>Weather:</b>	52 degrees, mostly sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> On National Grid Property, across access road from MW-6-2020			
<b>Dimensions:</b>	12 ft long, 2 ft wide, 7.25 ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 1.5	Dry, loose, black, Fill - Breeze, little coke fragments and nodules, trace organics in top 2 inches. PID: 1.1 ppm	TP-13-2020-0.0-0.16-06232021
		TP-13-2020-0.16-1.0-06232021
1.5 - 2.5	Dry, loose, black to orangey brown, Fill - Breeze, some large nodules (predominantly coarse gravel-sized), little coke fragments. PID: 1.5	NA
2.5 - 3.8	Wet, blue to gray, SLAG. Material is hard and somewhat porous. Can be broken down into large chunks and smaller coarse gravel-sized pieces. Wet just above slag at 2.5 ft bgs	
3.8 - 5.0	Wet, loose, black to orangey brown, Fill - Breeze, some large nodules (predominantly coarse gravel-sized), little coke fragments. PID: 0.7	
5.0 - 6.5	Moist, very stiff, gray to greenish gray with yellow mottling, CLAY. Native soil. 0.8 ppm	
6.5 - 7.25	Dry, very stiff, reddish brown, CLAY. Native soil. Gradually grades from greenish gray clay above, not a sharp transition.	

Notes: \_\_\_\_\_

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### Photos





Photos (continued)





**PARSONS**

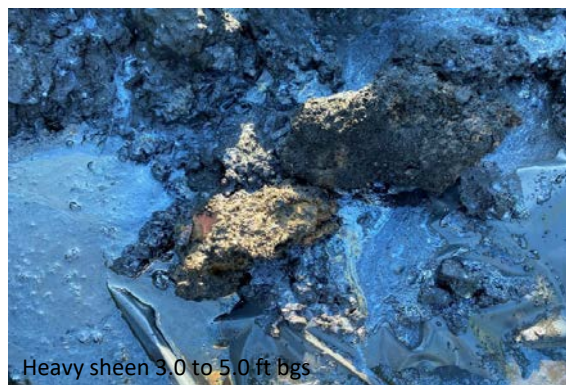
**TEST PIT RECORD**

<b>Start - End Date</b>	<u>6/24/2021 - 6/24/2021</u>	<b>Test Pit ID:</b>	<u>TP-13-2020S</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>59 degrees, sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>On National Grid Property, across access road from MW-6-2020</u>		
<b>Dimensions:</b>	<u>12</u> ft long, <u>2</u> ft wide, <u>6</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 2.25	Dry, black, Fill - Breeze, some nodules, little coke and fine to coarse Sand. Slight odor. PID: 31.7 ppm	NA
2.25 - 2.5	Red CLAY. Appears to be a clay cap.	
2.5 - 3.0	Wet, orange to gray, SLAG. Can be broken into gravel-sized pieces.	
3.0 - 5.0	Wet, black, Fill - Breeze, some nodules, little coke and fine to coarse Sand, trace chunks of hardened tar and brick. Very strong tar-like odor and heavy sheen on water. PID: 206.5 ppm	TP-13-2020-4.0-5.0-06242021
5.0 - 6.0	Moist, greenish gray with yellow mottling, CLAY. Native soil. Grades to reddish brown CLAY in the very bottom of the pit. Water inundating test pit. Sheen on water. PID: 4.2 ppm	NA

Notes:

**Photos**



# PARSONS

## TEST PIT RECORD

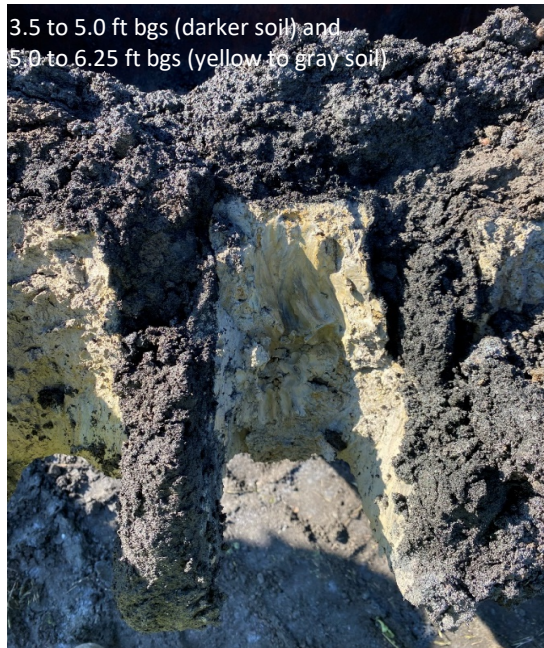
<b>Start - End Date</b>	<u>6/24/2021 - 6/24/2021</u>	<b>Test Pit ID:</b>	<u>TP-13-2020E</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>59 degrees, sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b> <u>On National Grid Property, across access road from MW-6-2020</u>			
<b>Dimensions:</b> <u>12</u> ft long, <u>2</u> ft wide, <u>6.25</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 3.0	Dry, black, Fill - Breeze, some nodules, little coke and fine to coarse Sand. Slight odor.	NA
3.0 - 3.5	Wet, orange to gray, SLAG. Can be broken into gravel-sized pieces.	
3.5 - 5.0	Wet, black to orange (oxidized nodules), Fill - Breeze, some nodules, little coke and fine to coarse Sand. Odor, but less potent than southern extent. PID: 120.4 ppm	
5.0 - 6.25	Moist, greenish gray with yellow mottling, CLAY. Native soil. PID: 5.2 ppm. Water inundating test pit. Sheen on water.	

Notes: \_\_\_\_\_

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### Photos





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	6/24/2021 - 6/24/2021	<b>Test Pit ID:</b>	TP-13-2020W
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Kyle Alexander
<b>Weather:</b>	59 degrees, sunny	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> On National Grid Property, across access road from MW-6-2020			
<b>Dimensions:</b>	10 ft long, 2 ft wide, 6.5 ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 2.25	Dry to moist, black, Fill - Breeze, some nodules, little fine to coarse Sand and coke fragments. PID: 105.2 ppm.	NA
2.25 - 3.5	Wet, orange to blue, SLAG. Can be broken up into coarse gravel to cobble-sized pieces.	
3.5 - 5.5	Wet, black, Fill - Breeze, some nodules, little fine to coarse Sand and coke fragments. Tar-like odor but no tar observed. PID: 12.4 ppm	
5.5 - 6.5	Moist, very stiff, gray with yellow mottling to reddish brown with gray mottling, CLAY. Native soil. PID: 6.7 ppm	

**Notes:** \_\_\_\_\_

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**Photos**



# PARSONS

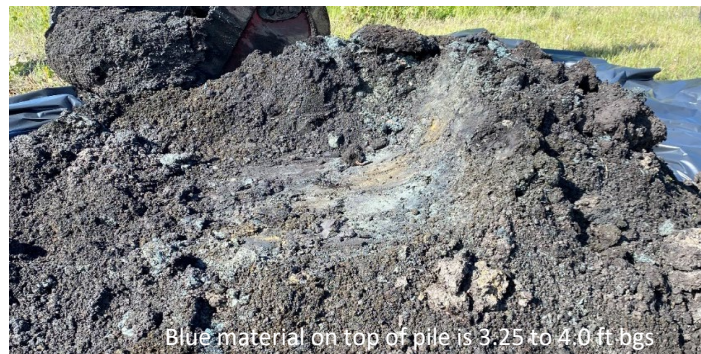
## TEST PIT RECORD

<b>Start - End Date</b>	<u>6/23/2021 - 6/23/2021</u>	<b>Test Pit ID:</b>	<u>TP-14-2020N</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>On National Grid property on east side of Site 110</u>		
<b>Dimensions:</b>	<u>12</u> ft long,	<u>2</u> ft wide,	<u>5</u> ft deep

Depth (ft bgs)	Material Description	Sample ID
0 - 3.25	Dry to wet (wet at ~3 ft bgs) black to dark brown, Fill - Breeze, some fine to medium Sand and nodules, little coke fragments and fine subangular Gravel. PID: 0.9 ppm	TP-14-2020-0.0-0.16-06242021
		TP-14-2020-0.16-1.0-06242021
		NA
3.25 - 4.0	Dry, blueish green, SILT and fine Sand, some wood fragments (chunks of compacted wood fibers with colors ranging from brown to black to blue). Strong sulfur odor. PID: 18.5 ppm	TP-14-2020-3.25-4.0-06242021
4.0 - 5.0	Greenish gray with orangish mottling, grading to reddish brown, CLAY. Native soil. PID: 5.4 ppm	NA

Notes: Test pit filled with water. Slight sheen on water.

### Photos





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>6/24/2021 - 6/24/2021</u>	<b>Test Pit ID:</b>	<u>TP-14-2020S</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b> <u>On National Grid property on east side of Site 110</u>			
<b>Dimensions:</b> <u>12</u> ft long, <u>2</u> ft wide, <u>6</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 3.5	Dry to wet (wet at ~3 ft bgs) black to dark brown, Fill - Breeze, some fine to medium Sand and nodules, little coke fragments and fine subangular Gravel.	NA
3.5 - 4.5	Dry, blueish green, SILT and fine Sand, some wood fragments (chunks of compacted wood fibers). PID: 6.1 ppm	
4.5 - 6.0	Greenish gray with yellow mottling CLAY grades to reddish brown CLAY. Native soil.	

Notes: Test pit filled with water.

### Photos





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>6/24/2021 - 6/24/2021</u>	<b>Test Pit ID:</b>	<u>TP-14-2020E</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b> <u>On National Grid property on east side of Site 110</u>			
<b>Dimensions:</b> <u>12</u> ft long, <u>2</u> ft wide, <u>5.5</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 3.3	Dry to wet (wet at ~3 ft bgs) black to dark brown, Fill - Breeze, some fine to medium Sand and nodules, little coke fragments and fine subangular Gravel. PID: 1.8 ppm	NA
3.3 - 4.25	Dry, blueish green to gray, SILT and fine Sand, some wood fragments (chunks of compacted wood fibers). PID: 5.5 ppm	
4.25 - 5.5	Greenish gray with yellow/gold mottling CLAY grades to reddish brown CLAY. Native soil. PID: 1.6 ppm	

Notes: Test pit slowly filling with water.

### Photos





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>6/24/2021 - 6/24/2021</u>	<b>Test Pit ID:</b>	<u>TP-14-2020W</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>On National Grid property on east side of Site 110</u>		
<b>Dimensions:</b>	<u>12</u> ft long, <u>2</u> ft wide, <u>5.5</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 3.5	Dry to wet (wet at ~3 ft bgs) black to dark brown, Fill - Breeze, some fine to medium Sand and nodules, little coke fragments and fine subangular Gravel. PID: 2.6 ppm	NA
		TP-14-2020-3.0-3.5-06242021
3.5 - 4.5	Dry, blueish green to gray, SILT and fine Sand, some wood fragments (chunks of compacted wood fibers). PID: 4.3 ppm	NA
4.5 - 5.0	Very stiff, greenish gray with yellow/gold mottling CLAY. Native soil.	

Notes: Test pit filling with water.

**Photos**





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>6/24/2021 - 6/24/2021</u>	<b>Test Pit ID:</b>	<u>TP-15-2020N</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b> <u>On National Grid property on east side of Site 110</u>			
<b>Dimensions:</b> <u>12</u> ft long, <u>2</u> ft wide, <u>4.25</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 3.25	Dry to wet (wet at 1.5 ft bgs), dark brown, Fill - Breeze and nodules, little silt and fine to coarse Sand, some thick, fibrous organics in top 4 inches, little brick at 2 ft bgs. PID: 1.8 ppm max	TP-15-2020-0.0-0.16-06242021
		TP-15-2020-0.16-1.0-06242021
3.25 - 4.25	Very stiff, greenish gray with yellow mottling, CLAY, quickly grades to reddish brown with gray mottling, CLAY. Native soil. PID: 2.4 ppm	NA

Notes:

### Photos





**PARSONS****TEST PIT RECORD**

<b>Start - End Date</b>	<u>6/24/2021 - 6/24/2021</u>	<b>Test Pit ID:</b>	<u>TP-15-2020E</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>On National Grid property on east side of Site 110</u>		
<b>Dimensions:</b>	<u>12</u> ft long, <u>2</u> ft wide, <u>4.25</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 3.0	Dry to wet (wet at 2 ft bgs), dark brown, Fill - Breeze and nodules, little Silt and fine to coarse Sand, trace plastic sheeting at 2.5 ft bgs. Very slight odor. PID: 4.4 ppm	NA
3.0 - 3.5	Moist, very stiff, reddish brown with gray mottling, CLAY. Native soil. PID: 3.3 ppm	

Notes:  
  
**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>6/24/2021 - 6/24/2021</u>	<b>Test Pit ID:</b>	<u>TP-15-2020S</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>On National Grid property on east side of Site 110</u>		
<b>Dimensions:</b>	<u>12</u> ft long, <u>2</u> ft wide, <u>4.75</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 4.0	Moist, black to oxidized orange, Fill - Breeze, some nodules, little fine to coarse Sand, small concrete chunks, and coke fragments, trace chunks of an unidentified squishy gray material. Little bricks (red and yellow) at 3 ft bgs. Trace chunks of hardened tar/fill mixture at 2.5 ft bgs. PID: 1.8 ppm in general fill, 6.2 ppm in piece of hardened tar.	NA
4.0 - 4.75	Slightly moist, very stiff, gray with yellow mottling grading to reddish brown with gray mottling, CLAY. PID: 1.5 ppm	

Notes: \_\_\_\_\_

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**Photos**



**PARSONS**

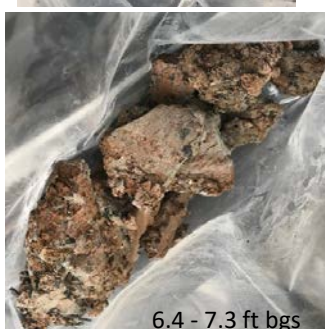
**TEST PIT RECORD**

<b>Start - End Date</b>	<u>11/13/2020 - 11/13/2020</u>	<b>Test Pit ID:</b>	<u>TP-33-2020A</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>34 degrees, partly cloudy</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>Adjacent to MW-06-2020</u>		
<b>Dimensions:</b>	<u>32</u> ft long, <u>2</u> ft wide, <u>7.3</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 3.2	Moist, wet at 3', black, Fill - Fine to coarse SAND, some nodules and fine Gravel, little breeze. Yellow granular layer 1 - 2', predominantly nodules. PID: 1.4 ppm	NA
3.2 - 5.7	Wet, black, Fill - Fine to coarse SAND, some nodules, brick, and fine Gravel, little breeze. PID: 0.8 ppm	
5.7 - 6.4	Moist, soft, gray with yellow mottling, CLAY, little yellow Silt and black organic fibers. Native soil. PID: 1.8 ppm	
6.4 - 7.3	Moist, stiff, reddish brown with gray mottling, CLAY, trace black organic fibers. Native soil. PID: 1.3 ppm	

Notes: Excavated to determine the extent of subsurface tar observed during MW-06-2020 installation

**Photos**





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>11/13/2020 - 11/13/2020</u>	<b>Test Pit ID:</b>	<u>TP-33-2020B</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>34 degrees, partly cloudy</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>Adjacent to MW-06-2020</u>		
<b>Dimensions:</b>	<u>20</u> ft long, <u>4</u> ft wide, <u>6.6</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 6.6	Moist, wet at 3' bgs, black, Fill - Fine to coarse SAND, some nodules, concrete, and fine Gravel, little breeze. Yellow granular layer 1 - 2' bgs, predominantly nodules. At 2' bgs on west and south wall, layer of hardened tar/fill mixture, mixed with breeze, nodules, and wood. Tar/fill mixture forms very hard, 0.5 - 1' thick ledge, iron stained on south side (probably from nodules). Tar/fill mixture not present on north or east sidewalls.	NA
At 6.6	Moist, soft, gray with yellow mottling, CLAY, little yellow Silt and black organic fibers. Native soil. Water entering pit.	

Notes: Excavated to determine the extent of subsurface tar observed during MW-06-2020 installation

**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	11/13/2020 - 11/13/2020	<b>Test Pit ID:</b>	TP-33-2020C
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	34 degrees, partly cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Adjacent to MW-06-2020			
<b>Dimensions:</b>	19 ft long, 2 ft wide, 6 ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 6.0	Moist, wet at 3', black, Fill - Fine to coarse SAND, some nodules and fine Gravel, little concrete and breeze. Yellow granular layer 1 - 2', predominantly nodules.	NA
At 6.0	Moist, soft, gray with yellow mottling, CLAY, little yellow Silt and black organic fibers. Native soil. Water entering pit.	

**Notes:** Excavated to determine the extent of subsurface tar observed during MW-06-2020 installation

**Photos**





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>11/13/2020 - 11/13/2020</u>	<b>Test Pit ID:</b>	<u>TP-33-2020D</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Jim Hugill</u>
<b>Weather:</b>	<u>34 degrees, partly cloudy</u>	<b>Surface Conditions:</b>	<u>Breeze</u>
<b>Location Description:</b>	<u>Adjacent to MW-06-2020</u>		
<b>Dimensions:</b>	<u>19</u> ft long, <u>2</u> ft wide, <u>6</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 6.0	Moist, wet at 3', black, Fill - Fine to coarse SAND, some nodules and fine Gravel, little breeze and concrete. Yellow granular layer 1 - 2', predominantly nodules. At 4.5' bgs, 0.5' thick of hardened tar/fill mixture (with breeze and nodules) and tar saturated material (drips off excavator). Difficult to trace because pit filled with water. Stop excavating at 6' bgs due to inundation with water, not yet in native material. Slight sheen on water.	NA

Notes: Excavated to determine the extent of subsurface tar observed during MW-06-2020 installation

### Photos



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	11/13/2020 - 11/13/2020	<b>Test Pit ID:</b>	TP-33-2020F
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Jim Hugill
<b>Weather:</b>	34 degrees, partly cloudy	<b>Surface Conditions:</b>	Breeze
<b>Location Description:</b> Adjacent to MW-06-2020			
<b>Dimensions:</b> 17 ft long, 2 ft wide, 6.6 ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 6.0	Moist, wet at 3', black, Fill - Fine to coarse SAND, some nodules and fine Gravel, little concrete and breeze. Yellow granular layer 1 - 2', predominantly nodules. Fill has orange hue ~2' from bottom.	NA
At 6.0	Moist, soft, gray with yellow mottling, CLAY, little yellow Silt and black organic fibers. Native soil. Water entering pit, slight sheen on water.	

**Notes:** Excavated to determine the extent of subsurface tar observed during MW-06-2020 installation

**Photos**





# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>6/23/2021 - 6/23/2021</u>	<b>Test Pit ID:</b>	<u>TP-34-2020</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Grass/vegetation</u>
<b>Location Description:</b>	<u>Southern edge of the site over a tar bloom, perpendicular to the mounded area</u>		
<b>Dimensions:</b>	<u>12</u> ft long, <u>2</u> ft wide, <u>9</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 1.5	Black, dry, loose, Fill - Breeze, little coarse Sand and coke fragments, trace fine Gravel and organics. PID: 8.1 ppm	NA
1.5 - 7.5	Black, shiny, tar saturated and pliable tar/fill mixture (mixed with breeze and nodules). Top is tar saturated and grades to pliable tar/fill mixture with depth. Wet and very nodule-rich at 6.5 ft bgs. Some clay mixed in towards bottom of interval. PID: 76.9 ppm to 275.2 ppm	TP-34-2021-1.5-7.5-06232021 (waste characterization) / TP-34-2021-6.0-6.5-06232021
7.5 - 8.0	Moist, greenish gray with black organics and streaking, medium plasticity, CLAY, little organics. Native soil. PID: 54.3 ppm	NA
8.0 - 9.0	Dry, reddish brown with gray mottling, CLAY. Native soil. PID: 0.9 ppm	

Notes: Tar materials stockpiled on poly sheeting and covered with poly sheeting. Insufficient material to backfill hole, so hole is left open with wood beams over it and construction fencing around it.

### Photos





**PARSONS**

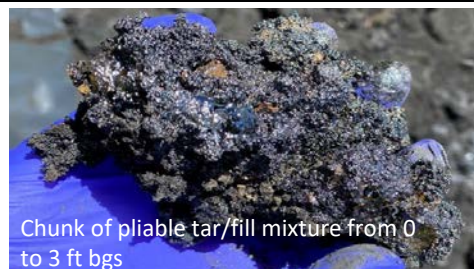
**TEST PIT RECORD**

<b>Start - End Date</b>	<u>6/23/2021 - 6/23/2021</u>	<b>Test Pit ID:</b>	<u>TP-35-2020</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Grass/vegetation</u>
<b>Location Description:</b>	<u>Southern edge of the site over a tar bloom, parallel to the mounded area</u>		
<b>Dimensions:</b>	<u>12</u> ft long, <u>2</u> ft wide, <u>8.6</u> ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 3.0	Dry, black, Fill - Breeze, some fine to coarse Sand and nodules, some chunks of pliable tar/fill mixture (mixed with breeze and nodules) little construction and demolition debris including concrete (coated in pliable tar/fill mixture), wood, and wiring. Interval is predominantly fill, with chunks of pliable tar/fill mixture observed in a fill matrix. Tar bloom observed on the surface prior to excavation. PID: 102.4 ppm	NA
3.0 - 3.25	Tar saturated. PID: 52.1 ppm	
3.25 - 5.0	Dry, black, Fill - Breeze, some fine to coarse Sand and nodules, some chunks of pliable tar/fill mixture (mixed with breeze and nodules) little C&D debris.	
5.0 - 6.5	Pliable tar/fill mixture (tar-rich matrix mixed with breeze, nodules, coke, and gravel).	
6.5 - 7.0	Reddish brown with black streaks, CLAY. Appears disturbed.	
7.0 - 7.7	Pliable tar/fill mixture with tar-rich matrix.	
7.7 - 8.6	Dry, yellowish gray with some black streaking and black organics, CLAY. Native soil. PID: 1.9 ppm	
At 8.6	Dry, reddish brown with gray mottling, CLAY. Native soil.	

Notes: Tar materials stockpiled on poly sheeting and covered with poly sheeting. Insufficient material to backfill hole, so hole is left open with wood beams over it and construction fencing around it.

**Photos**



# PARSONS

## TEST PIT RECORD

<b>Start - End Date</b>	<u>6/23/2021 - 6/23/2021</u>	<b>Test Pit ID:</b>	<u>TP-36-2020</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Grass/vegetation</u>
<b>Location Description:</b>	<u>Southern edge of the site, west of TP-35-2021, parallel to the mounded area</u>		
<b>Dimensions:</b>	<u>12</u> ft long,	<u>2</u> ft wide,	<u>8</u> ft deep

Depth (ft bgs)	Material Description	Sample ID
0 - 3.5	Dry, black, Fill - Breeze, little coke fragments and nodules, grades to coarser breeze (size of medium to coarse sand) and nodules. PID: 0.5 ppm in finer portion, 0.0 ppm in coarser portion	NA
3.5 - 6.5	Dry, Fill - Stiff, blocky, reddish brown with gray mottling, CLAY, some grayish white deposits in cracks, little breeze. PID: 0.0 ppm	
6.5 - 7.0	Wet, grayish brown, Fill - medium to coarse SAND and nodules, little breeze, trace coke fragments. PID: 0.0 ppm	
7.0 - 8.0	Moist to dry, greenish gray, CLAY grading to red CLAY. Native soil.	

Notes: Purpose of test pit was to delineate extent of tar observed in TP-34-2021 and TP-35-2021

### Photos





**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	6/23/2021 - 6/23/2021	<b>Test Pit ID:</b>	TP-37-2020
<b>Project / Site Name:</b>	Tonawanda Coke Site 110 RI	<b>Geologist:</b>	Megan Clark
<b>Site Location:</b>	Tonawanda, NY	<b>Excavation Contractor:</b>	OSC
<b>Client:</b>	Honeywell	<b>Operator:</b>	Kyle Alexander
<b>Weather:</b>	52 degrees, mostly sunny	<b>Surface Conditions:</b>	Grass/vegetation
<b>Location Description:</b> Southern edge of the site, east of TP-34-2021, parallel to the mounded area			
<b>Dimensions:</b>	12 ft long, 2 ft wide, 7.25 ft deep		

Depth (ft bgs)	Material Description	Sample ID
0 - 6.5	Dry to wet, black to dark brown, orangey in wet interval at 6 ft bgs, Fill - Breeze, some nodules and coarser grained material composed of coarse Sand and othe granular material. PID: 0.0 ppm	NA
6.5 - 7.25	Moist, medium plasticity, yellow to gray to greenish gray with orange/yellow mottling, CLAY. Native soil. Did not identify red clay, but test pit was inundated with water so could not continue digging. Slight sheen on water. PID: 0.0 ppm	

**Notes:** Purpose of test pit was to delineate extent of tar observed in TP-34-2021 and TP-35-2021

**Photos**



**PARSONS**

**TEST PIT RECORD**

<b>Start - End Date</b>	<u>6/23/2021 - 6/23/2021</u>	<b>Test Pit ID:</b>	<u>TP-38-2020</u>
<b>Project / Site Name:</b>	<u>Tonawanda Coke Site 110 RI</u>	<b>Geologist:</b>	<u>Megan Clark</u>
<b>Site Location:</b>	<u>Tonawanda, NY</u>	<b>Excavation Contractor:</b>	<u>OSC</u>
<b>Client:</b>	<u>Honeywell</u>	<b>Operator:</b>	<u>Kyle Alexander</u>
<b>Weather:</b>	<u>52 degrees, mostly sunny</u>	<b>Surface Conditions:</b>	<u>Grass/vegetation</u>
<b>Location Description:</b> <u>On top of mound, north of TP-34-2021 and TP-35-2021</u>			
<b>Dimensions:</b> <u>12</u> ft long, <u>2</u> ft wide, <u>3</u> ft deep			

Depth (ft bgs)	Material Description	Sample ID
0 - 3.0	Dry, black, Fill - Breeze, metal, and rubber debris, little coke fragments. Refusal on rubber at 3 ft bgs - excavator getting wrapped up in potential former conveyor.	NA

Notes: Purpose of test pit was to delineate extent of tar observed in TP-34-2021 and TP-35-2021.  
 An additional test pit (TP-38-2021A) was dug south of original and refusal was encountered at 5 ft bgs on apparent rubber conveyor debris.

## Appendix G - Test Pit Photographs



## Test Pit Photographs

TP-BCP-01





TP-BCP-01 Starting Location

Note: Building No. 05



TP-BCP-01

Note Reddish Brown Layer on Top of Silty Clay

Dry Trench





TP-BCP-01

Abrupt Transition at NW20

Note: Brick Structure in Building No. 04 - Heavy Equipment Maintenance "The Roundhouse"

TP-BCP-02



TP-BCP-02 Location (Looking East)

Note: Excavator Bucket resting on inlet for North Storm Sewer. Gravel check dam surrounds inlet to prevent siltation





TP-BCP-02 Looking West

Note: Oil House in Background



TP-BCP-02

East End at Former Tank Foundation

TP-BCP-03





TP-BCP-03 Location Looking West Northwest



TP-BCP-03

Fill and Clay looking North





TP-BCP-03 Location

Note: Consistent Clay Across Length of Test Trench

TP-BCP-04



TP-BCP-04 Location Looking South





Broken Pipe in TP-BCP-04  
2-inch Diameter at S7, 24-inches BGS



TP-BCP-04

Weeping Tar @ 26 to 33-inches BGS @ S15





TP-BCP-04

Stained Slag Layer, North End of Test Trench

TP-BCP-05



TP-BCP-05 Location Looking West

Warehouse in the Background, Tar Management Area South of this Location





TP-BCP-05

Dense Gravel cemented with Hard Tar



TP-BCP-05

Cemented Tar Layer over the Granular Fill





TP-BCP-05

Typical cemented Gravel



TP-BCP-05

Second cemented Gravel Layer





TP-BCP-05

Looking West Southwest



TP-BCP-06



TP-BCP-06 Location Looking West

Top of Former Battery Number 1



East End of TP-BCP-06 Looking South.

Note Layers of Brick under Fill

Note: Water at 32-inches BGS.





TP-BCP-06 Looking West Southwest



Air Monitoring at TP-BCP-06

TP-BCP-07 (Hand Auger Location)





TP-BCP-07 – Hand Auger Location

A Test Pit had been planned for this area, but it is inaccessible to equipment. A Hand Auger was used to collect a sample downslope from the former transformer pad.

TP-BCP-08



TP-BCP-08 Location Looking West





East End of TP-BCP-08 Looking Southwest)



TP-BCP-08

Typical Wall Structures (E14 and E18)





TP-BCP-08

Clay Visible before Seepage





TP-BCP-08

Typical Mixed Fill

TP-BCP-09



North end of TP-BCP-09 Location Looking West





TP-BCP-09 Location Looking South



TP-BCP-09 Suspect Refractory Castings

South End of Test Trench





Heavy Root Penetration in TP-BCP-09





Solidified Tar Mixture – TP-BCP-09



TP-BCP-09





TP-BCP-09

Solidified Tar Layer



TP-BCP-09 (West to East)

Supplemental Section of Test Pit to Investigate Tar Migration onto the BCP Site



TP-BCP-10



TP-BCP-10 Location Looking West



TP-BCP-10 Location Looking South





Black silty Sand TP-BCP-10



TP-BCP-10 Debris Piles





TP-BCP-10

Black to Reddish Brown sandy Gravel

Note: Flow

TP-BCP-11



TP-BCP-11 Location Looking West





TP-BCP-11 (Southwest End) Looking Northwest





TP-BCP-11

Fill over silty Clay



Northeast End of TP-BCP-11

TP-BCP-12





TP-BCP-12 Location Looking East

Purifier Boxes on the Left (North)



TP-BCP-12 Initial Cut Looking Southwest





TP-BCP-12

Note: blue and White Silt Layer





TP-BCP-12

Expanded View of Silt

TP-BCP-13



TP-BCP\_13 Location Looking North



TP-BCP-13

Note: Blue and White Silt





TP-BCP-13

Note: Brown and Rust colored layer above Blue and White Silt

TP-BCP-14





TP-BCP-14 Location Looking West



TP-BCP-14 Location

Spill Area "B" Location

Pile in Background Left by Others, Former Excavation on Left side of Photograph





TP-BCP-14

W0 to W10

Water at ~43-inches BGS



TP-BCP-14

Between W17 and W50

Notable Sheen and Odor starting at W17





TP-BCP-14

Looking East to West

TP-BCP-15





TP-BCP-15 Location Looking Northeast



TP-BCP-15 East End, Looking West

Note: Even with Standing Water Around Test Trench, Subsurface is Dry





TP-BCP-15

Typical Coke Fill



TP-BCP-15

Top of Clay, Little Water





West End of TP-BCP-15

Note: Water near West End of Trench



TP-BCP-16



TP-BCP-16 Location Looking North-Northeast



TO-BCP\_16

Note: Upper silty Clay Fill





TP-BCP-16

Water near Base of Pit



TP-BCP-16

Silty Clay Verification Material



TP-BCP-17



TP-BCP-17 Location Looking East



TP-BCP-17

Note: Clear Seepage from Gravel between S10 and S42





TP-BCP-17

North End of Test Trench



TP-BCP-17

Note: Clear Seepage from Gravel between S10 and S42





TP-BCP-17 Looking North

TP-BCP-18



TP-BCP-18 Location Looking North



TP-BCP-18

Air Monitoring and Sample Stations





TP-BCP-18

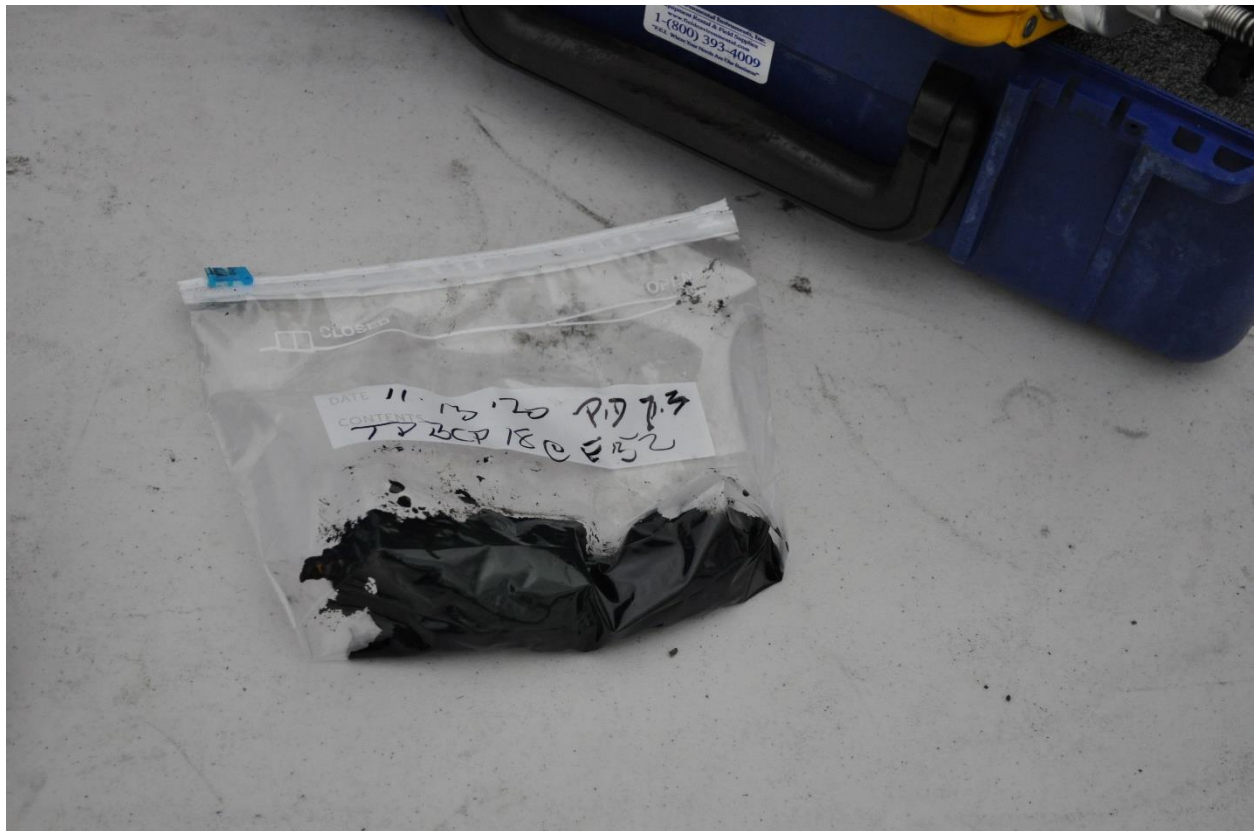
Debris in Test Trench





TP-BCP-18

Typical PiD Sample of Tar (As recovered, Pliable)



TP-BCP-18

PiD Sample after Allowing to Warm

(Viscous)



TP-BCP-18

Tar Layer in Fill





TP-BCP-18 Looking South

Sheen on Perched Water

TP-BCP-19





TP-BCP-19 Location Looking Southeast



TP-BCP-19 Location Looking West





TP-BCP-19A



TP-BCP-19B





TP-BCP-19C





TP-BCP-19D

TP-BCP-20



TP-BCP20 Location Looking North





TP-BCP\_20 Location Looking West-Northwest  
Former Shoer Building is in the Background



TP-BCP-20

Hard Crystalline Tar





TP-BCP-20

Fill over Hard Crystalline Tar

TP-BCP-21



TP-BCP-21 Location Looking Northeast





TP-BCP-21

Crystalline Tar



TP-BCP-21

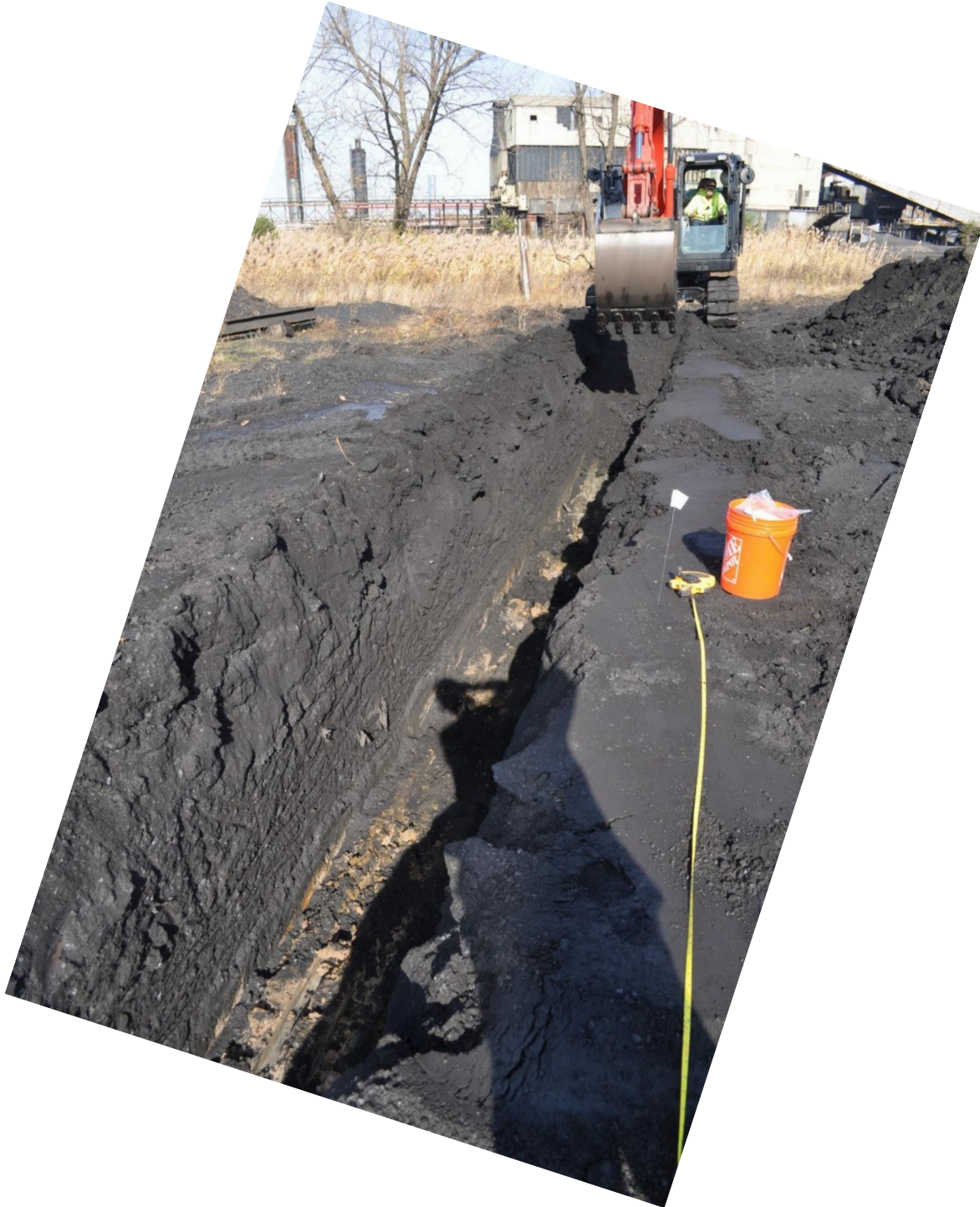
Crystalline Tar Layer





TP-BBCP-21

Crystalline Tar and Brick Fill



TP-BCP-21

Northeast End of Test Trench Looking North



Samples of Crystalline Tar in Sample Preparation Room on 11/6/2020





Samples of Crystalline Tar in Sample Preparation Room on 11/9/2020

Even after a Weekend at Room Temperature there was no change in structure

TP-BCP-22





TP-BCP-22 Location Looking South



TP-BCCP-22

Layer of Solidified Coal and Tar



TP-BCP-22

Edge of Layer that could not be penetrated by Excavator





TP-BCP-22

Looking North

Note; Layer that could not be removed near center of trench

TP-BCP-23





TP-BCP-23 Location Looking West



TP-BCP-23

Fill – silty Sand Coal





TP-BCP-23

Note: Dry conditions despite standing water on surface

Small Section of Slag, Rail Bed?



TP-BCP-23

Solidified Coal and Tar Material

TP-BCP-24





TP-BCP-24 Location Looking Southwest

Note: Concrete Blocks are Around a Vertical Opening to the Coal Yard Tunnel.

Water Level in Tunnel @ 24-inches BGS at Entry

Air monitoring station is the Coal Yard Grading Station, not the Test Pit Station



South End of TP-BCP-24

Dry Conditions well Below Water Level in Nearby Tunnel





TP-BCP-24

Hard Solidified Tar in North End of Test trench, Looking East



TP-BCP-24

North End of TP-BCP-24

TP-BCP-25





TP-BCP-25 Location Looking South

Started at RC-04 (in shadow), Across Tar Seep No. 2 (Concrete Barriers), To North extent of Tar



TP-BCP-25

Layer of Viscous Tar

Note: Within limits of Tar seep the tar follows a migration pathway to surface.





TP-BCP-25

Tar rising to surface at Tar Seep



TP-BCP-25

Tar layer north of Tar Seep

TP-BCP-26





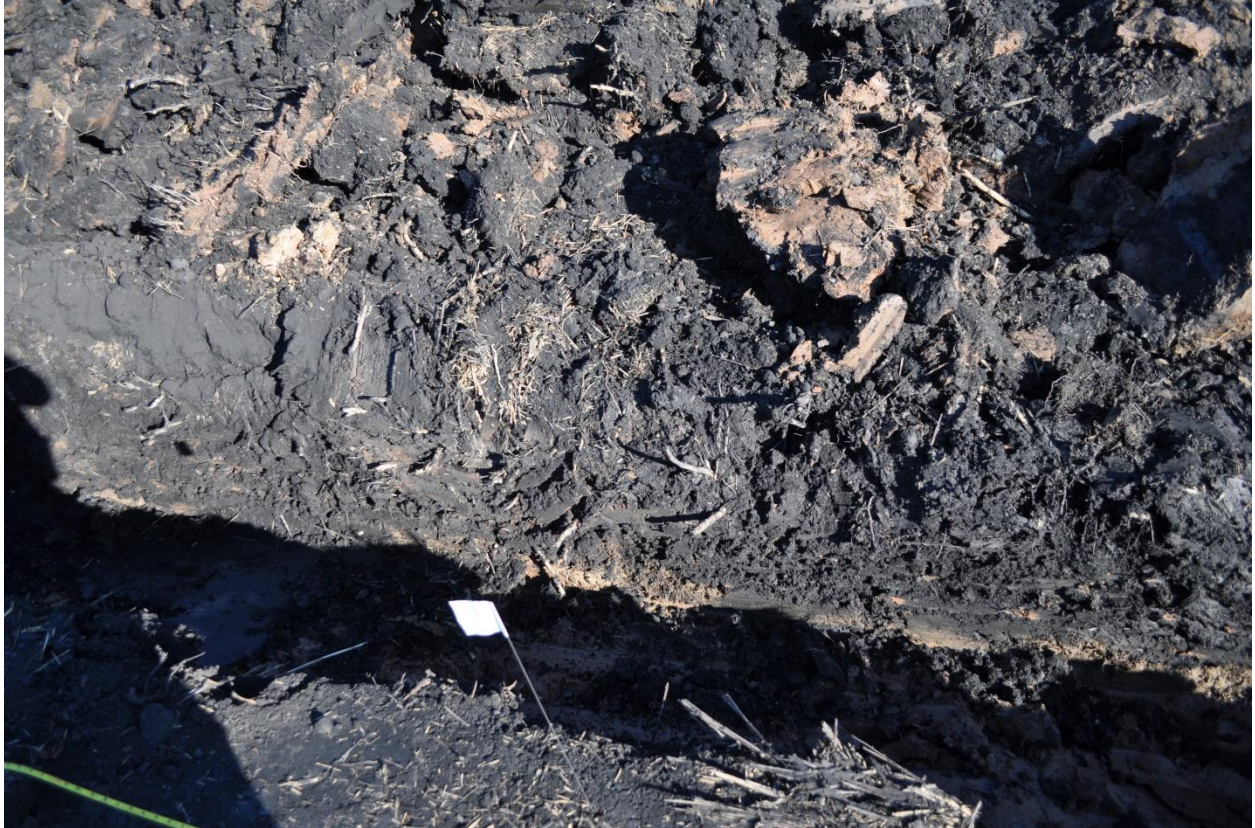
TP-BCP-26 Location Looking Northwest



TP-BCP-26

Looking North





TP-BCP-26

Fill over silty Clay, Southern Section of Test Trench





TP-BCP-26

Fill over silty Clay





TP-BCP-26

Clay at North End of Test trench, very shallow.



TP-BCP-27



TP-BCP-27 Location Looking Northwest.

New Collection Sump at Orange Cone, Treatment System in Trailers.



TP-BCP-27

Typical Reworked, Compacted Coal



TP-BCP-27 Location Looking Southwest

TP-BCP-28





TP-BCP-28 Location Looking West  
East of Bend in South Ditch



TP-BCP-28 Location Looking Southwest

East of Bend in South Ditch

Showing Location of Rail Cars 01, 02, and 03

TP-BCP-29



TP-BCP-29 Location Looking West

Note surface of reconstructed South Coal Yard.





TP-BCP-29 Location Looking North

Note: Condition of compacted surface.





TP-BCP-29

Compacted coal over silty Clay



TP-BCP-29

Compacted coal over silty Clay





TP-BCP-29

Compacted coal over silty Clay

No water present in fill



TP-BCP-29

Looking North

TP-BCP-30





TP-BCP-30 Location Looking East  
(Note: Photograph before regrading)



TP-BCP-30 Location Looking North



TP-BCP-30

Fill over silty Clay





TP-BCP-30

6-inch diameter PVC Pipe, filled with coal fines



TP-BCP-30

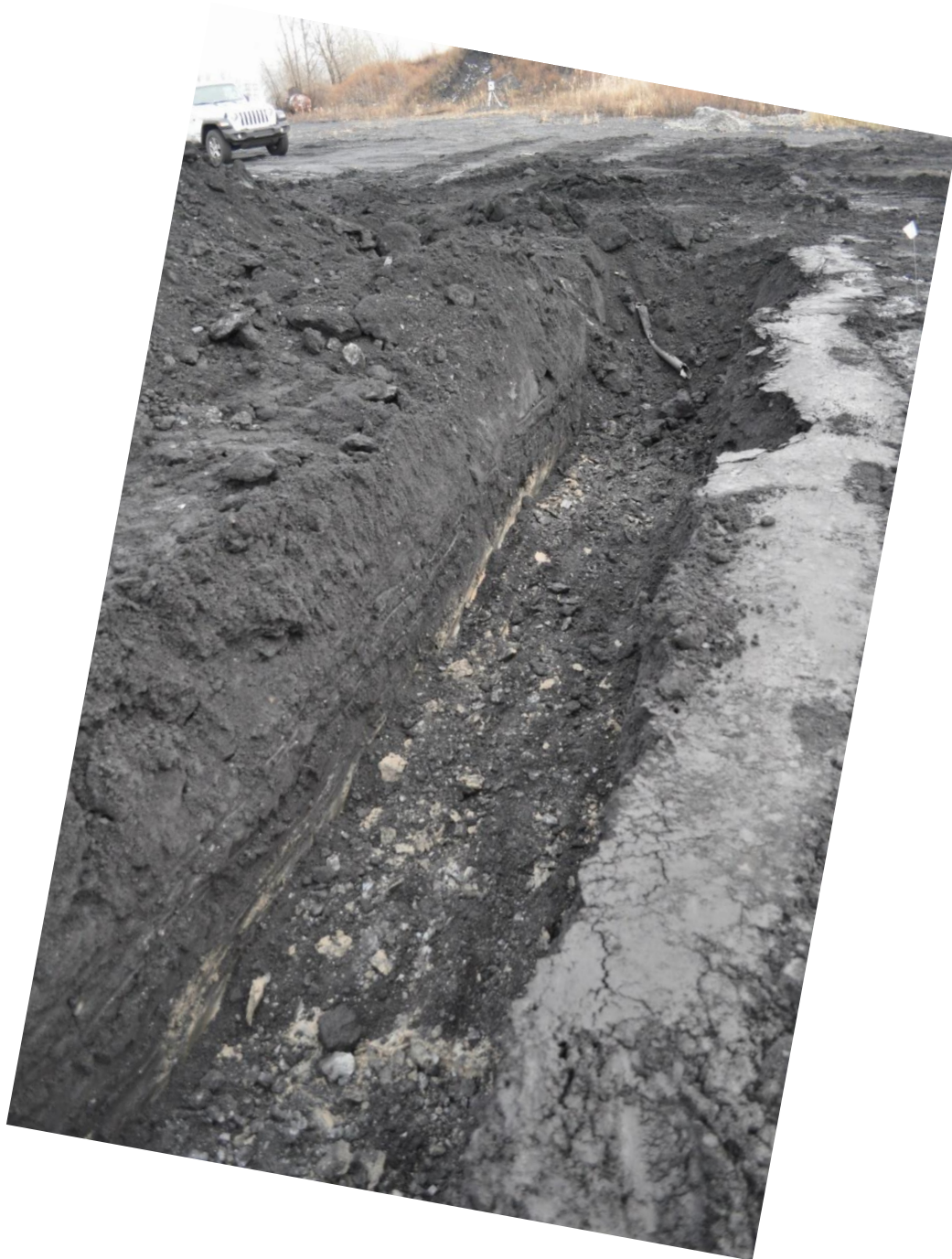
View Looking North Along Alignment of Drainage Pipe





TP-BCP-30

East end of Test Trench, DRY despite extremely wet conditions surrounding excavation.



TP-BCP-30

East End, electrical conduit

TP-BCP-31





TP-BCP-31 Location Looking West Southwest.

Note: Rail Cars RC-02 and RC-01 in left side of photograph.

Former Plastics Facility Flare in right side of photograph (Offsite).



South end of TP-BCP-31

Note layer of Solidified Tar.





TP-BCP-31

Fill with Pliable Tar Layer



TP-BCP-31

Brown clayey Silt with Organic Matter





TP-BCP-31

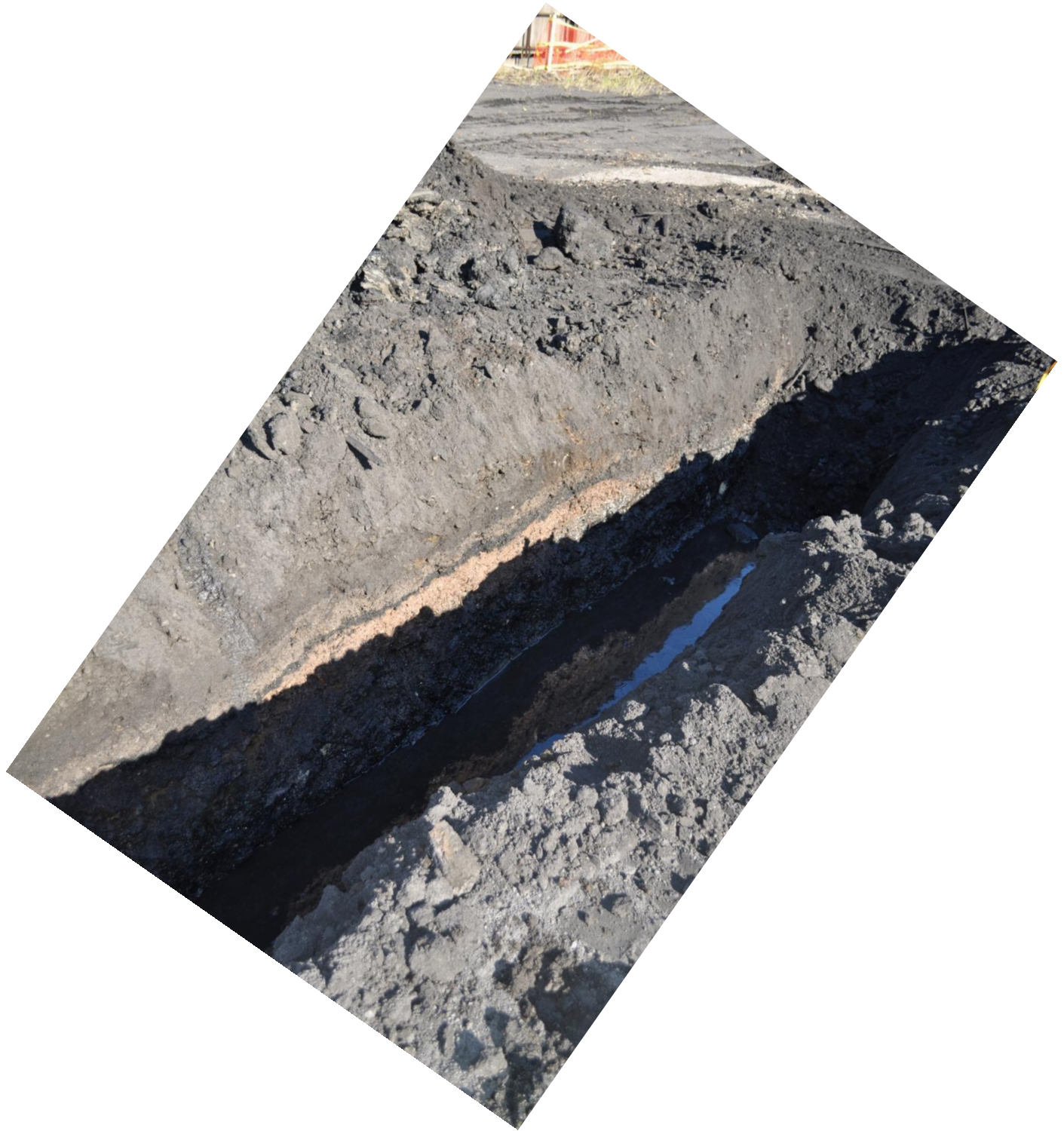
Close-up of Layer evolving into topsoil

TP-BCP-32



TP-BCP-32 Location Looking Southeast





TP-BCP-32

Coke Fill over silty Clay Looking North

TP-BCP-33



TP-BCP-33 Location Looking East





TP-BCP-33

Silty Gravel, Coke



TP-BCP-33

Reddish Brown Gravel below Coke Fill



TP-BCP-34



TP-BCP-34 Location Looking East

Test Trench is along the trees in the foreground of the photograph





Initial excavation at TP-BCP-34 Looking Northwest



TP-BCP-34

Reddish Brown sandy Gravel

Produced water as soon as encountered





TP-BCP-34

Water produced from Reddish Brown sandy Gravel





TP-BCP-34

Flooding from sandy Gravel



TP-BCP-34

Reddish Brown sandy Gravel





TP-BCP-34

Note: Seepage throughout sandy Gravel, dominated by flow from bottom



TP-BCP-34 South North

Hard Tar Layer



TP-BCP-35



TP-BCP-35 Location Looking South-Southeast

Test Trench on South Side



TP-BCP-25

Bright Blue Silt Fill





TP-BCP-35

Multiple Layers of Blue silt Fill





TP-BCP-35

Blue Silt below Pile of Soil and Debris

TP-BCP-36



TP-BCP-36 Location Looking Southeast





West End of TP-BCP-36, Fence is approximately 10 feet south of the excavation





West end of TP-BCP-36



TP-BCP-36

Water seeping from the base of the Sand





TP-BCP-36

Approaching pile of material in Southeast corner of property



TP-BCP-36

Belting and debris near east end of excavation



TP-BCP-37

*TP-BCP-37 was not used*

TP-BCP-38



TP-BCP-38 Location Looking East

Former Bethlehem Steel Collector Mains on Left (North)





East End of TP-BCP-38





TP-BCP-38

Typical sandy Gravel Nodules.







TP-BCP-38

silty Sand Fill over sandy Gravel Nodules



TP-BCP-38

Sample Location – TP-BCP-38-01





TP-BCP-38 South North



TP-BCP-39 – North Rail Bed



Test Pit TP-BCP-39 Location

Looking West



First Attempt at TP-BCP-39

Encountered Intact Rail 39-feet South of Fence

TP-BCP-39 Moved South





TP-BCP-39

Concrete Wall – W10 of Test Pit





TP-BCP-39

W10 to W42

Silty sand Fill overlying Brown and Reddish-Brown sandy Gravel



TP-BCP-39

W 43 to W71 – Seams of Reddish-Brown sandy Gravel

TP-BCP-40





TP-BCP-40 Location Looking West

Note: Pink pin flags mark the suspected location of the out-of-service former COG line supplying offsite users (Buffalo and Tonawanda)





TP-BCP-40

Black sandy Gravel Layer with Coal Pieces



TP-BCP-40

Solidified Tar Layer





TP-BCP-40

Loose silty Gravel near site road

TP-BCP-41





TP-BCP-41 Location Looking South





TP-BCP-41

Fill over silty Clay





TP-BCP-41

silty Clay





TP-BCP-41

Abrupt transition to thicker Fill



TP-BCP-42



TP-BCP-42 Location Looking East

Note: Concrete Barrier Blocks and Old Scale are on Site 110, Test Trench this side of Site 110 Boundary

Note: The supplemental Test Trench to investigate the presence of tar was excavated along the tree line in the left (North) side of this photograph.



TP-BCP-42

Reddish Brown silty Sand





TP-BCP42

Black silty Sand





TP-BCP-42

Industrial debris in silty Sand

TP-BCP-43



TP-BCP-43 Location, Looking Down, Trench excavated immediately west (right) of the Pipe Rack





TP-BCP-43 Location, Looking South, First Shovel





TP-BCP-43

Typical Heavily stained Slag



TP-BCP-43 Looking South





TP-BCP-43

Debris, Rubble and Pipe in Test Trench

TP-BCP-44





Test Pit TP-BCP-44 Location Looking West

Spill Location is Surrounded by Concrete Barriers

Barriers were moved during test trenching to allow access.



TP-BCP-44 Location Looking East from the Spill Pile





TP-BCP-44

West End – The Pile of material in the foreground is the Very Dense Hard Slag Encountered



TP-BCP-44

Location of Former Truck Tank Spill Location after the concrete barriers were moved





TP-BCP-44

Slag Layer below the Fill



TP-BCP-44

Uniformity of Slag Suggest it was Placed as base for Conveyor or Rail





TP-BCP-44

Clay Below Slag



TP-BCP-44 Looking West Southwest





TP-BCP-44

Looking East

TP-BCP-45



TP-BCP-45 Location Looking North

Note: Tie being removed, there were numerous ties throughout the length of the test trench



TP-BCP-45 Location Looking East



TP-BCP-46



TP-BCP-46 South Location

Note: The rail car in the photograph is RC-10



Start of TP-BCP-46

Note: Railcar RC-10 is to the right (North)





TP-BCP-46 South

North end of Test Trench





TP-BCP-46 South

Whitish Material (former battery coating clay)



Fill and Clay at South end of TP-BCP-46 South





TP-BCP-46 South Looking North

Note the significant difference in water elevation from the North to the South



TP-BCP-46 North Location Looking West





TP-BCP-46 North (West to East)

Note: Blue materials



TP-BCP-46 North (West to East)

Note: Flow in Western end of Test Trench





TP-BCP-46 North (West to East)



TP-BCP-46 (North)

North Side of Test Pit





TP-BCP-46 North (West to East)

Flow in Easter Section of Trench, noticeably darker color



TP-BCP-46 North (West to East)





TP-BCP-46 North (South to North)

Note: Test Trench offset to avoid flooding from the West to East trench



TP-BCP-46 North (South to North)

Note: Layer of Brown Nodules, significant water flow from Nodule layer





TP-BCP-46 North (South to North)

Flow into trench, slight sheen

TP-BCP-47



TP-BCP-47 Location Looking West Northwest

Note: Supplemental Test Trench added during investigation, former heavy equipment parking area.





TP-BCP47

East End of Trench





TP-BCP-47 Looking South

Reddish Brown silty sandy Gravel (Nodules)



TP-BCP-47 Looking South

Reddish Brown silty sandy Gravel (Nodules)





TP-BCP-47 Looking South

West End of Test Trench

TP-BCP-48





TP-BCP-48 Location Looking East



TP-BCP-48 Location Looking South Southeast

White Stake is Site 110 Boundary

Pin Flag is Test Trench Location





TP-BCP-48

Reddish Brown to Dark Gray silty sandy Gravel



TP-BCP-48

Increasing Amounts of Debris and Trench Advances North





TP-BCP-48

North End of Trench, significant Flow, relatively clear

TP-BCP-49



TP-BCP-49 Location Looking South

Note: Pile Slope to the Right (West)





South End of TP-BCP-49 Looking West

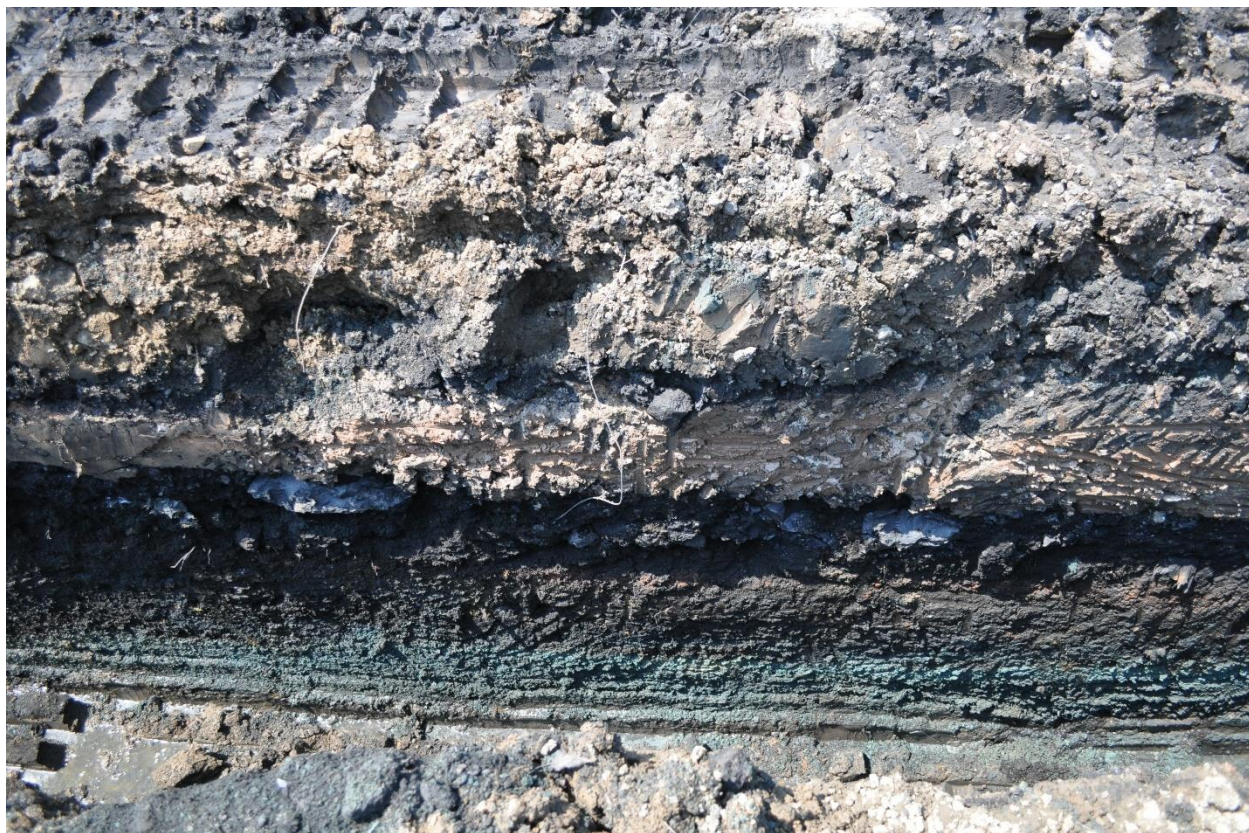
Note: Blue Fill at Fill/Clay Interface





Sample Locations – 13-feet from Start of Test Pit





Looking West and Down at S20





Looking West and Down at S40

Note: Fill transitioned to Greenish Blue





Northern End of Test Pit



TP-BCP-50



TP-BCP-50 Location Looking South

Note: Rise in Ground Surface, Pile of Material to the Right (West)



Southern End of Test Pit

Note: Blue Fill at Fill/Clay Interface





Blue Fill Near S20, Looking Down and West





Blue and Tan Fill Near S40



Blue and Tan Fill Near S60





Fill Near S80





North End of TP-BCP-50





TP-BCP-50 Looking South

TP-BCP-51





South End of TP-BCP-51 Extended into Heavy Vegetation



South End of TP-BCP-51

Flooded Immediately after 24-inches





TP-BCP-51

Barrier Left at S15, Note Water Differential and Reddish Brown sandy Gravel (Nodules) Fill



TP-BCP-51 at S40





North End of TP-BCP-51

Looking West

TP-BCP-52





TP-BCP-52

Looking South





Southern End of TP-BCP-52

Pliable Tar Near RR Tracks

Cropped Image of Tar:







TP-BCP-52 NearS-20



TP-BCP-52 Near S40



## Appendix H - Surface Soil and Sediment Logs



Plant Subsection AOI	Cell Location	Sample ID	Rationale	Sample Type	Sample Depth	Description	Notes
AOI 2 - Production Area	U-6	SS-BCP-01	Adjacent to Tar Secondary Containment	Shallow Fill	0-1 feet	Black dense silty Sand fill.	Immediately adjacent to the north wall of the tar management area secondary containment.
AOI 1 - North Rail Corridor	AK-2	SS-BCP-02	Soil Stockpile (Suspect Diesel Tank Excavation)	Shallow Fill	0-2 feet	Black and dark gray silty sandy Gravel fill.	Material is consistent with obserations of fill in the open excavated reportedly from a TCC diesel release. No documentation available although it was rumored that their was a disagreeemnt between TCC and others abouth how far to extend the excavation.
AOI 1 - North Rail Corridor	AN-2	SS-BCP-03	Soil Stockpile (Suspect Diesel Tank Excavation)	Shallow Fill	0-2 feet	Black and dark gray silty sandy Gravel fill.	Material is consistent with obserations of fill in the open excavated reportedly from a TCC diesel release. No documentation available although it was rumored that their was a disagreeemnt between TCC and others abouth how far to extend the excavation.
AOI 2 - Production Area	AM-7	SS-BCP-04	Iron Oxide Pile	Surface Material	0-2 feet	Blue silty Sand with wood fibers	Collecetd from the covered Iron Oxide Pile. Opened seam to access materials. Seam was resealed after sample collection.
AOI 2 - Production Area	AG-7	SS-BCP-05	Iron Oxide Pile	Surface Material	0-2 feet	Blue silty Sand	Collected in the second purifier box from the west, approximatly 3 feet from the north wall. The material stained the stainless steel hand augur blue.
AOI 2 - Production Area	AP-8	SS-BCP-06	Iron Oxide Pile	Surface Material	0-1 foot	Black silty sandle Cobble sized coke like materials. This material was the top 12-inches at this location.	Collected sample of the coke like material at the east end of the Iron Oxide Pile at the base of the slope. Original plan was a 0- to 2-foot sample, but below 12-inches was the medium stiff, Reddish brown silty Clay.
AOI 4 - Coke Yard	AS-12	SS-BCP-07	Debris Pile (Shredder Material)	Surface Material	TBD	Black silty Gravel, dry.	Sample of the fill at the base of the debris pile in the east end of the coke yard.
AOI 4 - Coke Yard	AT-12	SS-BCP-08	Debris Pile (Shredder Material)	Surface Material	TBD	Black silty Gravel, dry.	Sample of the fill at the base of the debris pile in the east end of the coke yard.
AOI 4 - Coke Yard	AW-12	SS-BCP-09	Debris Pile (Shredder Material)	Surface Material	TBD	Black silty Gravel, dry.	Sample of the fill at the base of the debris pile in the east end of the coke yard.
AOI 1 - North Rail Corridor	H-1	SS-BCP-10	Assess Property Perimeter , Perimeter with Fly Ash Landfill	Shallow Fill	0-2 feet	Black silty gravel and coke. Some pieces of slag at 1.5- inches bgs.	Northeast of the Mansion and former office trailer. Along North Rail corridor after the removal of the rail sold by the bankrutcy court, the area is completely

Plant Subsection AOI	Cell Location	Sample ID	Rationale	Sample Type	Sample Depth	Description	Notes
AOI 1 - North Rail Corridor	AD-1	SS-BCP-11	Assess Property Perimeter , Perimeter with Fly Ash Landfill	Shallow Fill	0-2 feet	Black silty gravel and coke.	Northwest of the production area, a predominately downwind location relative to the production area. Along North Rail corridor after the removal of the rail sold by the bankrutcy court, the area is completely reworked.
AOI 1 - North Rail Corridor	AV-1	SS-BCP-12	Assess Property Perimeter , Perimeter with Fly Ash Landfill	Shallow Fill	0-2 feet	Black silty gravel and coke.	North of the area of significant debris disposal. Along North Rail corridor after the removal of the rail sold by the bankrutcy court, the area is completely reworked.
AOI 1 - North Rail Corridor	BI-2	SS-BCP-13	Assess Property Perimeter , East Property Line with National Grid	Surface Soil	0 - 2 inches	Compacted surface fill, Black silty fine Sand	Immediately north of the northeast corner of Site 110 on the RTC property. Represents both the east property line and boundary with Site 110.
				Surface Soil	2 - 6 inches	Black silty Sand, some slag.	
				Shallow Fill	0.5-2 feet	Black silty Sand	
AOI 7 - East Property Line	BI-13	SS-BCP-14	Assess Property Perimeter , East Property Line with National Grid	Surface Soil	0 - 2 inches	Black silty Sand, thick root mat.	Approximately one-half of the distance between Site 110 and the SE corner of the BCP Site. Had to brush hog to location.
				Surface Soil	2 - 6 inches	Black silty Sand, some root material.	
				Shallow Fill	0.5-2 feet	Black silty Sand.	
AOI 7 - South Drainage	BC-20	SS-BCP-15	Assess Property Perimeter	Surface Soil	0 - 2 inches	Black silty organic soil (topsoil like), thick root mat. This material was 0- to 6-inches bgs.	South property line with National Grid high voltage alingment. Dense phramites growth. Had to brush hog to location.
				Surface Soil	2 - 6 inches	Black silty Sand with Clay, some root material. This material was from 6- to 19-inches bgs.	
				Shallow Fill	0.5-2 feet	Light Brown silty Clay, 19-inches bgs to bottom of sample location at 24-inches bgs.	The fill sloped down to the property line. Approximately a 3 foot drop to the property line.

Plant Subsection AOI	Cell Location	Sample ID	Rationale	Sample Type	Sample Depth	Description	Notes
AOI 7 - South Drainage	AP-26	SS-BCP-16	Assess Property Perimeter	Surface Soil	0 - 2 inches	Black silty sand, dense root structure.	South property line with National Grid high voltage alignment. Dense phramites growth. Immediately southwest of large fill piles.
				Surface Soil	2 - 6 inches	Black silty sand, roots throughout.	
				Shallow Fill	0.5-2 feet	Brown Silty Clay below 6-inches.	
AOI 7 - South Drainage	AA-33	SS-BCP-17	Assess Property Perimeter	Surface Soil	0 - 2 inches	Black silty sand, dense root structure.	South property line with National Grid high voltage alignment. Dense phramites growth. Immediately northeast of abandoned rail cars, edge of south rail tracks to Plastics.
				Surface Soil	2 - 6 inches	Black silty sand, roots throughout.	
				Shallow Fill	0.5-2 feet	Brown Silty Clay below 20-inches.	
AOI 7 - South Drainage	BI-13	SS-BCP-18	Assess Property Perimeter, and verify extent of SS-BCP-14 detections.	Surface Soil	0 - 2 inches	Black Silt fill, dry, dense phragmites root mat. (0- to 10-inches bgs)	East property line along National Grid high voltage alingement. Fifteen feet south of water valve, 15-feet west of water line marker. Note: the water line of offsite in the National Grid property.
				Surface Soil	2 - 6 inches	Black Silt fill, dry, dense phragmites root mat. (0- to 10-inches bgs)	
				Shallow Fill	0.5-2 feet	Brown Silty clay fill below 10-inches to bottom of sample at 24-inches. Although clay, appeared to have been reworked and placed, not in-situ.	
AOI 7 - South Drainage	BI-13	SS-BCP-19	Assess Property Perimeter, and verify extent of SS-BCP-14 detections.	Surface Soil	0 - 2 inches	Black silty sandy Gravel (0- to 22-inches bgs). Dense phragmites root mat to 10-inches bgs.	Fifteen feet west of the SS-BCP-14 location.
				Surface Soil	2 - 6 inches	Black silty sandy Gravel (0- to 22-inches bgs). Dense phragmites root mat to 10-inches bgs.	
				Shallow Fill	0.5-2 feet	Black silty sandy Gravel (0- to 22-inches bgs). Dense phragmites root mat to 10-inches bgs. Transitions to Black silty Gravel from 22- to 24-inches bgs.	
AOI 7 - South Drainage	BI-13	SS-BCP-20	Assess Property Perimeter, and verify extent of SS-BCP-14 detections.	Surface Soil	0 - 2 inches	Black silty Sand (0- to 5-inches bgs). Dense phragmites root mat to 5-inches bgs.	Fifteen feet south of the SS-BCP-14 location.
				Surface Soil	2 - 6 inches	Black silty Sand (0- to 5-inches bgs). Brown silty Clay fill (Not insitu clay) 5- to 20-inches bgs. Dense phragmites root mat to 5-inches bgs, some roots to 10-inches bgs.	
				Shallow Fill	0.5-2 feet	Black silty Sand (0- to 5-inches bgs). Brown silty Clay fill (Not insitu clay) 5- to 20-inches bgs. Black silty Gravel 20- to 24-inches bgs. Dense phragmites root mat to 5-inches bgs, some roots to 10-inches bgs. Water inflow at 20-inches bgs.	



Plant Subsection AOI	Cell Location	Sample ID	Rationale	Sample Type	Sample Depth	Description	Notes
AOI 7 - South Drainage	BI-13	SS-BCP-140	Assess Property Perimeter, and duplicate to verify SS-BCP-14 detections.	Surface Soil	0 - 2 inches	Black silty Sand, some Brown silty Clay (fill). Dense phragmites root mat to 10-inches bgs.	Dupliacte at the SS-BCP-14 location.
				Surface Soil	2 - 6 inches	Black silty Sand, some Brown silty Clay (fill). Dense phragmites root mat to 10-inches bgs.	
				Shallow Fill	0.5-2 feet	Black silty Sand, some Brown silty Clay (fill). Dense phragmites root mat to 10-inches bgs. Water inflow at 21-inches bgs.	
AOI 6 - Water Treatment	N-30	SD-BCP-01	Assess Sedimentation Pond #001	Sediment Sample	0- to 1-inch	Thin layer of Black fine sandy Silt (coal like) underlain by Brow silty Clay (Soft and Wet)	Sample collected from east end of pool, directly north of the east end of the former Pentane Tank. Sample was from the Black sandy Silt.
AOI 5 - Coal Yard	L-22	SD-BCP-02	Assess Sedimentation Pond #002	Sediment Sample	0- to 1-inch	Thin layer of Black fine sandy Silt (coal like) underlain by Brow silty Clay (Soft and Wet)	Sample collected from the southeast bank, approximately one-third of the lenth from the North Ditch Discharge. Sample was from the Black sandy Silt.
AOI 4 - Coke Yard	N-17	SD-BCP-03	Assess Sedimentation Pond #003	Sediment Sample	0- to 6-inches	Brown silty Clay (Soft and Wet)	Sample collected from the east bank, approximatly one-half the length from the coke yard discharge.
AOI 6 - Water Treatment	I-27	SD-BCP-04	Assess Stormwater Retention Basin	Sediment Sample	0- to 6-inches	Brown silty Clay (Soft and Wet)	Sample collected from the northeast bank
AOI 6 - Water Treatment	I-27	SD-BCP-040	Assess Stormwater Retention Basin	Sediment Sample	0- to 6-inches	Brown silty Clay (Soft and Wet)	Duplicate Sample collected from the northeast bank
AOI 7 - South Drainage	BF-18	SD-BCP-05	Assess Sediment In Suspect Wetlands	Sediment Sample	Below Water (if present)	Black fine sithly Sand, dense root mat.	
				Water Sample	If Present		No surface water at time of sampling
AOI 7 - South Drainage	BG-18	SD-BCP-06	Assess Sediment In Suspect Wetlands	Sediment Sample	Below Water (if present)	Black fine sithly Sand, dense root mat.	
				Water Sample	If Present		No surface water at time of sampling

Plant Subsection AOI	Cell Location	Sample ID	Rationale	Sample Type	Sample Depth	Description	Notes
AOI 4 East near boundary with AOI 7	AQ-18	TP-BCP-34-A	Determine if the sample of slag contained above NORM concentrations of radiological activity.	Slag		Gray and rust-colored slag	
AOI 4 East near boundary with AOI 7	AQ-18	TP-BCP-34-B	Determine if the sample of slag contained above NORM concentrations of radiological activity.	Slag		Dark gray and rust-colored slag	
AOI 2 - Production Area (Along Boundary with AOI4)	I-13	TP-BCP-32-W45	Determine if the sample of slag contained above NORM concentrations of radiological activity.	Slag		Black slag with some rust colored inclusions	
AOI 5 (Former Stacker/ reclaimer alignment)	AI-25	TP-BCP-44-A	Determine if the sample of slag contained above NORM concentrations of radiological activity.	Slag		Light gray and black mottled slag	
AOI 5 (Former Stacker/ reclaimer alignment)	AI-25	TP-BCP-44-B	Determine if the sample of slag contained above NORM concentrations of radiological activity.	Slag		Rust, black and gray mottled Slag	
AOI 1 - Dedris disposal area	AU-2	TP-BCP-47	Determine if the sample of slag contained above NORM concentrations of radiological activity.	Slag		Rusty reddish brown colored sandy Gravel Slag (Nodules)	

## Appendix I - Water Sample Collection Logs





Appendix I  
Water Samples (Grab) Summary  
Riverview Innovation Technology Campus, Inc.  
Town of Tonawanda, New York

Plant Subsection AOI	Cell Location	Sample ID	Rationale	Sample Type	Sample Depth	Description	Notes
AOI 5 - Coal Yard	AJ-26	W-BCP-01	Assess Water in Coal Conveyor Tunnel	Water	N/A	Clear water	Coal conveyor tunnel, second entrance from the south. Original plan was the first entrance but that was obstructed at 6.5-feet below the surface. Second entrance was open to bottom at 12.5 feet.
AOI 2 - Production Area	I-11	W-BCP-02	Assess Water in West Quench Sumps	Water	N/A	Clear water.	Collected from the South side of the West Quenceh Sump approximately one-half the distance along the side. Water was 34-inches deep over settled coke.
AOI 2 - Production Area	Q-11	W-BCP-03	Assess Water in West Coke Wharf	Water	N/A	Clear water.	Colleceted from the east end of the Coke Wharf. Water was 80-inches deep.
AOI 2 - Production Area	AC-10	W-BCP-04	Assess Water in the East Quench Sump	Water	N/A	Clear water.	Collected along the south side of the east quench sump, midway of the screen. Depth of water was 41-inches over settled coke.
AOI 2 - Production Area	W-10	W-BCP-05	Assess Water in Battery Basement	Water	N/A	Water had some discoloration, very slightly brown.	Battery basement, collected from the north side approximately one-half the distacne from the east end.
AOI 2 - Production Area	AC-11	W-BCP-06	Assess Water in the Exhaust Manifold ("Waste Heat Tunnel")	Water	N/A	Clear deep water.	Collected from the east end of the tunnel near the stack, water was 177-inches (14-feet, 9-inches) deep.
AOI 2 - Production Area	AC-11	W-BCP-060	Assess Water in the Exhaust Manifold ("Waste Heat Tunnel")	Water	N/A	Clear deep water.	Duplicate sample of W-BCP-06, collected from the east end of the tunnel near the stack, water was 177-inches (14-feet, 9-inches) deep.
AOI 2 - Production Area	J-11	W-BCP-07	Assess Water in the East Coke Wharf	Water	N/A	Water was clear.	Collected at east end of coke wharf. Approximately 18-inches of water over settled coke materials.