CCR COMPLIANCE
GROUNDWATER MONITORING AND CORRECTIVE ACTION
ANNUAL REPORT
BOTTOM ASH PONDS AND ASH DISPOSAL SITE

Prepared for:

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Cheswick Generating Station
Springdale, Pennsylvania

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1.0 Introduction

Title 40 Code of Federal Regulations (CFR) §257.90 mandates that existing Coal Combustion Residuals (CCR) landfills and surface impoundments, also known as CCR units, be subject to groundwater monitoring and corrective action requirements as further detailed in §257.91 through §257.98. These requirements are part of the overall CCR Rule (or Rule) which was published in the Federal Register on April 17, 2015 and which became effective on October 19, 2015. Specific obligations for Owners and Operators of existing CCR units regarding the preparation of "Annual Groundwater Monitoring and Corrective Action Reports (Annual Report)" are outlined in §257.90(e)(1-5). The first of these Annual Reports must be completed no later than January 31, 2018, and provide information to address the following aspects for the preceding calendar year:

- Document the status of the groundwater monitoring and corrective action program for the respective CCR units;
- Summarize key actions completed;
- Describe any problems encountered and actions taken to resolve the problems; and
- Offer a projection of key activities for the upcoming year.

At a minimum, the Annual Report must contain the following information to the extent applicable and available:

- A map, aerial image, or diagram showing the CCR unit and all background/upgradient and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program;
- Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
- In addition to all the monitoring data obtained under §257.90 through §257.98, a summary including the number of groundwater samples that were collected for analysis for each background/upgradient and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;
- A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and
- Any other information required to be included as specified in §257.90 through §257.98.

The Cheswick Generating Station, operated by NRG Power Midwest LP, a subsidiary of GenOn Energy, Inc. (GenOn), is a coal-fired power plant located in Springdale, Pennsylvania. The Rule applies to this facility due to the management/disposal of CCR materials that are generated from the combustion of coal. CCR units associated with station operations include the Cheswick Ash Disposal Site and two bottom ash ponds, identified as the "Recycle Pond" and the "Emergency Pond." Each of these CCR units has a dedicated groundwater monitoring system that was originally installed to comply with Commonwealth of Pennsylvania Residual Waste Regulations, and was subsequently evaluated and modified (as needed) for use under the CCR program. Additionally, in accordance with the provisions of §257.91(d) of the Rule, the groundwater monitoring system for the Bottom Ash Ponds has been designated to provide coverage in the context of a multiunit system encompassing both ponds collectively.

In summary, this Annual Report has been prepared to comply with the requirements of §257.90(e), addressing each of the Cheswick Station's CCR Units with respect to the groundwater monitoring and corrective actions undertaken during Calendar Year 2017. This Annual Report and all subsequent reports thereto will be placed in the Station's operating record per §257.105(h)(1), noticed to the State Director per §257.106(h)(1), and posted to the publicly accessible internet site per §257.107(h)(1).

2.0 Bottom Ash Ponds

2.1 Groundwater Monitoring Network

The CCR groundwater monitoring system for the Bottom Ash Ponds is comprised of four wells, including Well MW-8 (upgradient), and Wells MW-9, MW-10, and MW-11 (downgradient). All four wells communicate with the alluvium, which is the uppermost aquifer. The locations of the wells are shown on the attached Figure 1, along with depiction of the generalized groundwater flow direction in the area of the ponds. Each of these wells was already existing, and no new wells were added nor were any existing wells abandoned/replaced during the 2017 reporting period.

2.2 2017 Data Collection

Per the requirements of §257.94(b), Detection Monitoring was ongoing throughout 2017, including activities to ensure the collection of a minimum of eight independent samples from each of the background/upgradient and downgradient wells associated with the Bottom Ash Ponds. These samples were analyzed for the necessary Appendix III and Appendix IV constituents, with the results summarized in the attached Tables 1 and 2, respectively. In addition, a ninth round of samples was collected (October 5, 2017) and analyzed for Appendix III constituents only. The results from these samples (also shown in Table 1) will serve as the first point of comparison to determine if concentrations in any of the downgradient wells are at levels representing a statistically significant increase (SSI) over the background concentrations established in the upgradient well(s).

2.3 2017 Monitoring Program Transitions

During 2017, there were no transitions between monitoring programs. Only activities in support of the Detection Monitoring program were conducted.

2.4 2017 Corrective Actions

During 2017, there were no problems identified or corrective actions undertaken.

2.5 2018 Projected Activities

No later than January 15, 2018, the results from the ninth round of Detection Monitoring sampling will be reviewed against the Appendix III background concentrations and preliminary identification of any SSIs completed. If SSIs are identified, subsequent activities could include performance of an Alternate Source Demonstration [per §257.94(e)(2)] to potentially negate the SSIs (and remain in Detection Monitoring), and/or entry into the Assessment Monitoring program [per §257.94(e)(1)] should the SSIs be deemed valid. Completion of the Alternate Source Demonstration or entry into the Assessment Monitoring program must be accomplished within 90 days, or no later than April 15, 2018.

3.0 Ash Disposal Site

3.1 Groundwater Monitoring Network

The CCR groundwater monitoring system for the Ash Disposal Site is comprised of four wells, including Well MW-24 (upgradient) and Wells MW-21, MW-22 and MW-25 (downgradient). All four wells are screened across the soil/bedrock interface, wherein the uppermost aquifer exists. The locations of the wells are shown on Figure 2, along with depiction of the generalized groundwater flow direction in the area of the disposal site. Each of these wells was already existing, and no new wells were added nor were any existing wells abandoned/replaced during the 2017 reporting period.

3.2 2017 Data Collection

Per the requirements of §257.94(b), Detection Monitoring was ongoing throughout 2017, including activities to ensure the collection of a minimum of eight independent samples from each of the background/upgradient and downgradient wells associated with the Ash Disposal Site. These samples were analyzed for the necessary Appendix III and Appendix IV constituents, with the results summarized in the attached Tables 3 and 4, respectively. In addition, a ninth round of samples was collected (October 6, 2017) and analyzed for Appendix III constituents only. The results from these samples (also shown in Table 3) will serve as the first point of comparison to determine if concentrations in any of the downgradient wells are at levels representing an SSI over the background concentrations established in the upgradient well(s).

3.3 2017 Monitoring Program Transitions

During 2017, there were no transitions between monitoring programs. Only activities in support of the Detection Monitoring program were conducted.

3.4 2017 Corrective Actions

During 2017, there were no problems identified or corrective actions undertaken.

3.5 2018 Projected Activities

No later than January 15, 2018, the results from the ninth round of Detection Monitoring sampling will be reviewed against the Appendix III background concentrations and preliminary identification of any SSIs completed. If SSIs are identified, subsequent activities could include performance of an Alternate Source Demonstration [per §257.94(e)(2)] to potentially negate the SSIs (and remain in Detection Monitoring), and/or entry into the Assessment Monitoring program [per §257.94(e)(1)] should the SSIs be deemed valid. Completion of the Alternate Source Demonstration or entry into the Assessment Monitoring program must be accomplished within 90 days, or no later than April 15, 2018.

Tables

Table 1
Cheswick Generating Station
Bottom Ash Ponds--Groundwater Analytical Data
CCR Appendix III Constituents

Monitoring Well	Date Sampled	Groundwater Elevation (ft. MSL)	Total Boron (mg/L)	Total Calcium (mg/L)	Total Chloride (mg/L)	Total Fluoride (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	pH (S.U.)
MW-8 (Upgradient)	28-Dec-15	769.52	0.25	83.7	138	0.2	536	118	6.49
	28-Jan-16	768.82	0.27	81.0	122	0.2	500	132	6.55
	5-May-16	768.54	0.32	87.8	129	0.2	596	157	6.54
	28-Jul-16	767.89	0.31	69.0	115	0.2	502	110	6.45
	19-Oct-16	768.40	0.27	85.5	149	0.2	604	112	6.42
	30-Jan-17	768.27	0.29	70.9	109	0.2	490	129	6.46
	13-Apr-17	769.07	0.34	78.2	87	0.2	464	145	6.67
	1-Aug-17	769.43	0.37	73.2	78	0.2	486	150	6.34
	5-Oct-17	768.01	0.37	73.4	94	0.1	464	130	6.45
MW-9 (Downgradient)	28-Dec-15	757.75	0.26	86.7	167	0.1	554	112	6.56
	28-Jan-16	757.12	0.28	91.7	173	0.1	566	104	6.56
	5-May-16	756.96	0.23	91.4	189	0.1	646	103	6.68
	28-Jul-16	757.22	0.28	94.1	194	0.1	668	115	6.57
	19-Oct-16	756.98	0.25	99.8	173	0.1	732	110	6.52
	30-Jan-17	758.17	0.25	84.5	155	< 0.1	596	113	6.45
	13-Apr-17	757.82	0.26	89.4	141	< 0.1	548	107	5.59
	1-Aug-17	758.55	0.25	89.0	159	< 0.1	564	114	6.11
	5-Oct-17	756.95	0.29	113	238	< 0.1	776	150	6.45
MW-10 (Downgradient)	28-Dec-15	760.57	0.30	119	280	0.2	822	127	6.83
	28-Jan-16	760.04	0.29	118	263	0.2	766	118	6.98
	5-May-16	759.95	0.28	114	267	0.1	790	110	6.97
	28-Jul-16	760.13	0.28	89.8	198	0.2	656	106	6.78
	19-Oct-16	759.99	0.30	127	246	0.2	862	107	6.67
	30-Jan-17	760.75	0.27	109	239	0.1	722	118	6.85
	13-Apr-17	760.63	0.28	110	228	< 0.1	738	113	6.62
	1-Aug-17	760.89	0.30	114	255	0.1	784	125	6.89
	5-Oct-17	759.82	0.32	109	270	< 0.1	798	136	6.78
MW-11 (Downgradient)	28-Dec-15	764.35	0.19	79.3	35	0.5	346	68	7.06
	28-Jan-16	763.77	0.20	144	307	0.3	860	93	6.94
	5-May-16	764.00	0.22	112	209	0.4	694	93	6.88
	28-Jul-16	763.88	0.31	144	340	0.2	1070	144	6.71
	19-Oct-16	763.84	0.27	132	229	0.3	848	107	6.94
	30-Jan-17	764.29	0.18	84.1	106	0.5	450	77	6.95
	13-Apr-17	764.27	0.20	86.9	99	0.4	448	77	7.03
	1-Aug-17	764.23	0.26	98.1	110	0.5	498	80	6.75
	5-Oct-17	763.81	0.28	153	323	< 0.1	1130	162	6.60
PZ-1 (Observation Well) (See Note 1)	28-Dec-15	771.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	28-Jan-16	769.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5-May-16	767.48	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	28-Jul-16	762.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	19-Oct-16	764.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30-Jan-17	771.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	13-Apr-17	770.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1-Aug-17	774.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5-Oct-17	772.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Not applicable.
Note 1: Well only used for the collection of groundwater levels.
= Data to be compared against calculated Background values from the upgradient well.

Table 2
Cheswick Generating Station
Bottom Ash Ponds--Groundwater Baseline Analytical Data
CCR Appendix IV Constituents

Monitoring Well	Date Sampled	Total Antimony (mg/L)	Total Arsenic (mg/L)	Total Barium (mg/L)	Total Beryllium (mg/L)	Total Cadmium (mg/L)	Total Chromium (mg/L)	Total Cobalt (mg/L)	Total Fluoride (mg/L)	Total Lead (mg/L)	Total Lithium (mg/L)	Total Mercury (mg/L)	Total Molybdenum (mg/L)	Total Selenium (mg/L)	Total Thallium (mg/L)	Total Radium-226 and 228 (pCi/L)
MW-8 (Upgradient)	28-Dec-15	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.007	< 0.0002	0.62
	28-Jan-16	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	0.01	< 0.0002	< 0.02	0.013	< 0.0002	0.50
	5-May-16	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.016	< 0.0002	0.80
	28-Jul-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	0.01	< 0.0002	< 0.02	0.009	< 0.0002	0.43
	19-Oct-16	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	0.01	< 0.0002	< 0.02	0.007	< 0.0002	0.77
	30-Jan-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.013	< 0.0002	0.67
	13-Apr-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.015	< 0.0002	0.40
	1-Aug-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	0.01	< 0.0002	< 0.02	0.013	< 0.0002	0.98
MW-9 (Downgradient)	28-Dec-15	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.80
	28-Jan-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.15
	5-May-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.75
	28-Jul-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.18
	19-Oct-16	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.43
	30-Jan-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	-0.04
	13-Apr-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	-0.19
	1-Aug-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.31
MW-10 (Downgradient)	28-Dec-15	< 0.001	< 0.001	0.07	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	-0.04
	28-Jan-16	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.36
	5-May-16	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.53
	28-Jul-16	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.13
	19-Oct-16	< 0.001	< 0.001	0.10	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.64
	30-Jan-17	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	-0.15
	13-Apr-17	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.52
	1-Aug-17	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.12
MW-11 (Downgradient)	28-Dec-15	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.5	< 0.001	< 0.01	< 0.0002	< 0.02	0.004	< 0.0002	0.05
	28-Jan-16	< 0.001	< 0.001	0.10	< 0.001	< 0.002	< 0.01	< 0.005	0.3	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.50
	5-May-16	< 0.001	< 0.001	0.08	< 0.001	< 0.002	< 0.01	< 0.005	0.4	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.44
	28-Jul-16	< 0.001	< 0.001	0.12	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.24
	19-Oct-16	< 0.001	0.001	0.13	< 0.001	< 0.002	< 0.01	< 0.005	0.3	< 0.001	0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.82
	30-Jan-17	< 0.001	< 0.001	0.07	< 0.001	< 0.002	< 0.01	< 0.005	0.5	< 0.001	< 0.01	< 0.0002	< 0.02	0.003	< 0.0002	0.23
	13-Apr-17	< 0.001	< 0.001	0.08	< 0.001	< 0.002	< 0.01	< 0.005	0.4	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.94
	1-Aug-17	< 0.001	< 0.001	0.10	< 0.001	< 0.002	< 0.01	< 0.005	0.5	< 0.001	< 0.01	< 0.0002	< 0.02	0.001	< 0.0002	0.89

Table 3
Cheswick Generating Station
Ash Disposal Site--Groundwater Analytical Data
CCR Appendix III Constituents

Monitoring Well	Date Sampled	Groundwater Elevation (ft. MSL)	Total Boron (mg/L)	Total Calcium (mg/L)	Total Chloride (mg/L)	Total Fluoride (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	pH (S.U.)
MW-24 (Upgradient)	14-Oct-16	1075.54	< 0.05	126	85	< 0.1	534	58	6.53
	8-Dec-16	1077.22	< 0.05	125	83	< 0.1	478	52	6.38
	9-Jan-17	1077.24	< 0.05	126	90	< 0.1	738	59	6.57
	15-Feb-17	1078.30	< 0.05	134	60	< 0.1	516	52	6.65
	6-Mar-17	1077.65	< 0.05	125	61	< 0.1	496	48	6.52
	24-Apr-17	1077.71	< 0.05	127	51	< 0.1	516	46	6.62
	26-Jun-17	1077.59	< 0.05	118	49	< 0.1	522	45	6.82
	27-Jul-17	1077.21	< 0.05	116	57	< 0.1	544	49	6.59
	6-Oct-17	1073.21	< 0.05	122	47	< 0.1	508	47	6.61
MW-21 (Downgradient)	28-Dec-15	869.60	< 0.05	56.3	3	0.2	294	56	6.78
	9-Mar-16	866.25	0.06	61.3	2	0.2	278	55	7.92
	7-Jun-16	865.23	0.07	57.8	2	0.2	272	56	7.10
	9-Sep-16	865.35	< 0.05	59.3	2	0.2	296	48	7.16
	8-Dec-16	865.55	0.09	61.2	3	0.1	288	51	7.13
	16-Feb-17	867.05	0.07	62.1	3	0.2	272	53	7.17
	20-Apr-17	864.95	< 0.05	60.5	3	0.2	330	56	7.44
	26-Jun-17	864.23	< 0.05	57.9	3	0.1	296	60	7.42
	26-Jul-17	864.01	< 0.05	60.5	3	0.2	282	55	7.30
	6-Oct-17	863.37	< 0.05	60.4	3	0.2	274	53	6.80
MW-22 (Downgradient)	28-Dec-15	869.37	< 0.05	111	5	0.1	664	199	6.72
	9-Mar-16	865.46	0.07	95.2	4	0.1	506	148	7.14
	7-Jun-16	865.24	0.08	87.1	4	< 0.1	516	144	6.73
	9-Sep-16	864.88	< 0.05	86.8	5	0.4	600	146	6.28
	8-Dec-16	865.18	0.09	103	6	0.1	638	172	6.83
	16-Feb-17	865.85	0.16	96.3	8	0.1	616	183	6.86
	19-Apr-17	864.30	0.08	95.8	7	< 0.1	628	191	6.91
	26-Jun-17	864.01	0.07	89.6	7	< 0.1	622	186	7.15
	26-Jul-17	863.82	0.07	85.0	6	0.1	578	175	6.94
	6-Oct-17	863.52	0.05	86.1	7	0.1	594	169	6.62
MW-25 (Downgradient)	14-Oct-16	864.82	1.03	155	67	< 0.1	878	324	6.95
	8-Dec-16	865.17	1.51	128	27	< 0.1	670	268	6.86
	9-Jan-17	864.15	1.90	118	29	0.2	676	241	6.97
	16-Feb-17	866.37	4.11	199	65	0.1	916	420	7.16
	6-Mar-17	865.44	4.91	214	83	< 0.1	1080	469	6.97
	19-Apr-17	864.04	2.88	173	60	< 0.1	954	374	7.18
	26-Jun-17	863.79	2.48	134	27	< 0.1	702	242	7.13
	26-Jul-17	863.61	3.97	148	34	< 0.1	706	261	6.69
	6-Oct-17	863.11	3.63	158	48	< 0.1	802	236	6.60

= Data to be compared against calculated Background values from the upgradient well.

Table 4
Cheswick Generating Station
Ash Disposal Site--Groundwater Baseline Analytical Data
CCR Appendix IV Constituents

Monitoring Well	Date Sampled	Total Antimony (mg/L)	Total Arsenic (mg/L)	Total Barium (mg/L)	Total Beryllium (mg/L)	Total Cadmium (mg/L)	Total Chromium (mg/L)	Total Cobalt (mg/L)	Total Fluoride (mg/L)	Total Lead (mg/L)	Total Lithium (mg/L)	Total Mercury (mg/L)	Total Molybdenum (mg/L)	Total Selenium (mg/L)	Total Thallium (mg/L)	Total Radium-226 and 228 (pCi/L)
MW-24 (Upgradient)	14-Oct-16	< 0.001	< 0.001	0.12	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.22
	8-Dec-16	< 0.001	< 0.001	0.12	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	-0.08
	9-Jan-17	< 0.001	< 0.001	0.12	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.03
	15-Feb-17	< 0.001	< 0.001	0.13	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.37
	6-Mar-17	< 0.001	< 0.001	0.12	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.28
	24-Apr-17	< 0.001	< 0.001	0.13	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	-0.31
	26-Jun-17	< 0.001	< 0.001	0.11	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.40
	27-Jul-17	< 0.001	< 0.001	0.11	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.71
MW-21 (Downgradient)	28-Dec-15	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.21
	9-Mar-16	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.003	< 0.0002	-0.25
	7-Jun-16	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.56
	9-Sep-16	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.40
	8-Dec-16	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	0.003	< 0.0002	-0.04
	16-Feb-17	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.003	< 0.0002	0.35
	20-Apr-17	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.37
	26-Jun-17	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.91
	26-Jul-17	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.74
MW-22 (Downgradient)	28-Dec-15	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	0.01	< 0.0002	< 0.02	0.002	< 0.0002	1.46
	9-Mar-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.54
	7-Jun-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	0.002	< 0.0002	0.31
	9-Sep-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.4	< 0.001	< 0.01	< 0.0002	< 0.02	0.003	< 0.0002	0.88
	8-Dec-16	< 0.001	0.003	0.07	< 0.001	< 0.002	< 0.01	< 0.005	0.1	0.006	0.01	< 0.0002	< 0.02	0.004	< 0.0002	0.14
	16-Feb-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	0.01	< 0.0002	< 0.02	0.004	< 0.0002	0.60
	19-Apr-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	0.004	< 0.0002	0.31
	26-Jun-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	0.004	< 0.0002	0.73
	26-Jul-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	0.004	< 0.0002	0.79
MW-25 (Downgradient)	14-Oct-16	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	0.02	< 0.0002	< 0.02	0.002	< 0.0002	0.55
	8-Dec-16	< 0.001	0.002	0.04	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	0.03	< 0.0002	< 0.02	< 0.001	< 0.0002	0.35
	9-Jan-17	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	0.03	< 0.0002	< 0.02	< 0.001	< 0.0002	1.00
	16-Feb-17	< 0.001	< 0.001	0.09	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	0.13	< 0.0002	0.27	0.006	< 0.0002	0.86
	6-Mar-17	< 0.001	< 0.001	0.08	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	0.14	< 0.0002	0.29	0.007	< 0.0002	-0.19
	19-Apr-17	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	0.04	< 0.0002	< 0.02	0.001	< 0.0002	0.76
	26-Jun-17	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	0.03	< 0.0002	< 0.02	< 0.001	< 0.0002	0.71
	26-Jul-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	0.04	< 0.0002	< 0.02	0.001	< 0.0002	0.33

Figures

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	DESIGNED BY	DATE	OFFICE
1009134004-B8	--	--	E. Schlegel	--	1/31/18	Pittsburgh, PA

LEGEND:

- MW-10 (759.82) — CCR GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED ON OCTOBER 5, 2017
- PZ-1 (772.50) — OBSERVATION WELL (GROUNDWATER LEVELS ONLY) WITH GROUNDWATER ELEVATION MEASURED ON OCTOBER 5, 2017
- GROUNDWATER FLOW DIRECTION

SCALE

0 80 160 FEET

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 6/14/2014.

APTIM
500 Penn Center Boulevard,
Suite 1000
Pittsburgh, Pennsylvania 15235

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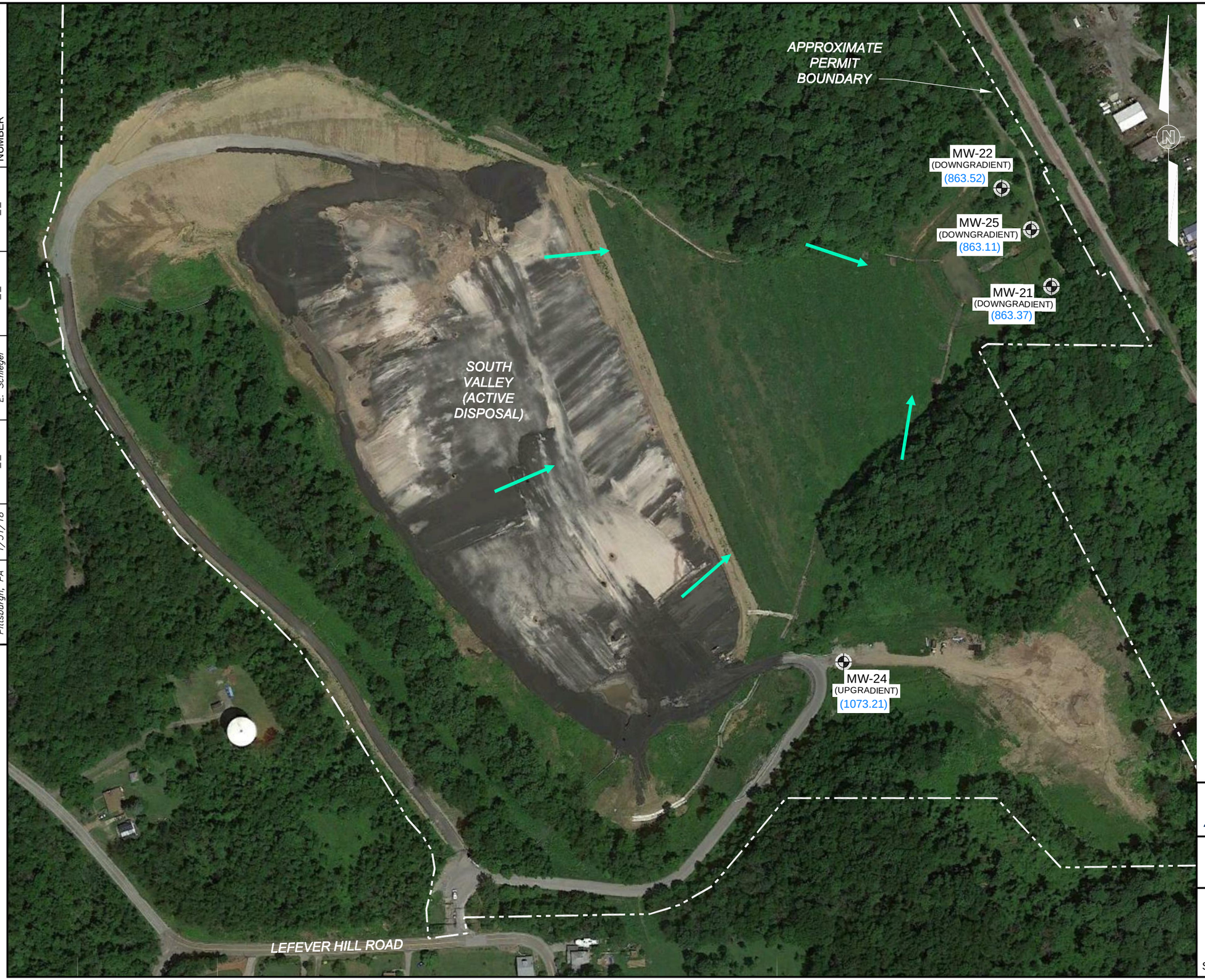
FIGURE 1
CCR COMPLIANCE GROUNDWATER MONITORING WELL LOCATION MAP
BOTTOM ASH PONDS
CHESWICK GENERATING STATION
SPRINGDALE, ALLEGHENY COUNTY, PENNSYLVANIA

File: O:\PROJECT\1009134004_Cheswick\1009134004-B8.dwg
Plot Date/Time: Jan 31, 2018 - 9:34am
Plotted By: Evan.Schlegel
Xref:
Image

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	DESIGNED BY	DATE	OFFICE
1009134004-B9	--	--	E. Schlegel	--	1/31/18	Pittsburgh, PA



LEGEND:

MW-25 (863.11) — CCR GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED ON OCTOBER 6, 2017

GROUNDWATER FLOW DIRECTION

SCALE

0 200 400 FEET

REFERENCES:

1. GOOGLE AERIAL PHOTOGRAPH, DATED 6/14/2014.

APTIM
500 Penn Center Boulevard,
Suite 1000
Pittsburgh, Pennsylvania 15235

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FIGURE 2
CCR COMPLIANCE GROUNDWATER MONITORING WELL LOCATION MAP
CHESWICK ASH DISPOSAL SITE
CHESWICK GENERATING STATION
SPRINGDALE, ALLEGHENY COUNTY, PENNSYLVANIA

File: O:\PROJECT\1009134004_Cheswick\1009134004-B9.dwg
Plot Date/Time: Jan 31, 2018 - 11:40am
Plotted By: Evan.Schlegel
Xref :
Image