



**CCR COMPLIANCE
GROUNDWATER MONITORING AND CORRECTIVE ACTION
ANNUAL REPORT
ASH FILTER PONDS AND ASH/REFUSE DISPOSAL SITE**

Prepared for:



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Conemaugh Generating Station
New Florence, 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 Conemaugh Generating Station (Station), operated by GenOn Northeast Management Company, is a coal-fired power plant located in New Florence, 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 Conemaugh Ash/Refuse Disposal Site and four Ash Filter Ponds (Ponds “A,” “B,” “C,” and “D”) used for the management of bottom ash. 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 Ash Filter Ponds has been designated to provide coverage in the context of a multiunit system encompassing all four ponds collectively.

In summary, this Annual Report has been prepared to comply with the requirements of §257.90(e), addressing each of the Conemaugh 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 Ash Filter Ponds

2.1 Groundwater Monitoring Network

The CCR groundwater monitoring system for the Ash Filter Ponds is comprised of five wells, including Wells MW-1B and MW-2 (upgradient), and Wells MW-3, MW-4, and MW-23 (downgradient). All five wells communicate with the alluvium, which is the uppermost aquifer. The locations of the groundwater monitoring wells are shown on 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 Ash Filter 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 1-4, 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-31 (upgradient) and Wells MW-9, MW-10, and MW-11 (downgradient). Monitoring Wells MW-9 and MW-11 communicate with the shallow unconfined groundwater in bedrock and Monitoring Wells MW-10 and MW-31 communicate with shallow groundwater across the soil/bedrock interface. Hence, all four wells monitor the uppermost aquifer in the area of the Ash Disposal Site. The locations of the groundwater monitoring 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 2-3, 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
Conemaugh Generating Station
Ash Filter 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-1B (Upgradient)	17-Dec-15	1070.99	0.29	333	1540	< 0.1	3620	544	5.49
	27-Jan-16	1071.19	0.31	288	1280	< 0.1	3180	583	5.87
	20-Apr-16	1071.69	0.28	170	652	< 0.5	2410	729	6.09
	19-Jul-16	1071.69	0.36	208	1310	< 0.1	2760	575	5.79
	11-Oct-16	1072.99	0.46	192	1010	< 0.2	2640	438	6.56
	17-Jan-17	1072.54	0.43	198	1030	< 0.1	2650	427	5.87
	24-Apr-17	1072.69	0.37	166	988	< 0.1	2470	548	5.27
	20-Jul-17	1072.04	0.39	345	1560	< 0.1	3740	388	5.00
	1-Oct-17	1070.84	0.36	430	2040	< 0.1	4930	427	5.68
MW-2 (Upgradient)	11-Oct-16	1072.72	0.30	191	251	< 0.1	1200	348	6.28
	16-Nov-16	1072.42	0.31	176	94	< 0.1	868	416	6.95
	21-Dec-16	1073.02	0.41	176	101	< 0.2	1050	519	7.03
	25-Jan-17	1073.72	0.21	137	68	< 0.2	726	316	6.93
	21-Mar-17	1073.82	0.33	158	75	< 0.1	828	387	6.40
	25-Apr-17	1072.92	0.29	136	69	< 0.1	792	373	6.28
	13-Jun-17	1073.02	0.30	150	60	< 0.1	768	369	6.15
	27-Jul-17	1072.57	0.28	133	67	< 0.1	684	310	6.45
	4-Oct-17	1071.17	0.32	138	58	< 0.1	768	330	6.80
MW-3 (Downgradient)	16-Dec-15	1065.24	< 0.05	123	363	< 0.1	882	227	5.74
	26-Jan-16	1065.89	< 0.05	132	392	< 0.1	970	250	5.94
	25-Apr-16	1066.14	< 0.05	203	505	< 0.1	1460	288	6.52
	25-Jul-16	1064.99	< 0.05	115	343	< 0.1	972	225	5.72
	24-Oct-16	1066.19	< 0.05	123	304	< 0.1	902	211	6.01
	17-Jan-17	1066.94	< 0.05	113	370	< 0.1	976	245	5.95
	25-Apr-17	1067.09	< 0.05	181	552	< 0.1	1740	314	5.57
	25-Jul-17	1065.99	< 0.05	151	389	< 0.1	1270	256	5.47
	1-Oct-17	1064.89	< 0.05	135	387	< 0.1	1140	255	6.30
MW-4 (Downgradient)	21-Dec-15	1069.53	0.15	301	643	< 0.1	2470	874	5.77
	4-Feb-16	1069.73	0.13	316	654	< 0.1	2580	870	5.83
	26-Apr-16	1070.08	0.13	426	932	< 0.1	3390	965	6.19
	25-Jul-16	1068.98	0.12	346	874	< 0.1	3120	1090	5.82
	26-Oct-16	1070.08	0.17	310	670	< 0.1	2530	865	6.27
	30-Jan-17	1070.88	0.15	301	736	< 0.1	2740	895	6.12
	26-Apr-17	1070.93	0.14	392	863	< 0.1	3310	996	6.68
	27-Jul-17	1070.23	0.19	403	977	< 0.1	3350	1170	5.63
	4-Oct-17	1068.83	0.14	335	814	< 0.2	3200	1050	6.02
MW-23 (Downgradient)	20-Dec-15	1068.03	< 0.05	182	388	< 0.1	1580	653	5.59
	2-Feb-16	1069.08	< 0.05	176	344	< 0.1	1520	576	5.98
	25-Apr-16	1069.38	< 0.05	175	329	< 0.1	1540	557	5.16
	21-Jul-16	1067.93	0.34	173	371	< 0.1	1600	591	5.63
	24-Oct-16	1068.83	< 0.05	173	327	< 0.1	1540	509	6.14
	18-Jan-17	1070.13	0.11	165	368	< 0.1	1550	543	5.79
	24-Apr-17	1069.68	< 0.05	164	383	< 0.1	1520	558	5.21
	24-Jul-17	1069.18	< 0.05	183	378	< 0.1	1530	532	5.15
	1-Oct-17	1067.98	< 0.05	172	313	< 0.1	1520	575	6.25

Yellow background = Data to be compared against calculated Background values from the upgradient wells.

Table 2
Conemaugh Generating Station
Ash Filter 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-1B (Upgradient)	17-Dec-15	< 0.001	< 0.001	0.04	< 0.001	0.005	< 0.01	0.012	< 0.1	< 0.001	0.03	< 0.0002	< 0.02	< 0.001	< 0.0002	4.24
	27-Jan-16	< 0.001	< 0.001	0.03	< 0.001	0.005	< 0.01	< 0.005	< 0.1	< 0.001	0.02	< 0.0002	< 0.02	< 0.001	< 0.0002	0.29
	20-Apr-16	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.5	< 0.001	0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.72
	19-Jul-16	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	0.006	< 0.1	< 0.001	0.02	< 0.0002	< 0.02	< 0.001	< 0.0002	1.31
	11-Oct-16	< 0.001	< 0.001	0.02	< 0.001	0.002	< 0.01	< 0.005	0.2	< 0.001	0.02	< 0.0002	< 0.02	< 0.001	< 0.0002	0.78
	17-Jan-17	< 0.001	< 0.001	0.02	< 0.001	0.002	< 0.01	0.005	< 0.1	< 0.001	0.02	< 0.0002	< 0.02	< 0.001	< 0.0002	0.24
	24-Apr-17	< 0.001	< 0.001	0.02	< 0.001	0.002	< 0.01	0.005	< 0.1	< 0.001	0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.77
	20-Jul-17	< 0.001	< 0.001	0.03	< 0.001	0.005	< 0.01	0.013	< 0.1	< 0.001	0.02	< 0.0002	< 0.02	< 0.001	< 0.0002	1.03
MW-2 (Upgradient)	11-Oct-16	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.69
	16-Nov-16	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.44
	21-Dec-16	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.43
	25-Jan-17	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.88
	21-Mar-17	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.09
	25-Apr-17	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.35
	13-Jun-17	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.80
	27-Jul-17	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.14
MW-3 (Downgradient)	16-Dec-15	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	0.009	< 0.1	< 0.001	0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.44
	26-Jan-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	0.011	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.86
	25-Apr-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	0.014	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.60
	25-Jul-16	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	0.009	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.46
	24-Oct-16	< 0.001	< 0.001	0.04	< 0.001	< 0.002	< 0.01	0.012	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.34
	17-Jan-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	0.008	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.28
	25-Apr-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	0.013	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.45
	25-Jul-17	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	0.010	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.33
MW-4 (Downgradient)	21-Dec-15	< 0.001	< 0.001	0.01	< 0.001	0.002	< 0.01	0.039	< 0.1	< 0.001	0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.20
	4-Feb-16	< 0.001	< 0.001	0.01	< 0.001	0.003	< 0.01	0.038	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.47
	26-Apr-16	< 0.001	< 0.001	0.02	< 0.001	0.003	< 0.01	0.039	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.15
	25-Jul-16	< 0.001	< 0.001	0.01	< 0.001	0.003	< 0.01	0.035	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.43
	26-Oct-16	< 0.001	< 0.001	0.01	< 0.001	0.003	< 0.01	0.037	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.72
	30-Jan-17	< 0.001	< 0.001	0.01	< 0.001	0.003	< 0.01	0.034	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.09
	26-Apr-17	< 0.001	< 0.001	0.01	< 0.001	0.004	< 0.01	0.041	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.73
	27-Jul-17	< 0.001	< 0.001	0.01	< 0.001	0.003	< 0.01	0.039	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.24
MW-23 (Downgradient)	20-Dec-15	< 0.001	< 0.001	0.01	< 0.001	0.002	< 0.01	0.114	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	6.87
	2-Feb-16	< 0.001	< 0.001	0.02	< 0.001	0.002	< 0.01	0.106	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.03
	25-Apr-16	< 0.001	< 0.001	0.01	< 0.001	0.002	< 0.01	0.123	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.56
	21-Jul-16	< 0.001	< 0.001	0.01	< 0.001	0.003	< 0.01	0.114	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.65
	24-Oct-16	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	0.099	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.12
	18-Jan-17	< 0.001	< 0.001	0.02	< 0.001	0.002	< 0.01	0.100	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.66
	24-Apr-17	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	0.097	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.40
	24-Jul-17	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	0.095	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.21

Table 3
Conemaugh 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-31 (Upgradient)	20-Dec-15	1435.54	< 0.05	6.2	1	< 0.1	50	4	6.15
	1-Feb-16	1438.04	< 0.05	7.1	1	< 0.1	34	4	6.42
	20-Apr-16	1439.54	< 0.05	7.8	< 1	< 0.1	44	4	6.45
	20-Jul-16	1435.89	< 0.05	6.3	1	< 0.1	58	4	6.24
	25-Oct-16	1436.24	< 0.05	6.7	1	< 0.1	70	4	5.82
	19-Jan-17	1438.74	< 0.05	6.4	1	< 0.1	64	3	6.19
	12-Apr-17	1439.74	< 0.05	6.2	1	< 0.1	52	4	5.75
	25-Jul-17	1437.24	< 0.05	7.4	1	< 0.1	72	4	5.62
3-Oct-17	1434.49	< 0.05	6.6	1	< 0.1	32	4	6.36	
MW-9 (Downgradient)	17-Dec-15	1100.47	< 0.05	102	83	0.1	426	72	7.08
	28-Jan-16	1100.57	0.09	102	97	0.1	424	63	7.20
	21-Apr-16	1099.77	< 0.05	96	81	0.1	398	65	7.38
	20-Jul-16	1098.97	0.05	99	93	< 0.1	466	62	7.57
	16-Nov-16	1099.82	< 0.05	104	94	< 0.1	466	55	7.05
	23-Jan-17	1100.77	< 0.05	96	92	< 0.1	406	65	7.27
	12-Apr-17	1099.47	< 0.05	96	96	< 0.1	446	77	6.74
	24-Jul-17	1099.82	< 0.05	104	98	< 0.1	456	79	6.60
2-Oct-17	1099.67	< 0.05	94	92	< 0.1	430	75	7.41	
MW-10 (Downgradient)	16-Dec-15	1103.26	< 0.05	106	90	0.1	444	97	7.71
	1-Feb-16	1103.36	< 0.05	102	100	0.1	416	107	7.56
	19-Apr-16	1103.06	< 0.05	102	95	0.1	454	99	7.45
	25-Jul-16	1102.16	< 0.05	100	91	0.1	476	114	7.25
	25-Oct-16	1102.16	< 0.05	117	84	0.1	522	113	7.50
	25-Jan-17	1103.86	< 0.05	94	105	< 0.1	482	110	7.21
	13-Apr-17	1102.86	< 0.05	97	99	< 0.1	460	97	6.77
	26-Jul-17	1102.66	0.05	108	94	< 0.1	508	127	6.75
3-Oct-17	1102.61	< 0.05	111	91	0.1	490	130	7.38	
MW-11 (Downgradient)	21-Dec-15	1102.68	0.08	180	55	0.1	814	223	6.77
	27-Jan-16	1103.38	0.09	169	48	< 0.1	776	191	7.02
	21-Apr-16	1102.63	0.07	161	46	< 0.1	754	170	7.31
	21-Jul-16	1101.68	0.14	156	52	< 0.1	754	208	7.37
	20-Oct-16	1101.93	0.09	166	48	0.1	754	199	6.97
	23-Jan-17	1103.63	< 0.05	164	51	0.1	770	207	6.98
	13-Apr-17	1103.28	0.07	170	49	< 0.1	774	183	6.65
	26-Jul-17	1102.33	0.10	150	60	< 0.1	700	182	6.35
2-Oct-17	1102.48	0.07	151	61	0.1	732	210	7.20	


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

Table 4
Conemaugh 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-31 (Upgradient)	20-Dec-15	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	14.1
	1-Feb-16	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.08
	20-Apr-16	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.75
	20-Jul-16	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.77
	25-Oct-16	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.42
	19-Jan-17	< 0.001	< 0.001	0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.03
	12-Apr-17	< 0.001	< 0.001	< 0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.51
25-Jul-17	< 0.001	< 0.001	< 0.01	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	-0.05	
MW-9 (Downgradient)	17-Dec-15	< 0.001	< 0.001	0.17	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	3.66
	28-Jan-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	0.18
	21-Apr-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	3.90
	20-Jul-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	-0.05
	16-Nov-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	0.78
	23-Jan-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	0.70
	12-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	0.03
24-Jul-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	0.74	
MW-10 (Downgradient)	16-Dec-15	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	-0.04
	1-Feb-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	< 0.001	< 0.0002	0.25
	19-Apr-16	< 0.001	< 0.001	0.10	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.68
	25-Jul-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	< 0.001	< 0.0002	0.55
	25-Oct-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	< 0.001	< 0.0002	0.62
	25-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	0.29
	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	0.34
26-Jul-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	1.05	
MW-11 (Downgradient)	21-Dec-15	< 0.001	< 0.001	0.07	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	2.21
	27-Jan-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	< 0.001	< 0.0002	0.33
	21-Apr-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	< 0.001	< 0.0002	3.18
	21-Jul-16	< 0.001	< 0.001	0.08	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.70
	20-Oct-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	< 0.001	< 0.0002	0.93
	23-Jan-17	< 0.001	< 0.001	0.07	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.48
	13-Apr-17	< 0.001	< 0.001	0.07	< 0.001	< 0.002	< 0.01	< 0.005	< 0.1	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.46
26-Jul-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	0.80	



Figures

File: O:\PROJECT\1009144003_Conerough\1009144003-B7.dwg
 Plot Date/Time: Jan 31, 2018 - 9:02am
 Plotted By: Evan.Schlegel

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	1/31/18	--	E. Schlegel	--	--	1009144003-B7



LEGEND:

-  MW-3 (1064.89) CCR GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED BETWEEN OCTOBER 1 AND 4, 2017
-  GROUNDWATER FLOW DIRECTION

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/2015.



	500 Penn Center Boulevard, Suite 1000 Pittsburgh, Pennsylvania 15235
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FIGURE 1
 CCR COMPLIANCE GROUNDWATER MONITORING WELL LOCATION MAP
 ASH FILTER PONDS
 CONEMAUGH GENERATING STATION
 INDIANA COUNTY, PENNSYLVANIA

File: O:\PROJECT\1009144003_Conermaugh\1009144003-B6.dwg
 Plot Date/Time: Jan 31, 2018 - 8:52am
 Plotted By: Evan.Schlegel

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	1/31/18	--	E. Schlegel	--	--	1009144003-B7



LEGEND:

- MW-9 (1099.67) CCR GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED BETWEEN OCTOBER 2 AND 3, 2017.
- GROUNDWATER FLOW DIRECTION

REFERENCE:
 GOOGLE AERIAL PHOTOGRAPH, DATED 10/2015.

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



FIGURE 2
 CCR COMPLIANCE GROUNDWATER MONITORING WELL LOCATION MAP
 ASH/REFUSE DISPOSAL SITE
 CONEMAUGH GENERATING STATION
 INDIANA COUNTY, PENNSYLVANIA