

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

Prepared for:



Keystone-Conemaugh Projects, LLC  
Conemaugh Generating Station  
New Florence, Pennsylvania

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## 1.0 Introduction

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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 was completed no later than January 31, 2018, and provided 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.

Keystone-Conemaugh Projects, LLC – Conemaugh Generating Station, is an electric generating station located in New Florence, Pennsylvania. The Station operates two coal-fired boilers each with a steam turbine-driven electric generator that provides electricity to the regional electric grid. 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 third Annual Report has been prepared to comply with the requirements of §257.90(e), addressing each of the Station’s CCR Units with respect to the groundwater monitoring and corrective actions undertaken during Calendar Year 2019. 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*

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### 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 2019 reporting period.

### 2.2 *Summary of Previously-Reported Monitoring Activities*

In accordance with the Detection Monitoring requirements under §257.94(b) for existing CCR surface impoundments, a minimum of eight independent samples from each background and downgradient well were collected and analyzed for the constituents listed in Appendices III and IV of the Rule prior to October 17, 2017. The results from these samples, which were collected during the period from December 2015 through July 2017, were presented in the first Annual Report issued in January 2018. 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 served as the initial point of comparison to determine if concentrations in any of the downgradient wells were at levels representing a statistically significant increase (SSI) over the background concentrations established in the upgradient well(s).

During January 2018, the results from the October 1-4, 2017 Detection Monitoring event were reviewed, and subsequent determination made that one downgradient well (MW-4) showed an Appendix III constituent (sulfate) at levels representing an SSI above corresponding background concentrations. Accordingly, and per the provisions of §257.94(e)(2), efforts were undertaken to conduct an Alternate Source Demonstration in an attempt to identify a potential source other than the Ash Filter Ponds which was responsible for the observed SSI. This Alternate Source Demonstration (April 2018) was ultimately successful and determined that incidental gypsum deposition in the area of Well MW-4 was causing the elevated sulfate readings in the localized groundwater. As a result, the Ash Filter Ponds were deemed to remain in the CCR Detection Monitoring Program, and were additionally sampled in May 2018 and October 2018 with continuing observations of SSIs only for sulfate in Well MW-4. These results, along with the detailed findings and conclusions from the Alternate Source Demonstration, were presented in the second Annual Report issued in January 2019.

### ***2.3 2019 Data Collection***

The Ash Filter Ponds remained in the CCR Detection Monitoring Program during the 2019 reporting period, and were subjected to sampling for Appendix III constituents as part of monitoring events conducted in April, July, and October 2019 (the required monitoring frequency “shall be at least semiannual” for the Appendix III constituents). As shown in Table 1, the results from each of the 2019 events again consistently showed SSIs for sulfate in downgradient Well MW-4. For the October 2019 event, a SSI for calcium was also observed in Well MW-4. Recognizing that the principal components of gypsum are calcium and sulfate, this SSI can be logically and defensibly linked to the gypsum handling operations, which continue to serve as the identified alternate source for this well. Related discussions regarding elevated calcium in Well MW-4 are, in fact, contained in the above-noted April 2018 Alternate Source Demonstration, offering affirmation that the ponds are not contributing to the observations at this well location. In addition, each of the other downgradient wells (MW-3 and MW-23) continue to show all Appendix III constituent concentrations at levels below the calculated background values. Consequently, based on review of the collective 2019 analytical data and continued relevance/applicability of the previously completed Alternate Source Demonstration, the Ash Filter Ponds will remain in the CCR Detection Monitoring Program in calendar year 2020.

### ***2.4 2019 Monitoring Program Transitions***

During 2019, there were no transitions between monitoring programs, with the Ash Filter Ponds remaining in the CCR Detection Monitoring Program.

### ***2.5 2019 Corrective Actions***

During 2019, there were no problems identified or corrective actions undertaken.

### ***2.6 2020 Projected Activities***

As noted, it is anticipated that Detection Monitoring activities will continue for the Ash Filter Ponds during 2020, with continued review of Appendix III constituent concentrations and comparison with the calculated background values.

## 3.0 *Ash Disposal Site*

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### 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 2019 reporting period.

### 3.2 *Summary of Previously-Reported Monitoring Activities*

In accordance with the Detection Monitoring requirements under §257.94(b) for existing CCR landfills, a minimum of eight independent samples from each background and downgradient well were collected and analyzed for the constituents listed in Appendices III and IV of the Rule prior to October 17, 2017. The results from these samples, which were collected during the period from December 2015 through July 2017, were presented in the first Annual Report issued in January 2018. 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 served as the initial point of comparison to determine if concentrations in any of the downgradient wells were at levels representing an SSI over the background concentrations established in the upgradient well(s).

During January 2018, the results from the October 2017 Detection Monitoring event were reviewed, and subsequent determination made that all three downgradient wells showed several Appendix III constituents at levels representing an SSI above corresponding background concentrations. Accordingly, the Ash Disposal Site was transitioned into the CCR Assessment Monitoring Program, and an initial round of samples covering all Appendix IV constituents was collected in March 2018 per §257.95(b). From these results, the detected Appendix IV constituents were carried forward and analyzed during continued Assessment Monitoring events conducted in May 2018 and October 2018. As was observed, none of the Appendix IV constituents from any of the 2018 sampling events were measured at concentrations representing a statistically significant level (SSL) above the corresponding site-specific groundwater protection standards. All analytical results from the 2018 Assessment Monitoring were presented in the second Annual Report issued in January 2019.



It is additionally noted that the May 2018 Assessment Monitoring event yielded an erroneous result for Radium-226/228 in downgradient Well MW-9. The initially reported value (103.6 pCi/L) was generated via an incorrect laboratory analytical method. Following this determination, a new sample (for Radium analysis only) was collected from MW-9 in July 2018 and reanalyzed using the correct analytical method. The revised result (0.32 pCi/L) from the July 2018 sampling aligns with the historical values detected in this well, and correspondingly remains below background and the groundwater protection standard.

### ***3.3 2019 Data Collection***

Following its transition in early-2018, the Ash Disposal Site continued in the CCR Assessment Monitoring Program during the 2019 reporting period. Accordingly, samples were collected and analyzed for Appendix III and Appendix IV constituents as required, during the April, July and October 2019 monitoring events (similar to the monitoring frequency for the Appendix III constituents, the required monitoring frequency is “on at least a semiannual basis” for the Appendix IV constituents following completion of the initial sampling event for the Assessment Monitoring Program). Results from the 2019 sampling events are summarized in Tables 3 and 4, covering Appendix III and Appendix IV, respectively. As shown in Table 4, none of the Appendix IV constituents from the 2019 sampling events were measured at concentrations representing a SSL above the corresponding groundwater protection standards. Detected concentrations of at least one Appendix IV constituent (total barium) as well as several Appendix III constituents; however, do remain above calculated background, and thus providing the basis for continued Assessment Monitoring into 2020.

### ***3.4 2019 Monitoring Program Transitions***

During 2019, there were no transitions between monitoring programs, with the Ash Disposal Site remaining in the CCR Assessment Monitoring Program.

### ***3.5 2019 Corrective Actions***

During 2019, there were no problems identified or corrective actions undertaken.

### ***3.6 2020 Projected Activities***

As noted, it is anticipated that Assessment Monitoring activities will continue for the Ash Disposal Site during 2020, with continued review of Appendix III/Appendix IV constituent concentrations and comparison against calculated background and established groundwater protection standards.



<p align="center">Table 1 Conemaugh Generating Station Ash Filter Ponds--Groundwater Analytical Data CCR Appendix III Constituents</p>									
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.)
			Calculated Background						
			0.58	376	1560	0.20	6975	788	4.59-7.42
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
	22-May-18	1074.94	0.39	120	640	< 0.1	1680	364	5.91
	18-Oct-18	1074.69	0.89	53	288	3.1	1340	543	7.56
	17-Apr-19	1073.69	0.47	122	467	0.3	1300	369	6.00
	18-Jul-19	1073.79	0.44	155	638	< 0.1	1630	303	5.60
	3-Oct-19	1072.49	0.45	190	848	< 0.1	1930	300	5.33
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
	29-May-18	1075.57	0.10	98	22	0.4	606	185	7.10
	23-Oct-18	1075.37	0.18	105	21	0.4	550	192	6.97
	15-Apr-19	1074.12	0.15	99	21	0.4	508	169	7.13
	30-Jul-19	1074.47	0.15	101	19	0.3	572	194	6.80
	9-Oct-19	1072.62	0.26	116	54	0.1	564	304	6.19
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
	23-May-18	1067.79	< 0.05	175	455	< 0.1	1330	276	6.07
	23-Oct-18	1068.29	< 0.05	152	440	< 0.1	1150	293	5.75
	22-Apr-19	1067.09	< 0.05	181	553	< 0.1	1440	353	5.97
	30-Jul-19	1067.59	< 0.05	170	497	< 0.1	1720	291	5.66
	21-Oct-19	1066.29	< 0.05	143	432	< 0.1	1110	261	5.54
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
	29-May-18	1070.53	0.13	345	842	< 0.1	3280	1010	5.96
	24-Oct-18	1071.93	0.14	290	589	< 0.1	2550	927	5.99
	22-Apr-19	1070.88	0.10	316	800	< 0.1	2470	892	5.98
	31-Jul-19	1071.03	0.12	292	650	< 0.1	2430	854	5.62
	21-Oct-19	1070.33	0.16	401	831	< 0.1	3030	1150	5.80
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
	22-May-18	1071.18	< 0.05	181	347	< 0.1	1460	507	5.63
	22-Oct-18	1071.13	< 0.05	165	355	< 0.1	1450	538	5.70
	17-Apr-19	1070.28	< 0.05	153	346	< 0.1	1320	527	5.52
	18-Jul-19	1070.73	< 0.05	164	309	< 0.1	1330	469	5.54
	9-Oct-19	1068.48	< 0.05	143	350	< 0.1	1320	534	5.69

Notes:

- Cells with "<" are represented as non-detects. Values shown correspond to the laboratory reporting limit.
- Background values based on statistical evaluation of initial eight rounds (Dec. 2015 thru July 2017) of groundwater sampling data for Wells MW-1B and MW-2.

Table 2 Conemaugh Generating Station Ash Filter Ponds--Groundwater 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)
		Calculated Background														
		0.001	0.001	0.04	0.001	0.005	0.01	0.013	0.2	0.001	0.03	0.0002	0.02	0.001	0.0002	4.24
		Groundwater Protection Standard														
		MCL	MCL	MCL	MCL	MCL	MCL	RSL	MCL	RSL	RSL	MCL	RSL	MCL	MCL	MCL
		0.006	0.01	2	0.004	0.005	0.1	0.006	4.0	0.015	0.04	0.002	0.10	0.05	0.002	5
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

- Notes:
- Cells with "<" are represented as non-detects. Values shown correspond to the laboratory reporting limit.
  - Background values based on statistical evaluation of initial eight rounds (Dec. 2015 thru July 2017) of groundwater sampling data for Wells MW-1B and MW-2.
  - As indicated, Groundwater Protection Standards are either published MCLs or risk-based Regional Screening Levels (RSLs). For constituents where calculated background exceeds either the MCL or RSL, the background value is used.

**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.)
			Calculated Background						
			0.05	8.86	1	0.1	96.2	4	4.07-6.81
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
	24-May-18	1441.64	< 0.05	6.2	1	< 0.1	58	4	6.29
	22-Oct-18	1439.94	< 0.05	84.9	1	< 0.1	40	4	6.17
	18-Apr-19	1440.19	< 0.05	6.0	1	< 0.1	32	4	6.01
	25-Jul-19	1438.14	< 0.05	5.7	1	< 0.1	54	4	5.74
MW-9 (Downgradient)	2-Oct-19	1435.54	< 0.05	6.3	1	< 0.1	44	4	5.36
	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
	23-May-18	1100.17	< 0.05	104	112	< 0.1	456	84	7.29
	17-Oct-18	1100.32	< 0.05	102	109	< 0.1	472	67	7.09
	23-Apr-19	1100.07	0.31	106	118	0.1	472	73	7.12
MW-10 (Downgradient)	23-Jul-19	1099.97	< 0.05	107	120	0.1	520	72	7.15
	8-Oct-19	1099.02	< 0.05	116	116	< 0.1	500	72	7.35
	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
	29-May-18	1104.76	< 0.05	99	99	0.1	492	106	7.14
	17-Oct-18	1103.66	< 0.05	98	89	0.1	456	106	7.10
MW-11 (Downgradient)	18-Apr-19	1103.46	< 0.05	85	103	< 0.1	388	103	7.06
	25-Jul-19	1102.86	< 0.05	108	94	0.1	476	120	7.07
	8-Oct-19	1102.06	< 0.05	110	84	< 0.1	470	123	7.35
	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
	24-May-18	1103.08	< 0.05	139	54	0.1	736	192	7.02
	18-Oct-18	1102.93	0.07	169	60	0.1	750	194	6.94
	23-Apr-19	1102.88	0.37	159	58	0.2	758	213	6.58
	23-Jul-19	1102.73	0.06	153	59	0.1	714	185	6.73
	8-Oct-19	1101.78	0.08	165	60	< 0.1	700	181	6.74

Notes:

- Cells with "<" are represented as non-detects. Values shown correspond to the laboratory reporting limit.
- Background values based on statistical evaluation of initial eight rounds (Dec. 2015 thru July 2017) of groundwater sampling data for Well MW-31.

Table 4 Conemaugh Generating Station Ash Disposal Site--Groundwater 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)
		Calculated Background														
		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	1.89
		Groundwater Protection Standard														
		MCL	MCL	MCL	MCL	MCL	MCL	RSL	MCL	RSL	RSL	MCL	RSL	MCL	MCL	MCL
		0.006	0.01	2	0.004	0.005	0.1	0.006	4.0	0.15	0.04	0.002	0.10	0.05	0.002	5
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
	28-Mar-18	< 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	0.63
	24-May-18	Not Analyzed	Not Analyzed	< 0.01	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.40
	22-Oct-18	Not Analyzed	Not Analyzed	0.01	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.71
	18-Apr-19	< 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	0.30
	25-Jul-19	Not Analyzed	Not Analyzed	0.01	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.88
MW-9 (Downgradient)	2-Oct-19	Not Analyzed	Not Analyzed	0.01	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	-0.50
	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
	28-Mar-18	< 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	0.37
	23-May-18	Not Analyzed	Not Analyzed	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.32
	17-Oct-18	Not Analyzed	Not Analyzed	0.05	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.67
	23-Apr-19	< 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	0.92
MW-10 (Downgradient)	23-Jul-19	Not Analyzed	Not Analyzed	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.60
	8-Oct-19	Not Analyzed	Not Analyzed	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.54
	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
	29-Mar-18	< 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	0.29
	29-May-18	Not Analyzed	Not Analyzed	0.03	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.33
	17-Oct-18	Not Analyzed	Not Analyzed	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.48
MW-11 (Downgradient)	18-Apr-19	< 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	0.79
	25-Jul-19	Not Analyzed	Not Analyzed	0.03	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.05
	8-Oct-19	Not Analyzed	Not Analyzed	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.15
	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
	29-Mar-18	< 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	0.78
	24-May-18	Not Analyzed	Not Analyzed	0.07	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.83
	18-Oct-18	Not Analyzed	Not Analyzed	0.07	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.20
	23-Apr-19	< 0.001	< 0.001	0.08	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.84
	23-Jul-19	Not Analyzed	Not Analyzed	0.07	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.57
	8-Oct-19	Not Analyzed	Not Analyzed	0.07	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.45

= Value determined as a statistical outlier and excluded from background calculations.

= Result from July 17, 2018 re-sampling; prior result from May 23, 2018 sampling (103.6 pCi/L) was associated with use of incorrect analytical Method (gamma spec Method 901.1).

- Notes:
- Cells with "<" are represented as non-detects. Values shown correspond to the laboratory reporting limit.
  - Background values based on statistical evaluation of initial eight rounds (Dec. 2015 thru July 2017) of groundwater sampling data for Well MW-31.
  - As indicated, Groundwater Protection Standards are either published MCLs or risk-based Regional Screening Levels (RSLs). For constituents where calculated background exceeds either the MCL or RSL, the background value is used.

## *Figures*

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File: O:\PROJECT\631003459\_Conemaugh\631003459-B1.dwg  
Plot Date/Time: Jan 02, 2020 - 11:21am  
Xref: Image  
Plotted By: Greg Jones

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	1/2/20	--	E. Schlegel	--	--	631003459-B1



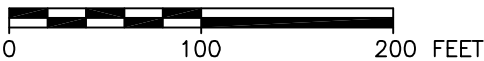
LEGEND:

- MW-3 (1066.29) CCR GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED BETWEEN OCTOBER 3 AND 21, 2019.
- GROUNDWATER FLOW DIRECTION

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/2015.

SCALE



500 Penn Center Boulevard,  
Suite 1000  
Pittsburgh, Pennsylvania 15235



FIGURE 1  
CCR COMPLIANCE GROUNDWATER  
MONITORING WELL LOCATION MAP  
ASH FILTER PONDS  
CONEMAUGH GENERATING STATION  
INDIANA COUNTY, PENNSYLVANIA





File: O:\PROJECT\631003459\_Conemaugh\631003459-B2.dwg  
Plot Date/Time: Jan 02, 2020 - 11:27am  
Plotted By: Greg Jones

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	1/2/20	--	E. Schlegel	--	--	631003459-B2



LEGEND:

-  MW-9 (1099.02) CCR GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED BETWEEN OCTOBER 2 AND 8, 2019.
-  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