

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

Prepared for:



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Springdale, Pennsylvania

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## ***Executive Summary***

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In response to the newly adopted Part A elements (effective September 28, 2020) of the Coal Combustion Residuals (CCR) Rule (or Rule), this Executive Summary has been incorporated into the annual report per the specific provisions as codified in 40 CFR §257.90(e)(6). These provisions require that an up-front overview of the current status (covering the immediately preceding calendar year) of groundwater monitoring and corrective action programs be provided in a concise and focused manner for each CCR unit at the facility. Accordingly, the following paragraphs document the respective groundwater monitoring status (for Calendar Year 2021) of the Bottom Ash Ponds and the Ash Disposal Site at the Cheswick Generating Station, operated by GenOn Power Midwest LP, a subsidiary of GenOn Holdings, Inc. (GenOn). Tables and/or figures referenced in the discussions below are included at the end of the report, and further support the text in the main body of the report.

The Bottom Ash Ponds (including the Recycle Pond and the Emergency Pond), which have been documented in all prior CCR annual groundwater monitoring reports, were subjected to closure by removal in late-2020/early-2021. The closure activities were conducted in accordance with §257.102(c), and detailed in a Closure Certification Report (GAI Consultants, Inc., April 2021) that was posted to GenOn's CCR public website. Within the Certification Report, it was acknowledged that monitoring up through the end of Calendar Year 2020 had never shown any Appendix IV constituents at statistically significant levels (SSLs) above the established CCR groundwater protection standards (GWPSs), and thus demonstrating compliance with the groundwater aspects for closure under §257.102(c). Correspondingly, the Ponds are no longer designated as CCR units, and associated groundwater monitoring requirements under the CCR Rule were terminated, effective with Calendar Year 2021.

As shown in Figure 1, the Ash Disposal Site is a captive landfill located several miles from the Cheswick facility proper, and includes a CCR groundwater monitoring network consisting of four wells, including one upgradient location (Well MW-24) and three downgradient locations (Wells MW-21, MW-22, and MW-25). For Calendar Year 2021, the Ash Disposal Site entered and ended the period in the Assessment Monitoring Program. The Ash Disposal Site has remained in Assessment Monitoring since being transitioned in April 2018 following confirmed SSIs for CCR Appendix III constituents, including boron, calcium, fluoride, sulfate, and TDS in the downgradient wells (see Table 1). Assessment monitoring events conducted in April and October 2021 (see Table 2) did not reveal any CCR Appendix IV constituents at concentrations representing an SSL above the corresponding GWPSs. These events further continued to show several Appendix III constituents at values above background in the downgradient wells, including Well MW-21 (fluoride and pH), Well MW-22 (boron, fluoride, sulfate, and pH), and Well MW-

25 (boron, fluoride, sulfate, and pH). No groundwater findings to date have triggered the Ash Disposal Site into an Assessment of Corrective Measures.

## 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, and beginning with the current report, must also address the items contained in §257.90(e)(6) in the form of an Executive Summary:

- 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 GenOn Power Midwest LP, a subsidiary of GenOn Holdings, 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. Following the successful closure by removal of the Bottom Ash Ponds (Recycle Pond and Emergency Pond) in early-2021 as documented in the Closure Certification Report (GAI Consultants, Inc., April 2021), the only remaining CCR unit associated with station operations includes the Cheswick Ash Disposal Site. The ash disposal site 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.

In summary, this fifth Annual Report has been prepared to comply with the requirements of §257.90(e)(1-6), addressing each of the applicable CCR units with respect to the groundwater monitoring and corrective actions undertaken during Calendar Year 2021. This Annual Report and all subsequent reports thereto will be placed in the Cheswick 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**

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### **2.1 2021 Data Collection**

The Bottom Ash Ponds (including the Recycle Pond and the Emergency Pond), which have been documented in all prior CCR annual groundwater monitoring reports, were subjected to closure by removal in late-2020/early-2021. The closure activities were conducted in accordance with §257.102(c), and detailed in a Closure Certification Report (GAI Consultants, Inc., April 2021) that was posted to GenOn's CCR public website. Within the Certification Report, it was acknowledged that monitoring up through the end of Calendar Year 2020 had never shown any Appendix IV constituents at statistically significant levels (SSLs) above the established CCR groundwater protection standards (GWPSs), and thus demonstrating compliance with the groundwater aspects for closure under §257.102(c). Correspondingly, the Ponds are no longer designated as CCR units, and associated groundwater monitoring requirements under the CCR Rule were terminated, effective with Calendar Year 2021.

### **2.2 2022 Projected Activities**

The Bottom Ash Ponds are no longer designated as CCR units, and previously required groundwater monitoring has been terminated. Correspondingly, no further reporting under the groundwater aspects of the CCR Rule or otherwise will be conducted.



## **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-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 1, 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 2021 reporting period.

### **3.2 2021 Data Collection**

Following its transition in early-2018, the Ash Disposal Site continued in the CCR Assessment Monitoring Program during the 2021 reporting period. Accordingly, samples were collected and analyzed for Appendix III and Appendix IV constituents as required, during events conducted in April and October 2021. The results from the 2021 sampling events are summarized in Tables 1 and 2, covering Appendix III and Appendix IV, respectively. As shown in Table 2, none of the Appendix IV constituents from the 2021 sampling events were measured at concentrations representing a SSL above the corresponding site-specific GWPSs. Detected concentrations of several Appendix IV constituents as well as Appendix III constituents; however, do remain above background, and thus providing the basis for continued Assessment Monitoring into 2022.

### **3.3 2021 Monitoring Program Transitions**

No transitions were effected in 2021, as the Ash Disposal Site remained in the Assessment Monitoring Program.

### **3.4 2021 Corrective Actions**

During 2021, there were no problems identified or corrective actions undertaken.

### **3.5 2022 Projected Activities**

It is anticipated that Assessment Monitoring activities will continue for the Ash Disposal Site during 2022, with continued review of Appendix IV constituent concentrations and comparison against established groundwater protection standards.

## ***Tables***

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Table 1 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.)
			Calculated Background						
			0.05	141	137	0.1	738	69	6.21-6.98
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
	10-Jul-18	1077.46	< 0.05	125	24	0.1	514	46	6.68
	17-Oct-18	1077.33	< 0.05	119	31	< 0.1	522	37	6.92
	9-Apr-19	1076.98	< 0.05	128	16	< 0.1	482	29	6.89
	8-Aug-19	1077.07	< 0.05	133	15	0.1	482	31	6.91
	8-Oct-19	1076.97	< 0.05	119	21	0.1	474	33	7.01
MW-21 (Downgradient)	30-Jan-20	1078.27	< 0.05	136	14	0.2	486	31	6.91
	22-Jun-20	1076.58	< 0.05	115	16	0.2	474	30	6.58
	13-Oct-20	1075.11	< 0.05	105	22	0.1	470	45	6.71
	12-Apr-21	1077.63	< 0.05	128	13	< 0.1	520	54	6.82
	11-Oct-21	1074.63	< 0.05	118	21	0.1	490	43	6.69
	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	
10-Jul-18	864.48	< 0.05	61.2	3	0.2	298	57	7.18	
17-Oct-18	865.19	< 0.05	65.7	3	0.2	300	57	7.67	
9-Apr-19	865.37	< 0.05	63.2	3	0.2	258	65	7.50	
7-Aug-19	865.33	< 0.05	65.7	2	0.2	284	63	7.47	
8-Oct-19	865.14	< 0.05	63.4	3	0.2	290	59	7.64	
30-Jan-20	865.95	< 0.05	64.3	2	0.2	280	58	7.73	
22-Jun-20	864.82	< 0.05	60.5	2	0.3	290	62	7.62	
13-Oct-20	863.43	< 0.05	57.1	3	0.2	292	56	7.58	
12-Apr-21	865.33	< 0.05	61.6	3	0.2	282	56	7.50	
12-Oct-21	865.52	< 0.05	60.7	3	0.2	288	54	7.56	
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
	10-Jul-18	864.66	0.08	83.9	6	0.1	598	159	7.00
	17-Oct-18	865.32	0.10	88.6	7	0.2	646	182	7.10
	9-Apr-19	864.69	0.08	101	7	0.1	626	200	7.12
	7-Aug-19	864.61	0.08	112	6	< 0.1	692	233	6.97
8-Oct-19	864.81	0.08	98	7	0.1	686	208	7.14	
30-Jan-20	864.79	< 0.05	106	7	0.2	676	219	7.15	
22-Jun-20	864.56	0.07	88	6	0.1	650	225	7.16	
13-Oct-20	862.96	0.09	77	6	0.2	604	173	7.17	
12-Apr-21	864.67	0.09	80	6	0.2	576	175	7.19	
12-Oct-21	864.09	0.09	83	7	0.2	590	182	7.02	
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
	10-Jul-18	864.02	2.15	139	34	< 0.1	642	204	6.78
	17-Oct-18	864.59	< 0.05	122	31	0.1	508	38	7.22
	9-Apr-19	864.38	0.81	94.3	2	0.1	380	112	7.25
	7-Aug-19	864.29	1.36	116	23	< 0.1	500	155	7.11
	8-Oct-19	863.84	1.38	114	49	< 0.1	714	270	7.18
30-Jan-20	864.99	0.20	102	2	0.4	356	94	7.76	
22-Jun-20	863.54	1.14	94	15	< 0.1	422	99	7.31	
13-Oct-20	862.68	1.54	145	56	< 0.1	690	219	7.07	
12-Apr-21	863.99	0.13	79	1	0.5	314	73	7.28	
12-Oct-21	863.71	0.91	96	14	0.3	398	87	7.18	

Notes:

1. Cells with "<" are represented as non-detects. Values shown correspond to the laboratory reporting limit.
2. Background values based on statistical evaluation of initial eight rounds (Oct. 2016 thru July 2017) of groundwater sampling data for Well MW-24.

**Table 2**  
**Cheswick 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	0.14	0.001	0.002	0.01	0.005	0.1	0.001	0.01	0.0002	0.02	0.001	0.0002	12.9
		Groundwater Protection Standard														
		MCL	MCL	MCL	MCL	MCL	MCL	RSL	MCL	RSL	RSL	MCL	RSL	MCL	MCL	BACKGROUND
		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	12.9
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
	4-Apr-18	< 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	0.25
	10-Jul-18	Not Analyzed	0.001	0.13	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.53
	17-Oct-18	Not Analyzed	< 0.001	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.86
	9-Apr-19	< 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	0.62
	8-Aug-19	Not Analyzed	0.001	0.14	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.90
	8-Oct-19	Not Analyzed	0.001	0.13	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.40
	30-Jan-20	< 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	0.40
22-Jun-20	Not Analyzed	Not Analyzed	0.10	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	< 0.001	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.14	
13-Oct-20	Not Analyzed	Not Analyzed	0.11	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.98	
12-Apr-21	< 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	0.99	
11-Oct-21	Not Analyzed	Not Analyzed	0.10	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	< 0.01	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.31	
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
	4-Apr-18	< 0.001	< 0.001	0.05	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.003	< 0.0002	0.46
	10-Jul-18	Not Analyzed	< 0.001	0.05	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.003	Not Analyzed	-0.41
	17-Oct-18	Not Analyzed	< 0.001	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.002	Not Analyzed	1.77
	9-Apr-19	< 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	0.93
	7-Aug-19	Not Analyzed	< 0.001	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.001	Not Analyzed	1.75
	8-Oct-19	Not Analyzed	< 0.001	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.002	Not Analyzed	0.60
	30-Jan-20	< 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	0.83
	22-Jun-20	Not Analyzed	Not Analyzed	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.3	< 0.001	Not Analyzed	Not Analyzed	Not Analyzed	0.002	Not Analyzed	0.27
13-Oct-20	Not Analyzed	Not Analyzed	0.05	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.002	Not Analyzed	0.47	
12-Apr-21	< 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	0.11	
12-Oct-21	Not Analyzed	Not Analyzed	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	< 0.01	Not Analyzed	Not Analyzed	0.002	Not Analyzed	0.27	

**Table 2**  
**Cheswick 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	0.14	0.001	0.002	0.01	0.005	0.1	0.001	0.01	0.0002	0.02	0.001	0.0002	12.9
		Groundwater Protection Standard														
		MCL	MCL	MCL	MCL	MCL	MCL	RSL	MCL	RSL	RSL	MCL	RSL	MCL	MCL	BACKGROUND
		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	12.9
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
	4-Apr-18	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.1	< 0.001	< 0.01	< 0.0002	< 0.02	0.003	< 0.0002	0.55
	10-Jul-18	Not Analyzed	< 0.001	0.02	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.005	Not Analyzed	2.26
	17-Oct-18	Not Analyzed	< 0.001	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.004	Not Analyzed	2.21
	9-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	0.004	< 0.0002	1.42
	7-Aug-19	Not Analyzed	< 0.001	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.004	Not Analyzed	1.16
	8-Oct-19	Not Analyzed	< 0.001	0.03	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.004	Not Analyzed	0.18
30-Jan-20	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	< 0.01	< 0.0002	< 0.02	0.005	< 0.0002	0.20	
22-Jun-20	Not Analyzed	Not Analyzed	0.02	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	< 0.001	Not Analyzed	Not Analyzed	Not Analyzed	0.004	Not Analyzed	0.60	
13-Oct-20	Not Analyzed	Not Analyzed	0.09	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.004	Not Analyzed	0.80	
12-Apr-21	< 0.001	< 0.001	0.02	< 0.001	< 0.002	< 0.01	< 0.005	0.2	< 0.001	0.01	< 0.0002	< 0.02	0.004	< 0.0002	1.01	
12-Oct-21	Not Analyzed	Not Analyzed	0.03	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.2	Not Analyzed	0.01	Not Analyzed	Not Analyzed	0.003	Not Analyzed	0.34	
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
	4-Apr-18	< 0.001	< 0.001	0.03	< 0.001	< 0.002	< 0.01	< 0.005	0.3	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.54
	10-Jul-18	Not Analyzed	< 0.001	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	1.31
	17-Oct-18	Not Analyzed	0.001	0.13	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.96
	9-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	1.29
	7-Aug-19	Not Analyzed	< 0.001	0.07	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.85
	8-Oct-19	Not Analyzed	< 0.001	0.05	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.61
	30-Jan-20	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.4	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	0.62
22-Jun-20	Not Analyzed	Not Analyzed	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	< 0.001	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.13	
13-Oct-20	Not Analyzed	Not Analyzed	0.05	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.1	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.36	
12-Apr-21	< 0.001	< 0.001	0.06	< 0.001	< 0.002	< 0.01	< 0.005	0.5	< 0.001	< 0.01	< 0.0002	< 0.02	< 0.001	< 0.0002	1.08	
12-Oct-21	Not Analyzed	Not Analyzed	0.08	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.3	Not Analyzed	0.01	Not Analyzed	Not Analyzed	< 0.001	Not Analyzed	0.75	

- 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 (Oct. 2016 thru July 2017) of groundwater sampling data for Well MW-24.
  - 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.

***Figure***

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File: O:\PROJECT\110870\Genon - Cheswick Power Station\631015108\631015108-B3.dwg  
 Plot Date/Time: Dec 15, 2021 - 9:03am  
 Plotted By: Greg Jones

OFFICE	DESIGNED BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	--	--	--	631015108-B3
	DRAWN BY			
	E. Schlegel			
DATE				
12/15/21				



**LEGEND:**

- MW-25 (863.71) CCR GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED ON OCTOBER 11-12, 2021
- GROUNDWATER FLOW DIRECTION



**REFERENCES:**

- GOOGLE AERIAL PHOTOGRAPH, DATED 10/8/2020.

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



**FIGURE 1**  
 CCR COMPLIANCE GROUNDWATER MONITORING WELL LOCATION MAP  
 CHESWICK ASH DISPOSAL SITE  
 CHESWICK GENERATING STATION  
 SPRINGDALE, ALLEGHENY COUNTY, PENNSYLVANIA