

2017 Annual Groundwater Monitoring and Corrective Action Report

Coffeen Ash Pond No. 2 – CCR Unit ID 102

Coffeen Power Station

134 Cips Lane

Coffeen, Illinois 62017

Illinois Power Generating Company

January 31, 2018



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2017 Annual Groundwater Monitoring and Corrective Action Report

Coffeen Ash Pond No. 2 – CCR Unit ID 102
Coffeen Power Station
Coffeen, Illinois

Prepared for:
Illinois Power Generating Company



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ACRONYMS AND ABBREVIATIONS

CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
mg/L	milligrams per liter
NRT/OBG	Natural Resource Technology, an OBG Company
OBG	O'Brien & Gere Engineers, Inc.
SSI	statistically significant increase
STD	standard units



1 INTRODUCTION

1.1 OVERVIEW

This report has been prepared on behalf of Illinois Power Generating Company by O'Brien & Gere Engineers, Inc. (OBG), to provide the information required by 40 CFR 257.90(e) for the Coffeen Ash Pond No. 2 located at Coffeen Power Station near Coffeen, Illinois.

In accordance with 40 CFR 257.90(e), the owner or operator of an existing CCR unit must prepare an annual groundwater monitoring and corrective action report, for the preceding calendar year, that documents the status of the groundwater monitoring and corrective action program for the CCR unit, summarizes key actions completed, describes any problems encountered, discusses actions to resolve the problems, and projects key activities for the upcoming year. At a minimum, the annual report must contain the following information, to the extent available:

1. A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit.
2. 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.
3. 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 and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs.
4. 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).
5. Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.¹

This report provides the required information for the Coffeen Ash Pond No. 2 for calendar year 2017.

1.2 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The final three independent samples of the minimum eight required by 40 CFR 257.94(b) were collected and analyzed from each background and downgradient well in 2017 before October 17. The other five independent samples were collected and analyzed in 2015 and 2016.

The first semi-annual monitoring sample for the Detection Monitoring Program was collected in October 2017 from each well.

Using the last of the minimum eight samples required to be collected by October 17, 2017 to determine whether a statistically significant increase (SSI) of Appendix III parameters over background concentrations has occurred, evaluation of analytical data from the downgradient wells was initiated beginning no later than October 17, 2017 for the initial eight samples. SSI determinations will be completed within 90 days (January 15, 2018). In addition, SSI determinations will be completed within 90 days of completion of analysis for the first semi-annual detection monitoring sample collected on October 25-28, 2017, for which analytical data was received on November 14, 2017.

¹ For calendar year 2017, corrective action and other information required to be included in the annual report as specified in §§ 257.90 through 257.98 is inapplicable.

2 KEY ACTIONS COMPLETED IN 2017

2.1 SUMMARY

Three groundwater sampling events were completed in 2017 as part of an effort initiated in 2015 to collect eight independent samples from background and downgradient monitoring wells in accordance with 40 CFR 257.94(b).

Subsequent to collection of the eight independent samples, an additional sampling event was completed in October 2017 for parameters listed in Appendix III, 40 CFR Part 257, to supplement the background data set and as the first semi-annual monitoring sampling event for the Detection Monitoring Program.

A map showing the groundwater monitoring system, including the CCR unit and all background and downgradient monitoring wells with well identification numbers, for the Coffeen Ash Pond No. 2 is presented in Figure 1. No monitoring wells were installed or decommissioned from the monitoring system in 2017.

Samples were collected and analyzed in accordance with the Sampling and Analysis Plan (NRT/OBG, 2017a) prepared for the Coffeen Ash Pond No. 2.

All monitoring data obtained under 40 CFR §§ 257.90 through 257.98 (as applicable) in 2017, as well as monitoring data for the previously collected five independent samples are presented in Tables 1 and 2. Sample collection dates in 2017 were February 10-18, May 16-17, July 12-14, and October 25-28. Sample collection dates for previously collected five independent samples are identified in Tables 1 and 2. One ground water sample was collected from each background and downgradient well in each sampling event.

Generally, one ground water sample was collected from each background and downgradient well during each sampling event. Samples collected from downgradient monitoring wells G404 and G405 during the November 2016 sampling event, and sent by the analytical laboratory to its subcontract laboratory for analysis of Radium isotopes 226 and 228, were lost in shipment. Additional samples were collected from those wells on December 7, 2016 for analysis of these parameters.

Statistical evaluation of analytical data from the eight independent samples required to be collected by October 17, 2017 and the first semi-annual detection monitoring event on October 25-28, 2017 was initiated and will be completed within 90 days of October 17, 2017 (January 15, 2018) or 90 days from receipt of the data from the first semi-annual detection monitoring event (February 12, 2018), respectively. Statistical evaluation of analytical data is being performed in accordance with the Statistical Analysis Plan, Coffeen Power Station, Illinois Power Generating Company (NRT/OBG, 2017b).

2.2 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the groundwater monitoring program during 2017. Groundwater samples were collected and analyzed in accordance with the Sampling and Analysis Plan, and all data was accepted.

3 KEY ACTIVITIES PLANNED FOR 2018

3.1 SUMMARY

The following key activities are planned for 2018:

- Continuation of the Detection Monitoring Program with semi-annual sampling scheduled for the 2nd and 4th quarters of 2018.
- Complete evaluation of analytical data from the downgradient wells, using both the eight samples required to be collected by October 17, 2017 and the first semi-annual detection monitoring sample taken in November 2017 to determine whether a SSI of Appendix III parameters over background concentrations has occurred.
- If an SSI is identified, potential alternate sources (*i.e.*, a source other than the CCR unit caused the SSI or that that SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated. If an alternate source is demonstrated to be the cause of the SSI, a written demonstration will be completed within 90 days of SSI detection and included in the annual groundwater monitoring and corrective action report for 2018.
 - » If an alternate source(s) is not identified to be the cause of the SSI, the applicable requirements of 40 CFR §§ 257.94 through 257.98 (*e.g.*, assessment monitoring) as may apply in 2018 will be met, including associated recordkeeping/notifications required by 40 CFR §§ 257.105 through 257.108.

REFERENCES

Natural Resource Technology, an OBG Company, 2017a, Sampling and Analysis Plan, Coffeen Ash Pond No. 2, Coffeen Power Station, Coffeen, Illinois, Project No. 2285, Revision 0, October 17, 2017.

Natural Resource Technology, an OBG Company, 2017b, Statistical Analysis Plan, Coffeen Power Station, Newton Power Station, Illinois Power Generating Company, October 17, 2017.





Tables

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January 12, 2018

Table 1. Coffeen Ash Pond No. 2: Appendix III Analytical Results

11:41:09 AM

Location ID	Sample Date						
		B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
G270	11/20/2015	<0.01000	59.00	12.00	0.3620	6.810	89.00
	2/10/2016	<0.01000	49.00	16.00	0.4720	6.690	77.00
	5/12/2016	<0.01000	57.00	12.00	0.4600	7.040	76.00
	8/1/2016	<0.01000	50.00	15.00	0.3970	7.010	76.00
	11/16/2016	0.01800	48.00	12.00	0.3270	7.130	63.00
	2/10/2017	<0.01000	53.00	11.00	0.3640	7.090	55.00
	5/16/2017	<0.01000	54.00	9.700	0.3580	7.190	50.00
	7/12/2017	<0.01000	52.00	12.00	0.3380	6.990	54.00
	10/25/2017	0.01100	56.00	13.00	0.3380	7.060	55.00
G281	11/20/2015	<0.01000	150.0	74.00	0.3490	7.000	300.0
	2/11/2016	0.01000	120.0	55.00	0.4110	7.100	340.0
	5/10/2016	<0.01000	130.0	72.00	0.4050	7.000	370.0
	8/1/2016	0.01200	140.0	70.00	0.3680	6.980	310.0
	11/16/2016	0.02200	110.0	68.00	0.2630	6.880	310.0
	2/10/2017	<0.01000	120.0	67.00	0.2700	6.720	310.0
	5/16/2017	<0.01000	130.0	68.00	0.3080	6.860	330.0
	7/12/2017	<0.01000	130.0	75.00	0.2730	6.990	300.0
	10/25/2017	0.01200	110.0	64.00	0.3510	6.960	300.0

Table 1. Coffeen Ash Pond No. 2: Appendix III Analytical Results

11:41:09 AM

Location ID	Sample Date	TDS, mg/L
G270	11/20/2015	400.0
	2/10/2016	340.0
	5/12/2016	340.0
	8/1/2016	360.0
	11/16/2016	450.0
	2/10/2017	390.0
	5/16/2017	380.0
	7/12/2017	400.0
	10/25/2017	400.0
G281	11/20/2015	820.0
	2/11/2016	740.0
	5/10/2016	740.0
	8/1/2016	780.0
	11/16/2016	840.0
	2/10/2017	840.0
	5/16/2017	840.0
	7/12/2017	760.0
	10/25/2017	800.0

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Table 1. Coffeen Ash Pond No. 2: Appendix III Analytical Results

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Location ID	Sample Date						
		B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
G401	11/21/2015	3.300	440.0	3.600	<0.2500	5.980	2300.
	2/22/2016	3.400	330.0	6.000	<0.2500	5.800	2500.
	5/19/2016	3.500	380.0	3.000	0.7580	5.960	2200.
	8/1/2016	4.100	450.0	5.300	<0.2500	6.150	2100.
	11/17/2016	4.000	400.0	<5.000	<0.2500	6.240	3400.
	2/16/2017	3.700	440.0	2.400	<0.2500	6.220	3900.
	5/17/2017	3.200	470.0	3.400	<0.2500	6.300	2000.
	7/13/2017	3.600	470.0	2.600	<0.2500	6.200	2100.
	10/27/2017	4.400	490.0	3.200	<0.2500	6.250	2000.
G402	11/21/2015	6.600	270.0	2.800	<0.2500	6.810	1200.
	2/22/2016	5.700	220.0	2.800	0.3550	6.740	1000.
	5/19/2016	6.300	270.0	1.500	0.3670	6.770	960.0
	8/2/2016	7.400	240.0	2.200	0.3300	6.600	890.0
	11/17/2016	6.900	240.0	2.600	0.4630	6.620	1100.
	2/16/2017	4.600	240.0	2.500	0.2950	6.500	1100.
	5/17/2017	5.800	240.0	2.500	<0.2500	6.420	960.0
	7/13/2017	6.800	250.0	2.500	0.3880	6.550	1000.
	10/27/2017	7.300	260.0	3.500	0.3220	6.690	1000.

Table 1. Coffeen Ash Pond No. 2: Appendix III Analytical Results

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Location ID	Sample Date	TDS, mg/L
G401	11/21/2015	3000.
	2/22/2016	3000.
	5/19/2016	2800.
	8/1/2016	2900.
	11/17/2016	3200.
	2/16/2017	3000.
	5/17/2017	3000.
	7/13/2017	2600.
	10/27/2017	2900.
G402	11/21/2015	1700.
	2/22/2016	1700.
	5/19/2016	1500.
	8/2/2016	1500.
	11/17/2016	1700.
	2/16/2017	1700.
	5/17/2017	1700.
	7/13/2017	1600.
	10/27/2017	1700.

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Table 1. Coffeen Ash Pond No. 2: Appendix III Analytical Results

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Location ID	Sample Date						
		B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
G403	11/23/2015	0.03900	78.00	6.800	0.4420	7.150	35.00
	2/22/2016	0.06400	69.00	4.100	0.5180	6.960	17.00
	5/18/2016	0.01400	71.00	2.700	0.4780	6.890	11.00
	8/1/2016	0.02700	140.0	4.500	0.4850	6.910	9.900
	11/17/2016	0.04200	72.00	4.000	0.5390	6.740	8.900
	2/18/2017	<0.01000	63.00	3.400	0.3970	7.010	7.400
	5/17/2017	0.01700	63.00	3.300	<0.2500	6.940	7.100
	7/13/2017	0.02700	67.00	5.800	0.4140	6.790	4.900
	10/28/2017	0.06000	67.00	4.100	0.5440	7.160	7.000
G404	11/21/2015	2.100	110.0	53.00	<0.2500	6.720	180.0
	2/15/2016	1.600	110.0	49.00	<0.2500	7.240	150.0
	5/19/2016	1.400	89.00	46.00	0.2870	6.820	140.0
	8/2/2016	3.200	120.0	62.00	<0.2500	7.080	190.0
	11/22/2016	3.400	120.0	61.00	<0.2500	7.090	380.0
	2/18/2017	2.800	120.0	62.00	<0.2500	7.100	230.0
	5/16/2017	1.600	110.0	64.00	<0.2500	7.190	160.0
	7/14/2017	5.500	160.0	68.00	<0.2500	7.090	310.0
	10/28/2017	5.800	160.0	57.00	0.2900	6.880	390.0

Table 1. Coffeen Ash Pond No. 2: Appendix III Analytical Results

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Location ID	Sample Date	TDS, mg/L
G403	11/23/2015	320.0
	2/22/2016	340.0
	5/18/2016	320.0
	8/1/2016	320.0
	11/17/2016	350.0
	2/18/2017	320.0
	5/17/2017	330.0
	7/13/2017	320.0
	10/28/2017	340.0
G404	11/21/2015	580.0
	2/15/2016	560.0
	5/19/2016	460.0
	8/2/2016	620.0
	11/22/2016	880.0
	2/18/2017	740.0
	5/16/2017	640.0
	7/14/2017	860.0
	10/28/2017	950.0

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Table 1. Coffeen Ash Pond No. 2: Appendix III Analytical Results

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Location ID	Sample Date						
		B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
G405	11/21/2015	17.00	330.0	14.00	0.4540	6.820	1700.
	2/15/2016	16.00	320.0	11.00	0.4590	7.070	1700.
	5/18/2016	15.00	320.0	9.300	0.5440	6.850	1800.
	8/2/2016	17.00	280.0	3.400	<0.2500	6.810	1600.
	11/22/2016	13.00	250.0	19.00	0.5250	6.900	1400.
	2/18/2017	12.00	270.0	21.00	0.4510	7.010	1300.
	5/16/2017	4.000	190.0	47.00	0.6150	7.060	680.0
	7/14/2017	15.00	320.0	20.00	0.4530	6.810	1600.
	10/28/2017	11.00	300.0	26.00	0.6130	6.960	1300.

Table 1. Coffeen Ash Pond No. 2: Appendix III Analytical Results

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Location ID	Sample Date	TDS, mg/L
G405	11/21/2015	2400.
	2/15/2016	2500.
	5/18/2016	2200.
	8/2/2016	2200.
	11/22/2016	2100.
	2/18/2017	1800.
	5/16/2017	1300.
	7/14/2017	2100.
	10/28/2017	2000.

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Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

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Location ID	Sample Date						
		As, tot, mg/L	Ba, tot, mg/L	Be, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
G270	11/20/2015	0.001000	0.04500	<0.001000	<0.001000	<0.002000	<0.004000
	2/10/2016	<0.001000	0.03200	<0.001000	<0.001000	<0.002000	<0.004000
	5/12/2016	<0.001000	0.03400	<0.001000	<0.001000	<0.002000	<0.004000
	8/1/2016	<0.001000	0.03700	<0.001000	<0.001000	<0.002000	<0.004000
	11/16/2016	<0.001000	0.03100	<0.001000	<0.001000	<0.002000	<0.004000
	2/10/2017	<0.001000	0.03600	<0.001000	<0.001000	<0.002000	<0.004000
	5/16/2017	<0.001000	0.03300	<0.001000	<0.001000	<0.002000	<0.004000
	7/12/2017	<0.001000	0.03500	<0.001000	<0.001000	<0.002000	<0.004000
G281	11/20/2015	0.004300	0.1400	<0.001000	<0.001000	0.005600	0.01100
	2/11/2016	<0.001000	0.06700	<0.001000	<0.001000	<0.002000	<0.004000
	5/10/2016	<0.001000	0.07200	<0.001000	<0.001000	<0.002000	<0.004000
	8/1/2016	<0.001000	0.07800	<0.001000	<0.001000	<0.002000	<0.004000
	11/16/2016	0.001000	0.08100	<0.001000	<0.001000	<0.002000	<0.004000
	2/10/2017	<0.001000	0.08000	<0.001000	<0.001000	<0.002000	<0.004000
	5/16/2017	<0.001000	0.08100	<0.001000	<0.001000	<0.002000	<0.004000
	7/12/2017	0.001000	0.08700	<0.001000	<0.001000	<0.002000	<0.004000
G401	11/21/2015	0.004600	0.03700	<0.001000	<0.001000	0.2500	0.005300
	2/22/2016	<0.002000	0.01500	<0.001000	<0.001000	0.2400	<0.004000

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Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

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Location ID	Sample Date						
		F, tot, mg/L	Hg, tot, mg/L	Li, tot, mg/L	Mo, tot, mg/L	Pb, tot, mg/L	Ra-226,228, tot, pCi/L
G270	11/20/2015	0.3620	<0.0002000	<0.01000	0.001000	0.001500	0.5220
	2/10/2016	0.4720	<0.0002000	<0.01000	<0.001000	<0.001000	0.7210
	5/12/2016	0.4600	<0.0002000	<0.01000	0.001000	<0.001000	0.4220
	8/1/2016	0.3970	<0.0002000	<0.01000	<0.001000	<0.001000	0.9970
	11/16/2016	0.3270	<0.0002000	<0.01000	<0.001000	<0.001000	0.1090
	2/10/2017	0.3640	<0.0002000	<0.01000	<0.001000	<0.001000	0.6200
	5/16/2017	0.3580	<0.0002000	<0.01000	<0.001000	<0.001000	1.520
	7/12/2017	0.3380	<0.0002000	<0.01000	<0.001000	<0.001000	0.4130
G281	11/20/2015	0.3490	<0.0002000	0.01300	0.001500	0.006300	1.120
	2/11/2016	0.4110	<0.0002000	<0.01000	<0.001000	<0.001000	0.6220
	5/10/2016	0.4050	<0.0002000	<0.01000	<0.001000	<0.001000	0.2180
	8/1/2016	0.3680	<0.0002000	<0.01000	<0.001000	0.001100	1.490
	11/16/2016	0.2630	<0.0002000	<0.01000	<0.001000	0.001300	0.9400
	2/10/2017	0.2700	<0.0002000	<0.01000	<0.001000	<0.001000	1.630
	5/16/2017	0.3080	<0.0002000	<0.01000	<0.001000	<0.001000	0.4370
	7/12/2017	0.2730	<0.0002000	<0.01000	<0.001000	0.001300	0.3600
G401	11/21/2015	<0.2500	<0.0002000	0.05500	<0.001000	0.003100	1.590
	2/22/2016	<0.2500	<0.0002000	0.05000	<0.001000	<0.001000	1.040

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Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

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Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G270	11/20/2015	<0.003000	<0.001000	<0.001000
	2/10/2016	<0.003000	0.001200	<0.001000
	5/12/2016	<0.003000	0.001200	<0.001000
	8/1/2016	<0.003000	<0.001000	<0.001000
	11/16/2016	<0.003000	<0.001000	<0.001000
	2/10/2017	<0.003000	<0.001000	<0.001000
	5/16/2017	<0.003000	<0.001000	<0.001000
	7/12/2017	<0.003000	<0.001000	<0.001000
G281	11/20/2015	<0.003000	<0.001000	<0.001000
	2/11/2016	<0.003000	<0.001000	<0.001000
	5/10/2016	<0.003000	<0.001000	<0.001000
	8/1/2016	<0.003000	<0.001000	<0.001000
	11/16/2016	<0.003000	<0.001000	<0.001000
	2/10/2017	<0.003000	<0.001000	<0.001000
	5/16/2017	<0.003000	<0.001000	<0.001000
	7/12/2017	<0.003000	<0.001000	<0.001000
G401	11/21/2015	<0.003000	0.002000	<0.001000
	2/22/2016	<0.003000	<0.002000	<0.001000

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Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

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Location ID	Sample Date						
		As, tot, mg/L	Ba, tot, mg/L	Be, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
G401	5/19/2016	0.001500	0.01400	<0.001000	<0.001000	0.2700	<0.004000
	8/1/2016	0.004000	0.05300	<0.001000	0.001200	0.2800	0.009600
	11/17/2016	0.002700	0.02100	<0.001000	0.001300	0.2700	<0.004000
	2/16/2017	0.04600	0.4200	0.003100	0.01000	0.2800	0.09100
	5/17/2017	0.03400	0.3000	0.002300	0.01000	0.2900	0.07100
	7/13/2017	0.06800	0.5700	0.004600	0.01900	0.3600	0.1600
G402	11/21/2015	0.02400	0.08200	<0.001000	0.001000	0.01400	0.01900
	2/22/2016	0.02700	0.1100	<0.001000	<0.001000	0.01500	0.03100
	5/19/2016	0.02300	0.08500	<0.001000	<0.001000	0.01900	0.02200
	8/2/2016	0.01000	0.04700	<0.001000	<0.001000	0.007400	0.008500
	11/17/2016	0.01200	0.05400	<0.001000	<0.001000	0.007000	0.01100
	2/16/2017	0.002100	0.02800	<0.001000	<0.001000	0.004700	<0.004000
	5/17/2017	0.002000	0.02900	<0.001000	<0.001000	0.006900	<0.004000
	7/13/2017	0.01100	0.07600	<0.001000	<0.001000	0.01700	0.01400
G403	11/23/2015	0.001700	0.1400	<0.001000	<0.001000	<0.002000	0.006200
	2/22/2016	<0.001000	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
	5/18/2016	<0.001000	0.1600	<0.001000	<0.001000	<0.002000	<0.004000
	8/1/2016	0.003300	0.2400	<0.001000	<0.001000	0.002900	0.007300

Coffeen

January 12, 2018

Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

11:41:15 AM

Location ID	Sample Date						
		F, tot, mg/L	Hg, tot, mg/L	Li, tot, mg/L	Mo, tot, mg/L	Pb, tot, mg/L	Ra-226,228, tot, pCi/L
G401	5/19/2016	0.7580	<0.0002000	0.04600	<0.001000	<0.001000	0.9440
	8/1/2016	<0.2500	0.0009300	0.05100	<0.001000	0.004800	1.630
	11/17/2016	<0.2500	<0.0002000	0.05400	<0.001000	0.002900	0.9720
	2/16/2017	<0.2500	0.0005800	0.1300	0.005100	0.07500	1.700
	5/17/2017	<0.2500	<0.0002000	0.08900	0.003600	0.05700	1.110
	7/13/2017	<0.2500	0.0006200	0.1600	0.006800	0.09800	1.250
G402	11/21/2015	<0.2500	<0.0002000	0.05400	0.006000	0.01500	4.460
	2/22/2016	0.3550	<0.0002000	0.05700	0.004900	0.01800	4.170
	5/19/2016	0.3670	<0.0002000	0.03600	0.004400	0.01500	1.140
	8/2/2016	0.3300	<0.0002000	0.03300	0.003300	0.007200	2.930
	11/17/2016	0.4630	<0.0002000	0.04700	0.003400	0.007900	0.5720
	2/16/2017	0.2950	<0.0002000	0.03800	0.002000	0.001300	0.3470
	5/17/2017	<0.2500	<0.0002000	0.03100	0.001800	0.001100	0.7980
	7/13/2017	0.3880	<0.0002000	0.04200	0.003300	0.01000	2.400
G403	11/23/2015	0.4420	<0.0002000	<0.01000	0.004000	0.002100	0.2730
	2/22/2016	0.5180	<0.0002000	<0.01000	<0.001000	<0.001000	0.2580
	5/18/2016	0.4780	<0.0002000	<0.01000	0.001200	<0.001000	0.1920
	8/1/2016	0.4850	<0.0002000	<0.01000	0.005500	0.002100	0.9680

Coffeen

January 12, 2018

Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

11:41:15 AM

Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G401	5/19/2016	<0.003000	<0.001000	<0.001000
	8/1/2016	<0.003000	0.005500	<0.001000
	11/17/2016	<0.003000	0.001000	<0.001000
	2/16/2017	<0.003000	0.005100	<0.001000
	5/17/2017	<0.003000	0.005700	<0.001000
	7/13/2017	<0.003000	0.009800	<0.001000
G402	11/21/2015	<0.003000	0.002000	<0.001000
	2/22/2016	<0.003000	0.003300	<0.001000
	5/19/2016	<0.003000	0.001600	<0.001000
	8/2/2016	<0.003000	<0.001000	<0.001000
	11/17/2016	<0.003000	0.001200	<0.001000
	2/16/2017	<0.003000	<0.001000	<0.001000
	5/17/2017	<0.003000	<0.001000	<0.001000
	7/13/2017	<0.003000	0.001400	<0.001000
G403	11/23/2015	<0.003000	<0.001000	<0.001000
	2/22/2016	<0.003000	<0.001000	<0.001000
	5/18/2016	<0.003000	<0.001000	<0.001000
	8/1/2016	<0.003000	0.006800	<0.001000

Coffeen

January 12, 2018

Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

11:41:15 AM

Location ID	Sample Date						
		As, tot, mg/L	Ba, tot, mg/L	Be, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
G403	11/17/2016	0.002600	0.2000	<0.001000	<0.001000	0.002400	<0.004000
	2/18/2017	0.001100	0.1500	<0.001000	<0.001000	0.002000	<0.004000
	5/17/2017	0.001800	0.1400	<0.001000	<0.001000	0.002100	<0.004000
	7/13/2017	0.002100	0.1700	<0.001000	<0.001000	0.002200	<0.004000
G404	11/21/2015	<0.001000	0.05000	<0.001000	<0.001000	<0.002000	<0.004000
	2/15/2016	<0.001000	0.04300	<0.001000	<0.001000	<0.002000	<0.004000
	5/19/2016	<0.001000	0.04100	<0.001000	<0.001000	<0.002000	<0.004000
	8/2/2016	<0.001000	0.05500	<0.001000	<0.001000	<0.002000	<0.004000
	11/22/2016	<0.001000	0.05200	<0.001000	<0.001000	<0.002000	<0.004000
	12/7/2016						
	2/18/2017	0.002100	0.04400	<0.001000	<0.001000	<0.002000	<0.004000
	5/16/2017	<0.001000	0.06100	<0.001000	<0.001000	<0.002000	<0.004000
	7/14/2017	0.001300	0.04200	<0.001000	<0.001000	<0.002000	<0.004000
G405	11/21/2015	0.01400	0.05100	<0.001000	0.001200	0.003400	0.005100
	2/15/2016	0.002800	0.01800	<0.001000	<0.001000	<0.002000	<0.004000
	5/18/2016	0.002500	0.02000	<0.001000	<0.001000	<0.002000	<0.004000
	8/2/2016	0.006300	0.02800	<0.001000	<0.001000	0.003800	<0.004000
	11/22/2016	0.002400	0.02200	<0.001000	<0.001000	0.002100	<0.004000

Coffeen

January 12, 2018

Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

11:41:15 AM

Location ID	Sample Date						
		F, tot, mg/L	Hg, tot, mg/L	Li, tot, mg/L	Mo, tot, mg/L	Pb, tot, mg/L	Ra-226,228, tot, pCi/L
G403	11/17/2016	0.5390	<0.0002000	<0.01000	0.001000	<0.001000	1.340
	2/18/2017	0.3970	<0.0002000	<0.01000	0.001000	<0.001000	0.9650
	5/17/2017	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.5910
	7/13/2017	0.4140	<0.0002000	<0.01000	<0.001000	<0.001000	0.8300
G404	11/21/2015	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.6180
	2/15/2016	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.5110
	5/19/2016	0.2870	<0.0002000	<0.01000	<0.001000	<0.001000	2.070
	8/2/2016	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	1.620
	11/22/2016	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	
	12/7/2016						0.7580
	2/18/2017	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.5600
	5/16/2017	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.5960
	7/14/2017	<0.2500	<0.0002000	0.01500	<0.001000	<0.001000	1.310
G405	11/21/2015	0.4540	<0.0002000	<0.01000	0.001000	0.008500	0.7890
	2/15/2016	0.4590	<0.0002000	<0.01000	<0.001000	0.002300	0.5410
	5/18/2016	0.5440	<0.0002000	<0.01000	<0.001000	0.001100	0.2660
	8/2/2016	<0.2500	<0.0002000	<0.01000	0.001600	0.001800	1.370
	11/22/2016	0.5250	<0.0002000	<0.01000	0.001100	0.002300	

Coffeen

January 12, 2018

Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

11:41:15 AM

Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G403	11/17/2016	<0.003000	<0.001000	<0.001000
	2/18/2017	<0.003000	<0.001000	<0.001000
	5/17/2017	<0.003000	<0.001000	<0.001000
	7/13/2017	<0.003000	<0.001000	<0.001000
G404	11/21/2015	<0.003000	<0.001000	<0.001000
	2/15/2016	<0.003000	<0.001000	<0.001000
	5/19/2016	<0.003000	<0.001000	<0.001000
	8/2/2016	<0.003000	<0.001000	<0.001000
	11/22/2016	<0.003000	<0.001000	<0.001000
	12/7/2016			
	2/18/2017	<0.003000	<0.001000	<0.001000
	5/16/2017	<0.003000	<0.001000	<0.001000
	7/14/2017	<0.003000	<0.001000	<0.001000
G405	11/21/2015	<0.003000	<0.001000	<0.001000
	2/15/2016	<0.003000	<0.001000	<0.001000
	5/18/2016	<0.003000	<0.001000	<0.001000
	8/2/2016	<0.003000	<0.001000	<0.001000
	11/22/2016	<0.003000	<0.001000	<0.001000

Coffeen

January 12, 2018

Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

11:41:15 AM

Location ID	Sample Date						
		As, tot, mg/L	Ba, tot, mg/L	Be, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
G405	12/7/2016						
	2/18/2017	0.004900	0.02100	<0.001000	<0.001000	<0.002000	<0.004000
	5/16/2017	0.001100	0.02400	<0.001000	<0.001000	<0.002000	<0.004000
	7/14/2017	0.004600	0.03500	<0.001000	<0.001000	0.002600	<0.004000

Coffeen

January 12, 2018

Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

11:41:15 AM

Location ID	Sample Date	F, tot, mg/L	Hg, tot, mg/L	Li, tot, mg/L	Mo, tot, mg/L	Pb, tot, mg/L	Ra-226,228, tot, pCi/L
G405	12/7/2016						1.550
	2/18/2017	0.4510	<0.0002000	<0.01000	0.001100	0.003600	1.540
	5/16/2017	0.6150	<0.0002000	<0.01000	0.001300	0.001000	1.070
	7/14/2017	0.4530	<0.0002000	<0.01000	0.001100	0.003800	0.8600

Coffeen

January 12, 2018

Table 2. Coffeen Ash Pond No. 2: Appendix IV Analytical Results

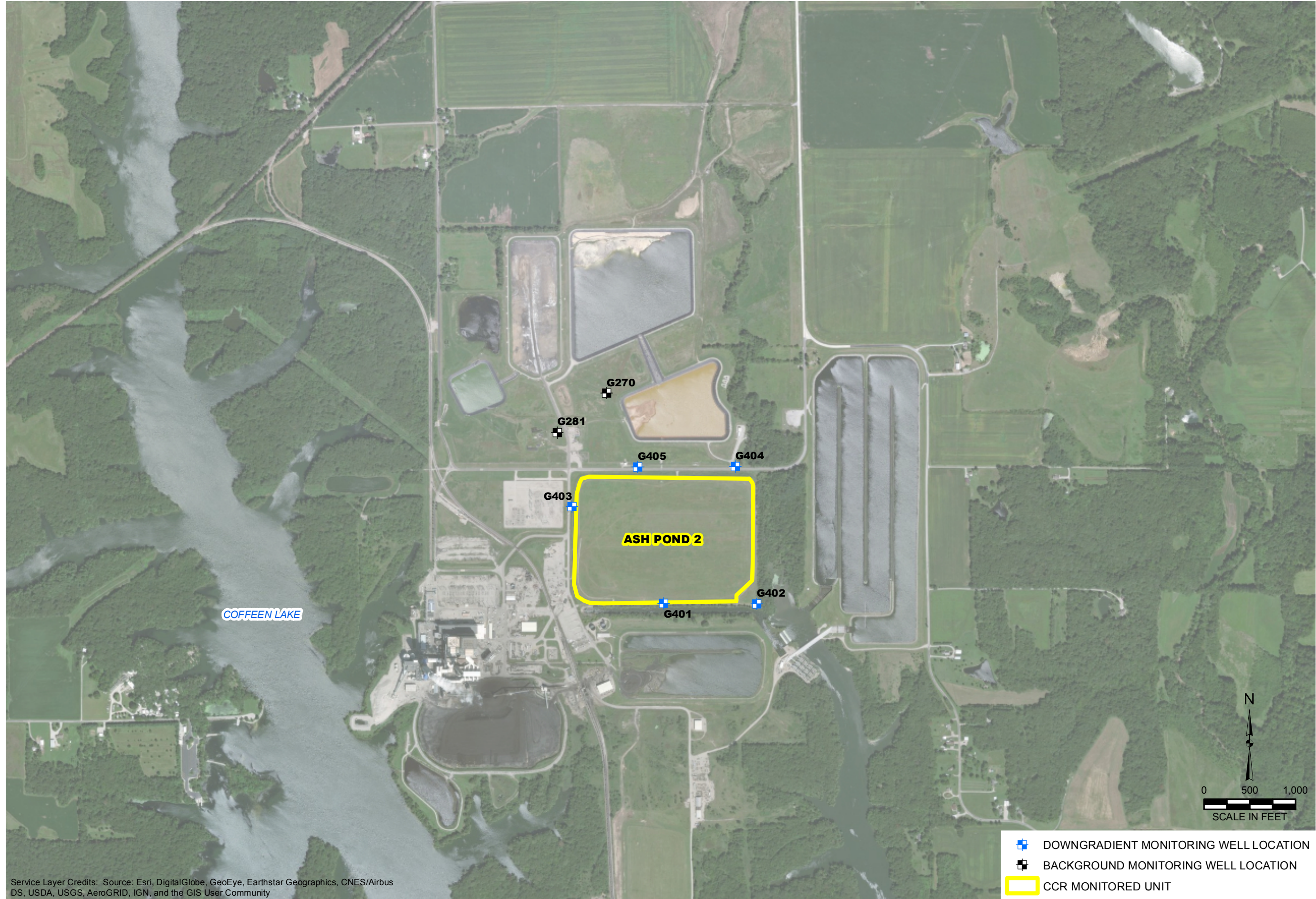
11:41:15 AM

Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G405	12/7/2016			
	2/18/2017	<0.003000	<0.001000	<0.001000
	5/16/2017	<0.003000	<0.001000	<0.001000
	7/14/2017	<0.003000	<0.001000	<0.001000



Figures

Y:\Mapping\Projects\222285\MXD\2017_AnnualGWM_CAR\Figure 1_GWS_Well Loc_CoffeenAshPond2.mxd Author: stolzsd Date/Time: 1/29/2018, 3:29:11 PM



DRAWN BY/DATE:
SDS 12/11/17
REVIEWED BY/DATE:
KLT 12/11/17
APPROVED BY/DATE:
SJC 1/25/18

GROUNDWATER SAMPLING WELL LOCATION MAP
COFFEEN ASH POND NO. 2
UNIT ID: 102

2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DYNEGY CCR RULE GROUNDWATER MONITORING
COFFEEN POWER STATION
COFFEEN, ILLINOIS

PROJECT NO: 67719

FIGURE NO: 1



OBG

THERE'S A WAY

