

2017 Annual Groundwater Monitoring and Corrective Action Report

Duck Creek GMF Pond – CCR Unit ID 203

Duck Creek Power Station

17751 North Cilco Road

Canton, Illinois 61520

Illinois Power Resources Generating, LLC

January 31, 2018



JANUARY 31, 2018 | PROJECT #67719

2017 Annual Groundwater Monitoring and Corrective Action Report

Duck Creek GMF Pond – CCR Unit ID 203
Duck Creek Power Station
Canton, Illinois

Prepared for:
Illinois Power Resources Generating, LLC



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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 Resources Generating, LLC by O'Brien & Gere Engineers, Inc. (OBG), to provide the information required by 40 CFR 257.90(e) for the Duck Creek GMF Pond located at Duck Creek Power Station near Canton, 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 Duck Creek GMF Pond 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 November 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 November 8, 2017, for which analytical data was received on November 30, 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 November 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 Duck Creek GMF Pond 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 Duck Creek GMF Pond.

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 January 21-February 3, April 7-May 1, June 28-29, and November 8. 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.

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 November 8, 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 28, 2018), respectively. Statistical evaluation of analytical data is being performed in accordance with the Statistical Analysis Plan, Duck Creek Power Station, Illinois Power Resources Generating, LLC (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, Duck Creek GMF Pond, Duck Creek Power Station, Canton, Illinois, Project No. 2285, Revision 0, October 17, 2017.

Natural Resource Technology, an OBG Company, 2017b, Statistical Analysis Plan, Duck Creek Power Station, Edwards Power Station, Illinois Power Resources Generating, LLC, October 17, 2017.





Tables



Duck Creek

January 12, 2018

Table 1. Duck Creek GMF Pond: 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
G50S	12/3/2015	0.02200	98.00	6.000	0.3110	6.900	22.00
	1/29/2016	0.02400	77.00	5.400	<0.2500	7.390	21.00
	4/25/2016	0.02500	81.00	5.300	0.3730	7.250	21.00
	8/10/2016	0.01700	86.00	6.300	0.2840	7.280	22.00
	10/21/2016	<0.01000	76.00	5.900	0.2970	7.300	23.00
	1/21/2017	0.01800	60.00	6.000	0.2610	7.260	23.00
	4/7/2017	0.01100	90.00	5.600	0.2840	7.280	24.00
	6/28/2017	<0.01000	75.00	6.600	0.2550	7.120	26.00
	11/8/2017	0.01200	83.00	5.900	0.3690	7.120	22.00
G51S	12/3/2015	0.02000	110.0	10.00	0.2770	6.950	39.00
	1/29/2016	0.02000	89.00	11.00	<0.2500	6.980	52.00
	4/25/2016	<0.01000	92.00	13.00	0.3370	7.050	45.00
	8/10/2016	0.01400	92.00	25.00	0.2900	7.090	97.00
	10/21/2016	<0.01000	89.00	13.00	0.2700	7.370	44.00
	1/21/2017	<0.01000	67.00	13.00	<0.2500	7.290	48.00
	4/7/2017	0.01000	94.00	13.00	<0.2500	7.030	50.00
	6/28/2017	<0.01000	82.00	14.00	<0.2500	6.830	41.00
	11/8/2017	0.01300	96.00	12.00	0.3680	7.100	34.00

Table 1. Duck Creek GMF Pond: Appendix III Analytical Results

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Location ID	Sample Date	TDS, mg/L
G50S	12/3/2015	340.0
	1/29/2016	300.0
	4/25/2016	360.0
	8/10/2016	320.0
	10/21/2016	280.0
	1/21/2017	340.0
	4/7/2017	340.0
	6/28/2017	330.0
	11/8/2017	310.0
G51S	12/3/2015	400.0
	1/29/2016	380.0
	4/25/2016	400.0
	8/10/2016	350.0
	10/21/2016	300.0
	1/21/2017	380.0
	4/7/2017	380.0
	6/28/2017	400.0
	11/8/2017	320.0

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Table 1. Duck Creek GMF Pond: 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
G54S	12/4/2015	0.02700	130.0	4.500	<0.2500	6.540	43.00
	1/29/2016	0.04600	130.0	2.600	<0.2500	6.850	47.00
	5/2/2016	0.03600	140.0	3.000	<0.2500	6.720	45.00
	8/12/2016	0.03000	120.0	2.300	0.2690	7.060	43.00
	10/21/2016	0.02200	120.0	2.500	0.2590	7.180	43.00
	1/24/2017	0.03000	120.0	2.000	<0.2500	7.510	44.00
	4/7/2017	0.02800	120.0	2.600	<0.2500	6.940	45.00
	6/28/2017	0.02200	110.0	2.500	<0.2500	7.100	43.00
	11/8/2017	0.03500	130.0	2.200	0.3420	7.050	42.00
G57S	12/4/2015	<0.01000	130.0	18.00	<0.2500	6.810	54.00
	1/29/2016	0.02100	110.0	19.00	<0.2500	6.790	58.00
	5/2/2016	<0.01000	120.0	20.00	0.2770	6.860	56.00
	8/12/2016	<0.01000	120.0	20.00	0.3040	7.030	58.00
	10/28/2016	0.01900	100.0	19.00	0.3210	7.110	55.00
	2/3/2017	<0.01000	120.0	20.00	0.2680	7.220	52.00
	5/1/2017	<0.01000	110.0	18.00	0.2840	7.090	52.00
	6/28/2017	<0.01000	130.0	22.00	0.2760	7.250	53.00
	11/8/2017	<0.01000	120.0	19.00	0.3900	7.030	51.00

Table 1. Duck Creek GMF Pond: Appendix III Analytical Results

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Location ID	Sample Date	TDS, mg/L
G54S	12/4/2015	600.0
	1/29/2016	570.0
	5/2/2016	520.0
	8/12/2016	480.0
	10/21/2016	520.0
	1/24/2017	550.0
	4/7/2017	540.0
	6/28/2017	520.0
	11/8/2017	480.0
G57S	12/4/2015	570.0
	1/29/2016	510.0
	5/2/2016	500.0
	8/12/2016	480.0
	10/28/2016	550.0
	2/3/2017	530.0
	5/1/2017	510.0
	6/28/2017	520.0
	11/8/2017	450.0

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Table 1. Duck Creek GMF Pond: 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
G60S	12/4/2015	0.02400	180.0	8.400	0.2640	6.600	61.00
	1/29/2016	0.02400	120.0	8.800	<0.2500	6.690	65.00
	5/2/2016	0.01500	160.0	7.900	0.2760	6.720	64.00
	8/20/2016	<0.01000	130.0	8.600	0.3070	6.710	62.00
	10/28/2016	0.02900	120.0	8.100	0.3310	6.600	64.00
	2/3/2017	0.01100	130.0	11.00	0.2680	6.530	60.00
	4/25/2017	0.01000	120.0	8.700	0.2870	6.800	61.00
	6/29/2017	<0.01000	110.0	10.00	0.3280	6.950	68.00
	11/8/2017	0.01000	120.0	11.00	0.3510	6.890	67.00
G64S	12/4/2015	0.01700	110.0	3.600	0.3000	6.810	25.00
	1/29/2016	0.03000	98.00	4.100	<0.2500	6.960	27.00
	5/2/2016	0.01700	110.0	4.100	0.3030	7.140	27.00
	8/20/2016	0.01100	110.0	4.000	0.3170	7.140	26.00
	10/28/2016	0.03600	92.00	3.700	0.3750	7.160	28.00
	2/3/2017	0.01500	99.00	3.600	0.3140	7.160	26.00
	5/1/2017	0.01500	100.0	3.700	0.3200	6.870	32.00
	6/29/2017	<0.01000	80.00	3.700	0.3760	6.820	26.00
	11/8/2017	0.01400	95.00	3.500	0.4010	6.810	25.00

Table 1. Duck Creek GMF Pond: Appendix III Analytical Results

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Location ID	Sample Date	TDS, mg/L
G60S	12/4/2015	610.0
	1/29/2016	500.0
	5/2/2016	550.0
	8/20/2016	560.0
	10/28/2016	540.0
	2/3/2017	580.0
	4/25/2017	580.0
	6/29/2017	580.0
	11/8/2017	460.0
G64S	12/4/2015	500.0
	1/29/2016	420.0
	5/2/2016	400.0
	8/20/2016	430.0
	10/28/2016	440.0
	2/3/2017	460.0
	5/1/2017	450.0
	6/29/2017	460.0
	11/8/2017	380.0

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Table 2. Duck Creek GMF Pond: 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
G50S	12/3/2015	0.005000	0.1200	<0.001000	<0.001000	<0.002000	<0.004000
	1/29/2016	<0.001000	0.07200	<0.001000	<0.001000	<0.002000	<0.004000
	4/25/2016	<0.001000	0.06300	<0.001000	<0.001000	<0.002000	<0.004000
	8/10/2016	<0.001000	0.07400	<0.001000	<0.001000	<0.002000	<0.004000
	10/21/2016	<0.001000	0.07300	<0.001000	<0.001000	<0.002000	<0.004000
	1/21/2017	<0.001000	0.07000	<0.001000	<0.001000	<0.002000	<0.004000
	4/7/2017	0.001600	0.08900	<0.001000	<0.001000	<0.002000	0.005800
	6/28/2017	<0.001000	0.08000	<0.001000	<0.001000	<0.002000	<0.004000
G51S	12/3/2015	0.008600	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
	1/29/2016	0.004200	0.09700	<0.001000	<0.001000	<0.002000	<0.004000
	4/25/2016	0.004800	0.09600	<0.001000	<0.001000	<0.002000	<0.004000
	8/10/2016	0.004700	0.1100	<0.001000	<0.001000	<0.002000	<0.004000
	10/21/2016	0.005400	0.1100	<0.001000	<0.001000	<0.002000	<0.004000
	1/21/2017	0.003400	0.08300	<0.001000	<0.001000	<0.002000	<0.004000
	4/7/2017	0.002900	0.08900	<0.001000	<0.001000	<0.002000	<0.004000
	6/28/2017	0.005000	0.1100	0.001300	<0.001000	<0.002000	<0.004000
G54S	12/4/2015	<0.001000	0.2000	<0.001000	<0.001000	<0.002000	<0.004000
	1/29/2016	0.001400	0.2500	<0.001000	<0.001000	<0.002000	<0.004000

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Table 2. Duck Creek GMF Pond: 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
G50S	12/3/2015	0.3110	<0.0002000	<0.01000	0.001000	0.001500	0.8650
	1/29/2016	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.6520
	4/25/2016	0.3730	<0.0002000	<0.01000	<0.001000	<0.001000	0.3250
	8/10/2016	0.2840	0.0003100	<0.01000	<0.001000	<0.001000	0.4550
	10/21/2016	0.2970	<0.0002000	<0.01000	<0.001000	<0.001000	0.7330
	1/21/2017	0.2610	<0.0002000	<0.01000	<0.001000	<0.001000	0.01820
	4/7/2017	0.2840	<0.0002000	<0.01000	0.001000	0.001600	0.5290
	6/28/2017	0.2550	<0.0002000	<0.01000	0.001500	0.001700	0.3710
G51S	12/3/2015	0.2770	<0.0002000	<0.01000	0.002300	0.002000	1.280
	1/29/2016	<0.2500	0.0004000	<0.01000	0.002100	<0.001000	1.210
	4/25/2016	0.3370	<0.0002000	<0.01000	0.001600	<0.001000	0.5170
	8/10/2016	0.2900	<0.0002000	<0.01000	<0.001000	<0.001000	0.9210
	10/21/2016	0.2700	<0.0002000	<0.01000	0.001200	<0.001000	1.460
	1/21/2017	<0.2500	<0.0002000	<0.01000	0.001700	<0.001000	0.7190
	4/7/2017	<0.2500	<0.0002000	<0.01000	0.002000	<0.001000	0.3130
	6/28/2017	<0.2500	0.0003400	<0.01000	0.002900	0.001500	1.110
G54S	12/4/2015	<0.2500	<0.0002000	0.01000	0.001600	<0.001000	1.280
	1/29/2016	<0.2500	<0.0002000	0.01000	0.001900	<0.001000	0.7870

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Table 2. Duck Creek GMF Pond: Appendix IV Analytical Results

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Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G50S	12/3/2015	<0.003000	<0.001000	<0.001000
	1/29/2016	<0.003000	<0.001000	<0.001000
	4/25/2016	<0.003000	<0.001000	<0.001000
	8/10/2016	<0.003000	<0.001000	<0.001000
	10/21/2016	<0.003000	<0.001000	<0.001000
	1/21/2017	<0.003000	<0.001000	<0.001000
	4/7/2017	<0.003000	<0.001000	<0.001000
	6/28/2017	<0.003000	<0.001000	0.001000
G51S	12/3/2015	<0.003000	<0.001000	<0.001000
	1/29/2016	<0.003000	<0.001000	<0.001000
	4/25/2016	<0.003000	<0.001000	<0.001000
	8/10/2016	<0.003000	<0.001000	<0.001000
	10/21/2016	<0.003000	<0.001000	<0.001000
	1/21/2017	<0.003000	<0.001000	<0.001000
	4/7/2017	<0.003000	<0.001000	<0.001000
	6/28/2017	<0.003000	0.001400	0.002800
G54S	12/4/2015	<0.003000	<0.001000	<0.001000
	1/29/2016	<0.003000	<0.001000	<0.001000

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Table 2. Duck Creek GMF Pond: 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
G54S	5/2/2016	<0.001000	0.2300	<0.001000	<0.001000	<0.002000	<0.004000
	8/12/2016	0.002000	0.2400	<0.001000	<0.001000	<0.002000	<0.004000
	10/21/2016	0.002300	0.2700	<0.001000	<0.001000	<0.002000	<0.004000
	1/24/2017	0.001700	0.2500	<0.001000	<0.001000	<0.002000	<0.004000
	4/7/2017	0.001000	0.2200	<0.001000	<0.001000	<0.002000	<0.004000
	6/28/2017	0.005900	0.2800	<0.001000	<0.001000	<0.002000	<0.004000
G57S	12/4/2015	<0.001000	0.1400	<0.001000	<0.001000	<0.002000	<0.004000
	1/29/2016	<0.001000	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
	5/2/2016	<0.001000	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
	8/12/2016	<0.001000	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
	10/28/2016	<0.001000	0.1400	<0.001000	<0.001000	<0.002000	<0.004000
	2/3/2017	<0.001000	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
	5/1/2017	<0.001000	0.1300	0.002700	0.001600	<0.002000	<0.004000
	6/28/2017	<0.001000	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
G60S	12/4/2015	0.009700	0.2400	<0.001000	<0.001000	0.004900	0.01200
	1/29/2016	0.001600	0.1400	<0.001000	<0.001000	<0.002000	<0.004000
	5/2/2016	0.003200	0.1700	<0.001000	<0.001000	<0.002000	0.005200
	8/20/2016	<0.001000	0.1400	<0.001000	<0.001000	<0.002000	<0.004000

Duck Creek

January 12, 2018

Table 2. Duck Creek GMF Pond: 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
G54S	5/2/2016	<0.2500	<0.0002000	<0.01000	0.001900	<0.001000	1.010
	8/12/2016	0.2690	<0.0002000	0.01200	0.001900	<0.001000	0.4760
	10/21/2016	0.2590	0.0002100	<0.01000	0.002300	<0.001000	1.270
	1/24/2017	<0.2500	<0.0002000	<0.01000	0.001700	<0.001000	0.6610
	4/7/2017	<0.2500	<0.0002000	<0.01000	0.001700	<0.001000	0.4400
	6/28/2017	<0.2500	<0.0002000	<0.01000	0.002500	<0.001000	1.190
G57S	12/4/2015	<0.2500	<0.0002000	<0.01000	<0.001000	0.001200	0.8040
	1/29/2016	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.1940
	5/2/2016	0.2770	<0.0002000	<0.01000	<0.001000	<0.001000	0.4710
	8/12/2016	0.3040	<0.0002000	<0.01000	<0.001000	<0.001000	0.3020
	10/28/2016	0.3210	<0.0002000	<0.01000	<0.001000	<0.001000	0.1240
	2/3/2017	0.2680	<0.0002000	<0.01000	<0.001000	<0.001000	1.320
	5/1/2017	0.2840	<0.0002000	<0.01000	0.003400	0.003200	0.01120
	6/28/2017	0.2760	<0.0002000	<0.01000	<0.001000	<0.001000	0.6070
G60S	12/4/2015	0.2640	<0.0002000	0.01800	0.001600	0.009900	1.740
	1/29/2016	<0.2500	<0.0002000	<0.01000	<0.001000	0.001200	0.9870
	5/2/2016	0.2760	<0.0002000	<0.01000	<0.001000	0.002400	0.3400
	8/20/2016	0.3070	<0.0002000	<0.01000	<0.001000	<0.001000	0.8760

Duck Creek

January 12, 2018

Table 2. Duck Creek GMF Pond: Appendix IV Analytical Results

12:11:54 PM

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G54S	5/2/2016	<0.003000	<0.001000	<0.001000
	8/12/2016	<0.003000	<0.001000	<0.001000
	10/21/2016	<0.003000	<0.001000	<0.001000
	1/24/2017	<0.003000	<0.001000	<0.001000
	4/7/2017	<0.003000	<0.001000	<0.001000
	6/28/2017	<0.003000	<0.001000	<0.001000
G57S	12/4/2015	<0.003000	<0.001000	<0.001000
	1/29/2016	<0.003000	<0.001000	<0.001000
	5/2/2016	<0.003000	<0.001000	<0.001000
	8/12/2016	<0.003000	<0.001000	<0.001000
	10/28/2016	<0.003000	<0.001000	<0.001000
	2/3/2017	<0.003000	<0.001000	<0.001000
	5/1/2017	0.006400	<0.001000	0.003300
	6/28/2017	<0.003000	<0.001000	<0.001000
G60S	12/4/2015	<0.003000	0.003100	<0.001000
	1/29/2016	<0.003000	<0.001000	<0.001000
	5/2/2016	<0.003000	<0.001000	<0.001000
	8/20/2016	<0.003000	<0.001000	<0.001000

Duck Creek

January 12, 2018

Table 2. Duck Creek GMF Pond: Appendix IV Analytical Results

12:11:54 PM

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
G60S	10/28/2016	0.004000	0.1800	<0.001000	<0.001000	<0.002000	<0.004000
	2/3/2017	<0.001000	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
	4/25/2017	<0.001000	0.1400	<0.001000	<0.001000	<0.002000	<0.004000
	6/29/2017	0.002100	0.1500	<0.001000	<0.001000	<0.002000	<0.004000
G64S	12/4/2015	0.004000	0.2000	<0.001000	<0.001000	<0.002000	<0.004000
	1/29/2016	0.003100	0.1700	<0.001000	<0.001000	<0.002000	<0.004000
	5/2/2016	0.001700	0.1700	<0.001000	<0.001000	<0.002000	<0.004000
	8/20/2016	0.003500	0.2100	<0.001000	<0.001000	<0.002000	0.01500
	10/28/2016	0.004500	0.2200	<0.001000	<0.001000	<0.002000	<0.004000
	2/3/2017	0.002300	0.1800	<0.001000	<0.001000	<0.002000	<0.004000
	5/1/2017	0.003700	0.2000	<0.001000	<0.001000	<0.002000	<0.004000
	6/29/2017	0.002800	0.1700	<0.001000	<0.001000	<0.002000	<0.004000

Duck Creek

January 12, 2018

Table 2. Duck Creek GMF Pond: Appendix IV Analytical Results

12:11:54 PM

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
G60S	10/28/2016	0.3310	<0.0002000	<0.01000	0.001000	<0.001000	1.290
	2/3/2017	0.2680	<0.0002000	<0.01000	<0.001000	<0.001000	1.270
	4/25/2017	0.2870	<0.0002000	<0.01000	<0.001000	<0.001000	0.9460
	6/29/2017	0.3280	<0.0002000	<0.01000	<0.001000	<0.001000	1.540
G64S	12/4/2015	0.3000	<0.0002000	<0.01000	0.001900	0.001700	0.6070
	1/29/2016	<0.2500	<0.0002000	<0.01000	0.001800	0.003300	0.6340
	5/2/2016	0.3030	<0.0002000	<0.01000	0.001800	0.001500	1.430
	8/20/2016	0.3170	<0.0002000	<0.01000	0.002300	0.002800	0.7820
	10/28/2016	0.3750	<0.0002000	<0.01000	0.002000	0.005100	1.080
	2/3/2017	0.3140	<0.0002000	<0.01000	0.001600	<0.001000	1.110
	5/1/2017	0.3200	<0.0002000	<0.01000	0.002300	<0.001000	0.7480
	6/29/2017	0.3760	<0.0002000	<0.01000	0.001300	<0.001000	1.190

Duck Creek

January 12, 2018

Table 2. Duck Creek GMF Pond: Appendix IV Analytical Results

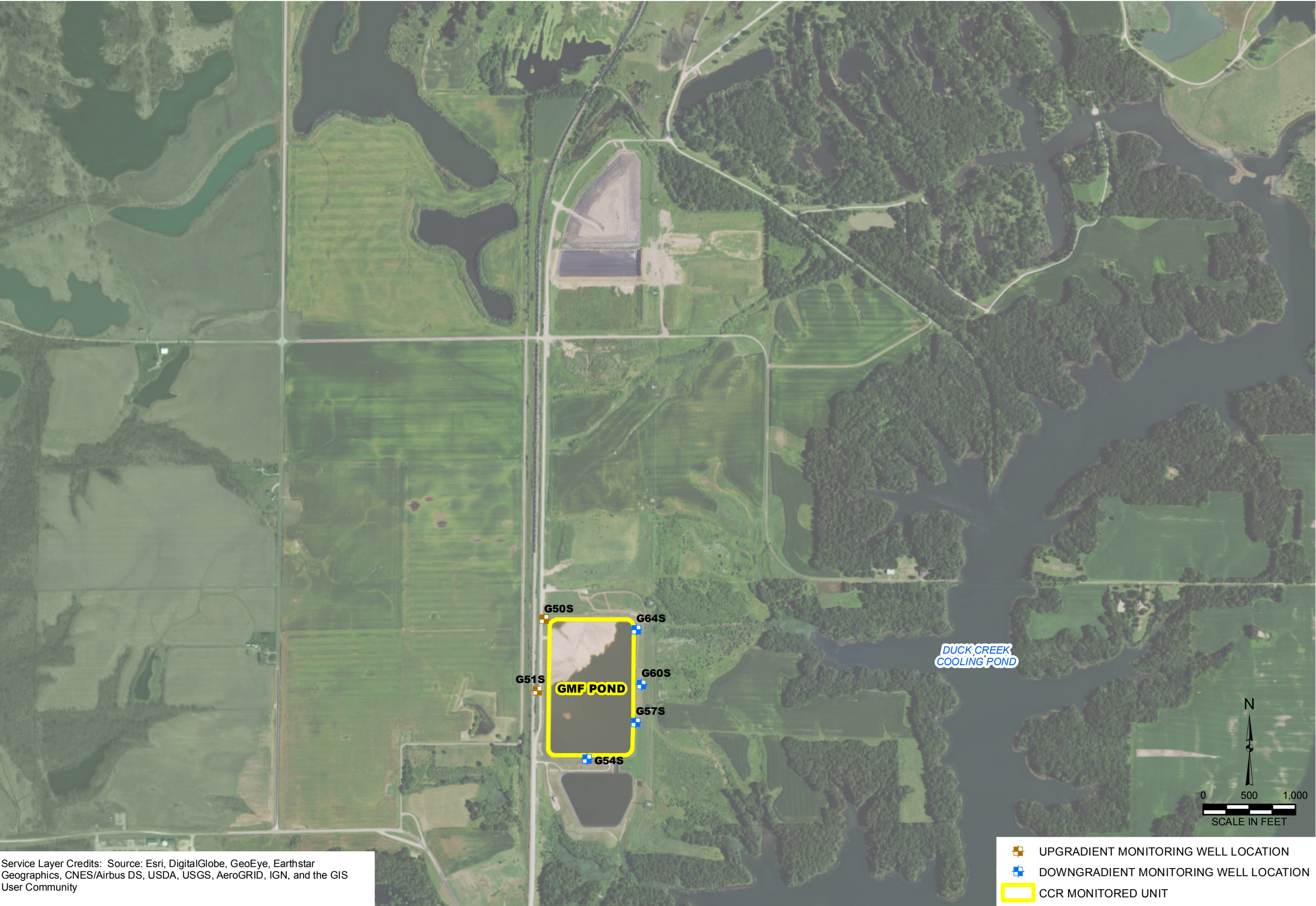
12:11:54 PM

Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G60S	10/28/2016	<0.003000	<0.001000	<0.001000
	2/3/2017	<0.003000	<0.001000	<0.001000
	4/25/2017	<0.003000	<0.001000	<0.001000
	6/29/2017	<0.003000	<0.001000	<0.001000
G64S	12/4/2015	<0.003000	0.001300	<0.001000
	1/29/2016	<0.003000	<0.001000	<0.001000
	5/2/2016	<0.003000	<0.001000	<0.001000
	8/20/2016	<0.003000	<0.001000	<0.001000
	10/28/2016	<0.003000	<0.001000	<0.001000
	2/3/2017	<0.003000	<0.001000	<0.001000
	5/1/2017	0.003700	<0.001000	<0.001000
	6/29/2017	<0.003000	<0.001000	<0.001000



Figures

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DRAWN BY/DATE:
SDS 1/3/18
REVIEWED BY/DATE:
KLT 1/3/18
APPROVED BY/DATE:
SJC 1/25/18

GROUNDWATER SAMPLING WELL LOCATION MAP
DUCK CREEK GMF POND
UNIT ID: 203
2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DYNEGY CCR RULE GROUNDWATER MONITORING
DUCK CREEK POWER STATION
CANTON, ILLINOIS

PROJECT NO: 67719

FIGURE NO: 1



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THERE'S A WAY

