2017 Annual Groundwater Monitoring and Corrective Action Report

Duck Creek Landfill – CCR Unit ID 204
Duck Creek Power Station
17751 North Cilco Road
Canton, Illinois 61520

Illinois Power Resources Generating, LLC

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OBG

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Duck Creek Power Station
Canton, Illinois

Prepared for:
Illinois Power Resources Generating, LLC

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ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
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 Landfill 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 Landfill 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 10-11, 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 Landfill 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 Landfill.

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 12-28, April 22-May 4, June 28, and November 10-11. 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 10-11, 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 Landfill, 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

Table 1. Duck Creek Landfill: Appendix III Analytical Results

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
G02S	12/2/2015	0.1300	97.00	3.200	0.3590	6.560	<1.000
	2/3/2016	0.04400	92.00	3.000	0.2740	6.580	<1.000
	4/20/2016	0.03900	110.0	2.700	0.3650	6.620	<1.000
	8/18/2016	0.03000	98.00	2.600	0.3300	6.800	<1.000
	10/19/2016	0.03400	97.00	2.500	0.3660	6.880	<1.000
	1/12/2017	0.03900	94.00	3.700	0.5640	6.940	<1.000
	4/22/2017	0.04000	89.00	2.900	0.3150	6.830	<1.000
	6/28/2017	0.04200	89.00	2.600	0.3740	6.750	<1.000
	11/10/2017	0.03600	95.00	3.100	0.4100	6.940	2.900
G04S	12/2/2015	0.04400	150.0	18.00	0.3410	6.720	260.0
	2/3/2016	0.01600	130.0	17.00	<0.2500	6.800	270.0
	4/20/2016	0.01300	160.0	17.00	0.2600	6.900	260.0
	8/18/2016	<0.01000	130.0	18.00	0.3220	6.990	270.0
	10/19/2016	<0.01000	150.0	17.00	0.3610	7.070	280.0
	1/12/2017	0.01000	140.0	20.00	0.4110	7.030	330.0
	4/22/2017	0.01200	130.0	19.00	<0.2500	7.070	260.0
	6/28/2017	0.01200	120.0	17.00	0.3070	7.230	260.0
	11/10/2017	0.01300	140.0	19.00	0.3340	7.190	250.0

Table 1. Duck Creek Landfill: Appendix III Analytical Results

Location ID	Sample Date	TDS, mg/L
G02S	12/2/2015	400.0
	2/3/2016	390.0
	4/20/2016	600.0
	8/18/2016	350.0
	10/19/2016	400.0
	1/12/2017	420.0
	4/22/2017	440.0
	6/28/2017	370.0
	11/10/2017	390.0
G04S	12/2/2015	690.0
	2/3/2016	680.0
	4/20/2016	760.0
	8/18/2016	560.0
	10/19/2016	620.0
	1/12/2017	720.0
	4/22/2017	720.0
	6/28/2017	640.0
	11/10/2017	580.0

Table 1. Duck Creek Landfill: Appendix III Analytical Results

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
G06S	12/3/2015	0.1400	1000.	16.00	0.3120	6.910	46.00
	2/4/2016	0.04600	370.0	13.00	0.2790	6.860	49.00
	4/20/2016	0.04600	300.0	13.00	0.3050	6.920	42.00
	8/18/2016	0.02200	180.0	13.00	0.3020	6.920	46.00
	10/19/2016	0.01900	160.0	12.00	0.3120	6.790	46.00
	1/12/2017	0.02500	150.0	16.00	0.4340	7.000	56.00
	4/22/2017	0.01700	140.0	15.00	<0.2500	7.090	45.00
	6/28/2017	0.02800	150.0	12.00	0.3410	6.860	43.00
	11/11/2017	0.01800	120.0	14.00	0.3590	7.210	44.00
G09S	12/2/2015	0.06800	110.0	38.00	0.3360	7.040	54.00
	2/4/2016	0.04200	300.0	28.00	0.2910	7.110	62.00
	4/20/2016	0.03400	120.0	24.00	0.3390	6.840	54.00
	8/18/2016	0.02900	99.00	26.00	0.3370	6.940	57.00
	10/19/2016	0.02800	140.0	22.00	0.3240	7.090	55.00
	1/27/2017	0.01900	54.00	20.00	0.2560	7.250	54.00
	4/22/2017	0.01600	95.00	21.00	<0.2500	7.210	54.00
	6/28/2017	0.02500	91.00	20.00	0.3120	7.220	52.00
	11/11/2017	0.01600	92.00	23.00	0.3800	7.120	50.00

Table 1. Duck Creek Landfill: Appendix III Analytical Results

Location ID	Sample Date	TDS, mg/L
G06S	12/3/2015	450.0
	2/4/2016	440.0
	4/20/2016	400.0
	8/18/2016	360.0
	10/19/2016	370.0
	1/12/2017	450.0
	4/22/2017	470.0
	6/28/2017	400.0
	11/11/2017	290.0
G09S	12/2/2015	440.0
	2/4/2016	420.0
	4/20/2016	410.0
	8/18/2016	360.0
	10/19/2016	400.0
	1/27/2017	460.0
	4/22/2017	440.0
	6/28/2017	410.0
	11/11/2017	360.0

Table 1. Duck Creek Landfill: Appendix III Analytical Results

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
G12S	12/2/2015	0.02600	84.00	<25.00	0.3630	7.180	79.00
	2/4/2016	<0.01000	140.0	18.00	0.3570	7.160	99.00
	4/20/2016	0.01400	89.00	17.00	0.3640	7.240	91.00
	8/18/2016	<0.01000	88.00	17.00	0.3620	7.180	95.00
	10/19/2016	<0.01000	91.00	18.00	0.3690	7.120	98.00
	1/27/2017	0.01000	77.00	16.00	0.3000	7.150	95.00
	5/4/2017	0.01900	92.00	18.00	0.2980	6.970	96.00
	6/28/2017	0.01500	70.00	17.00	0.3650	7.120	95.00
	11/11/2017	0.01100	80.00	17.00	0.4080	6.900	98.00
G15S	12/3/2015	0.01200	110.0	17.00	0.3180	7.020	45.00
	2/4/2016	0.01300	170.0	17.00	0.3010	7.090	53.00
	4/20/2016	0.01100	110.0	17.00	0.3240	7.130	45.00
	8/18/2016	<0.01000	98.00	18.00	0.3310	7.120	56.00
	10/19/2016	0.01400	86.00	17.00	0.3400	7.190	54.00
	1/28/2017	0.01700	95.00	20.00	0.3800	7.330	69.00
	5/4/2017	<0.01000	96.00	17.00	0.2570	7.220	53.00
	6/28/2017	0.01300	82.00	16.00	0.3290	7.260	52.00
	11/11/2017	<0.01000	86.00	16.00	0.2970	7.260	45.00

Table 1. Duck Creek Landfill: Appendix III Analytical Results

Location ID	Sample Date	TDS, mg/L
G12S	12/2/2015	380.0
	2/4/2016	340.0
	4/20/2016	360.0
	8/18/2016	320.0
	10/19/2016	340.0
	1/27/2017	360.0
	5/4/2017	410.0
	6/28/2017	430.0
	11/11/2017	360.0
G15S	12/3/2015	360.0
	2/4/2016	360.0
	4/20/2016	390.0
	8/18/2016	330.0
	10/19/2016	340.0
	1/28/2017	420.0
	5/4/2017	400.0
	6/28/2017	420.0
	11/11/2017	380.0

Table 2. Duck Creek Landfill: Appendix IV Analytical Results

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
G02S	12/2/2015	0.007700	0.2000	<0.001000	<0.001000	<0.002000	<0.004000
	2/3/2016	0.007100	0.2200	<0.001000	<0.001000	<0.002000	0.004600
	4/20/2016	0.005900	0.2300	<0.001000	<0.001000	<0.002000	<0.004000
	8/18/2016	0.004100	0.1700	<0.001000	<0.001000	<0.002000	<0.004000
	10/19/2016	0.006900	0.1900	<0.001000	<0.001000	<0.002000	<0.004000
	1/12/2017	0.007700	0.2200	<0.001000	<0.001000	<0.002000	<0.004000
	4/22/2017	0.005100	0.1600	<0.001000	<0.001000	<0.002000	<0.004000
	6/28/2017	0.006700	0.2200	<0.001000	<0.001000	<0.002000	<0.004000
G04S	12/2/2015	0.002400	0.07700	<0.001000	<0.001000	0.002100	0.006200
	2/3/2016	<0.001000	0.06200	<0.001000	<0.001000	<0.002000	<0.004000
	4/20/2016	0.001100	0.07900	<0.001000	<0.001000	<0.002000	<0.004000
	8/18/2016	0.001500	0.06800	<0.001000	<0.001000	<0.002000	<0.004000
	10/19/2016	0.001900	0.07600	<0.001000	<0.001000	<0.002000	0.004400
	1/12/2017	<0.001000	0.06900	<0.001000	<0.001000	<0.002000	<0.004000
	4/22/2017	<0.001000	0.06200	<0.001000	<0.001000	<0.002000	<0.004000
	6/28/2017	<0.001000	0.06300	<0.001000	<0.001000	<0.002000	<0.004000
G06S	12/3/2015	0.07400	1.800	0.01300	0.007100	0.1300	0.3600
	2/4/2016	0.02900	0.6200	0.004200	0.002800	0.06000	0.1400

Table 2. Duck Creek Landfill: Appendix IV Analytical Results

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
G02S	12/2/2015	0.3590	<0.0002000	<0.01000	<0.001000	0.001500	1.860
	2/3/2016	0.2740	<0.0002000	<0.01000	0.004200	0.002000	0.3710
	4/20/2016	0.3650	<0.0002000	<0.01000	<0.001000	0.001100	0.8270
	8/18/2016	0.3300	<0.0002000	<0.01000	<0.001000	0.001200	2.260
	10/19/2016	0.3660	<0.0002000	<0.01000	<0.001000	0.001100	0.1910
	1/12/2017	0.5640	<0.0002000	<0.01000	<0.001000	<0.001000	1.180
	4/22/2017	0.3150	0.002400	<0.01000	<0.001000	<0.001000	0.3470
	6/28/2017	0.3740	<0.0002000	<0.01000	<0.001000	<0.001000	0.7610
G04S	12/2/2015	0.3410	<0.0002000	0.01100	<0.001000	0.003300	2.400
	2/3/2016	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.2830
	4/20/2016	0.2600	<0.0002000	<0.01000	0.001300	0.001300	0.8280
	8/18/2016	0.3220	<0.0002000	<0.01000	0.001000	0.002600	1.220
	10/19/2016	0.3610	<0.0002000	<0.01000	<0.001000	0.002900	0.4260
	1/12/2017	0.4110	<0.0002000	<0.01000	<0.001000	0.001500	1.020
	4/22/2017	<0.2500	<0.0002000	<0.01000	<0.001000	<0.001000	0.5470
	6/28/2017	0.3070	<0.0002000	<0.01000	0.001200	<0.001000	1.400
G06S	12/3/2015	0.3120	0.0004400	0.4100	0.01700	0.3400	14.90
	2/4/2016	0.2790	<0.0002000	0.1100	0.005900	0.1400	4.560

Table 2. Duck Creek Landfill: Appendix IV Analytical Results

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G02S	12/2/2015	<0.003000	<0.001000	<0.001000
	2/3/2016	<0.003000	<0.001000	<0.001000
	4/20/2016	<0.003000	<0.001000	<0.001000
	8/18/2016	<0.003000	<0.001000	<0.001000
	10/19/2016	<0.003000	<0.001000	<0.001000
	1/12/2017	<0.003000	<0.001000	<0.001000
	4/22/2017	<0.003000	<0.001000	<0.001000
	6/28/2017	<0.003000	<0.001000	<0.001000
G04S	12/2/2015	<0.003000	0.002000	<0.001000
	2/3/2016	<0.003000	<0.001000	<0.001000
	4/20/2016	<0.003000	0.001400	<0.001000
	8/18/2016	<0.003000	0.001400	<0.001000
	10/19/2016	<0.003000	<0.001000	<0.001000
	1/12/2017	<0.003000	<0.001000	<0.001000
	4/22/2017	<0.003000	<0.001000	<0.001000
	6/28/2017	<0.003000	<0.001000	<0.001000
G06S	12/3/2015	<0.06000	0.03400	0.003100
	2/4/2016	<0.003000	0.01200	0.001400

Table 2. Duck Creek Landfill: Appendix IV Analytical Results

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
G06S	4/20/2016	0.01700	0.3300	0.002500	0.001500	0.03500	0.09200
	8/18/2016	0.009100	0.2200	0.001400	<0.001000	0.02000	0.04100
	10/19/2016	0.006500	0.1500	<0.001000	<0.001000	0.01300	0.02900
	1/12/2017	0.005100	0.1500	<0.001000	<0.001000	0.009800	0.02800
	4/22/2017	0.003100	0.09300	<0.001000	<0.001000	0.004900	0.01900
	6/28/2017	0.006700	0.1100	<0.001000	0.001900	0.01100	0.02300
G09S	12/2/2015	0.004800	0.1900	<0.001000	<0.001000	0.007300	0.02100
	2/4/2016	0.03100	0.6500	0.003600	0.001500	0.04200	0.1300
	4/20/2016	0.004900	0.2400	<0.001000	<0.001000	0.006800	0.03300
	8/18/2016	0.006900	0.2500	0.001100	<0.001000	0.009300	0.03500
	10/19/2016	0.01300	0.3900	0.002200	<0.001000	0.02000	0.08100
	1/27/2017	<0.001000	0.1000	<0.001000	<0.001000	<0.002000	<0.004000
	4/22/2017	0.002400	0.1500	<0.001000	<0.001000	0.002600	0.01400
	6/28/2017	<0.001000	0.1200	<0.001000	<0.001000	<0.002000	0.005800
G12S	12/2/2015	0.001100	0.03200	<0.001000	<0.001000	<0.002000	<0.004000
	2/4/2016	0.005600	0.07500	<0.001000	<0.001000	0.006600	0.01600
	4/20/2016	0.001600	0.03300	<0.001000	<0.001000	<0.002000	<0.004000
	8/18/2016	0.001600	0.03100	<0.001000	<0.001000	<0.002000	<0.004000

Table 2. Duck Creek Landfill: Appendix IV Analytical Results

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
G06S	4/20/2016	0.3050	<0.0002000	0.05500	0.003000	0.06800	1.990
	8/18/2016	0.3020	<0.0002000	0.03800	0.001900	0.04600	2.760
	10/19/2016	0.3120	<0.0002000	0.02100	<0.001000	0.02700	1.560
	1/12/2017	0.4340	<0.0002000	0.02000	0.001600	0.02000	0.6000
	4/22/2017	<0.2500	0.0004100	0.01000	0.001500	0.009700	0.3720
	6/28/2017	0.3410	<0.0002000	0.01600	0.001500	0.01700	1.100
G09S	12/2/2015	0.3360	<0.0002000	0.01900	0.005300	0.01500	2.980
	2/4/2016	0.2910	0.0002200	0.08900	0.008000	0.1000	8.180
	4/20/2016	0.3390	<0.0002000	0.01200	0.003100	0.01400	1.070
	8/18/2016	0.3370	<0.0002000	0.02300	0.004200	0.02900	1.680
	10/19/2016	0.3240	<0.0002000	0.04100	0.004000	0.05300	3.130
	1/27/2017	0.2560	<0.0002000	<0.01000	0.001400	<0.001000	1.560
	4/22/2017	<0.2500	<0.0002000	<0.01000	0.002000	0.006300	0.5960
	6/28/2017	0.3120	<0.0002000	<0.01000	0.001400	0.001100	0.6920
G12S	12/2/2015	0.3630	<0.0002000	<0.01000	<0.001000	0.001000	1.270
	2/4/2016	0.3570	<0.0002000	0.01800	0.004500	0.01100	3.000
	4/20/2016	0.3640	<0.0002000	<0.01000	<0.001000	<0.001000	0.4840
	8/18/2016	0.3620	<0.0002000	<0.01000	0.001700	<0.001000	0.5480

Table 2. Duck Creek Landfill: Appendix IV Analytical Results

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G06S	4/20/2016	<0.003000	0.006800	<0.001000
	8/18/2016	<0.003000	0.004000	<0.001000
	10/19/2016	<0.003000	0.002400	<0.001000
	1/12/2017	<0.003000	0.001900	<0.001000
	4/22/2017	0.004000	<0.001000	<0.001000
	6/28/2017	<0.003000	0.004200	<0.001000
G09S	12/2/2015	<0.003000	0.001500	<0.001000
	2/4/2016	<0.003000	0.009900	0.001100
	4/20/2016	<0.003000	0.002400	<0.001000
	8/18/2016	<0.003000	0.002800	<0.001000
	10/19/2016	<0.003000	0.004500	<0.001000
	1/27/2017	<0.003000	<0.001000	<0.001000
	4/22/2017	<0.003000	<0.001000	<0.001000
	6/28/2017	<0.003000	<0.001000	<0.001000
G12S	12/2/2015	<0.003000	<0.001000	<0.001000
	2/4/2016	<0.003000	<0.001000	<0.001000
	4/20/2016	<0.003000	<0.001000	<0.001000
	8/18/2016	<0.003000	<0.001000	<0.001000

Table 2. Duck Creek Landfill: Appendix IV Analytical Results

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
G12S	10/19/2016	0.001700	0.03000	<0.001000	<0.001000	<0.002000	<0.004000
	1/27/2017	0.001100	0.02900	<0.001000	<0.001000	<0.002000	<0.004000
	5/4/2017	0.009800	0.04700	0.01200	0.009900	0.01100	0.01200
	6/28/2017	0.003000	0.03300	<0.001000	<0.001000	<0.002000	<0.004000
G15S	12/3/2015	0.001500	0.1000	<0.001000	<0.001000	0.002400	0.004900
	2/4/2016	0.005800	0.1400	<0.001000	<0.001000	0.008500	0.02100
	4/20/2016	0.001300	0.07300	<0.001000	<0.001000	<0.002000	0.004000
	8/18/2016	<0.001000	0.08200	<0.001000	<0.001000	<0.002000	<0.004000
	10/19/2016	<0.001000	0.07600	<0.001000	<0.001000	<0.002000	<0.004000
	1/28/2017	0.001600	0.08800	<0.001000	<0.001000	<0.002000	0.006300
	5/4/2017	<0.001000	0.08100	<0.001000	<0.001000	<0.002000	<0.004000
	6/28/2017	<0.001000	0.06900	<0.001000	<0.001000	<0.002000	<0.004000

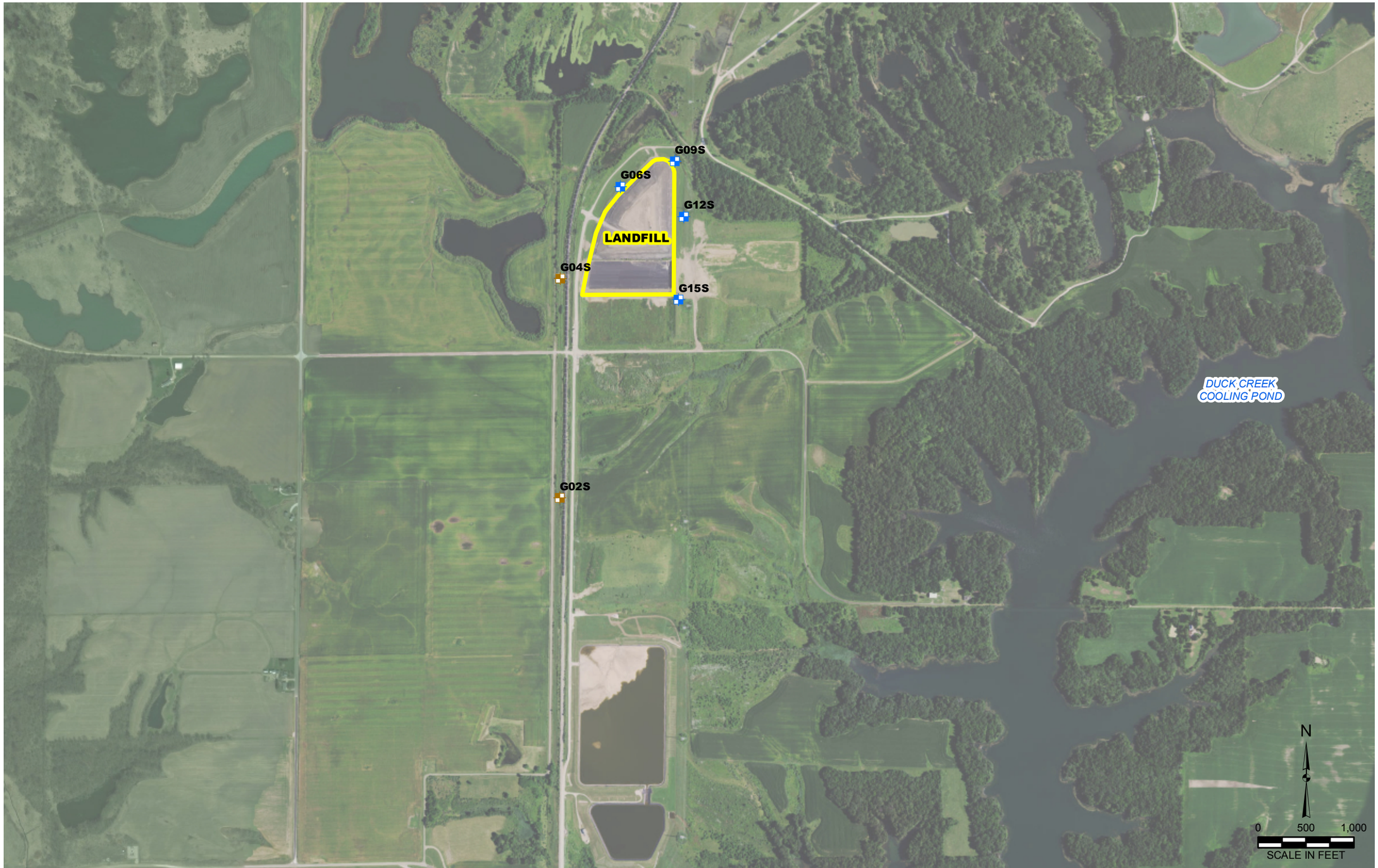
Table 2. Duck Creek Landfill: Appendix IV Analytical Results

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
G12S	10/19/2016	0.3690	<0.0002000	<0.01000	0.001200	<0.001000	0.06770
	1/27/2017	0.3000	<0.0002000	<0.01000	0.001200	<0.001000	0.09760
	5/4/2017	0.2980	<0.0002000	<0.01000	0.01400	0.01200	0.4280
	6/28/2017	0.3650	<0.0002000	<0.01000	0.001000	<0.001000	0.9430
G15S	12/3/2015	0.3180	<0.0002000	<0.01000	0.003400	0.003200	0.6340
	2/4/2016	0.3010	<0.0002000	0.01700	0.003300	0.01200	4.640
	4/20/2016	0.3240	<0.0002000	<0.01000	0.001200	0.001700	0.4880
	8/18/2016	0.3310	<0.0002000	<0.01000	0.001800	<0.001000	1.560
	10/19/2016	0.3400	<0.0002000	<0.01000	0.001700	<0.001000	0.05960
	1/28/2017	0.3800	<0.0002000	<0.01000	0.001700	0.002800	0.4830
	5/4/2017	0.2570	<0.0002000	<0.01000	0.001600	0.001000	0.7440
	6/28/2017	0.3290	<0.0002000	<0.01000	0.001800	<0.001000	0.8070

Table 2. Duck Creek Landfill: Appendix IV Analytical Results

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
G12S	10/19/2016	<0.003000	<0.001000	<0.001000
	1/27/2017	<0.003000	<0.001000	<0.001000
	5/4/2017	0.01200	0.008900	0.01200
	6/28/2017	<0.003000	<0.001000	<0.001000
G15S	12/3/2015	<0.003000	0.002100	<0.001000
	2/4/2016	<0.003000	0.002500	<0.001000
	4/20/2016	<0.003000	0.001800	<0.001000
	8/18/2016	<0.003000	<0.001000	<0.001000
	10/19/2016	<0.003000	0.001200	<0.001000
	1/28/2017	<0.003000	0.001200	<0.001000
	5/4/2017	<0.003000	<0.001000	<0.001000
	6/28/2017	<0.003000	0.001200	<0.001000

Figures



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GROUNDWATER SAMPLING WELL LOCATION MAP
DUCK CREEK LANDFILL
UNIT ID: 204

2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DYNEGY CCR RULE GROUNDWATER MONITORING
DUCK CREEK POWER STATION
CANTON, ILLINOIS

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

PROJECT NO: 67719

FIGURE NO: 1

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THERE'S A WAY