

2017 Annual Groundwater Monitoring and Corrective Action Report

Baldwin Fly Ash Pond System – CCR Unit ID 605
Baldwin Energy Complex
10901 Baldwin Road
Baldwin, Illinois 62217

Dynegy Midwest Generation, LLC

January 31, 2018



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2017 Annual Groundwater Monitoring and Corrective Action Report

Baldwin Fly Ash Pond System – CCR Unit ID 605
Baldwin Energy Complex
Baldwin, Illinois

Prepared for:
Dynegy Midwest Generation, LLC



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TABLE OF CONTENTS

LIST OF TABLES	i
LIST OF FIGURES	i
ACRONYMS AND ABBREVIATIONS	ii
1 INTRODUCTION	1
1.1 Overview.....	1
1.2 Monitoring and Corrective Action Program Status	1
2 KEY ACTIONS COMPLETED IN 2017	2
2.1 Summary.....	2
2.2 Problems Encountered and Actions to Resolve the Problems	2
3 KEY ACTIVITIES PLANNED FOR 2018	3
3.1 Summary.....	3
REFERENCES	4

LIST OF TABLES

Table 1	Baldwin Fly Ash Pond System: Appendix III Analytical Results
Table 2	Baldwin Fly Ash Pond System: Appendix IV Analytical Results

LIST OF FIGURES

Figure 1	Groundwater Sampling Well Location Map
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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 Dynegy Midwest Generation, LLC by O'Brien & Gere Engineers, Inc. (OBG), to provide the information required by 40 CFR 257.90(e) for the Baldwin Fly Ash Pond System located at Baldwin Energy Complex near Baldwin, 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 Baldwin Fly Ash Pond System 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 27-28, 2017, for which analytical data was received on December 13, 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 Baldwin Fly Ash Pond System 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 Baldwin Fly Ash Pond System.

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 March 15-16, June 19-21, July 25-28, and November 27-28. 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. MW391 did not have a sufficient quantity of groundwater to facilitate sample collection during the March, June, August, and September 2016 sampling events, as well as those in July and November 2017.

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 27-28, 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 (March 13, 2018), respectively. Statistical evaluation of analytical data is being performed in accordance with the Statistical Analysis Plan, Baldwin Energy Complex, Dynegy Midwest Generation, 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, Baldwin Fly Ash Pond System, Baldwin Energy Complex, Baldwin, Illinois, Project No. 2285, Revision 0, October 17, 2017.

Natural Resource Technology, an OBG Company, 2017b, Statistical Analysis Plan, Baldwin Energy Complex, Havana Power Station, Hennepin Power Station, Wood River Power Station, Dynegy Midwest Generation, LLC, October 17, 2017.



Tables

Baldwin

January 12, 2018

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 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
MW-304	12/29/2015	1.280	9.640	124.0	1.980	8.040	157.0
	3/21/2016	1.270	9.860	131.0	1.860	8.180	163.0
	6/21/2016	1.330	14.30	140.0	1.590	8.100	200.0
	9/19/2016	1.950	16.50	138.0	1.660	7.850	176.0
	12/27/2016	1.510	15.40	141.0	1.610	7.870	177.0
	3/16/2017	1.490	6.910	144.0	1.660	7.940	166.0
	6/21/2017	1.550	17.80	152.0	1.840	7.910	177.0
	7/28/2017	1.420	13.20	155.0	1.750	7.830	187.0
	11/28/2017	1.450	11.40	138.0	1.720	7.950	178.0
MW-306	3/22/2016	0.6340	6.100	34.00	0.8300	9.860	19.00
	6/21/2016	0.4780	5.370	33.00	0.6900	10.30	21.00
	8/18/2016	0.3220	22.40	41.00	0.5400	10.30	25.00
	9/19/2016	0.2400	35.30	47.00	0.5500	11.02	28.00
	12/27/2016	0.2200	30.70	47.00	0.5800	10.83	26.00
	3/16/2017	0.3060	19.70	51.00	0.6100	11.22	27.00
	6/21/2017	0.2250	26.30	53.00	0.6200	11.13	30.00
	7/28/2017	0.2590	15.30	54.00	0.6000	10.89	31.00
	11/28/2017	0.4070	3.400	55.00	0.6500	10.66	39.00

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 AM

Location ID	Sample Date	TDS, mg/L
MW-304	12/29/2015	1090.
	3/21/2016	1200.
	6/21/2016	1220.
	9/19/2016	1220.
	12/27/2016	1230.
	3/16/2017	1280.
	6/21/2017	1360.
	7/28/2017	1330.
	11/28/2017	1330.
MW-306	3/22/2016	482.0
	6/21/2016	408.0
	8/18/2016	314.0
	9/19/2016	235.0
	12/27/2016	360.0
	3/16/2017	328.0
	6/21/2017	335.0
	7/28/2017	256.0
	11/28/2017	328.0

Baldwin

January 12, 2018

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 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
MW-366	1/20/2016	1.420	74.50	9.000	0.9800	6.670	38.00
	3/23/2016	1.510	72.90	8.000	1.020	7.080	33.00
	6/22/2016	1.300	70.40	12.00	0.8900	7.200	40.00
	9/20/2016	2.310	103.0	17.00	0.9800	7.060	49.00
	12/22/2016	1.690	67.70	14.00	0.9800	7.040	46.00
	3/15/2017	1.670	74.40	14.00	1.020	7.540	46.00
	6/20/2017	1.660	70.10	16.00	1.060	6.990	64.00
	7/26/2017	1.660	73.00	18.00	1.040	7.150	77.00
	11/27/2017	1.790	108.0	31.00	0.9600	7.320	195.0
MW-375	1/20/2016	0.9790	14.90	77.00	1.800	7.700	104.0
	3/23/2016	1.130	12.10	77.00	2.100	7.820	128.0
	6/22/2016	1.270	11.20	90.00	2.140	7.900	122.0
	9/20/2016	2.060	18.10	96.00	2.070	7.790	123.0
	12/22/2016	1.320	9.630	98.00	2.270	7.790	103.0
	3/16/2017	1.240	9.960	93.00	2.360	7.840	93.00
	6/21/2017	1.370	8.820	91.00	2.490	7.730	83.00
	7/28/2017	1.230	8.970	96.00	2.450	7.790	85.00
	11/27/2017	1.260	10.60	90.00	2.380	7.850	88.00

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 AM

Location ID	Sample Date	TDS, mg/L
MW-366	1/20/2016	416.0
	3/23/2016	450.0
	6/22/2016	434.0
	9/20/2016	398.0
	12/22/2016	430.0
	3/15/2017	478.0
	6/20/2017	474.0
	7/26/2017	474.0
	11/27/2017	740.0
MW-375	1/20/2016	472.0
	3/23/2016	904.0
	6/22/2016	934.0
	9/20/2016	902.0
	12/22/2016	876.0
	3/16/2017	904.0
	6/21/2017	916.0
	7/28/2017	882.0
	11/27/2017	928.0

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 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
MW-377	1/19/2016	1.540	54.30	82.00	1.130	7.470	43.00
	3/23/2016	1.590	55.10	79.00	1.120	7.160	44.00
	6/22/2016	1.790	61.00	86.00	1.050	7.220	41.00
	9/21/2016	2.010	69.50	98.00	1.060	7.180	40.00
	12/22/2016	1.720	55.40	95.00	1.030	6.850	39.00
	3/15/2017	1.670	60.90	90.00	1.080	7.680	42.00
	6/21/2017	1.740	53.40	94.00	1.140	7.110	39.00
	7/28/2017	1.630	57.40	93.00	1.120	7.150	39.00
	11/28/2017	1.910	63.20	90.00	1.120	7.030	41.00
MW-383	1/21/2016	1.270	16.20	41.00	0.8200	7.780	212.0
	3/24/2016	1.330	15.70	39.00	0.8400	7.720	205.0
	6/23/2016	1.450	14.90	39.00	0.8200	7.840	176.0
	9/21/2016	2.050	20.20	40.00	0.8300	7.620	192.0
	12/27/2016	1.490	14.90	41.00	0.7900	7.600	174.0
	3/16/2017	1.420	16.20	40.00	0.7600	7.660	180.0
	6/19/2017	1.530	16.10	40.00	0.8100	7.670	177.0
	7/26/2017	1.260	16.10	40.00	0.8000	7.640	182.0
	11/28/2017	1.490	18.40	39.00	0.7500	7.630	171.0

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 AM

Location ID	Sample Date	TDS, mg/L
MW-377	1/19/2016	552.0
	3/23/2016	606.0
	6/22/2016	628.0
	9/21/2016	592.0
	12/22/2016	606.0
	3/15/2017	628.0
	6/21/2017	614.0
	7/28/2017	590.0
	11/28/2017	652.0
MW-383	1/21/2016	800.0
	3/24/2016	828.0
	6/23/2016	916.0
	9/21/2016	840.0
	12/27/2016	910.0
	3/16/2017	890.0
	6/19/2017	912.0
	7/26/2017	890.0
	11/28/2017	962.0

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 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
MW-384	1/21/2016	1.450	22.60	138.0	1.500	7.480	178.0
	3/24/2016	1.290	22.50	109.0	1.430	7.770	178.0
	6/23/2016	1.480	23.20	141.0	1.390	7.800	135.0
	9/21/2016	1.520	22.30	158.0	1.480	8.000	142.0
	12/27/2016	1.410	19.80	187.0	1.980	7.890	160.0
	3/16/2017	1.330	20.50	206.0	2.100	8.000	156.0
	6/19/2017	1.500	19.50	170.0	1.500	7.960	130.0
	7/25/2017	1.260	19.30	179.0	1.480	7.610	127.0
	11/28/2017	1.920	20.70	234.0	1.800	7.860	114.0
MW-390	3/22/2016	1.740	55.00	24.00	1.280	7.420	102.0
	6/23/2016	2.300	53.60	36.00	1.360	7.560	154.0
	8/18/2016	1.880	53.10	77.00	1.450	7.150	169.0
	9/20/2016	2.180	52.80	61.00	1.440	7.450	154.0
	12/22/2016	2.120	49.60	74.00	1.470	7.470	171.0
	3/15/2017	0.6680	53.00	125.0	0.8400	7.760	234.0
	6/20/2017	1.300	57.40	127.0	1.270	7.230	233.0
	7/28/2017	1.120	58.60	123.0	1.190	7.370	222.0
	11/27/2017	0.8540	69.70	112.0	0.9000	7.500	228.0

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 AM

Location ID	Sample Date	TDS, mg/L
MW-384	1/21/2016	992.0
	3/24/2016	1080.
	6/23/2016	1110.
	9/21/2016	1080.
	12/27/2016	1220.
	3/16/2017	1230.
	6/19/2017	1120.
	7/25/2017	1090.
	11/28/2017	1230.
MW-390	3/22/2016	590.0
	6/23/2016	722.0
	8/18/2016	778.0
	9/20/2016	704.0
	12/22/2016	780.0
	3/15/2017	898.0
	6/20/2017	894.0
	7/28/2017	842.0
	11/27/2017	898.0

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January 12, 2018

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

11:27:27 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
MW-391	12/22/2016	1.300	22.40	258.0	2.560	7.630	679.0
	3/15/2017	1.430	24.50	274.0	2.650	7.950	726.0
	6/20/2017	1.880	23.60	300.0	2.780	7.510	758.0

Table 1. Baldwin Fly Ash Pond System: Appendix III Analytical Results

Location ID	Sample Date	TDS, mg/L
MW-391	12/22/2016	1980.
	3/15/2017	2260.
	6/20/2017	2460.

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January 12, 2018

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 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
MW-304	12/29/2015	0.001900	0.01910	<0.001000	<0.001000	<0.001000	<0.001000
	3/21/2016	0.001600	0.01950	<0.001000	<0.001000	<0.001000	<0.001000
	6/21/2016	0.001600	0.01990	<0.001000	<0.001000	<0.001000	<0.001000
	9/19/2016	0.002500	0.02380	<0.001000	<0.001000	<0.001000	<0.001000
	12/27/2016	0.001900	0.01990	<0.001000	<0.001000	<0.001000	<0.001000
	3/16/2017	0.001600	0.01710	<0.001000	<0.001000	<0.001000	<0.001000
	6/21/2017	0.001700	0.02060	<0.001000	<0.001000	<0.001000	<0.001000
	7/28/2017	0.002100	0.01930	<0.001000	<0.001000	<0.001000	<0.001000
MW-306	3/22/2016	0.01010	0.01130	<0.001000	<0.001000	<0.001000	0.001100
	6/21/2016	0.01400	0.009700	<0.001000	<0.001000	<0.001000	0.001100
	8/18/2016	0.01210	0.01250	<0.001000	<0.001000	<0.001000	<0.001000
	9/19/2016	0.004500	0.01570	<0.001000	<0.001000	<0.001000	<0.001000
	12/27/2016	0.004400	0.01310	<0.001000	<0.001000	<0.001000	<0.001000
	3/16/2017	0.01530	0.009600	<0.001000	<0.001000	<0.001000	<0.001000
	6/21/2017	0.004600	0.01270	<0.001000	<0.001000	<0.001000	<0.001000
	7/28/2017	0.005700	0.008500	<0.001000	<0.001000	<0.001000	0.001500
MW-366	1/20/2016	0.0003000	0.07930	<0.001000	<0.001000	0.001000	<0.001000
	3/23/2016	<0.001000	0.08270	<0.001000	<0.001000	<0.001000	<0.001000

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January 12, 2018

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 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
MW-304	12/29/2015	1.980	<0.0002000	0.05680	0.005200	<0.001000	0.0
	3/21/2016	1.860	<0.0002000	0.05410	0.007600	<0.001000	0.0
	6/21/2016	1.590	<0.0002000	0.05520	0.005800	<0.001000	0.4900
	9/19/2016	1.660	<0.0002000	0.06930	0.006900	<0.001000	0.4900
	12/27/2016	1.610	<0.0002000	0.06460	0.005300	<0.001000	0.1100
	3/16/2017	1.660	<0.0002000	0.06850	0.008100	<0.001000	1.180
	6/21/2017	1.840	<0.0002000	0.06500	0.003900	<0.001000	1.160
	7/28/2017	1.750	<0.0002000	0.06500	0.003400	<0.001000	0.9900
MW-306	3/22/2016	0.8300	<0.0002000	0.03780	0.006700	<0.001000	0.3500
	6/21/2016	0.6900	<0.0002000	0.02730	0.007200	<0.001000	1.140
	8/18/2016	0.5400	<0.0002000	0.02020	0.01260	<0.001000	0.4900
	9/19/2016	0.5500	<0.0002000	0.02010	0.01980	<0.001000	0.1200
	12/27/2016	0.5800	<0.0002000	0.01600	0.02010	<0.001000	0.2100
	3/16/2017	0.6100	<0.0002000	0.01700	0.01820	<0.001000	0.9000
	6/21/2017	0.6200	<0.0002000	0.01570	0.02240	<0.001000	0.8900
	7/28/2017	0.6000	<0.0002000	0.01590	0.02370	<0.001000	0.1400
MW-366	1/20/2016	0.9800	<0.0002000	0.02830	0.002000	<0.001000	0.7750
	3/23/2016	1.020	<0.0002000	0.02830	0.001300	<0.001000	1.100

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 AM

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
MW-304	12/29/2015	<0.001000	<0.001000	<0.001000
	3/21/2016	<0.001000	<0.001000	<0.001000
	6/21/2016	<0.001000	<0.001000	<0.001000
	9/19/2016	<0.001000	<0.001000	<0.001000
	12/27/2016	<0.001000	<0.001000	<0.001000
	3/16/2017	<0.001000	<0.001000	<0.001000
	6/21/2017	<0.001000	<0.001000	<0.001000
	7/28/2017	<0.001000	<0.001000	<0.001000
MW-306	3/22/2016	<0.001000	<0.001000	<0.001000
	6/21/2016	<0.001000	<0.001000	<0.001000
	8/18/2016	<0.001000	<0.001000	<0.001000
	9/19/2016	<0.001000	<0.001000	<0.001000
	12/27/2016	<0.001000	<0.001000	<0.001000
	3/16/2017	<0.001000	<0.001000	<0.001000
	6/21/2017	<0.001000	<0.001000	<0.001000
	7/28/2017	<0.001000	<0.001000	<0.001000
MW-366	1/20/2016	0.0008000	0.001100	<0.001000
	3/23/2016	<0.001000	<0.001000	<0.001000

Baldwin

January 12, 2018

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 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
MW-366	6/22/2016	<0.001000	0.08170	<0.001000	<0.001000	<0.001000	<0.001000
	9/20/2016	0.001300	0.1100	<0.001000	<0.001000	0.001400	<0.001000
	12/22/2016	<0.001000	0.07620	<0.001000	<0.001000	<0.001000	<0.001000
	3/15/2017	<0.001000	0.07640	<0.001000	<0.001000	<0.001000	<0.001000
	6/20/2017	<0.001000	0.07700	<0.001000	<0.001000	<0.001000	<0.001000
	7/26/2017	<0.001000	0.06960	<0.001000	<0.001000	<0.001000	<0.001000
MW-375	1/20/2016	0.001400	0.03030	<0.001000	<0.001000	<0.001000	<0.001000
	3/23/2016	0.001400	0.02640	<0.001000	<0.001000	<0.001000	<0.001000
	6/22/2016	0.001600	0.02470	<0.001000	<0.001000	<0.001000	<0.001000
	9/20/2016	0.002500	0.03750	<0.001000	<0.001000	<0.001000	<0.001000
	12/22/2016	0.002200	0.02390	<0.001000	<0.001000	<0.001000	<0.001000
	3/16/2017	0.002000	0.02370	<0.001000	<0.001000	<0.001000	<0.001000
	6/21/2017	0.002100	0.02500	<0.001000	<0.001000	<0.001000	<0.001000
	7/28/2017	0.002100	0.02430	<0.001000	<0.001000	<0.001000	<0.001000
MW-377	1/19/2016	0.0009000	0.05800	<0.001000	<0.001000	0.0005000	<0.001000
	3/23/2016	0.001700	0.06370	<0.001000	<0.001000	<0.001000	<0.001000
	6/22/2016	0.001400	0.06630	<0.001000	<0.001000	<0.001000	<0.001000
	9/21/2016	0.002000	0.07550	<0.001000	<0.001000	<0.001000	<0.001000

Baldwin

January 12, 2018

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 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
MW-366	6/22/2016	0.8900	<0.0002000	0.02800	0.003700	<0.001000	0.1200
	9/20/2016	0.9800	<0.0002000	0.03220	0.004300	<0.001000	0.4300
	12/22/2016	0.9800	<0.0002000	0.03330	0.001400	<0.001000	1.330
	3/15/2017	1.020	<0.0002000	0.03050	0.001100	<0.001000	1.170
	6/20/2017	1.060	<0.0002000	0.03330	0.001600	<0.001000	0.8000
	7/26/2017	1.040	<0.0002000	0.03270	0.001800	<0.001000	1.080
MW-375	1/20/2016	1.800	<0.0002000	0.04790	0.01560	<0.001000	0.4300
	3/23/2016	2.100	<0.0002000	0.04200	0.01970	<0.001000	0.09000
	6/22/2016	2.140	<0.0002000	0.04950	0.02210	<0.001000	0.0
	9/20/2016	2.070	<0.0002000	0.06200	0.03430	<0.001000	0.7300
	12/22/2016	2.270	<0.0002000	0.06190	0.03210	<0.001000	1.170
	3/16/2017	2.360	<0.0002000	0.06000	0.03590	<0.001000	0.4600
	6/21/2017	2.490	<0.0002000	0.06790	0.03370	<0.001000	1.350
	7/28/2017	2.450	<0.0002000	0.06790	0.03240	<0.001000	0.3000
MW-377	1/19/2016	1.130	<0.0002000	0.04850	0.002300	<0.001000	0.09300
	3/23/2016	1.120	<0.0002000	0.04500	0.002500	<0.001000	0.1500
	6/22/2016	1.050	<0.0002000	0.05330	0.002100	<0.001000	0.3530
	9/21/2016	1.060	<0.0002000	0.05780	0.003300	<0.001000	0.8600

Baldwin

January 12, 2018

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 AM

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
MW-366	6/22/2016	<0.001000	<0.001000	<0.001000
	9/20/2016	<0.001000	<0.001000	<0.001000
	12/22/2016	<0.001000	<0.001000	<0.001000
	3/15/2017	<0.001000	<0.001000	<0.001000
	6/20/2017	<0.001000	<0.001000	<0.001000
	7/26/2017	<0.001000	<0.001000	<0.001000
MW-375	1/20/2016	0.003100	0.002900	<0.001000
	3/23/2016	0.001500	0.001600	<0.001000
	6/22/2016	0.001500	<0.001000	<0.001000
	9/20/2016	0.005000	<0.001000	<0.001000
	12/22/2016	0.001500	<0.001000	<0.001000
	3/16/2017	0.001300	<0.001000	<0.001000
	6/21/2017	0.001300	<0.001000	<0.001000
	7/28/2017	0.001200	<0.001000	<0.001000
MW-377	1/19/2016	0.0006000	<0.001000	<0.001000
	3/23/2016	<0.001000	<0.001000	<0.001000
	6/22/2016	<0.001000	<0.001000	<0.001000
	9/21/2016	<0.001000	<0.001000	<0.001000

Baldwin

January 12, 2018

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 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
MW-377	12/22/2016	0.001500	0.06250	<0.001000	<0.001000	<0.001000	<0.001000
	3/15/2017	<0.001000	0.06460	<0.001000	<0.001000	<0.001000	<0.001000
	6/21/2017	<0.001000	0.06020	<0.001000	<0.001000	<0.001000	<0.001000
	7/28/2017	<0.001000	0.06310	<0.001000	<0.001000	<0.001000	<0.001000
MW-383	1/21/2016	0.001400	0.03390	<0.001000	<0.001000	<0.001000	0.0006000
	3/24/2016	0.001000	0.03200	<0.001000	<0.001000	<0.001000	<0.001000
	6/23/2016	0.001100	0.03070	<0.001000	<0.001000	<0.001000	<0.001000
	9/21/2016	0.001600	0.03600	<0.001000	<0.001000	<0.001000	<0.001000
	12/27/2016	<0.001000	0.03100	<0.001000	<0.001000	<0.001000	<0.001000
	3/16/2017	<0.001000	0.03240	<0.001000	<0.001000	<0.001000	<0.001000
	6/19/2017	<0.001000	0.03610	<0.001000	<0.001000	<0.001000	<0.001000
	7/26/2017	0.001300	0.03460	<0.001000	<0.001000	<0.001000	<0.001000
MW-384	1/21/2016	<0.001000	0.02210	<0.001000	<0.001000	<0.001000	0.0003000
	3/24/2016	<0.001000	0.02450	<0.001000	<0.001000	<0.001000	<0.001000
	6/23/2016	<0.001000	0.02820	<0.001000	<0.001000	<0.001000	<0.001000
	9/21/2016	<0.001000	0.02580	<0.001000	<0.001000	<0.001000	<0.001000
	12/27/2016	<0.001000	0.02750	<0.001000	<0.001000	<0.001000	<0.001000
	3/16/2017	<0.001000	0.02830	<0.001000	<0.001000	<0.001000	<0.001000

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 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
MW-377	12/22/2016	1.030	<0.0002000	0.05090	0.002200	<0.001000	0.6800
	3/15/2017	1.080	<0.0002000	0.04880	0.001800	<0.001000	0.02000
	6/21/2017	1.140	<0.0002000	0.05310	0.001400	<0.001000	0.3800
	7/28/2017	1.120	<0.0002000	0.05320	0.001600	<0.001000	0.9600
MW-383	1/21/2016	0.8200	<0.0002000	0.03240	0.01280	0.0003000	0.08500
	3/24/2016	0.8400	<0.0002000	0.03200	0.01350	<0.001000	0.1700
	6/23/2016	0.8200	<0.0002000	0.03500	0.01310	<0.001000	0.1700
	9/21/2016	0.8300	<0.0002000	0.04150	0.01760	<0.001000	1.460
	12/27/2016	0.7900	<0.0002000	0.03640	0.01250	<0.001000	0.7100
	3/16/2017	0.7600	<0.0002000	0.03400	0.01210	<0.001000	1.070
	6/19/2017	0.8100	<0.0002000	0.03780	0.01090	<0.001000	0.1100
	7/26/2017	0.8000	<0.0002000	0.03180	0.01770	<0.001000	0.9100
MW-384	1/21/2016	1.500	<0.0002000	0.03750	0.009000	<0.001000	0.6950
	3/24/2016	1.430	<0.0002000	0.03670	0.01000	<0.001000	0.6300
	6/23/2016	1.390	<0.0002000	0.04100	0.009300	<0.001000	0.9200
	9/21/2016	1.480	<0.0002000	0.04400	0.01690	<0.001000	0.2500
	12/27/2016	1.980	<0.0002000	0.03460	0.03280	<0.001000	0.3400
	3/16/2017	2.100	<0.0002000	0.03490	0.01910	<0.001000	0.4400

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
MW-377	12/22/2016	<0.001000	<0.001000	<0.001000
	3/15/2017	<0.001000	<0.001000	<0.001000
	6/21/2017	<0.001000	<0.001000	<0.001000
	7/28/2017	<0.001000	<0.001000	<0.001000
MW-383	1/21/2016	0.001400	0.001700	<0.001000
	3/24/2016	0.001400	<0.001000	<0.001000
	6/23/2016	0.001200	<0.001000	<0.001000
	9/21/2016	<0.001000	<0.001000	<0.001000
	12/27/2016	<0.001000	<0.001000	<0.001000
	3/16/2017	<0.001000	<0.001000	<0.001000
	6/19/2017	<0.001000	<0.001000	<0.001000
	7/26/2017	<0.001000	<0.001000	<0.001000
MW-384	1/21/2016	0.0004000	<0.001000	<0.001000
	3/24/2016	<0.001000	<0.001000	<0.001000
	6/23/2016	<0.001000	<0.001000	<0.001000
	9/21/2016	<0.001000	<0.001000	<0.001000
	12/27/2016	<0.001000	<0.001000	<0.001000
	3/16/2017	<0.001000	<0.001000	<0.001000

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 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
MW-384	6/19/2017	<0.001000	0.02770	<0.001000	<0.001000	<0.001000	<0.001000
	7/25/2017	<0.001000	0.02640	<0.001000	<0.001000	<0.001000	<0.001000
MW-390	3/22/2016	<0.001000	0.03300	<0.001000	<0.001000	0.001900	<0.001000
	6/23/2016	0.001300	0.02990	<0.001000	<0.001000	0.002300	<0.001000
	8/18/2016	0.001900	0.02890	<0.001000	<0.001000	0.001300	<0.001000
	9/20/2016	0.002000	0.02580	<0.001000	<0.001000	0.001200	<0.001000
	12/22/2016	0.002100	0.02280	<0.001000	<0.001000	0.001100	<0.001000
	3/15/2017	0.002000	0.05200	<0.001000	<0.001000	<0.001000	<0.001000
	6/20/2017	0.001600	0.04000	<0.001000	<0.001000	<0.001000	<0.001000
	7/28/2017	0.001400	0.03850	<0.001000	<0.001000	<0.001000	<0.001000
MW-391	12/22/2016	0.001700	0.02930	<0.001000	<0.001000	<0.001000	<0.001000
	3/15/2017	0.001500	0.03320	<0.001000	<0.001000	<0.001000	<0.001000
	6/20/2017	0.001700	0.03500	<0.001000	<0.001000	<0.001000	<0.001000

Baldwin

January 12, 2018

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

11:27:44 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
MW-384	6/19/2017	1.500	<0.0002000	0.04040	0.01750	<0.001000	0.1300
	7/25/2017	1.480	<0.0002000	0.03710	0.01570	<0.001000	0.5600
MW-390	3/22/2016	1.280	<0.0002000	0.03310	0.001700	<0.001000	0.2000
	6/23/2016	1.360	<0.0002000	0.03860	0.005900	<0.001000	0.9000
	8/18/2016	1.450	<0.0002000	0.04000	0.002900	<0.001000	0.8600
	9/20/2016	1.440	<0.0002000	0.04930	0.003600	<0.001000	0.3900
	12/22/2016	1.470	<0.0002000	0.04360	0.002600	<0.001000	0.6600
	3/15/2017	0.8400	<0.0002000	0.02730	0.01320	<0.001000	1.580
	6/20/2017	1.270	<0.0002000	0.04010	0.01030	<0.001000	0.1800
	7/28/2017	1.190	<0.0002000	0.03750	0.01140	<0.001000	0.8600
MW-391	12/22/2016	2.560	<0.0002000	0.03200	0.07970	<0.001000	1.310
	3/15/2017	2.650	<0.0002000	0.03550	0.08360	<0.001000	0.3700
	6/20/2017	2.780	<0.0002000	0.04980	0.08600	<0.001000	0.7300

Table 2. Baldwin Fly Ash Pond System: Appendix IV Analytical Results

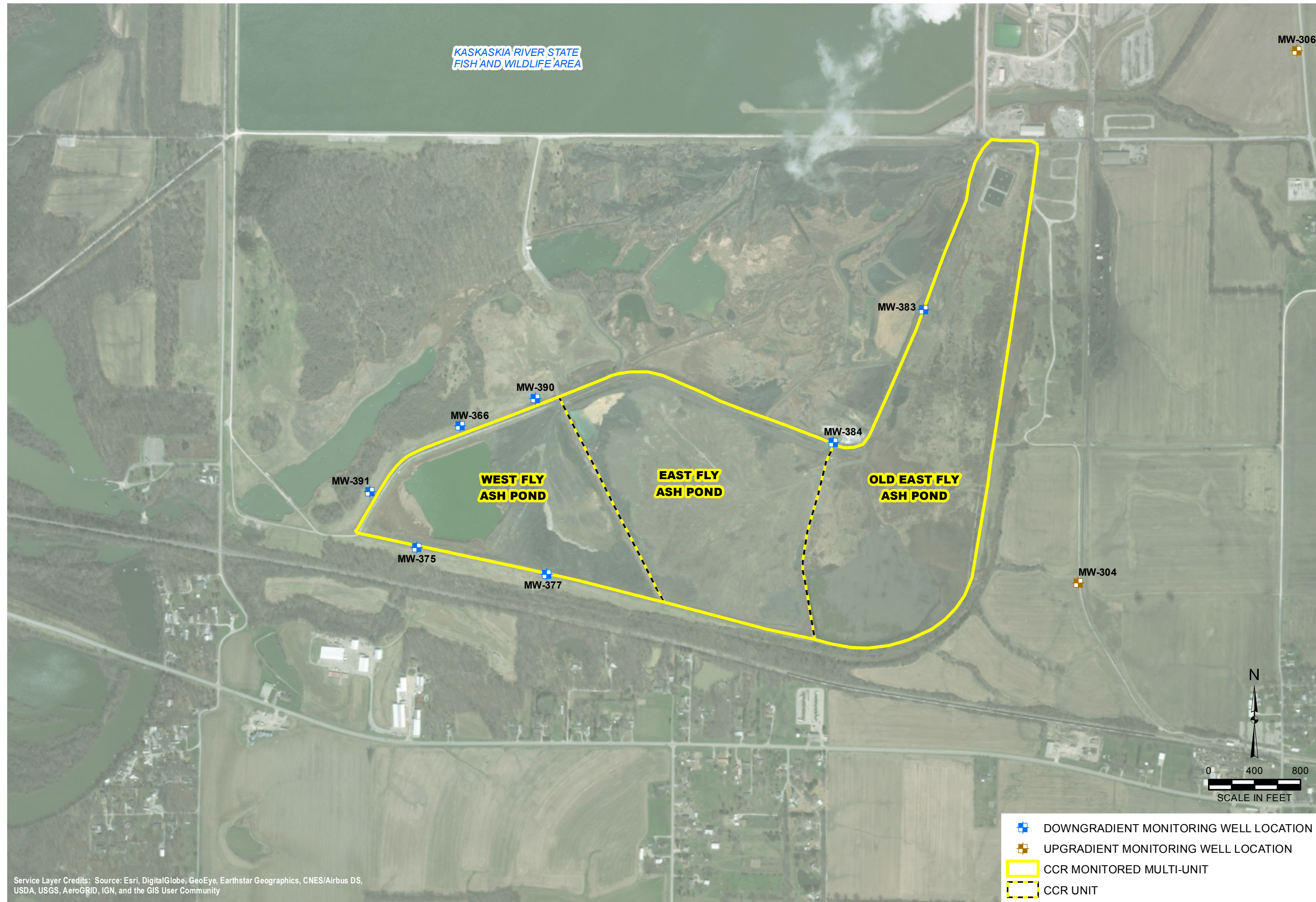
11:27:44 AM

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
MW-384	6/19/2017	<0.001000	<0.001000	<0.001000
	7/25/2017	<0.001000	<0.001000	<0.001000
MW-390	3/22/2016	<0.001000	0.001300	<0.001000
	6/23/2016	0.001200	0.001300	<0.001000
	8/18/2016	<0.001000	<0.001000	<0.001000
	9/20/2016	<0.001000	<0.001000	<0.001000
	12/22/2016	<0.001000	<0.001000	<0.001000
	3/15/2017	<0.001000	<0.001000	<0.001000
	6/20/2017	<0.001000	<0.001000	<0.001000
	7/28/2017	<0.001000	<0.001000	<0.001000
MW-391	12/22/2016	0.001600	0.01660	<0.001000
	3/15/2017	0.001700	0.01570	<0.001000
	6/20/2017	0.001500	0.01540	<0.001000







Figures

Y:\Mapping\Projects\222285\MXD\2017_AnnualGWM_CAR\Figure 1_GWS_WellLoc_Baldwin_OE.mxd Author: stlzdsc Date/Time: 1/29/2018, 3:22:12 PM



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-  DOWNGRADIENT MONITORING WELL LOCATION
-  UPGRADIENT MONITORING WELL LOCATION
-  CCR MONITORED MULTI-UNIT
-  CCR UNIT

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

GROUNDWATER SAMPLING WELL LOCATION MAP
BALDWIN FLY ASH POND SYSTEM
MULTI-UNIT ID: 605

2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DYNEGY CCR RULE GROUNDWATER MONITORING
BALDWIN ENERGY COMPLEX
BALDWIN, ILLINOIS

PROJECT NO: 67719

FIGURE NO: 1



OBG

THERE'S A WAY

