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Dynegy Midwest Generation, LLC

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Project No.
1940100711-002

**2021 ANNUAL GROUNDWATER
MONITORING AND CORRECTIVE
ACTION REPORT**
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS
CCR UNIT 605

**2021 ANNUAL GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT
BALDWIN FLY ASH POND SYSTEM**

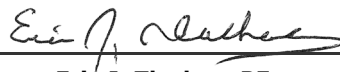
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ACRONYMS AND ABBREVIATIONS

§	Section
40 C.F.R.	Title 40 of the Code of Federal Regulations
BPP	Baldwin Power Plant
CCR	coal combustion residuals
CMA	Corrective Measures Assessment
FAPS	Fly Ash Pond System
GWPS	groundwater protection standard
MNA	monitored natural attenuation
NA	not applicable
NRT/OBG	Natural Resource Technology, an OBG Company
OBG	OBG, Part of Ramboll
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SAP	Sampling and Analysis Plan
SSI	Statistically Significant Increase
SSL	Statistically Significant Level
TBD	to be determined

EXECUTIVE SUMMARY

This report has been prepared to provide the information required by Title 40 of the Code of Federal Regulations (40 C.F.R.) Section (§) 257.90(e) for the Fly Ash Pond System (FAPS) located at Baldwin (BPP) near Baldwin, Illinois.

Groundwater is being monitored at the FAPS in accordance with the Assessment Monitoring Program requirements specified in 40 C.F.R. § 257.95. Assessment Monitoring was initiated at the FAPS on April 9, 2018.

No changes were made to the monitoring system in 2021 (no wells were installed or decommissioned).

No Statistically Significant Levels (SSLs) of 40 C.F.R. § 257 Appendix IV parameters were determined in 2021.

As required by 40 C.F.R. § 257.95(g)(3)(i), a Corrective Measures Assessment (CMA) (OBG, Part of Ramboll [OBG], 2019) following the requirements of 40 C.F.R. § 257.96 was initiated on May 8, 2019 and completed on September 5, 2019. This CMA was revised on November 15, 2019 to address typographical errors, and November 30, 2020 to include additional information related to site geology/hydrogeology and the potential groundwater corrective measures of MNA, permeable reactive barrier, and in-situ chemical treatment.

A public meeting was held on December 2, 2019 at the Red Bud High School Gymnasium in Red Bud, Illinois to discuss the results of the CMA in accordance with 40 C.F.R. § 257.96(e).

Remedy selection is in progress and the associated semiannual reports required by 40 C.F.R. § 257.97(a) are being completed.

1. INTRODUCTION

This report has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) on behalf of Dynegy Midwest Generation, LLC, to provide the information required by 40 C.F.R. § 257.90(e) for the FAPS located at the BPP near Baldwin, Illinois.

In accordance with 40 C.F.R. § 257.90(e), the owner or operator of a coal combustion residuals (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 [SSI] relative to background levels).
5. Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.
6. A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:
 - i. At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.
 - ii. At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.
 - iii. If it was determined that there was a SSI over background for one or more constituents listed in Appendix III of §257 pursuant to §257.94(e):
 - A. Identify those constituents listed in Appendix III of §257 and the names of the monitoring wells associated with the SSI(s).
 - B. Provide the date when the assessment monitoring program was initiated for the CCR unit.

- iv. If it was determined that there was a SSL above the Groundwater Protection Standard [GWPS] for one or more constituents listed in Appendix IV of §257 pursuant to §257.95(g) include all of the following:
 - A. Identify those constituents listed in Appendix IV of §257 and the names of the monitoring wells associated with the SSL(s).
 - B. Provide the date when the CMA was initiated for the CCR unit.
 - C. Provide the date when the public meeting was held for CMA for the CCR unit.
 - D. Provide the date when the CMA was completed for the CCR unit.
- v. Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection.
- vi. Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.

This report provides the required information for the FAPS for calendar year 2021.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

Groundwater is being monitored at the FAPS in accordance with the Assessment Monitoring Program requirements specified in 40 C.F.R. § 257.95. Assessment Monitoring was initiated on April 9, 2018. SSLs were determined for the FAPS and alternate source evaluations were inconclusive. In accordance with 40 C.F.R. § 257.95(g)(5), a CMA following the requirements of 40 C.F.R. § 257.96 was initiated on May 8, 2019 and completed on September 5, 2019. A public meeting was held on December 2, 2019 at the Red Bud High School Gymnasium in Red Bud, Illinois to discuss the results of the CMA in accordance with 40 C.F.R. § 257.96(e). The CMA was revised on November 15, 2019 (OBG, 2019b) to address typographical errors, and on November 30, 2020 (Ramboll, 2020) to include additional information related to site geology/hydrogeology and the potential groundwater corrective measures of monitored natural attenuation (MNA), permeable reactive barrier, and in-situ chemical treatment. Remedy selection is in progress and the associated semiannual reports required by 40 C.F.R. § 257.97(a) are being completed.

The FAPS remains in the Assessment Monitoring Program in accordance with 40 C.F.R. § 257.96(b).

3. KEY ACTIONS COMPLETED IN 2021

The Assessment Monitoring Program is summarized in **Table A** on the following page. The groundwater monitoring system, including the CCR unit and all background and compliance monitoring wells, is presented in **Figure 1**. No changes were made to the monitoring system in 2021. One groundwater sample was collected from each background and compliance well during each monitoring event ¹. All samples were collected and analyzed in accordance with the Sampling and Analysis Plan (SAP; Natural Resource Technology, an OBG Company [NRT/OBG], 2017a). All monitoring data obtained under 40 C.F.R. § 257.90 through 257.98 (as applicable) in 2021, and analytical results for the September 15 - 17, 2020 sampling event, are presented in **Tables 1** to **3**. Analytical data were evaluated in accordance with the Statistical Analysis Plan (NRT/OBG, 2017b) to determine any SSLs of Appendix IV parameters over GWPSs. Notifications were completed in accordance with 40 C.F.R. § 257.95(g).

Statistical background values are provided in **Table 4** and GWPSs in **Table 5**. The background values reported in **Table 4** are slightly different from those reported previously because different software was utilized to calculate these values in 2021.

Alternate source evaluations were inconclusive for one or more of the SSLs. Consequently, and in accordance with 40 C.F.R. § 257.95(g)(5), a CMA following the requirements of 40 C.F.R. § 257.96 was initiated on April 9, 2018 and the required notification completed. The CMA (OBG, 2019) was completed on September 5, 2019 and posted to the publicly accessible website, as required by 40 C.F.R. § 257.107(h)(8). This CMA was revised on November 15, 2019 to address typographical errors, and November 30, 2020 to include additional information related to site geology/hydrogeology and the potential groundwater corrective measures of MNA, permeable reactive barrier, and in-situ chemical treatment.

Remedy selection is in progress and the associated semiannual reports required by 40 C.F.R. § 257.97(a) were completed in March and September of 2021.

¹ Sampling was limited to MW-350 during the December 2020 sampling event, and MW-391 during the June 2021 sampling event, to confirm SSLs of select Appendix IV parameters initially detected at concentrations greater than the GWPS in the preceding sampling event, as allowed by the Statistical Analysis Plan.

Table A. 2020-2021 Assessment Monitoring Program Summary

Sampling Dates	Analytical Data Receipt Date	Parameters Collected	SSL(s)	SSL(s) Determination Date	CMA Initiated
September 15 - 17, 2020	October 19, 2020	Appendix III Appendix IV Detected ¹	Lithium (MW-391)	January 17, 2021	NA
December 17, 2020 ²	December 23, 2020	Lithium at well MW-350 ³	NA	NA	NA
March 9 - 12, 2021	April 14, 2021	Appendix III Appendix IV	none	July 13, 2021	NA
June 22, 2021 ⁴	July 12, 2021	Lithium at well MW-391 ³ Thallium at well MW-391 ³	NA	NA	NA
September 13 - 16, 2021	October 13, 2021	Appendix III Appendix IV Detected ¹	TBD	TBD	NA

Notes:

NA: not applicable

TBD: to be determined

¹ Groundwater sample analysis was limited to Appendix IV parameters detected during previous events in accordance with 40 C.F.R. § 257.95(d)(1).

² Sampling was limited to MW-350 during the December 2020 sampling event to confirm SSLs of select Appendix IV parameters initially detected at concentrations greater than the GWPS in the preceding sampling event, as allowed by the Statistical Analysis Plan.

³ Groundwater sample analysis was limited to select Appendix IV parameters initially detected at a concentration greater than the GWPS during the preceding sampling event to confirm SSLs, as allowed by the Statistical Analysis Plan.

⁴ Sampling was limited to MW-391 during the June 2021 sampling event to confirm SSLs of select Appendix IV parameters initially detected at concentrations greater than GWPS in the preceding sampling event, as allowed by the Statistical Analysis Plan.

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the Groundwater Monitoring Program during 2021. Groundwater samples were collected and analyzed in accordance with the SAP (NRT/OBG, 2017a), and all data were accepted.

5. KEY ACTIVITIES PLANNED FOR 2022

The following key activities are planned for 2022:

- All or part of the monitoring well network that was proposed for compliance with Title 35 of the Illinois Administrative Code § 845 is under evaluation for incorporation into the current monitoring system.
- Continuation of the Assessment Monitoring Program with semi-annual sampling scheduled for the first and third quarters of 2022.
- Complete evaluation of analytical data from the compliance wells, using GWPSs to determine whether an SSL of Appendix IV parameters has occurred.
- Remedy selection will continue; semiannual progress reports required by 40 C.F.R. § 257.97(a) will be completed and posted to the publicly accessible website as required by 40 C.F.R. § 257.107(h)(9).

6. REFERENCES

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

OBG, Part of Ramboll (OBG), 2019. Corrective Measures Assessment, Baldwin Fly Ash Pond System (FAPS), Baldwin Energy Complex, 10901 Baldwin Road, Baldwin, Illinois, Dynegy Midwest Generation, LLC, September 5, 2019.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2020. Corrective Measures Assessment Revision 2, Baldwin Fly Ash Pond System (FAPS), Baldwin Energy Complex, 10901 Baldwin Road, Baldwin, Illinois, Dynegy Midwest Generation, LLC, November 30, 2020.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS
 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 BALDWIN POWER PLANT
 605 - FLY ASH POND SYSTEM
 BALDWIN, IL

Well ID	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Depth to Groundwater (ft BMP)	Groundwater Elevation (ft NAVD88)
MW-304	Background	38.18833	-89.85344	09/15/2020	9.97	445.52
				12/16/2020	9.82	445.67
				03/08/2021	9.50	445.99
				06/21/2021	9.47	446.02
				09/13/2021	10.09	445.40
MW-306	Background	38.20114	-89.84676	09/15/2020	17.75	435.42
				12/17/2020	17.54	435.63
				03/08/2021	17.12	436.05
				06/22/2021	17.31	435.86
				09/13/2021	10.18	442.99
MW-350	Compliance	38.18942	-89.87848	09/15/2020	23.41	373.39
				12/17/2020	22.36	374.44
				03/08/2021	22.00	374.80
				09/13/2021	23.38	373.42
MW-366	Compliance	38.19219	-89.87234	09/15/2020	15.11	409.97
				12/16/2020	Not Measured	
				03/08/2021	10.32	414.76
				09/13/2021	17.19	407.89
MW-375	Compliance	38.18905	-89.87351	09/15/2020	31.93	391.12
				12/16/2020	Not Measured	
				03/08/2021	30.97	392.08
				09/13/2021	32.04	391.01
MW-377	Compliance	38.18839	-89.86974	09/15/2020	4.63	416.73
				12/16/2020	Not Measured	
				03/08/2021	4.38	416.98
				09/13/2021	5.25	416.11
MW-383	Compliance	38.19491	-89.85829	09/15/2020	18.51	440.98
				12/16/2020	Not Measured	
				03/08/2021	18.14	441.35
				09/13/2021	18.51	440.98
MW-384	Compliance	38.19179	-89.86070	09/15/2020	13.46	445.49
				12/16/2020	Not Measured	
				03/08/2021	13.47	445.48
				09/13/2021	13.58	445.37
MW-390	Compliance	38.19296	-89.86979	09/15/2020	6.95	421.11
				12/16/2020	Not Measured	
				03/08/2021	3.69	424.37
				09/13/2021	8.01	420.05
MW-391	Compliance	38.19087	-89.87476	09/15/2020	25.56	401.07
				12/16/2020	Not Measured	
				03/08/2021	37.26	389.37
				06/22/2021	45.78	380.85
				09/13/2021	50.18	376.45

Notes:
 BMP = below measuring point
 ft = foot/feet
 NAVD88 = North American Vertical Datum of 1988

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 BALDWIN POWER PLANT
 605 - FLY ASH POND SYSTEM
 BALDWIN, IL

Well ID	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)	pH (field) (SU)	Sulfate, total (mg/L)	Total Dissolved Solids (mg/L)
MW-304	Background	38.18833	-89.85344	09/17/2020	1.89	15.3	161	1.79	8.0	196	1320
				03/09/2021	1.57	12.7	159	1.64	7.9	194	1350
				09/14/2021	1.61	13.3	168	1.6	7.7	231	1290
MW-306	Background	38.20114	-89.84676	09/17/2020	0.174	26.9	58	0.56	10.5	37	224
				03/10/2021	0.12	43.4	61	0.52	11.0	37	294
				09/16/2021	<0.025	594	96	0.13	12.0	<20	934
MW-350	Compliance	38.18942	-89.87848	09/16/2020	0.541	16.6	48	0.13	11.0	74	230
				12/17/2020	--	--	--	--	11.1	--	--
				03/10/2021	0.682	20.9	43	0.17	11.0	52	272
				09/14/2021	0.622	25.1	29	0.15	8.0	99	402
MW-366	Compliance	38.19219	-89.87234	09/16/2020	1.64	175	53	0.4	7.0	521	1100
				03/12/2021	1.19	163	39	0.39	7.0	360	876
				09/15/2021	1.67	181	47	0.46	6.8	597	1140
MW-375	Compliance	38.18905	-89.87351	09/16/2020	1.44	13.8	111	2.4	7.8	202	1010
				03/12/2021	1.51	14.6	104	2.4	7.8	168	1010
				09/14/2021	1.33	11.8	114	2.38	7.8	176	976
MW-377	Compliance	38.18839	-89.86974	09/16/2020	1.75	56.2	97	1.21	7.2	39	580
				03/12/2021	1.58	54.7	94	1.18	7.1	37	606
				09/14/2021	1.77	55.2	100	1.15	7.1	38	580
MW-383	Compliance	38.19491	-89.85829	09/15/2020	1.39	18.3	45	0.71	7.7	190	884
				03/12/2021	1.4	17.2	42	0.68	7.6	179	960
				09/13/2021	1.34	17.1	45	0.7	7.6	168	864
MW-384	Compliance	38.19179	-89.86070	09/15/2020	1.51	18.4	493	3.59	8.1	53	1520
				03/11/2021	1.66	17.6	488	3.86	7.8	38	1540
				09/13/2021	1.54	20	501	3.82	8.0	40	1440

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 BALDWIN POWER PLANT
 605 - FLY ASH POND SYSTEM
 BALDWIN, IL

Well ID	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)	pH (field) (SU)	Sulfate, total (mg/L)	Total Dissolved Solids (mg/L)
MW-390	Compliance	38.19296	-89.86979	09/16/2020	0.247	91.8	71	0.82	7.2	132	644
				03/12/2021	0.274	92.2	106	1.39	7.2	174	852
				09/15/2021	0.308	90.2	62	1.26	7.1	152	682
MW-391	Compliance	38.19087	-89.87476	09/16/2020	4.35	24.7	186	2.78	7.8	1230	2630
				03/12/2021	2.6	7.06	147	2.77	7.7	907	2180
				06/22/2021	--	--	--	--	7.7	--	--
				09/14/2021	2.84	8.95	116	3.1	7.7	668	1620

Notes:

mg/L = milligrams per liter

SU = Standard Units

< = concentration is less than the concentration shown, which corresponds to the reporting limit for the method; estimated concentrations below the reporting limit and associated qualifiers are not provided since they are not utilized in statistics to determine Statistically Significant Increases (SSIs) over background

-- = not analyzed

TABLE 3
ANALYTICAL RESULTS - APPENDIX IV PARAMETERS
 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 BALDWIN POWER PLANT
 605 - FLY ASH POND SYSTEM
 BALDWIN, IL

Well ID	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Chromium, total (mg/L)	Cobalt, total (mg/L)	Fluoride, total (mg/L)	Lead, total (mg/L)	Lithium, total (mg/L)	Mercury, total (mg/L)	Molybdenum, total (mg/L)	Radium 226+228, total (pCi/L)	Selenium, total (mg/L)	Thallium, total (mg/L)
MW-304	Background	38.18833	-89.85344	09/17/2020	<0.001	0.0024	0.0192	--	--	<0.0015	<0.001	1.79	<0.001	0.091	--	0.0019	0.37	<0.001	--
				03/09/2021	<0.001	0.0024	0.02	<0.001	<0.001	<0.0015	<0.001	1.64	<0.001	0.0737	<0.0002	<0.0015	0.265	<0.001	<0.002
				09/14/2021	<0.001	0.0021	0.0189	--	--	<0.0015	<0.001	1.6	<0.001	0.0777	--	0.0021	0.744	<0.001	<0.002
MW-306	Background	38.20114	-89.84676	09/17/2020	<0.001	0.002	0.0124	--	--	<0.0015	<0.001	0.56	<0.001	0.0143	--	0.0262	1.59	<0.001	--
				03/10/2021	<0.001	0.0018	0.0176	<0.001	<0.001	<0.0015	<0.001	0.52	<0.001	0.0114	<0.0002	0.0275	0.0281	<0.001	<0.002
				09/16/2021	<0.001	<0.001	1.04	--	--	0.0271	0.0035	0.13	0.0052	0.0584	--	0.0086	8.2	<0.001	<0.002
MW-350	Compliance	38.18942	-89.87848	09/16/2020	0.0021	<0.001	0.165	<0.001	<0.001	<0.0015	<0.001	0.13	<0.001	0.0964	<0.0002	0.002	0.96	<0.001	<0.002
				12/17/2020	--	--	--	--	--	--	--	--	--	0.0857	--	--	--	--	--
				03/10/2021	0.0043	<0.001	0.169	<0.001	<0.001	<0.0015	<0.001	0.17	0.0011	0.0819	<0.0002	0.0068	0.892	<0.001	<0.002
				09/14/2021	0.0026	<0.001	0.179	--	--	0.0021	<0.001	0.15	0.0027	0.0834	--	0.0043	0.94	<0.001	<0.002
MW-366	Compliance	38.19219	-89.87234	09/16/2020	<0.001	<0.001	0.0391	--	--	<0.0015	0.0022	0.4	--	0.0121	--	0.0057	0.65	<0.001	--
				03/12/2021	<0.001	<0.001	0.0424	<0.001	<0.001	<0.0015	<0.001	0.39	<0.001	0.0092	<0.0002	0.0047	0.216	<0.001	<0.002
				09/15/2021	<0.001	<0.001	0.0507	--	--	<0.0015	<0.001	0.46	<0.001	0.0146	--	0.0039	0.478	<0.001	<0.002
MW-375	Compliance	38.18905	-89.87351	09/16/2020	<0.001	0.0016	0.0238	--	--	<0.0015	<0.001	2.4	--	0.0916	--	0.0264	2.14	<0.001	--
				03/12/2021	0.001	0.0016	0.0245	<0.001	<0.001	<0.0015	<0.001	2.4	<0.001	0.0806	<0.0002	0.0235	0.0286	<0.001	<0.002
				09/14/2021	<0.001	0.0017	0.023	--	--	<0.0015	<0.001	2.38	<0.001	0.0765	--	0.0241	0.132	<0.001	<0.002
MW-377	Compliance	38.18839	-89.86974	09/16/2020	<0.001	<0.001	0.0599	--	--	<0.0015	<0.001	1.21	--	0.069	--	<0.0015	0.77	<0.001	--
				03/12/2021	<0.001	<0.001	0.0609	<0.001	<0.001	<0.0015	<0.001	1.18	<0.001	0.0559	<0.0002	<0.0015	0.173	<0.001	<0.002
				09/14/2021	<0.001	<0.001	0.063	--	--	<0.0015	<0.001	1.15	<0.001	0.0647	--	<0.0015	0.715	<0.001	<0.002
MW-383	Compliance	38.19491	-89.85829	09/15/2020	<0.001	<0.001	0.0449	--	--	<0.0015	<0.001	0.71	--	0.0444	--	0.0092	0.85	<0.001	--
				03/12/2021	<0.001	<0.001	0.0406	<0.001	<0.001	<0.0015	<0.001	0.68	<0.001	0.0374	<0.0002	0.0092	0.434	<0.001	<0.002
				09/13/2021	<0.001	<0.001	0.0443	--	--	<0.0015	<0.001	0.7	<0.001	0.0389	--	0.0088	0.968	<0.001	<0.002
MW-384	Compliance	38.19179	-89.86070	09/15/2020	<0.001	<0.001	0.0394	--	--	<0.0015	<0.001	3.59	--	0.0522	--	0.0566	0.56	<0.001	--
				03/11/2021	<0.001	<0.001	0.043	<0.001	<0.001	<0.0015	<0.001	3.86	<0.001	0.0492	<0.0002	0.0457	0.423	<0.001	<0.002
				09/13/2021	<0.001	<0.001	0.0521	--	--	<0.0015	<0.001	3.82	<0.001	0.0488	--	0.045	1.15	<0.001	<0.002
MW-390	Compliance	38.19296	-89.86979	09/16/2020	<0.001	0.0013	0.0785	--	--	<0.0015	<0.001	0.82	--	0.0174	--	0.0029	1.68	<0.001	--
				03/12/2021	<0.001	0.0012	0.0838	<0.001	<0.001	<0.0015	<0.001	1.39	0.0012	0.0189	<0.0002	0.0034	0.851	<0.001	<0.002
				09/15/2021	<0.001	0.0015	0.0695	--	--	<0.0015	<0.001	1.26	<0.001	0.0163	--	0.0033	1.08	<0.001	<0.002

TABLE 3
ANALYTICAL RESULTS - APPENDIX IV PARAMETERS
 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 BALDWIN POWER PLANT
 605 - FLY ASH POND SYSTEM
 BALDWIN, IL

Well ID	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Chromium, total (mg/L)	Cobalt, total (mg/L)	Fluoride, total (mg/L)	Lead, total (mg/L)	Lithium, total (mg/L)	Mercury, total (mg/L)	Molybdenum, total (mg/L)	Radium 226+228, total (pCi/L)	Selenium, total (mg/L)	Thallium, total (mg/L)	
MW-391	Compliance	38.19087	-89.87476	09/16/2020	0.0015	0.0018	0.0256	--	--	<0.0015	<0.001	2.78	--	0.129	--	0.0351	0.62	0.0011	--	
				03/12/2021	0.0023	0.004	0.0161	<0.001	<0.001	<0.0015	<0.001	2.77	<0.001	0.0663	<0.0002	0.0248	0.199	0.0016	0.0027	
				06/22/2021	--	--	--	--	--	--	--	--	--	0.0735	--	--	--	--	--	<0.002
				09/14/2021	0.0019	0.0034	0.0165	--	--	<0.0015	<0.001	3.1	<0.001	0.0707	--	0.0298	1.32	0.0012	<0.002	

Notes:
 mg/L = milligrams per liter
 pCi/L = picoCuries per liter
 < = concentration is less than the concentration shown, which corresponds to the reporting limit for the method; estimated concentrations below the reporting limit and associated qualifiers are not provided since they are not utilized in statistics to determine Statistically Significant Levels (SSLs) over the groundwater protection standard.
 -- = not analyzed

TABLE 4
STATISTICAL BACKGROUND VALUES
 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 BALDWIN POWER PLANT
 605 - FLY ASH POND SYSTEM
 BALDWIN, IL

Parameter	Statistical Background Value (LPL/UPL)
40 C.F.R. Part 257 Appendix III	
Boron (mg/L)	1.84
Calcium (mg/L)	69.0
Chloride (mg/L)	153
Fluoride (mg/L)	1.88
pH (field) (SU)	7.4/11.5
Sulfate (mg/L)	208
Total Dissolved Solids (mg/L)	1420

Notes:
 40 C.F.R. = Title 40 of the Code of Federal Regulations
 LPL = Lower Prediction Limit (applicable for pH only)
 mg/L = milligrams per liter
 SU = Standard Units
 UPL = Upper Prediction Limit

TABLE 5
GROUNDWATER PROTECTION STANDARDS
 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 BALDWIN POWER PLANT
 605 - FLY ASH POND SYSTEM
 BALDWIN, IL

Parameter	Groundwater Protection Standard*
40 C.F.R. Part 257 Appendix IV	
Antimony (mg/L)	0.006
Arsenic (mg/L)	0.010
Barium (mg/L)	2
Beryllium (mg/L)	0.004
Cadmium (mg/L)	0.005
Chromium (mg/L)	0.1
Cobalt (mg/L)	0.006
Fluoride (mg/L)	4.0
Lead (mg/L)	0.015
Lithium (mg/L)	0.096
Mercury (mg/L)	0.002
Molybdenum (mg/L)	0.1
Radium-226 + Radium 228 (pCi/L)	5
Selenium (mg/L)	0.05
Thallium (mg/L)	0.002

Notes:

* Groundwater Protection Standard is the higher of the Maximum Contaminant Level/Health-Based Level or background.

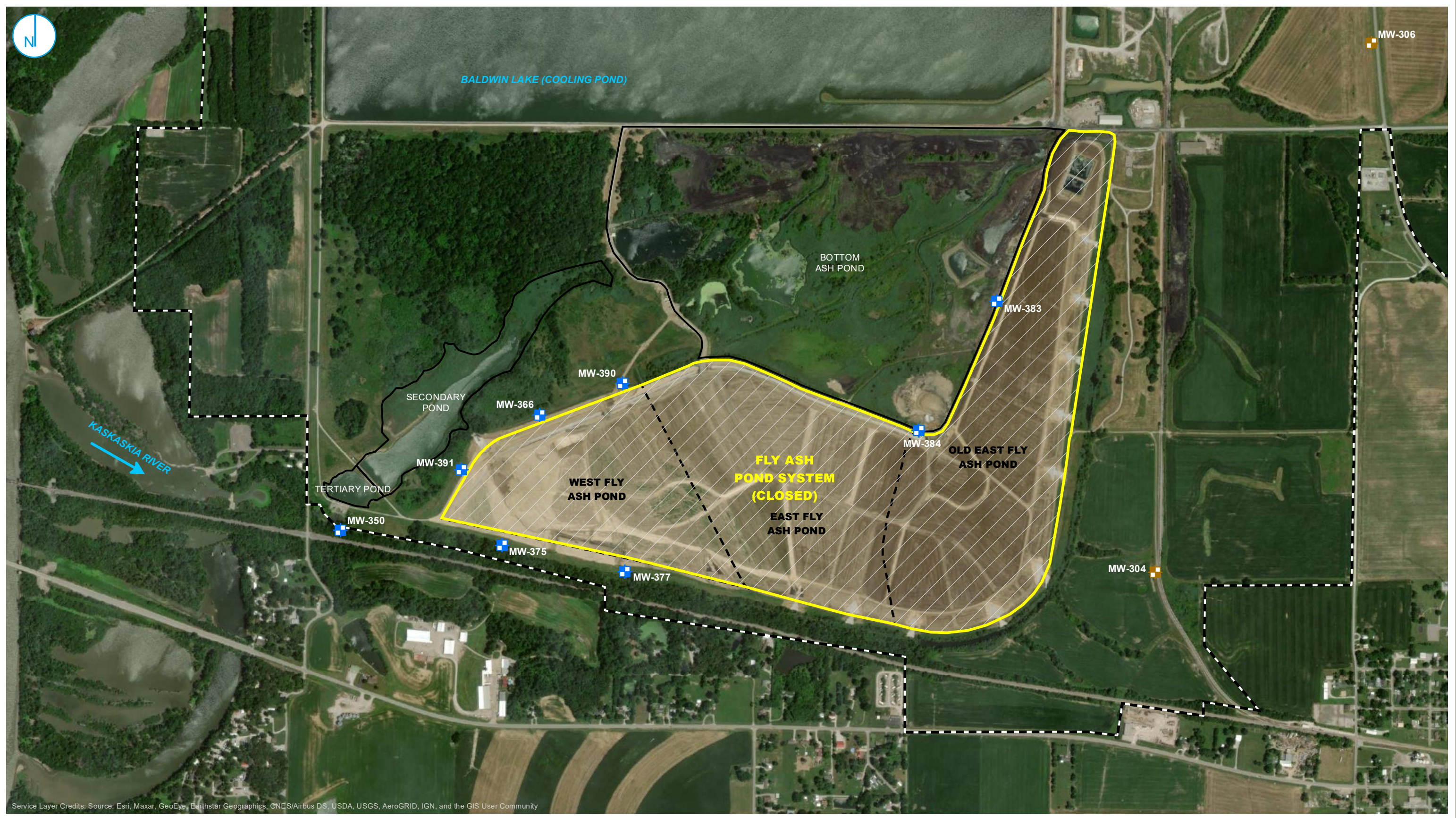
40 C.F.R. = Title 40 of the Code of Federal Regulations

mg/L = milligrams per liter







pCi/L = picoCuries per liter

FIGURES

PROJECT: 169000XXXX | DATED: 1/6/2022 | DESIGNER: galarrmc
 Y:\Mapping\Projects\22285\MXD\2021_AnnualGWM_CAR\Baldwin\FAPS_605\Figure 1 BAL FAPS 605 MW Location Map.mxd



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-  BACKGROUND WELL
-  COMPLIANCE WELL
-  PART 257 REGULATED UNIT (SUBJECT UNIT)
-  SITE FEATURE
-  CAPPED AREA
-  PROPERTY BOUNDARY



MONITORING WELL LOCATION MAP

2021 ANNUAL GROUNDWATER MONITORING
 AND CORRECTIVE ACTION REPORT
 FLY ASH POND SYSTEM
 BALDWIN POWER PLANT
 BALDWIN, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
 ENGINEERING SOLUTIONS, INC.

