

# 2017 Annual Groundwater Monitoring and Corrective Action Report

Edwards Ash Pond – CCR Unit ID 301  
Edwards Power Station  
7800 South Cilco Lane  
Bartonville, Illinois 61607

**Illinois Power Resources Generating, LLC**

January 31, 2018

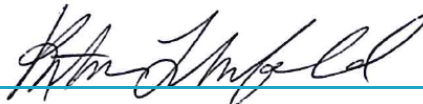


JANUARY 31, 2018 | PROJECT #67719

# 2017 Annual Groundwater Monitoring and Corrective Action Report

Edwards Ash Pond – CCR Unit ID 301  
Edwards Power Station  
Bartonville, Illinois

Prepared for:  
*Illinois Power Resources Generating, LLC*



---

KRISTEN L. THEESFELD  
Hydrogeologist



---

ERIC J. TLACHAC, PE  
Senior Engineer

## TABLE OF CONTENTS

---

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

### LIST OF TABLES

---

Table 1	Edwards Ash Pond: Appendix III Analytical Results
Table 2	Edwards Ash Pond: Appendix IV Analytical Results

### LIST OF FIGURES

---

Figure 1	Groundwater Sampling Well Location Map
----------	--



## 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 Edwards Ash Pond located at Edwards Power Station near Bartonville, 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.<sup>1</sup>

This report provides the required information for the Edwards Ash Pond for calendar year 2017.

### 1.2 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The minimum eight independent samples required by 40 CFR 257.94(b) were collected and analyzed from each background and downgradient well from 2015-2017 before October 17, 2017.

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 1-2, 2017, for which analytical data was received on November 14, 2017.

---

<sup>1</sup> 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 Edwards Ash 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, 2017a) prepared for the Edwards Ash 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 17-18, May 8-10, July 19-21, and November 1-2. Sample collection dates for previously collected five independent samples are identified in Tables 1 and 2. Generally, one ground water sample was collected from each background and downgradient well in each sampling event. All nine samples from monitoring well AP-05S were collected in 2017, with additional samples collected on June 7, June 22, July 31, August 7, and August 23, because this well was installed on November 29, 2016 to provide an additional upgradient monitoring point.

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 1-2, 2017 was initiated and will be completed within 90 days of October 17, 2017 (January 15, 2018) or 90 days from receipt of the data from the first semi-annual detection monitoring event (February 12, 2018), respectively. Statistical evaluation of analytical data is being performed in accordance with the Statistical Analysis Plan, Edwards Power Station, Illinois Power Resources Generating, LLC (NRT, 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, Edwards Ash Pond, Edwards Power Station, Bartonville, 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

Edwards

January 12, 2018

Table 1. Edwards Ash Pond: Appendix III Analytical Results

12:27:27 PM

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
AP-05S	1/18/2017	0.3600	110.0	44.00	<0.2500	6.900	38.00
	5/10/2017	0.3400	110.0	42.00	<0.2500	7.080	32.00
	6/7/2017	0.3400	110.0	42.00	<0.2500	6.820	29.00
	6/22/2017	0.3200	110.0	42.00	<0.2500	7.170	26.00
	7/21/2017	0.2700	120.0	41.00	<0.2500	6.890	23.00
	7/31/2017	0.2900	130.0	44.00	<0.2500	6.980	19.00
	8/7/2017	0.3000	120.0	41.00	<0.2500	6.980	17.00
	8/23/2017	0.3100	98.00	43.00	<0.2500	6.900	12.00
	11/2/2017	0.3700	100.0	39.00	<0.2500	7.150	10.00
AW-05	11/9/2015	1.800	180.0	280.0	<0.2500	6.690	290.0
	2/17/2016	1.700	180.0	180.0	0.3260	6.780	280.0
	5/17/2016	1.600	210.0	290.0	0.3250	6.680	270.0
	7/21/2016	2.700	190.0	570.0	0.4270	6.880	380.0
	11/10/2016	2.800	200.0	300.0	0.2780	7.050	330.0
	1/17/2017	1.500	160.0	130.0	<0.2500	7.080	270.0
	5/8/2017	1.400	180.0	140.0	<0.2500	7.150	280.0
	7/19/2017	5.900	260.0	420.0	<0.2500	7.070	470.0
	11/1/2017	7.600	260.0	650.0	<0.2500	7.150	370.0

Table 1. Edwards Ash Pond: Appendix III Analytical Results

---

Location ID	Sample Date	TDS, mg/L
AP-05S	1/18/2017	860.0
	5/10/2017	810.0
	6/7/2017	500.0
	6/22/2017	880.0
	7/21/2017	840.0
	7/31/2017	750.0
	8/7/2017	840.0
	8/23/2017	820.0
	11/2/2017	820.0
AW-05	11/9/2015	1100.
	2/17/2016	1000.
	5/17/2016	1100.
	7/21/2016	1700.
	11/10/2016	1300.
	1/17/2017	1000.
	5/8/2017	1100.
	7/19/2017	1300.
	11/1/2017	1600.

Edwards

January 12, 2018

Table 1. Edwards Ash Pond: Appendix III Analytical Results

12:27:27 PM

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
AW-06	11/10/2015	0.3100	110.0	61.00	<0.2500	6.980	36.00
	2/17/2016	0.2900	72.00	75.00	0.4410	7.160	40.00
	5/18/2016	0.1700	110.0	43.00	0.4650	7.220	41.00
	7/22/2016	0.2100	120.0	50.00	0.4140	7.140	42.00
	11/11/2016	0.1600	110.0	45.00	0.4290	7.200	39.00
	1/17/2017	0.1700	100.0	39.00	0.3510	7.170	39.00
	5/9/2017	0.1800	110.0	37.00	0.4150	7.240	38.00
	7/20/2017	0.1900	140.0	34.00	0.3140	7.250	34.00
	11/2/2017	0.1800	100.0	32.00	0.4050	7.090	32.00
AW-08	11/9/2015	0.1600	140.0	19.00	<0.2500	6.570	80.00
	2/17/2016	0.1700	150.0	20.00	0.3240	6.810	61.00
	5/17/2016	0.2100	160.0	18.00	0.3760	6.780	59.00
	7/21/2016	0.1400	100.0	23.00	0.3400	6.960	55.00
	11/10/2016	0.1500	160.0	20.00	0.3460	7.050	46.00
	1/17/2017	0.1300	110.0	20.00	<0.2500	7.220	64.00
	5/8/2017	0.1100	160.0	16.00	0.3310	7.100	23.00
	7/19/2017	0.08500	160.0	16.00	<0.2500	7.260	19.00
	11/1/2017	0.1400	150.0	16.00	0.3340	7.140	11.00

Table 1. Edwards Ash Pond: Appendix III Analytical Results

---

Location ID	Sample Date	TDS, mg/L
AW-06	11/10/2015	560.0
	2/17/2016	650.0
	5/18/2016	490.0
	7/22/2016	540.0
	11/11/2016	530.0
	1/17/2017	540.0
	5/9/2017	560.0
	7/20/2017	480.0
	11/2/2017	500.0
AW-08	11/9/2015	740.0
	2/17/2016	660.0
	5/17/2016	680.0
	7/21/2016	680.0
	11/10/2016	710.0
	1/17/2017	640.0
	5/8/2017	780.0
	7/19/2017	640.0
	11/1/2017	680.0

Edwards

January 12, 2018

Table 1. Edwards Ash Pond: Appendix III Analytical Results

12:27:27 PM

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
AW-09	11/10/2015	0.7900	170.0	31.00	<0.2500	6.810	28.00
	2/17/2016	0.8600	210.0	31.00	0.3130	6.550	23.00
	5/17/2016	1.300	120.0	32.00	0.3380	6.470	37.00
	7/22/2016	0.5100	180.0	32.00	0.3420	6.570	19.00
	11/11/2016	0.3800	140.0	29.00	0.3340	6.660	8.600
	1/17/2017	0.8400	120.0	32.00	<0.2500	6.930	28.00
	5/9/2017	0.4900	140.0	28.00	0.2810	7.070	13.00
	7/20/2017	0.3100	160.0	28.00	<0.2500	6.900	1.600
	11/2/2017	0.9000	110.0	32.00	0.2790	7.010	29.00
AW-10	11/9/2015	0.4200	140.0	94.00	<0.2500	6.610	2.800
	2/18/2016	0.5600	280.0	99.00	<0.2500	6.980	1.200
	5/18/2016	0.5300	170.0	83.00	0.3240	7.140	<1.000
	7/21/2016	0.4600	130.0	100.0	<0.2500	7.070	<1.000
	11/11/2016	0.4400	140.0	92.00	<0.2500	7.090	<1.000
	1/17/2017	0.4400	110.0	85.00	<0.2500	7.060	1.800
	5/10/2017	0.4900	120.0	89.00	<0.2500	6.880	4.100
	7/20/2017	0.4300	130.0	84.00	<0.2500	7.010	<1.000
	11/2/2017	0.5400	100.0	85.00	<0.2500	7.200	2.800

Table 1. Edwards Ash Pond: Appendix III Analytical Results

---

Location ID	Sample Date	TDS, mg/L
AW-09	11/10/2015	700.0
	2/17/2016	700.0
	5/17/2016	640.0
	7/22/2016	660.0
	11/11/2016	790.0
	1/17/2017	710.0
	5/9/2017	760.0
	7/20/2017	700.0
	11/2/2017	690.0
AW-10	11/9/2015	1100.
	2/18/2016	1200.
	5/18/2016	1100.
	7/21/2016	1100.
	11/11/2016	1100.
	1/17/2017	1100.
	5/10/2017	1200.
	7/20/2017	980.0
	11/2/2017	1000.

Edwards

January 12, 2018

Table 1. Edwards Ash Pond: Appendix III Analytical Results

12:27:27 PM

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
AW-11	11/9/2015	0.2300	170.0	33.00	<0.2500	6.490	1.400
	2/18/2016	0.2400	210.0	36.00	0.2900	6.850	2.000
	5/18/2016	0.2500	170.0	31.00	0.3800	6.990	1.800
	7/22/2016	0.2200	160.0	36.00	<0.2500	6.990	1.900
	11/11/2016	0.2500	220.0	33.00	<0.2500	7.060	<1.000
	1/17/2017	0.2200	150.0	35.00	<0.2500	7.150	2.200
	5/9/2017	0.2300	210.0	34.00	<0.2500	7.020	4.900
	7/20/2017	0.2300	240.0	30.00	<0.2500	7.160	<1.000
	11/2/2017	0.2300	140.0	33.00	<0.2500	7.240	3.200



Table 1. Edwards Ash Pond: Appendix III Analytical Results

---

Location ID	Sample Date	TDS, mg/L
AW-11	11/9/2015	870.0
	2/18/2016	900.0
	5/18/2016	860.0
	7/22/2016	880.0
	11/11/2016	880.0
	1/17/2017	920.0
	5/9/2017	940.0
	7/20/2017	920.0
	11/2/2017	920.0

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 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
AP-05S	1/18/2017	0.003000	0.5400	<0.001000	<0.001000	0.002500	<0.004000
	5/10/2017	0.004100	0.5400	<0.001000	<0.001000	<0.002000	<0.004000
	6/7/2017	0.005500	0.5900	<0.001000	<0.001000	<0.002000	<0.004000
	6/22/2017	0.006300	0.6500	<0.001000	<0.001000	<0.002000	<0.004000
	7/21/2017	0.007700	0.6900	<0.001000	<0.001000	<0.002000	<0.004000
	7/31/2017	0.007400	0.7700	<0.001000	<0.001000	<0.002000	<0.004000
	8/7/2017	0.007700	0.7700	<0.001000	<0.001000	<0.002000	<0.004000
	8/23/2017	0.007200	0.7900	<0.001000	<0.001000	<0.002000	<0.004000
AW-05	11/9/2015	0.005300	0.1900	<0.001000	<0.001000	0.004700	0.009900
	2/17/2016	0.01300	0.2800	<0.001000	<0.001000	0.01300	0.02600
	5/17/2016	0.02800	0.4100	<0.001000	<0.001000	0.01900	0.03000
	7/21/2016	0.007000	0.2600	<0.0005000	<0.001000	0.009100	0.01700
	11/10/2016	0.003500	0.1400	<0.001000	<0.001000	0.002200	<0.004000
	1/17/2017	0.002500	0.1300	<0.001000	<0.001000	<0.002000	<0.004000
	5/8/2017	0.01300	0.3900	0.001600	0.001500	0.02900	0.04000
	7/19/2017	0.02900	0.6300	0.003000	0.002300	0.05400	0.08800
AW-06	11/10/2015	0.003400	0.2900	<0.001000	<0.001000	0.006000	0.01400
	2/17/2016	0.001800	0.2000	<0.001000	<0.001000	0.002400	0.007100

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 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
AP-05S	1/18/2017	<0.2500	<0.0002000	0.04000	0.01900	0.001000	1.050
	5/10/2017	<0.2500	<0.0002000	0.03800	0.01500	<0.001000	1.320
	6/7/2017	<0.2500	<0.0002000	0.03400	0.01500	<0.001000	1.430
	6/22/2017	<0.2500	<0.0002000	0.03600	0.01500	<0.001000	1.890
	7/21/2017	<0.2500	<0.0002000	0.03500	0.01400	<0.001000	1.750
	7/31/2017	<0.2500	<0.0002000	0.03800	0.01200	<0.001000	1.380
	8/7/2017	<0.2500	<0.0002000	0.03500	0.01100	<0.001000	2.200
	8/23/2017	<0.2500	<0.0002000	0.04400	0.007600	<0.001000	2.630
AW-05	11/9/2015	<0.2500	<0.0002000	0.03000	0.002300	0.002400	0.3500
	2/17/2016	0.3260	<0.0002000	0.04600	0.002800	0.01100	3.510
	5/17/2016	0.3250	<0.0002000	0.04700	0.003500	0.01800	0.6020
	7/21/2016	0.4270	<0.0002000	0.03800	0.002300	0.006900	1.310
	11/10/2016	0.2780	<0.0002000	0.02100	0.001200	<0.001000	1.010
	1/17/2017	<0.2500	<0.0002000	0.01800	0.002100	<0.001000	2.060
	5/8/2017	<0.2500	<0.0002000	0.07000	0.003800	0.02300	2.130
	7/19/2017	<0.2500	<0.0002000	0.1200	0.004100	0.04600	1.070
AW-06	11/10/2015	<0.2500	<0.0002000	0.03500	0.003400	0.006000	2.540
	2/17/2016	0.4410	<0.0002000	0.02900	0.003800	0.002300	2.620

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 PM

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
AP-05S	1/18/2017	0.004100	<0.001000	<0.001000
	5/10/2017	<0.003000	<0.001000	<0.001000
	6/7/2017	<0.003000	<0.001000	<0.001000
	6/22/2017	<0.003000	<0.001000	<0.001000
	7/21/2017	<0.003000	<0.001000	<0.001000
	7/31/2017	<0.003000	<0.001000	<0.001000
	8/7/2017	<0.003000	<0.001000	<0.001000
	8/23/2017	<0.003000	<0.001000	<0.001000
AW-05	11/9/2015	<0.003000	0.001200	<0.001000
	2/17/2016	<0.003000	0.001300	<0.001000
	5/17/2016	<0.003000	0.001400	<0.001000
	7/21/2016	<0.003000	0.001100	<0.001000
	11/10/2016	<0.003000	<0.001000	<0.001000
	1/17/2017	<0.003000	<0.001000	<0.001000
	5/8/2017	0.003000	0.003700	<0.001000
	7/19/2017	<0.003000	0.004000	<0.001000
AW-06	11/10/2015	<0.003000	0.001000	<0.001000
	2/17/2016	<0.003000	<0.001000	<0.001000

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 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
AW-06	5/18/2016	0.001400	0.1800	<0.001000	<0.001000	<0.002000	<0.004000
	7/22/2016	0.008200	0.3200	0.0008500	<0.001000	0.01400	0.02600
	11/11/2016	0.004500	0.2500	<0.001000	<0.001000	0.006800	0.02400
	1/17/2017	0.003600	0.1900	<0.001000	<0.001000	0.002800	0.008400
	5/9/2017	0.001400	0.1600	<0.001000	<0.001000	<0.002000	<0.004000
	7/20/2017	0.03200	0.4600	0.001100	<0.001000	0.01900	0.03300
AW-08	11/9/2015	0.001100	0.1500	<0.001000	<0.001000	0.003800	<0.004000
	2/17/2016	0.001400	0.1600	<0.001000	<0.001000	0.003400	<0.004000
	5/17/2016	0.005600	0.1900	0.01400	<0.001000	0.005300	<0.004000
	7/21/2016	0.001800	0.1300	<0.0005000	<0.001000	0.002000	<0.004000
	11/10/2016	0.01100	0.2000	<0.001000	<0.001000	0.003400	<0.004000
	1/17/2017	0.001200	0.1500	<0.001000	<0.001000	0.003000	<0.004000
	5/8/2017	0.01700	0.2100	<0.001000	<0.001000	<0.002000	<0.004000
	7/19/2017	0.01600	0.2200	<0.001000	<0.001000	<0.002000	<0.004000
AW-09	11/10/2015	0.01800	0.6200	0.002900	<0.001000	0.04000	0.07500
	2/17/2016	0.04600	1.100	0.007000	0.002800	0.09300	0.2000
	5/17/2016	<0.001000	0.1500	<0.001000	<0.001000	0.002300	<0.004000
	7/22/2016	0.02500	0.5700	0.002500	0.001200	0.04300	0.07300

## Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 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
AW-06	5/18/2016	0.4650	<0.0002000	0.01700	0.004400	<0.001000	1.210
	7/22/2016	0.4140	0.001800	0.04200	0.005200	0.01400	2.080
	11/11/2016	0.4290	<0.0002000	0.03000	0.006400	0.006400	0.4980
	1/17/2017	0.3510	<0.0002000	0.02000	0.006600	0.006300	0.3720
	5/9/2017	0.4150	<0.0002000	0.01800	0.009500	0.001200	0.3990
	7/20/2017	0.3140	<0.0002000	0.04900	0.008600	0.01900	0.8130
AW-08	11/9/2015	<0.2500	<0.0002000	0.02500	0.002800	<0.001000	1.120
	2/17/2016	0.3240	<0.0002000	0.02500	0.002700	<0.001000	1.270
	5/17/2016	0.3760	<0.0002000	0.01900	0.004400	<0.001000	0.4540
	7/21/2016	0.3400	<0.0002000	0.01900	0.004000	<0.001000	0.3570
	11/10/2016	0.3460	<0.0002000	0.01600	0.008500	<0.001000	0.4330
	1/17/2017	<0.2500	<0.0002000	0.02000	0.003200	<0.001000	0.4080
	5/8/2017	0.3310	<0.0002000	0.01400	0.007200	<0.001000	0.9750
	7/19/2017	<0.2500	<0.0002000	0.01400	0.006200	<0.001000	0.3940
AW-09	11/10/2015	<0.2500	<0.0002000	0.1100	0.01400	0.03800	7.710
	2/17/2016	0.3130	0.0002600	0.2600	0.02000	0.1100	5.970
	5/17/2016	0.3380	<0.0002000	0.02200	0.01500	<0.001000	0.4640
	7/22/2016	0.3420	<0.0002000	0.1100	0.02400	0.03600	3.460

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 PM

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
AW-06	5/18/2016	<0.003000	<0.001000	<0.001000
	7/22/2016	<0.003000	0.002200	<0.001000
	11/11/2016	<0.003000	<0.001000	<0.001000
	1/17/2017	<0.003000	<0.001000	<0.001000
	5/9/2017	<0.003000	<0.001000	<0.001000
	7/20/2017	<0.003000	0.002300	<0.001000
AW-08	11/9/2015	<0.003000	0.001200	<0.001000
	2/17/2016	<0.003000	<0.001000	<0.001000
	5/17/2016	<0.003000	<0.001000	<0.001000
	7/21/2016	<0.003000	<0.001000	<0.001000
	11/10/2016	<0.003000	<0.001000	<0.001000
	1/17/2017	<0.003000	<0.001000	<0.001000
	5/8/2017	<0.003000	<0.001000	<0.001000
	7/19/2017	<0.003000	<0.001000	<0.001000
AW-09	11/10/2015	<0.003000	0.006700	<0.001000
	2/17/2016	<0.003000	0.009100	0.001600
	5/17/2016	<0.003000	<0.001000	<0.001000
	7/22/2016	<0.003000	0.003600	<0.001000

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 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
AW-09	11/11/2016	0.02000	0.3900	<0.001000	<0.001000	0.01700	0.03000
	1/17/2017	<0.001000	0.1800	<0.001000	<0.001000	0.002900	<0.004000
	5/9/2017	0.004900	0.2200	<0.001000	<0.001000	0.005100	<0.004000
	7/20/2017	0.03100	0.5700	0.001300	<0.001000	0.02400	0.03900
AW-10	11/9/2015	0.01000	0.9800	<0.001000	<0.001000	0.008300	0.01500
	2/18/2016	0.09700	6.300	0.01500	0.003100	0.2500	0.4500
	5/18/2016	0.04000	3.400	0.001100	<0.001000	0.03400	0.05600
	7/21/2016	0.01000	1.000	<0.0005000	<0.001000	0.009700	0.01500
	11/11/2016	0.01800	1.400	0.001200	<0.001000	0.02600	0.03800
	1/17/2017	0.002300	0.5800	<0.001000	<0.001000	0.002200	<0.004000
	5/10/2017	0.003200	0.6600	<0.001000	<0.001000	0.002700	<0.004000
	7/20/2017	0.005200	0.6700	<0.001000	<0.001000	0.003300	0.004200
AW-11	11/9/2015	0.01100	1.200	<0.001000	<0.001000	0.01100	0.02900
	2/18/2016	0.01400	1.600	0.001300	<0.001000	0.02300	0.04400
	5/18/2016	0.005300	0.8300	<0.001000	<0.001000	0.006700	0.009500
	7/22/2016	0.005400	0.8400	<0.0005000	<0.001000	0.003400	0.004200
	11/11/2016	0.02100	2.000	0.002700	0.001400	0.04400	0.09500
	1/17/2017	0.004200	0.5600	<0.001000	0.001500	0.003800	0.006300



Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 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
AW-09	11/11/2016	0.3340	<0.0002000	0.04000	0.02600	0.009700	2.230
	1/17/2017	<0.2500	<0.0002000	0.02200	0.01200	<0.001000	0.7290
	5/9/2017	0.2810	<0.0002000	0.02200	0.02000	<0.001000	0.0
	7/20/2017	<0.2500	<0.0002000	0.06000	0.02800	0.02400	1.860
AW-10	11/9/2015	<0.2500	<0.0002000	0.07300	0.001700	0.005400	3.830
	2/18/2016	<0.2500	0.0003300	0.8500	0.009400	0.2700	7.060
	5/18/2016	0.3240	<0.0002000	0.1100	0.002800	0.03500	5.730
	7/21/2016	<0.2500	<0.0002000	0.08000	0.001600	0.007400	6.070
	11/11/2016	<0.2500	<0.0002000	0.1200	0.002900	0.02200	3.570
	1/17/2017	<0.2500	<0.0002000	0.05600	0.002300	<0.001000	1.230
	5/10/2017	<0.2500	<0.0002000	0.05700	0.003200	<0.001000	1.120
	7/20/2017	<0.2500	<0.0002000	0.05200	0.004300	0.001800	0.8750
AW-11	11/9/2015	<0.2500	<0.0002000	0.06700	0.004300	0.009900	2.780
	2/18/2016	0.2900	<0.0002000	0.07800	0.006600	0.02600	3.200
	5/18/2016	0.3800	<0.0002000	0.03300	0.006500	0.004900	0.5580
	7/22/2016	<0.2500	<0.0002000	0.03300	0.003700	0.001900	2.690
	11/11/2016	<0.2500	<0.0002000	0.1400	0.008800	0.04900	2.690
	1/17/2017	<0.2500	<0.0002000	0.03100	0.01000	0.001500	0.3940

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 PM

Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
AW-09	11/11/2016	<0.003000	0.001300	<0.001000
	1/17/2017	<0.003000	<0.001000	<0.001000
	5/9/2017	<0.003000	<0.001000	<0.001000
	7/20/2017	<0.003000	0.002000	<0.001000
AW-10	11/9/2015	<0.003000	0.001300	<0.001000
	2/18/2016	<0.003000	0.01600	0.002300
	5/18/2016	<0.003000	0.002100	<0.001000
	7/21/2016	<0.003000	0.001000	<0.001000
	11/11/2016	<0.003000	0.002500	<0.001000
	1/17/2017	<0.003000	<0.001000	<0.001000
	5/10/2017	<0.003000	<0.001000	<0.001000
	7/20/2017	<0.003000	<0.001000	<0.001000
AW-11	11/9/2015	<0.003000	0.001900	<0.001000
	2/18/2016	<0.003000	0.002100	<0.001000
	5/18/2016	<0.003000	<0.001000	<0.001000
	7/22/2016	<0.003000	<0.001000	<0.001000
	11/11/2016	<0.003000	0.006100	<0.001000
	1/17/2017	<0.003000	0.001200	<0.001000

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 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
AW-11	5/9/2017	0.01400	1.400	0.001200	<0.001000	0.02300	0.03100
	7/20/2017	0.02500	2.500	0.002800	0.001700	0.04600	0.09100

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 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
AW-11	5/9/2017	<0.2500	<0.0002000	0.08000	0.007300	0.02400	5.750
	7/20/2017	<0.2500	<0.0002000	0.1400	0.007700	0.05000	4.470

Edwards

January 12, 2018

Table 2. Edwards Ash Pond: Appendix IV Analytical Results

12:27:31 PM

---

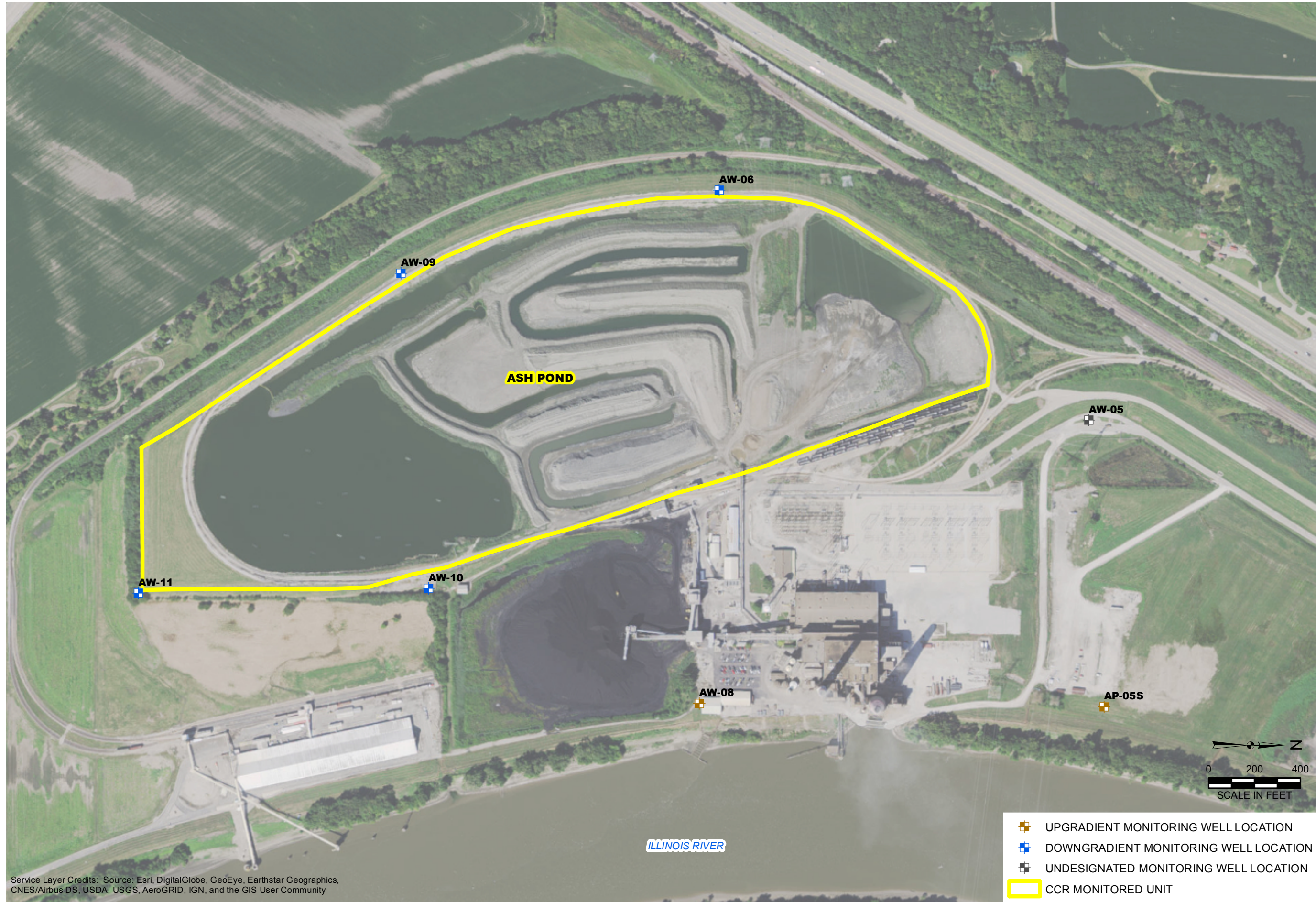
Location ID	Sample Date	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
AW-11	5/9/2017	<0.003000	0.003000	<0.001000
	7/20/2017	<0.003000	0.004200	<0.001000







## Figures



Y:\Mapping\Projects\222285\MXD\2017\_AnnualGWM\_CAR\Figure 1\_GWS\_WellLoc\_Edwards.mxd Author: stobsc Date/Time: 1/29/2018, 3:39:01 PM



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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

DRAWN BY/DATE:  
SDS 12/11/17  
REVIEWED BY/DATE:  
KLT 12/11/17  
APPROVED BY/DATE:  
SJC 1/24/18

GROUNDWATER SAMPLING WELL LOCATION MAP  
EDWARDS ASH POND  
UNIT ID: 301  
2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT  
DYNEGY CCR RULE GROUNDWATER MONITORING  
EDWARDS POWER STATION  
BARTONVILLE, ILLINOIS

PROJECT NO: 67719

FIGURE NO: 1





**OBG**

THERE'S A WAY

