

2017 Annual Groundwater Monitoring and Corrective Action Report

**Hennepin Old West Ash Pond (Pond No. 1 and Pond No. 3) and
Hennepin Old West Polishing Pond**

CCR Unit ID 804

Hennepin Power Station

13498 East 800th Street

Hennepin, Illinois 61327

Dynegy Midwest Generation, LLC

January 31, 2018

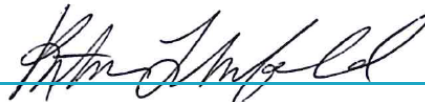


JANUARY 31, 2018 | PROJECT #67719

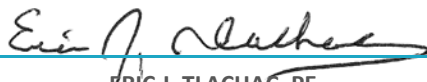
2017 Annual Groundwater Monitoring and Corrective Action Report

Hennepin Old West Ash Pond (Pond No. 1 and Pond
No. 3) and Hennepin Old West Polishing Pond –
CCR Unit ID 804
Hennepin Power Station
Hennepin, Illinois

Prepared for:
Dynegy Midwest Generation, LLC



KRISTEN L. THEESFELD
Hydrogeologist



ERIC J. TLACHAC, PE
Senior Engineer

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	Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results
Table 2	Hennepin Old West Ash Pond and Polishing 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 Dynegy Midwest Generation, LLC by O'Brien & Gere Engineers, Inc. (OBG), to provide the information required by 40 CFR 257.90(e) for the Hennepin Old West Ash Pond (Pond No. 1 and Pond No. 3) and Hennepin Old West Polishing Pond located at Hennepin Power Station near Hennepin, 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 Hennepin Old West Ash Pond (Pond No. 1 and Pond No. 3) and Hennepin Old West Polishing Pond for calendar year 2017.

1.2 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The final three independent samples of the minimum eight required by 40 CFR 257.94(b) were collected and analyzed from each background and downgradient well in 2017 before October 17. The other five independent samples were collected and analyzed in 2015 and 2016.

The first semi-annual monitoring sample for the Detection Monitoring Program was collected in November 2017 from each well.

Using the last of the minimum eight samples required to be collected by October 17, 2017 to determine whether a statistically significant increase (SSI) of Appendix III parameters over background concentrations has occurred, evaluation of analytical data from the downgradient wells was initiated beginning no later than October 17, 2017 for the initial eight samples. SSI determinations will be completed within 90 days (January 15, 2018). In addition, SSI determinations will be completed within 90 days of completion of analysis for the first semi-annual detection monitoring sample collected on November 15-16, 2017, for which analytical data was received on December 8, 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 Hennepin Old West Ash Pond (Pond No. 1 and Pond No. 3) and Hennepin Old West Polishing Pond is presented in Figure 1. No monitoring wells were installed or decommissioned from the monitoring system in 2017.

Samples were collected and analyzed in accordance with the Sampling and Analysis Plan (NRT/OBG, 2017a) prepared for the Hennepin Old West Ash Pond (Pond No. 1 and Pond No. 3) and Hennepin Old West Polishing 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 February 21, April 25, June 8, and November 15-16. 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 15-16, 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 8, 2018), respectively. Statistical evaluation of analytical data is being performed in accordance with the Statistical Analysis Plan, Hennepin Power Station, 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, Hennepin Old West Ash Pond (Pond No. 1 and Pond No. 3) and Hennepin Old West Polishing Pond, Hennepin Power Station, Hennepin, 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

Hennepin

January 12, 2018

Table 1. Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results

2:54:36 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
21	12/10/2015	4.200	97.20	49.00	0.1700	7.590	146.0
	3/9/2016	4.300	99.80	48.00	0.1500	7.330	146.0
	6/7/2016	4.310	99.40	48.00	0.1400	7.400	169.0
	9/15/2016	4.600	100.0	43.00	0.1500	7.400	167.0
	12/7/2016	4.350	106.0	44.00	0.1500	7.580	149.0
	2/21/2017	3.950	98.60	38.00	0.1400	7.400	142.0
	4/25/2017	4.170	91.50	40.00	0.1400	7.370	142.0
	6/8/2017	4.010	103.0	41.00	0.1400	7.410	163.0
	11/15/2017	4.120	104.0	41.00	0.1600	7.460	110.0
22	12/10/2015	6.010	117.0	65.00	0.1700	8.150	221.0
	3/9/2016	5.850	124.0	76.00	0.1400	7.760	261.0
	6/7/2016	6.280	137.0	76.00	0.1400	7.820	255.0
	9/15/2016	5.750	118.0	78.00	0.1500	7.790	208.0
	12/7/2016	6.720	123.0	85.00	0.1500	7.730	204.0
	2/21/2017	5.470	117.0	77.00	0.1400	7.430	197.0
	4/25/2017	5.290	101.0	81.00	0.1500	7.460	213.0
	6/8/2017	4.990	121.0	77.00	0.1400	7.650	229.0
	11/16/2017	5.350	121.0	83.00	0.1700	7.410	187.0

Table 1. Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results

2:54:36 PM

Location ID	Sample Date	TDS, mg/L
21	12/10/2015	532.0
	3/9/2016	560.0
	6/7/2016	588.0
	9/15/2016	582.0
	12/7/2016	532.0
	2/21/2017	532.0
	4/25/2017	564.0
	6/8/2017	558.0
	11/15/2017	572.0
22	12/10/2015	660.0
	3/9/2016	684.0
	6/7/2016	718.0
	9/15/2016	706.0
	12/7/2016	670.0
	2/21/2017	678.0
	4/25/2017	730.0
	6/8/2017	760.0
	11/16/2017	694.0

Hennepin

January 12, 2018

Table 1. Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results

2:54:36 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
23	12/10/2015	5.630	105.0	44.00	0.1700	7.470	323.0
	3/9/2016	7.240	136.0	68.00	0.1500	7.400	477.0
	6/7/2016	8.500	148.0	70.00	0.1500	7.450	483.0
	9/15/2016	8.250	119.0	68.00	0.1600	7.480	470.0
	12/7/2016	7.990	115.0	64.00	0.1600	7.420	408.0
	2/21/2017	7.780	114.0	58.00	0.1500	7.330	390.0
	4/25/2017	7.310	110.0	62.00	0.1600	7.270	439.0
	6/8/2017	7.040	119.0	66.00	0.1500	7.340	485.0
	11/15/2017	8.090	119.0	60.00	0.1700	7.790	420.0
24	12/10/2015	3.390	125.0	47.00	0.1800	7.590	140.0
	3/9/2016	3.190	108.0	51.00	0.1600	7.790	133.0
	6/7/2016	3.840	152.0	63.00	0.1500	7.560	135.0
	9/15/2016	2.800	139.0	69.00	0.1600	7.550	143.0
	12/7/2016	2.810	150.0	75.00	0.1500	7.420	149.0
	2/21/2017	2.740	142.0	70.00	0.1500	7.450	131.0
	4/25/2017	2.540	127.0	82.00	0.1500	7.280	140.0
	6/8/2017	2.410	141.0	77.00	0.1400	7.370	148.0
	11/15/2017	2.480	152.0	86.00	0.1600	7.670	128.0

Table 1. Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results

2:54:36 PM

Location ID	Sample Date		
		TDS, mg/L	
23	12/10/2015	858.0	
	3/9/2016	908.0	
	6/7/2016	1000.	
	9/15/2016	992.0	
	12/7/2016	820.0	
	2/21/2017	848.0	
	4/25/2017	908.0	
	6/8/2017	990.0	
	11/15/2017	944.0	
24	12/10/2015	568.0	
	3/9/2016	458.0	
	6/7/2016	564.0	
	9/15/2016	648.0	
	12/7/2016	632.0	
	2/21/2017	602.0	
	4/25/2017	676.0	
	6/8/2017	658.0	
	11/15/2017	702.0	

Hennepin

January 12, 2018

Table 1. Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results

2:54:36 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
32	12/10/2015	0.1010	93.20	42.00	0.1500	7.110	60.00
	3/8/2016	0.1010	99.10	51.00	0.1300	7.100	62.00
	6/7/2016	0.07490	94.30	47.00	0.1200	6.920	62.00
	9/15/2016	0.09800	96.00	47.00	0.1400	7.210	61.00
	12/7/2016	0.1080	95.00	48.00	0.1400	6.810	61.00
	2/21/2017	0.06810	102.0	44.00	0.1200	7.200	57.00
	4/25/2017	0.08440	84.90	51.00	0.1200	7.340	61.00
	6/8/2017	0.08590	92.10	47.00	0.1300	7.060	58.00
	11/15/2017	0.08010	107.0	57.00	0.1600	7.220	56.00
34	12/9/2015	0.1400	162.0	88.00	0.1600	7.220	106.0
	3/8/2016	0.1460	168.0	108.0	0.1500	6.950	99.00
	6/7/2016	0.1400	161.0	107.0	0.1400	6.990	98.00
	9/15/2016	0.1620	156.0	104.0	0.1500	7.080	117.0
	12/7/2016	0.1900	165.0	108.0	0.1500	7.000	115.0
	2/21/2017	0.1330	170.0	101.0	0.1500	7.100	107.0
	4/25/2017	0.1450	142.0	105.0	0.1500	6.920	113.0
	6/8/2017	0.1300	160.0	101.0	0.1400	6.990	112.0
	11/15/2017	0.1300	170.0	88.00	0.1800	7.150	94.00

Table 1. Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results

2:54:36 PM

Location ID	Sample Date	TDS, mg/L
32	12/10/2015	466.0
	3/8/2016	480.0
	6/7/2016	462.0
	9/15/2016	502.0
	12/7/2016	456.0
	2/21/2017	452.0
	4/25/2017	508.0
	6/8/2017	450.0
	11/15/2017	506.0
34	12/9/2015	786.0
	3/8/2016	776.0
	6/7/2016	830.0
	9/15/2016	780.0
	12/7/2016	772.0
	2/21/2017	740.0
	4/25/2017	790.0
	6/8/2017	752.0
	11/15/2017	710.0

Table 1. Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results

2:54:36 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
35	12/9/2015	6.350	177.0	45.00	0.2200	7.230	352.0
	3/9/2016	7.020	203.0	44.00	0.1700	7.060	465.0
	6/7/2016	5.560	161.0	45.00	0.1900	7.370	317.0
	9/15/2016	6.870	162.0	42.00	0.2000	7.350	374.0
	12/7/2016	6.600	175.0	45.00	0.2000	7.200	370.0
	2/21/2017	6.130	189.0	41.00	0.1700	7.200	381.0
	4/25/2017	6.390	159.0	43.00	0.1800	7.510	398.0
	6/8/2017	8.190	211.0	40.00	0.1800	7.090	500.0
	11/15/2017	11.10	256.0	38.00	0.2000	7.400	598.0
49	12/10/2015	1.640	133.0	73.00	0.1800	7.390	114.0
	3/9/2016	1.700	144.0	96.00	0.1500	7.190	107.0
	6/7/2016	1.500	134.0	98.00	0.1400	7.150	109.0
	9/15/2016	1.520	130.0	91.00	0.1500	7.270	105.0
	12/7/2016	1.420	131.0	105.0	0.1500	7.120	101.0
	2/21/2017	1.250	133.0	103.0	0.1400	7.150	96.00
	4/25/2017	1.210	113.0	111.0	0.1500	6.960	105.0
	6/8/2017	1.140	126.0	110.0	0.1400	6.990	104.0
	11/16/2017	1.120	134.0	100.0	0.1600	7.180	89.00

Table 1. Hennepin Old West Ash Pond and Polishing Pond: Appendix III Analytical Results

2:54:36 PM

Location ID	Sample Date	TDS, mg/L
35	12/9/2015	860.0
	3/9/2016	978.0
	6/7/2016	802.0
	9/15/2016	864.0
	12/7/2016	854.0
	2/21/2017	868.0
	4/25/2017	866.0
	6/8/2017	1010.
	11/15/2017	1260.
49	12/10/2015	662.0
	3/9/2016	640.0
	6/7/2016	684.0
	9/15/2016	706.0
	12/7/2016	676.0
	2/21/2017	630.0
	4/25/2017	678.0
	6/8/2017	662.0
	11/16/2017	686.0

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 PM

Location ID	Sample Date	As, tot, mg/L	Ba, tot, mg/L	Bc, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
21	12/10/2015	0.009800	0.1790	<0.001000	<0.001000	<0.001000	<0.001000
	3/9/2016	0.008600	0.1800	<0.001000	<0.001000	<0.001000	<0.001000
	6/7/2016	0.009100	0.1790	<0.001000	<0.001000	<0.001000	<0.001000
	9/15/2016	0.009400	0.1830	<0.001000	<0.001000	<0.001000	<0.001000
	12/7/2016	0.008900	0.1870	<0.001000	<0.001000	<0.001000	<0.001000
	2/21/2017	0.009100	0.1770	<0.001000	<0.001000	<0.001000	<0.001000
	4/25/2017	0.009200	0.1750	<0.001000	<0.001000	<0.001000	<0.001000
	6/8/2017	0.008700	0.1760	<0.001000	<0.001000	<0.001000	<0.001000
22	12/10/2015	<0.001000	0.06040	<0.001000	0.001400	0.001300	<0.001000
	3/9/2016	<0.001000	0.06340	<0.001000	0.001700	0.001400	<0.001000
	6/7/2016	<0.001000	0.06570	<0.001000	0.002300	0.001400	<0.001000
	9/15/2016	<0.001000	0.06200	<0.001000	0.003100	0.001600	<0.001000
	12/7/2016	<0.001000	0.07600	<0.001000	0.004400	0.002500	<0.001000
	2/21/2017	<0.001000	0.06280	<0.001000	0.003900	0.002000	<0.001000
	4/25/2017	<0.001000	0.06050	<0.001000	0.003600	0.001600	<0.001000
	6/8/2017	<0.001000	0.06730	<0.001000	0.003200	0.001500	<0.001000
23	12/10/2015	<0.001000	0.05300	<0.001000	<0.001000	<0.001000	<0.001000
	3/9/2016	<0.001000	0.07920	<0.001000	<0.001000	<0.001000	<0.001000

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 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
21	12/10/2015	0.1700	<0.0002000	0.01260	0.007100	<0.001000	1.180
	3/9/2016	0.1500	<0.0002000	0.01360	0.006500	<0.001000	0.1200
	6/7/2016	0.1400	<0.0002000	0.01370	0.006800	<0.001000	1.760
	9/15/2016	0.1500	<0.0002000	0.01360	0.007000	<0.001000	0.2300
	12/7/2016	0.1500	<0.0002000	0.01380	0.006600	<0.001000	1.450
	2/21/2017	0.1400	<0.0002000	0.01240	0.006300	<0.001000	2.460
	4/25/2017	0.1400	<0.0002000	0.01260	0.006500	<0.001000	0.7000
	6/8/2017	0.1400	<0.0002000	0.01380	0.005500	<0.001000	0.8600
22	12/10/2015	0.1700	<0.0002000	0.05880	0.1810	<0.001000	0.0
	3/9/2016	0.1400	<0.0002000	0.05940	0.1680	<0.001000	0.3300
	6/7/2016	0.1400	<0.0002000	0.06410	0.1740	<0.001000	0.5600
	9/15/2016	0.1500	<0.0002000	0.05950	0.1770	<0.001000	1.250
	12/7/2016	0.1500	<0.0002000	0.05520	0.2060	<0.001000	1.460
	2/21/2017	0.1400	<0.0002000	0.05540	0.1700	<0.001000	0.6200
	4/25/2017	0.1500	<0.0002000	0.05270	0.1670	<0.001000	0.8900
	6/8/2017	0.1400	<0.0002000	0.05430	0.1650	<0.001000	0.4800
23	12/10/2015	0.1700	<0.0002000	0.003600	0.008700	<0.001000	0.4700
	3/9/2016	0.1500	<0.0002000	0.003900	0.004300	<0.001000	0.05000

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 PM

Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
21	12/10/2015	<0.001000	<0.001000	<0.001000
	3/9/2016	<0.001000	<0.001000	<0.001000
	6/7/2016	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	<0.001000	<0.001000
22	12/10/2015	<0.001000	0.01160	0.0004000
	3/9/2016	<0.001000	0.01470	<0.001000
	6/7/2016	<0.001000	0.01670	<0.001000
	9/15/2016	<0.001000	0.01180	0.001400
	12/7/2016	<0.001000	0.01430	<0.001000
	2/21/2017	<0.001000	0.01070	<0.001000
	4/25/2017	<0.001000	0.009000	<0.001000
	6/8/2017	<0.001000	0.01370	<0.001000
23	12/10/2015	<0.001000	<0.001000	<0.001000
	3/9/2016	<0.001000	<0.001000	<0.001000

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 PM

Location ID	Sample Date	As, tot, mg/L	Ba, tot, mg/L	Bc, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
23	6/7/2016	<0.001000	0.05880	<0.001000	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	0.03590	<0.001000	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	0.03070	<0.001000	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	0.02890	<0.001000	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	0.02830	<0.001000	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	0.02910	<0.001000	<0.001000	<0.001000	<0.001000
24	12/10/2015	0.02790	0.04990	<0.001000	<0.001000	<0.001000	<0.001000
	3/9/2016	0.02630	0.04510	<0.001000	<0.001000	<0.001000	<0.001000
	6/7/2016	0.02750	0.05380	<0.001000	<0.001000	<0.001000	<0.001000
	9/15/2016	0.03280	0.05360	<0.001000	<0.001000	<0.001000	<0.001000
	12/7/2016	0.03430	0.05880	<0.001000	<0.001000	<0.001000	<0.001000
	2/21/2017	0.03000	0.05500	<0.001000	<0.001000	<0.001000	<0.001000
	4/25/2017	0.03190	0.05350	<0.001000	<0.001000	<0.001000	<0.001000
	6/8/2017	0.03130	0.05750	<0.001000	<0.001000	<0.001000	<0.001000
32	12/10/2015	<0.001000	0.03320	<0.001000	<0.001000	<0.001000	<0.001000
	3/8/2016	<0.001000	0.03400	<0.001000	<0.001000	<0.001000	<0.001000
	6/7/2016	<0.001000	0.02900	<0.001000	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	0.03470	<0.001000	<0.001000	0.001100	<0.001000

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 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
23	6/7/2016	0.1500	<0.0002000	0.005200	0.007100	<0.001000	0.3100
	9/15/2016	0.1600	<0.0002000	0.005200	0.01300	<0.001000	0.8300
	12/7/2016	0.1600	<0.0002000	0.005500	0.01570	<0.001000	0.4200
	2/21/2017	0.1500	<0.0002000	0.004900	0.01550	<0.001000	0.8000
	4/25/2017	0.1600	<0.0002000	0.005700	0.01620	<0.001000	0.7900
	6/8/2017	0.1500	<0.0002000	0.004800	0.01660	<0.001000	0.0
24	12/10/2015	0.1800	<0.0002000	0.02020	0.01350	<0.001000	0.7500
	3/9/2016	0.1600	<0.0002000	0.01950	0.01160	<0.001000	0.4500
	6/7/2016	0.1500	<0.0002000	0.02410	0.01170	<0.001000	1.040
	9/15/2016	0.1600	<0.0002000	0.02200	0.01090	<0.001000	1.320
	12/7/2016	0.1500	<0.0002000	0.02180	0.01070	<0.001000	0.5800
	2/21/2017	0.1500	<0.0002000	0.02020	0.01030	<0.001000	0.3800
	4/25/2017	0.1500	<0.0002000	0.02200	0.01020	<0.001000	0.3000
	6/8/2017	0.1400	<0.0002000	0.01930	0.01010	<0.001000	1.250
32	12/10/2015	0.1500	<0.0002000	0.002600	<0.001000	<0.001000	0.05000
	3/8/2016	0.1300	<0.0002000	0.002500	<0.001000	<0.001000	0.1100
	6/7/2016	0.1200	<0.0002000	0.002200	<0.001000	<0.001000	0.3000
	9/15/2016	0.1400	<0.0002000	0.003800	<0.001000	<0.001000	0.5300

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 PM

Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
23	6/7/2016	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	<0.001000	<0.001000
24	12/10/2015	<0.001000	<0.001000	<0.001000
	3/9/2016	<0.001000	<0.001000	<0.001000
	6/7/2016	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	<0.001000	<0.001000
32	12/10/2015	<0.001000	0.001000	<0.001000
	3/8/2016	<0.001000	0.001100	<0.001000
	6/7/2016	<0.001000	0.001000	<0.001000
	9/15/2016	<0.001000	<0.001000	<0.001000

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 PM

Location ID	Sample Date						
		As, tot, mg/L	Ba, tot, mg/L	Bc, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
32	12/7/2016	<0.001000	0.03870	<0.001000	<0.001000	0.001200	<0.001000
	2/21/2017	<0.001000	0.03170	<0.001000	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	0.03290	<0.001000	<0.001000	0.001700	<0.001000
	6/8/2017	<0.001000	0.03400	<0.001000	<0.001000	0.001200	<0.001000
34	12/9/2015	<0.001000	0.1230	<0.001000	<0.001000	<0.001000	<0.001000
	3/8/2016	<0.001000	0.1240	<0.001000	<0.001000	<0.001000	<0.001000
	6/7/2016	<0.001000	0.09870	<0.001000	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	0.1070	<0.001000	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	0.1560	<0.001000	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	0.1160	<0.001000	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	0.1070	<0.001000	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	0.1260	<0.001000	<0.001000	<0.001000	0.001300
35	12/9/2015	<0.001000	0.07390	<0.001000	<0.001000	<0.001000	<0.001000
	3/9/2016	<0.001000	0.05680	<0.001000	<0.001000	<0.001000	<0.001000
	6/7/2016	<0.001000	0.03710	<0.001000	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	0.03710	<0.001000	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	0.04990	<0.001000	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	0.04780	<0.001000	<0.001000	<0.001000	<0.001000

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 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
32	12/7/2016	0.1400	<0.0002000	0.002900	<0.001000	<0.001000	1.240
	2/21/2017	0.1200	<0.0002000	0.002500	<0.001000	<0.001000	0.1800
	4/25/2017	0.1200	<0.0002000	0.003400	<0.001000	<0.001000	0.0
	6/8/2017	0.1300	<0.0002000	0.002500	<0.001000	<0.001000	2.160
34	12/9/2015	0.1600	<0.0002000	0.01200	0.001600	<0.001000	0.8900
	3/8/2016	0.1500	<0.0002000	0.01320	0.001500	<0.001000	0.2600
	6/7/2016	0.1400	<0.0002000	0.01180	0.001400	<0.001000	1.590
	9/15/2016	0.1500	<0.0002000	0.01300	0.001300	<0.001000	0.9100
	12/7/2016	0.1500	<0.0002000	0.01150	0.002000	<0.001000	1.850
	2/21/2017	0.1500	<0.0002000	0.01200	0.001400	<0.001000	1.710
	4/25/2017	0.1500	<0.0002000	0.01350	0.001300	<0.001000	0.9700
	6/8/2017	0.1400	<0.0002000	0.01220	0.001500	<0.001000	1.130
35	12/9/2015	0.2200	<0.0002000	0.02450	0.09930	<0.001000	0.2500
	3/9/2016	0.1700	<0.0002000	0.02260	0.08360	<0.001000	0.5900
	6/7/2016	0.1900	<0.0002000	0.02480	0.08400	<0.001000	1.530
	9/15/2016	0.2000	<0.0002000	0.03050	0.09680	<0.001000	0.2300
	12/7/2016	0.2000	<0.0002000	0.02930	0.07290	<0.001000	0.5900
	2/21/2017	0.1700	<0.0002000	0.02260	0.05690	0.002900	0.0

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 PM

Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
32	12/7/2016	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	<0.001000	<0.001000
34	12/9/2015	<0.001000	<0.001000	<0.001000
	3/8/2016	<0.001000	<0.001000	<0.001000
	6/7/2016	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	<0.001000	<0.001000
35	12/9/2015	<0.001000	<0.001000	<0.001000
	3/9/2016	<0.001000	<0.001000	<0.001000
	6/7/2016	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	<0.001000	<0.001000

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 PM

Location ID	Sample Date						
		As, tot, mg/L	Ba, tot, mg/L	Bc, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
35	4/25/2017	<0.001000	0.03350	<0.001000	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	0.03760	<0.001000	<0.001000	<0.001000	<0.001000
49	12/10/2015	<0.001000	0.05370	<0.001000	<0.001000	0.003100	0.001800
	3/9/2016	<0.001000	0.05460	<0.001000	<0.001000	0.003300	<0.001000
	6/7/2016	<0.001000	0.05000	<0.001000	<0.001000	0.003200	<0.001000
	9/15/2016	<0.001000	0.05090	<0.001000	<0.001000	0.003800	<0.001000
	12/7/2016	<0.001000	0.05340	<0.001000	<0.001000	0.003900	<0.001000
	2/21/2017	<0.001000	0.05120	<0.001000	<0.001000	0.004000	<0.001000
	4/25/2017	<0.001000	0.04790	<0.001000	<0.001000	0.004400	<0.001000
	6/8/2017	<0.001000	0.04970	<0.001000	<0.001000	0.004700	<0.001000

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

2:54:42 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
35	4/25/2017	0.1800	<0.0002000	0.02910	0.07840	<0.001000	0.1100
	6/8/2017	0.1800	<0.0002000	0.02800	0.08340	<0.001000	0.7100
49	12/10/2015	0.1800	<0.0002000	0.02430	0.04580	<0.001000	0.3200
	3/9/2016	0.1500	<0.0002000	0.02570	0.04600	<0.001000	0.2700
	6/7/2016	0.1400	<0.0002000	0.02330	0.03860	<0.001000	0.03000
	9/15/2016	0.1500	<0.0002000	0.02700	0.04150	<0.001000	0.07000
	12/7/2016	0.1500	<0.0002000	0.02560	0.03950	<0.001000	1.120
	2/21/2017	0.1400	<0.0002000	0.02380	0.03990	<0.001000	0.4500
	4/25/2017	0.1500	<0.0002000	0.02790	0.03810	<0.001000	0.8900
	6/8/2017	0.1400	<0.0002000	0.02360	0.03860	<0.001000	0.8700

Hennepin

January 12, 2018

Table 2. Hennepin Old West Ash Pond and Polishing Pond: Appendix IV Analytical Results

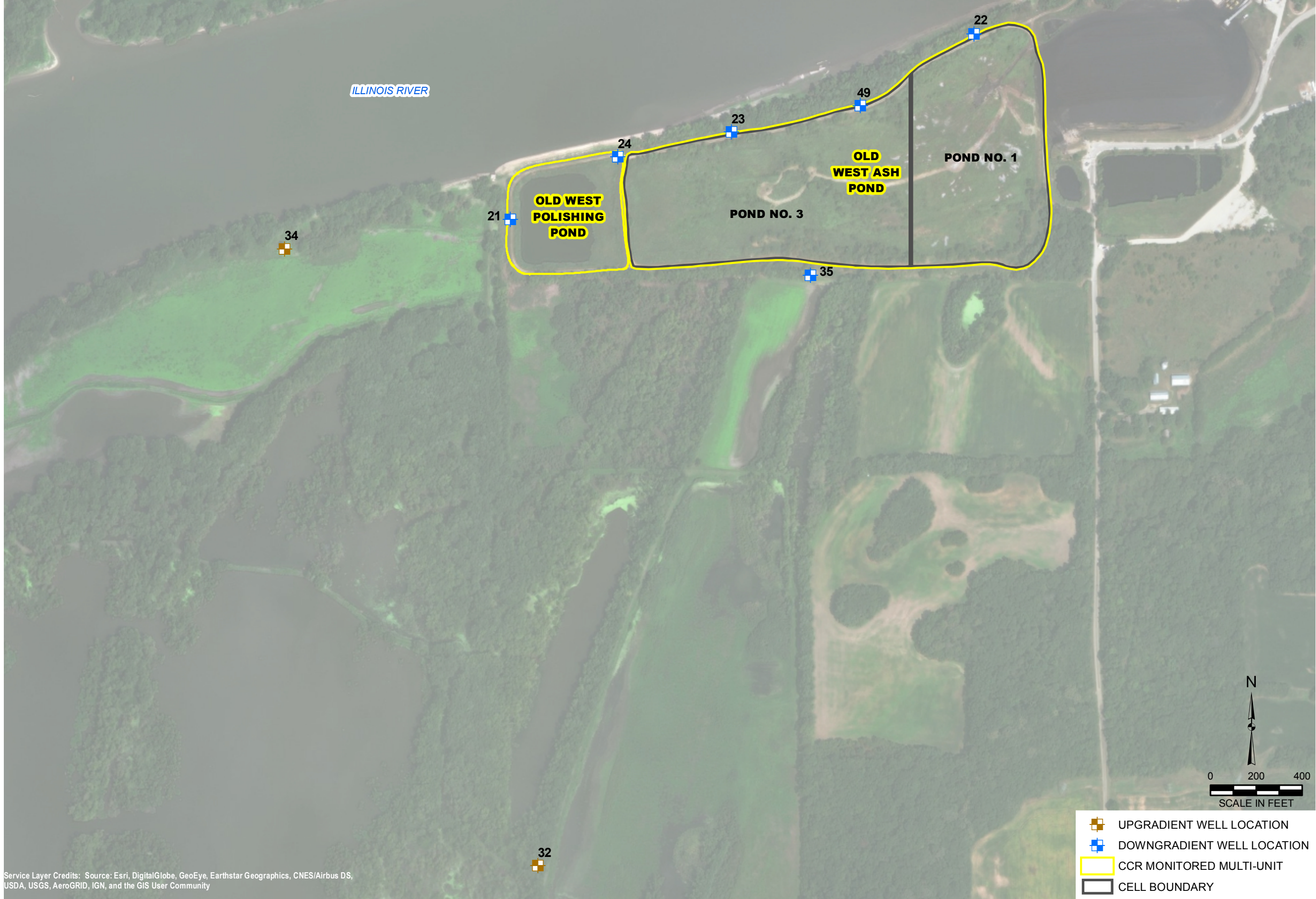
2:54:42 PM

Location ID	Sample Date			
		Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
35	4/25/2017	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	<0.001000	<0.001000
49	12/10/2015	<0.001000	<0.001000	<0.001000
	3/9/2016	<0.001000	<0.001000	<0.001000
	6/7/2016	<0.001000	<0.001000	<0.001000
	9/15/2016	<0.001000	<0.001000	<0.001000
	12/7/2016	<0.001000	<0.001000	<0.001000
	2/21/2017	<0.001000	<0.001000	<0.001000
	4/25/2017	<0.001000	<0.001000	<0.001000
	6/8/2017	<0.001000	<0.001000	<0.001000



Figures

Y:\Mapping\Projects\22\2285\MXD\2017_AnnualGWM_CAR\Figure 1_GWS_WellLoc_HenVest.mxd Author: stolzsd Date/Time: 1/29/2018, 4:02:30 PM



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

GROUNDWATER SAMPLING WELL LOCATION MAP
HENNEPIN OLD WEST ASH POND (POND NO. 1 AND POND NO.3)
AND HENNEPIN OLD WEST POLISHING POND

MULTI-UNIT ID: 804

2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DYNEGY CCR RULE GROUNDWATER MONITORING
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

DRAWN BY/DATE:
SDS 1/8/18
REVIEWED BY/DATE:
KLT 1/8/18
APPROVED BY/DATE:
SJC 1/25/18

PROJECT NO: 67719

FIGURE NO: 1



OBG

THERE'S A WAY

