

2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

**Weston Units 3 & 4 Bottom Ash Basins
Rothschild, Wisconsin**

Wisconsin Public Service Corporation

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2017 Annual Groundwater Monitoring and Corrective Action Report

Weston Units 3 & 4 Bottom Ash Basins

Rothschild, Wisconsin

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ACRONYMS AND ABBREVIATIONS

CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
mg/L	milligrams per liter
OBG	O'Brien & Gere Engineers, Inc.
SSI	Statistically Significant Increase
STD	standard units
Weston	Weston Generating Station

1 INTRODUCTION

1.1 OVERVIEW

This report has been prepared on behalf of Wisconsin Public Service Corporation (WPSC) by O'Brien & Gere Engineers, Inc. (OBG), to provide the information required by Title 40 of the Code of Federal Regulations (40 CFR) Part 257.90(e) for the Weston Generating Station (Weston) Units 3 & 4 Bottom Ash Basins located in Rothschild, Wisconsin.

In accordance with 40 CFR 257.90(e), the owner or operator of an existing coal combustion residual (CCR) unit must prepare an annual groundwater monitoring and corrective action report (Annual Report) for the preceding calendar year. The Annual Report must document the status of the groundwater monitoring and corrective action program for the CCR unit and summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project 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 40 CFR 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); and
- (5) Other information required to be included in the annual report as specified in 40 CFR 257.90 through 257.98.¹

This report provides the required information for the Weston Units 3&4 Bottom Ash Basins for calendar year 2017.

1.2 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The final two independent samples of the minimum eight required by 40 CFR 257.94(b) were collected and analyzed from each background and downgradient well before October 17, 2017, with the exception of downgradient well OW-47 as further described in Section 2.2. The other six independent samples were collected in 2016 and analyzed for all wells except for OW-47.

The first semi-annual monitoring sample for the Detection Monitoring Program was collected on October 12, 2017 from each well; the analytical data was received on October 25, 2017.

The collection of eight independent background samples and the first semi-annual detection monitoring event for Appendix III parameters were completed by October 17, 2017. Determination of statistically significant increases (SSI) of Appendix III parameters over background concentrations will be completed within 90 days of completing sample analysis, but not later than January 15, 2018.

¹ For calendar year 2017, corrective action and other information required to be included in the annual report as specified in 40CFR 257.90 through 257.98 is not applicable.

2 KEY ACTIONS COMPLETED IN 2017

2.1 SUMMARY

Two groundwater sampling events were completed in 2017 as part of an effort initiated in 2016 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 October 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 (upgradient) and downgradient monitoring wells with well identification numbers, for the Weston Units 3 & 4 Bottom Ash Basins is presented in Figure 1.

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 six independent samples are presented in Tables 1 and 2. Sample collection dates in 2017 were March 8, June 1, and October 12. Sample collection dates for previously collected six independent samples are identified in Tables 1 and 2.

During the February 17, 2016 sampling event at the Weston Units 3 & 4 Bottom Ash Basins the water quality probe malfunctioned during sample collection and field parameters, inclusive of specific conductance, pH, temperature, dissolved oxygen, oxidation-reduction potential, and turbidity, were not obtained.

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 October 12, 2017 was initiated and will be completed within 90 days of October 17, 2017 (January 15, 2018). Statistical evaluation of analytical data is being performed in accordance with the Statistical Analysis Plan, Weston Units 3 & 4 Bottom Ash Basins (Natural Resource Technology, an OBG Company, 2017).

2.2 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE PROBLEMS

Well OW-47 was constructed at a depth that resulted in intermittent periods where groundwater elevations were too low to allow for sample collection from the well. During collection of the eight independent samples from background and downgradient monitoring wells, monitoring well OW-47 could not be sampled during the August 2016, October 2016, December 2016, and March 2017 sampling events. Samples were collected from OW-47 during the February 2016, April 2016, June 2016, and June 2017 sampling events. Groundwater data from OW-47 is provided in Tables 1 and 2.

Based on observed groundwater elevation fluctuations and the inability to consistently sample monitoring well OW-47 during low water table conditions, well OW-47 was abandoned in 2017. OW-47 was abandoned on June 29, 2017 and a deeper replacement well OW-47R was constructed on June 29, 2017.

Monitoring well locations are shown on Figure 1.

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 October 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) will apply in 2018, including associated recordkeeping/notifications required by 40 CFR 257.105 through 257.108.

REFERENCES

Natural Resource Technology, an OBG Company, 2017, Statistical Analysis Plan, Weston Units 3 & 4 Bottom Ash Basins, Rothschild, Wisconsin, October 17, 2017.





Tables

Weston Units 3&4 Bottom Ash
Table 1. Weston Units 3 & 4 Bottom Ash Basins: Appendix III Analytical Results

Date Range: 02/16/2016 to 10/12/2017

Well Id	Date Sampled	Lab Id	B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
OW-45	02/17/2016	40128335001	0.0290	18.500	59.500	<0.200		12.100
	04/07/2016	40130422001	0.0360	11.900	42.800	<0.200	6.940	10.200
	06/14/2016	40133803001	0.0240	12.000	33.200	<0.200	7.220	12.700
	08/09/2016	40136463001	0.0290	11.100	12.700	0.840	7.420	23.900
	10/06/2016	40139739001	0.0310	15.000	9.800	<0.100	7.800	3.000
	12/20/2016	40143714001	0.0390	16.300	51.100	<0.100	7.710	16.300
	03/08/2017	40146663001	0.0310	17.600	45.100	<0.100	7.860	17.800
	06/01/2017	40150932001	0.0280	13.600	27.100	<0.100	8.410	15.500
	10/12/2017	40158567001	0.0351	19.600	62.400	<0.100	6.840	14.600
OW-46	02/17/2016	40128335002	0.0270	10.200	44.300	<0.200	6.890	17.300
	04/07/2016	40130422002	0.0290	12.700	64.200	<0.200	6.930	12.400
	06/14/2016	40133803002	0.0340	22.300	98.100	<0.200	7.150	17.700
	08/09/2016	40136463002	0.0330	14.900	53.900	<0.200	7.460	18.500
	10/06/2016	40139739002	0.0300	14.400	79.400	<0.500	7.820	93.600
	12/20/2016	40143714002	0.0350	15.200	60.400	<0.100	8.030	13.200
	03/08/2017	40146663002	0.0320	19.000	82.100	<0.100	5.950	14.600
	06/01/2017	40150932002	0.0350	15.800	58.200	<0.100	8.270	17.300
	10/12/2017	40158567002	0.0406	12.600	42.800	<0.100	6.560	15.800
OW-47	02/17/2016	40128335003	0.2600	58.100	79.600	<0.200		84.100
	04/07/2016	40130422003	0.2700	65.900	97.100	<0.200	6.290	115.000
	06/14/2016	40133803003	0.1700	42.900	55.300	<0.200	6.580	75.000
	06/01/2017	40150932003	0.3100	71.400	104.000	<0.100	8.010	130.000
OW-47R	10/12/2017	40158567003	0.0818	21.500	63.200	<0.100	6.900	27.700
OW-48	02/17/2016	40128335004	0.3700	76.600	81.600	<0.200		119.000
	04/07/2016	40130422004	0.5600	80.300	84.700	<0.200	6.480	126.000
	06/14/2016	40133803004	0.7300	84.500	80.200	<0.200	6.710	135.000
	08/09/2016	40136463003	0.7100	57.200	67.200	<0.200	7.080	114.000
	10/06/2016	40139739003	0.4600	52.400	76.200	<0.500	7.490	47.000
	12/20/2016	40143714003	0.7900	80.000	107.000	<0.100	7.740	135.000
	03/08/2017	40146663003	0.6900	67.900	84.100	0.110	8.070	116.000
	06/01/2017	40150932004	0.5900	56.700	70.900	<0.100	8.370	106.000
	10/12/2017	40158567004	0.4210	53.400	86.400	<0.100	6.900	93.200
OW-49	02/17/2016	40128335005	0.3800	41.400	69.200	<0.200		75.700
	04/07/2016	40130422005	0.2500	31.200	64.100	<0.200	6.480	58.200
	06/14/2016	40133803005	0.3600	49.000	72.700	<0.200	6.710	89.700
	08/09/2016	40136463004	0.5300	59.400	81.700	<0.200	6.940	109.000

Weston Units 3&4 Bottom Ash
Table 1. Weston Units 3 & 4 Bottom Ash Basins: Appendix III Analytical Results

Date Range: 02/16/2016 to 10/12/2017

			B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
OW-49	10/06/2016	40139739004	0.3200	35.300	260.000	<0.500	7.540	64.500
	12/20/2016	40143714004	0.5000	66.000	91.600	<0.100	7.650	122.000
	03/08/2017	40146663004	0.5100	74.500	109.000	<0.100	8.040	128.000
	06/01/2017	40150932005	0.4500	67.000	83.500	<0.100	8.260	112.000
	10/12/2017	40158567005	0.4400	76.000	103.000	<0.100	6.800	145.000
OW-50	02/17/2016	40128335006	0.0470	31.000	50.900	<0.200		14.400
	04/07/2016	40130422006	0.0420	27.200	52.200	<0.200	6.150	13.800
	06/14/2016	40133803006	0.0400	32.200	52.100	<0.200	6.470	12.800
	08/09/2016	40136463005	0.0390	32.300	55.400	<0.200	6.750	12.600
	10/06/2016	40139739005	0.0390	30.600	49.600	<0.100	7.130	44.400
	12/20/2016	40143714005	0.0400	29.600	52.700	<0.100	7.220	14.800
	03/08/2017	40146663005	0.0370	31.200	58.300	<0.100	7.650	15.800
	06/01/2017	40150932006	0.0380	30.900	58.700	<0.100	7.950	16.000
	10/12/2017	40158567006	0.0374	32.400	74.300	<0.100	6.210	14.200

Weston Units 3&4 Bottom Ash
Table 1. Weston Units 3 & 4 Bottom Ash Basins: Appendix III Analytical Results

Date Range: 02/16/2016 to 10/12/2017

Well Id	Date Sampled	Lab Id	TDS, mg/L
OW-45	02/17/2016	40128335001	202.000
	04/07/2016	40130422001	164.000
	06/14/2016	40133803001	146.000
	08/09/2016	40136463001	136.000
	10/06/2016	40139739001	184.000
	12/20/2016	40143714001	180.000
	03/08/2017	40146663001	158.000
	06/01/2017	40150932001	130.000
	10/12/2017	40158567001	186.000
	OW-46	02/17/2016	40128335002
04/07/2016		40130422002	186.000
06/14/2016		40133803002	274.000
08/09/2016		40136463002	184.000
10/06/2016		40139739002	188.000
12/20/2016		40143714002	174.000
03/08/2017		40146663002	206.000
06/01/2017		40150932002	170.000
10/12/2017		40158567002	164.000
OW-47		02/17/2016	40128335003
	04/07/2016	40130422003	462.000
	06/14/2016	40133803003	266.000
	06/01/2017	40150932003	452.000
OW-47R	10/12/2017	40158567003	204.000
OW-48	02/17/2016	40128335004	400.000
	04/07/2016	40130422004	414.000
	06/14/2016	40133803004	426.000
	08/09/2016	40136463003	374.000
	10/06/2016	40139739003	342.000
	12/20/2016	40143714003	460.000
	03/08/2017	40146663003	362.000
	06/01/2017	40150932004	330.000
	10/12/2017	40158567004	332.000
	OW-49	02/17/2016	40128335005
04/07/2016		40130422005	276.000
06/14/2016		40133803005	334.000
08/09/2016		40136463004	400.000

Weston Units 3&4 Bottom Ash
Table 1. Weston Units 3 & 4 Bottom Ash Basins: Appendix III Analytical Results

Date Range: 02/16/2016 to 10/12/2017

			TDS, mg/L
OW-49	10/06/2016	40139739004	282.000
	12/20/2016	40143714004	410.000
	03/08/2017	40146663004	456.000
	06/01/2017	40150932005	404.000
	10/12/2017	40158567005	466.000
OW-50	02/17/2016	40128335006	210.000
	04/07/2016	40130422006	198.000
	06/14/2016	40133803006	212.000
	08/09/2016	40136463005	248.000
	10/06/2016	40139739005	226.000
	12/20/2016	40143714005	178.000
	03/08/2017	40146663005	190.000
	06/01/2017	40150932006	238.000
10/12/2017	40158567006	246.000	

Weston Units 3&4 Bottom Ash
Table 2. Weston Units 3 & 4 Bottom Ash Basins: Appendix IV Analytical Results

Date Range: 02/16/2016 to 10/10/2017

Well Id	Date Sampled	Lab Id	As, tot, mg/L	Ba, tot, mg/L	Be, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
OW-45	02/17/2016	40128335001	<0.000110	0.017700	<0.000045	<0.000027	<0.000052	0.00040
	04/07/2016	40130422001	<0.000460	0.014000	<0.000150	<0.000064	<0.000110	<0.00070
	06/14/2016	40133803001	<0.000099	0.012300	<0.000130	<0.000089	0.000067	0.00048
	08/09/2016	40136463001	0.000260	0.011600	<0.000130	0.000240	0.000290	0.00088
	10/06/2016	40139739001	<0.000099	0.016200	<0.000130	<0.000089	<0.000036	0.00045
	12/20/2016	40143714001	0.000210	0.019000	<0.000130	0.000160	0.000270	0.00089
	03/08/2017	40146663001	<0.000099	0.015600	<0.000130	<0.000089	0.000041	0.00055
	06/01/2017	40150932001	<0.000280	0.012200	<0.001200	<0.001300	<0.001400	<0.00250
OW-46	02/17/2016	40128335002	0.000270	0.015000	<0.000045	<0.000027	0.000300	0.00140
	04/07/2016	40130422002	0.000170	0.016900	<0.000030	<0.000013	0.000100	0.00073
	06/14/2016	40133803002	0.000410	0.031000	<0.000130	<0.000089	0.000380	0.00160
	08/09/2016	40136463002	0.000330	0.019400	<0.000130	0.000170	0.000260	0.00110
	10/06/2016	40139739002	0.000300	0.017400	<0.000130	0.000094	0.000230	0.00130
	12/20/2016	40143714002	0.001400	0.043600	0.000160	0.000110	0.002000	0.00720
	03/08/2017	40146663002	<0.000099	0.021900	<0.000130	<0.000089	0.000150	0.00110
	06/01/2017	40150932002	<0.000280	0.018100	<0.001200	<0.001300	<0.001400	<0.00250
OW-47	02/17/2016	40128335003	0.000130	0.041400	<0.000045	<0.000027	0.000160	0.00069
	04/07/2016	40130422003	0.000210	0.055500	<0.000030	0.000024	0.000180	0.00066
	06/14/2016	40133803003	<0.000099	0.032400	<0.000130	<0.000089	0.000065	0.00053
	06/01/2017	40150932003	<0.000280	0.054100	<0.001200	<0.001300	<0.001400	<0.00250
OW-48	02/17/2016	40128335004	0.000290	0.066500	<0.000045	<0.000027	0.000540	0.00190
	04/07/2016	40130422004	0.000290	0.067500	<0.000030	<0.000013	0.000350	0.00130
	06/14/2016	40133803004	<0.000099	0.071400	<0.000130	<0.000089	0.000100	0.00054
	08/09/2016	40136463003	<0.000099	0.065400	<0.000130	<0.000089	0.000092	0.00077
	10/06/2016	40139739003	0.000810	0.058000	0.000430	0.000630	0.000670	0.00120
	12/20/2016	40143714003	0.002400	0.204000	<0.000630	<0.000440	0.010400	0.03690
	03/08/2017	40146663003	0.000120	0.068900	<0.000130	<0.000089	0.000530	0.00860
	06/01/2017	40150932004	0.000420	0.054700	<0.001200	<0.001300	<0.001400	<0.00250
OW-49	02/17/2016	40128335005	<0.000110	0.044800	<0.000045	<0.000027	0.000110	0.00059
	04/07/2016	40130422005	0.000170	0.042300	<0.000030	0.000013	0.000082	0.00063
	06/14/2016	40133803005	0.000120	0.056000	<0.000130	<0.000089	0.000130	0.00073
	08/09/2016	40136463004	<0.000099	0.068400	<0.000130	<0.000089	0.000046	0.00080
	10/06/2016	40139739004	0.000320	0.039100	0.000190	0.000270	0.000300	0.00082
	12/20/2016	40143714004	0.000420	0.082800	<0.000130	<0.000089	0.000620	0.00240
	03/08/2017	40146663004	<0.000099	0.080900	<0.000130	<0.000089	0.000076	0.00085
	06/01/2017	40150932005	<0.000280	0.074300	<0.001200	<0.001300	<0.001400	<0.00250

Weston Units 3&4 Bottom Ash
Table 2. Weston Units 3 & 4 Bottom Ash Basins: Appendix IV Analytical Results

Date Range: 02/16/2016 to 10/10/2017

			As, tot, mg/L	Ba, tot, mg/L	Be, tot, mg/L	Cd,tot, mg/L	Co, tot, mg/L	Cr, tot, mg/L
OW-50	02/17/2016	40128335006	<0.000110	0.024500	<0.000045	<0.000027	0.000130	0.00071
	04/07/2016	40130422006	0.000150	0.025200	<0.000030	<0.000013	0.000078	0.00062
	06/14/2016	40133803006	0.000110	0.025800	<0.000130	<0.000089	0.000150	0.00076
	08/09/2016	40136463005	<0.000099	0.026500	<0.000130	<0.000089	0.000056	0.00079
	10/06/2016	40139739005	<0.000099	0.026200	<0.000130	<0.000089	0.000066	0.00058
	12/20/2016	40143714005	0.001800	0.059500	0.000150	<0.000089	0.003200	0.00810
	03/08/2017	40146663005	<0.000099	0.028000	<0.000130	<0.000089	0.000220	0.00100
	06/01/2017	40150932006	<0.000280	0.029400	<0.001200	<0.001300	<0.001400	<0.00250

Weston Units 3&4 Bottom Ash
Table 2. Weston Units 3 & 4 Bottom Ash Basins: Appendix IV Analytical Results

Date Range: 02/16/2016 to 10/10/2017

Well Id	Date Sampled	Lab Id	F, tot, mg/L	Hg, tot, mg/L	Li, tot, mg/L	Mo, tot, mg/L	Pb, tot, mg/L	Ra 226+228, PCi/L
OW-45	02/17/2016	40128335001	<0.200	<0.00010	0.00014	0.000140	<0.000033	0.5150
	04/07/2016	40130422001	<0.200	<0.00018	0.00160	<0.000320	<0.000058	0.4960
	06/14/2016	40133803001	<0.200	<0.00013	0.00014	0.000260	0.000059	0.8610
	08/09/2016	40136463001	0.840	<0.00013	0.00020	0.000610	0.000340	0.8510
	10/06/2016	40139739001	<0.100	<0.00013	<0.00011	0.000190	<0.000040	0.8670
	12/20/2016	40143714001	<0.100	<0.00013	0.00023	0.000320	0.000250	0.0875
	03/08/2017	40146663001	<0.100	<0.00013	<0.00011	0.000140	<0.000040	0.4430
	06/01/2017	40150932001	<0.100	<0.00013	<0.00014	<0.001400	<0.000200	0.0608
OW-46	02/17/2016	40128335002	<0.200	<0.00010	0.00031	0.000240	0.000380	0.7600
	04/07/2016	40130422002	<0.200	<0.00018	0.00051	0.000140	0.000120	0.2552
	06/14/2016	40133803002	<0.200	<0.00013	0.00031	0.000200	0.000440	0.1780
	08/09/2016	40136463002	<0.200	<0.00013	0.00020	0.000470	0.000300	0.9140
	10/06/2016	40139739002	<0.500	<0.00013	0.00024	0.000370	0.000220	0.3000
	12/20/2016	40143714002	<0.100	<0.00013	0.00140	0.000580	0.002400	0.2661
	03/08/2017	40146663002	<0.100	<0.00013	0.00018	0.000200	0.000170	0.3230
	06/01/2017	40150932002	<0.100	<0.00013	<0.00014	<0.001400	<0.000200	0.7290
OW-47	02/17/2016	40128335003	<0.200	<0.00010	0.00046	<0.000074	0.000130	1.5030
	04/07/2016	40130422003	<0.200	<0.00018	0.00071	<0.000065	0.000099	0.5400
	06/14/2016	40133803003	<0.200	<0.00013	0.00030	<0.000070	<0.000040	1.6180
	06/01/2017	40150932003	<0.100	<0.00013	0.00031	<0.001400	<0.000200	0.6560
OW-48	02/17/2016	40128335004	<0.200	<0.00010	0.00075	0.003100	0.000280	0.3460
	04/07/2016	40130422004	<0.200	<0.00018	0.00074	0.004200	0.000280	0.4630
	06/14/2016	40133803004	<0.200	<0.00013	0.00031	0.004000	<0.000040	0.0000
	08/09/2016	40136463003	<0.200	<0.00013	0.00032	0.003900	0.000068	1.7350
	10/06/2016	40139739003	<0.500	<0.00013	0.00066	0.004500	0.000720	0.4436
	12/20/2016	40143714003	<0.100	<0.00013	0.01070	0.011000	0.004900	3.6540
	03/08/2017	40146663003	0.110	<0.00013	0.00084	0.007800	0.000320	0.5460
	06/01/2017	40150932004	<0.100	<0.00013	0.00048	0.007400	0.000250	1.2400
OW-49	02/17/2016	40128335005	<0.200	<0.00010	0.00031	0.001200	0.000120	0.6600
	04/07/2016	40130422005	<0.200	<0.00018	0.00065	0.001100	0.000069	1.3750
	06/14/2016	40133803005	<0.200	<0.00013	0.00032	0.000950	0.000130	0.4080
	08/09/2016	40136463004	<0.200	<0.00013	0.00031	0.000860	<0.000040	0.2300
	10/06/2016	40139739004	<0.500	<0.00013	0.00048	0.001500	0.000280	0.3613
	12/20/2016	40143714004	<0.100	<0.00013	0.00070	0.000990	0.000680	1.4930
	03/08/2017	40146663004	<0.100	<0.00013	0.00035	0.001400	0.000078	0.5160
	06/01/2017	40150932005	<0.100	<0.00013	0.00045	<0.001400	<0.000200	0.9140

Weston Units 3&4 Bottom Ash
Table 2. Weston Units 3 & 4 Bottom Ash Basins: Appendix IV Analytical Results

Date Range: 02/16/2016 to 10/10/2017

			F, tot, mg/L	Hg, tot, mg/L	Li, tot, mg/L	Mo, tot, mg/L	Pb, tot, mg/L	Ra 226+228, PCi/L
OW-50	02/17/2016	40128335006	<0.200	<0.00010	0.00045	<0.000074	0.000160	0.5710
	04/07/2016	40130422006	<0.200	<0.00018	0.00069	<0.000065	0.000079	0.7410
	06/14/2016	40133803006	<0.200	<0.00013	0.00043	<0.000070	0.000180	0.4280
	08/09/2016	40136463005	<0.200	<0.00013	0.00040	<0.000070	<0.000040	0.9990
	10/06/2016	40139739005	<0.100	<0.00013	0.00044	0.000130	0.000073	0.5537
	12/20/2016	40143714005	<0.100	<0.00013	0.00230	0.000360	0.003500	0.9200
	03/08/2017	40146663005	<0.100	<0.00013	0.00047	0.000300	0.000320	0.5470
	06/01/2017	40150932006	<0.100	<0.00013	0.00050	<0.001400	0.000240	0.1660

Weston Units 3&4 Bottom Ash
Table 2. Weston Units 3 & 4 Bottom Ash Basins: Appendix IV Analytical Results

Date Range: 02/16/2016 to 10/10/2017

Well Id	Date Sampled	Lab Id	Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
OW-45	02/17/2016	40128335001	<0.000066	0.00047	<0.000018
	04/07/2016	40130422001	<0.000160	<0.00065	<0.000036
	06/14/2016	40133803001	<0.000073	0.00046	0.000190
	08/09/2016	40136463001	0.000320	0.00071	0.001100
	10/06/2016	40139739001	<0.000073	0.00026	<0.000140
	12/20/2016	40143714001	0.000180	0.00065	0.000210
	03/08/2017	40146663001	<0.000073	0.00027	<0.000140
	06/01/2017	40150932001	<0.000150	0.00068	<0.000140
OW-46	02/17/2016	40128335002	<0.000066	<0.00016	<0.000018
	04/07/2016	40130422002	<0.000032	0.00017	0.000011
	06/14/2016	40133803002	0.000082	0.00034	<0.000140
	08/09/2016	40136463002	0.000280	0.00065	0.000960
	10/06/2016	40139739002	0.000140	0.00050	0.000170
	12/20/2016	40143714002	0.000240	0.00085	0.000190
	03/08/2017	40146663002	<0.000073	<0.00021	<0.000140
	06/01/2017	40150932002	<0.000150	<0.00032	<0.000140
OW-47	02/17/2016	40128335003	<0.000066	0.00075	<0.000018
	04/07/2016	40130422003	<0.000032	0.00110	<0.000007
	06/14/2016	40133803003	<0.000073	0.00090	<0.000140
	06/01/2017	40150932003	<0.000150	0.00100	<0.000140
OW-48	02/17/2016	40128335004	<0.000066	0.00091	<0.000018
	04/07/2016	40130422004	<0.000032	0.00081	<0.000007
	06/14/2016	40133803004	<0.000073	0.00110	<0.000140
	08/09/2016	40136463003	<0.000073	0.00160	0.000300
	10/06/2016	40139739003	0.000640	0.00160	0.000790
	12/20/2016	40143714003	<0.000360	0.00250	<0.000710
	03/08/2017	40146663003	<0.000073	0.00082	<0.000140
	06/01/2017	40150932004	0.000270	0.00130	0.000380
OW-49	02/17/2016	40128335005	<0.000066	0.00034	<0.000018
	04/07/2016	40130422005	<0.000032	0.00034	<0.000007
	06/14/2016	40133803005	<0.000073	0.00067	<0.000140
	08/09/2016	40136463004	<0.000073	0.00120	0.000190
	10/06/2016	40139739004	0.000270	0.00054	0.000310
	12/20/2016	40143714004	0.000096	0.00100	<0.000140
	03/08/2017	40146663004	<0.000073	0.00061	<0.000140
	06/01/2017	40150932005	<0.000150	0.00089	0.000220

Weston Units 3&4 Bottom Ash
Table 2. Weston Units 3 & 4 Bottom Ash Basins: Appendix IV Analytical Results

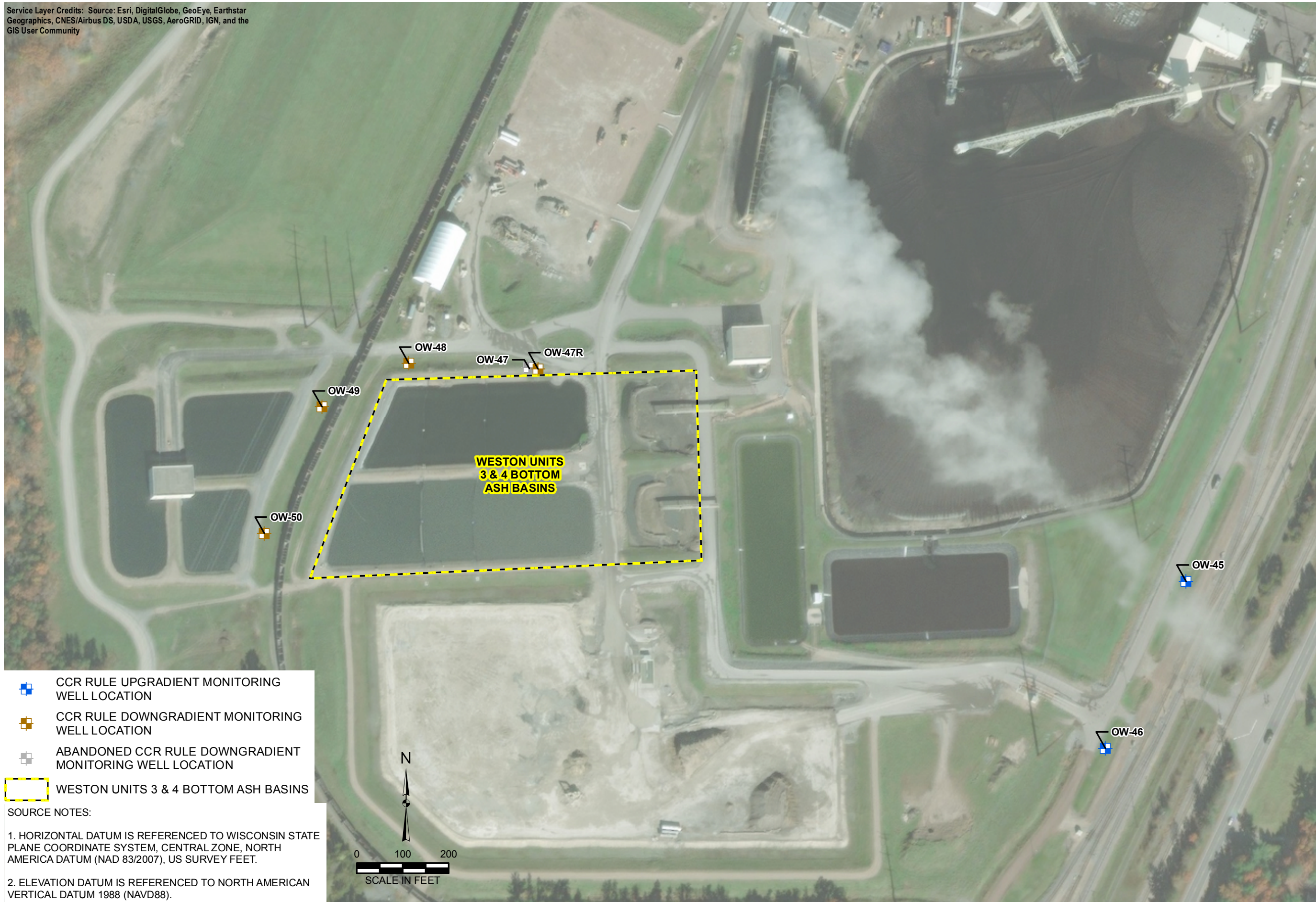
Date Range: 02/16/2016 to 10/10/2017





			Sb, tot, mg/L	Se, tot, mg/L	Tl, tot, mg/L
OW-50	02/17/2016	40128335006	<0.000066	<0.00016	<0.000018
	04/07/2016	40130422006	<0.000032	<0.00013	<0.000007
	06/14/2016	40133803006	<0.000073	<0.00021	<0.000140
	08/09/2016	40136463005	<0.000073	<0.00021	0.000150
	10/06/2016	40139739005	<0.000073	<0.00021	<0.000140
	12/20/2016	40143714005	0.000200	0.00038	<0.000140
	03/08/2017	40146663005	<0.000073	<0.00021	<0.000140
	06/01/2017	40150932006	<0.000150	<0.00032	<0.000140



Figures

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-  CCR RULE UPGRADIENT MONITORING WELL LOCATION
-  CCR RULE DOWNGRAIDENT MONITORING WELL LOCATION
-  ABANDONED CCR RULE DOWNGRAIDENT MONITORING WELL LOCATION
-  WESTON UNITS 3 & 4 BOTTOM ASH BASINS

SOURCE NOTES:

1. HORIZONTAL DATUM IS REFERENCED TO WISCONSIN STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICA DATUM (NAD 83/2007), US SURVEY FEET.
2. ELEVATION DATUM IS REFERENCED TO NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).



DRAWN BY/DATE:
SDS 1/17/18
REVIEWED BY/DATE:
GRL 1/17/18
APPROVED BY DATE:
GRL 1/29/18

GROUNDWATER SAMPLING WELL LOCATION MAP
2017 ANNUAL GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT
WESTON GENERATING STATION UNITS 3 & 4 BOTTOM ASH BASINS
ROTHSCHILD, WISCONSIN

PROJECT NO: 67985

FIGURE NO: 1



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THERE'S A WAY

