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2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PLEASANT PRAIRIE POWER PLANT ASH LANDFILL

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2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL

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Date	**January 31, 2021**
Prepared by	**Glenn R. Luke, PE**
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ACRONYMS AND ABBREVIATIONS

ASD	Alternate Source Demonstration
B	Boron
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
mg/L	milligrams per liter
NRT	Natural Resource Technology, an OBG Company
OBG	O'Brien & Gere Engineers, Inc.
P4	Pleasant Prairie Power Plant
Ramboll	Ramboll Americas Engineering Solutions, Inc
SSI	Statistically Significant Increase
TBD	To be Determined

2020 MONITORING PROGRAM SUMMARY

The Pleasant Prairie Power Plant (P4) Ash Landfill operated in the Detection Monitoring Program in accordance with Title 40 of the Code of Federal Regulations (40 CFR) 257.94 for the calendar year 2020. In 2020, groundwater analytical data was evaluated for statistically significant increases (SSIs) over background concentrations for Appendix III constituents in groundwater monitoring wells at the P4 Ash Landfill. The following constituents and wells had SSIs detected in 2020:

- pH (low) – W76

An Alternate Source Demonstration (ASD) prepared in 2020 provided justification that the SSI observed during the Detection Monitoring Program was not due to a release from the CCR unit but was either from an error in sampling or analysis or from naturally occurring conditions (e.g. natural variation in groundwater quality).

The P4 Ash Landfill remains in the Detection Monitoring Program in accordance with 40 CFR 257.94.

1. INTRODUCTION

This report has been prepared on behalf of We Energies by Ramboll Americas Engineering Solutions, Inc. (Ramboll) to provide the information required by Title 40 of the Code of Federal Regulations (40 CFR) 257.90(e) for the Pleasant Prairie Power Plant (P4) Ash Landfill located in Pleasant Prairie, 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.

This report provides the required information for the P4 Ash Landfill for calendar year 2020.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The P4 Ash Landfill remained in Detection Monitoring (40 CFR 257.94) during 2020. Detection Monitoring Program sampling dates and parameters collected are provided in Table 1. Analytical results from the two sampling rounds collected and those statistically analyzed in 2020 are included in Table 2.

In accordance with 40 CFR 257.93(h)(2), the *Statistical Analysis Plan, Pleasant Prairie Power Plant Ash Landfill* (Natural Resource Technology, an OBG Company, 2017), and within 90 days of completing sampling and analysis (receipt of data); analytical data was evaluated for statistically significant increases (SSIs) over background concentrations for Appendix III constituents in groundwater monitoring wells at the P4 Ash Landfill. SSIs and the SSI determination dates are provided in Table 1.

40 CFR 257.94(e)(2) allows 90 days to demonstrate that a SSI was caused by a source other than the CCR unit or resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (i.e., an alternate source demonstration). An alternate source demonstration (ASD) was completed for the P4 Ash Landfill on the date provided in Table 1. The ASD document for 2020 is provided in Appendix A.

Table 1. Detection Monitoring Program Summary

Detection Round	Sampling Date	Parameters Collected	Data Received	SSI Determination Date	SSI Parameters	Resample Date	ASD Date
5	10/29/19-10/30/19	Appendix III	12/2/19	3/1/20	pH (low)	NA	5/30/20
6	4/14/20-4/15/20	Appendix III	5/28/20	8/26/20	None	NA	NA
7	10/12/20-10/13/20	Appendix III	11/11/20	TBD Before 2/9/21	TBD	TBD	TBD

NA – Not applicable

TBD – To Be Determined

The P4 Ash Landfill remains in the Detection Monitoring Program in accordance with 40 CFR 257.94.

3. KEY ACTIONS COMPLETED IN 2020

Two groundwater sampling events were completed in 2020 as part of the Detection Monitoring Program, Rounds 6 and 7. One groundwater sample was collected from each background and downgradient well in the monitoring system during each event. Sampling dates are summarized in Table 1. All samples were collected and analyzed in accordance with the *Sampling and Analysis Plan* (Natural Resource Technology, Inc., 2015) prepared for the P4 Ash Landfill. All monitoring data obtained under 40 CFR 257.90 through 257.98 (as applicable) in 2020 are presented in Table 2.

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 P4 Ash Landfill is presented on Figure 1. There were no changes to the monitoring system in 2020.

Statistical evaluation, including SSI determinations, of analytical data from the Detection Monitoring Program for October 29-30, 2019 (Detection Monitoring Round 5) and April 14-15, 2020 (Detection Monitoring Round 6) were completed in 2020 and within 90 days of receipt of the analytical data. Statistical evaluation of analytical data was performed in accordance with the *Statistical Analysis Plan, Pleasant Prairie Power Plant Ash Landfill* (Natural Resource Technology, an OBG Company, 2017).

An Alternate Source Demonstration for Detection Monitoring Round 5, dated May30, 2020, was prepared for the P4 Ash Landfill in 2020 and is provided in Appendix A. The ASD was prepared in accordance with 40 CFR 257.94(e)(2) and provides a description, data, and pertinent information to support an alternate source for the well and parameter with a SSI at the P4 Ash Landfill. The ASD provides justification that the SSI observed during the Detection Monitoring Program was not due to a release from the CCR unit but was either from an error in sampling or analysis or from naturally occurring conditions (e.g. natural variation in groundwater quality).

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE PROBLEMS

No problems were encountered during implementation of the Detection Monitoring Program during 2020. Groundwater samples were collected and analyzed in accordance with the *Sampling and Analysis Plan* (Natural Resource Technology, Inc., 2015) prepared for the P4 Ash Landfill, and all data was accepted.

5. KEY ACTIVITIES FOR 2021

The following key activities are planned for 2021:

- Continuation of the Detection Monitoring Program with semi-annual sampling scheduled for the 2nd and 4th quarters of 2021.
- Complete statistical evaluation of analytical data from the downgradient wells, using background data to determine whether a SSI over background concentrations has occurred for Appendix III parameters.
- 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 the SSI determination and will be included in the annual groundwater monitoring and corrective action report for 2021.
  - 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 2021, including associated recordkeeping/notifications required by 40 CFR 257.105 through 257.108.

6. REFERENCES

Natural Resource Technology, Inc., 2015, *Sampling and Analysis Plan-Revision 1, Pleasant Prairie Power Plant Ash Landfill, Pleasant Prairie, Wisconsin, December 8, 2015.*

Natural Resource Technology, an OBG Company, 2017, *Statistical Analysis Plan, Pleasant Prairie Power Plant Ash Landfill, Pleasant Prairie, Wisconsin, October 17, 2017.*

TABLES

Pleasant Prairie CCR
Table 2. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2019 to 12/31/2020

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
W17BR	10/30/2019	AE41676	0.6400	12.0000	9.2	1.40	8.30	21.0
	4/14/2020	AE45192	0.6400	12.0000	9.2	1.30	8.46	21.0
	10/13/2020	AE49060	0.6080	12.4000	9.5	1.40	8.08	22.0
W20B	10/29/2019	AE41671	0.3100	51.0000	13.0	0.84	7.50	92.0
	4/14/2020	AE45186	0.3000	48.0000	8.6	0.58	7.72	65.0
	10/13/2020	AE49055	0.2930	59.4000	14.0	0.68	7.41	94.0
W20D	10/29/2019	AE41670	0.4400	25.0000	10.0	1.00	7.50	150.0
	4/14/2020	AE45185	0.4300	45.0000	11.0	1.00	7.74	170.0
	10/12/2020	AE49054	0.4300	25.1000	10.0	1.00	7.84	160.0
W31B	10/29/2019	AE41672	0.0890	89.0000	40.0	0.36	7.50	120.0
	4/14/2020	AE45187	0.0900	96.0000	38.0	0.33	7.57	120.0
	10/12/2020	AE49053	0.0864	95.2000	43.0	0.34	7.37	110.0
W73	10/30/2019	AE41678	0.4400	18.0000	11.0	1.00	7.60	120.0
	4/15/2020	AE45193	0.4300	20.0000	10.0	0.98	7.98	120.0
	10/13/2020	AE49062	0.4100	21.1000	11.0	1.00	8.05	130.0
W74	10/30/2019	AE41679	0.4100	21.0000	12.0	1.10	7.30	150.0
	4/14/2020	AE45188	0.3900	19.0000	12.0	0.98	8.01	150.0
	10/13/2020	AE49056	0.3890	20.0000	12.0	0.94	7.81	150.0
W75	10/30/2019	AE41677	0.4300	20.0000	8.5	1.00	8.00	120.0
	4/14/2020	AE45190	0.4200	20.0000	8.6	0.99	8.33	120.0
	10/13/2020	AE49057	0.3950	20.5000	8.4	0.99	8.01	130.0
W76	10/30/2019	AE41674	0.4400	19.0000	10.0	1.00	6.90	100.0
	4/14/2020	AE45191	0.4400	19.0000	10.0	1.00	8.50	130.0

Pleasant Prairie CCR
Table 2. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2019 to 12/31/2020

			B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
W76	10/13/2020	AE49058	0.4150	19.2000	10.0	0.99	8.19	130.0
W77	10/29/2019	AE41673	0.4200	25.0000	9.1	1.10	7.30	110.0
	4/15/2020	AE45194	0.4200	26.0000	8.8	1.10	7.63	130.0
	10/13/2020	AE49061	0.4070	27.0000	9.0	1.00	7.50	130.0

Pleasant Prairie CCR
Table 2. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2019 to 12/31/2020

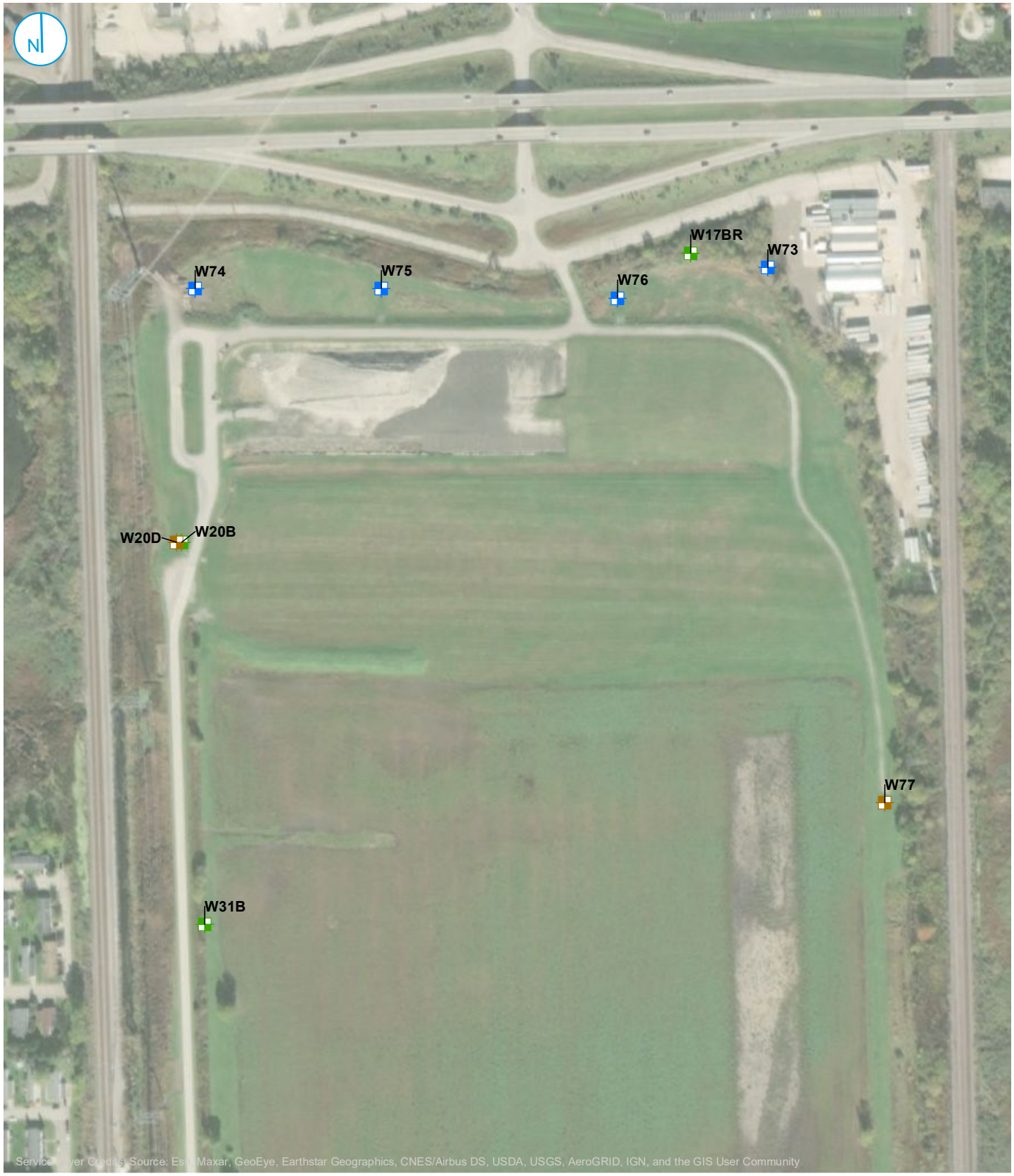
Well Id	Date Sampled	Lab Id	TDS, mg/L
W17BR	10/30/2019	AE41676	140.0
	4/14/2020	AE45192	120.0
	10/13/2020	AE49060	210.0
W20B	10/29/2019	AE41671	360.0
	4/14/2020	AE45186	230.0
	10/13/2020	AE49055	440.0
W20D	10/29/2019	AE41670	340.0
	4/14/2020	AE45185	350.0
	10/12/2020	AE49054	380.0
W31B	10/29/2019	AE41672	490.0
	4/14/2020	AE45187	510.0
	10/12/2020	AE49053	590.0
W73	10/30/2019	AE41678	310.0
	4/15/2020	AE45193	260.0
	10/13/2020	AE49062	350.0
W74	10/30/2019	AE41679	350.0
	4/14/2020	AE45188	340.0
	10/13/2020	AE49056	350.0
W75	10/30/2019	AE41677	290.0
	4/14/2020	AE45190	280.0
	10/13/2020	AE49057	310.0
W76	10/30/2019	AE41674	290.0
	4/14/2020	AE45191	180.0

Pleasant Prairie CCR
Table 2. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2019 to 12/31/2020

			TDS, mg/L
W76	10/13/2020	AE49058	310.0
W77	10/29/2019	AE41673	360.0
	4/15/2020	AE45194	300.0
	10/13/2020	AE49061	370.0

FIGURES



CCR RULE DOWNGRADIENT MONITORING WELL LOCATION

CCR RULE UPGRADIENT MONITORING WELL LOCATION

CCR RULE POTENTIAL CONTAMINANT PATHWAY MONITORING WELL

0 150 300 Feet

GROUNDWATER SAMPLING WELL LOCATION MAP

2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
WE ENERGIES P4 ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

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APPENDIX A
ALTERNATE SOURCE DEMONSTRATIONS (ASD): *40 CFR SECTION 257.94(E)(2) ALTERNATE SOURCE DEMONSTRATION (ASD) DETECTION MONITORING ROUND 5, WE ENERGIES PLEASANT PRAIRIE POWER PLANT (P4) ASH LANDFILL*

RAMBOLL

ENVIRONMENT
& HEALTH

Mr. Tim Muehlfeld
WEC Business Services, LLC
333 W. Everett Street – A231
Milwaukee, WI 53203

RE: 40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 5, We Energies Pleasant Prairie Power Plant (P4) Ash Landfill

Dear Mr. Muehlfeld:

Date May 30, 2020

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This document has been prepared by O'Brien & Gere Engineers, Inc., a Ramboll company (Ramboll) to provide pertinent information for an alternate source demonstration (ASD) as allowed by 40 CFR Section 257.94(e)(2) for the Pleasant Prairie Power Plant (P4) Ash Landfill, located in the Pleasant Prairie, Wisconsin.

Detection Monitoring Round 5 samples were collected on October 29-30, 2019 for which analytical data was received on December 2, 2019. Analytical data is presented in the attached Table 1. In accordance with 40 CFR Section 257.93(h)(2), statistical analysis of the data from Detection Monitoring Round 5 to identify statistically significant increases (SSIs) of 40 CFR Part 257 Subpart D Appendix III parameters over background concentrations was completed within 90 days of receipt of the analytical data (March 1, 2020). The statistical determination identified the following SSIs at downgradient monitoring wells:

- pH below the background prediction interval at W76

The pH was not measured at a level indicative of a SSI above (or below) background at this location during Detection Monitoring Rounds 1-4.

40 CFR Section 257.94(e)(2) allows 90 days to demonstrate that an SSI was caused by a source other than the CCR unit or resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Accordingly, an alternate source demonstration for pH (low) at well W 76 was evaluated and completed within 90 days of the SSI determination, by May 30, 2020.

Evaluation of pH at W76

Based on the March 1, 2020 statistical analysis, the measurement of pH from Detection Monitoring Round 5 at W76 exceeded (the lower limit) background. The pH measured in the W76 sample (6.9 S.U.) is lower than measurements in background wells W20D (7.5 S.U.) and W77 (7.3 S.U.). Leachate from the P4 Ash Landfill is alkaline as demonstrated by the measured pH since 2015 when use of the leachate tank was initiated, as shown in Figure 1. The pH of the leachate has ranged from 8.1-8.8 S.U. Measured pH for the CCR Rule monitoring wells is presented on Figure 2, pH measurements during CCR Rule sampling events have remained consistent relative to background while not showing an increase in pH related to influence from landfill leachate. If groundwater at W76 was impacted by the P4 Ash Landfill leachate, elevated or increasing pH measurements would be expected in in this well, contrary to the low pH measured during Detection Monitoring Round 5.

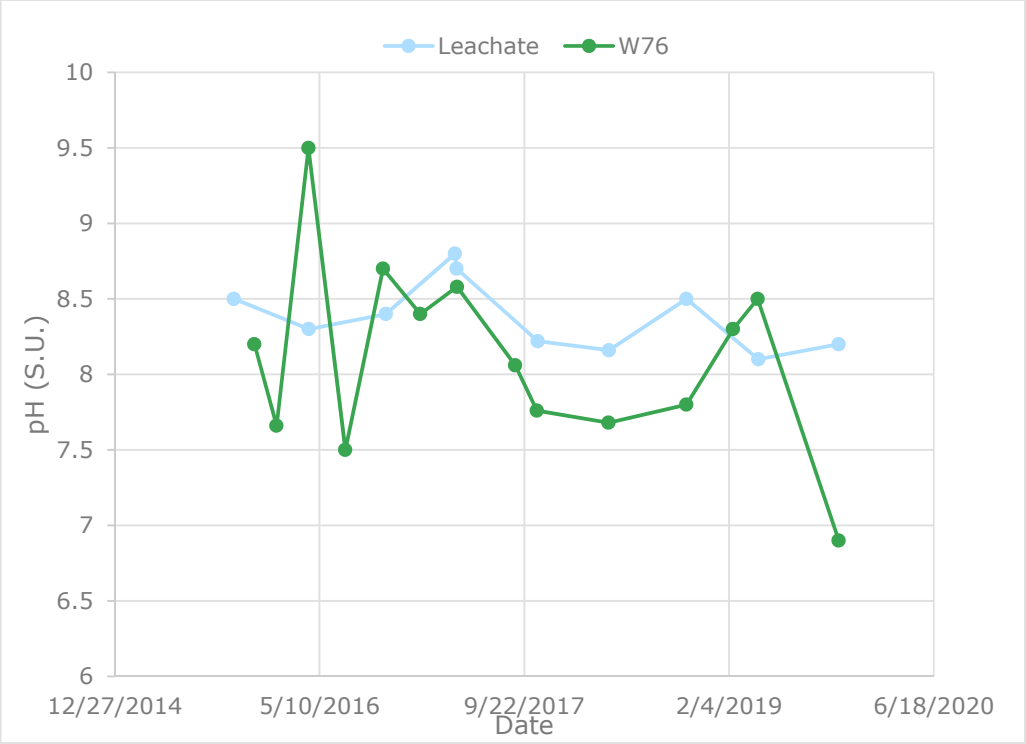

Figure 1. pH Measurements in Leachate and Monitoring Well W76.

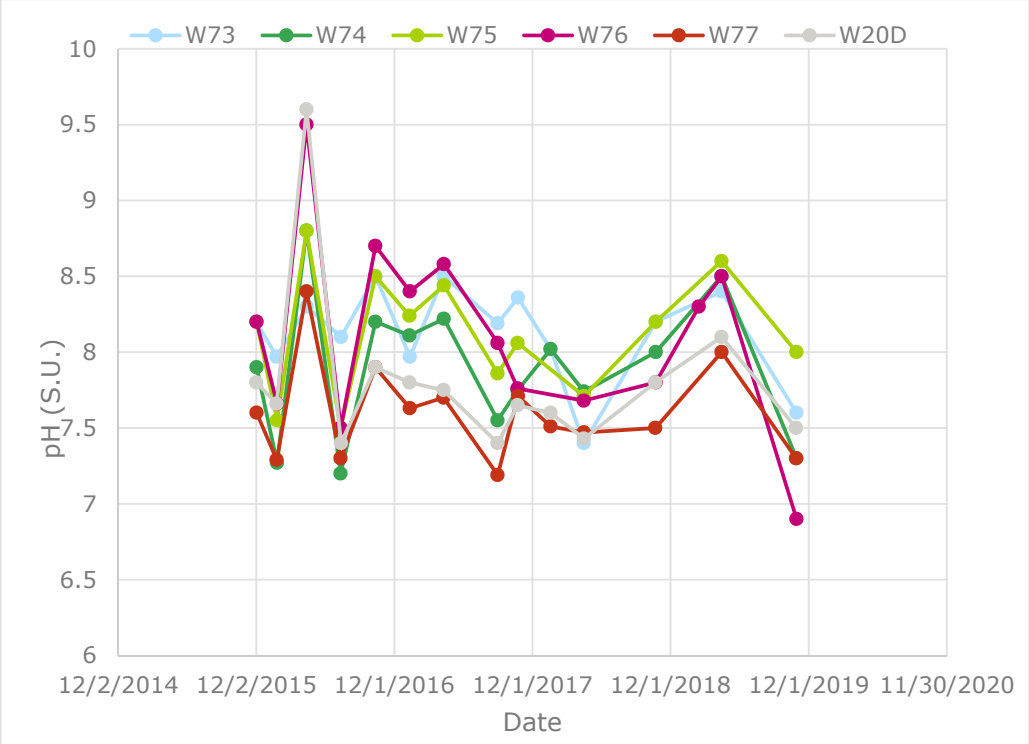

Figure 2. pH Measurements in P4 CCR Rule Monitoring Wells.

Another indicator of groundwater impacts in W76 would be increased concentrations of primary CCR indicator parameters boron and sulfate. The concentrations of these two parameters have not increased (Figure 3) and therefore the pH exceedance is unrelated to the P4 Ash Landfill.

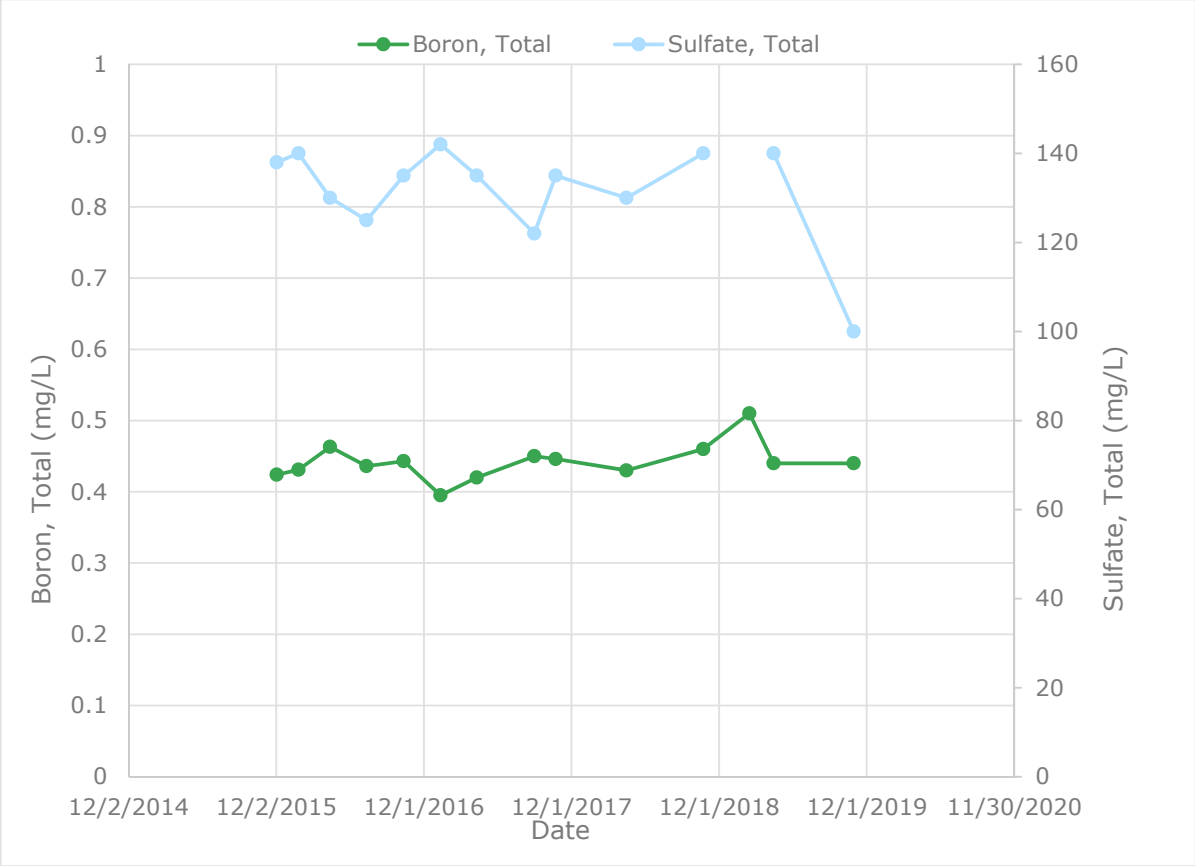

Figure 3. Total Boron and Sulfate Concentrations at W76.

CONCLUSIONS AND CERTIFICATION

The presented lines of evidence demonstrate that a source other than the CCR unit contributed to the low pH measured in W76 and provide an ASD for pH in W76 during Detection Monitoring Round 5.

The preceding information serves as the ASD prepared in accordance with 40 CFR Section 257.94(e)(2) and supports the position that the SSI reported during Detection Monitoring Round 5 was not due to a release from the CCR unit but was from either an error in sampling or analysis or naturally occurring conditions (e.g. natural variation in groundwater quality). Therefore, no further action (i.e. assessment monitoring) is warranted and the P4 Ash Landfill will remain in detection monitoring.

If you have any questions regarding this document, please do not hesitate to contact us.

Sincerely,

Glenn R. Luke, PE
Managing Engineer
Professional Engineer No. 42834-6
State of Wisconsin
O'Brien & Gere Engineers, Inc., a Ramboll company
Date: May 30, 2020

I, Glenn R. Luke, a qualified professional engineer in good standing in the State of Wisconsin, certify that enclosed information is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.

Nathaniel R. Keller, PG
Senior Hydrogeologist
Professional Geologist No. 1283-013
State of Wisconsin
O'Brien & Gere Engineers, Inc., a Ramboll company
Date: May 30, 2020

I, Nathaniel R. Keller, a qualified professional geologist, certify that the enclosed information is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.

Tables

TABLES

Pleasant Prairie CCR
Table 1. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2015 to 05/14/2020

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
W17BR	12/03/2015	40125664010	0.5900	13.5000	11.4	1.40	8.20	30.7
	01/25/2016	40127593005	0.5850	13.6000	11.4	1.40	8.04	28.1
	04/14/2016	40130923011	0.6680	15.2000	11.1	1.40	7.90	28.1
	07/12/2016	40135262002	0.6260	13.9000	11.6	1.30	7.90	28.9
	10/12/2016	40140105006	0.6210	13.2000	11.1	1.40	8.60	26.5
	01/11/2017	40144447006	0.5560	12.0000	10.8	1.40	8.42	25.3
	04/11/2017	40148263007	0.6300	12.0000	10.7	1.50	8.54	25.3
	08/31/2017	40156109006	0.6500	12.7000	11.0	1.50	8.02	25.1
	10/23/2017	40159525007	0.6530	12.0000	11.5	1.50	8.29	25.0
	04/16/2018	AE26941	0.6200	12.0000	12.0	1.40	7.29	24.0
	10/23/2018	AE31327	0.6600	13.0000	11.0	1.40	8.40	23.0
	04/15/2019	AE35074	0.6400	12.0000	11.0	1.40	8.80	25.0
	10/30/2019	AE41676	0.6400	12.0000	9.2	1.40	8.30	21.0
W20B	12/02/2015	40125664002	0.2860	54.8000	14.3	0.77	7.60	95.7
	01/25/2016	40127593002	0.2870	47.5000	13.8	0.84	7.45	93.4
	04/13/2016	40130923006	0.3200	57.8000	10.4	0.84	10.00	74.5
	07/13/2016	40135283003	0.3010	60.8000	17.2	0.72	7.10	108.0
	10/12/2016	40140105002	0.3070	91.3000	23.4	0.74	7.50	125.0
	01/10/2017	40144447002	0.2720	58.9000	16.9	0.90	7.57	108.0
	04/10/2017	40148263002	0.3000	52.4000	13.5	0.80	7.68	93.1
	08/31/2017	40156109002	0.3100	63.6000	18.4	0.83	6.99	57.0
	10/23/2017	40159525002	0.3390	85.7000	28.7	0.77	7.20	161.0
	04/16/2018	AE26935	0.3100	90.0000	35.0	0.71	7.13	180.0
	10/22/2018	AE31322	0.3200	64.0000	17.0	0.83	7.40	110.0
	04/15/2019	AE35078	0.3100	57.0000	16.0	0.76	8.00	110.0
	10/29/2019	AE41671	0.3100	51.0000	13.0	0.84	7.50	92.0
W20D	12/02/2015	40125664001	0.4040	36.2000	20.7	0.88	7.80	198.0
	01/25/2016	40127593001	0.3910	32.7000	18.7	0.99	7.66	195.0
	04/13/2016	40130923005	0.4500	36.8000	16.6	0.99	9.60	188.0
	07/13/2016	40135283002	0.4190	33.4000	17.1	0.94	7.40	188.0
	10/12/2016	40140105001	0.4250	34.0000	14.2	1.00	7.90	174.0
	01/10/2017	40144447001	0.3880	29.0000	14.7	1.10	7.80	175.0
	04/10/2017	40148263001	0.4200	29.4000	12.7	1.00	7.75	183.0
	08/31/2017	40156109001	0.4400	27.9000	11.3	1.10	7.40	72.2
	10/23/2017	40159525001	0.4470	26.5000	11.8	1.10	7.65	184.0
	01/18/2018	40163747005	0.4470			1.10	7.60	

Pleasant Prairie CCR
Table 1. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2015 to 05/14/2020

			B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
W20D	04/16/2018	AE26934	0.4300	26.0000	11.0	1.10	7.43	170.0
	10/22/2018	AE31321	0.4600	27.0000	12.0	1.00	7.80	180.0
	04/15/2019	AE35079	0.4300	26.0000	11.0	1.00	8.10	180.0
	10/29/2019	AE41670	0.4400	25.0000	10.0	1.00	7.50	150.0
W31B	12/03/2015	40125664006	0.0872	86.7000	33.7	0.37	7.50	118.0
	01/26/2016	40127593007	0.0796	84.7000	34.0	0.38	7.42	121.0
	04/14/2016	40130923010	0.0933	94.3000	32.3	0.38	7.40	113.0
	07/12/2016	40135262006	0.0844	84.9000	33.2	0.35	7.20	115.0
	10/12/2016	40140105004	0.0924	98.4000	40.8	0.33	7.60	119.0
	01/11/2017	40144447009	0.0798	88.4000	42.0	0.28	7.54	131.0
	04/10/2017	40148263004	0.0960	86.2000	35.4	0.30	7.59	123.0
	08/31/2017	40156109003	0.0990	91.3000	40.5	0.40	6.97	61.6
	10/24/2017	40159525009	0.0932	91.2000	38.9	<0.50	7.07	127.0
	04/16/2018	AE26936	0.0860	90.0000	42.0	0.38	6.68	120.0
	10/22/2018	AE31323	0.0950	98.0000	47.0	0.39	7.40	130.0
	04/15/2019	AE35081	0.0890	93.0000	43.0	0.47	7.70	130.0
	10/29/2019	AE41672	0.0890	89.0000	40.0	0.36	7.50	120.0
W73	12/02/2015	40125664005	0.4180	27.3000	10.4	0.99	8.20	123.0
	01/25/2016	40127593006	0.4220	46.0000	10.7	1.10	7.97	128.0
	04/14/2016	40130923007	0.4640	29.8000	11.0	1.10	8.30	120.0
	07/13/2016	40135283001	0.4370	18.8000	10.4	1.00	8.10	117.0
	10/12/2016	40140105010	0.4470	35.3000	10.9	0.99	8.50	124.0
	01/11/2017	40144447010	0.4010	20.0000	10.6	1.00	7.97	134.0
	04/11/2017	40148263011	0.4300	25.6000	10.4	1.00	8.50	128.0
	08/31/2017	40156109010	0.4600	26.0000	10.9	1.10	8.19	116.0
	10/24/2017	40159525011	0.4630	25.8000	11.2	0.95	8.36	127.0
	01/18/2018	40163747001	0.4660				8.02	
	04/16/2018	AE26943	0.4200	19.0000	11.0	1.00	7.40	120.0
	10/23/2018	AE31326	0.4500	19.0000	11.0	1.00	8.20	130.0
	04/15/2019	AE35080	0.4300	19.0000	11.0	1.10	8.40	140.0
	10/30/2019	AE41678	0.4400	18.0000	11.0	1.00	7.60	120.0
W74	12/03/2015	40125664007	0.3670	34.7000	22.1	0.87	7.90	147.0
	01/26/2016	40127593011	0.3700	33.6000	21.1	0.95	7.27	145.0
	04/13/2016	40130923004	0.4080	31.5000	18.3	0.96	8.80	139.0
	07/12/2016	40135262008	0.3820	26.0000	15.9	0.95	7.20	141.0
	10/12/2016	40140105009	0.3890	23.7000	13.4	0.99	8.20	152.0

Pleasant Prairie CCR
Table 1. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2015 to 05/14/2020

			B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
W74	01/10/2017	40144447011	0.3590	22.5000	13.0	1.10	8.11	163.0
	04/11/2017	40148263010	0.3800	21.2000	13.9	1.10	8.22	157.0
	08/31/2017	40156109009	0.4000	20.3000	12.7	1.10	7.55	136.0
	10/23/2017	40159525003	0.4070	19.5000	13.8	1.20	7.75	162.0
	01/18/2018	40163747004				1.10	8.02	
	04/16/2018	AE26937	0.4000	20.0000	13.0	1.00	7.74	150.0
	10/23/2018	AE31330	0.4100	21.0000	14.0	1.00	8.00	160.0
	04/15/2019	AE35077	0.4100	20.0000	14.0	1.00	8.50	160.0
	10/30/2019	AE41679	0.4100	21.0000	12.0	1.10	7.30	150.0
W75	12/03/2015	40125664008	0.4100	28.9000	24.3	0.91	8.20	208.0
	01/26/2016	40127593010	0.4170	30.1000	24.5	0.95	7.55	197.0
	04/13/2016	40130923003	0.4480	29.5000	20.6	0.96	8.80	179.0
	07/12/2016	40135262005	0.4220	24.7000	16.2	0.91	7.50	157.0
	10/12/2016	40140105008	0.4250	23.7000	14.0	0.95	8.50	155.0
	01/10/2017	40144447003	0.3750	21.3000	13.5	1.00	8.24	147.0
	04/11/2017	40148263009	0.4200	22.6000	12.1	1.00	8.44	148.0
	08/31/2017	40156109008	0.4300	20.5000	10.6	1.10	7.86	132.0
	10/23/2017	40159525004	0.4430	19.9000	10.8	1.00	8.06	145.0
	04/16/2018	AE26938	0.4100	19.0000	9.8	1.00	7.71	130.0
	10/23/2018	AE31329	0.4400	21.0000	9.9	0.98	8.20	140.0
	04/15/2019	AE35075	0.4200	20.0000	9.4	1.00	8.60	140.0
	10/30/2019	AE41677	0.4300	20.0000	8.5	1.00	8.00	120.0
W76	12/03/2015	40125664011	0.4240	20.0000	18.3	1.00	8.20	138.0
	01/26/2016	40127593008	0.4310	20.6000	16.4	1.00	7.66	140.0
	04/13/2016	40130923002	0.4630	20.9000	14.1	1.00	9.50	130.0
	07/12/2016	40135262003	0.4360	18.8000	12.4	0.98	7.50	125.0
	10/12/2016	40140105007	0.4430	19.5000	12.6	0.94	8.70	135.0
	01/11/2017	40144447007	0.3950	18.2000	11.2	1.00	8.40	142.0
	04/11/2017	40148263008	0.4200	18.0000	10.9	1.00	8.58	135.0
	08/31/2017	40156109007	0.4500	18.1000	10.7	1.10	8.06	122.0
	10/23/2017	40159525006	0.4460	17.6000	10.8	1.10	7.76	135.0
	04/16/2018	AE26940	0.4300	18.0000	10.0	1.00	7.68	130.0
	10/23/2018	AE31328	0.4600	20.0000	11.0	1.00	7.80	140.0
	02/14/2019	AE33639	0.5100				8.30	
	04/15/2019	AE35073	0.4400	19.0000	11.0	1.00	8.50	140.0
	10/30/2019	AE41674	0.4400	19.0000	10.0	1.00	6.90	100.0

Pleasant Prairie CCR
Table 1. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2015 to 05/14/2020

			B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
W77	12/03/2015	40125664009	0.3730	33.8000	19.6	0.85	7.60	157.0
	01/25/2016	40127593003	0.3780	34.8000	18.9	0.87	7.29	156.0
	04/13/2016	40130923001	0.4000	34.0000	16.9	0.92	8.40	149.0
	07/12/2016	40135262001	0.4160	31.1000	14.8	0.91	7.30	139.0
	10/12/2016	40140105005	0.4150	30.7000	13.8	0.97	7.90	142.0
	01/11/2017	40144447005	0.3650	27.7000	13.2	1.00	7.63	143.0
	04/10/2017	40148263005	0.4100	27.3000	12.0	1.00	7.70	143.0
	08/31/2017	40156109004	0.4300	26.0000	11.2	1.10	7.19	67.7
	10/24/2017	40159525010	0.4320	25.5000	11.0	1.10	7.71	142.0
	01/18/2018	40163747002	0.4480			1.10	7.51	
	04/16/2018	AE26942	0.4200	25.0000	10.0	1.10	7.47	130.0
	10/22/2018	AE31324	0.4400	26.0000	10.0	1.10	7.50	140.0
	04/15/2019	AE35072	0.4200	27.0000	9.4	1.10	8.00	140.0
	10/29/2019	AE41673	0.4200	25.0000	9.1	1.10	7.30	110.0

Pleasant Prairie CCR
Table 1. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2015 to 05/14/2020

Well Id	Date Sampled	Lab Id	TDS, mg/L
W17BR	12/03/2015	40125664010	168.0
	01/25/2016	40127593005	172.0
	04/14/2016	40130923011	208.0
	07/12/2016	40135262002	202.0
	10/12/2016	40140105006	178.0
	01/11/2017	40144447006	178.0
	04/11/2017	40148263007	184.0
	08/31/2017	40156109006	182.0
	10/23/2017	40159525007	172.0
	04/16/2018	AE26941	190.0
	10/23/2018	AE31327	140.0
	04/15/2019	AE35074	160.0
	10/30/2019	AE41676	140.0
W20B	12/02/2015	40125664002	410.0
	01/25/2016	40127593002	362.0
	04/13/2016	40130923006	362.0
	07/13/2016	40135283003	458.0
	10/12/2016	40140105002	502.0
	01/10/2017	40144447002	412.0
	04/10/2017	40148263002	382.0
	08/31/2017	40156109002	450.0
	10/23/2017	40159525002	510.0
	04/16/2018	AE26935	630.0
	10/22/2018	AE31322	470.0
	04/15/2019	AE35078	420.0
	10/29/2019	AE41671	360.0
W20D	12/02/2015	40125664001	452.0
	01/25/2016	40127593001	410.0
	04/13/2016	40130923005	428.0
	07/13/2016	40135283002	464.0
	10/12/2016	40140105001	424.0
	01/10/2017	40144447001	406.0
	04/10/2017	40148263001	398.0
	08/31/2017	40156109001	396.0
	10/23/2017	40159525001	382.0
	04/16/2018	AE26934	390.0

Pleasant Prairie CCR
Table 1. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2015 to 05/14/2020

			TDS, mg/L
W20D	10/22/2018	AE31321	390.0
	04/15/2019	AE35079	360.0
	10/29/2019	AE41670	340.0
W31B	12/03/2015	40125664006	530.0
	01/26/2016	40127593007	512.0
	04/14/2016	40130923010	546.0
	07/12/2016	40135262006	572.0
	10/12/2016	40140105004	528.0
	01/11/2017	40144447009	522.0
	04/10/2017	40148263004	530.0
	08/31/2017	40156109003	536.0
	10/24/2017	40159525009	530.0
	04/16/2018	AE26936	520.0
	10/22/2018	AE31323	560.0
	04/15/2019	AE35081	530.0
	10/29/2019	AE41672	490.0
W73	12/02/2015	40125664005	310.0
	01/25/2016	40127593006	306.0
	04/14/2016	40130923007	318.0
	07/13/2016	40135283001	328.0
	10/12/2016	40140105010	324.0
	01/11/2017	40144447010	280.0
	04/11/2017	40148263011	336.0
	08/31/2017	40156109010	328.0
	10/24/2017	40159525011	308.0
	04/16/2018	AE26943	340.0
	10/23/2018	AE31326	300.0
	04/15/2019	AE35080	310.0
	10/30/2019	AE41678	310.0
W74	12/03/2015	40125664007	384.0
	01/26/2016	40127593011	360.0
	04/13/2016	40130923004	388.0
	07/12/2016	40135262008	376.0
	10/12/2016	40140105009	346.0
	01/10/2017	40144447011	340.0
	04/11/2017	40148263010	360.0

Pleasant Prairie CCR
Table 1. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2015 to 05/14/2020

			TDS, mg/L
W74	08/31/2017	40156109009	372.0
	10/23/2017	40159525003	348.0
	04/16/2018	AE26937	370.0
	10/23/2018	AE31330	340.0
	04/15/2019	AE35077	330.0
	10/30/2019	AE41679	350.0
W75	12/03/2015	40125664008	438.0
	01/26/2016	40127593010	432.0
	04/13/2016	40130923003	430.0
	07/12/2016	40135262005	416.0
	10/12/2016	40140105008	362.0
	01/10/2017	40144447003	298.0
	04/11/2017	40148263009	358.0
	08/31/2017	40156109008	356.0
	10/23/2017	40159525004	330.0
	04/16/2018	AE26938	350.0
	10/23/2018	AE31329	310.0
	04/15/2019	AE35075	330.0
	10/30/2019	AE41677	290.0
W76	12/03/2015	40125664011	334.0
	01/26/2016	40127593008	330.0
	04/13/2016	40130923002	366.0
	07/12/2016	40135262003	360.0
	10/12/2016	40140105007	336.0
	01/11/2017	40144447007	306.0
	04/11/2017	40148263008	334.0
	08/31/2017	40156109007	336.0
	10/23/2017	40159525006	318.0
	04/16/2018	AE26940	350.0
	10/23/2018	AE31328	300.0
	04/15/2019	AE35073	320.0
	10/30/2019	AE41674	290.0
W77	12/03/2015	40125664009	410.0
	01/25/2016	40127593003	396.0
	04/13/2016	40130923001	412.0
	07/12/2016	40135262001	428.0

Pleasant Prairie CCR
Table 1. Pleasant Prairie Power Plant Ash Landfill: Appendix III Analytical Results

Date Range: 10/01/2015 to 05/14/2020

			TDS, mg/L
W77	10/12/2016	40140105005	388.0
	01/11/2017	40144447005	386.0
	04/10/2017	40148263005	382.0
	08/31/2017	40156109004	384.0
	10/24/2017	40159525010	372.0
	04/16/2018	AE26942	370.0
	10/22/2018	AE31324	370.0
	04/15/2019	AE35072	360.0
	10/29/2019	AE41673	360.0