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We Energies

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1940102327

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PLEASANT PRAIRIE POWER PLANT ASH LANDFILL



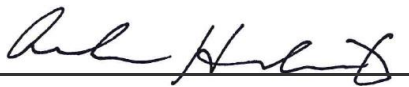
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**2022 ANNUAL GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL**

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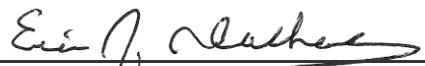
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ACRONYMS AND ABBREVIATIONS

§	Section
40 C.F.R.	Title 40 of the Code of Federal Regulations
ASD	Alternate Source Demonstration
CCR	Coal Combustion Residuals
GWPS	groundwater protection standard
NA	not applicable
P4	Pleasant Prairie Power Plant
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SAP	Sampling and Analysis Plan
SSI	Statistically Significant Increase
TBD	To be Determined

EXECUTIVE SUMMARY

This report has been prepared to provide the information required by Title 40 of the Code of Federal Regulations (40 C.F.R.) Section (§) 257.90(e) for the Ash Landfill located at the Pleasant Prairie Power Plant (P4) near Pleasant Prairie, Wisconsin.

Groundwater is being monitored at the P4 Ash Landfill in accordance with the detection monitoring program requirements specified in 40 C.F.R. § 257.94.

No changes were made to the monitoring system in 2022 (no wells were installed or decommissioned).

Groundwater analytical data collected in 2022 at the P4 Ash Landfill was evaluated for statistically significant increases (SSIs) of 40 CFR § 257 Appendix III constituents over background concentrations. The following constituents and wells had SSIs reported in 2022:

- Fluoride above background prediction intervals at wells W74 and W75 in Detection Monitoring Round 10.

An Alternate Source Demonstration (ASD) prepared in 2022 demonstrated that sources other than the P4 Ash Landfill were the cause of the SSI for fluoride at wells W74 and W75.

The P4 Ash Landfill remains in the detection monitoring program in accordance with 40 C.F.R. § 257.94.

1. INTRODUCTION

This report has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) on behalf of We Energies, to provide the information required by 40 C.F.R. § 257.90(e) for the P4 Ash Landfill located in Pleasant Prairie, Wisconsin.

In accordance with 40 C.F.R. § 257.90(e), the owner or operator of a coal combustion residuals (CCR) unit must prepare an Annual Groundwater Monitoring and Corrective Action Report for the preceding calendar year that documents the status of the Groundwater Monitoring and Corrective Action Program for the CCR unit, summarizes key actions completed, describes any problems encountered, discusses actions to resolve the problems, and projects key activities for the upcoming year. At a minimum, the annual report must contain the following information, to the extent available:

1. A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit.
2. Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken.
3. In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs.
4. A narrative discussion of any transition between monitoring programs (*e.g.*, the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at an SSI relative to background levels).
5. Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.
6. A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:
 - i. At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.
 - ii. At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.
 - iii. If it was determined that there was an SSI over background for one or more constituents listed in Appendix III of §257 pursuant to §257.94(e):
 - A. Identify those constituents listed in Appendix III of §257 and the names of the monitoring wells associated with such an increase.
 - B. Provide the date when the assessment monitoring program was initiated for the CCR unit.

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

This report provides the required information for the P4 Ash Landfill for calendar year 2022.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

No changes have occurred to the monitoring program status in calendar year 2022 and the P4 Ash Landfill remains in the detection monitoring program in accordance with 40 C.F.R. § 257.94.

3. KEY ACTIONS COMPLETED IN 2022

The detection monitoring program is summarized in **Table A** on the following page. The groundwater monitoring system, including the CCR unit and all background and compliance monitoring wells, is presented in **Figure 1**. No changes were made to the monitoring system in 2022. In general, one groundwater sample was collected from each background (upgradient) and downgradient well during each monitoring event. All samples were collected and analyzed in accordance with the *Sampling and Analysis Plan (SAP), Pleasant Prairie Power Plant Ash Landfill* (Natural Resource Technology, Inc., 2015). Potentiometric surface maps for the fourth quarter of 2021 and both monitoring events in 2022 are included in **Figures 2 through 4**. Water level data, collected from background and downgradient monitoring wells, are included in **Table 1**. All monitoring data and analytical results obtained under 40 C.F.R. §§ 257.90 through 257.98 (as applicable) in the fourth quarter of 2021 and both monitoring events in 2022 are presented in **Table 2**. Laboratory reports for the fourth quarter of 2021 and both 2022 monitoring events are included in **Appendix A**.

Analytical data were evaluated in accordance with the *Statistical Analysis Plan, Pleasant Prairie Power Plant Ash Landfill* (Natural Resource Technology, Inc., an OBG Company, 2017) to determine any SSIs of 40 CFR § 257 Appendix III parameters relative to background concentrations. Statistical background values are provided in **Table 3**. A flow chart showing the statistical methodology for determination of background values is included as **Appendix B**.

Statistical evaluation, including SSI determinations, of analytical data from detection monitoring sampling events on October 12, 2021 (Detection Monitoring Round 9) and April 13, 2022 (Detection Monitoring Round 10) were completed in 2022 and within 90 days of receipt of the analytical data. SSIs over background concentrations for 40 CFR § 257 Appendix III constituents were identified during data evaluations of Round 10 groundwater sampling analytical data. Additional information regarding SSI parameters and well locations is provided in **Table A**.

An ASD for SSIs determined during Detection Monitoring Round 10 was prepared within 90 days of SSI determination and is included in **Appendix C**. The ASD was prepared in accordance with 40 CFR 257.94(e)(2) and provides a description, data, and pertinent information to support that the SSIs observed during Detection Monitoring Round 10 were not due to a release from the P4 Ash Landfill but were either errors in sampling, analysis, statistical evaluation, or from naturally occurring conditions (e.g. natural variation in groundwater quality).

Table A. 2021-2022 Detection Monitoring Program Summary

Detection Round	Sampling Date	Analytical Data Receipt Date	Parameters Collected	SSI Wells (Parameters)	SSI(s) Determination Date	ASD Completion Date
9	October 12, 2021	November 16, 2021	Appendix III	None	February 14, 2022	NA
10	April 13, 2022	May 17, 2022	Appendix III	W74 & W75 (Fluoride)	August 15, 2022	November 13, 2022
11	October 5, 2022	December 5, 2022	Appendix III	TBD	TBD Before March 5, 2023	TBD

Notes:

NA: not applicable

TBD: to be determined

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the Groundwater Monitoring Program during 2022. Groundwater samples were collected and analyzed in accordance with the SAP and all data were accepted.

5. KEY ACTIVITIES PLANNED FOR 2023

The following key activities are planned for 2023:

- Continuation of the detection monitoring program with semi-annual sampling scheduled for the second and fourth quarters of 2023.
- Complete evaluation of analytical data from the compliance wells using background data to determine whether an SSI of 40 CFR § 257 Appendix III parameters detected at concentrations greater than background concentrations has occurred.
- If an SSI is identified, potential alternate sources (*i.e.*, a source other than the P4 Ash Landfill caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated.
 - If an alternate source is identified to be the cause of the SSI, a written demonstration will be completed within 90 days of SSI determination and included in the 2023 Annual Groundwater Monitoring and Corrective Action Report.
 - If an alternate source(s) is not identified to be the cause of the SSI, the applicable requirements of 40 C.F.R. §§ 257.94 through 257.98 as may apply in 2023 (*e.g.*, assessment monitoring) will be met, including associated recordkeeping/notifications required by 40 C.F.R. §§ 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, Inc., an OBG Company, 2017, *Statistical Analysis Plan, Pleasant Prairie Power Plant Ash Landfill, Pleasant Prairie, Wisconsin, October 17, 2017.*

TABLES

**TABLE 1
GROUNDWATER ELEVATIONS**

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WI

Well ID	Well Type	Latitude (Degrees, minutes, seconds)	Longitude (Degrees, minutes, seconds)	Date	Groundwater Elevation (ft NAVD88)
W20D	Background (Upgradient)	42°33'51.3592"	-87°54'15.0776"	10/12/2021	665.20
				04/13/2022	671.03
				10/05/2022	666.09
W77	Background (Upgradient)	42°33'45.2513"	-87°53'54.2383"	10/12/2021	664.30
				04/13/2022	669.96
				10/05/2022	666.86
W73	Compliance (Downgradient)	42°33'57.0560"	-87°53'57.3214"	10/12/2021	664.33
				04/13/2022	668.93
				10/05/2022	667.59
W74	Compliance (Downgradient)	42°33'56.9099"	-87°54'14.3343"	10/12/2021	662.85
				04/13/2022	668.24
				10/05/2022	663.50
W75	Compliance (Downgradient)	42°33'56.8116"	-87°54'08.8120"	10/12/2021	663.66
				04/13/2022	668.60
				10/05/2022	664.58
W76	Compliance (Downgradient)	42°33'56.4738"	-87°54'01.8036"	10/12/2021	663.94
				04/13/2022	668.75
				10/05/2022	665.38
W17B R	POTENTIAL CONTAMINANT MIGRATION PATHWAY MONITORING WELL	42°33'57.3084"	-87°53'59.9346"	10/12/2021	675.12
				04/13/2022	678.40
				10/05/2022	676.64
W20B	POTENTIAL CONTAMINANT MIGRATION PATHWAY MONITORING WELL	42°33'51.3396"	-87°54'14.8968"	10/12/2021	678.57
				04/13/2022	681.83
				10/05/2022	679.28

**TABLE 1
GROUNDWATER ELEVATIONS**

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WI

Well ID	Well Type	Latitude (Degrees, minutes, seconds)	Longitude (Degrees, minutes, seconds)	Date	Groundwater Elevation (ft NAVD88)
W31B	POTENTIAL CONTAMINANT MIGRATION PATHWAY MONITORING WELL	42°33'43.1382"	-87°54'14.403"	10/12/2021	679.96
				04/13/2022	682.13
				10/05/2022	680.68

Notes:

ft = foot/feet

NAVD88 = North American Vertical Datum of 1988

Pleasant Prairie CCR
Table 2. Analytical Results - Appendix III Parameters

Date Range: 10/01/2021 to 12/31/2022

Lab Methods:

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	10/12/2021	AE56415	0.6440	11.8000	8.0	1.40	8.2	17.4
	4/13/2022	AE60061	0.6080	11.5000	8.0	1.30	8.4	17.9
	10/5/2022	AE63006	0.5970	11.5000	8.6	1.50	8.6	19.0
W20B	10/12/2021	AE56409	0.3060	92.9000	32.1	0.62	7.1	192.0
	4/13/2022	AE60065	0.3000	57.2000	15.0	0.89	7.5	97.8
	10/5/2022	AE63001	0.3050	67.3000	23.4	0.79	7.4	138.0
W20D	10/12/2021	AE56410	0.4440	25.3000	11.0	1.10	7.5	177.0
	4/13/2022	AE60066	0.4280	25.8000	10.8	1.20	7.8	181.0
	10/5/2022	AE62999	0.4030	23.7000	11.9	1.10	7.1	178.0
W31B	10/12/2021	AE56418	0.0806	104.0000	66.9	<0.48	7.4	130.0
	4/13/2022	AE60067	0.0863	108.0000	67.9	0.36	7.3	139.0
	10/5/2022	AE63002	0.0883	99.1000	78.5	0.22	7.4	140.0
W73	10/12/2021	AE56417	0.4390	18.8000	12.4	0.89	8.1	116.0
	4/13/2022	AE60060	0.4310	28.0000	11.0	1.00	8.2	131.0
	10/5/2022	AE63007	0.4370	21.2000	11.6	1.10	8.3	131.0
W74	10/12/2021	AE56411	0.4170	20.2000	12.5	0.98	8.0	156.0
	4/13/2022	AE60064	0.3810	19.3000	12.7	1.20	8.0	164.0
	10/5/2022	AE63003	0.3950	19.4000	15.5	1.10	7.9	172.0
W75	10/12/2021	AE56412	0.4220	20.3000	8.3	1.10	8.0	126.0
	4/13/2022	AE60063	0.4270	21.0000	8.7	1.20	8.1	135.0
	10/5/2022	AE63004	0.4040	18.2000	9.6	1.10	8.1	133.0
W76	10/12/2021	AE56413	0.4360	19.2000	10.4	0.98	8.3	133.0
	4/13/2022	AE60062	0.4150	18.3000	10.4	1.10	8.3	139.0

Pleasant Prairie CCR
Table 2. Analytical Results - Appendix III Parameters

Date Range: 10/01/2021 to 12/31/2022

Lab Methods:

			B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
W76	10/5/2022	AE63005	0.4280	18.8000	11.0	1.00	8.2	144.0
W77	10/12/2021	AE56416	0.3960	25.5000	8.0	1.00	7.6	123.0
	4/13/2022	AE60059	0.4030	26.4000	8.7	<0.10	7.5	140.0
	10/5/2022	AE63008	0.4140	23.4000	8.8	1.20	7.6	132.0

**Pleasant Prairie CCR
Table 2. Analytical Results - Appendix III Parameters**

Date Range: 10/01/2021 to 12/31/2022

Lab Methods:

Well Id	Date Sampled	Lab Id	TDS, mg/L
W17BR	10/12/2021	AE56415	190.0
	4/13/2022	AE60061	162.0
	10/5/2022	AE63006	138.0
W20B	10/12/2021	AE56409	1060.0
	4/13/2022	AE60065	388.0
	10/5/2022	AE63001	466.0
W20D	10/12/2021	AE56410	602.0
	4/13/2022	AE60066	366.0
	10/5/2022	AE62999	388.0
W31B	10/12/2021	AE56418	592.0
	4/13/2022	AE60067	584.0
	10/5/2022	AE63002	586.0
W73	10/12/2021	AE56417	322.0
	4/13/2022	AE60060	344.0
	10/5/2022	AE63007	298.0
W74	10/12/2021	AE56411	402.0
	4/13/2022	AE60064	352.0
	10/5/2022	AE63003	332.0
W75	10/12/2021	AE56412	382.0
	4/13/2022	AE60063	320.0
	10/5/2022	AE63004	302.0
W76	10/12/2021	AE56413	362.0
	4/13/2022	AE60062	330.0

Pleasant Prairie CCR
Table 2. Analytical Results - Appendix III Parameters

Date Range: 10/01/2021 to 12/31/2022

Lab Methods:

			TDS, mg/L
W76	10/5/2022	AE63005	288.0
W77	10/12/2021	AE56416	362.0
	4/13/2022	AE60059	348.0
	10/5/2022	AE63008	328.0

Notes:

Exceedance of Background

TABLE 3**STATISTICAL BACKGROUND VALUES**

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WI

Parameter	Statistical Background Value (LPL/UPL)
40 C.F.R. Part 257 Appendix III	
Boron (mg/L)	0.455
Calcium (mg/L)	38.1
Chloride (mg/L)	21.3
Fluoride (mg/L)	1.13
pH (field) (SU)	7.2/9.6
Sulfate (mg/L)	230
Total Dissolved Solids (mg/L)	457

Notes:

[O: AFH 12/23/22; C: EJT 1/21/23]

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

LPL = Lower Prediction Limit (applicable for pH only)

mg/L = milligrams per liter

SU = Standard Units

UPL = Upper Prediction Limit

FIGURES



- UNIT BOUNDARY
- CCR RULE DOWNGRADIENT MONITORING WELL LOCATION
- CCR RULE UPGRADIENT MONITORING WELL LOCATION
- CCR RULE POTENTIAL CONTAMINANT PATHWAY MONITORING WELL LOCATION



MONITORING WELL LOCATION MAP

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 ASH LANDFILL
 PLEASANT PRAIRIE POWER PLANT
 PLEASANT PRAIRIE, WISCONSIN

FIGURE 1

RAMBOLL AMERICAS
 ENGINEERING SOLUTIONS, INC.





- UNIT BOUNDARY
 - BEDROCK UNIT (UPPERMOST AQUIFER) CCR MONITORING WELL LOCATION
 - GLACIAL UNIT POTENTIAL CONTAMINANT PATHWAY CCR MONITORING WELL LOCATION (NOT USED FOR CONTOURING)
 - GROUNDWATER ELEVATION CONTOUR (0.5-FT INTERVAL, NAVD 88)
 - - - INFERRED GROUNDWATER ELEVATION CONTOUR
 - ➔ GROUNDWATER FLOW DIRECTION
- 0 150 300
Feet

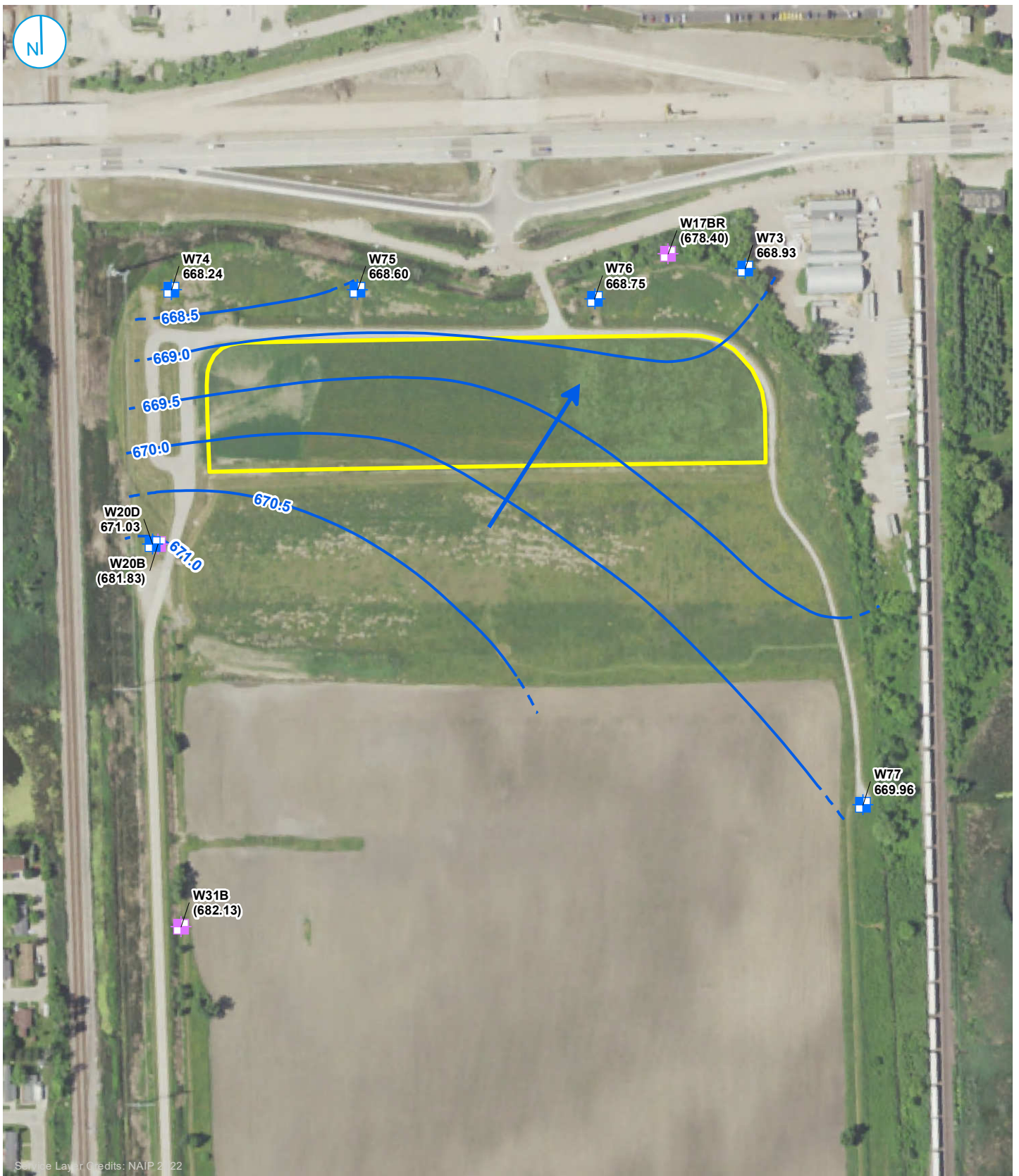
POTENTIOMETRIC SURFACE MAP OCTOBER 12, 2021

**2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
ASH LANDFILL
PLEASANT PRAIRIE POWER PLANT
PLEASANT PRAIRIE, WISCONSIN**

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





- UNIT BOUNDARY
 - BEDROCK UNIT (UPPERMOST AQUIFER) CCR MONITORING WELL LOCATION
 - GLACIAL UNIT POTENTIAL CONTAMINANT PATHWAY CCR MONITORING WELL LOCATION (NOT USED FOR CONTOURING)
 - GROUNDWATER ELEVATION CONTOUR (0.5-FT INTERVAL, NAVD 88)
 - - - INFERRED GROUNDWATER ELEVATION CONTOUR
 - ➔ GROUNDWATER FLOW DIRECTION
- 0 150 300
Feet

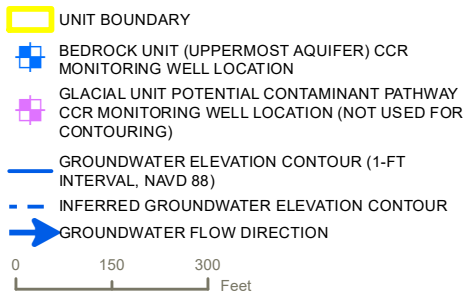
POTENTIOMETRIC SURFACE MAP
APRIL 13, 2022

**2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT**
ASH LANDFILL
PLEASANT PRAIRIE POWER PLANT
PLEASANT PRAIRIE, WISCONSIN

FIGURE 3

RAMBOLL AMERICAS
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POTENTIOMETRIC SURFACE MAP OCTOBER 5, 2022

2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
ASH LANDFILL
PLEASANT PRAIRIE POWER PLANT
PLEASANT PRAIRIE, WISCONSIN

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



APPENDICES

APPENDIX A
LABORATORY REPORTS

To: Eric Kovatch
PSB Annex A231

From: WEC Business Services
Laboratory Services PSBA-A070
WDNR Cert # 241329000



Report Date: Tuesday, November 16, 2021

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **101221001 P4 Landfill CCR Well Sample**
 Sample ID: AE56409 Sample Collection Date/Time: 10/12/2021 09:00
 Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	8.43	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	12.9	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	1014	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	7.1	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	1060	8.7	mg/L	20	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	0.62	0.48	mg/L	1.6	5.0	J	EPA 300.0	10/14/21	020
Total Chloride	32.1	2.2	mg/L	10	5.0		EPA 300.0	10/14/21	020
Total Sulfate	192	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	306	17.3	ug/L	40.0	1.0		EPA 200.7	10/18/21	020
Total Calcium	92900	114	ug/L	500	1.0		EPA 200.7	10/18/21	020
Dissolved Calcium	95200	114	ug/L	500	1.0		EPA 200.7	10/18/21	020
Dissolved Chloride	31.7	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	55700	182	ug/L	1000	1.0		EPA 200.7	10/18/21	020
Dissolved Sodium	39800	350	ug/L	500	1.0		EPA 200.7	10/18/21	020
Dissolved Sulfate	192	8.9	mg/L	40.0	20.0		EPA 300.0	10/14/21	020
Dissolved Potassium	2070	325	ug/L	1000	1.0		EPA 200.7	10/18/21	020

Sample Comments:

Sample Description: **101221002 P4 Landfill CCR Well Sample**
 Sample ID: AE56410 Sample Collection Date/Time: 10/12/2021 09:29
 Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	23.21	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	13.6	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	625	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	7.5	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	602	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	1.1	0.48	mg/L	1.6	5.0	J	EPA 300.0	10/14/21	020
Total Chloride	11.0	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Sulfate	177	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	444	17.3	ug/L	40.0	1.0		EPA 200.7	10/18/21	020
Total Calcium	25300	114	ug/L	500	1.0		EPA 200.7	10/18/21	020
Dissolved Calcium	26100	114	ug/L	500	1.0		EPA 200.7	10/18/21	020
Dissolved Chloride	12.0	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020

Report Date: Tuesday, November 16, 2021

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **101221002 P4 Landfill CCR Well Sample**
Sample ID: AE56410 Sample Collection Date/Time: 10/12/2021 09:29
Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Dissolved Magnesium	16800	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	81300	3500	ug/L	5000	10.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	180	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Potassium	3590	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Sample Comments:

Sample Description: **101221003 P4 Landfill CCR Well Sample**
Sample ID: AE56411 Sample Collection Date/Time: 10/12/2021 10:08
Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	23.98	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	12.0	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	506	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	8.0	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	402	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	0.98	0.48	mg/L	1.6	5.0	J	EPA 300.0	10/14/21	020
Total Chloride	12.5	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Sulfate	156	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	417	17.3	ug/L	40.0	1.0		EPA 200.7	10/18/21	020
Total Calcium	20200	114	ug/L	500	1.0		EPA 200.7	10/18/21	020
Dissolved Calcium	20400	114	ug/L	500	1.0		EPA 200.7	10/18/21	020
Dissolved Chloride	13.7	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	15800	182	ug/L	1000	1.0		EPA 200.7	10/18/21	020
Dissolved Sodium	82100	350	ug/L	500	1.0		EPA 200.7	10/18/21	020
Dissolved Sulfate	165	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Potassium	2380	325	ug/L	1000	1.0		EPA 200.7	10/18/21	020

Sample Comments:

Sample Description: **101221004 P4 Landfill CCR Well Sample**
Sample ID: AE56412 Sample Collection Date/Time: 10/12/2021 10:47
Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	26.25	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	14.3	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	541	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	8.0	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	382	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	1.1	0.48	mg/L	1.6	5.0	J	EPA 300.0	10/14/21	020

Report Date: Tuesday, November 16, 2021

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **101221004 P4 Landfill CCR Well Sample**
Sample ID: AE56412 Sample Collection Date/Time: 10/12/2021 10:47
Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Chloride	8.3	2.2	mg/L	10.0	5.0	J	EPA 300.0	10/14/21	020
Total Sulfate	126	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	422	17.3	ug/L	40.0	1.0		EPA 200.7	10/14/21	020
Total Calcium	20300	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Calcium	20300	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Chloride	10.2	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	13300	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	73500	350	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	134	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Potassium	3050	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Sample Comments:

Sample Description: **101221005 P4 Landfill CCR Well Sample**
Sample ID: AE56413 Sample Collection Date/Time: 10/12/2021 11:18
Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	27.69	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	11.6	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	544	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	8.3	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	362	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	0.98	0.48	mg/L	1.6	5.0	J	EPA 300.0	10/14/21	020
Total Chloride	10.4	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Sulfate	133	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	436	17.3	ug/L	40.0	1.0		EPA 200.7	10/14/21	020
Total Calcium	19200	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Calcium	19200	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Chloride	11.9	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	12100	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	76400	350	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	139	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Potassium	2650	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Sample Comments:

Sample Description: **101221006 P4 Landfill CCR Well Sample**
Sample ID: AE56414 Sample Collection Date/Time: 10/12/2021 11:23
Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
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Report Date: Tuesday, November 16, 2021

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **101221006 P4 Landfill CCR Well Sample**
 Sample ID: AE56414 Sample Collection Date/Time: 10/12/2021 11:23
 Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Dissolved Solids	348	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	1.1	0.48	mg/L	1.6	5.0	J	EPA 300.0	10/14/21	020
Total Chloride	10.7	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Sulfate	139	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	425	17.3	ug/L	40.0	1.0		EPA 200.7	10/14/21	020
Total Calcium	18500	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Calcium	20100	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Chloride	11.9	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	12800	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	80500	350	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	140	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Potassium	2650	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Sample Comments:

Sample Description: **101221007 P4 Landfill CCR Well Sample**
 Sample ID: AE56415 Sample Collection Date/Time: 10/12/2021 11:46
 Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	15.23	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	11.1	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	288	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	8.2	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	190	20	mg/L	8.7	1.0	20.0	Std Mtd 2540 C	10/14/21	020
Total Fluoride	1.4	0.095	mg/L	0.32	1.0		EPA 300.0	10/14/21	020
Total Chloride	8.0	0.43	mg/L	2.0	1.0		EPA 300.0	10/14/21	020
Total Sulfate	17.4	0.44	mg/L	2.0	1.0		EPA 300.0	10/14/21	020
Total Boron	644	17.3	ug/L	40.0	1.0		EPA 200.7	10/14/21	020
Total Calcium	11800	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Calcium	12200	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Chloride	8.8	0.43	mg/L	2.0	1.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	4780	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	48200	350	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	19.4	0.44	mg/L	2.0	1.0		EPA 300.0	10/14/21	020
Dissolved Potassium	1220	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Sample Comments:

Report Date: Tuesday, November 16, 2021

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **101221008 P4 Landfill CCR Well Sample**
 Sample ID: AE56416 Sample Collection Date/Time: 10/12/2021 12:23
 Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	22.93	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	12.0	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	598	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	7.6	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	362	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	1.0	0.48	mg/L	1.6	5.0	J	EPA 300.0	10/14/21	020
Total Chloride	8.0	2.2	mg/L	10.0	5.0	J	EPA 300.0	10/14/21	020
Total Sulfate	123	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	396	86.6	ug/L	200	5.0		EPA 200.7	10/14/21	020
Total Calcium	25500	568	ug/L	2500	5.0		EPA 200.7	10/14/21	020
Dissolved Calcium	26300	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Chloride	10.1	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	14000	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	82600	350	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	138	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Potassium	2720	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Sample Comments:

Sample Description: **101221009 P4 Landfill CCR Well Sample**
 Sample ID: AE56417 Sample Collection Date/Time: 10/12/2021 13:03
 Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	26.25	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	13.1	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	526	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	8.1	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	322	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	0.89	0.48	mg/L	1.6	5.0	J	EPA 300.0	10/14/21	020
Total Chloride	12.4	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Sulfate	116	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	439	17.3	ug/L	40.0	1.0		EPA 200.7	10/14/21	020
Total Calcium	18800	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Calcium	19600	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Chloride	12.3	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	12600	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	74700	350	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	130	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Potassium	1790	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Report Date: Tuesday, November 16, 2021

The following are the analytical results for samples received by Laboratory Services:

Sample Comments:

Sample Description: **101221010 P4 Landfill CCR Well Sample**
Sample ID: AE56418 Sample Collection Date/Time: 10/12/2021 13:31
Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	3.81	0.05	feet		1.0		H2OD	10/12/21	NATE DUDA
Field Temperature	11.6	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	999	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	7.4	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	592	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	10/14/21	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5.0		EPA 300.0	10/14/21	020
Total Chloride	66.9	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Sulfate	130	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Total Boron	80.6	17.3	ug/L	40.0	1.0		EPA 200.7	10/14/21	020
Total Calcium	104000	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Calcium	112000	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Chloride	71.9	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	67100	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	15800	350	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	144	2.2	mg/L	10.0	5.0		EPA 300.0	10/14/21	020
Dissolved Potassium	1880	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Sample Comments:

Sample Description: **101221011 P4 Landfill CCR Well Sample**
Sample ID: AE56419 Sample Collection Date/Time: 10/12/2021 14:00
Sample Received: 10/13/2021 Sample Collector: N. DUDA / L. ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Temperature	18.8	0.1	Degrees C		1.0		TEMP	10/12/21	NATE DUDA
Field Conductivity	19.6	0	umhos		1.0		FCOND25	10/12/21	NATE DUDA
Field pH	8.2	0.1	Units	0.1	1.0		FIELDPH	10/12/21	NATE DUDA
Total Dissolved Solids	14.0	8.7	mg/L	20.0	1.0	J	Std Mtd 2540 C	10/14/21	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	10/14/21	020
Total Chloride	Less Than	0.43	mg/L	2.0	1.0		EPA 300.0	10/14/21	020
Total Sulfate	Less Than	0.44	mg/L	2.0	1.0		EPA 300.0	10/14/21	020
Total Boron	Less Than	17.3	ug/L	40.0	1.0		EPA 200.7	10/14/21	020
Total Calcium	Less Than	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Calcium	Less Than	114	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Chloride	Less Than	0.43	mg/L	2.0	1.0		EPA 300.0	10/14/21	020
Dissolved Magnesium	Less Than	182	ug/L	1000	1.0		EPA 200.7	10/14/21	020
Dissolved Sodium	Less Than	350	ug/L	500	1.0		EPA 200.7	10/14/21	020
Dissolved Sulfate	Less Than	0.44	mg/L	2.0	1.0		EPA 300.0	10/14/21	020
Dissolved Potassium	Less Than	325	ug/L	1000	1.0		EPA 200.7	10/14/21	020

Report Date: Tuesday, November 16, 2021

The following are the analytical results for samples received by Laboratory Services:

Sample Comments:

LOD and LOQ are adjusted for dilution factor.

'J' Flag, if present indicates an estimated concentration at or above the LOD and below the LOQ.

If there are any questions concerning this report, please contact: Patrick Ahrens at (414) 221-2835.

To: Eric Kovatch
PSB Annex A231

From: WEC Business Services
Laboratory Services PSBA-A070
WDNR Cert # 241329000



Report Date: Tuesday, May 17, 2022

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **041322001 P4 Landfill CCR Well Sample**
 Sample ID: AE60059 Sample Collection Date/Time: 04/13/2022 08:55
 Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	17.27	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	11	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	523	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	7.5	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	4/14/22	020
Total Chloride	8.7	0.43	mg/L	2.0	1		EPA 300.0	4/14/22	020
Total Sulfate	140	4.4	mg/L	20.0	10		EPA 300.0	4/14/22	020
Total Boron	403	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	26400	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	348	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Sample Description: **041322002 P4 Landfill CCR Well Sample**
 Sample ID: AE60060 Sample Collection Date/Time: 04/13/2022 09:45
 Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	21.65	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	11	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	533	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	8.2	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	1.0	0.095	mg/L	0.32	1		EPA 300.0	4/14/22	020
Total Chloride	11.0	0.43	mg/L	2.0	1		EPA 300.0	4/14/22	020
Total Sulfate	131	4.4	mg/L	20.0	10		EPA 300.0	4/14/22	020
Total Boron	431	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	28000	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	344	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Report Date: Tuesday, May 17, 2022

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **041322003 P4 Landfill CCR Well Sample**
Sample ID: AE60061 Sample Collection Date/Time: 04/13/2022 10:39
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	11.95	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	11	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	288	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	8.4	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	1.3	0.095	mg/L	0.32	1		EPA 300.0	4/14/22	020
Total Chloride	8.0	0.43	mg/L	2.0	1		EPA 300.0	4/14/22	020
Total Sulfate	17.9	0.44	mg/L	2.0	1		EPA 300.0	4/14/22	020
Total Boron	608	30.3	ug/L	100	10		EPA 200.7	4/15/22	020
Total Calcium	11500	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	162	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Sample Description: **041322004 P4 Landfill CCR Well Sample**
Sample ID: AE60062 Sample Collection Date/Time: 04/13/2022 11:28
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	22.88	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	11	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	511	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	8.3	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	1.1	0.095	mg/L	0.32	1		EPA 300.0	4/14/22	020
Total Chloride	10.4	0.43	mg/L	2.0	1		EPA 300.0	4/14/22	020
Total Sulfate	139	4.4	mg/L	20.0	10		EPA 300.0	4/14/22	020
Total Boron	415	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	18300	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	330	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Sample Description: **041322005 P4 Landfill CCR Well Sample**
Sample ID: AE60063 Sample Collection Date/Time: 04/13/2022 12:01
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	21.31	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	11	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	540	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	8.1	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	1.2	0.095	mg/L	0.32	1		EPA 300.0	4/15/22	020
Total Chloride	8.7	0.43	mg/L	2.0	1		EPA 300.0	4/15/22	020

Report Date: Tuesday, May 17, 2022

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **041322005 P4 Landfill CCR Well Sample**
Sample ID: AE60063 Sample Collection Date/Time: 04/13/2022 12:01
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Sulfate	135	4.4	mg/L	20.0	10		EPA 300.0	4/15/22	020
Total Boron	427	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	21000	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	320	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Sample Description: **041322006 P4 Landfill CCR Well Sample**
Sample ID: AE60064 Sample Collection Date/Time: 04/13/2022 12:33
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	18.59	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	11	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	591	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	8.0	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	1.2	0.095	mg/L	0.32	1		EPA 300.0	4/15/22	020
Total Chloride	12.7	0.43	mg/L	2.0	1		EPA 300.0	4/15/22	020
Total Sulfate	164	4.4	mg/L	20.0	10		EPA 300.0	4/15/22	020
Total Boron	381	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	19300	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	352	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Sample Description: **041322007 P4 Landfill CCR Well Sample**
Sample ID: AE60065 Sample Collection Date/Time: 04/13/2022 13:07
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	5.17	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	11	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	709	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	7.5	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	0.89	0.095	mg/L	0.32	1		EPA 300.0	4/15/22	020
Total Chloride	15.0	0.43	mg/L	2.0	1		EPA 300.0	4/15/22	020
Total Sulfate	97.8	2.2	mg/L	10.0	5		EPA 300.0	4/15/22	020
Total Boron	300	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	57200	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	388	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Report Date: Tuesday, May 17, 2022

The following are the analytical results for samples received by Laboratory Services:

Sample Comments:

Sample Description: **041322008 P4 Landfill CCR Well Sample**
Sample ID: AE60066 Sample Collection Date/Time: 04/13/2022 13:55
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	17.38	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	12	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	629	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	7.8	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	1.2	0.095	mg/L	0.32	1		EPA 300.0	4/15/22	020
Total Chloride	10.8	0.43	mg/L	2.0	1		EPA 300.0	4/15/22	020
Total Sulfate	181	4.4	mg/L	20.0	10		EPA 300.0	4/15/22	020
Total Boron	428	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	25800	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	366	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Sample Description: **041322009 P4 Landfill CCR Well Sample**
Sample ID: AE60067 Sample Collection Date/Time: 04/13/2022 14:21
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	1.64	0.05	feet		1		H2OD	4/13/22	L ALBRIGHT
Field Temperature	11	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	1012	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	7.3	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	0.36	0.095	mg/L	0.32	1		EPA 300.0	4/15/22	020
Total Chloride	67.9	4.3	mg/L	20.0	10		EPA 300.0	4/15/22	020
Total Sulfate	139	4.4	mg/L	20.0	10		EPA 300.0	4/15/22	020
Total Boron	86.3	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	108000	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	584	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Sample Description: **041322010 P4 Landfill CCR Well Sample**
Sample ID: AE60068 Sample Collection Date/Time: 04/13/2022 14:26
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Fluoride	0.36	0.095	mg/L	0.32	1		EPA 300.0	4/15/22	020

Report Date: Tuesday, May 17, 2022

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **041322010 P4 Landfill CCR Well Sample**
Sample ID: AE60068 Sample Collection Date/Time: 04/13/2022 14:26
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Chloride	68.2	4.3	mg/L	20.0	10		EPA 300.0	4/15/22	020
Total Sulfate	140	4.4	mg/L	20.0	10		EPA 300.0	4/15/22	020
Total Boron	81.9	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	103000	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	604	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

Sample Description: **041322011 P4 Landfill CCR Well Sample**
Sample ID: AE60069 Sample Collection Date/Time: 04/13/2022 15:10
Sample Received: 04/14/2022 Sample Collector: LYDIA ALBRIGHT

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Temperature	21	0.1	Degrees		1		TEMP	4/13/22	L ALBRIGHT
Field Conductivity	12	0	umhos		1		FCOND25	4/13/22	L ALBRIGHT
Field pH	7.8	0.1	Units	0.1	1		FIELDPH	4/13/22	L ALBRIGHT
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	4/15/22	020
Total Chloride	Less Than	0.43	mg/L	2.0	1		EPA 300.0	4/15/22	020
Total Sulfate	Less Than	0.44	mg/L	2.0	1		EPA 300.0	4/15/22	020
Total Boron	Less Than	3.0	ug/L	10.0	1		EPA 200.7	4/15/22	020
Total Calcium	Less Than	76.2	ug/L	254	1		EPA 200.7	4/15/22	020
Total Dissolved Solids	Less Than	8.7	mg/L	20.0	1		Std Mtd 2540 C	4/13/22	020

Sample Comments:

LOD and LOQ are adjusted for dilution factor.

'J' Flag, if present indicates an estimated concentration at or above the LOD and below the LOQ.

If there are any questions concerning this report, please contact: Patrick Ahrens at (414) 221-2835.

April 28, 2022

Patrick Ahrens
WEC Business Services, LLC.
PO BOX 19800
700 NORTH ADAMS
Green Bay, WI 543079004

RE: Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

Dear Patrick Ahrens:

Enclosed are the analytical results for sample(s) received by the laboratory on April 14, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Andrew Cawrse, Ramboll Americas
Kevin Howard, We Energies
Dick Jackson, WE Energies
Ben Koshak, WEC Business Services, LLC.
WE Energies Lab Reports, WE Energies



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: Q-6005-001031 PPPP CCR LANDFIL

Pace Project No.: 40243469

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Q-6005-001031 PPPP CCR LANDFIL

Pace Project No.: 40243469

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40243469001	041322001 (AE60059)	Water	04/13/22 08:55	04/14/22 15:44
40243469002	041322002 (AE60060)	Water	04/13/22 09:45	04/14/22 15:44
40243469003	041322003 (AE60061)	Water	04/13/22 10:39	04/14/22 15:44
40243469004	041322004 (AE60062)	Water	04/13/22 11:28	04/14/22 15:44
40243469005	041322005 (AE60063)	Water	04/13/22 12:01	04/14/22 15:44
40243469006	041322006 (AE60064)	Water	04/13/22 12:33	04/14/22 15:44
40243469007	041322007 (AE60065)	Water	04/13/22 13:07	04/14/22 15:44
40243469008	041322008 (AE60066)	Water	04/13/22 13:55	04/14/22 15:44
40243469009	041322009 (AE60067)	Water	04/13/22 14:21	04/14/22 15:44
40243469010	041322010 (AE60068)	Water	04/13/22 14:26	04/14/22 15:44
40243469011	041322011 (AE60069)	Water	04/13/22 15:10	04/14/22 15:44

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40243469001	041322001 (AE60059)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469002	041322002 (AE60060)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469003	041322003 (AE60061)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469004	041322004 (AE60062)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469005	041322005 (AE60063)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469006	041322006 (AE60064)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469007	041322007 (AE60065)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469008	041322008 (AE60066)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469009	041322009 (AE60067)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469010	041322010 (AE60068)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3
40243469011	041322011 (AE60069)	EPA 200.8	KXS	2
		SM 2540C	SRK	1
		EPA 300.0	HMB	3

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

Sample: 041322001 (AE60059) Lab ID: 40243469001 Collected: 04/13/22 08:55 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	403	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 07:30	7440-42-8	
Calcium	26400	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 07:30	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	348	mg/L	20.0	8.7	1		04/18/22 13:25		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	8.7	mg/L	2.0	0.43	1		04/25/22 14:28	16887-00-6	M0
Fluoride	<0.095	mg/L	0.32	0.095	1		04/25/22 14:28	16984-48-8	M0
Sulfate	140	mg/L	20.0	4.4	10		04/26/22 12:09	14808-79-8	M0

Sample: 041322002 (AE60060) Lab ID: 40243469002 Collected: 04/13/22 09:45 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	431	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 07:37	7440-42-8	
Calcium	28000	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 07:37	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	344	mg/L	20.0	8.7	1		04/18/22 13:26		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	11.0	mg/L	2.0	0.43	1		04/25/22 15:13	16887-00-6	
Fluoride	1.0	mg/L	0.32	0.095	1		04/25/22 15:13	16984-48-8	
Sulfate	131	mg/L	20.0	4.4	10		04/26/22 12:53	14808-79-8	

Sample: 041322003 (AE60061) Lab ID: 40243469003 Collected: 04/13/22 10:39 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	608	ug/L	100	30.3	10	04/15/22 06:11	04/27/22 01:29	7440-42-8	
Calcium	11500	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 03:56	7440-70-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

Sample: 041322003 (AE60061) Lab ID: 40243469003 Collected: 04/13/22 10:39 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	162	mg/L	20.0	8.7	1		04/18/22 13:26		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	8.0	mg/L	2.0	0.43	1		04/25/22 15:28	16887-00-6	
Fluoride	1.3	mg/L	0.32	0.095	1		04/25/22 15:28	16984-48-8	
Sulfate	17.9	mg/L	2.0	0.44	1		04/25/22 15:28	14808-79-8	

Sample: 041322004 (AE60062) Lab ID: 40243469004 Collected: 04/13/22 11:28 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	415	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 07:45	7440-42-8	
Calcium	18300	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 07:45	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	330	mg/L	20.0	8.7	1		04/18/22 13:27		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	10.4	mg/L	2.0	0.43	1		04/26/22 12:05	16887-00-6	M0
Fluoride	1.1	mg/L	0.32	0.095	1		04/26/22 12:05	16984-48-8	M0
Sulfate	139	mg/L	20.0	4.4	10		04/27/22 04:30	14808-79-8	

Sample: 041322005 (AE60063) Lab ID: 40243469005 Collected: 04/13/22 12:01 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	427	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 07:52	7440-42-8	
Calcium	21000	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 07:52	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	320	mg/L	20.0	8.7	1		04/18/22 13:27		

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ANALYTICAL RESULTS

Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

Sample: 041322005 (AE60063) Lab ID: 40243469005 Collected: 04/13/22 12:01 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	8.7	mg/L	2.0	0.43	1		04/26/22 12:48	16887-00-6	
Fluoride	1.2	mg/L	0.32	0.095	1		04/26/22 12:48	16984-48-8	
Sulfate	135	mg/L	20.0	4.4	10		04/27/22 05:56	14808-79-8	

Sample: 041322006 (AE60064) Lab ID: 40243469006 Collected: 04/13/22 12:33 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	381	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 07:59	7440-42-8	
Calcium	19300	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 07:59	7440-70-2	

Sample: 041322007 (AE60065) Lab ID: 40243469007 Collected: 04/13/22 13:07 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	352	mg/L	20.0	8.7	1		04/18/22 13:27		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	12.7	mg/L	2.0	0.43	1		04/26/22 13:03	16887-00-6	
Fluoride	1.2	mg/L	0.32	0.095	1		04/26/22 13:03	16984-48-8	
Sulfate	164	mg/L	20.0	4.4	10		04/27/22 06:11	14808-79-8	

Sample: 041322007 (AE60065) Lab ID: 40243469007 Collected: 04/13/22 13:07 Received: 04/14/22 15:44 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	300	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 08:07	7440-42-8	
Calcium	57200	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 08:07	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	388	mg/L	20.0	8.7	1		04/18/22 13:28		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	15.0	mg/L	2.0	0.43	1		04/26/22 13:17	16887-00-6	
Fluoride	0.89	mg/L	0.32	0.095	1		04/26/22 13:17	16984-48-8	
Sulfate	97.8	mg/L	10.0	2.2	5		04/27/22 06:25	14808-79-8	

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ANALYTICAL RESULTS

Project: Q-6005-001031 PPPP CCR LANDFIL

Pace Project No.: 40243469

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: 041322008 (AE60066) Lab ID: 40243469008 Collected: 04/13/22 13:55 Received: 04/14/22 15:44 Matrix: Water									
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	428	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 16:06	7440-42-8	
Calcium	25800	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 16:06	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	366	mg/L	20.0	8.7	1		04/18/22 13:28		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	10.8	mg/L	2.0	0.43	1		04/26/22 13:32	16887-00-6	
Fluoride	1.2	mg/L	0.32	0.095	1		04/26/22 13:32	16984-48-8	
Sulfate	181	mg/L	20.0	4.4	10		04/27/22 06:39	14808-79-8	

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: 041322009 (AE60067) Lab ID: 40243469009 Collected: 04/13/22 14:21 Received: 04/14/22 15:44 Matrix: Water									
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	86.3	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 16:13	7440-42-8	
Calcium	108000	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 16:13	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	584	mg/L	20.0	8.7	1		04/18/22 13:28		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	67.9	mg/L	20.0	4.3	10		04/27/22 06:54	16887-00-6	
Fluoride	0.36	mg/L	0.32	0.095	1		04/26/22 13:46	16984-48-8	
Sulfate	139	mg/L	20.0	4.4	10		04/27/22 06:54	14808-79-8	

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: 041322010 (AE60068) Lab ID: 40243469010 Collected: 04/13/22 14:26 Received: 04/14/22 15:44 Matrix: Water									
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	81.9	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 16:21	7440-42-8	
Calcium	103000	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 16:21	7440-70-2	

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ANALYTICAL RESULTS

Project: Q-6005-001031 PPPP CCR LANDFIL

Pace Project No.: 40243469

Sample: 041322010 (AE60068) **Lab ID: 40243469010** Collected: 04/13/22 14:26 Received: 04/14/22 15:44 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	604	mg/L	20.0	8.7	1		04/18/22 13:29		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	68.2	mg/L	20.0	4.3	10		04/27/22 07:08	16887-00-6	
Fluoride	0.36	mg/L	0.32	0.095	1		04/26/22 14:43	16984-48-8	
Sulfate	140	mg/L	20.0	4.4	10		04/27/22 07:08	14808-79-8	

Sample: 041322011 (AE60069) **Lab ID: 40243469011** Collected: 04/13/22 15:10 Received: 04/14/22 15:44 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Green Bay									
Boron	<3.0	ug/L	10.0	3.0	1	04/15/22 06:11	04/27/22 16:28	7440-42-8	
Calcium	<76.2	ug/L	254	76.2	1	04/15/22 06:11	04/27/22 16:28	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	<8.7	mg/L	20.0	8.7	1		04/18/22 13:29		
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	<0.43	mg/L	2.0	0.43	1		04/26/22 14:58	16887-00-6	
Fluoride	<0.095	mg/L	0.32	0.095	1		04/26/22 14:58	16984-48-8	
Sulfate	<0.44	mg/L	2.0	0.44	1		04/26/22 14:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

QC Batch: 413245 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40243469001, 40243469002, 40243469003, 40243469004, 40243469005, 40243469006, 40243469007, 40243469008, 40243469009, 40243469010, 40243469011

METHOD BLANK: 2379591 Matrix: Water
Associated Lab Samples: 40243469001, 40243469002, 40243469003, 40243469004, 40243469005, 40243469006, 40243469007, 40243469008, 40243469009, 40243469010, 40243469011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	<3.0	10.0	04/27/22 00:44	
Calcium	ug/L	<76.2	254	04/27/22 00:44	

LABORATORY CONTROL SAMPLE: 2379592

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	250	235	94	85-115	
Calcium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2379593 2379594

Parameter	Units	40243384021		2379594		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Boron	ug/L	650	250	934	877	113	91	75-125	6	20	
Calcium	ug/L	239000	10000	263000	253000	242	141	75-125	4	20 P6	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2379595 2379596

Parameter	Units	40243469003		2379596		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Boron	ug/L	608	250	860	854	101	98	75-125	1	20	
Calcium	ug/L	11500	10000	21500	21800	100	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

QC Batch:	413442	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 40243469001, 40243469002, 40243469003, 40243469004, 40243469005, 40243469006, 40243469007, 40243469008, 40243469009, 40243469010, 40243469011

METHOD BLANK: 2380766 Matrix: Water
Associated Lab Samples: 40243469001, 40243469002, 40243469003, 40243469004, 40243469005, 40243469006, 40243469007, 40243469008, 40243469009, 40243469010, 40243469011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	04/18/22 13:23	

LABORATORY CONTROL SAMPLE: 2380767

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	555	538	97	80-120	

SAMPLE DUPLICATE: 2380768

Parameter	Units	40243429001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	580	588	1	10	

SAMPLE DUPLICATE: 2380769

Parameter	Units	40243469001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	348	364	4	10	

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QUALITY CONTROL DATA

Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

QC Batch: 413946 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40243469001, 40243469002, 40243469003

METHOD BLANK: 2383815 Matrix: Water
Associated Lab Samples: 40243469001, 40243469002, 40243469003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.43	2.0	04/25/22 13:14	
Fluoride	mg/L	<0.095	0.32	04/25/22 13:14	
Sulfate	mg/L	<0.44	2.0	04/25/22 13:14	

LABORATORY CONTROL SAMPLE: 2383816

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.4	102	90-110	
Fluoride	mg/L	2	1.8	90	90-110	
Sulfate	mg/L	20	20.4	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2383817 2383818

Parameter	Units	40243469001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	8.7	20	20	30.8	30.8	111	111	90-110	0	15	M0
Fluoride	mg/L	<0.095	2	2	2.9	2.9	144	144	90-110	0	15	M0
Sulfate	mg/L	140	200	200	394	349	127	105	90-110	12	15	M0

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QUALITY CONTROL DATA

Project: Q-6005-001031 PPPP CCR LANDFIL
Pace Project No.: 40243469

QC Batch:	414020	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 40243469004, 40243469005, 40243469006, 40243469007, 40243469008, 40243469009, 40243469010, 40243469011

METHOD BLANK: 2384067 Matrix: Water
Associated Lab Samples: 40243469004, 40243469005, 40243469006, 40243469007, 40243469008, 40243469009, 40243469010, 40243469011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.43	2.0	04/26/22 11:37	
Fluoride	mg/L	<0.095	0.32	04/26/22 11:37	
Sulfate	mg/L	<0.44	2.0	04/26/22 11:37	

LABORATORY CONTROL SAMPLE: 2384068

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.5	102	90-110	
Fluoride	mg/L	2	2.2	109	90-110	
Sulfate	mg/L	20	20.5	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2384069 2384070

Parameter	Units	40243469004		2384070		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	10.4	20	32.4	32.6	110	111	90-110	0	15	M0
Fluoride	mg/L	1.1	2	3.4	3.4	113	114	90-110	1	15	M0
Sulfate	mg/L	139	200	352	351	107	106	90-110	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2384071 2384072

Parameter	Units	40243484003		2384072		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	9620	10000	20400	20500	108	109	90-110	1	15	
Fluoride	mg/L	74.4J	1000	339	338	26	26	90-110	0	15	M0
Sulfate	mg/L	1610	10000	12600	12700	110	111	90-110	1	15	M0

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QUALIFIERS

Project: Q-6005-001031 PPPP CCR LANDFIL

Pace Project No.: 40243469

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Q-6005-001031 PPPP CCR LANDFIL

Pace Project No.: 40243469

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40243469001	041322001 (AE60059)	EPA 200.8	413245	EPA 200.8	413411
40243469002	041322002 (AE60060)	EPA 200.8	413245	EPA 200.8	413411
40243469003	041322003 (AE60061)	EPA 200.8	413245	EPA 200.8	413411
40243469004	041322004 (AE60062)	EPA 200.8	413245	EPA 200.8	413411
40243469005	041322005 (AE60063)	EPA 200.8	413245	EPA 200.8	413411
40243469006	041322006 (AE60064)	EPA 200.8	413245	EPA 200.8	413411
40243469007	041322007 (AE60065)	EPA 200.8	413245	EPA 200.8	413411
40243469008	041322008 (AE60066)	EPA 200.8	413245	EPA 200.8	413411
40243469009	041322009 (AE60067)	EPA 200.8	413245	EPA 200.8	413411
40243469010	041322010 (AE60068)	EPA 200.8	413245	EPA 200.8	413411
40243469011	041322011 (AE60069)	EPA 200.8	413245	EPA 200.8	413411
40243469001	041322001 (AE60059)	SM 2540C	413442		
40243469002	041322002 (AE60060)	SM 2540C	413442		
40243469003	041322003 (AE60061)	SM 2540C	413442		
40243469004	041322004 (AE60062)	SM 2540C	413442		
40243469005	041322005 (AE60063)	SM 2540C	413442		
40243469006	041322006 (AE60064)	SM 2540C	413442		
40243469007	041322007 (AE60065)	SM 2540C	413442		
40243469008	041322008 (AE60066)	SM 2540C	413442		
40243469009	041322009 (AE60067)	SM 2540C	413442		
40243469010	041322010 (AE60068)	SM 2540C	413442		
40243469011	041322011 (AE60069)	SM 2540C	413442		
40243469001	041322001 (AE60059)	EPA 300.0	413946		
40243469002	041322002 (AE60060)	EPA 300.0	413946		
40243469003	041322003 (AE60061)	EPA 300.0	413946		
40243469004	041322004 (AE60062)	EPA 300.0	414020		
40243469005	041322005 (AE60063)	EPA 300.0	414020		
40243469006	041322006 (AE60064)	EPA 300.0	414020		
40243469007	041322007 (AE60065)	EPA 300.0	414020		
40243469008	041322008 (AE60066)	EPA 300.0	414020		
40243469009	041322009 (AE60067)	EPA 300.0	414020		
40243469010	041322010 (AE60068)	EPA 300.0	414020		
40243469011	041322011 (AE60069)	EPA 300.0	414020		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt Form (SCUR)

Project #: _____

Client Name: We Energies

WO# : 40243469

Courier: CS Logistics Fed Ex Speedee UPS Waltco
 Client Pace Other: _____



Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used SR - 110 Type of Ice: Wet Blue Dry None

Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2 / Corr: 2

Person examining contents:
 Date: 4/14/22 Initials: AW
 Labeled By Initials: AW

Temp Blank Present: yes no

Biological Tissue is Frozen: yes no

Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>not times, dates</u> <u>AW 4/13/22</u>
Chain of Custody Relinquished: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume: <input type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>dates 4/13/22</u>
-Includes date/time/ID/Analysis Matrix: <u>W</u>	<u>001: "18:55", 002: "09:45", 003: "10:30", 004: "11:28", 005: "12:01", 006: "12:33", 007: "13:07", 008: "13:55", 009: "14:21", 010: "14:26", 011: "15:10" 4/14/22 AW</u>
Trip Blank Present: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Custody Seals Present: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

Client Notification/ Resolution: _____
 Person Contacted: _____ Date/Time: _____
 Comments/ Resolution: _____

If checked, see attached form for additional comments

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample login

To: Eric Kovatch
PSB Annex A231



From: WEC Business Services
Laboratory Services PSBA-A070
WDNR Cert # 241329000

Report Date: Monday, December 5, 2022

The following are the analytical results for samples received by Laboratory Services on 10/06/2022 :

Sample Description: 100522001 P4 Landfill CCR Well Sample

Sample ID: AE62999 Serial/Impact ID: W20D
Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 11:31

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	23.12	0.05	feet		H2OD	10/3/22	ND
Field Temperature	13	0.1	Degrees C		TEMP	10/3/22	ND
Field Conductivity	634	0	umhos		FCOND25	10/3/22	ND
Field pH	7.1	0.1	Units		FIELDPH	10/3/22	ND
Dissolved Sulfate	187	4.4	mg/L		EPA 300.0	10/19/22	020
Dissolved Calcium	22600	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	15000	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	2840	237	ug/L		EPA 200.7	10/26/22	020
Dissolved Sodium	77300	420	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	1.1	0.095	mg/L		EPA 300.0	10/14/22	020
Total Chloride	11.9	0.43	mg/L		EPA 300.0	10/14/22	020
Total Suspended Solids	0.50	0.48	mg/L	J	Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	388	8.7	mg/L		Std Mtd 2540 C	10/10/22	020
Dissolved Chloride	11.4	0.43	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	178	4.4	mg/L		EPA 300.0	10/17/22	020
Total Alkalinity as CaCO3	116	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	0.58	0.1	mg/l		FIELDDO	10/3/22	ND
Turbidity	7.08	0.1	NTU'S		EPA 180.1	10/3/22	ND
Redox Potential	23.7	1	mV		ASTM D1498-93	10/3/22	ND
Total Calcium	23.7	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	0.403	0.0030	mg/L		EPA 200.7	10/26/22	020

Sample Description: 100522002 P4 Landfill CCR Well Sample

Sample ID: AE63000 Serial/Impact ID: QAQC1
Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 11:36

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Dissolved Sulfate	188	4.4	mg/L		EPA 300.0	10/19/22	020
Dissolved Calcium	21800	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	14300	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	2750	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	75200	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	1.1	0.095	mg/L		EPA 300.0	10/14/22	020
Total Chloride	12.0	0.43	mg/L		EPA 300.0	10/14/22	020
Total Suspended Solids	0.80	0.48	mg/L	J	Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	390	8.7	mg/L		Std Mtd 2540 C	10/10/22	020
Dissolved Chloride	11.4	0.43	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	180	4.4	mg/L		EPA 300.0	10/17/22	020

Total Alkalinity as CaCO3	116	5	mg/L	SM 2320 B-1997	10/18/22	020
Total Calcium	23.6	0.0762	mg/L	EPA 200.7	10/26/22	020
Total Boron	0.434	0.0303	mg/L	EPA 200.7	10/26/22	020

Sample Description: 100522003 P4 Landfill CCR Well Sample

Sample ID: AE63001 Serial/Impact ID: W20B
Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 12:21

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	7.76	0.05	feet		H2OD	10/3/22	ND
Field Temperature	13	0.1	Degrees C		TEMP	10/3/22	ND
Field Conductivity	843	0	umhos		FCOND25	10/3/22	ND
Field pH	7.4	0.1	Units		FIELDPH	10/3/22	ND
Dissolved Sulfate	138	2.2	mg/L		EPA 300.0	10/19/22	020
Dissolved Calcium	58400	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	41000	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	1470	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	38600	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	0.79	0.095	mg/L		EPA 300.0	10/14/22	020
Total Chloride	23.4	0.43	mg/L		EPA 300.0	10/14/22	020
Total Suspended Solids	1.7	0.48	mg/L		Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	466	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	22.6	2.2	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	138	2.2	mg/L		EPA 300.0	10/17/22	020
Total Alkalinity as CaCO3	278	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	0.53	0.1	mg/l		FIELDDO	10/3/22	ND
Turbidity	6.08	0.1	NTU'S		EPA 180.1	10/3/22	ND
Redox Potential	-129	1	mV		ASTM D1498-93	10/3/22	ND
Total Calcium	67.3	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	0.305	0.0030	mg/L		EPA 200.7	10/26/22	020

Sample Description: 100522004 P4 Landfill CCR Well Sample

Sample ID: AE63002 Serial/Impact ID: W31B
Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 12:56

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	3.11	0.05	feet		H2OD	10/3/22	ND
Field Temperature	22	0.1	Degrees C		TEMP	10/3/22	ND
Field Conductivity	1014	0	umhos		FCOND25	10/3/22	ND
Field pH	7.4	0.1	Units		FIELDPH	10/3/22	ND
Dissolved Sulfate	139	2.2	mg/L		EPA 300.0	10/19/22	020
Dissolved Calcium	23400	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	12500	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	2070	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	82500	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	0.22	0.095	mg/L	J	EPA 300.0	10/14/22	020
Total Chloride	78.5	2.2	mg/L		EPA 300.0	10/17/22	020
Total Suspended Solids	2.9	0.48	mg/L		Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	586	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	74.8	2.2	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	140	2.2	mg/L		EPA 300.0	10/17/22	020
Total Alkalinity as CaCO3	311	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	1.04	0.1	mg/l		FIELDDO	10/3/22	ND
Turbidity	8.98	0.1	NTU'S		EPA 180.1	10/3/22	ND
Redox Potential	-162.1	1	mV		ASTM D1498-93	10/3/22	ND
Total Calcium	99.1	0.0762	mg/L		EPA 200.7	10/26/22	020

Total Boron 0.0883 0.0030 mg/L EPA 200.7 10/26/22 020

Sample Description: 100522005 P4 Landfill CCR Well Sample

Sample ID: AE63003 Serial/Impact ID: W74
 Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 13:48

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	23.40	0.05	feet		H2OD	10/3/22	ND
Field Temperature	13	0.1	Degrees C		TEMP	10/3/22	ND
Field Conductivity	596	0	umhos		FCOND25	10/3/22	ND
Field pH	7.9	0.1	Units		FIELDPH	10/3/22	ND
Dissolved Sulfate	169	0.077	mg/L		EPA 300.0	10/19/22	020
Dissolved Calcium	17400	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	13900	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	1980	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	77400	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	1.1	0.095	mg/L		EPA 300.0	10/14/22	020
Total Chloride	15.5	0.43	mg/L		EPA 300.0	10/14/22	020
Total Suspended Solids	Less Than	0.48	mg/L		Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	332	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	14.8	0.43	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	172	4.4	mg/L		EPA 300.0	10/17/22	020
Total Alkalinity as CaCO3	107	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	0.82	0.1	mg/l		FIELDDO	10/3/22	ND
Turbidity	0.33	0.1	NTU'S		EPA 180.1	10/3/22	ND
Redox Potential	38.3	1	mV		ASTM D1498-93	10/3/22	ND
Total Calcium	19.4	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	0.395	0.0030	mg/L		EPA 200.7	10/26/22	020

Sample Description: 100522006 P4 Landfill CCR Well Sample

Sample ID: AE63004 Serial/Impact ID: W75
 Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 14:39

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	25.47	0.05	feet		H2OD	10/3/22	ND
Field Temperature	13	0.1	Degrees C		TEMP	10/3/22	ND
Field Conductivity	541	0	umhos		FCOND25	10/3/22	ND
Field pH	8.1	0.1	Units		FIELDPH	10/3/22	ND
Dissolved Sulfate	134	0.077	mg/L		EPA 300.0	10/19/22	020
Dissolved Calcium	18000	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	12700	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	2450	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	73400	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	1.1	0.095	mg/L		EPA 300.0	10/14/22	020
Total Chloride	9.6	0.43	mg/L		EPA 300.0	10/14/22	020
Total Suspended Solids	Less Than	0.48	mg/L		Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	302	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	9.2	0.43	mg/L		EPA 300.0	10/14/22	020
Total Sulfate	133	2.2	mg/L		EPA 300.0	10/17/22	020
Total Alkalinity as CaCO3	124	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	1.06	0.1	mg/l		FIELDDO	10/3/22	ND
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	10/3/22	ND
Redox Potential	-173.4	1	mV		ASTM D1498-93	10/3/22	ND
Total Calcium	18.2	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	0.404	0.0030	mg/L		EPA 200.7	10/26/22	020

Sample Description: 100522006 P4 Landfill CCR Well Sample

Sample ID: AE63005 Serial/Impact ID: W75
 Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 15:17

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	26.49	0.05	feet		H2OD	10/3/22	ND
Field Temperature	14	0.1	Degrees C		TEMP	10/3/22	ND
Field Conductivity	577	0	umhos		FCOND25	10/3/22	ND
Field pH	8.2	0.1	Units		FIELDPH	10/3/22	ND
Dissolved Sulfate	139	2.2	mg/L		EPA 300.0	10/20/22	020
Dissolved Calcium	16700	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	11800	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	2000	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	74600	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	1.0	0.095	mg/L		EPA 300.0	10/17/22	020
Total Chloride	11.0	0.43	mg/L		EPA 300.0	10/17/22	020
Total Suspended Solids	0.60	0.48	mg/L	J	Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	288	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	11.1	0.43	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	144	4.4	mg/L		EPA 300.0	10/19/22	020
Total Alkalinity as CaCO3	118	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	0.96	0.1	mg/l		FIELDDO	10/3/22	ND
Turbidity	2.42	0.1	NTU'S		EPA 180.1	10/3/22	ND
Redox Potential	-183	1	mV		ASTM D1498-93	10/3/22	ND
Total Calcium	18.8	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	0.428	0.0030	mg/L		EPA 200.7	10/26/22	020

Sample Description: 100522007 P4 Landfill CCR Well Sample

Sample ID: AE63006 Serial/Impact ID: W76
 Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 16:03

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	14.82	0.05	feet		H2OD	10/3/22	ND
Field Temperature	12	0.1	Degrees C		TEMP	10/3/22	ND
Field Conductivity	291	0	umhos		FCOND25	10/3/22	ND
Field pH	8.6	0.1	Units		FIELDPH	10/3/22	ND
Dissolved Sulfate	19.0	0.44	mg/L		EPA 300.0	10/19/22	020
Dissolved Calcium	9250	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	4420	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	821	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	43800	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	1.5	0.095	mg/L		EPA 300.0	10/17/22	020
Total Chloride	8.6	0.43	mg/L		EPA 300.0	10/17/22	020
Total Suspended Solids	0.70	0.48	mg/L	J	Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	138	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	8.6	0.43	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	19.0	0.44	mg/L		EPA 300.0	10/19/22	020
Total Alkalinity as CaCO3	117	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	0.56	0.1	mg/l		FIELDDO	10/3/22	ND
Turbidity	10.21	0.1	NTU'S		EPA 180.1	10/3/22	ND
Redox Potential	-155.7	1	mV		ASTM D1498-93	10/3/22	ND
Total Calcium	11.5	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	0.597	0.0303	mg/L		EPA 200.7	10/26/22	020

Sample Description: 100522008 P4 Landfill CCR Well Sample

Sample ID: AE63007 Serial/Impact ID: W17BR
 Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 16:45

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	24.70	0.05	feet		H2OD	10/3/22	020
Field Temperature	13	0.1	Degrees C		TEMP	10/3/22	020
Field Conductivity	532	0	umhos		FCOND25	10/3/22	020
Field pH	8.3	0.1	Units		FIELDPH	10/3/22	020
Dissolved Sulfate	126	2.2	mg/L		EPA 300.0	10/20/22	020
Dissolved Calcium	95000	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	57900	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	1380	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	14500	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	1.1	0.095	mg/L		EPA 300.0	10/17/22	020
Total Chloride	11.6	0.43	mg/L		EPA 300.0	10/17/22	020
Total Suspended Solids	2.1	0.48	mg/L		Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	298	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	11.6	0.43	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	131	2.2	mg/L		EPA 300.0	10/19/22	020
Total Alkalinity as CaCO3	115	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	0.53	0.1	mg/l		FIELDDO	10/3/22	020
Turbidity	57.54	0.1	NTU'S		EPA 180.1	10/3/22	020
Redox Potential	-205.7	1	mV		ASTM D1498-93	10/3/22	020
Total Calcium	21.2	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	0.437	0.0030	mg/L		EPA 200.7	10/26/22	020

Sample Description: 100522009 P4 Landfill CCR Well Sample

Sample ID: AE63008 Serial/Impact ID: W73
 Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 17:37

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	20.41	0.05	feet		H2OD	10/3/22	ND
Field Temperature	12	0.1	Degrees C		TEMP	10/3/22	ND
Field Conductivity	592	0	umhos		FCOND25	10/3/22	ND
Field pH	7.6	0.1	Units		FIELDPH	10/3/22	ND
Dissolved Sulfate	125	2.2	mg/L		EPA 300.0	10/20/22	020
Dissolved Calcium	22400	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	12200	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	2050	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	81400	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	1.2	0.095	mg/L		EPA 300.0	10/17/22	020
Total Chloride	8.8	0.43	mg/L		EPA 300.0	10/17/22	020
Total Suspended Solids	Less Than	0.48	mg/L		Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	328	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	8.9	0.43	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	132	2.2	mg/L		EPA 300.0	10/19/22	020
Total Alkalinity as CaCO3	153	5	mg/L		SM 2320 B-1997	10/18/22	020
Dissolved Oxygen-Field	1.95	0.1	mg/l		FIELDDO	10/3/22	ND
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	10/3/22	ND
Redox Potential	-60.8	1	mV		ASTM D1498-93	10/3/22	ND
Total Calcium	23.4	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	0.414	0.0030	mg/L		EPA 200.7	10/26/22	020

Sample Description: 100522011 P4 Landfill CCR Well Sample

Sample ID: AE63009 Serial/Impact ID: EB 1
Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 18:00

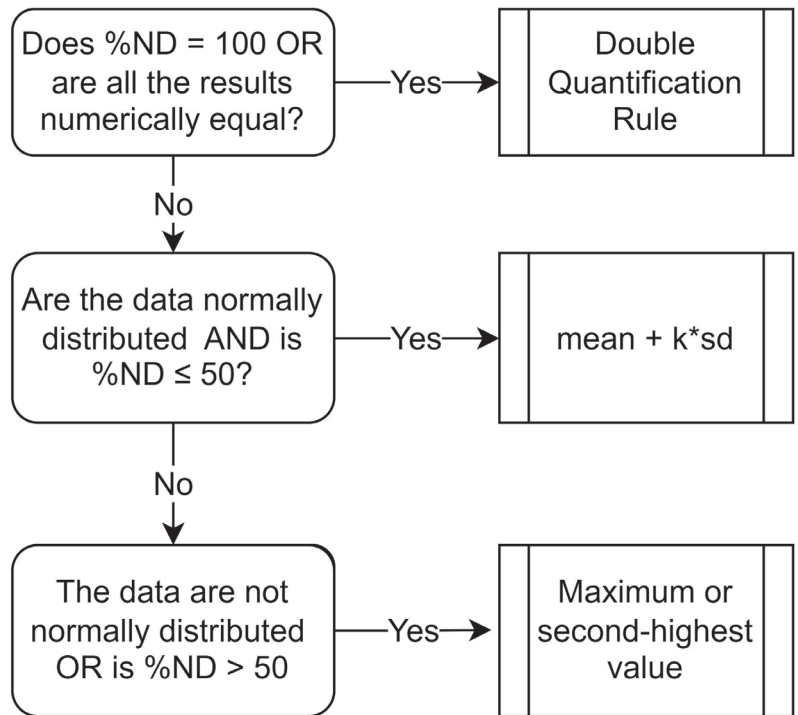
<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Dissolved Sulfate	Less Than	0.44	mg/L		EPA 300.0	10/19/22	020
Dissolved Calcium	Less Than	76.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Magnesium	Less Than	31.2	ug/L		EPA 200.7	10/28/22	020
Dissolved Potassium	Less Than	237	ug/L		EPA 200.7	10/28/22	020
Dissolved Sodium	Less Than	42	ug/L		EPA 200.7	10/28/22	020
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	10/17/22	020
Total Chloride	Less Than	0.43	mg/L		EPA 300.0	10/17/22	020
Total Suspended Solids	Less Than	0.48	mg/L		Std Mtd 2540 D	10/11/22	020
Total Dissolved Solids	Less Than	8.7	mg/L		Std Mtd 2540 C	10/11/22	020
Dissolved Chloride	Less Than	0.43	mg/L		EPA 300.0	10/19/22	020
Total Sulfate	Less Than	0.44	mg/L		EPA 300.0	10/17/22	020
Total Alkalinity as CaCO3	Less Than	5	mg/L		SM 2320 B-1997	10/18/22	020
Total Calcium	Less Than	0.0762	mg/L		EPA 200.7	10/26/22	020
Total Boron	Less Than	0.0030	mg/L		EPA 200.7	10/26/22	020

If there are any questions concerning this report, please contact Laboratory Services at (414) 221-4595.

Sample Comments:

APPENDIX B
STATISTICAL METHODOLOGY FOR DETERMINATION OF BACKGROUND
VALUES

Notes
%ND = Percent non-detected samples
sd = standard deviation
k = kappa for site-wide false positive rate
<u>Alpha Levels</u>
Confidence Limit = 0.1



When data are not normally distributed or %ND > 50, the maximum value is used if the background sample size is < 60. Where the background sample size is ≥ 60, the achievable per-constituent false positive rates for the maximum and second-highest background values will be compared, and the background value with the achievable per-constituent false positive rate that is closest to, but does not exceed, the target per-constituent false positive rate of 0.015% is used.

APPENDIX C
ALTERNATE SOURCE DEMONSTRATIONS

Intended for
We Energies

Document type
Alternate Source Demonstration Report

Date
November 13, 2022

40 CFR § 257.94(E)2: ALTERNATE SOURCE DEMONSTRATION PLEASANT PRAIRIE POWER PLANT ASH LANDFILL

**40 CFR § 257.94(E)2: ALTERNATE SOURCE
DEMONSTRATION
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL**

Project name **P4 Ash Landfill**
Project no. **1940102327**
Recipient **We Energies**
Document type **Alternate Source Demonstration**
Revision **0**
Date **November 13, 2022**
Prepared by **Kristen L. Theesfeld, PG**
Checked by **Nathaniel R. Keller, PG**
Approved by **Eric J. Tlachac, PE**
Description **Alternate Source Demonstration for the P4 Ash Landfill**

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TABLES (ATTACHED)

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Figure B Time Series Plot of Sulfate Concentrations
Figure C Piper Diagram for P4 Ash Landfill CCR Rule Monitoring Wells
Figure D Stiff Diagram for P4 Ash Landfill CCR Rule Monitoring Wells
Figure E Plot of Groundwater Elevations for W73, W20D, and W77
Figure F Time Series Plot of Fluoride Concentrations
Figure G Fluoride Concentrations in Wisconsin Wells

FIGURES (ATTACHED)

Figure 1 Site Location Map
Figure 2 Well Location Map
Figure 3 Uppermost Aquifer Groundwater Elevation Contour Map – April 13, 2022
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Figure 5 Geologic Cross-Section A-A'
Figure 6 Geologic Cross-Section B-B'
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Figure 8 Geologic Cross-Section D-D'
Figure 9 Potential Contaminant Pathway Groundwater Elevation Contour Map – April 13, 2022

ATTACHMENTS

Attachment A Preliminary Bedrock Topography Map of Kenosha County, Wisconsin

ACRONYMS AND ABBREVIATIONS

§	Section
40 CFR Part 257	Title 40 of the Code of Federal Regulations Part 257
ASD	alternate source demonstration
CCR	coal combustion residuals
CCR Rule	40 CFR Part 257 Subpart D
D10	tenth semi-annual detection monitoring event
HDPE	high density polyethylene
mg/L	milligrams per liter
NAVD88	North American Vertical Datum of 1988
P4	Pleasant Prairie Power Plant
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SSI	statistically significant increase(s)
USEPA	United States Environmental Protection Agency
WDNR	Wisconsin Department of Natural Resources

1. INTRODUCTION

1.1 Overview

This document has been prepared on behalf of We Energies by Ramboll Americas Engineering Solutions, Inc. (Ramboll) to provide pertinent information for an alternate source demonstration (ASD) as allowed by 40 CFR § 257.94(e)(2) for the Pleasant Prairie Power Plant (P4) Ash Landfill, located in Pleasant Prairie, Wisconsin (**Figure 1**).

Initial baseline groundwater monitoring, consisting of a minimum of eight samples as required under 40 CFR § 257.94(b), was initiated in November 2015 and completed prior to October 17, 2017. The tenth semi-annual detection monitoring event (D10) samples were collected on April 13, 2022 and analytical data were received on May 17, 2022. Statistical analysis of the data for statistically significant increases (SSIs) of Title 40 of the Code of Federal Regulations Part 257 (40 CFR Part 257) Subpart D (CCR Rule) Appendix III parameters over background concentrations was completed within 90 days of receipt of sample results (August 15, 2022). That statistical determination identified the following SSIs at uppermost aquifer (i.e., bedrock groundwater unit) downgradient monitoring wells:

- Fluoride above the background prediction interval at wells W74 and W75

40 CFR § 257.94(e)(2) allows the owner or operator 90 days from the date of determination to demonstrate that a source other than the coal combustion residuals (CCR) unit caused the SSI, or that the SSI resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Pursuant to 40 CFR § 257.94(e)(2), the following demonstrates that sources other than the P4 Ash Landfill were the cause of the SSI for fluoride at wells W74 and W75 listed above. This ASD was completed within 90 days of determination of the SSIs (November 13, 2022) as required by 40 CFR § 257.94(e)(2).

1.2 Background

The P4 Ash Landfill was constructed in 1980 and began filling in 1981. Initially, construction was completed on top of the existing clay (Cell 1). Cells 2-4 were constructed with a base of 5 feet of compacted clay. By 2014, all CCR was removed from previous Cells 1-4 and a new landfill cell was constructed over the footprint of the previous cells. The new landfill cell (Cell 1) was constructed with a composite liner and a leachate collection system in 2013 – 2014. The composite liner consists of a 60-mil high density polyethylene (HDPE) geomembrane and geosynthetic clay liner. The new Cell 1 was placed in service in 2014.

Final cover construction commenced in 2018 and was completed in 2022. The final cover consists of the following, beginning at ground surface:

- 6 inches of topsoil,
- 24 inches of rooting zone soil,
- A geocomposite drainage layer,
- 40-mil textured linear low-density polyethylene geomembrane liner, and
- A 2-foot-thick compacted barrier layer.

1.3 Groundwater Monitoring

Background groundwater sampling in compliance with the CCR Rule was initiated in November 2015, with the final round of background groundwater samples collected in August 2017. Groundwater is also sampled to meet the requirements of a Wisconsin Department of Natural Resources (WDNR) program and groundwater samples have been collected since the early 1990's. The CCR Rule monitoring program includes background wells W20D and W77, and downgradient wells W73 through W76. A map showing the groundwater monitoring system, including the WDNR program and CCR Rule monitoring wells, is presented on **Figure 2**. Groundwater generally flows to the north-northeast and representative groundwater contours are shown on **Figure 3**.

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 §§ 257.90-98 (as applicable) are presented in **Table 1**. Statistical evaluation of analytical data was performed in accordance with the Statistical Analysis Plan (Natural Resource Technology, an OBG Company, 2017) prepared for the landfill.

1.4 Geology

The P4 Ash Landfill overlies more than 100 feet of unlithified glacial deposits. The glacial unit is underlain by Silurian dolomite (bedrock groundwater unit), which is the uppermost aquifer beneath and in the vicinity of the P4 Ash Landfill (**Figure 4**). The glacial deposits consist largely of clay-rich till of the Oak Creek Formation and have low hydraulic conductivity. Silt, sand, and gravel lenses also exist in the unlithified material beneath the current landfill area. Cross-sections (**Figures 5 through 8**) indicate most of the silt, sand, and gravel lenses are not laterally continuous beneath the current landfill area. However, silt, sand, and gravel lenses occurring between elevations 625 and 675 feet North American Vertical Datum of 1988 (NAVD88) may be laterally continuous beneath the current landfill area (**Figures 5 through 7**). These coarser-grained units represent a potential contaminant migration pathway, which is monitored in accordance with 40 CFR § 257.91(a)(2). Based on available data, groundwater flow in the coarser-grained glacial deposits is east (Figure 9).

In addition, a thin, sandy unit exists just above bedrock beneath most of the landfill area. Where present, the sand unit mantling the bedrock is monitored with the CCR Rule groundwater monitoring network.

2. ALTERNATE SOURCE DEMONSTRATION

2.1 Summary

As allowed by 40 CFR § 257.94(e)(2), this ASD demonstrates that sources other than the P4 Landfill caused the SSIs or that the apparent SSIs were a result of natural variation in groundwater quality. Lines of evidence supporting this ASD include the following:

- **Landfill Construction:** The existing P4 Ash Landfill Cell 1 was constructed during 2013-2014 with a composite liner (consisting of a geosynthetic clay liner and 60-mil HDPE geomembrane) and a leachate collection system. The P4 Ash Landfill also overlies a significant thickness of the Oak Creek Formation which generally has very low hydraulic conductivity.
- **Indicator parameters (boron and sulfate) are not elevated:** Concentrations of common CCR indicator parameters boron and sulfate are not elevated in monitoring wells downgradient with SSIs for fluoride. Lack of these indicator parameters indicates the P4 landfill is not the source of elevated fluoride concentrations.
- **Aquifer Geochemistry:** The distribution of naturally occurring inorganic constituents in the dolomite aquifer is variable and geochemical conditions which control the equilibrium concentrations change both laterally and vertically within the aquifer, resulting in concentrations which are variable, but unrelated to the P4 Ash Landfill.

Data and information supporting these ASD lines of evidence are discussed in more detail below.

2.2 ASD Supporting Information

2.2.1 Landfill Construction

This ASD is supported by the fact the P4 Ash Landfill was constructed with a composite liner including 60-mil HDPE geomembrane and geosynthetic clay liner, and a leachate collection system. Precipitation and/or leachate that collects on top of the liner is removed by a leachate collection system and managed in accordance with the landfill operating permit. Leachate levels are monitored with leachate head wells in the landfill and collection sump level monitoring; the system includes high level alarms to notify the landfill operators if leachate levels exceed predetermined levels. The system is flushed annually as part of regular operation and maintenance. System monitoring and reporting indicate the leachate collection system is functioning as designed and indicate there has been no evidence of leachate migration into underlying materials.

In the unlikely event leachate is not captured by the collection system, the landfill overlies 50-100 feet of low permeability silty clay and, as a result, the potential for downward migration of leachate into the uppermost aquifer is limited. Simpkins and Bradbury (1992) calculated downward velocities of 0.3 to 0.5 centimeters per year in the Oak Creek Formation. At the highest velocities, it would require over 3,000 years for leachate to migrate through 50 feet of the Oak Creek Formation, but the P4 Ash Landfill has only been active for 30 years (with the most recent Unit constructed in 2013) indicating the P4 Ash Landfill is not the source of the SSI.

2.2.2 Lack of Indicator Parameters

Boron and sulfate are common indicators used to identify potential impacts from a CCR unit (Electric Power Research Institute, 2017). Concentrations of boron (Figure A) and sulfate

(Figure B) at W74 and W75 do not exceed background limits or exhibit an increasing trend. These results indicate the concentrations of fluoride and SSIs reported in W74 and W75 are not attributable to the P4 landfill.

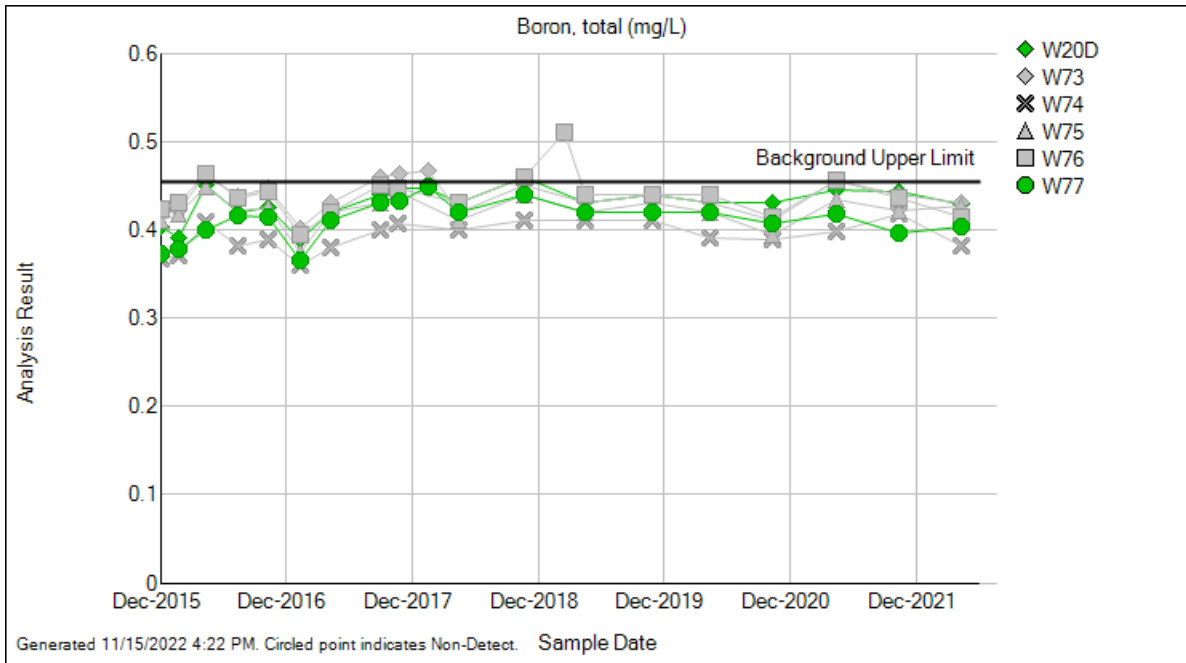


Figure A. Boron Concentrations Time Series

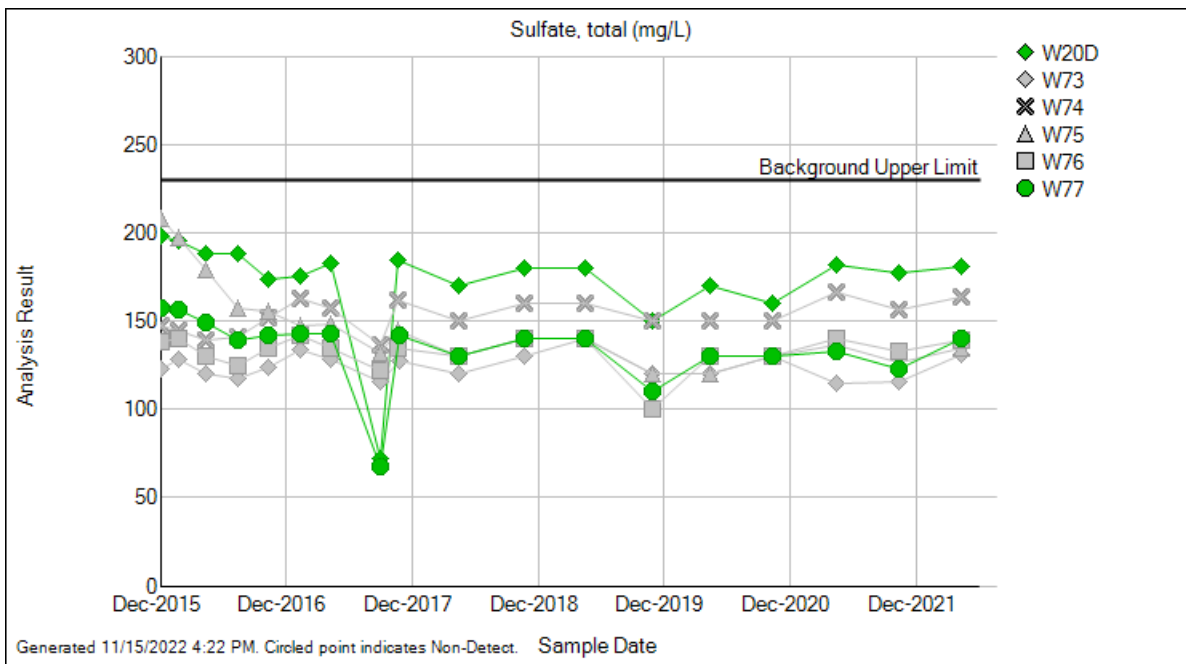


Figure B. Sulfate Concentrations Time Series

2.2.3 Aquifer Geochemistry

2.2.3.1 General Groundwater Chemistry of the Silurian Dolomite

The most recent leachate and groundwater samples analyzed for ionic composition (major ions), 2017 for leachate and 2020 for groundwater, were used to generate a Piper diagram (**Figure C**) and Stiff diagrams (**Figure D**). Background (brown) and downgradient (blue) groundwater samples all plot within the same region of sodium-potassium-magnesium dominated cations and sulfate anions. Furthermore, the downgradient wells are bracketed by upgradient wells W20D and W77 on the diamond-shaped portion of the diagram. Leachate (green) samples collected from the CCR Unit indicate sodium-potassium-calcium dominated cations and chloride-sulfate dominated anions. Combined, these suggest downgradient groundwater reflects background ionic composition and is not being influenced by leachate.

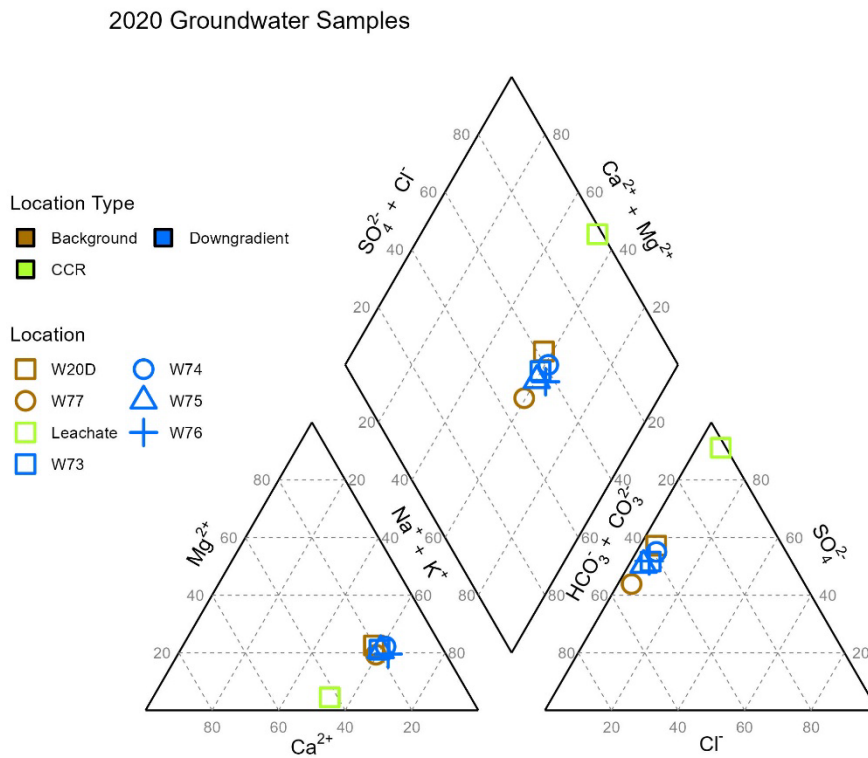


Figure C. Piper Diagram for P4 Ash Landfill CCR Rule Monitoring Wells

This conclusion is also supported by the Stiff diagrams (**Figure D**) which show upgradient and downgradient groundwater have similar shapes on the diagrams, while they are dissimilar to the shape of the leachate diagram, specifically, sulfate and calcium are less pronounced in the groundwater diagrams. Together, the similarity of ionic composition of background and compliance groundwater and the distinct ionic composition of leachate indicate the SSIs are due to natural variation rather than the influence of the landfill.

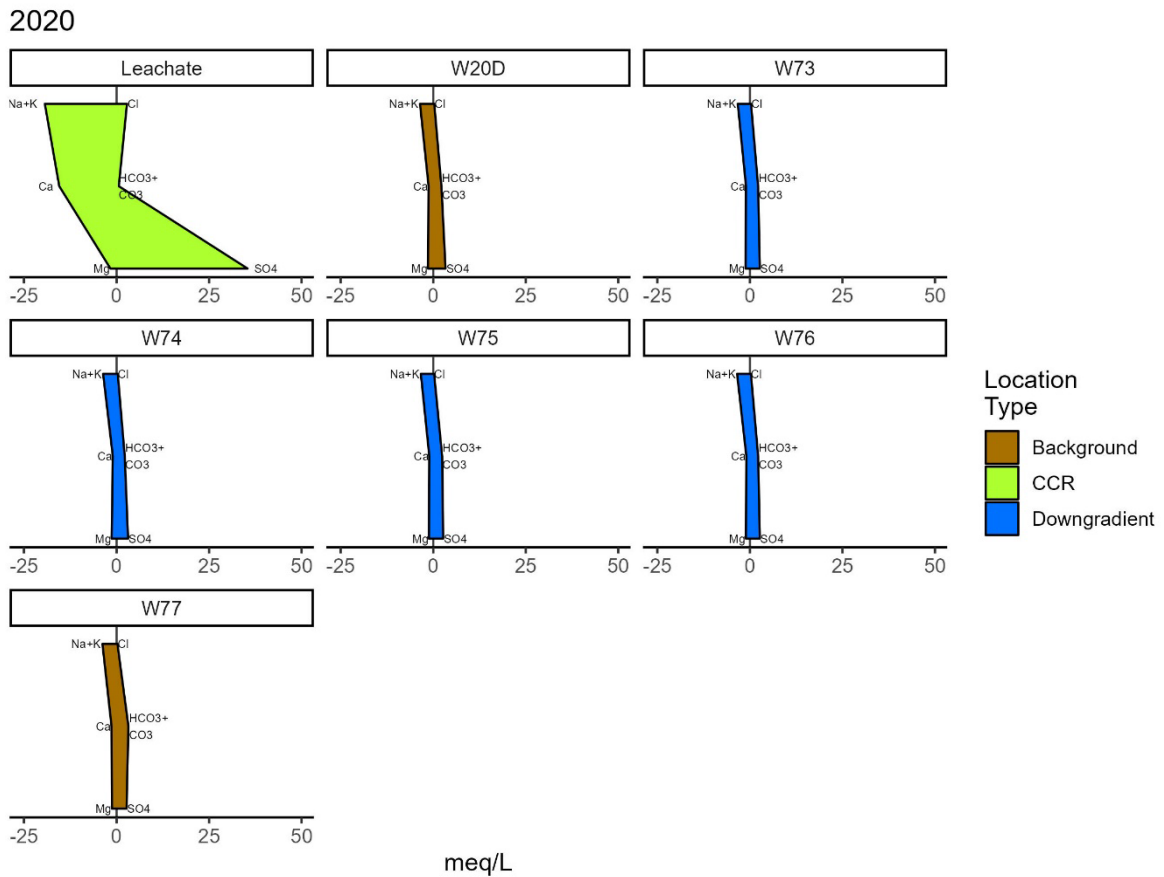


Figure D. Stiff Diagram for P4 Ash Landfill CCR Rule Monitoring Wells

2.2.3.2 Geochemical Variations within the Silurian Dolomite

Natural variations in the composition (i.e., mineralogy) of the Silurian dolomite bedrock, which affect the presence of minerals and associated trace elements in groundwater, are observed at the P4 Ash Landfill. This natural variability of the dolomite bedrock, both vertically and laterally across the site, has resulted in minor variations in concentrations of fluoride in groundwater, amongst other naturally occurring inorganic constituents. Slightly elevated concentrations of fluoride at well W75 can be evaluated by looking at the screened bedrock intervals of monitoring wells at the P4 Ash Landfill along with the geologic descriptions of those intervals.

The screened intervals of the CCR Rule monitoring wells are provided on **Table 2**. Background well W77 is approximately screened from an elevation of 559 to 564 feet NAVD88. Background well W20D and downgradient wells W74, W75, and W76 are all screened at lower elevations in the bedrock between 545 and 553 feet NAVD88. Geologic descriptions of the dolomite bedrock on the boring logs for all of the background and downgradient wells are generally similar.

In general, groundwater flow in the upper portion of the Silurian dolomite is to the north; however, there are small variations resulting from seasonal pumping (i.e., drawdown) within the aquifer. Groundwater elevations are plotted below (**Figure E**).

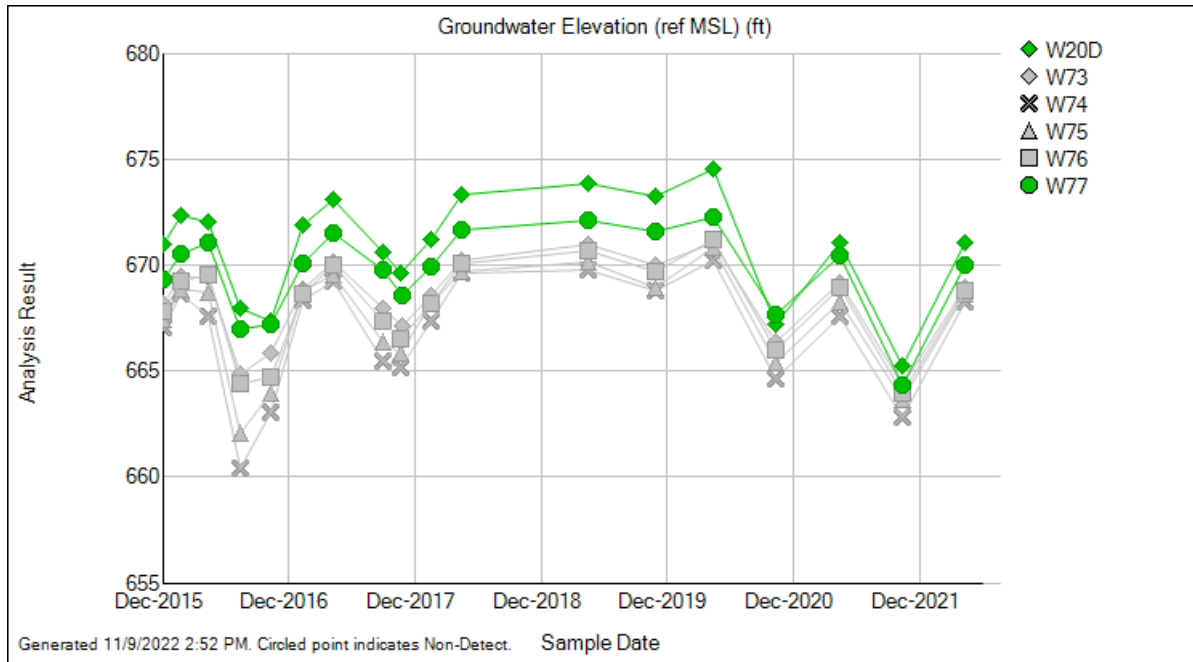


Figure E. Groundwater Elevations Time Series

The plot shows that lower groundwater elevations typically occur in the fall and higher elevations in the spring. Based on locations of private wells within the uppermost aquifer (**Attachment A**), it is likely that summer and fall groundwater pumping from the Silurian dolomite induces more northerly and potentially northwesterly flow directions, which may influence water quality as a result of changes to the groundwater flow path.

The temporal variability in concentrations of boron, sulfate, and fluoride are shown on the time series plots (**Figures A and B above and F below, respectively**). Although the concentrations vary between wells for each of the parameters, the trends are generally the same in magnitude and direction. Parallel trends in boron and sulfate, the primary indicator parameters of CCR leachate impacts on groundwater, would not be expected in background wells and downgradient wells if the P4 Ash landfill was impacting groundwater.

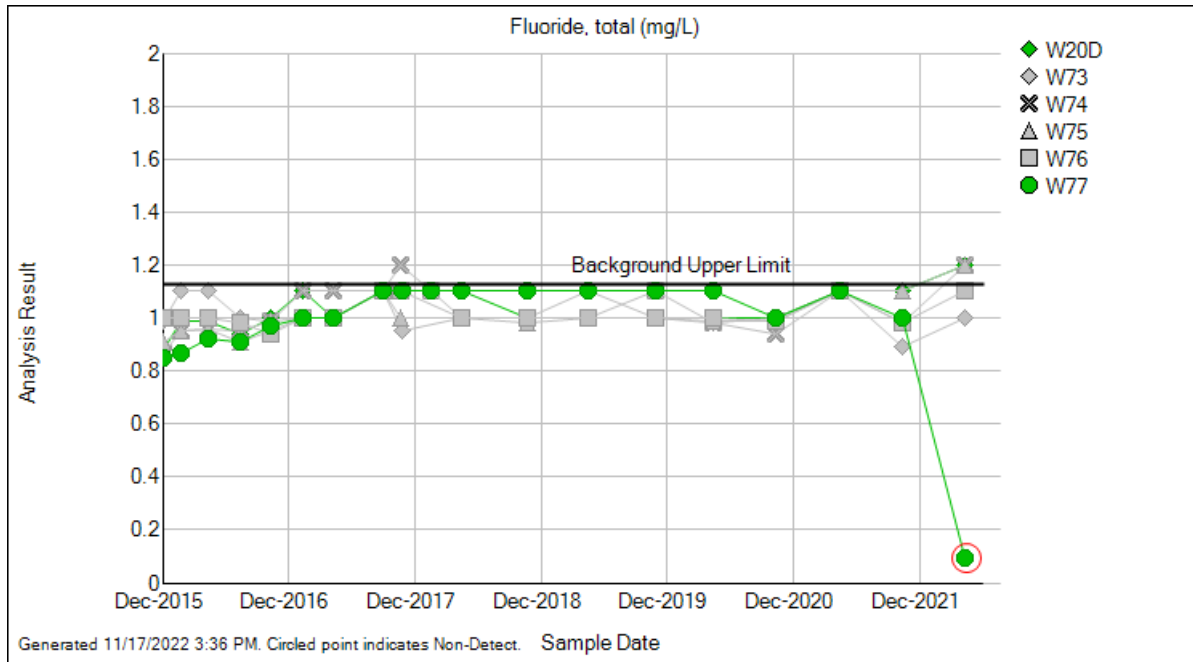


Figure F. Fluoride Concentrations Time Series

2.2.3.3 Ion Ratios

The final line of evidence for this ASD, which is supported by previous analysis, is ion ratios for fluoride compared to other primary indicators of CCR impacts (i.e., boron and sulfate). A summary of the ion ratios in groundwater at background wells W20D and W77, downgradient wells W74 and W75, and leachate is presented in **Table A** below. The results show the ratios calculated for downgradient wells do not provide evidence of groundwater mixing with the leachate (i.e. the downgradient ratios do not fall in between background and leachate). The ratios calculated for downgradient wells are very similar to the background wells which indicates groundwater quality at wells W74 and W75 has not been impacted by leachate from the P4 Ash Landfill.

Table A – Summary of Average Ion Ratios

Monitoring Well ID	F/B	F/SO ₄
Leachate	0.39	0.0008
W20D	2.41	0.0063
W77	2.36	0.0075
W74	2.62	0.0067
W75	2.39	0.0071

2.2.3.4 Regionally Elevated Fluoride Concentrations

Research conducted across the state of Wisconsin has identified distinct regions of elevated fluoride concentrations (**Figure G**). One region, located along Lake Michigan to the southern extent of the state, encompasses the approximate location of the P4 Ash Landfill (indicated by pink arrow). Fluoride concentrations are most often between 0.7-1.2 milligrams per liter (mg/L; identified by green circles), however, concentrations between 1.2-2.0 mg/L (identified by yellow

circles) are not uncommon in wells screened across the glacial sediments and Silurian dolomite. In fact, according to the study authors, "Most of the wells with elevated fluoride appear to be drawing from both Pleistocene glacial sediments and Silurian dolomite units. It is likely that fluorite is also the source of this elevated dissolved fluoride because fluorite mineralization occurs in the Silurian rocks of eastern Wisconsin." (Luczaj and Masarik, 2015).

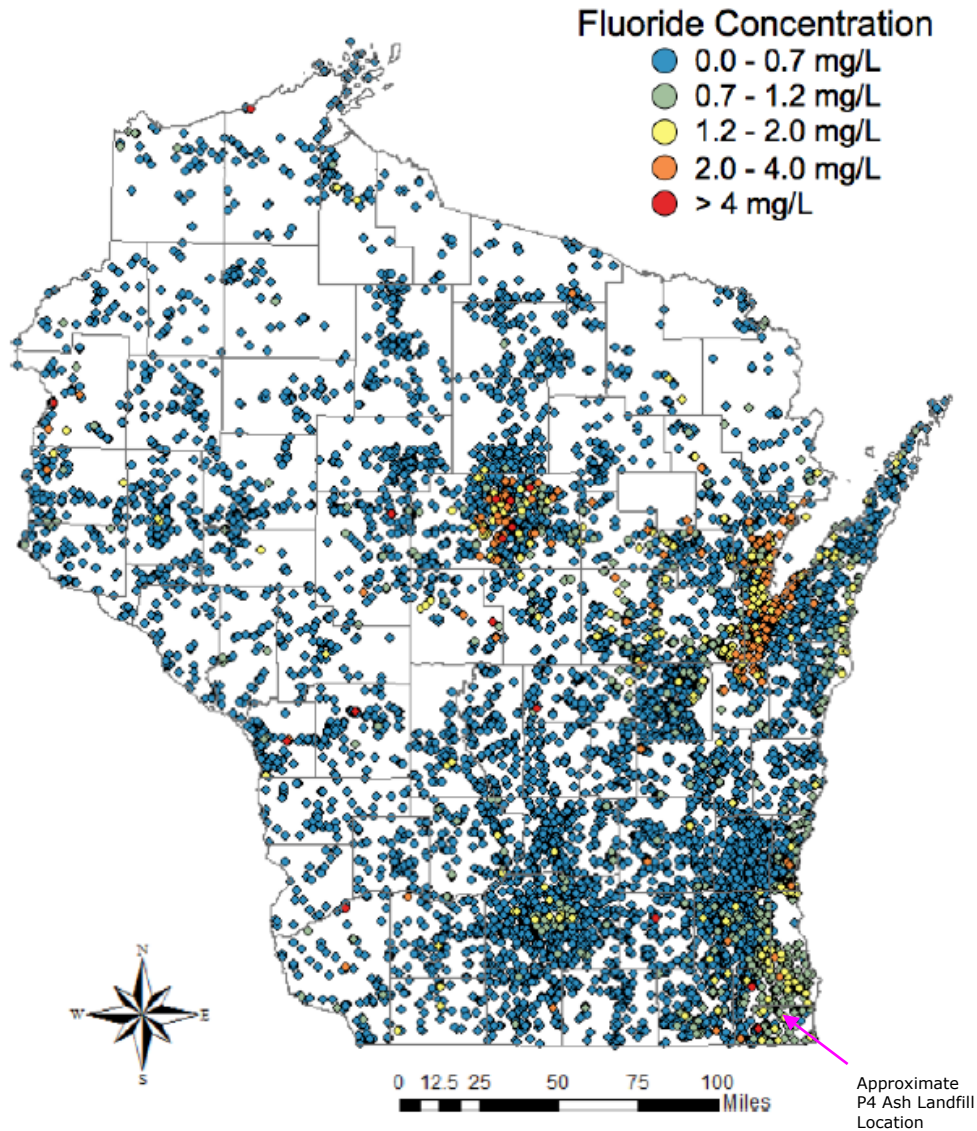


Figure G. Fluoride Concentrations in Wisconsin Wells (Luczaj and Masarik, 2015).

The approximate location of the P4 Ash Landfill indicated by pink arrow.

3. CONCLUSIONS AND CERTIFICATION

This document has been prepared on behalf of We Energies by Ramboll to provide pertinent information for an ASD as allowed by 40 CFR §257.94(e)(2) for the Pleasant Prairie Power Plant Ash Landfill located in Pleasant Prairie, Wisconsin.

Initial baseline groundwater monitoring consisting of a minimum of eight samples as required under 40 CFR §257.94(b) was initiated in November 2015 and completed prior to October 17, 2017. D10 samples were collected on April 13, 2022 for which analytical data was received on May 17, 2022. Statistical analysis of D10 samples for SSIs of 40 CFR Part 257 Appendix III parameters over background concentrations was completed within 90 days of collection of the sample (August 15, 2022). The determination identified the following SSIs (concentrations greater than background prediction intervals) at downgradient monitoring wells:

- Fluoride at wells W74 and W75

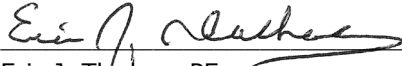
40 CFR §257.94(e)(2) allows the owner or operator 90 days from the date of determination to demonstrate that a source other than the CCR unit caused the SSI, or that the SSI resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Pursuant to 40 CFR §257.94(e)(2), this document demonstrates that sources other than the P4 Ash Landfill were the cause of the SSI listed above. This ASD was completed within 90 days of determination of the SSIs (November 13, 2022) as required by 40 CFR §257.94(e)(2).

Pursuant to 40 CFR §257.94(e)(2), the following lines of evidence were presented in this report to demonstrate that the listed SSIs are due to alternate sources as follows:

- Landfill Construction
- Indicator parameters (boron and sulfate) are not elevated
- Aquifer Geochemistry

The preceding information serves as the ASD prepared in accordance with 40 CFR §257.94(e)(2) and supports the position that the SSI observed during D10 is not due to a release from the CCR unit but are the result of naturally occurring conditions. Therefore, no further action (i.e., assessment monitoring) is warranted and the P4 Ash Landfill will remain in detection monitoring.

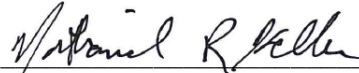
I, Eric J. Tlachac, a qualified professional engineer in good standing in the State of Wisconsin, certify that enclosed information is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond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



Eric J. Tlachac, PE
Professional Engineer No. 36088-6
State of Wisconsin
Ramboll Americas Engineering Solutions, Inc.
Date: November 13, 2022



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.



Nathaniel R. Keller, PG
Professional Geologist No. 1283-013
State of Wisconsin
Ramboll Americas Engineering Solutions, Inc.
Date: November 13, 2022



4. REFERENCES

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TABLES

Pleasant Prairie CCR

November 11, 2022

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

10:37:02 AM

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
W17BR	12/3/2015	0.5900	13.5000	11.4	1.40	8.2	30.7
	1/25/2016	0.5850	13.6000	11.4	1.40	8.0	28.1
	4/14/2016	0.6680	15.2000	11.1	1.40	7.9	28.1
	7/12/2016	0.6260	13.9000	11.6	1.30	7.9	28.9
	10/12/2016	0.6210	13.2000	11.1	1.40	8.6	26.5
	1/11/2017	0.5560	12.0000	10.8	1.40	8.4	25.3
	4/11/2017	0.6300	12.0000	10.7	1.50	8.5	25.3
	8/31/2017	0.6500	12.7000	11.0	1.50	8.0	25.1
	10/23/2017	0.6530	12.0000	11.5	1.50	8.3	25.0
	4/16/2018	0.6200	12.0000	12.0	1.40	7.3	24.0
	10/23/2018	0.6600	13.0000	11.0	1.40	8.4	23.0
	4/15/2019	0.6400	12.0000	11.0	1.40	8.8	25.0
	10/30/2019	0.6400	12.0000	9.2	1.40	8.3	21.0
	4/14/2020	0.6400	12.0000	9.2	1.30	8.5	21.0
	10/13/2020	0.6080	12.4000	9.5	1.40	8.1	22.0
	4/13/2021	0.6630	12.1000	9.6	1.40	8.3	20.7
	10/12/2021	0.6440	11.8000	8.0	1.40	8.2	17.4
	4/13/2022	0.6080	11.5000	8.0	1.30	8.4	17.9

Pleasant Prairie CCR

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

10:37:02 AM

Location ID	Sample Date	TDS, mg/L
W17BR	12/3/2015	168.0
	1/25/2016	172.0
	4/14/2016	208.0
	7/12/2016	202.0
	10/12/2016	178.0
	1/11/2017	178.0
	4/11/2017	184.0
	8/31/2017	182.0
	10/23/2017	172.0
	4/16/2018	190.0
	10/23/2018	140.0
	4/15/2019	160.0
	10/30/2019	140.0
	4/14/2020	120.0
	10/13/2020	210.0
	4/13/2021	140.0
	10/12/2021	190.0
	4/13/2022	162.0

Pleasant Prairie CCR

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

10:37:02 AM

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
W20B	12/2/2015	0.2860	54.8000	14.3	0.77	7.6	95.7
	1/25/2016	0.2870	47.5000	13.8	0.84	7.5	93.4
	4/13/2016	0.3200	57.8000	10.4	0.84	10.0	74.5
	7/13/2016	0.3010	60.8000	17.2	0.72	7.1	108.0
	10/12/2016	0.3070	91.3000	23.4	0.74	7.5	125.0
	1/10/2017	0.2720	58.9000	16.9	0.90	7.6	108.0
	4/10/2017	0.3000	52.4000	13.5	0.80	7.7	93.1
	8/31/2017	0.3100	63.6000	18.4	0.83	7.0	57.0
	10/23/2017	0.3390	85.7000	28.7	0.77	7.2	161.0
	4/16/2018	0.3100	90.0000	35.0	0.71	7.1	180.0
	10/22/2018	0.3200	64.0000	17.0	0.83	7.4	110.0
	4/15/2019	0.3100	57.0000	16.0	0.76	8.0	110.0
	10/29/2019	0.3100	51.0000	13.0	0.84	7.5	92.0
	4/14/2020	0.3000	48.0000	8.6	0.58	7.7	65.0
	10/13/2020	0.2930	59.4000	14.0	0.68	7.4	94.0
	4/13/2021	0.3210	56.2000	16.7	0.78	7.5	112.0
	10/12/2021	0.3060	92.9000	32.1	0.62	7.1	192.0
	4/13/2022	0.3000	57.2000	15.0	0.89	7.5	97.8

Pleasant Prairie CCR

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

10:37:02 AM

Location ID	Sample Date	TDS, mg/L
W20B	12/2/2015	410.0
	1/25/2016	362.0
	4/13/2016	362.0
	7/13/2016	458.0
	10/12/2016	502.0
	1/10/2017	412.0
	4/10/2017	382.0
	8/31/2017	450.0
	10/23/2017	510.0
	4/16/2018	630.0
	10/22/2018	470.0
	4/15/2019	420.0
	10/29/2019	360.0
	4/14/2020	230.0
	10/13/2020	440.0
	4/13/2021	400.0
	10/12/2021	1060.0
	4/13/2022	388.0

Pleasant Prairie CCR

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

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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
W20D	12/2/2015	0.4040	36.2000	20.7	0.88	7.8	198.0
	1/25/2016	0.3910	32.7000	18.7	0.99	7.7	195.0
	4/13/2016	0.4500	36.8000	16.6	0.99	9.6	188.0
	7/13/2016	0.4190	33.4000	17.1	0.94	7.4	188.0
	10/12/2016	0.4250	34.0000	14.2	1.00	7.9	174.0
	1/10/2017	0.3880	29.0000	14.7	1.10	7.8	175.0
	4/10/2017	0.4200	29.4000	12.7	1.00	7.8	183.0
	8/31/2017	0.4400	27.9000	11.3	1.10	7.4	72.2
	10/23/2017	0.4470	26.5000	11.8	1.10	7.7	184.0
	1/18/2018	0.4470			1.10	7.6	
	4/16/2018	0.4300	26.0000	11.0	1.10	7.4	170.0
	10/22/2018	0.4600	27.0000	12.0	1.00	7.8	180.0
	4/15/2019	0.4300	26.0000	11.0	1.00	8.1	180.0
	10/29/2019	0.4400	25.0000	10.0	1.00	7.5	150.0
	4/14/2020	0.4300	45.0000	11.0	1.00	7.7	170.0
	10/12/2020	0.4300	25.1000	10.0	1.00	7.8	160.0
	4/13/2021	0.4450	24.6000	11.3	1.10	7.7	182.0
	10/12/2021	0.4440	25.3000	11.0	1.10	7.5	177.0
	4/13/2022	0.4280	25.8000	10.8	1.20	7.8	181.0

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

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Location ID	Sample Date	TDS, mg/L
W20D	12/2/2015	452.0
	1/25/2016	410.0
	4/13/2016	428.0
	7/13/2016	464.0
	10/12/2016	424.0
	1/10/2017	406.0
	4/10/2017	398.0
	8/31/2017	396.0
	10/23/2017	382.0
	1/18/2018	
	4/16/2018	390.0
	10/22/2018	390.0
	4/15/2019	360.0
	10/29/2019	340.0
	4/14/2020	350.0
	10/12/2020	380.0
	4/13/2021	348.0
	10/12/2021	602.0
	4/13/2022	366.0

Pleasant Prairie CCR

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

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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
W31B	12/3/2015	0.0872	86.7000	33.7	0.37	7.5	118.0
	1/26/2016	0.0796	84.7000	34.0	0.38	7.4	121.0
	4/14/2016	0.0933	94.3000	32.3	0.38	7.4	113.0
	7/12/2016	0.0844	84.9000	33.2	0.35	7.2	115.0
	10/12/2016	0.0924	98.4000	40.8	0.33	7.6	119.0
	1/11/2017	0.0798	88.4000	42.0	0.28	7.5	131.0
	4/10/2017	0.0960	86.2000	35.4	0.30	7.6	123.0
	8/31/2017	0.0990	91.3000	40.5	0.40	7.0	61.6
	10/24/2017	0.0932	91.2000	38.9	<0.50	7.1	127.0
	4/16/2018	0.0860	90.0000	42.0	0.38	6.7	120.0
	10/22/2018	0.0950	98.0000	47.0	0.39	7.4	130.0
	4/15/2019	0.0890	93.0000	43.0	0.47	7.7	130.0
	10/29/2019	0.0890	89.0000	40.0	0.36	7.5	120.0
	4/14/2020	0.0900	96.0000	38.0	0.33	7.6	120.0
	10/12/2020	0.0864	95.2000	43.0	0.34	7.4	110.0
	4/13/2021	0.0911	96.6000	55.3	0.32	7.4	133.0
	10/12/2021	0.0806	104.0000	66.9	<0.48	7.4	130.0
	4/13/2022	0.0863	108.0000	67.9	0.36	7.3	139.0

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

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Location ID	Sample Date	TDS, mg/L
W31B	12/3/2015	530.0
	1/26/2016	512.0
	4/14/2016	546.0
	7/12/2016	572.0
	10/12/2016	528.0
	1/11/2017	522.0
	4/10/2017	530.0
	8/31/2017	536.0
	10/24/2017	530.0
	4/16/2018	520.0
	10/22/2018	560.0
	4/15/2019	530.0
	10/29/2019	490.0
	4/14/2020	510.0
	10/12/2020	590.0
	4/13/2021	530.0
	10/12/2021	592.0
	4/13/2022	584.0

Pleasant Prairie CCR

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

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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
W73	12/2/2015	0.4180	27.3000	10.4	0.99	8.2	123.0
	1/25/2016	0.4220	46.0000	10.7	1.10	8.0	128.0
	4/14/2016	0.4640	29.8000	11.0	1.10	8.3	120.0
	7/13/2016	0.4370	18.8000	10.4	1.00	8.1	117.0
	10/12/2016	0.4470	35.3000	10.9	0.99	8.5	124.0
	1/11/2017	0.4010	20.0000	10.6	1.00	8.0	134.0
	4/11/2017	0.4300	25.6000	10.4	1.00	8.5	128.0
	8/31/2017	0.4600	26.0000	10.9	1.10	8.2	116.0
	10/24/2017	0.4630	25.8000	11.2	0.95	8.4	127.0
	1/18/2018	0.4660				8.0	
	4/16/2018	0.4200	19.0000	11.0	1.00	7.4	120.0
	10/23/2018	0.4500	19.0000	11.0	1.00	8.2	130.0
	4/15/2019	0.4300	19.0000	11.0	1.10	8.4	140.0
	10/30/2019	0.4400	18.0000	11.0	1.00	7.6	120.0
	4/15/2020	0.4300	20.0000	10.0	0.98	8.0	120.0
	10/13/2020	0.4100	21.1000	11.0	1.00	8.1	130.0
	4/13/2021	0.4550	20.3000	11.4	1.10	7.9	115.0
	10/12/2021	0.4390	18.8000	12.4	0.89	8.1	116.0
	4/13/2022	0.4310	28.0000	11.0	1.00	8.2	131.0

Pleasant Prairie CCR

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

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Location ID	Sample Date	TDS, mg/L
W73	12/2/2015	310.0
	1/25/2016	306.0
	4/14/2016	318.0
	7/13/2016	328.0
	10/12/2016	324.0
	1/11/2017	280.0
	4/11/2017	336.0
	8/31/2017	328.0
	10/24/2017	308.0
	1/18/2018	
	4/16/2018	340.0
	10/23/2018	300.0
	4/15/2019	310.0
	10/30/2019	310.0
	4/15/2020	260.0
	10/13/2020	350.0
	4/13/2021	304.0
	10/12/2021	322.0
	4/13/2022	344.0

Pleasant Prairie CCR

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

10:37:02 AM

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
W74	12/3/2015	0.3670	34.7000	22.1	0.87	7.9	147.0
	1/26/2016	0.3700	33.6000	21.1	0.95	7.3	145.0
	4/13/2016	0.4080	31.5000	18.3	0.96	8.8	139.0
	7/12/2016	0.3820	26.0000	15.9	0.95	7.2	141.0
	10/12/2016	0.3890	23.7000	13.4	0.99	8.2	152.0
	1/10/2017	0.3590	22.5000	13.0	1.10	8.1	163.0
	4/11/2017	0.3800	21.2000	13.9	1.10	8.2	157.0
	8/31/2017	0.4000	20.3000	12.7	1.10	7.6	136.0
	10/23/2017	0.4070	19.5000	13.8	1.20	7.8	162.0
	1/18/2018				1.10	8.0	
	4/16/2018	0.4000	20.0000	13.0	1.00	7.7	150.0
	10/23/2018	0.4100	21.0000	14.0	1.00	8.0	160.0
	4/15/2019	0.4100	20.0000	14.0	1.00	8.5	160.0
	10/30/2019	0.4100	21.0000	12.0	1.10	7.3	150.0
	4/14/2020	0.3900	19.0000	12.0	0.98	8.0	150.0
	10/13/2020	0.3890	20.0000	12.0	0.94	7.8	150.0
	4/13/2021	0.3970	18.7000	13.1	1.10	8.1	166.0
	10/12/2021	0.4170	20.2000	12.5	0.98	8.0	156.0

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

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Location ID	Sample Date	TDS, mg/L
W74	12/3/2015	384.0
	1/26/2016	360.0
	4/13/2016	388.0
	7/12/2016	376.0
	10/12/2016	346.0
	1/10/2017	340.0
	4/11/2017	360.0
	8/31/2017	372.0
	10/23/2017	348.0
	1/18/2018	
	4/16/2018	370.0
	10/23/2018	340.0
	4/15/2019	330.0
	10/30/2019	350.0
	4/14/2020	340.0
	10/13/2020	350.0
	4/13/2021	314.0
	10/12/2021	402.0

Pleasant Prairie CCR

November 11, 2022

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

10:37:02 AM

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
W74	4/13/2022	0.3810	19.3000	12.7	1.20	8.0	164.0
W75	12/3/2015	0.4100	28.9000	24.3	0.91	8.2	208.0
	1/26/2016	0.4170	30.1000	24.5	0.95	7.6	197.0
	4/13/2016	0.4480	29.5000	20.6	0.96	8.8	179.0
	7/12/2016	0.4220	24.7000	16.2	0.91	7.5	157.0
	10/12/2016	0.4250	23.7000	14.0	0.95	8.5	155.0
	1/10/2017	0.3750	21.3000	13.5	1.00	8.2	147.0
	4/11/2017	0.4200	22.6000	12.1	1.00	8.4	148.0
	8/31/2017	0.4300	20.5000	10.6	1.10	7.9	132.0
	10/23/2017	0.4430	19.9000	10.8	1.00	8.1	145.0
	4/16/2018	0.4100	19.0000	9.8	1.00	7.7	130.0
	10/23/2018	0.4400	21.0000	9.9	0.98	8.2	140.0
	4/15/2019	0.4200	20.0000	9.4	1.00	8.6	140.0
	10/30/2019	0.4300	20.0000	8.5	1.00	8.0	120.0
	4/14/2020	0.4200	20.0000	8.6	0.99	8.3	120.0
	10/13/2020	0.3950	20.5000	8.4	0.99	8.0	130.0
	4/13/2021	0.4340	19.9000	9.2	1.10	8.2	136.0
	10/12/2021	0.4220	20.3000	8.3	1.10	8.0	126.0

Pleasant Prairie CCR

November 11, 2022

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

10:37:02 AM

Location ID	Sample Date	TDS, mg/L
W74	4/13/2022	352.0
W75	12/3/2015	438.0
	1/26/2016	432.0
	4/13/2016	430.0
	7/12/2016	416.0
	10/12/2016	362.0
	1/10/2017	298.0
	4/11/2017	358.0
	8/31/2017	356.0
	10/23/2017	330.0
	4/16/2018	350.0
	10/23/2018	310.0
	4/15/2019	330.0
	10/30/2019	290.0
	4/14/2020	280.0
	10/13/2020	310.0
	4/13/2021	288.0
	10/12/2021	382.0

Pleasant Prairie CCR

November 11, 2022

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

10:37:02 AM

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
W75	4/13/2022	0.4270	21.0000	8.7	1.20	8.1	135.0
W76	12/3/2015	0.4240	20.0000	18.3	1.00	8.2	138.0
	1/26/2016	0.4310	20.6000	16.4	1.00	7.7	140.0
	4/13/2016	0.4630	20.9000	14.1	1.00	9.5	130.0
	7/12/2016	0.4360	18.8000	12.4	0.98	7.5	125.0
	10/12/2016	0.4430	19.5000	12.6	0.94	8.7	135.0
	1/11/2017	0.3950	18.2000	11.2	1.00	8.4	142.0
	4/11/2017	0.4200	18.0000	10.9	1.00	8.6	135.0
	8/31/2017	0.4500	18.1000	10.7	1.10	8.1	122.0
	10/23/2017	0.4460	17.6000	10.8	1.10	7.8	135.0
	4/16/2018	0.4300	18.0000	10.0	1.00	7.7	130.0
	10/23/2018	0.4600	20.0000	11.0	1.00	7.8	140.0
	2/14/2019	0.5100				8.3	
	4/15/2019	0.4400	19.0000	11.0	1.00	8.5	140.0
	10/30/2019	0.4400	19.0000	10.0	1.00	6.9	100.0
	4/14/2020	0.4400	19.0000	10.0	1.00	8.5	130.0
	10/13/2020	0.4150	19.2000	10.0	0.99	8.2	130.0
	4/13/2021	0.4550	19.1000	10.8	1.10	8.3	140.0

Pleasant Prairie CCR

November 11, 2022

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

10:37:02 AM

Location ID	Sample Date	TDS, mg/L
W75	4/13/2022	320.0
W76	12/3/2015	334.0
	1/26/2016	330.0
	4/13/2016	366.0
	7/12/2016	360.0
	10/12/2016	336.0
	1/11/2017	306.0
	4/11/2017	334.0
	8/31/2017	336.0
	10/23/2017	318.0
	4/16/2018	350.0
	10/23/2018	300.0
	2/14/2019	
	4/15/2019	320.0
	10/30/2019	290.0
	4/14/2020	180.0
	10/13/2020	310.0
	4/13/2021	290.0

Pleasant Prairie CCR

November 11, 2022

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

10:37:02 AM

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
W76	10/12/2021	0.4360	19.2000	10.4	0.98	8.3	133.0
	4/13/2022	0.4150	18.3000	10.4	1.10	8.3	139.0
W77	12/3/2015	0.3730	33.8000	19.6	0.85	7.6	157.0
	1/25/2016	0.3780	34.8000	18.9	0.87	7.3	156.0
	4/13/2016	0.4000	34.0000	16.9	0.92	8.4	149.0
	7/12/2016	0.4160	31.1000	14.8	0.91	7.3	139.0
	10/12/2016	0.4150	30.7000	13.8	0.97	7.9	142.0
	1/11/2017	0.3650	27.7000	13.2	1.00	7.6	143.0
	4/10/2017	0.4100	27.3000	12.0	1.00	7.7	143.0
	8/31/2017	0.4300	26.0000	11.2	1.10	7.2	67.7
	10/24/2017	0.4320	25.5000	11.0	1.10	7.7	142.0
	1/18/2018	0.4480			1.10	7.5	
	4/16/2018	0.4200	25.0000	10.0	1.10	7.5	130.0
	10/22/2018	0.4400	26.0000	10.0	1.10	7.5	140.0
	4/15/2019	0.4200	27.0000	9.4	1.10	8.0	140.0
	10/29/2019	0.4200	25.0000	9.1	1.10	7.3	110.0
	4/15/2020	0.4200	26.0000	8.8	1.10	7.6	130.0
10/13/2020	0.4070	27.0000	9.0	1.00	7.5	130.0	

Pleasant Prairie CCR

November 11, 2022

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

10:37:02 AM

Location ID	Sample Date	TDS, mg/L
W76	10/12/2021	362.0
	4/13/2022	330.0
W77	12/3/2015	410.0
	1/25/2016	396.0
	4/13/2016	412.0
	7/12/2016	428.0
	10/12/2016	388.0
	1/11/2017	386.0
	4/10/2017	382.0
	8/31/2017	384.0
	10/24/2017	372.0
	1/18/2018	
	4/16/2018	370.0
	10/22/2018	370.0
	4/15/2019	360.0
	10/29/2019	360.0
4/15/2020	300.0	
10/13/2020	370.0	

Pleasant Prairie CCR

November 11, 2022

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

10:37:02 AM

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
W77	4/13/2021	0.4180	25.3000	9.2	1.10	7.6	133.0
	10/12/2021	0.3960	25.5000	8.0	1.00	7.6	123.0
	4/13/2022	0.4030	26.4000	8.7	<0.10	7.5	140.0

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

Location ID	Sample Date	TDS, mg/L
W77	4/13/2021	334.0
	10/12/2021	362.0
	4/13/2022	348.0

TABLE 2. CCR RULE GROUNDWATER MONITORING WELL INFORMATION

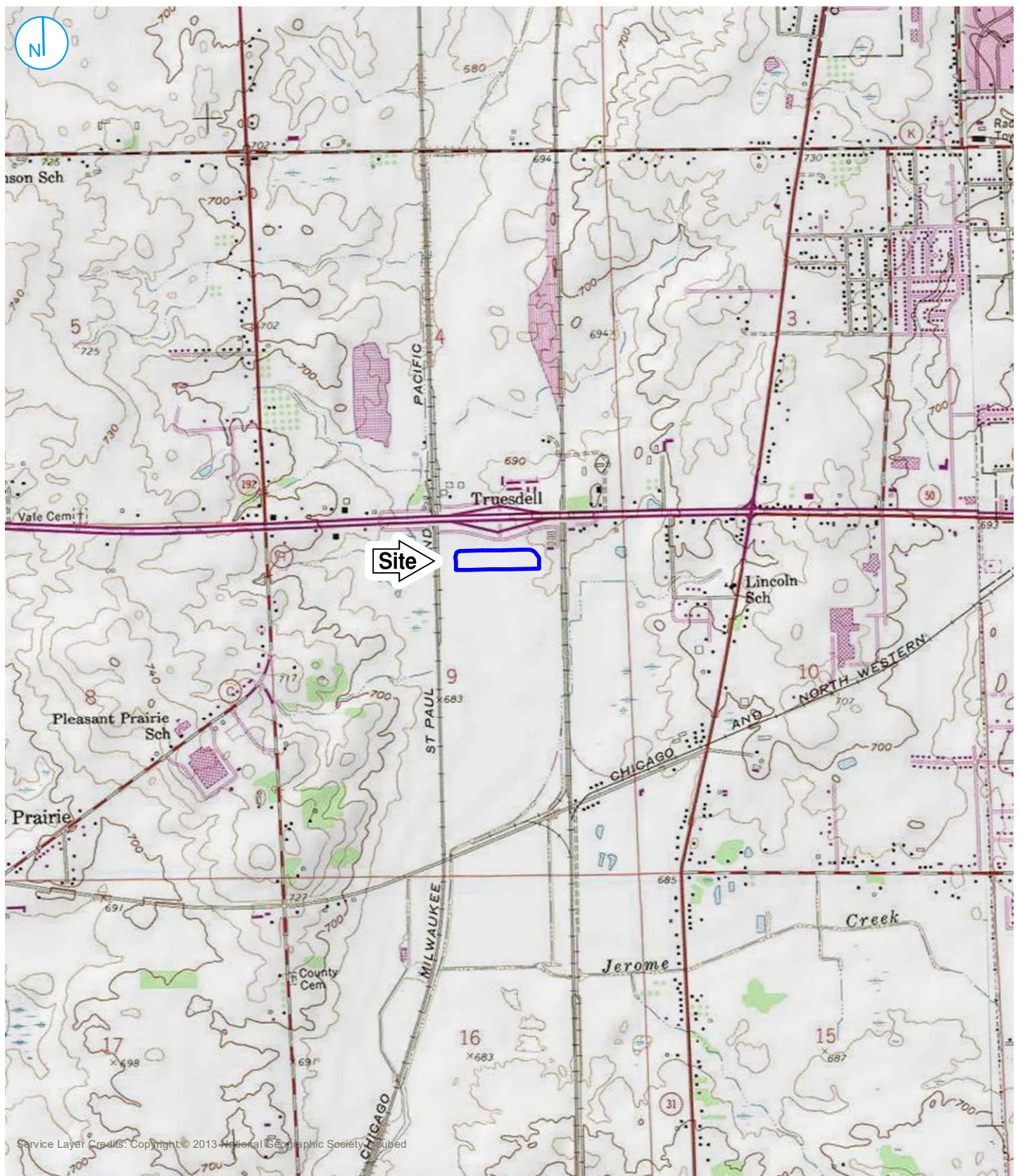
ALTERNATE SOURCE DEMONSTRATION
 PLEASANT PRAIRIE POWER PLANT
 ASH LANDFILL
 PLEASANT PRAIRIE, WISCONSIN

Well Designation	Wisconsin Unique Well Number	Date Well Installed	Drilling Subcontractor	Drilling Method	Gradient Position	State Plane Northing (ft)	State Plane Easting (ft)	Latitude	Longitude	Ground Surface Elevation (ft NAVD88)	Top of Protective Cover Pipe Elevation (ft NAVD88)	Top of Well Riser Elevation (ft NAVD88)	Borehole Drilled Depth (ft bgs)	Borehole Bottom Elevation (ft NAVD88)	Depth to Top of Well Screen (ft bgs)	Depth to Well Bottom (ft bgs)	Top of Screen Elevation (ft NAVD88)	Well Bottom Elevation (ft NAVD88)	Depth to Top of Bedrock (ft bgs)	Top of Bedrock Elevation (ft NAVD88)
W17BR	VN431	10/1/2013	Boart Longyear Company	Sonic	downgradient	213,385.17	2,534,203.49	42°33'57.3084"	-87°53'59.9346"	688.31	690.55	690.35	42.0	646.3	37.0	42.0	651.3	646.3	--	--
W20B ¹	--	3/17/1993	STS Consultants	Rotary	upgradient	212,752.70	2,533,099.53	42°33'51.3396"	-87°54'14.8968"	684.30	--	687.0	35.0	649.3	29.0	34.0	655.3	650.3	--	--
W20D	VQ580	3/4/2015	Cascade Drilling	Sonic	upgradient	212,757.97	2,533,085.40	42°33'51.3592"	-87°54'15.0776"	686.45	689.03	688.41	140.0	546.4	135.0	140.0	551.4	546.4	125.0	561.4
W31B ¹	--	2/26/1993	STS Consultants	Rotary	upgradient	211,923.81	2,533,157.23	42°33'43.1382"	-87°54'14.403"	681.00	--	683.8	38.5	642.5	33.0	38.0	648.0	643.0	--	--
W73	VN433	10/2/2013	Boart Longyear Company	Sonic	downgradient	213,367.88	2,534,399.36	42°33'57.0560"	-87°53'57.3214"	688.66	691.07	690.58	130.0	558.7	125.0	130.0	563.7	558.7	114.0	574.7
W74	VQ578	3/3/2015	Cascade Drilling	Sonic	downgradient	213,321.15	2,533,126.93	42°33'56.9099"	-87°54'14.3343"	685.02	687.49	686.83	140.0	545.0	135.0	140.0	550.0	545.0	124.5	560.5
W75	VQ577	3/23/2015	Cascade Drilling	Sonic	downgradient	213,321.56	2,533,540.32	42°33'56.8116"	-87°54'08.8120"	687.42	690.31	689.91	141.0	546.4	136.0	141.0	551.4	546.4	125.0	562.4
W76	VQ576	3/24/2015	Cascade Drilling	Sonic	downgradient	213,300.53	2,534,065.51	42°33'56.4738"	-87°54'01.8036"	689.00	692.11	691.63	141.0	548.0	136.0	141.0	553.0	548.0	125.0	564.0
W77	VQ575	3/19/2015	Cascade Drilling	Sonic	upgradient	212,178.92	2,534,660.05	42°33'45.2513"	-87°53'54.2383"	684.89	687.63	687.23	126.0	558.9	121.0	126.0	563.9	558.9	110.0	574.9

- Notes:**
 "--" indicates data is not available or does not apply.
 bgs = below ground surface
 ft = foot/feet
 HSA = Hollow Stem Auger
 NAVD88 = North American Vertical Datum of 1988
 Sonic = vibratory (i.e. roto-Sonic®)
- The data source for ground surface and top of well riser elevations is STS Consultants Ltd. Final Hydrogeologic Investigation Report: Wisconsin Electric Power Company, Pleasant Prairie Power Plant Ash Landfill, Pleasant Prairie, Wisconsin. April 4, 1997.
 - Ground surface, top of protective cover pipe and top of well riser elevations for wells were surveyed by A.W. Oakes & Son, Inc. on March 16, 2015 and March 27, 2015. Vertical datum assumed to be NAVD88.
 - Horizontal datum is Wisconsin State Plane Coordinates South Zone, NAD 83.
 - All wells constructed with 2-inch nominal size schedule 80 PVC with 5-foot long 10-slot screens. All wells are screened in dolomite bedrock.



FIGURES



Map Scale: 1:24,000 | Map Center: 89°39'38"W 44°38'22"N

 UNIT BOUNDARY

SITE LOCATION MAP

FIGURE 1



ALTERNATE SOURCE DEMONSTRATION
 WE ENERGIES CCR RULE
 GROUNDWATER MONITORING
 PLEASANT PRAIRIE POWER PLANT
 ASH LANDFILL
 PLEASANT PRAIRIE, WISCONSIN

RAMBOLL AMERICAS
 ENGINEERING SOLUTIONS, INC.





Service Layer Credits: NAIP 2022

- UNIT BOUNDARY
- + ACTIVE WELL IN NR 500 MONITORING PROGRAM
- + ACTIVE WELL IN 40CFR PART 257 MONITORING PROGRAM
- + + ACTIVE WELL IN BOTH NR500 AND 40CFR PART 257 MONITORING PROGRAMS

WELL LOCATION MAP

FIGURE 2



**ALTERNATE SOURCE DEMONSTRATION
WE ENERGIES CCR RULE GROUNDWATER MONITORING
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN**

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





- UNIT BOUNDARY
 - BEDROCK UNIT (UPPERMOST AQUIFER) CCR MONITORING WELL LOCATION
 - GLACIAL UNIT POTENTIAL CONTAMINANT PATHWAY CCR MONITORING WELL LOCATION (NOT USED FOR CONTOURING)
 - GROUNDWATER ELEVATION CONTOUR (1-FT INTERVAL, NAVD 88)
 - INFERRED GROUNDWATER ELEVATION CONTOUR
 - GROUNDWATER FLOW DIRECTION
- 0 150 300
Feet

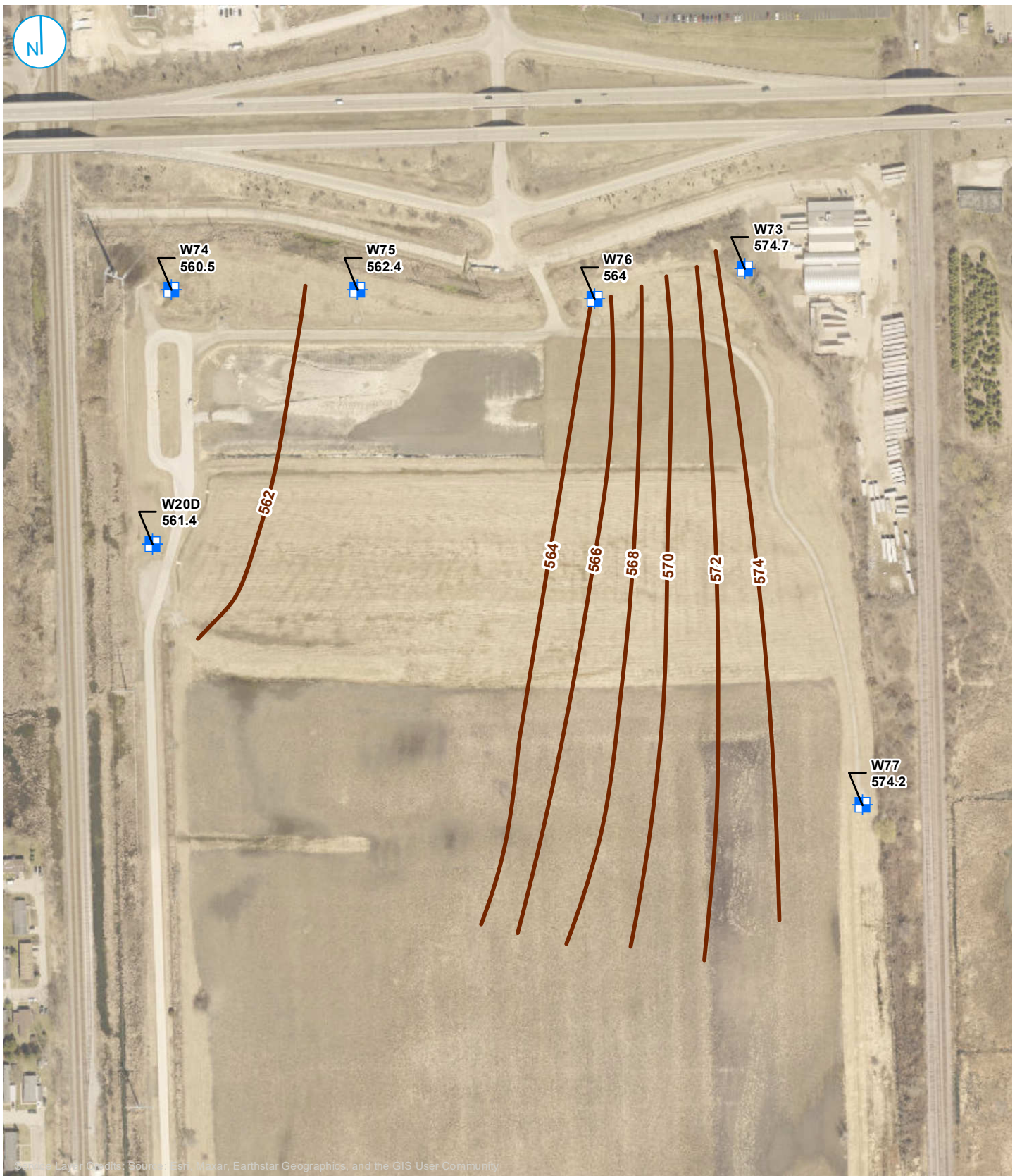
**UPPERMOST AQUIFER UNIT
GROUNDWATER ELEVATION CONTOUR MAP
APRIL 13, 2022**

**ALTERNATE SOURCE DEMONSTRATION
WE ENERGIES CCR RULE GROUNDWATER MONITORING
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN**



FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





Source Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

-  BEDROCK UNIT MONITORING WELL LOCATION
-  BEDROCK ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)

BEDROCK ELEVATION CONTOUR MAP

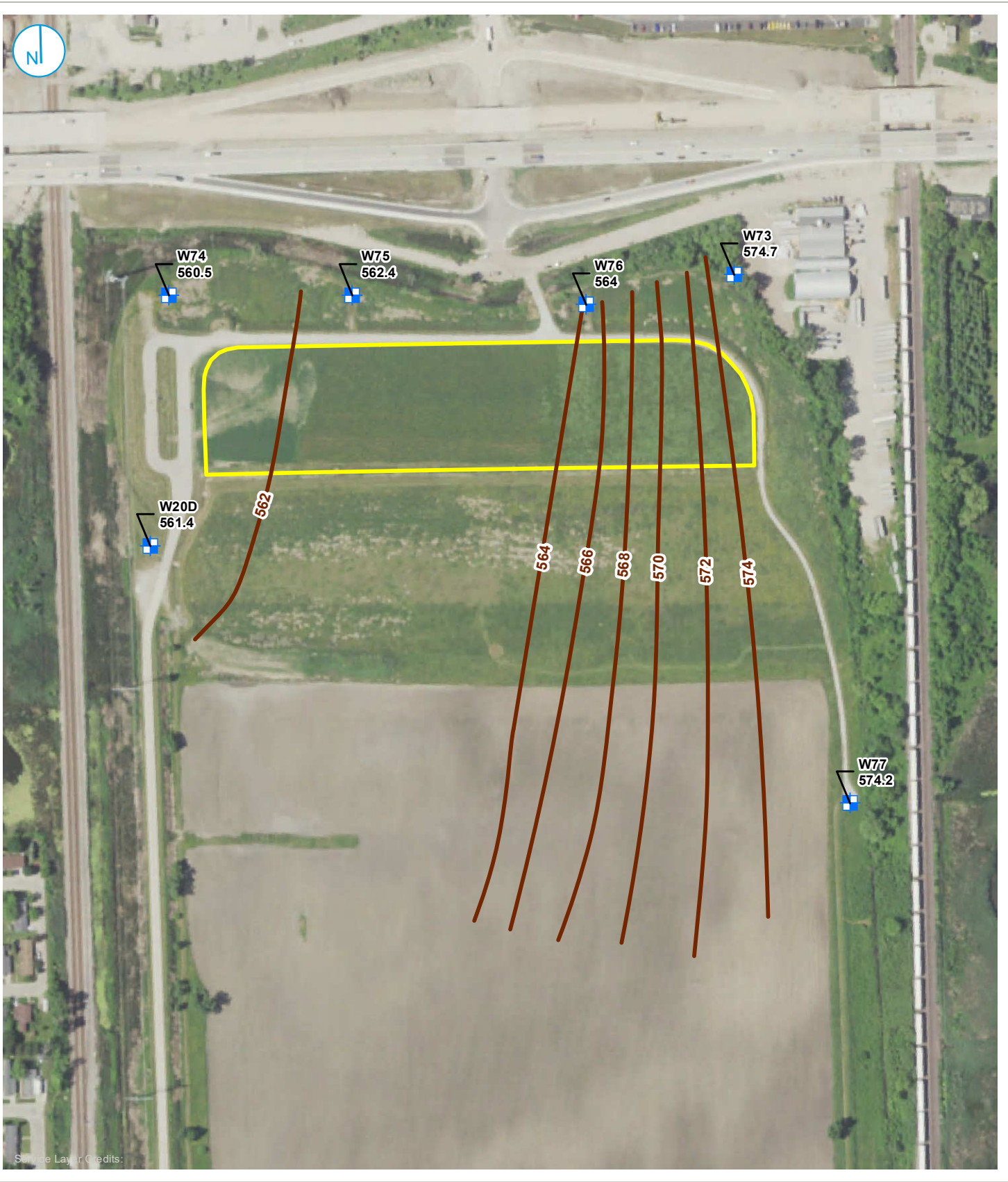
FIGURE 4

ALTERNATE SOURCE DEMONSTRATION WE ENERGIES CCR RULE GROUNDWATER MONITORING

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN





Source Layer Credits:

- UNIT BOUNDARY
- + BEDROCK UNIT MONITORING WELL LOCATION
- BEDROCK ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)

BEDROCK ELEVATION CONTOUR MAP

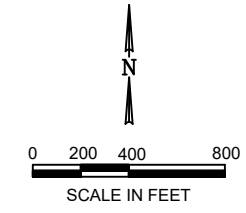
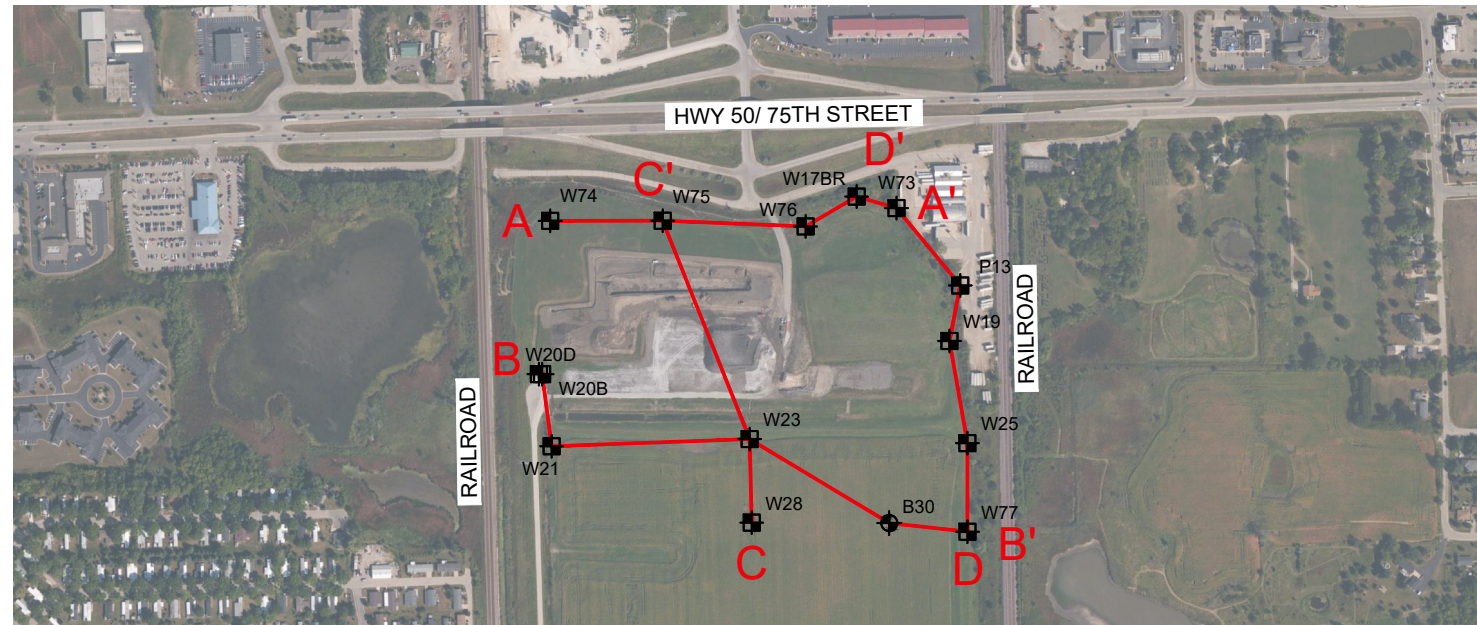
FIGURE 4



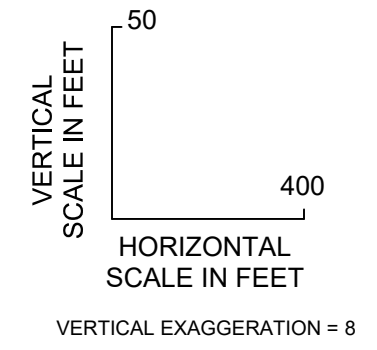
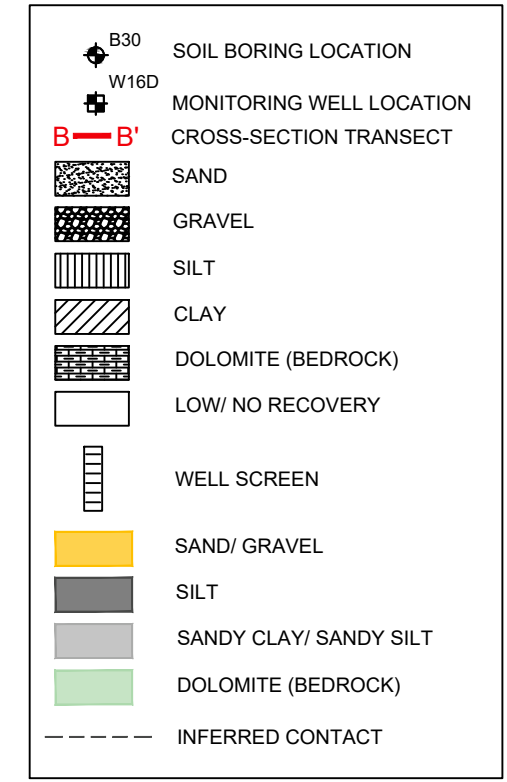
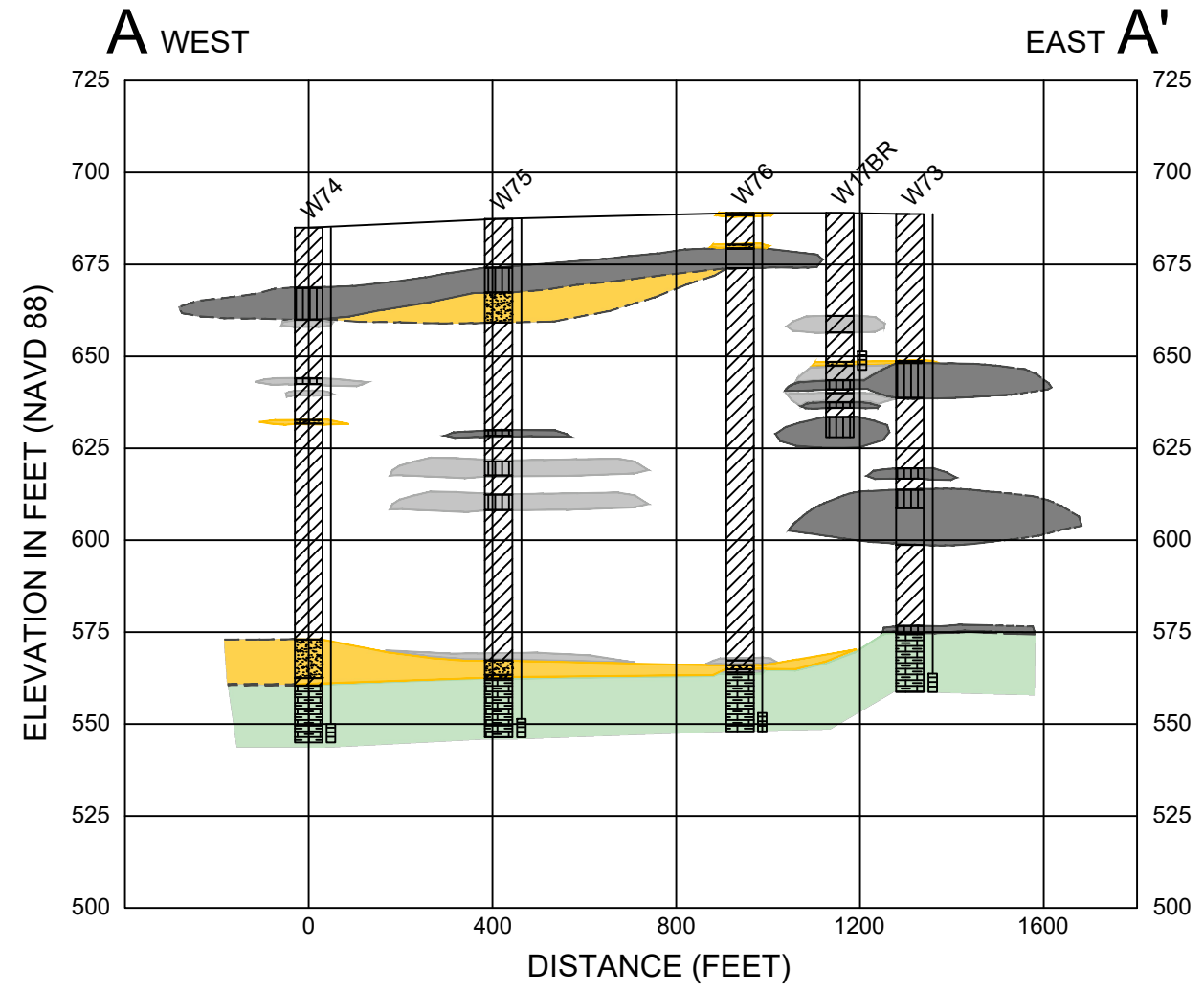
ALTERNATE SOURCE DEMONSTRATION
WE ENERGIES CCR RULE GROUNDWATER MONITORING
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
 PLEASANT PRAIRIE, WISCONSIN

RAMBOLL AMERICAS
 ENGINEERING SOLUTIONS, INC.





SOURCE NOTES:
 1. DIGITAL ORTHOPHOTO FROM BING MAPS © 2012.
 2. COORDINATE SYSTEM IS NAD27 WISCONSIN STATE PLANE, SOUTH ZONE, U.S. FOOT.



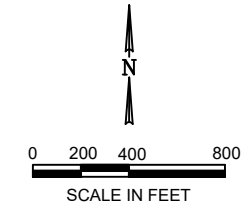
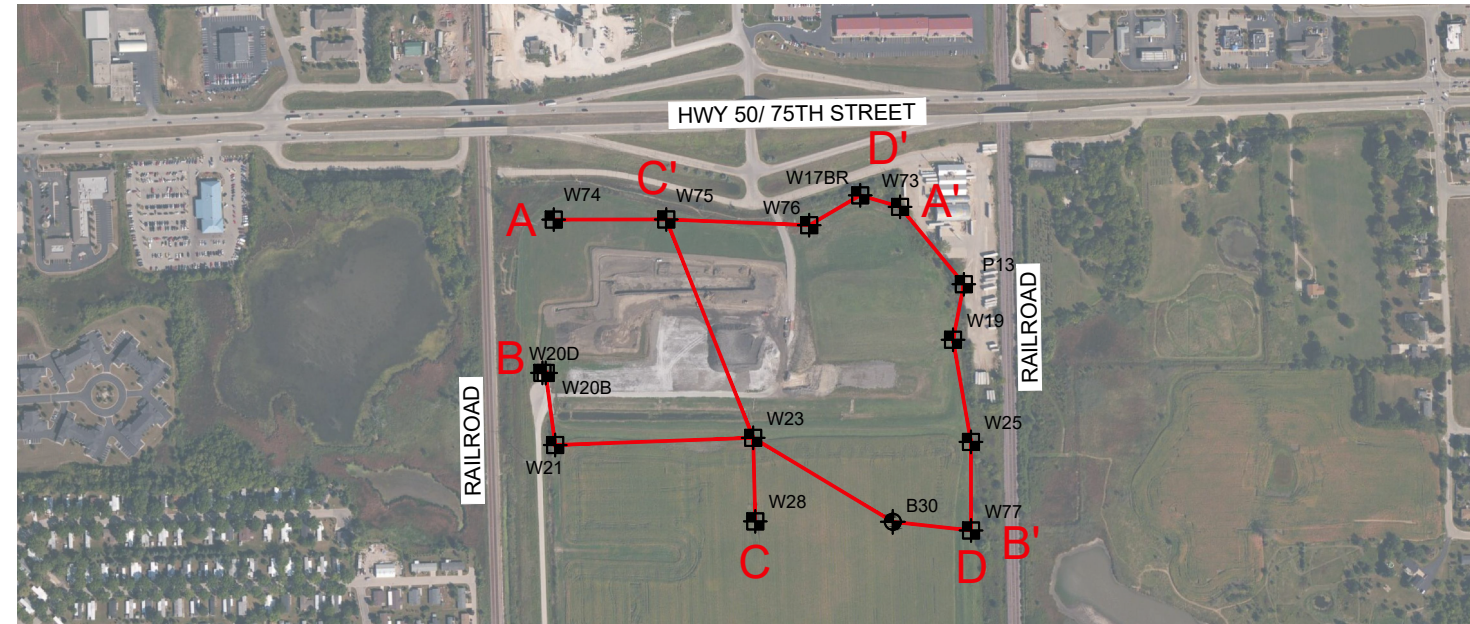
GEOLOGIC CROSS-SECTION A-A'

**ALTERNATE SOURCE DEMONSTRATION
 WE ENERGIES CCR RULE GROUNDWATER MONITORING**
 PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
 PLEASANT PRAIRIE, WISCONSIN

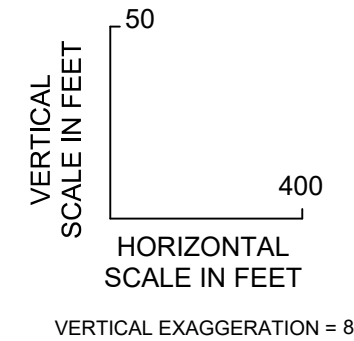
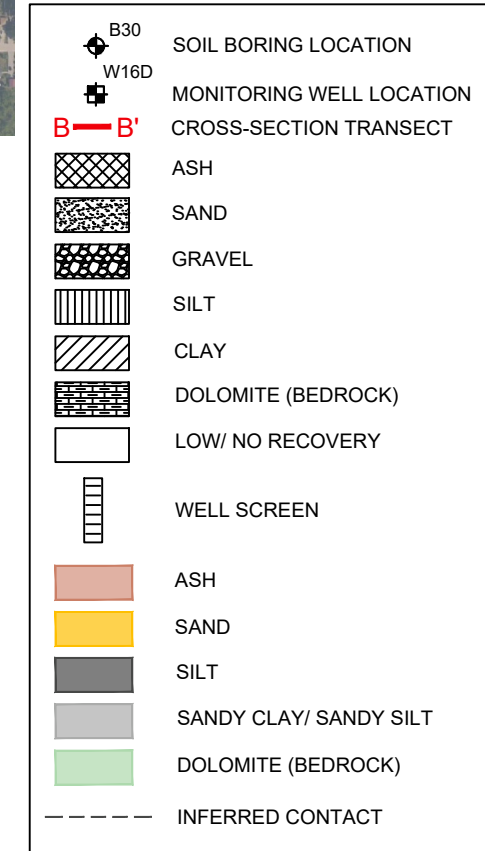
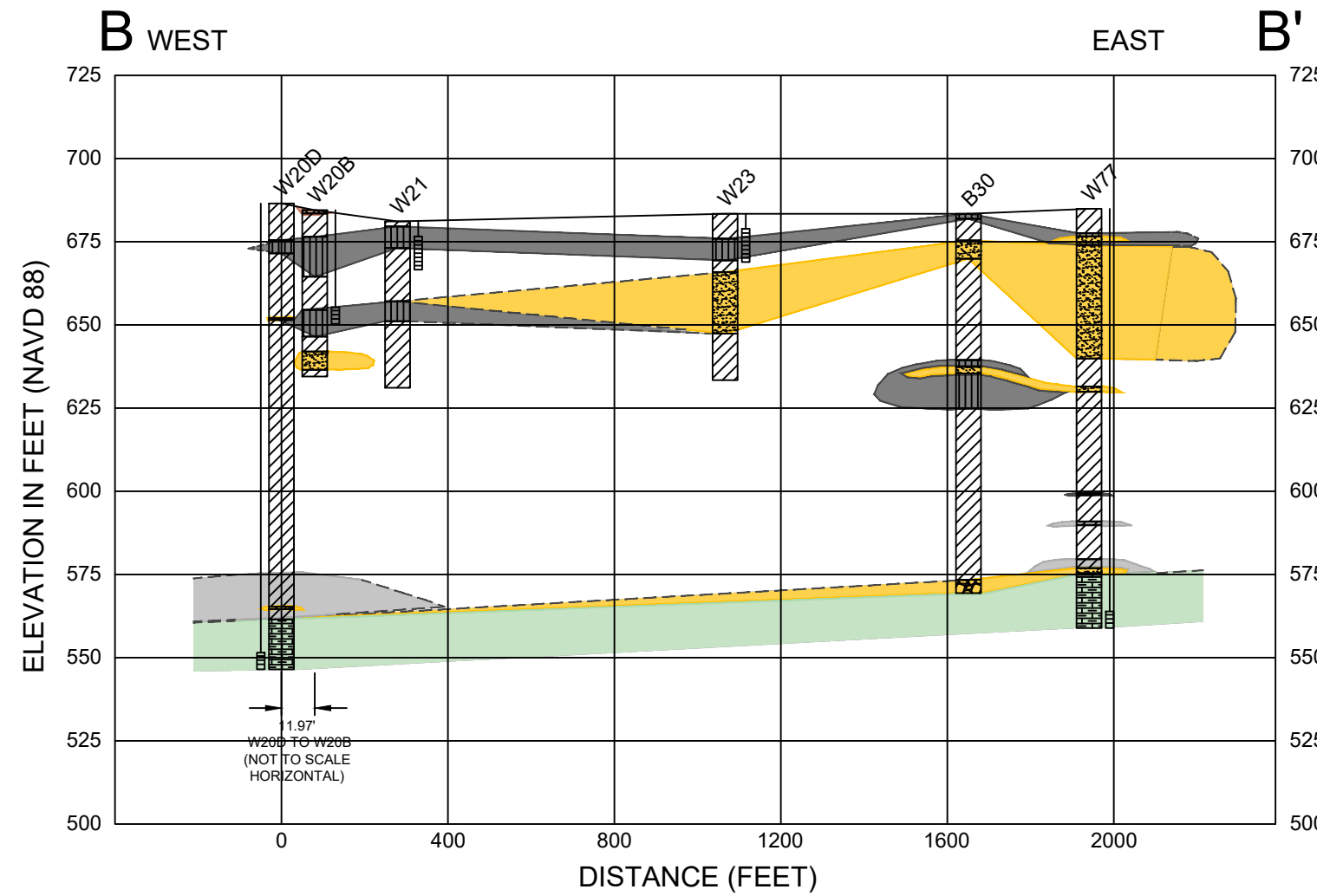
FIGURE 5

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.





SOURCE NOTES:
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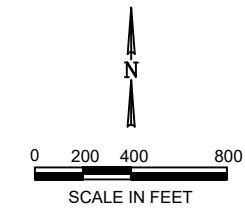
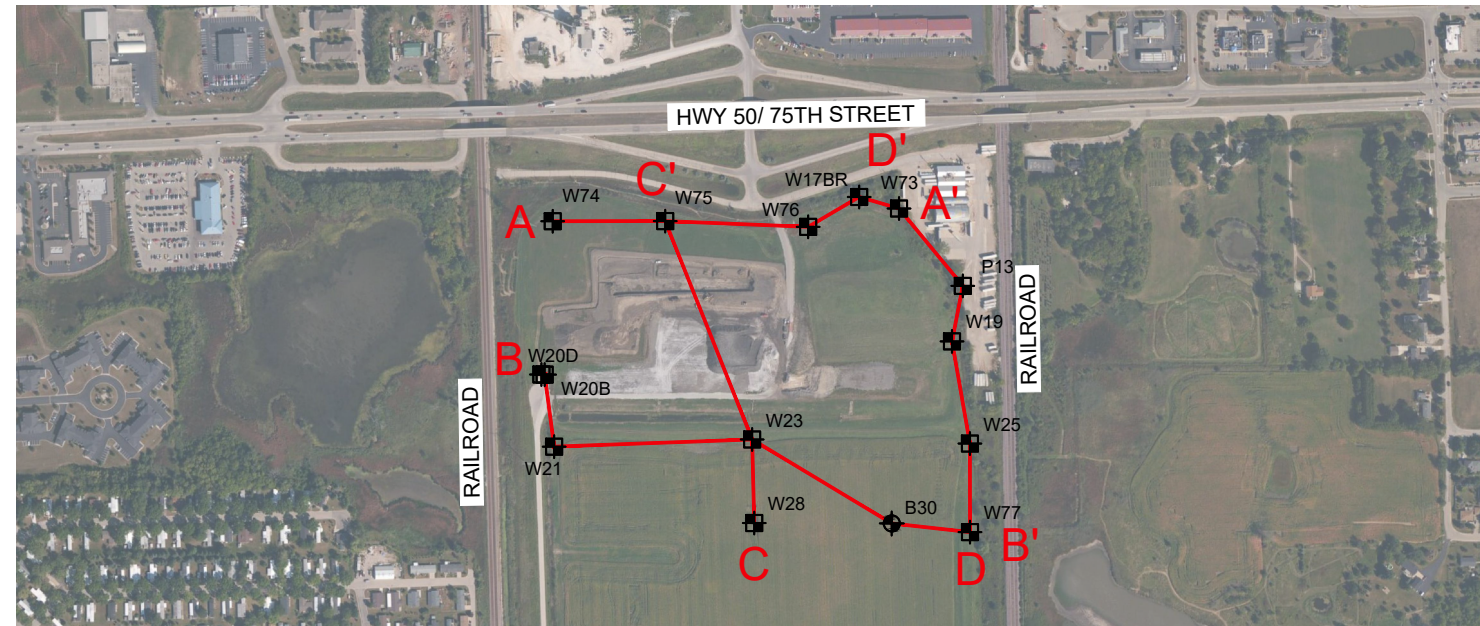
GEOLOGIC CROSS-SECTION B-B'

**ALTERNATE SOURCE DEMONSTRATION
 WE ENERGIES CCR RULE GROUNDWATER MONITORING
 PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
 PLEASANT PRAIRIE, WISCONSIN**

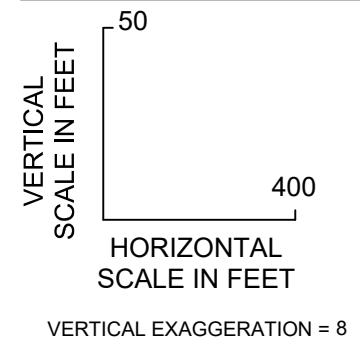
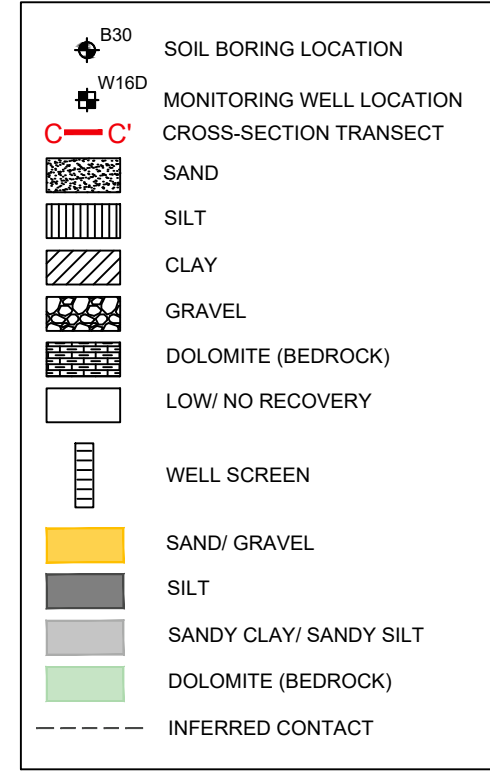
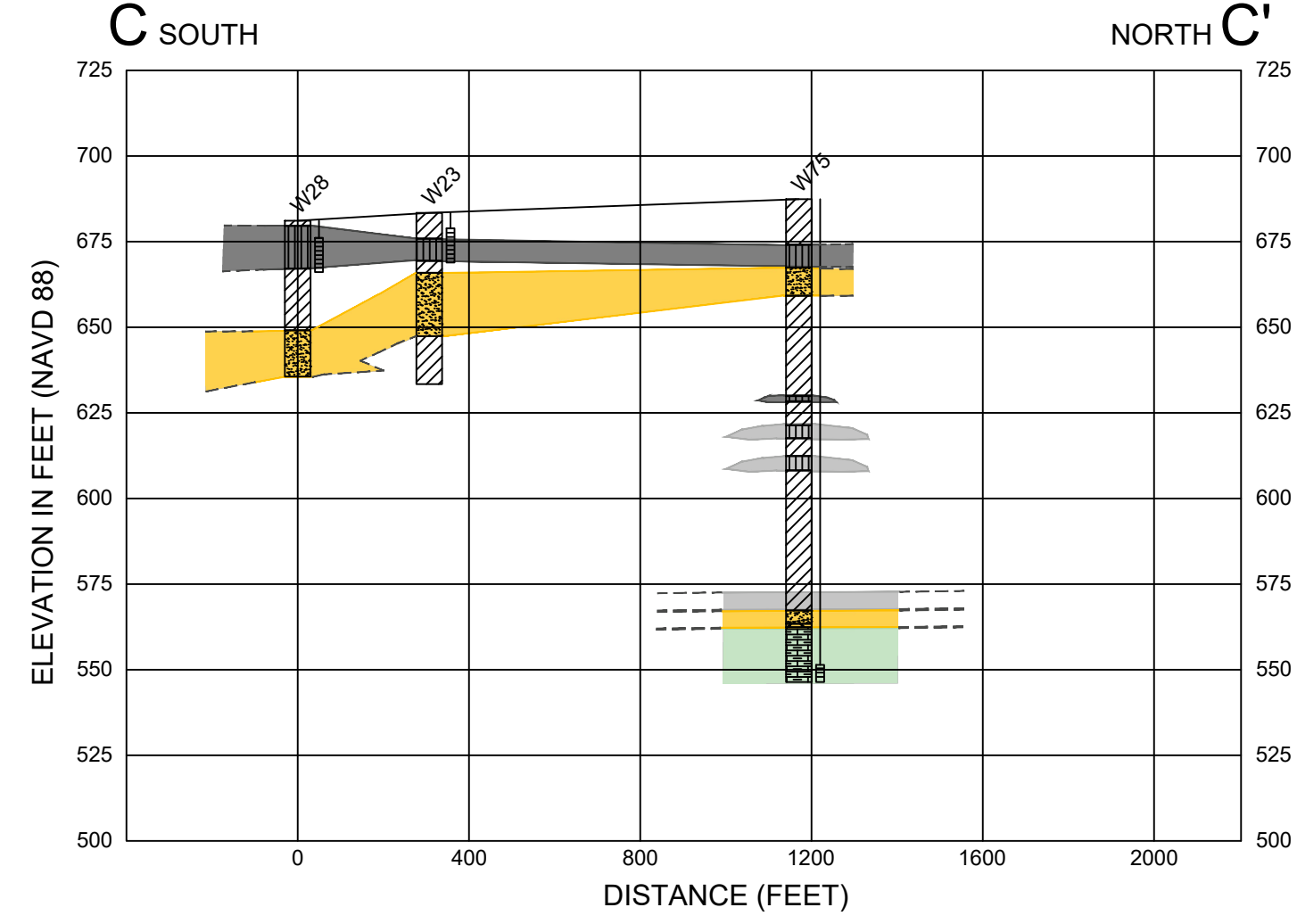
FIGURE 6

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.





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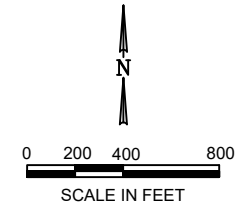
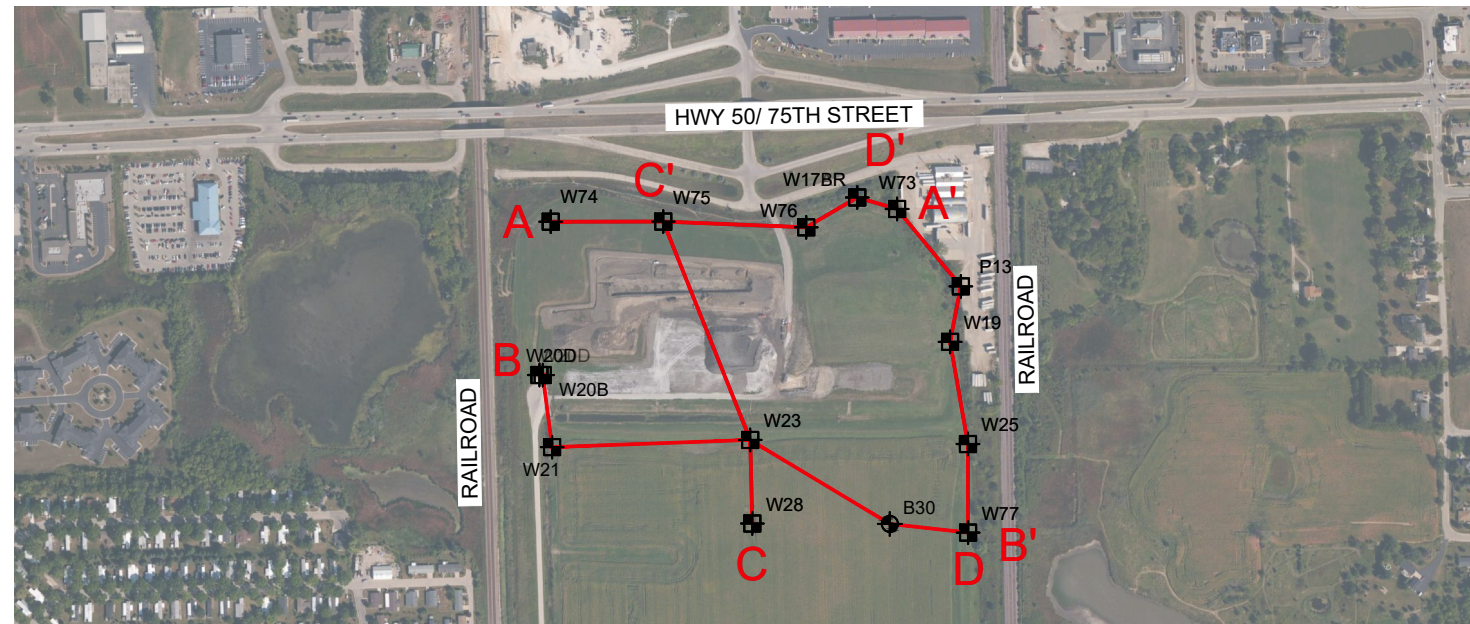
GEOLOGIC CROSS-SECTION C-C'

FIGURE 7

**ALTERNATE SOURCE DEMONSTRATION
 WE ENERGIES CCR RULE GROUNDWATER MONITORING**
 PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
 PLEASANT PRAIRIE, WISCONSIN

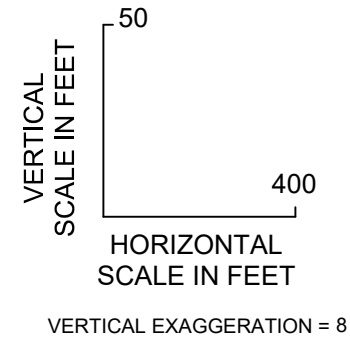
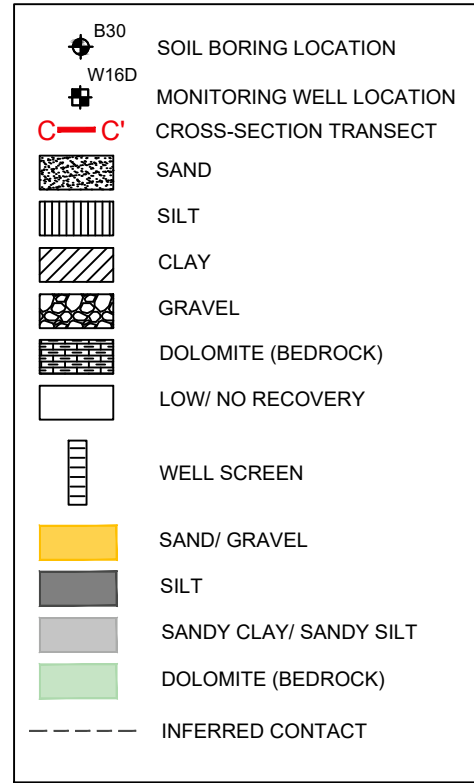
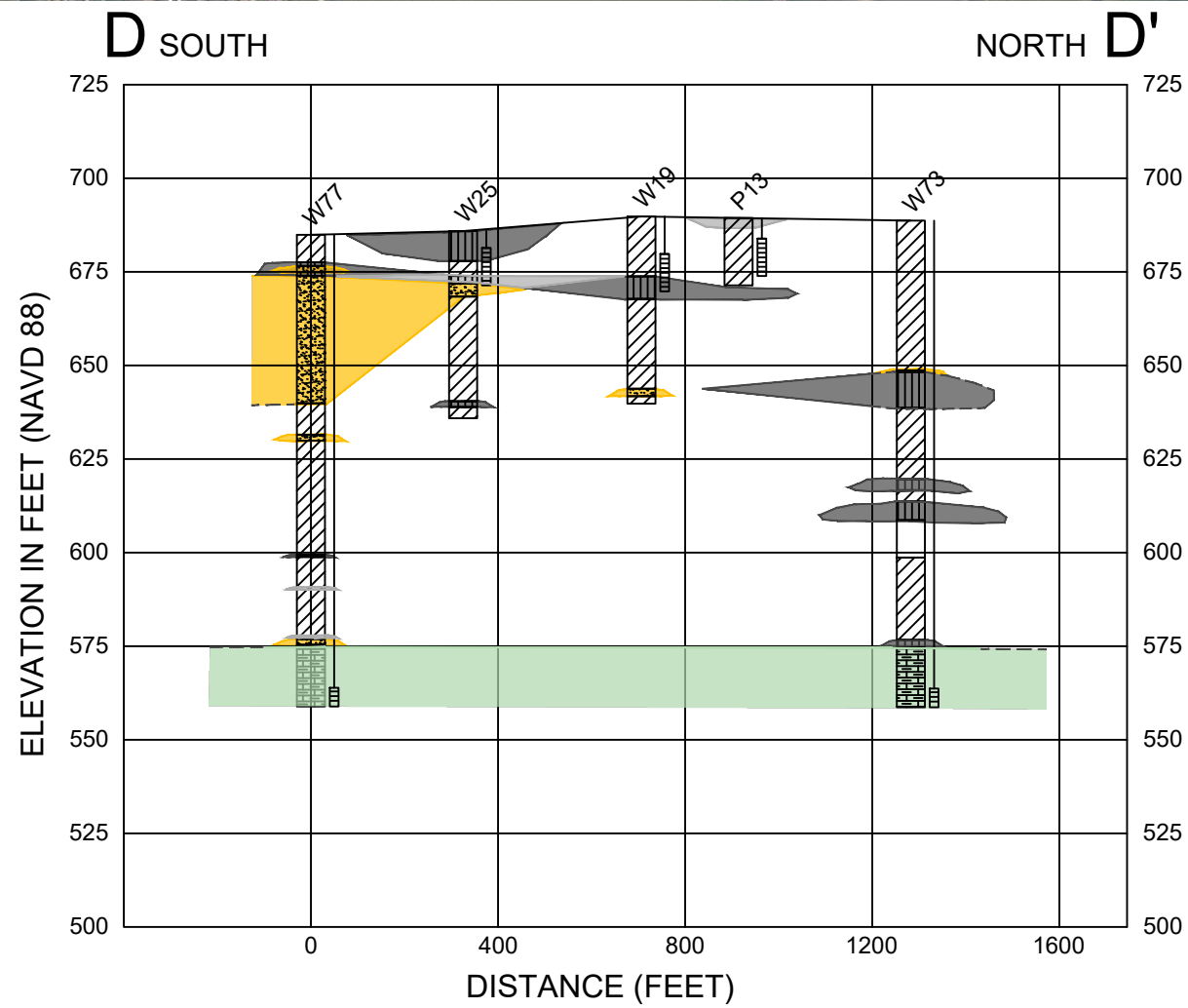
RAMBOLL AMERICAS ENGINEERING
 SOLUTIONS, INC.





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GEOLOGIC CROSS-SECTION D-D'

**ALTERNATE SOURCE DEMONSTRATION
WE ENERGIES CCR RULE GROUNDWATER MONITORING**
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN

FIGURE 8

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.





- UNIT BOUNDARY
 - BEDROCK UNIT (UPPERMOST AQUIFER) CCR MONITORING WELL LOCATION
 - GLACIAL UNIT POTENTIAL CONTAMINANT PATHWAY CCR MONITORING WELL LOCATION (NOT USED FOR CONTOURING)
 - GROUNDWATER ELEVATION CONTOUR (1-FT INTERVAL, NAVD 88)
 - - - INFERRED GROUNDWATER ELEVATION CONTOUR
 - ➔ GROUNDWATER FLOW DIRECTION
- 0 150 300
 Feet

**POTENTIAL CONTAMINANT PATHWAY
 GROUNDWATER ELEVATION CONTOUR MAP
 APRIL 13, 2022**

**ALTERNATE SOURCE DEMONSTRATION
 WE ENERGIES CCR RULE GROUNDWATER MONITORING
 PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
 PLEASANT PRAIRIE, WISCONSIN**

FIGURE 9

RAMBOLL AMERICAS
 ENGINEERING SOLUTIONS, INC.

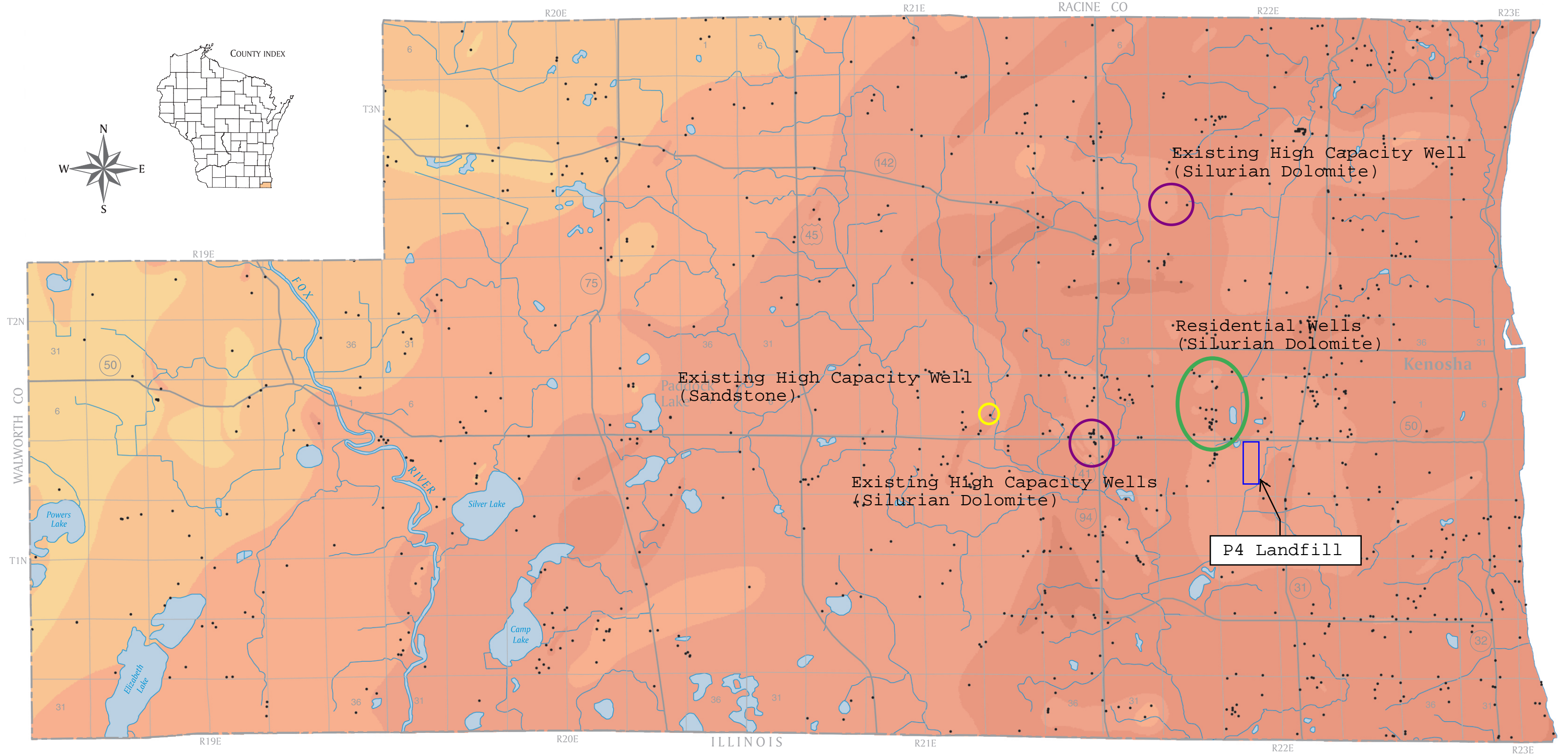


**ATTACHMENT A
PRELIMINARY BEDROCK TOPOGRAPHY MAP OF
KENOSHA COUNTY, WISCONSIN**

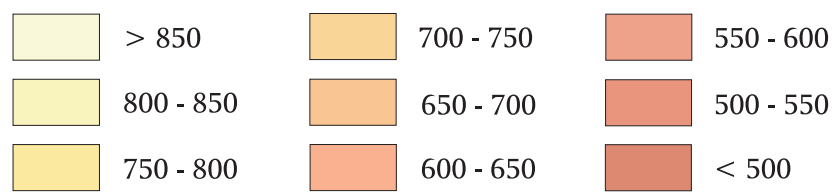
Preliminary bedrock topography map of Kenosha County, Wisconsin

R.M. Peters

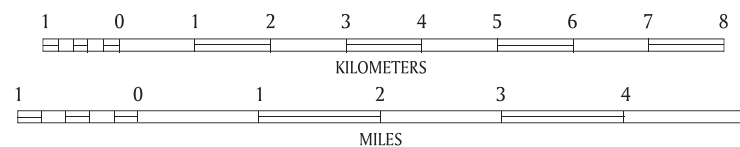
2004



ESTIMATED ELEVATION IN FEET
(ABOVE MEAN SEA LEVEL)



• data point



Wisconsin Transverse Mercator Projection
1991 adjustment to the North American Datum of 1983 (NAD 83/91)

This map represents work performed by the Wisconsin Geological and Natural History Survey and is released to the open files in the interest of making the information readily available. This map has not been edited or reviewed for conformity with Wisconsin Geological and Natural History Survey standards and nomenclature.

This map is part of an ongoing project funded by STATEMAP, the state component of the National Cooperative Geologic Mapping Program of the U.S. Geological Survey.

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James M. Robertson, *Director and State Geologist*

Data entry and processing by K.K. Zeiler. Cartography by D.L. Patterson.

Wisconsin Geological and Natural History Survey
Open-File Report 2004-13B