We Energies
333 W. Everett St.
Milwaukee, WI 53203
www.we-energies.com

January 31, 2023

Ms. Alicia Zewicki
Waukesha Service Center
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, WI 53188

submitted via email

RE: PLEASANT PRAIRIE ASH LANDFILL
LICENSE #2786 - FID# 230056310
NR 506.20(3) 2022 ANNUAL CCR REPORT

Dear Ms. Zewicki:

This report is submitted as required per NR 506.20(3) and will be placed in the facility operating record. The report consists of the following attachments:

- 2022 fugitive dust control report [per NR 506.20(3)(a)]
- 2022 inspection report [per NR 506.20(3)(b)]
- 2022 groundwater monitoring and corrective action report [per NR 506.20(3)(c)]
- 2022 leachate pipe cleaning and inspection report [per NR 506.20(3)(d)]

Copies of the annual fugitive dust and inspection reports (listed above) are already available online at https://www.we-energies.com/environment/coal-combustion (the company website). A copy of the annual groundwater monitoring and corrective action report will be placed on the company website in early March 2023.

Please contact me at 414.221-2457 or eric.kovatch@wecenergygroup.com should you have any questions.

Sincerely,

Eric P. Kovatch
Facility Manager – Senior Environmental Consultant

cc: Mark Peters (WDNR)

Attachments: Appendices A through D (as listed above)

[File:\2023-01-31 PPPP CCR NR506 Annual Report for WDNR]

APPENDIX A

2022 FUGITIVE DUST CONTROL REPORT
[PER NR 506.20(3)(A)]

2022 ANNUAL FUGITIVE DUST CONTROL REPORT **December 19, 2022**
PLEASANT PRAIRIE ASH LANDFILL

1.0 INTRODUCTION

This annual fugitive dust control report has been prepared to meet the requirements of 40 CFR 257.80(c).

The Pleasant Prairie Ash Landfill consists of one cell that went into operation during the 4th Quarter of 2014. Under normal conditions and circumstances, nearly 100 percent of CCR generated at the Pleasant Prairie Power Plant (PPPP) was beneficially utilized. Disposal activities at the landfill are generally limited to CCR system cleanings during PPPP outages and other special events. PPPP ceased commercial operation in early 2018. The Pleasant Prairie Ash Landfill was closed (though the operating license has been retained and remains active) as part of plant decommissioning activities in December 2021.

2.0 FUGITIVE DUST CONTROL MEASURES

Fugitive dust control measures are described in Section 2.0 of the Fugitive Dust Control Plan, Pleasant Prairie Ash Landfill, dated October 19, 2015. Effectiveness of the Fugitive Dust Control Plan is evaluated during the weekly and annual inspections. A review of the weekly and annual inspections contained in the operating record was completed during the preparation of this annual fugitive dust control report and confirms that the fugitive dust control measures implemented at the Pleasant Prairie Ash Landfill are effective. The Cell 1 final cover was placed and closed in three separate phases, which included:

- Phase 1. Approximately 2.6 acres of final cover was installed in late 2018
- Phase 2. Approximately 3.1 acres of final cover was installed in late 2020
- Phase 3. Approximately 1.3 acres of final cover was installed in late 2021

3.0 CITIZEN COMPLAINTS

The procedure for logging citizen complaints is described in Section 3.0 of the Fugitive Dust Control Plan, Pleasant Prairie Ash Landfill, dated October 19, 2015. There were no citizen complaints associated with the Pleasant Prairie Ash Landfill that were logged during the period covered by this annual report.

APPENDIX B

2022 INSPECTION REPORT
[PER NR 506.20(3)(B)]

GEI Consultants

Consulting Engineers and Scientists

December 19, 2022
Project 2103683

Mr. Eric Kovatch, P.G.
WEC Energy Group – Business Services, LLC
333 W. Everett Street, A231
Milwaukee, Wisconsin 53203

Re: 2002 Landfill Inspection Report
Pleasant Prairie Power Plant Ash Landfill
Pleasant Prairie, Wisconsin

Dear Mr. Kovatch:

GEI Consultants, Inc. (GEI) is pleased to provide this 2022 landfill inspection report for the Pleasant Prairie Power Plant (PPPP) Ash Landfill. The inspection was completed to comply with *40 CFR 257 Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments* and specifically with *§ 257.84(b) Annual inspections by a qualified professional engineer*.

§ 257.84 Inspection Requirements for CCR Landfills

(b) *Annual inspections by a qualified professional engineer.*

(1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person and results of previous annual inspections); and

(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

(2) *Inspection report.* The qualified professional engineer must prepare a report following each inspection that addresses the following:

(i) Any changes in geometry of the structure since the previous annual inspection;

(ii) The approximate volume of CCR contained in the unit at the time of the inspection;

(iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and

(iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

Background

We Energies owns and operates a solid waste disposal facility adjacent to PPPP in Section 9, Township 1 North, Range 22 East, in the village of Pleasant Prairie, Kenosha County, Wisconsin. The landfill property is bounded on the north by State Highway 50 (75th Street), on the south by Bain Station Road, and on the east and west by active rail lines. The We Energies PPPP Ash Landfill is regulated as an industrial waste landfill by the Wisconsin Department of Natural Resources (WDNR) under the provisions of Chapter 289 Wisconsin State Statues, and all applicable requirement of Chapters NR 500 of the Wisconsin Administrative Code.

The design, construction, operation, closure, and post-closure care requirements are specified in the WDNR conditionally approved Plan of Operations, License No. 2786, FID# 230056310. Cell 1 of the PPPP Ash Landfill was reconstructed in 2013-2014 with an area of 7.4 acres and a design airspace capacity of 199,200 cy.

On August 31, 2018, a Plan of Operation Modification was submitted to the WDNR for the premature closure of Cell 1. The Plan of Operation Modification included a proposal to modify the final waste grades of Cell 1 to 5% to allow construction of the final cover. Premature closure of Cell 1 occurred to reduce leachate production and operational expenses of the landfill due to the decommissioning of the power plant. Final cover over Cell 1 was constructed over a period of three phases, with the first phase (eastern 2.6 acres) approved by the WDNR on July 18, 2019, the second phase (central 3.2 acres) approved by the WDNR on March 15, 2021, and the third phase (western 1.3 acres) approved by the WDNR on July 17, 2022. The We Energies PPPP Ash Landfill contains approximately 113,000 cubic yards of CCR, is closed, and will begin its post closure care period once receiving its closure licensing from WDNR.

GEI was retained to perform an annual inspection of the landfill in compliance with *§ 257.84(b) Annual inspections by a qualified professional engineer*. The inspection was performed on December 8, 2022. Copies of the site location figure, landfill inspection forms, and inspection photo log are appended to this letter-report and constitute the entirety of the report.

Site Inspections

Review of the weekly inspections by a qualified person was conducted as part of the annual site inspection. There were no significant issues identified during the weekly inspections and action items were addressed in a timely manner. The weekly inspections are included in the operating record. This inspection also included a review of the previous annual inspection report contained in the operating record.

The annual site inspection included an inspection of the perimeter berms, and slopes, final covers, interior and exterior storm water controls, the leachate collection sump controls, the leachate storage and load-out controls, the leachate load-out pad, the site access road, and the cell entrance.

There were no signs or evidence of any distress or malfunction of the CCR unit, or any conditions that safety of the CCR unit. The perimeter berms did not show any evidence of structural weakness, erosion, or instability. The leachate sump and load-out facilities were operational and being properly maintained. The interior and exterior storm water controls were free of obstruction and operational. The access road, load-out pad and cell entrance were clean and free of obstructions. The overall final cover had a good growth of vegetation, with no visual bare areas.

Closing

The annual inspection of the We Energies PPPP Ash Landfill was completed in compliance with *§ 257.84(b) Annual inspections by a qualified professional engineer*. Overall, the landfill is in very good condition. The final cover system is currently being installed was completed over the western 1.2 acres, thus further reducing the potential for fugitive dust generation, contact water run-off, and storm water run-on with placed ash. The leachate system is functioning as designed and the landfill operators are keeping up with leachate hauling. Based on my observations and discussions with the landfill personnel the landfill is constructed and being operated in accordance with WDNR License No. 2786,
FID# 230056310.

The inspection was completed by William Butler, P.E. I hereby certify that I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in 40 CFR 257.84.

If you have any questions regarding this landfill inspection, please contact me at 920-471-0884.

Sincerely, GEI CONSULTANTS, INC.

William Butler, P.E.
Senior Geotechnical Engineer

John M. Trast, P.E. D.GE
Vice President

Attachments:
Landfill Inspection Form 12/8/2022
Landfill Inspection Photo Log

LBW:cah

K:\WEC Energy Group\2103683_WEC CCR Facility Engineering Assistance\05_In_Progress\PPPP\CCR Annual Inspection\01_R2103683 We_PPPP LF_ Inspection 2022_Draft_RPT.docx

PLEASANT PRAIRIE ASH LANDFILL - ANNUAL INSPECTION & CONDITION SUMMARY

INSPECTOR: William Butler, PE

INSPECTION DATE/TIME: 12/8/2022

WEATHER:

Temperature:	38° F
Conditions:	Overcast
Wind:	Moderate
Wind Direction:	SW
Precipitation:	None

LEACHATE COLLECTION SYSTEM:

Load-out Facility:

High level alarms:	No
Low level alarms:	No
Leak alarms	No
Level Sensor 1:	1.6 ft
Ultrasonic Level Volume:	8030 gallons
Pump:	Available
Pad Condition:	Good

Sump:

Pump #1:	Available
Pump #2:	Available
Control Panel:	Available
Level:	P1=10" / P2=8"

Note: 50" sump level equates to 12" of head on base liner

Comments: Leachate collection system is in good working condition. Leachate levels are being maintained in compliance with the operating license requirements.

STABILITY/EROSION OF FINAL COVERS & WASTE SLOPES:

Final Covers:	☑
Waste Slopes:	☑

Comments :

The eastern 2.6 acres were closed in late 2018, the middle 3.2 acres were closed in late 2020 and western 1.3 acres closed in 2022. . The final cover slopes appear stable with no observed instability, no significant erosion, no woody vegetation, or no animal burrows. Everything with the crest appeared to be in good condition with no observed instability or significant erosion.

Note: Check mark indicates slope appears stable and no significant erosion.

LANDFILL OPERATIONS:

Fugitive Dust Control:

Tracking Pads :	☑
Cattle Guards :	☑
Access Road Clean:	☑
Landfill Surfaces Groomed:	☑
Airbourne Dust Visible:	No
Sign of Recent Dust Deposition:	No

Stormwater Management

Exterior Ditches:	☑
Interior Ditches:	☑

Comments: The landfill currently does not have an active landfill surface and does not intend to create additional airsp[ace with a lateral expansion. The landfill is in the proess of becoming administratively close and will subsequently begin its post closure care period.

Note: Check mark indicates that the features are acceptable.

Photographic Log

Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group **GEI Proj. No.:** 2103683

PHOTOGRAPH NO: 1	**DATE:** December 8, 2022	**LATITUDE:** 42.5647209460967	**LONGITUDE:** -87.9038932584482
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking north at the loadout pad area			
PHOTO BY: **BILL BUTLER**			

PHOTOGRAPH NO: 2	**DATE:** December 8, 2022	**LATITUDE:** 42.5651926039678	**LONGITUDE:** -87.9041685085792
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Control panels at loadout station			
PHOTO BY: **BILL BUTLER**			

Photographic Log

Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group **GEI Proj. No.:** 2103683

PHOTOGRAPH NO: 3	DATE: December 8, 2022	LATITUDE: 42.5652028052379	LONGITUDE: -87.9038712945214
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking south at building			
PHOTO BY: BILL BUTLER			

PHOTOGRAPH NO: 4	DATE: December 8, 2022	LATITUDE: 42.5653680795218	LONGITUDE: -87.9038952726176
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: West slope of cell 1, looking south. Slope is well vegetated, which was planted in 2022			
PHOTO BY: BILL BUTLER			

Photographic Log

Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group **GEI Proj. No.:** 2103683

PHOTOGRAPH NO: 5	DATE: December 8, 2022	LATITUDE: 42.5654941245838	LONGITUDE: -87.9038775582482
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking East at north slope of cell 1. The dark color vegetation is the phase 3 color area, the light color vegetation in the background is the phase 1 and 2 cover areas			
PHOTO BY: BILL BUTLER			

PHOTOGRAPH NO: 6	DATE: December 8, 2022	LATITUDE: 42.564695398397	LONGITUDE: -87.9039438091286
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: South slope of cell 1, looking east.The dark color vegetation is the phase 3 color area, the light color vegetation in the background is the phase 1 and 2 cover areas			
PHOTO BY: BILL BUTLER			

Photographic Log

Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group **GEI Proj. No.:** 2103683

PHOTOGRAPH NO: 7	DATE: December 8, 2022	LATITUDE: 42.5649585842378	LONGITUDE: -87.9035306171615
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Showing the crest vegetation growth planted for completion of cell 3 cover			
PHOTO BY: BILL BUTLER			

PHOTOGRAPH NO: 8	DATE: December 8, 2022	LATITUDE: 42.5650184225035	LONGITUDE: -87.9038915488429
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Photo of the crest of cell 1. Photo taken at west end of cover, looking east.			
PHOTO BY: BILL BUTLER			

Photographic Log

Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group **GEI Proj. No.:** 2103683

PHOTOGRAPH NO: 9	DATE: December 8, 2022	LATITUDE: 42.5653041052899	LONGITUDE: -87.8996461453413
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking at the north slope of cell 1, taken at east side looking west			
PHOTO BY: BILL BUTLER			

PHOTOGRAPH NO: 10	DATE: December 8, 2022	LATITUDE: 42.565031029146	LONGITUDE: -87.8996181405556
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking at crest of cell 1, taken at east side looking west			
PHOTO BY: BILL BUTLER			

Photographic Log

Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group **GEI Proj. No.:** 2103683

PHOTOGRAPH NO: 11	DATE: December 8, 2022	LATITUDE: 42.5645984000194	LONGITUDE: -87.8989861795719
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking at east slope of cell 1, looking in the northwest direction			
PHOTO BY: BILL BUTLER			

PHOTOGRAPH NO: 12	DATE: December 8, 2022	LATITUDE: 42.5645505908226	LONGITUDE: -87.8991910470882
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking at the south slope of cell 1, taken at east end of cell, looking west			
PHOTO BY: BILL BUTLER			

Photographic Log

Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group **GEI Proj. No.:** 2103683

PHOTOGRAPH NO: 13	DATE: December 8, 2022	LATITUDE: 42.5638889075466	LONGITUDE: -87.9041596081722
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking at cell 2 cover			
PHOTO BY: BILL BUTLER			

PHOTOGRAPH NO: 14	DATE: December 8, 2022	LATITUDE: 42.5638775288043	LONGITUDE: -87.9042108580421
	SITE LOCATION: PLEASANT PRARIE, WISCONSIN		
DESCRIPTION: Looking at cell 2 cover and south slope, looking northeast			
PHOTO BY: BILL BUTLER			

APPENDIX C

2022 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT [PER NR 506.20(3)(C)]

Prepared for
We Energies

Date
January 31, 2023

Project No.
1940102327

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PLEASANT PRAIRIE POWER PLANT ASH LANDFILL

RAMBOLL Bright ideas. Sustainable change.

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

Project name	**Pleasant Prairie Power Plant Ash Landfill**
Project no.	**1940102327**
Recipient	**We Energies**
Document type	**Annual Groundwater Monitoring and Corrective Action Report**
Revision	**FINAL**
Date	**January 31, 2023**
Prepared by	**Andrew F. Hardwick**
Checked by	**Eric J. Tlachac, PE**
Approved by	**Nathaniel R. Keller, PG**

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Andrew F. Hardwick
Geologist

Nathaniel R. Keller, PG
Senior Hydrogeologist

Eric J. Tlachac, PE
Senior Managing Engineer

CONTENTS

TABLES (IN TEXT)

TABLES (ATTACHED)

FIGURES (ATTACHED)

APPENDICES

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
W17BR	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

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

Notes:

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

Y:\GIS\Projects\16\1660\P4\MXD\2022Annual_GWM_CAR\Figure 1_GW Samp Well Loc_P4.mxd

PROJECT: 71202 | DATED: 1/20/2023 | DESIGNER: galarnmc

UNIT BOUNDARY

CCR RULE DOWNGRADIENT MONITORING WELL LOCATION

CCR RULE UPGRADIENT MONITORING WELL LOCATION

CCR RULE POTENTIAL CONTAMINANT PATHWAY MONITORING WELL LOCATION

0 150 300 Feet

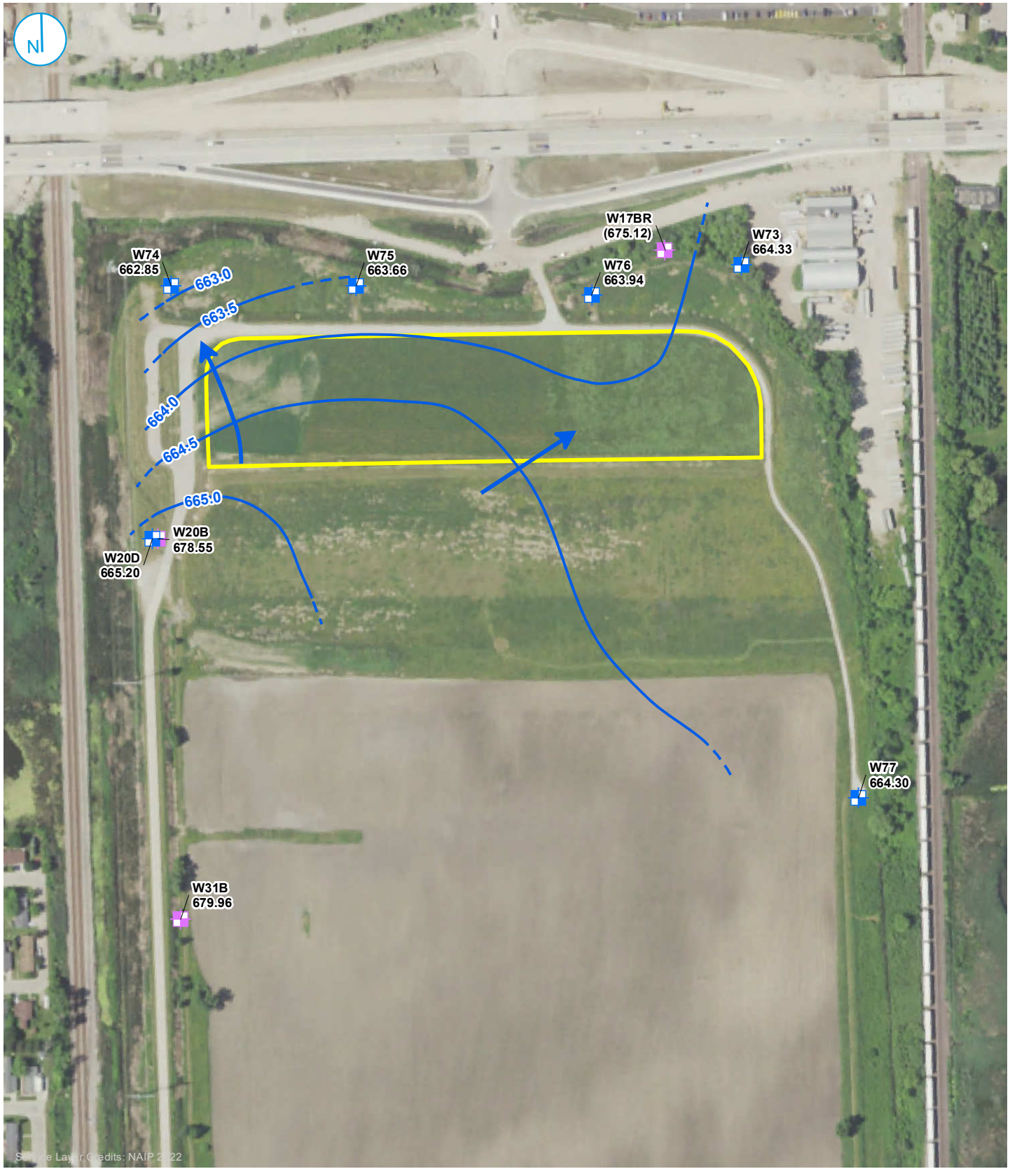
MONITORING WELL LOCATION MAP

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

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL



Y:\GIS\Projects\1611660\P4\MXD\2022Annual_GWM_CAR\Figure 2_GWE Contours 2110.mxd

PROJECT: 169000XXXX | DATED: 1/20/2023 | DESIGNER: galammc

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

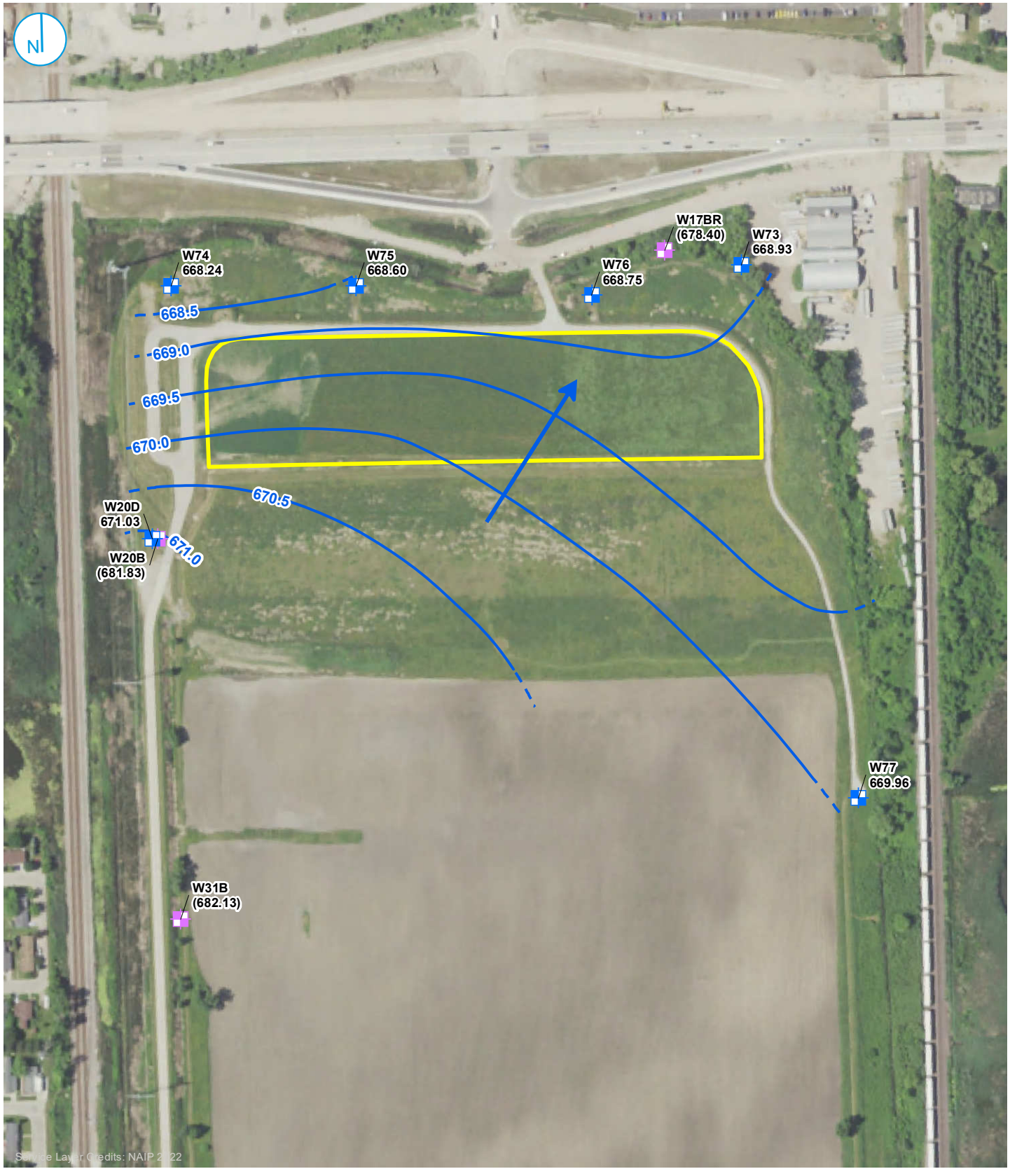
POTENTIOMETRIC SURFACE MAP
OCTOBER 12, 2021

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

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL



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

FIGURE 3

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

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 169000XXXX | DATED: 1/20/2023 | DESIGNER: galammc

Y:\GIS\Projects\1611660\P4\MXD\2022Annual_GWM_CAR\Figure 4_GWE Contours 2210.mxd

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

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.

RAMBOLL

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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst

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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
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.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

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

Pace Analytical Services, LLC
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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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

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

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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

Pace Analytical Services, LLC
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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

Pace Analytical Services, LLC
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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		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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	
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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

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

Sample: 041322008 (AE60066) **Lab ID: 40243469008** Collected: 04/13/22 13:55 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	**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	

Sample: 041322009 (AE60067) **Lab ID: 40243469009** Collected: 04/13/22 14:21 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	**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	

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
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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2379595 2379596

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

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

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	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

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

QC Batch: 413946
QC Batch Method: EPA 300.0
Analysis 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

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

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

QC Batch: 414020
QC Batch Method: EPA 300.0
Analysis 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 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	10.4	20	20	32.4	32.6	110	111	90-110	0	15	M0
Fluoride	mg/L	1.1	2	2	3.4	3.4	113	114	90-110	1	15	M0
Sulfate	mg/L	139	200	200	352	351	107	106	90-110	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2384071 2384072

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

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

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.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

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		

Pace Analytical™
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

UD243469

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	We Energies	Report To:	Patrick Ahrens	Attention:	Accounts Payable
Address:	333 W. Everett St.	Copy To:		Company Name:	We Energies
	Milwaukee, WI 53203			Address:	333 W. Everett St., Milwaukee, WI 532
Email To:	patrick.ahrens@wecenergygroup.com	Purchase Order No.:	4700004930	Pace Quote Reference:	
Phone: 414-221-2835	Fax: 414-221-4357	Project Name:	PPPP CCR Landfill - April 2022 Samples	Pace Project Manager:	Brian Basten
Requested Due Date/TAT:	Normal TAT	Project Number:	Q-6005-001031	Pace Profile #:	

REGULATORY AGENCY

NPDES | GROUND WATER x | DRINKING WATER

UST | RCRA | OTHER _____

Site Location STATE: WI

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analysis Test: BORON - unfiltered	CALCIUM - unfiltered	FLOURIDE - Unfiltered	CHLORIDE - Unfiltered	SULFATE - Unfiltered	Total Dissolved Solids	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N	N	N	N	N		
1	041322001 (AE60059)	WT	G						2	1	0	1						X	X	X	X	X	X			001
2	041322002 (AE60060)	WT	G						2	1	0	1						X	X	X	X	X	X			002
3	041322003 (AE60061)	WT	G						2	1	0	1						X	X	X	X	X	X			003
4	041322004 (AE60062)	WT	G						2	1	0	1						X	X	X	X	X	X			004
5	041322005 (AE60063)	WT	G						2	1	0	1						X	X	X	X	X	X			005
6	041322006 (AE60064)	WT	G						2	1	0	1						X	X	X	X	X	X			006
7	041322007 (AE60065)	WT	G						2	1	0	1						X	X	X	X	X	X			007
8	041322008 (AE60066)	WT	G						2	1	0	1						X	X	X	X	X	X			008
9	041322009 (AE60067)	WT	G						2	1	0	1						X	X	X	X	X	X			009
10	041322010 (AE60068)	WT	G						2	1	0	1						X	X	X	X	X	X			010
11	041322011 (AE60069)	WT	G						2	1	0	1						X	X	X	X	X	X			011
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Lydia Albright	4/14/22	0805		4/14/22	0805	
Please analyze with method EPA 200.8		4/14/22	1644		4/14/22	1644	2 Y Y Y
						4/14/22 mA	
						1544	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Lydia Albright

SIGNATURE of SAMPLER: Unavailable to sign

DATE Signed (MM/DD/YY):

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2	Y	Y	Y

Sample Preservation Receipt Form

Client Name: We Energies Project # WO2434769

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A Initial when completed: CB Date/ Time:

Lab Lot# of pH paper: 10D3112 Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	Vials: VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																														✓		2.5 / 5 / 10
002																														✓		2.5 / 5 / 10
003																														✓		2.5 / 5 / 10
004																														✓		2.5 / 5 / 10
005																														✓		2.5 / 5 / 10
006																														✓		2.5 / 5 / 10
007																														✓		2.5 / 5 / 10
008																														✓		2.5 / 5 / 10
009																														✓		2.5 / 5 / 10
010																														✓		2.5 / 5 / 10
011																														✓		2.5 / 5 / 10
012																																2.5 / 5 / 10
013																																2.5 / 5 / 10
014																																2.5 / 5 / 10
015																																2.5 / 5 / 10
016																																2.5 / 5 / 10
017																																2.5 / 5 / 10
018																																2.5 / 5 / 10
019																																2.5 / 5 / 10
020																																2.5 / 5 / 10

CB 4/14/22

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☐N/A ~~*~~ **If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	500 mL poly unpres

Page 1 of 2

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40243469

40243469

Client Name: WeEnergies

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 - 40 **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2 /Corr: 2

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.

Person examining contents:
Date: 4/14/22 /Initials: CAS

Labeled By Initials: AZ

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2. no times, dates CAS 4/13/22
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☐Yes ☑No ☐N/A	12. dates 4/13/22 001: "08:55", 002: "01:45", CAS 4/14/22
Trip Blank Present:	☐Yes ☐No ☑N/A	13. 003: "10:30", 004: "11:28", 005: "12:01", 006: "12:33", 007: "13:07", 008: "13:55", 009: "1421", 010: "14:26", 011: "1510" 4/14/22 AZ
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

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

We Energies - Laboratory Services Division
Analysis Request Form/Chain of Custody Record

Requestor: _____
Company Phone: _____
Company Mail Code: _____
Project Internal Order #: _____ PH CCR
Date Results Needed: _____
Notification Options: E-Mail Fax Mail Phone (Circle Preference)
Sample Collector: Lydia Albright
Sample Collector Signature: Lydia Albright

ANALYSIS REQUESTED

Preservation Codes

Vendor/Lot# of Preservative Used

A = HNO3 _____
B = HCL _____
C = H2SO4 _____
D = NaOH _____
E = None
F = Other _____

Sample Description (include sample type ie grab or composite)	Date Collected	Time Collected	PRESERVATION CODE: Depth (ft)	Temp (°C)	Spec. Cond	pH	See NOTES	For Laboratory Use Only: LAB COMMENTS	Laboratory Sample Number
041322001	4/13/22	0855	17.27	10.89	523.48	7.50	X		
041322002		0945	21.65	11.28	532.68	8.15	X		
041322003		1039	11.95	10.96	288.15	8.44	X		
041322004		1128	2288	11.40	511.10	8.25	X		
041322005		1201	21.31	11.17	540.31	8.05	X		
041322006		1233	18.59	11.33	590.92	7.97	X		
041322007		1307	5.17	11.10	709.16	7.46	X		
041322008		1355	17.38	11.63	629.21	7.80	X		
041322009		1421	1.64	10.79	1011.8	7.33	X		
041322010		1426	NA	NA	NA	NA	X		
041322011		1510	NA	20.89	12.26	7.82	X		
		LTA	4/13/22						

Relinquished by: Lydia Albright	Date/Time: 4/14/22 805	Received by:	Date/Time: 4/14/22 0805	Received on ice: Yes	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample pH check: ok/adjusted	
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Logged in by/Date: _____ Due Date:: _____ Project Specialist: _____
Activity Code: _____ Storage: _____ Reviewed and Approved by: _____ Date: _____
Results Reported by: _____ Date: _____ Time: _____ Reported To: _____
Test Codes:

White Copy (Original) - To Laboratory Services PSB Annex Room A070 Yellow Copy - Customer Copy

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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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

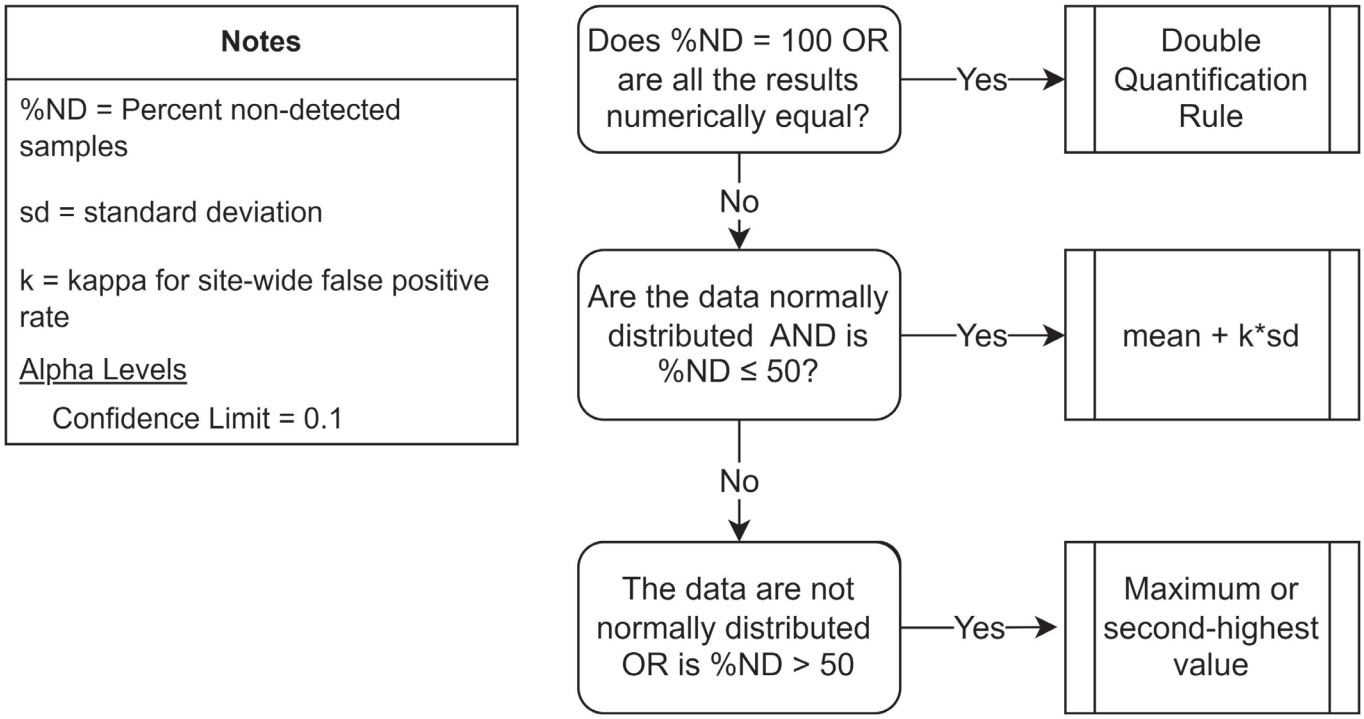
Sample Collector: ND Sample Collection Date: 10/5/22 Collection Time: 18:00

Parameter	Result	LOD	Units	Result Flag	Analysis Method	Analysis Date	Analyst
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



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

RAMBOLL Bright ideas. Sustainable change.

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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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.

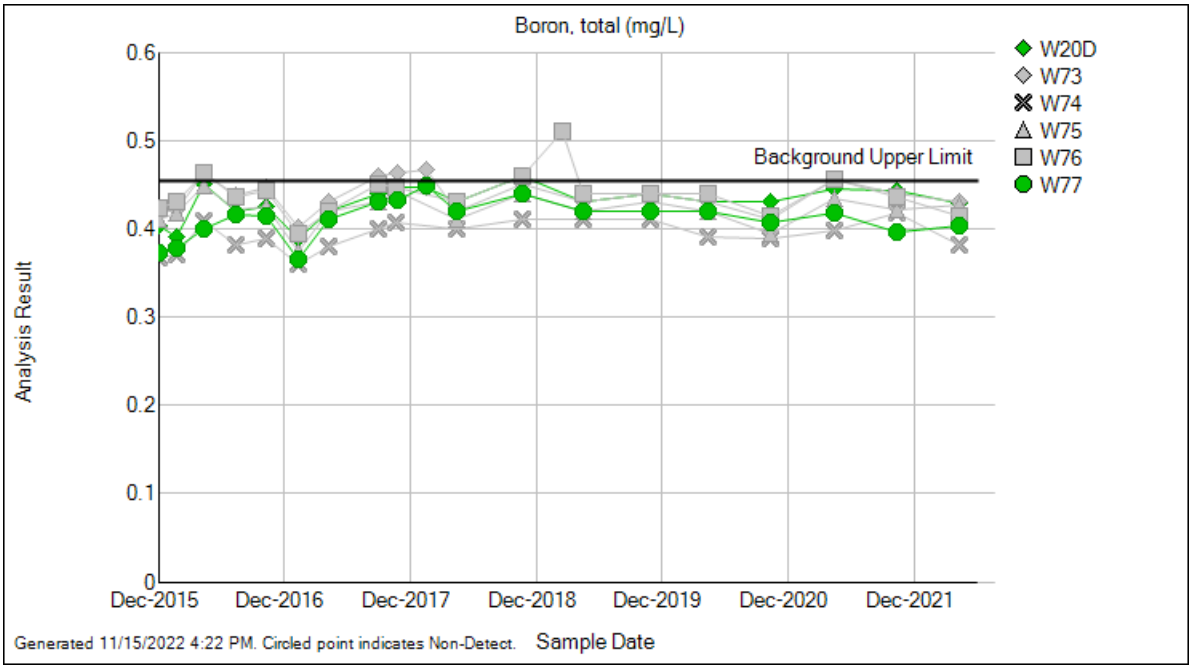

Figure A. Boron Concentrations Time Series

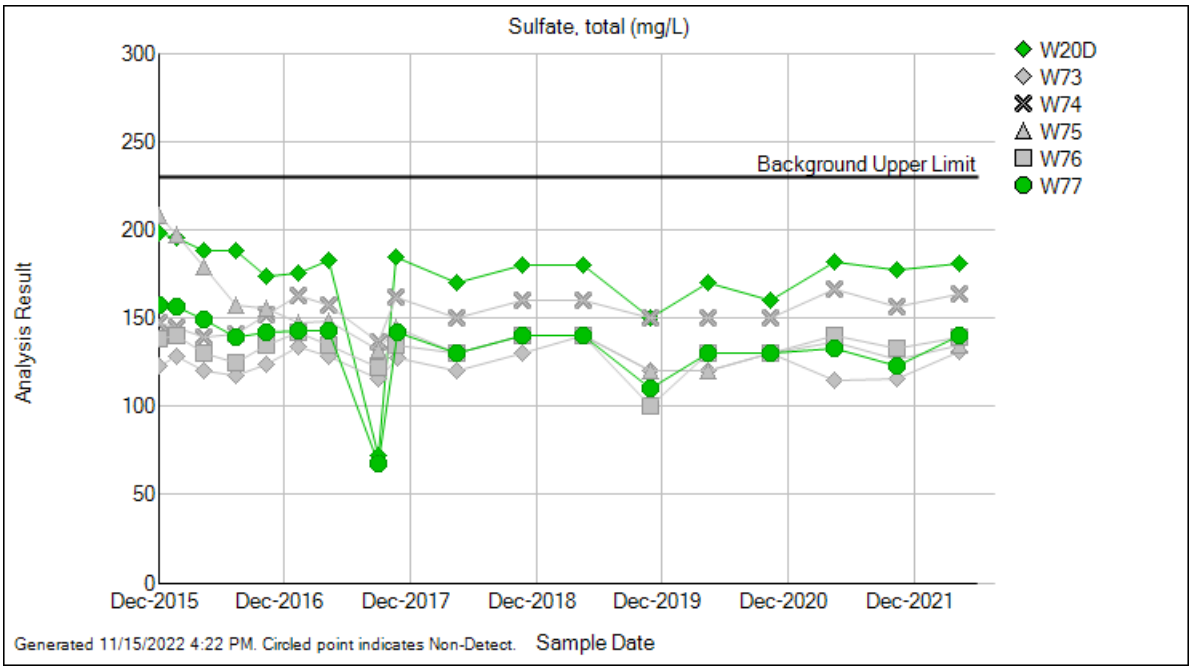

Figure B. Sulfate Concentrations Time Series

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.

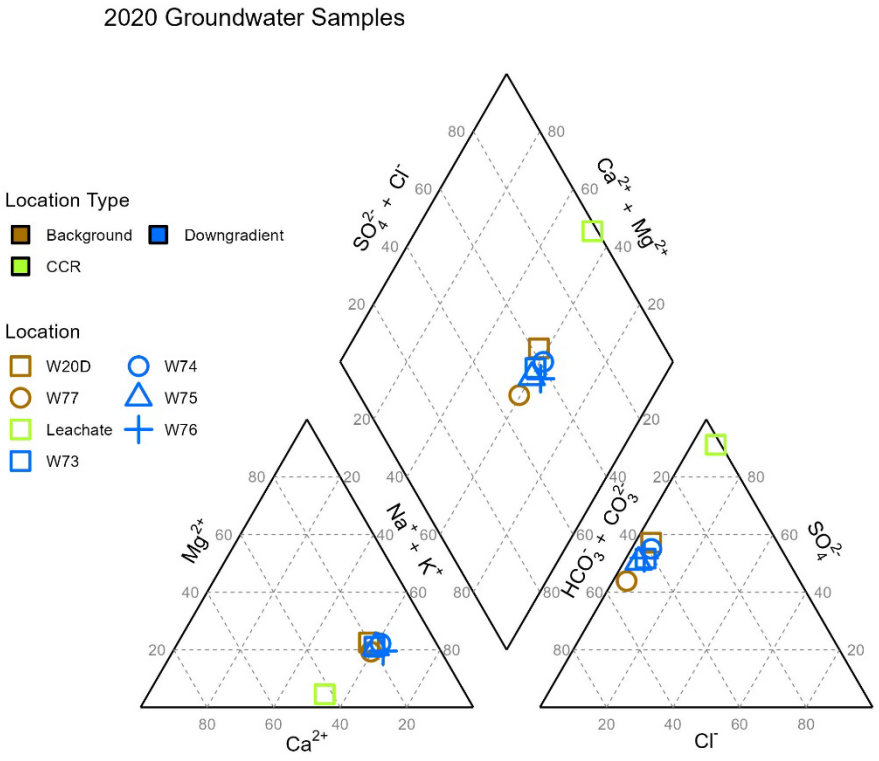

Figure C. Piper Diagram for P4 Ash Landfill CCR Rule Monitoring Wells

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.

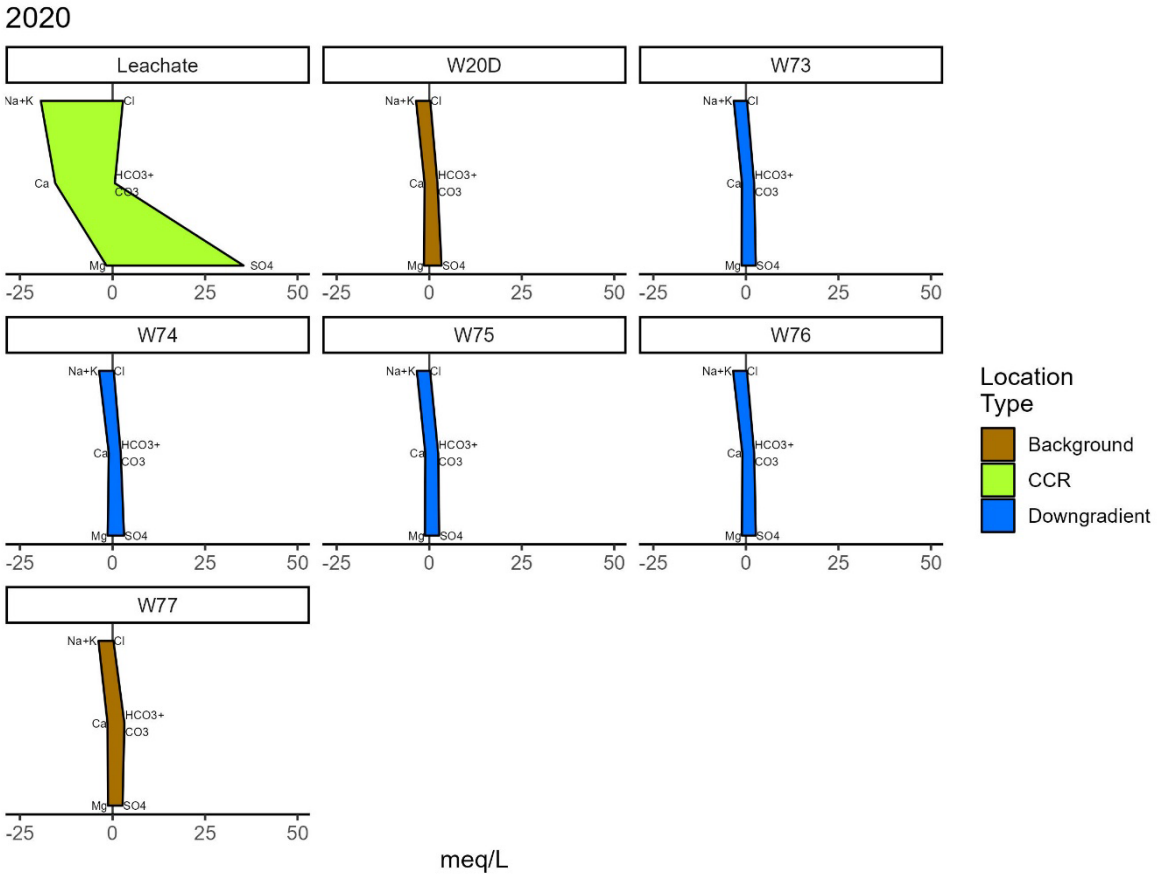

Figure D. Stiff Diagram for P4 Ash Landfill CCR Rule Monitoring Wells

2.2.3.2 Geochemical Variations within the Silurian Dolomite

Natural variations in the composition (i.e., minerology) 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**).

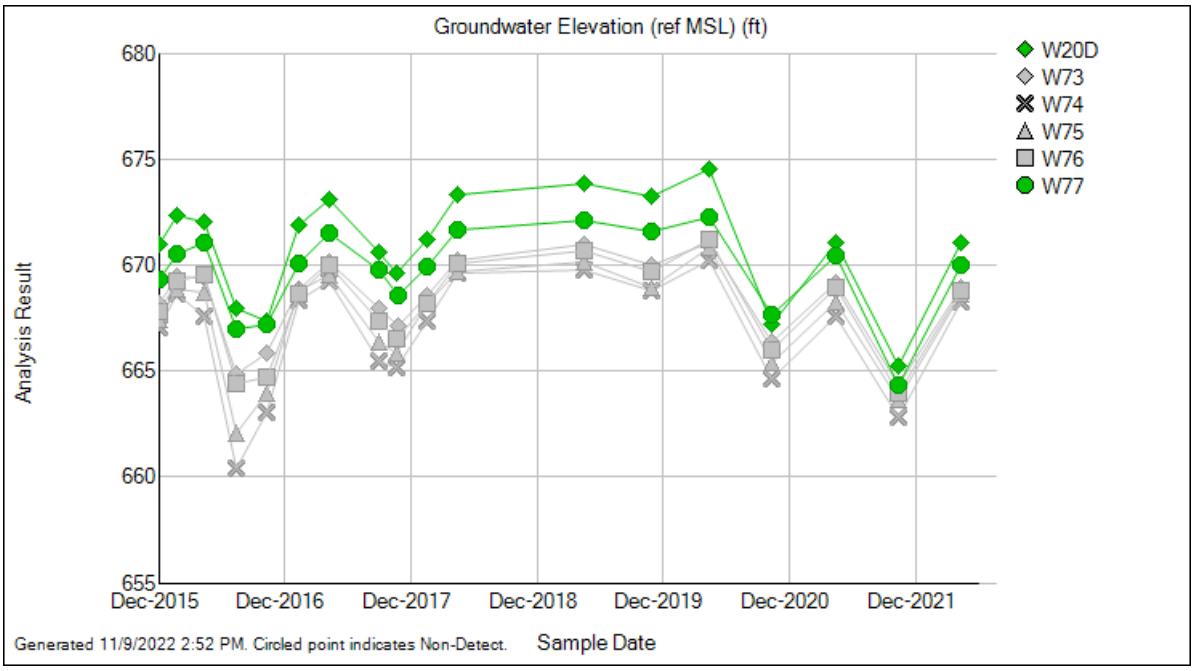

Figure E. Groundwater Elevations Time Series

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.

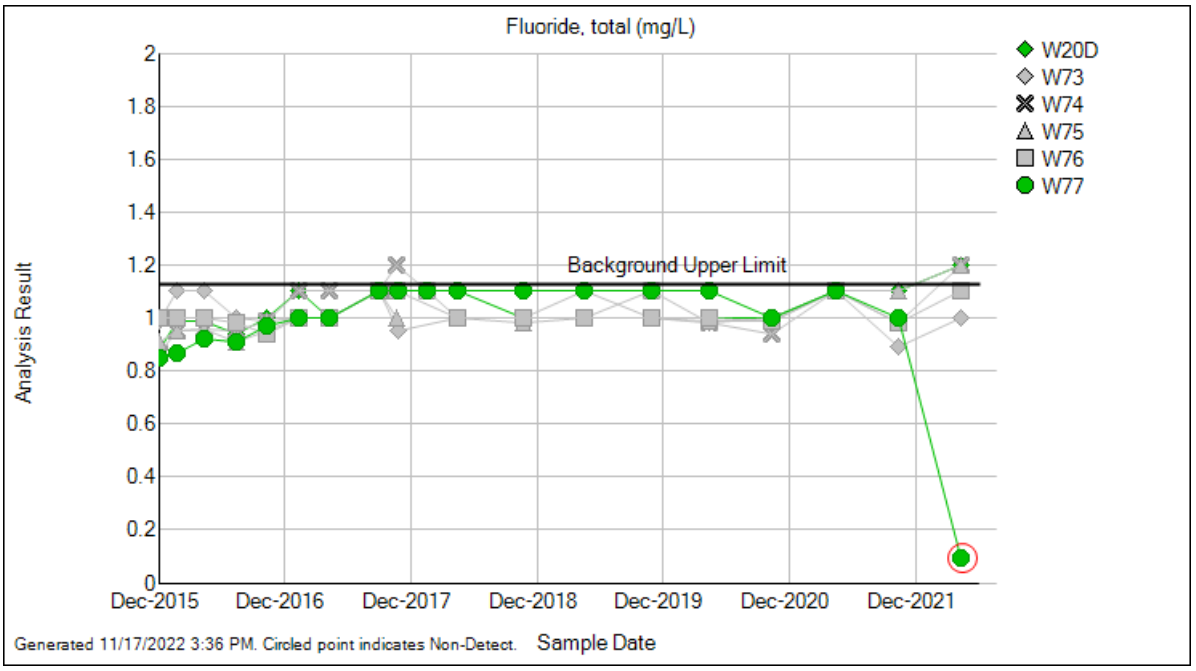

Figure F. Fluoride Concentrations Time Series

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).

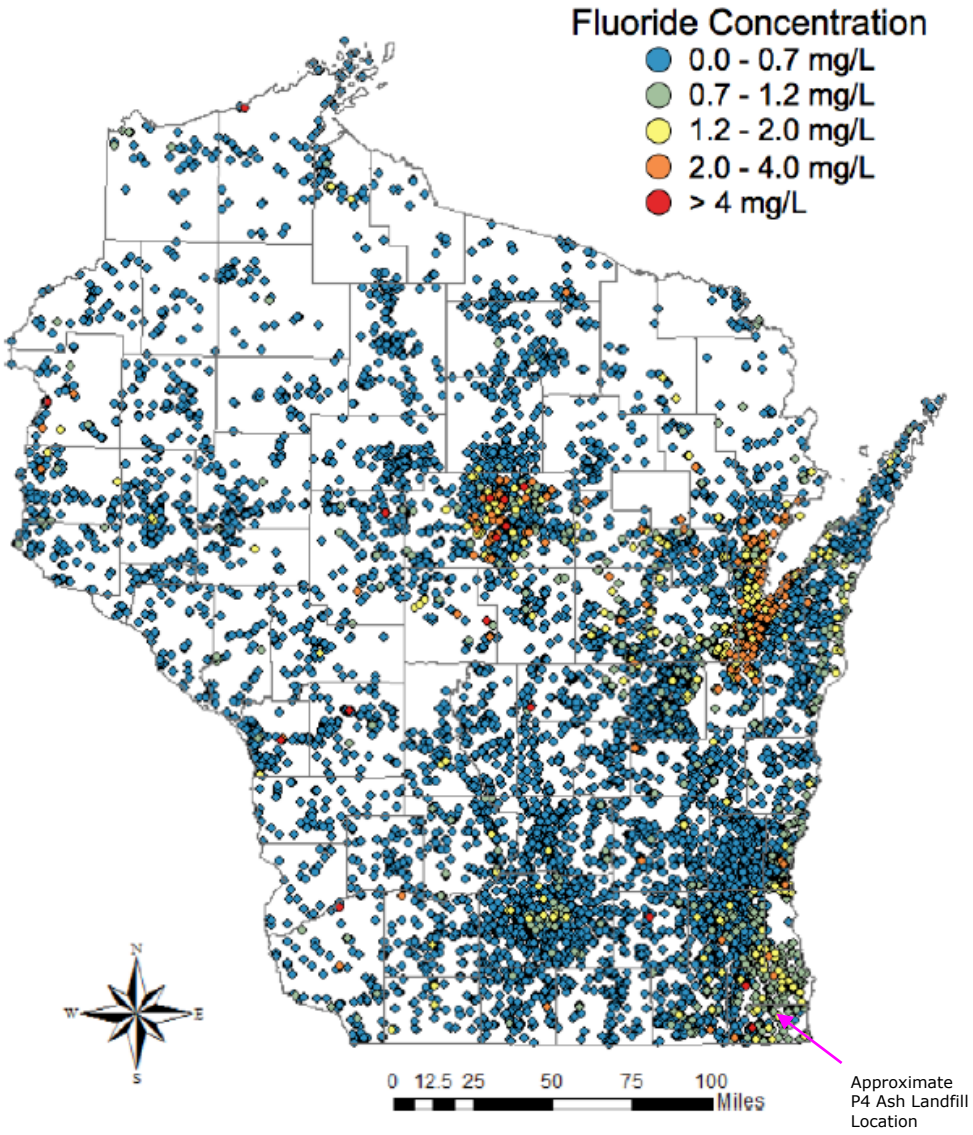

Figure G. Fluoride Concentrations in Wisconsin Wells (Luczaj and Masarik, 2015).
The approximate location of the P4 Ash Landfill indicated by pink arrow.

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

Electric Power Research Institute, 2017. Guidelines for Development of Alternative Source Demonstrations at Coal Combustion Residual Sites, Palo Alto, CA: 2017. 3002010920.

Luczaj, John and K. Masarik, 2015. Groundwater Quantity and Quality Issues in a Water-Rich Region: Examples from Wisconsin, USA. Resources, 4, pp. 323-357. doi: 10.3390/resources4020323.

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Peters, Roger M., 2004. Preliminary Bedrock Topography Map of Kenosha County, Wisconsin. Wisconsin Geological and Natural History Survey. Open File Report 2004-13.

Simpkins, W.W and K.R. Bradbury, 1992. Groundwater flow, velocity, and age in a thick, fine-grained till unit in southeastern Wisconsin. Journal of Hydrology. 132 (283-319).

TABLES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

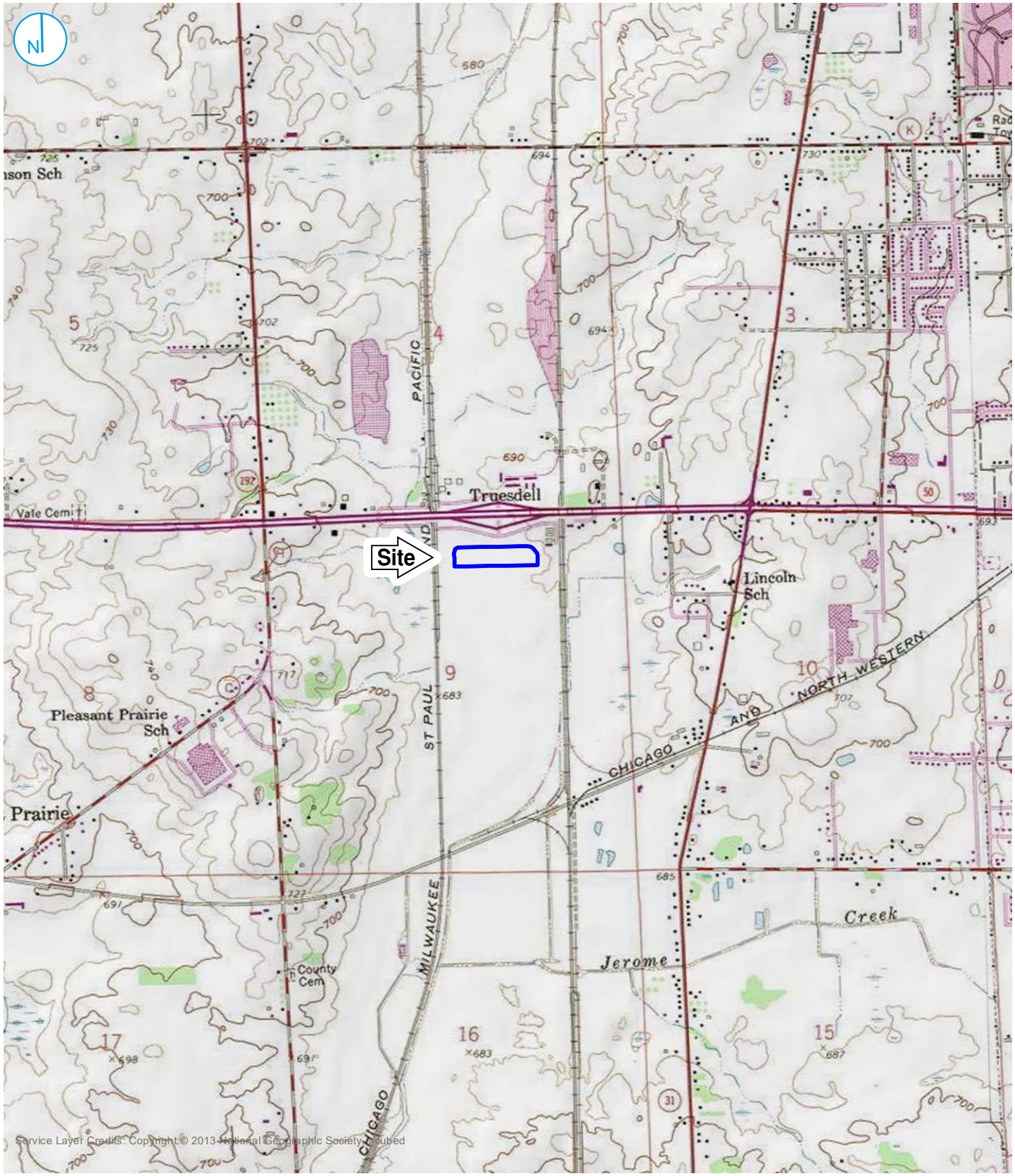
Location ID	Sample Date	TDS, mg/L
W77	4/13/2021	334.0
	10/12/2021	362.0
	4/13/2022	348.0

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®)
1. 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.
2. 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 .
3. Horizontal datum is Wisconsin State Plane Coordinates South Zone, NAD 83.
4. 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



Y:\GIS\Projects\16\1660\P4\MXD\ASD\2022\Figure 1_Site Location.mxd

PROJECT: 169000XXXX | DATED: 11/18/2022 | DESIGNER: galarnmc

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

UNIT BOUNDARY

KEY MAP

0 1,000 2,000 Feet

SITE LOCATION MAP

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

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\GIS\Projects\16\1660\P4\MXD\ASD\2022\Figure 2_Well Location Map.mxd

PROJECT: 169000XXXX | DATED: 12/2/2022 | DESIGNER: STOLZSD

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

0 350 700 Feet

WELL LOCATION MAP

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

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\GIS\Projects\16\1660\P4\MXD\ASD\2022\Figure 3_GWE Contours 2204.mxd

PROJECT: 169000XXXX | DATED: 11/21/2022 | DESIGNER: galarnmc

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

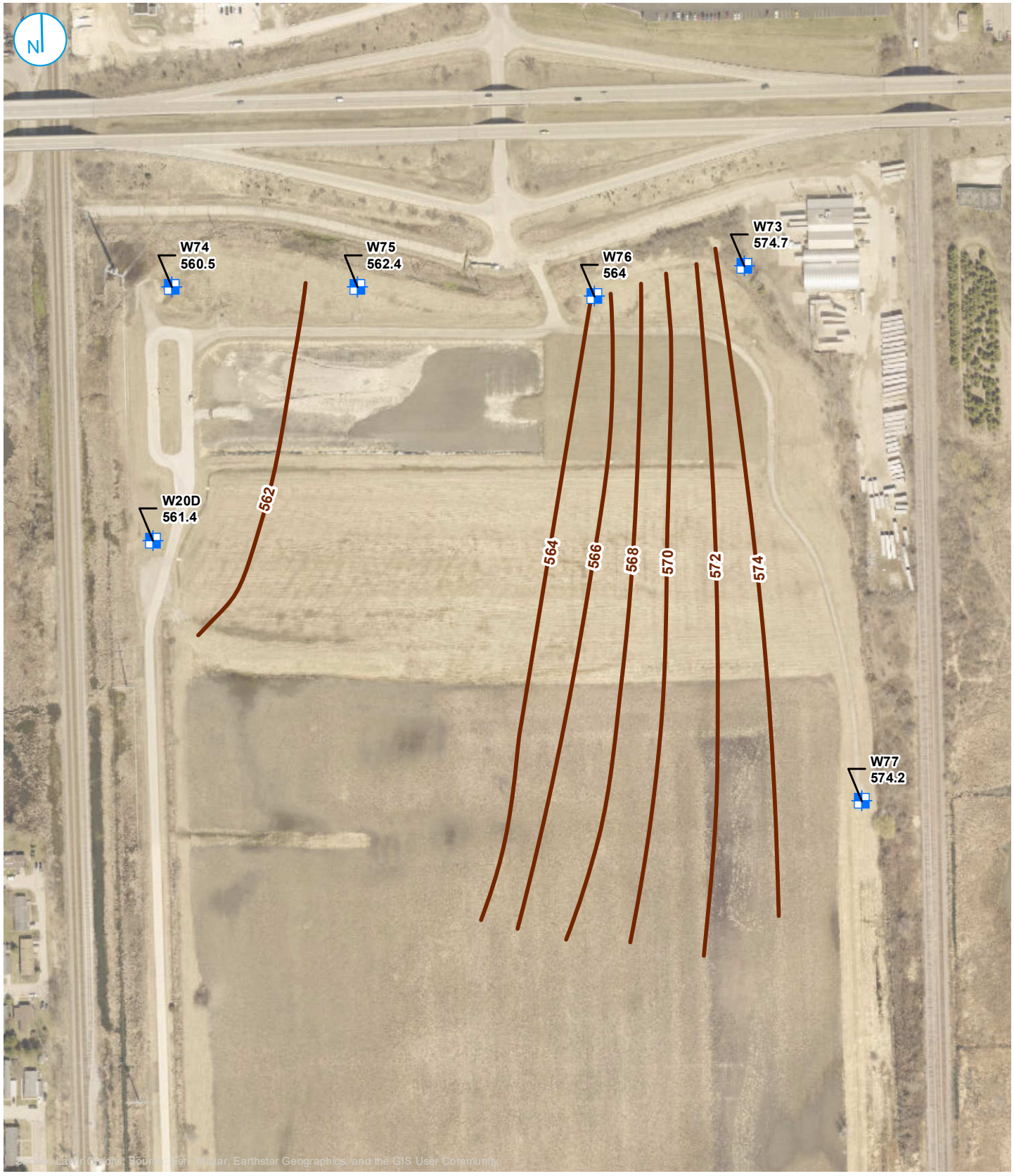
UPPERMOST AQUIFER UNIT
GROUNDWATER ELEVATION CONTOUR MAP
APRIL 13, 2022

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.

RAMBOLL



Y:\GIS\Projects\16\1660\P4\MXD\ASD\2022\Figure 4_Top of Bedrock Contour Map.mxd

PROJECT: 169000XXXX | DATED: 11/11/2022 | DESIGNER: galarnmc

BEDROCK UNIT MONITORING WELL LOCATION

BEDROCK ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)

0 150 300 Feet

BEDROCK ELEVATION CONTOUR MAP

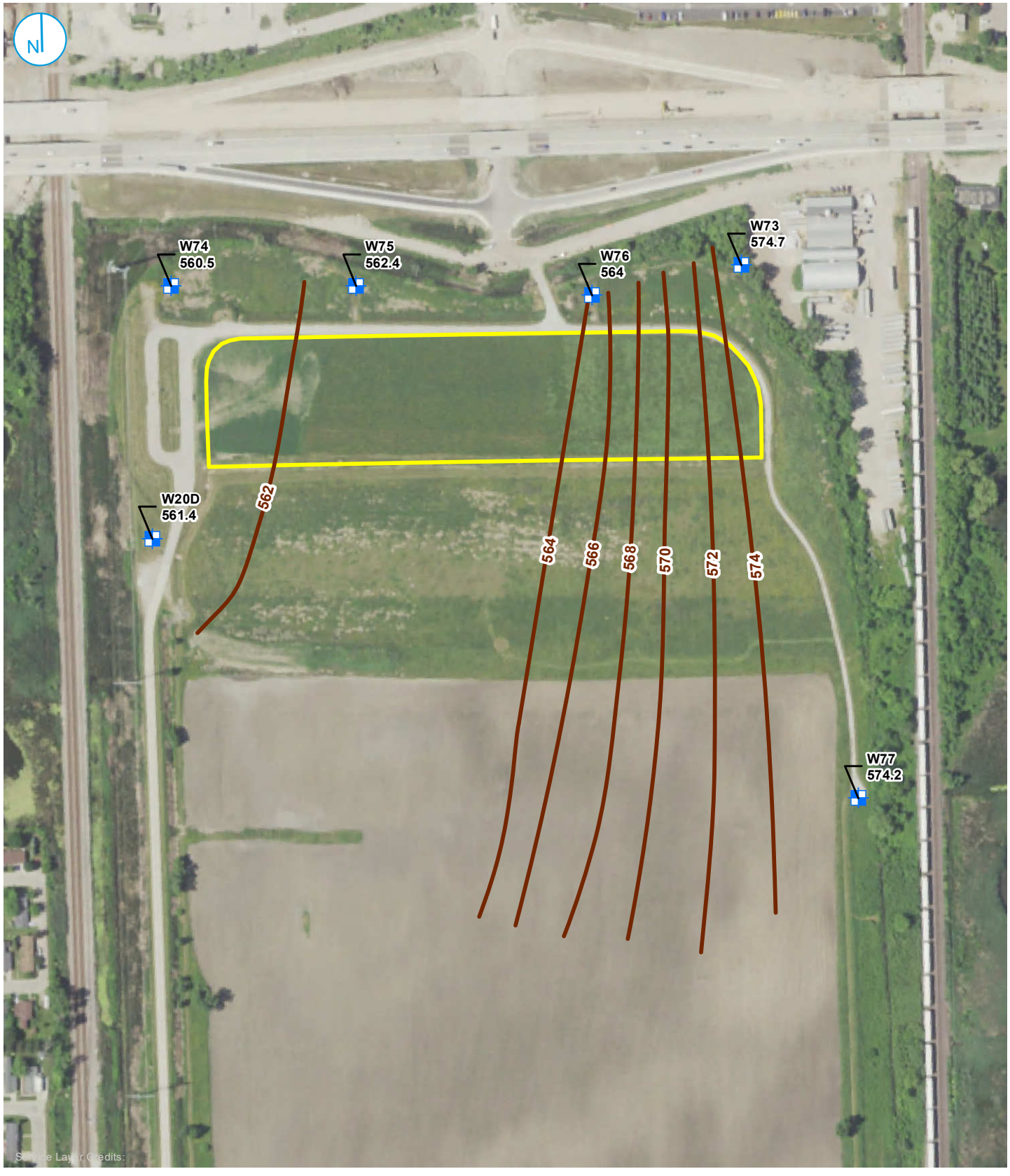
ALTERNATE SOURCE DEMONSTRATION
WE ENERGIES CCR RULE GROUNDWATER MONITORING

PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL



UNIT BOUNDARY

BEDROCK UNIT MONITORING WELL LOCATION

BEDROCK ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)

0 150 300 Feet

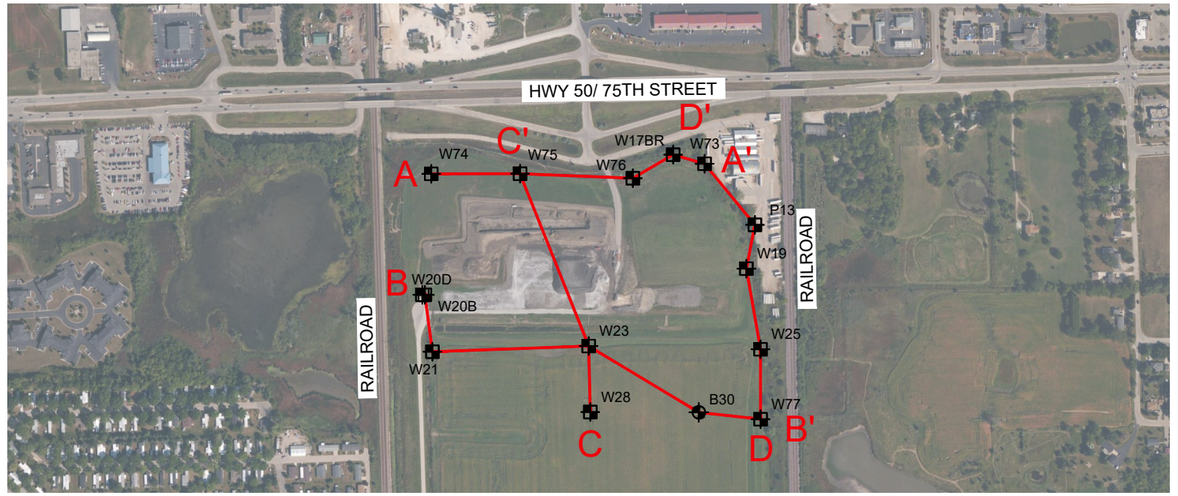
BEDROCK ELEVATION CONTOUR MAP

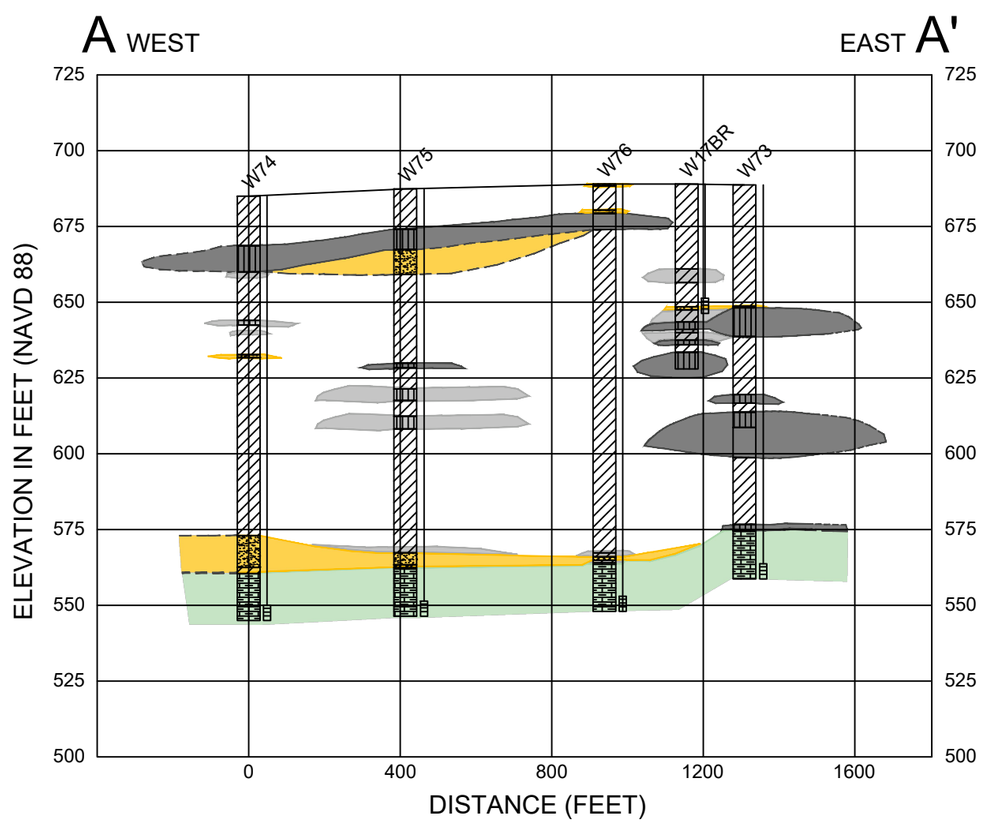
ALTERNATE SOURCE DEMONSTRATION
WE ENERGIES CCR RULE GROUNDWATER MONITORING
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL





N

0 200 400 800

SCALE IN FEET

SOURCE NOTES:

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

B30 SOIL BORING LOCATION

W16D MONITORING WELL LOCATION

B — B' CROSS-SECTION TRANSECT

SAND

GRAVEL

SILT

CLAY

DOLOMITE (BEDROCK)

LOW/ NO RECOVERY

WELL SCREEN

SAND/ GRAVEL

SILT

SANDY CLAY/ SANDY SILT

DOLOMITE (BEDROCK)

INFERRED CONTACT

VERTICAL SCALE IN FEET: 50

HORIZONTAL SCALE IN FEET: 400

VERTICAL EXAGGERATION = 8

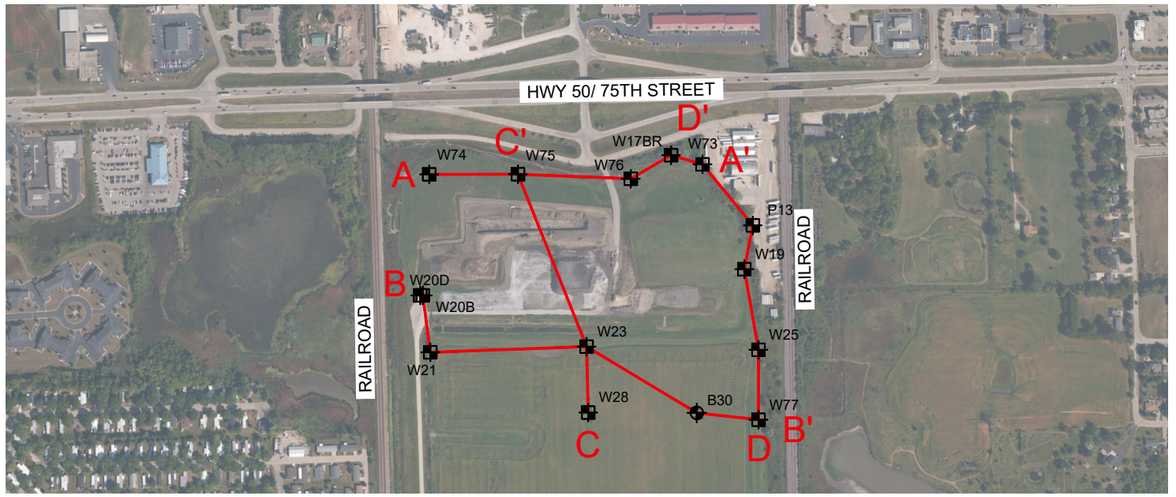
GEOLOGIC CROSS-SECTION A-A'

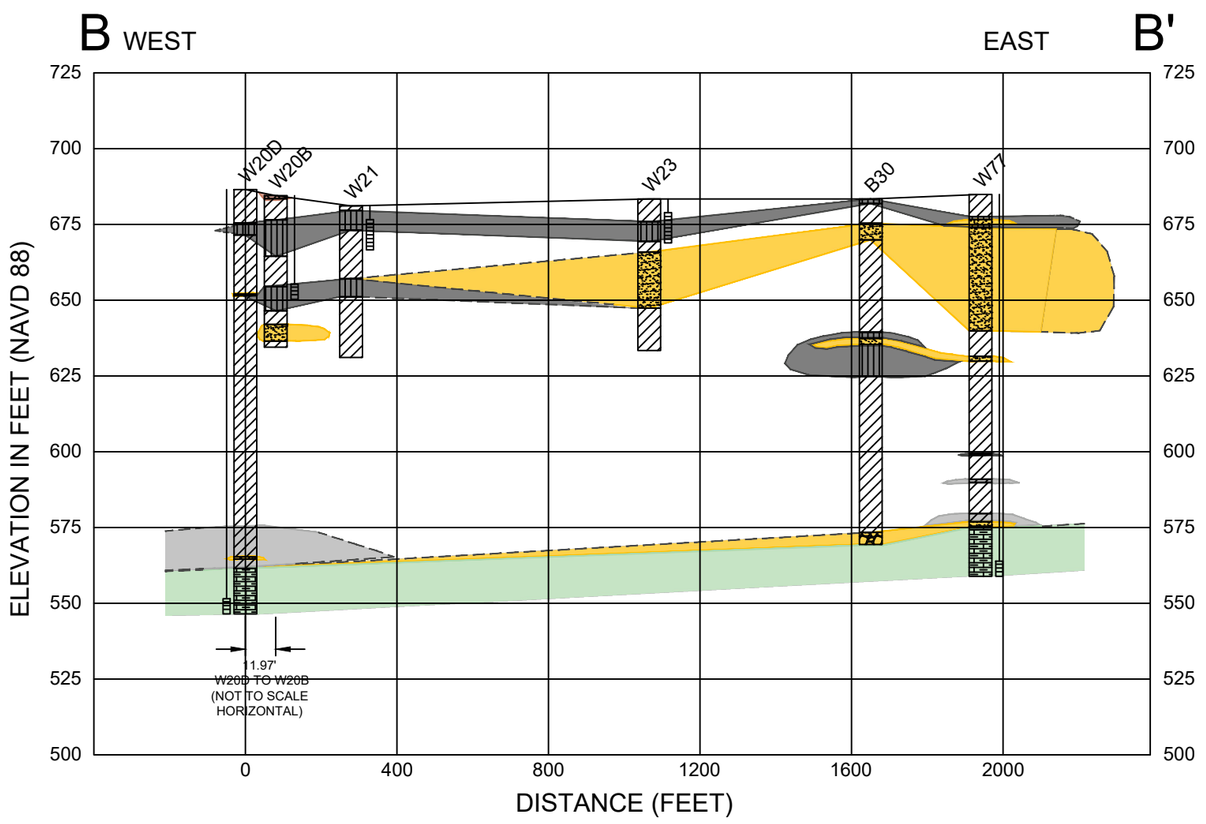
ALTERNATE SOURCE DEMONSTRATION
WE ENERGIES CCR RULE GROUNDWATER MONITORING
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN

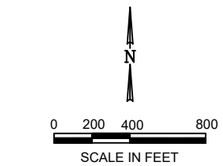
FIGURE 5

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL



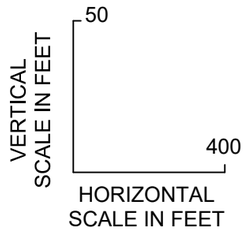




SOURCE NOTES:

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

B30 SOIL BORING LOCATION
W16D MONITORING WELL LOCATION
B — B' CROSS-SECTION TRANSECT
ASH
SAND
GRAVEL
SILT
CLAY
DOLOMITE (BEDROCK)
LOW/ NO RECOVERY
WELL SCREEN
ASH
SAND
SILT
SANDY CLAY/ SANDY SILT
DOLOMITE (BEDROCK)
INFERRED CONTACT



VERTICAL EXAGGERATION = 8

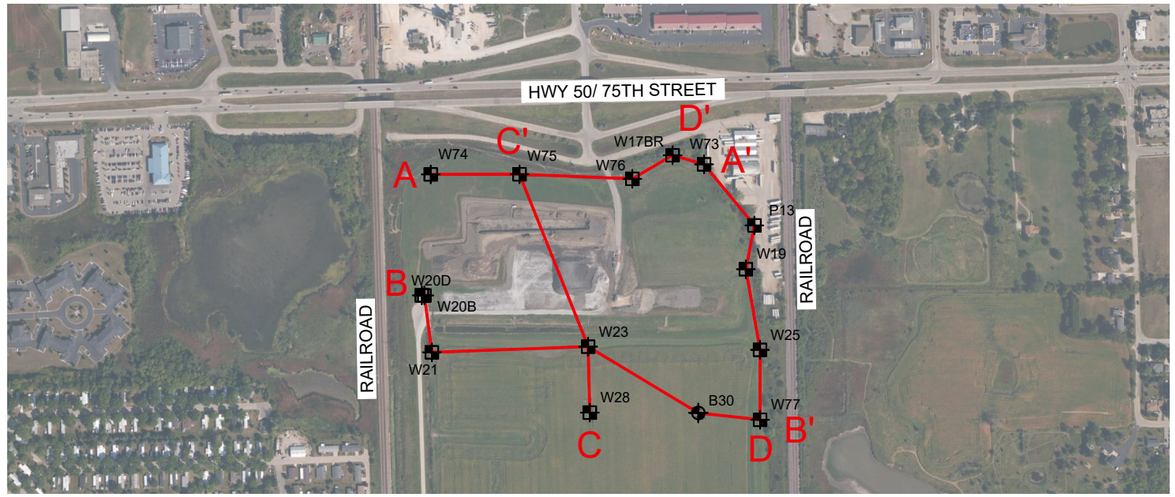
GEOLOGIC CROSS-SECTION B-B'

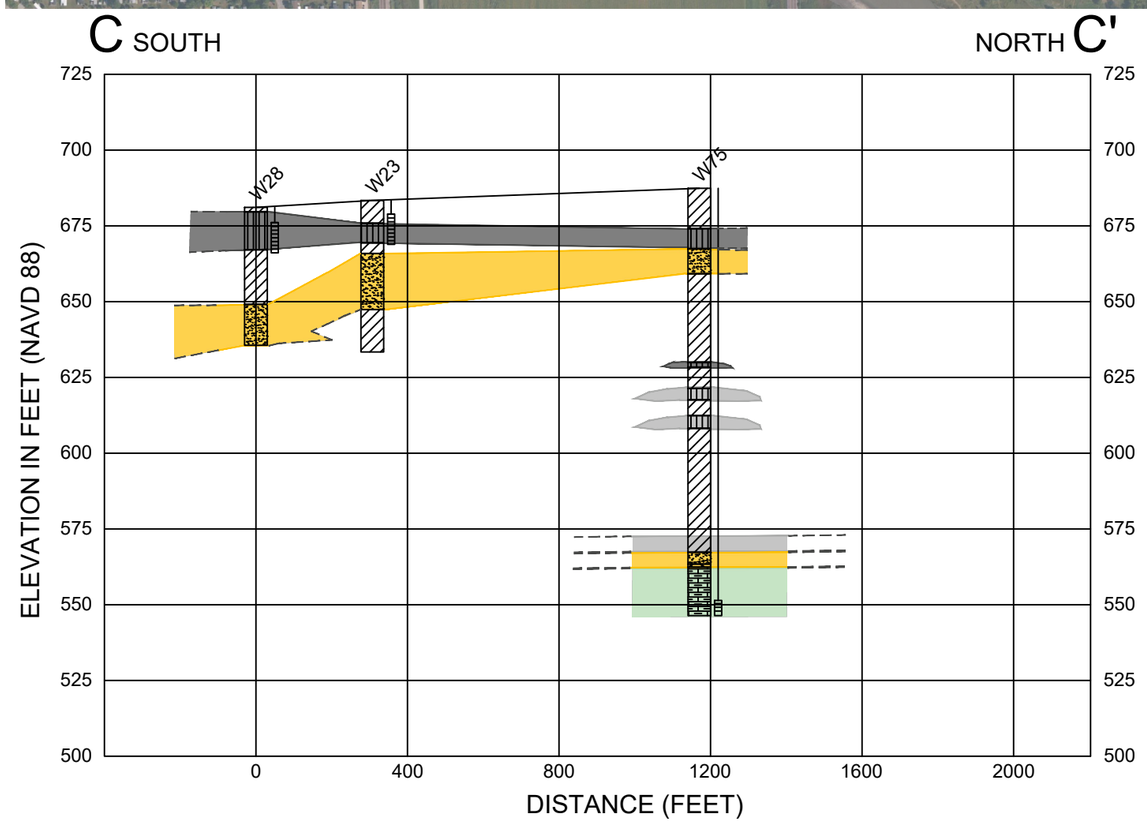
ALTERNATE SOURCE DEMONSTRATION
WE ENERGIES CCR RULE GROUNDWATER MONITORING
PLEASANT PRAIRIE POWER PLANT ASH LANDFILL
PLEASANT PRAIRIE, WISCONSIN

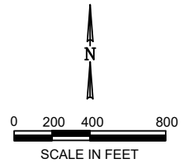
FIGURE 6

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL







SOURCE NOTES:

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

B30 SOIL BORING LOCATION

W16D MONITORING WELL LOCATION

C — C' CROSS-SECTION TRANSECT

SAND

SILT

CLAY

GRAVEL

DOLOMITE (BEDROCK)

LOW/ NO RECOVERY

WELL SCREEN

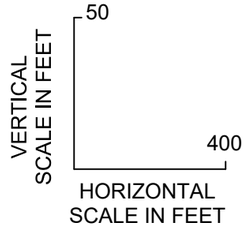
SAND/ GRAVEL

SILT

SANDY CLAY/ SANDY SILT

DOLOMITE (BEDROCK)

INFERRED CONTACT



VERTICAL EXAGGERATION = 8

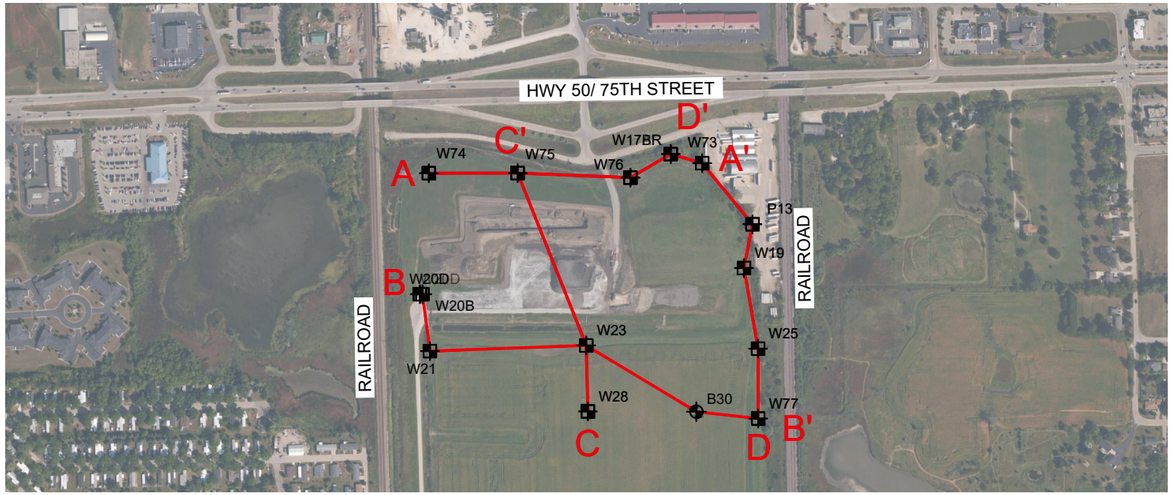
GEOLOGIC CROSS-SECTION C-C'

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

FIGURE 7

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL



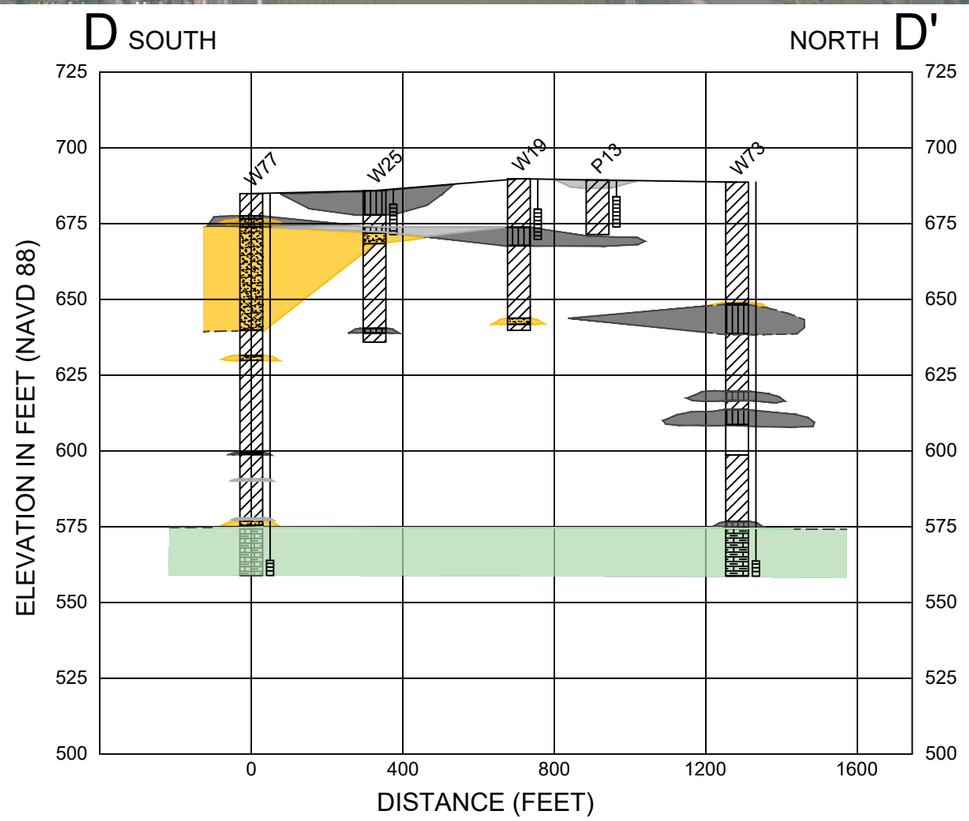
N

0 200 400 800

SCALE IN FEET

SOURCE NOTES:

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



B30 SOIL BORING LOCATION

W16D MONITORING WELL LOCATION

C C' CROSS-SECTION TRANSECT

SAND

SILT

CLAY

GRAVEL

DOLOMITE (BEDROCK)

LOW/ NO RECOVERY

WELL SCREEN

SAND/ GRAVEL

SILT

SANDY CLAY/ SANDY SILT

DOLOMITE (BEDROCK)

INFERRED CONTACT

VERTICAL SCALE IN FEET: 50

HORIZONTAL SCALE IN FEET: 400

VERTICAL EXAGGERATION = 8

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.

RAMBOLL

Y:\GIS\Projects\161660IP4\MXD\ASD\2022\Figure 9_Potential Contaminant Pathway.mxd

PROJECT: 169000XXXX | DATED: 12/2/2022 | DESIGNER: STOLZSD

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.

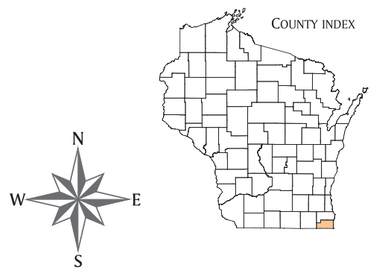
RAMBOLL

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)

> 850	700 - 750	550 - 600
800 - 850	650 - 700	500 - 550
750 - 800	600 - 650	< 500

• data point

1 0 1 2 3 4 5 6 7 8
KILOMETERS
1 0 1 2 3 4 5
MILES

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.

UW Extension
Wisconsin Geological and Natural History Survey
3817 Mineral Point Road, Madison, Wisconsin 53705-5100
phone 608/263-7389 fax 608/262-8086 www.uwex.edu/wgnhs/

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

APPENDIX D

2022 LEACHATE PIPE CLEANING AND INSPECTION REPORT [PER NR 506.20(3)(D)]

We Energies

PLEASANT PRAIRIE POWER PLANT ASH LANDFILL #3 – LICENSE #2786

DOCUMENTATION FOR HIGH PRESSURE WATER JET CLEANING OF LEACHATE COLLECTION SYSTEMS

Name of contractor: Great Lakes TV Seal, Inc.

Date work was performed: 10/19/2022

Description of water jet cleaning system:

2015 Vactor 2100 Plus 80 gpm at 2500 psi

Enz Roto Pulse Nozzle

Used 7,000 gallons of water to jet landfill

Foreman: Greg Healy
Laborer: Ruvisel Cortez

Cleaning Sequence (check appropriate areas completed). ***All*** lines must be completely cleaned out from ***each*** end (see attached sheets for layouts). Always jet from high end cleanout first:

X	Cell 1 line – CO 32 to Sump 1
	Cell 1 line – riser vault CO 1 to CO 32
	Cell 2/1 transfer line – Temp CO to Sump1
	Cell 2/1 transfer line – Riser Vault CO 2 to Temp CO
	Cell 1 sump – remove sediment from sump of both Cell 1 riser pipes
	Cell 1 riser vault – pump discharge hoses
	Cell 1 riser vault – clean vacuum break, check valves and standpipe
	Transfer line – transfer manhole to Cell 1 riser vault
	Transfer line – transfer manhole to storage tank
	Transfer manhole – remove sediment & liquid
	Cell 1 riser vault sump – remove sediment & liquid
	Loadout recirc pipe – loadout sump to storage tank
	Loadout sump – remove sediment
	Tank #2 clean equalization headers & remove sediment
	Tank #1 – remove sediment
	Tank #3 remove sediment

Problems encountered: Yes _____ No X

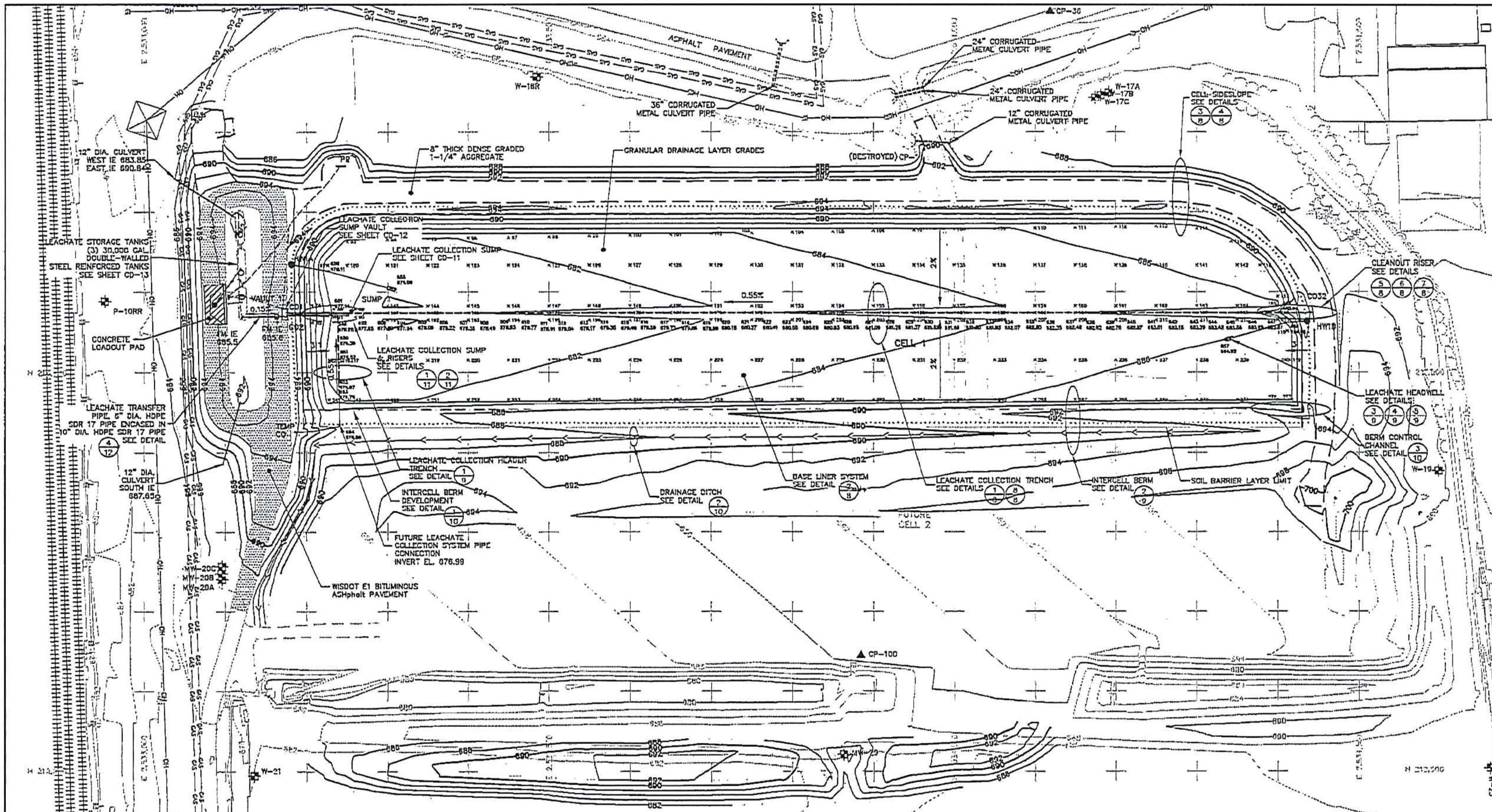
Description of problems:

Repairs performed: Yes _____ No X

Description of repairs:

Signed: _____

Return completed form to – Eric Kovatch


SCALE IN FEET
60' 0 60'
ASPHALT PAVEMENT
CP-36
24" CORRUGATED METAL CULVERT PIPE
24" CORRUGATED METAL CULVERT PIPE
12" CORRUGATED METAL CULVERT PIPE
36" CORRUGATED METAL CULVERT PIPE
W-16R
W-17A
W-17B
W-17C
CELL SIDESLOPE SEE DETAILS
8" THICK DENSE GRADED 1-1/4" AGGREGATE
GRANULAR DRAINAGE LAYER GRADES
(DESTROYED) CP-
12" DIA. CULVERT WEST IE 683.85 EAST IE 680.84
LEACHATE STORAGE TANKS (3) 30,000 GAL DOUBLE-WALLED STEEL REINFORCED TANKS SEE SHEET CD-13
LEACHATE COLLECTION SUMP VAULT SEE SHEET CD-12
LEACHATE COLLECTION SUMP SEE SHEET CD-11
SUMP
VAULT 1
P-10RR
CONCRETE LOADOUT PAD
LEACHATE COLLECTION SUMP & RISERS SEE DETAILS
CLEANOUT RISER SEE DETAILS
CELL 1
0.55%
LEACHATE TRANSFER PIPE, 6" DIA. HDPE SDR 17 PIPE ENCASED IN 10" DIA. HDPE SDR 17 PIPE SEE DETAIL
12" DIA. CULVERT SOUTH IE 687.65
LEACHATE COLLECTION HEADER TRENCH SEE DETAIL
INTERCELL BERM DEVELOPMENT SEE DETAIL
FUTURE LEACHATE COLLECTION SYSTEM PIPE CONNECTION INVERT EL. 676.99
WISDOT E1 BITUMINOUS ASPHALT PAVEMENT
BASE LINER SYSTEM SEE DETAIL
DRAINAGE DITCH SEE DETAIL
LEACHATE COLLECTION TRENCH SEE DETAILS
INTERCELL BERM SEE DETAIL
SOIL BARRIER LAYER LIMIT
LEACHATE HEADWELL SEE DETAILS
BERM CONTROL CHANNEL SEE DETAIL
FUTURE CELL 2
CP-100
MW-20C
MW-20B
MW-20A
W-21
W-19
W-25

LEGEND

——690——	EXISTING GROUND SURFACE CONTOUR
——680——	GRANULAR DRAINAGE LAYER CONTOUR
	ROAD, NON PAVED
	ROAD, PAVED
	FENCE
	TREES/BRUSH
	CULVERT
	BUILDINGS
— GAS — GAS —	GAS PIPE
——FIB——	FIBER COMMUNICATIONS
——OH——	OVERHEAD ELECTRIC
	ELECTRIC TOWER
	RAILROAD TRACKS
	LANDFILL LIMIT OF WASTE
	LANDFILL CELL BOUNDARY
W-21	MONITORING WELLS
CP-100	SURVEY CONTROL MONUMENT
	STEEL POLE ELECTRIC TRANSMISSION TOWER
	RAILROAD TELEPHONE POLE
	MONUMENT FOUND
	GEOMEMBRANE ANCHOR TRENCH
CO2	LEACHATE COLLECTION CLEANOUT
VAULT 1	LEACHATE COLLECTION VAULT
	LEACHATE TRANSFER PIPE
	ROAD, GRAVEL
	LEACHATE COLLECTION PIPE (PERFORATED WHERE DASHED)
HW1A	LEACHATE HEADWELL
	LEACHATE COLLECTION SYSTEM PIPE, POINT NUMBER AND INVERT ELEVATION
107	GRANULAR DRAINAGE BLANKET POINT NUMBER

NOTES:

1. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATES SOUTH ZONE, NAD 83.
2. VERTICAL DATUM BASED ON REFERENCE MARK, WISCONSIN DIVISION OF HIGHWAYS. ALUMINUM CAP SET IN TOP OF EAST END OF CONCRETE BRIDGE WALL, 2.7' ABOVE GROUND, ELEVATION 715.42. CAP IS LOCATED 1.2' WEST OF TOP BEVEL. THE CONCRETE BRIDGE IS LOCATED WHERE STH "50" CROSSES THE CP RAILROAD TRACKS ON THE NORTHWEST SIDE OF THE SITE.
3. SITE TOPOGRAPHY SURVEY PERFORMED BY AECOM ON AUGUST, NOVEMBER AND DECEMBER 2011. THE ACTIVE AREA WAS UPDATED BY AECOM ON MARCH 27, 2012. THE STOCKPILE IS NOT SHOWN DUE TO EXCAVATION ACTIVITIES IN THIS AREA.
4. CELL 1 CONSTRUCTION DOCUMENTATION SURVEY PERFORMED BY CQM, INC. ON NOVEMBER 21, 2013.
5. CONTOURS INSIDE LIMIT OF WASTE REPRESENT TOP OF GRANULAR DRAINAGE LAYER GRADES.

CONTROL POINT DATA				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	213741.91	2532958.45	715.42	RM R-30-48-72: ALUMINUM CAP ON TOP OF CONCRETE WALL
30	211877.98	2531092.40	684.09	CUT CROSS
31	210593.02	2533131.43	685.92	CUT CROSS
32	208734.70	2533178.76	681.40	MAG NAIL
33	209470.52	2534023.04	683.53	IP 1" W/CAP
34	212916.15	2534700.67	682.90	IP 1" W/CAP
35	213432.71	2533032.15	686.41	MAG NAIL
36	213452.09	2534218.49	687.33	MAG NAIL
100	212624.65	2533534.50	691.25	RBR W/CAP
101	213282.90	2533959.03	683.94	RBR W/CAP (DESTROYED)

Attention:	NO.	DATE	ISSUE/REVISION	APP
If this scale bar does not measure 1" then drawing is not original scale.	2	5/8/2014	CONSTRUCTION DOCUMENTATION	JMT
	1	5/10/2013	RELEASED FOR BIDDING	JMT

Designed: J. TRAST
Checked: J. TRAST
Drawn: J. CALAWAY
Submittal Date: 5/10/2013

GEI Consultants
3159 Voyager Drive, Green Bay, Wisconsin 54311
920-455-8200

WE ENERGIES
333 WEST EVERETT STREET, A231
MILWAUKEE, WISCONSIN 53203

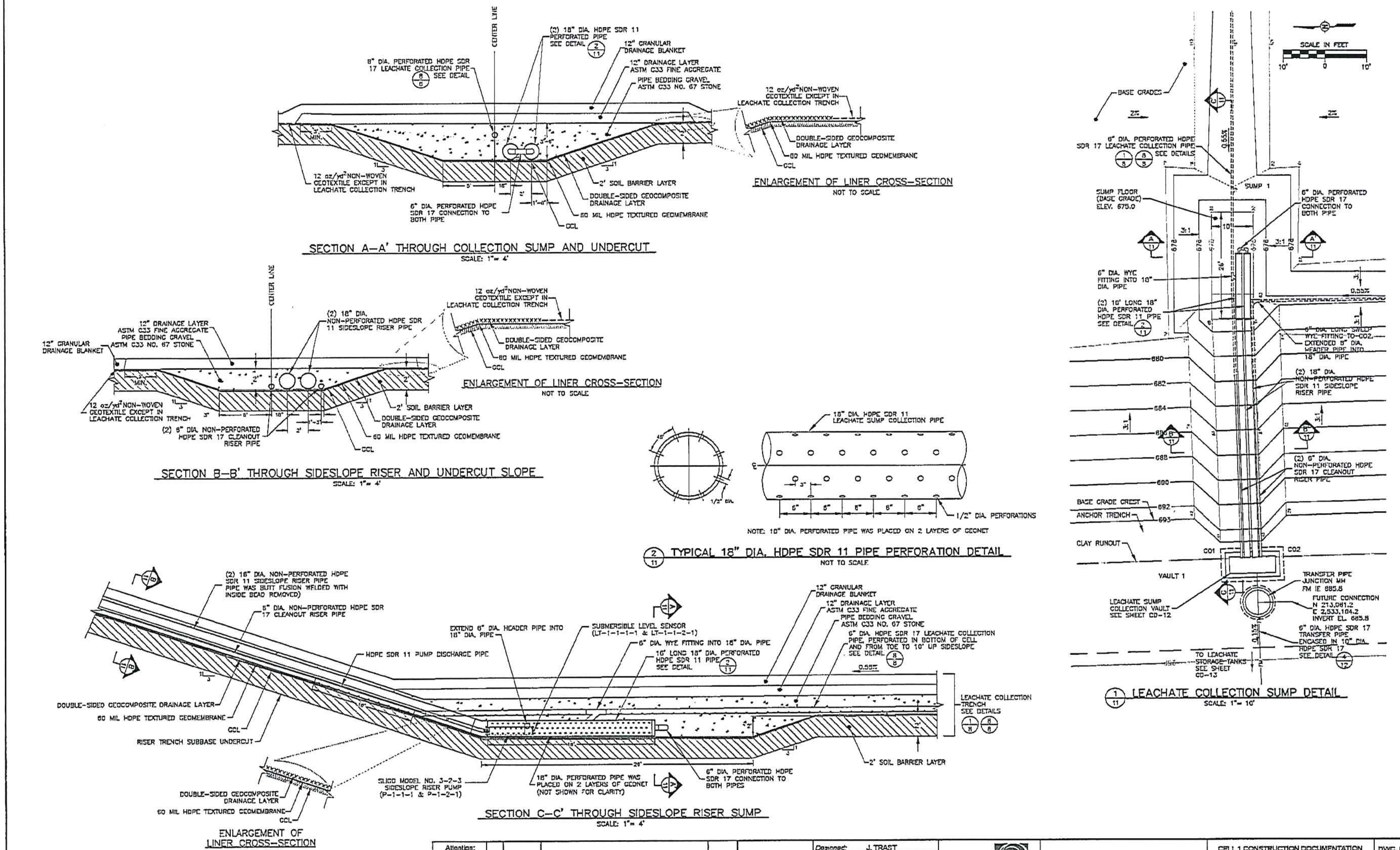
GEI Project 1327380

CELL 1 CONSTRUCTION DOCUMENTATION
PLEASANT PRAIRIE POWER PLANT
ASH LANDFILL

LEACHATE COLLECTION
SYSTEM GRADES

DWG. NO. CD-6

SHEET NO. 6 of 16


(2) 18" DIA. HDPE SDR 11 PERFORATED PIPE SEE DETAIL 2/11
12" GRANULAR DRAINAGE BLANKET
12" DRAINAGE LAYER ASTM C33 FINE AGGREGATE
PIPE BEDDING GRAVEL ASTM C33 NO. 67 STONE
8" DIA. PERFORATED HDPE SDR 17 LEACHATE COLLECTION PIPE SEE DETAIL
CENTER LINE
12 oz/yd² NON-WOVEN GEOTEXTILE EXCEPT IN LEACHATE COLLECTION TRENCH
2' SOIL BARRIER LAYER
DOUBLE-SIDED GEOCOMPOSITE DRAINAGE LAYER
60 MIL HDPE TEXTURED GEOMEMBRANE
6" DIA. PERFORATED HDPE SDR 17 CONNECTION TO BOTH PIPE
CCL
ENLARGEMENT OF LINER CROSS-SECTION
NOT TO SCALE
SECTION A-A' THROUGH COLLECTION SUMP AND UNDERCUT
SCALE: 1"= 4'
12" GRANULAR DRAINAGE BLANKET
(2) 18" DIA. NON-PERFORATED HDPE SDR 11 SIDESLOPE RISER PIPE
(2) 8" DIA. NON-PERFORATED HDPE SDR 17 CLEANOUT RISER PIPE
SECTION B-B' THROUGH SIDESLOPE RISER AND UNDERCUT SLOPE
SCALE: 1"= 4'
18" DIA. HDPE SDR 11 LEACHATE SUMP COLLECTION PIPE
1/2" DIA. PERFORATIONS
NOTE: 18" DIA. PERFORATED PIPE WAS PLACED ON 2 LAYERS OF GEONET
TYPICAL 18" DIA. HDPE SDR 11 PIPE PERFORATION DETAIL
NOT TO SCALE
(2) 18" DIA. NON-PERFORATED HDPE SDR 11 SIDESLOPE RISER PIPE PIPE WAS BUTT FUSION WELDED WITH INSIDE BEAD REMOVED)
8" DIA. NON-PERFORATED HDPE SDR 17 CLEANOUT RISER PIPE
HDPE SDR 11 PUMP DISCHARGE PIPE
EXTEND 6" DIA. HEADER PIPE INTO 18" DIA. PIPE
SUBMERSIBLE LEVEL SENSOR (LT-1-1-1-1 & LT-1-1-2-1)
6" DIA. WYE FITTING INTO 18" DIA. PIPE
10' LONG 18" DIA. PERFORATED HDPE SDR 11 PIPE SEE DETAIL
6" DIA. HDPE SDR 17 LEACHATE COLLECTION PIPE, PERFORATED IN BOTTOM OF CELL AND FROM TOE TO 10' UP SIDESLOPE SEE DETAIL
LEACHATE COLLECTION TRENCH SEE DETAILS
RISER TRENCH SUBBASE UNDERCUT
SLICO MODEL NO. 3-2-3 SIDESLOPE RISER PUMP (P-1-1-1 & P-1-2-1)
18" DIA. PERFORATED PIPE WAS PLACED ON 2 LAYERS OF GEONET (NOT SHOWN FOR CLARITY)
6" DIA. PERFORATED HDPE SDR 17 CONNECTION TO BOTH PIPES
SECTION C-C' THROUGH SIDESLOPE RISER SUMP
SCALE: 1"= 4'
SCALE IN FEET
BASE GRADES
SUMP 1
SUMP FLOOR (BASE GRADE) ELEV. 675.0
6" DIA. WYE FITTING INTO 18" DIA. PIPE
(2) 10' LONG 18" DIA. PERFORATED HDPE SDR 11 PIPE SEE DETAIL
BASE GRADE CREST
ANCHOR TRENCH
CLAY RUNOUT
VAULT 1
LEACHATE SUMP COLLECTION VAULT SEE SHEET CD-12
TRANSFER PIPE JUNCTION MH FM IE 685.8
FUTURE CONNECTION N 213,061.2 E 2,533,164.2 INVERT EL. 685.8
6" DIA. HDPE SDR 17 TRANSFER PIPE ENCASED IN 10" DIA. HDPE SDR 17 SEE DETAIL
TO LEACHATE STORAGE TANKS SEE SHEET CD-13
LEACHATE COLLECTION SUMP DETAIL
SCALE: 1"= 10'

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	1	5/10/2013	RELEASED FOR BIDDING	JMT

Designed: J. TRAST
Checked: J. TRAST
Drawn: J. CALAWAY
Submittal Date: 5/10/2013

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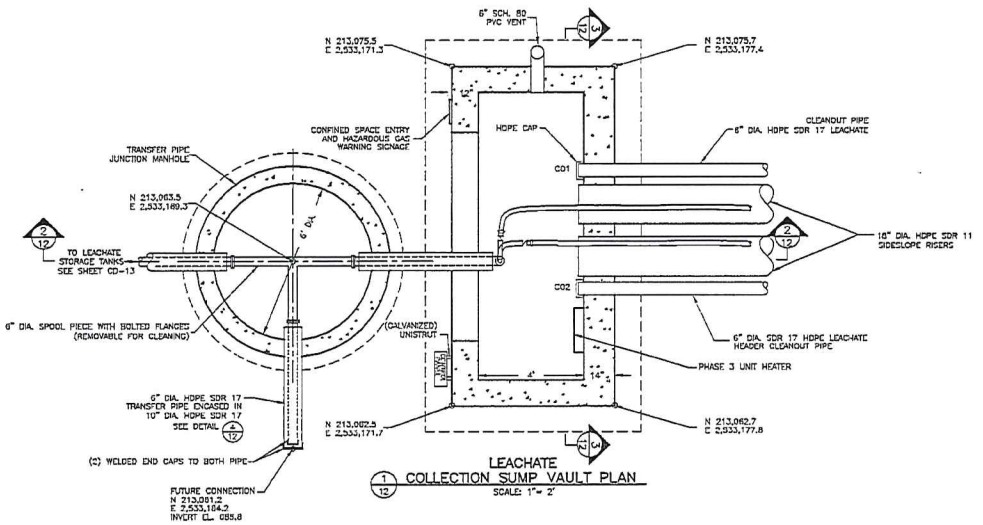
GEI Project 1327380

CELL 1 CONSTRUCTION DOCUMENTATION
PLEASANT PRAIRIE POWER PLANT
ASH LANDFILL

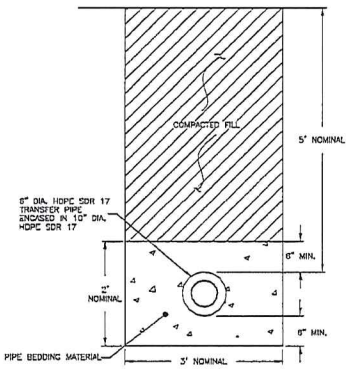
LEACHATE COLLECTION SUMP DETAILS

DWG. NO. CD-11

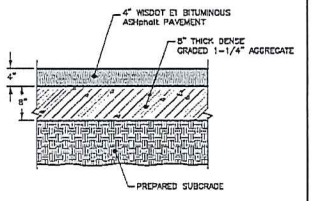
SHEET NO. 11 of 16



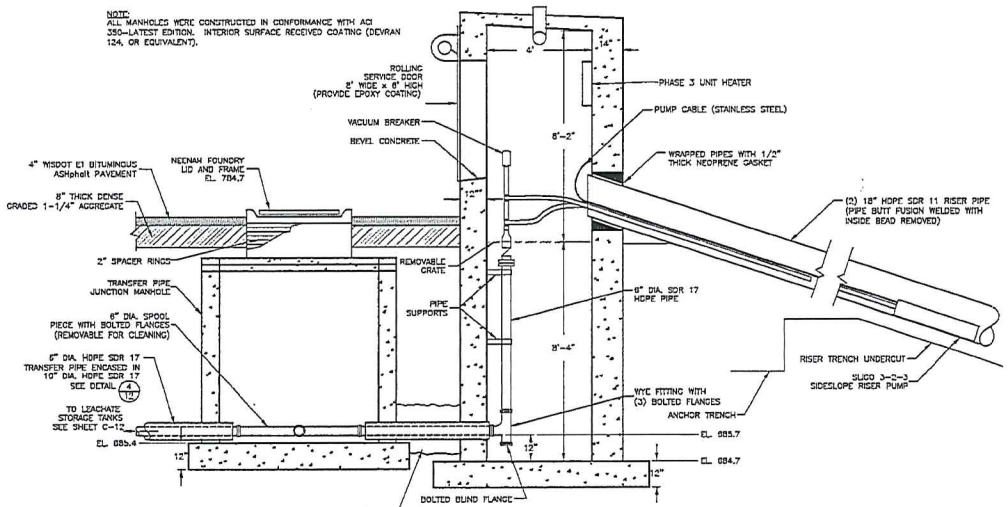
1/12 LEACHATE COLLECTION SUMP VAULT PLAN
SCALE: 1"= 2'



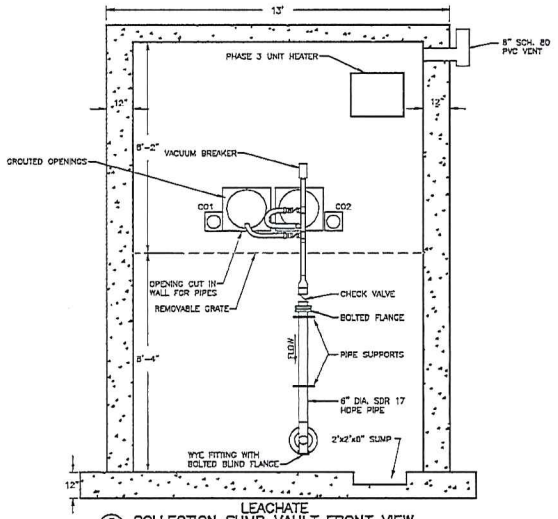
4/12 LEACHATE TRANSFER PIPE TRENCH DETAIL
SCALE: 1"= 1'



5/12 BITUMINOUS ASPHALT PAVEMENT DETAIL
SCALE: 1"= 1'



2/12 LEACHATE COLLECTION SUMP VAULT PROFILE
SCALE: 1"= 2'



3/12 LEACHATE COLLECTION SUMP VAULT FRONT VIEW
SCALE: 1"= 2'

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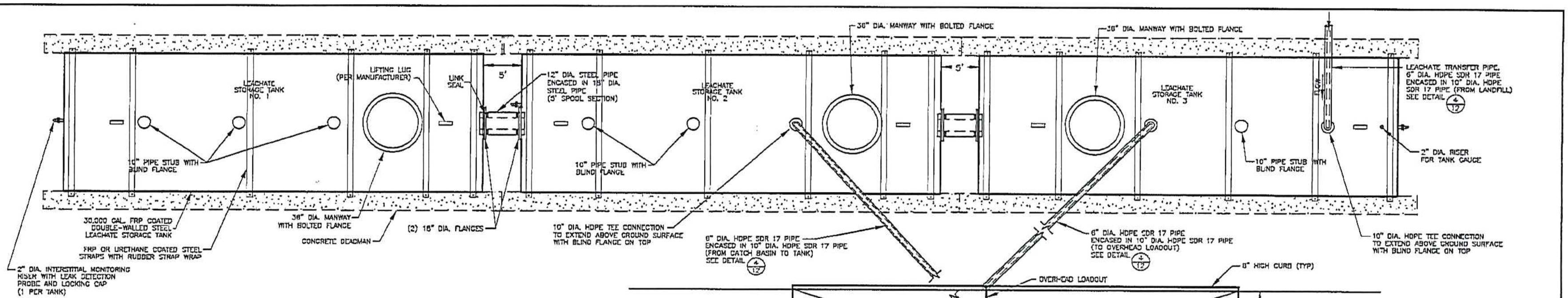
GEI Project 1327380

CELL 1 CONSTRUCTION DOCUMENTATION
PLEASANT PRAIRIE POWER PLANT
ASH LANDFILL

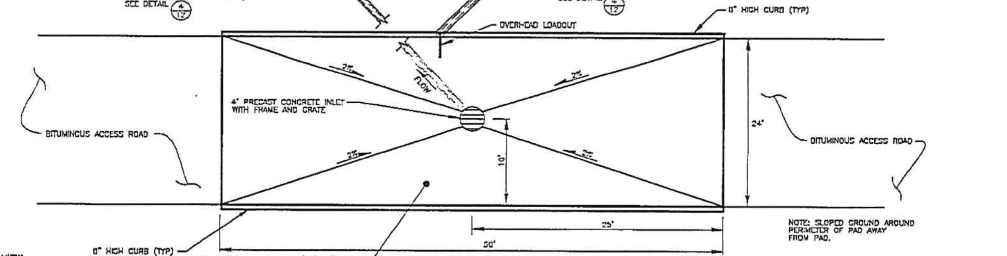
DWG. NO. CD-12

LEACHATE COLLECTION SUMP VAULT DETAILS

SHEET NO. 12 of 16



36" DIA. MANWAY WITH BOLTED FLANGE
36" DIA. MANWAY WITH BOLTED FLANGE
LEACHATE STORAGE TANK NO. 1
LIFTING LUG (PER MANUFACTURER)
LINK SEAL
5'
12" DIA. STEEL PIPE ENCASED IN 18" DIA. STEEL PIPE (5' SPOOL SECTION)
LEACHATE STORAGE TANK NO. 2
LEACHATE STORAGE TANK NO. 3
LEACHATE TRANSFER PIPE, 6" DIA. HDPE SDR 17 PIPE ENCASED IN 10" DIA. HDPE SDR 17 PIPE (FROM LANDFILL) SEE DETAIL
2" DIA. RISER FOR TANK GAUGE
10" PIPE STUB WITH BLIND FLANGE
30,000 GAL. FRP COATED DOUBLE-WALLED STEEL LEACHATE STORAGE TANK
FRP OR URETHANE COATED STEEL STRAPS WITH RUBBER STRAP WRAP
2" DIA. INTERSTITIAL MONITORING RISER WITH LEAK DETECTION PROBE AND LOCKING CAP (1 PER TANK)
36" DIA. MANWAY WITH BOLTED FLANGE
CONCRETE DEADMAN
(2) 18" DIA. FLANGES
10" DIA. HDPE TEE CONNECTION TO EXTEND ABOVE GROUND SURFACE WITH BLIND FLANGE ON TOP
6" DIA. HDPE SDR 17 PIPE ENCASED IN 10" DIA. HDPE SDR 17 PIPE (FROM CATCH BASIN TO TANK) SEE DETAIL
6" DIA. HDPE SDR 17 PIPE ENCASED IN 10" DIA. HDPE SDR 17 PIPE (TO OVERHEAD LOADOUT) SEE DETAIL

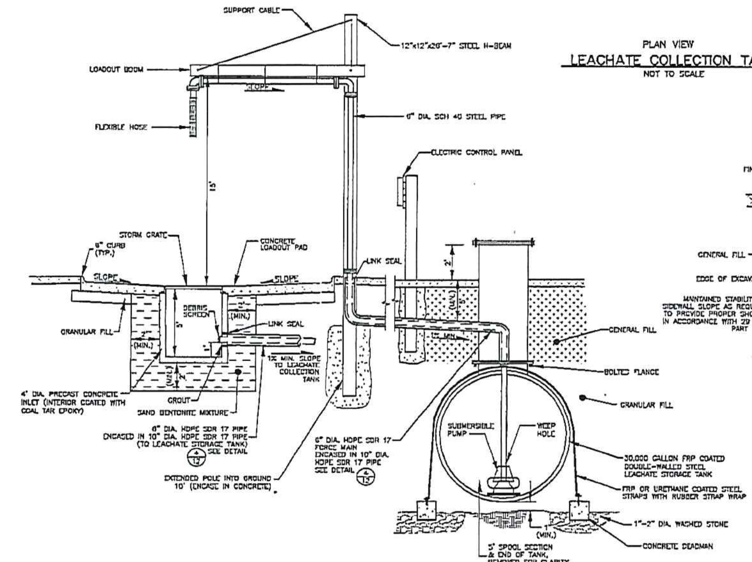


OVERHEAD LOADOUT
8" HIGH CURB (TYP)
FLOW
4' PRECAST CONCRETE INLET WITH FRAME AND GRATE
BITUMINOUS ACCESS ROAD
BITUMINOUS ACCESS ROAD
24'
10'
25'
50'
8" HIGH CURB (TYP)
CONCRETE LOADOUT PAD (24'X50') WITH 8" CURB ON 50' SIDES. SLAB IS 8" THICK
NOTE: SLOPED GROUND AROUND PERIMETER OF PAD AWAY FROM PAD.

PLAN VIEW
LEACHATE COLLECTION TANK
NOT TO SCALE

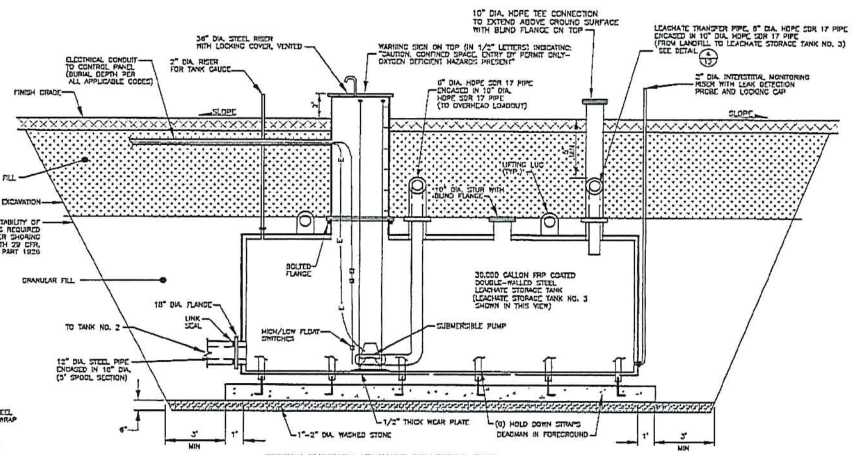
NOTES:

1. SHOP DRAWINGS WERE SUPPLIED TO THE OWNER/ENGINEER PRIOR TO THE FABRICATION OF THE TANK.
2. TANKS WERE ANCHORED ACCORDING TO MANUFACTURERS RECOMMENDATIONS.



SUPPORT CABLE
12"x12"x20'-7" STEEL H-BEAM
LOADOUT BOOM
FLEXIBLE HOSE
6" DIA. SCH 40 STEEL PIPE
ELECTRIC CONTROL PANEL
15'
STORM GRATE
8" CURB (TYP.)
CONCRETE LOADOUT PAD
SLOPE
LINK SEAL
DEBRIS SCREEN
GRANULAR FILL
GENERAL FILL
BOLTED FLANGE
GRANULAR FILL
1% MIN. SLOPE TO LEACHATE COLLECTION TANK
4' DIA. PRECAST CONCRETE INLET (INTERIOR COATED WITH COAL TAR EPOXY)
SAND BENTONITE MIXTURE
GROUT
6" DIA. HDPE SDR 17 PIPE ENCASED IN 10" DIA. HDPE SDR 17 PIPE (TO LEACHATE STORAGE TANK) SEE DETAIL
EXTENDED POLE INTO GROUND 10' (ENCASE IN CONCRETE)
6" DIA. HDPE SDR 17 FORCE MAIN ENCASED IN 10" DIA. HDPE SDR 17 PIPE SEE DETAIL
SUBMERSIBLE PUMP
WEEP HOLE
30,000 GALLON FRP COATED DOUBLE-WALLED STEEL LEACHATE STORAGE TANK
FRP OR URETHANE COATED STEEL STRAPS WITH RUBBER STRAP WRAP
1"-2" DIA. WASHED STONE
CONCRETE DEADMAN
5' SPOOL SECTION & END OF TANK, REMOVED FOR CLARITY

PLAN VIEW
OVERHEAD LOADOUT FACILITY AND TANK PROFILE
NOT TO SCALE



10" DIA. HDPE TEE CONNECTION TO EXTEND ABOVE GROUND SURFACE WITH BLIND FLANGE ON TOP
36" DIA. STEEL RISER WITH LOCKING COVER, VENTED
WARNING SIGN ON TOP (IN 1/2" LETTERS) INDICATING: "CAUTION, CONFINED SPACE, ENTRY BY PERMIT ONLY-OXYGEN DEFICIENT HAZARDS PRESENT"
LEACHATE TRANSFER PIPE, 6" DIA. HDPE SDR 17 PIPE ENCASED IN 10" DIA. HDPE SDR 17 PIPE (FROM LANDFILL TO LEACHATE STORAGE TANK NO. 3) SEE DETAIL
ELECTRICAL CONDUIT TO CONTROL PANEL (BURIAL DEPTH PER ALL APPLICABLE CODES)
2" DIA. RISER FOR TANK GAUGE
6" DIA. HDPE SDR 17 PIPE ENCASED IN 10" DIA. HDPE SDR 17 PIPE (TO OVERHEAD LOADOUT)
2" DIA. INTERSTITIAL MONITORING RISER WITH LEAK DETECTION PROBE AND LOCKING CAP
FINISH GRADE
SLOPE
LIFTING LUG (TYP.)
10" DIA. STUB WITH BLIND FLANGE
GENERAL FILL
EDGE OF EXCAVATION
MAINTAINED STABILITY OF SIDEWALL SLOPE AS REQUIRED TO PROVIDE PROPER SHORING IN ACCORDANCE WITH 29 CFR, PART 1926
GRANULAR FILL
BOLTED FLANGE
30,000 GALLON FRP COATED DOUBLE-WALLED STEEL LEACHATE STORAGE TANK (LEACHATE STORAGE TANK NO. 3 SHOWN IN THIS VIEW)
18" DIA. FLANGE
LINK SEAL
TO TANK NO. 2
HIGH/LOW FLOAT SWITCHES
SUBMERSIBLE PUMP
12" DIA. STEEL PIPE ENCASED IN 18" DIA. (5' SPOOL SECTION)
1/2" THICK WEAR PLATE
(6) HOLD DOWN STRAPS DEADMAN IN FOREGROUND
1"-2" DIA. WASHED STONE
3' MIN
1'
6"

SECTION THROUGH LEACHATE COLLECTION TANK
LEACHATE COLLECTION TANK
NOT TO SCALE

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CELL 1 CONSTRUCTION DOCUMENTATION
PLEASANT PRAIRIE POWER PLANT
ASH LANDFILL

LEACHATE STORAGE TANK DETAILS

DWG. NO. CD-13

SHEET NO. 13 of 16

CLEANING

REPORTS

Great Lakes TV SEAL INC.

3600 Kewaunee Rd. Green Bay, WI 54311
920-863-3663

CLEANING REPORT

DATE: 10/19/2022
OWNER: We Energies
LOCATION: Pleasant Prairie Power Plant Ash Landfill - License #2786
CONTRACTOR: Edgerton Contractors
LEACHATE: ☑ STORM: ☐

SECTION MH	TO MH	PIPE SIZE (inch)	PIPE LENGTH (feet)	Easement Machine used? Y	N	REMARKS
CO 32	CO 1	6			X	Jetted 550' / Jetted slowly
CO 1	CO 32	6			X	Jetted 650' / Jetted slowly

PICTURES

We Energies
Pleasant Prairie Power Plant Ash Landfill #3 – License #22786

We Energies
Pleasant Prairie Power Plant Ash Landfill #3 – License #22786

We Energies
Pleasant Prairie Power Plant Ash Landfill #3 – License #22786