Prepared for
We Energies

Date
January 31, 2025

Project No.
1940102327

2024 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CALEDONIA ASH LANDFILL

RAMBOLL Bright ideas. Sustainable change.

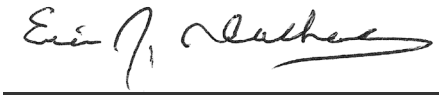
2024 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
CALEDONIA ASH LANDFILL

Project name	**Caledonia Ash Landfill**
Project no.	**1940102327**
Recipient	**We Energies**
Document type	**Annual CCR Groundwater Monitoring and Corrective Action Report**
Revision	**FINAL**
Date	**January 31, 2025**
Prepared by	**Kyle J. Schaefer**
Checked by	**Eric J. Tlachac, PE**
Approved by	**Nathaniel R. Keller, PG**

Ramboll
234 W. Florida Street
Fifth Floor
Milwaukee, WI 53204
USA

T 414-837-3607
F 414-837-3608
https://ramboll.com

Kyle J. Schaefer
Senior Project Scientist



Eric J. Tlachac, PE
Senior Project Manager

Nathaniel R. Keller, PG
Senior Technical Manager

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
ACL	Alternative Concentration Limit
CAL	Caledonia Ash Landfill
CCR	coal combustion residuals
ES	Enforcement Standard
ESAP	Environmental Sampling and Analysis Plan
mg/L	milligrams per liter
NA	not applicable
NRT/OBG	Natural Resource Technology, Inc., an OBG Company
PAL	Preventive Action Limit
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SAP	Sampling and Analysis Plan
SO_4	sulfate
TBD	to be determined
TDS	total dissolved solids
WDNR	Wisconsin Department of Natural Resources
Wis. Adm. Code	Wisconsin Administrative Code

EXECUTIVE SUMMARY

On August 1, 2022, the Wisconsin Department of Natural Resources (WDNR) updated Wisconsin Administrative Code (Wis. Adm. Code) NR 500 to include additional requirements for new and existing Coal Combustion Residual (CCR) Landfills in the State of Wisconsin. This report has been prepared to provide the information required by Ch. NR 507.15(3)(m) for the Caledonia Ash Landfill (CAL, License #3232) located in Caledonia, Wisconsin.

In accordance with the August 1, 2022 revisions to Ch. NR 500, a Plan of Operation Modification (Plan Mod), including an Environmental Sampling and Analysis Plan (ESAP) Addendum, was prepared as required in NR 514.045 for the above referenced CCR landfill and submitted to WDNR by February 1, 2023 for review and approval.

- WDNR determined in a letter dated April 28, 2023 that the Plan Mod was incomplete and requested additional information. A revised Plan Mod was prepared and submitted on December 13, 2023.
- WDNR determined in a letter dated March 12, 2024 that the revised Plan Mod was incomplete and requested additional information. Following this request, a second revision to the Plan Mod was prepared and submitted on August 23, 2024.
- On November 14, 2024, a notification letter from WDNR provided concurrence on completeness of the Plan Mod. A virtual meeting was held on December 10, 2024, allowing public comment on the Plan Mod. and the public comment period remained open until January 10. 2025.

Beginning in 2016, sampling at CAL was completed in accordance with the Detection Monitoring Program requirements specified in Title 40 of the Code of Federal Regulations (40 C.F.R.) Section (§) 257.94.Following the updates to the Wis. Adm. Code in 2022, groundwater sampling was completed in accordance with Ch. NR 507.15(3)(L) (Detection Monitoring) during 2023 and 2024.

Comparisons of the concentrations of detected parameters to NR 140 standards (Preventive Action Limits [PALs] and Enforcement Standards [ESs]) were not completed because Alternative Concentration Limits (ACLs) for these parameters and proposed monitoring locations are pending WDNR decision on the Plan Mod.

No changes were made to the monitoring system in 2024 (no wells were installed or decommissioned).

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 Ch. NR 507.15(3)(m) at CAL (License #3232) located in Caledonia, WI.

In accordance with Ch. NR 507.15(3)(m), the owner or operator of a CCR landfill 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 landfill (**Section 2**), summarizes key actions completed (**Section 3**), describes any problems encountered, discusses actions to resolve the problems (**Section 4**), and projects key activities for the upcoming year (**Section 5**). 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 landfill and all upgradient and downgradient monitoring wells, including the well identification numbers, that are part of the groundwater monitoring for the CCR landfill (**Figure 1**).
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 (**Section 3**).
3. In addition to all the monitoring data obtained under Ch. NR 507.15(3)(L) (**Tables 1 and 2**), a summary including the number of groundwater samples that were collected for analysis for each upgradient and downgradient well, the dates the samples were collected, and whether the sample was required by Detection Monitoring or Assessment Monitoring (**Section 3 and Table A**).
4. A narrative discussion of any transition between monitoring including the date and circumstances for transitioning from Detection Monitoring to Assessment Monitoring (**Section 2**) in addition to identifying any constituents detected above Ch. NR 140 standards (**Table A**).
5. A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action for the CCR landfill (**Executive Summary**). At a minimum, the summary shall include all of the following:
    i. At the start of the current annual reporting period, whether the CCR landfill was operating under Detection Monitoring or Assessment Monitoring. (CAL began 2024 in Detection Monitoring.)
    ii. At the end of the current annual reporting period, whether the CCR landfill was operating under Detection Monitoring or Assessment Monitoring. (CAL ended 2024 in Detection Monitoring.)
    iii. If it was determined by the owner or operator that there was a groundwater quality exceedance under Ch. NR 140 for one or more constituents listed under Ch. NR 507 Appendix I for CCR wells, a listing of those constituents, the names of the monitoring wells associated with the exceedances, and the date when the Assessment Monitoring was initiated for the CCR landfill. Comparisons of the concentrations of detected parameters to NR 140 standards were not completed because ACLs for these parameters and proposed monitoring locations are pending WDNR decision on the Plan Mod.

iv. If corrective action measures were required, the date when the assessment of corrective measures was initiated for the CCR landfill, the date when the public informational hearing under Ch. NR 508.06(3)(e) was held for the discussion of the results of the remedial action options report, and the date when the assessment of corrective measures was completed. (Corrective action measures were not required for CAL in 2024.)

v. If a remedy was required under Ch. NR 508 during the annual reporting period, the date of remedy selection, and whether remedial activities were initiated or are ongoing during the annual reporting period. (A corrective action remedy was not required for CAL in 2024.)

This report provides the required information for CAL for calendar year 2024.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

As required in Ch. NR 514.045, a Plan Mod, including an ESAP Addendum, was prepared for CAL to fulfill additional requirements related to the August 1, 2022 revisions to Ch. NR 500 and submitted to WDNR by February 1, 2023 for review and approval.

- WDNR determined in a letter dated April 28, 2023 that the Plan Mod was incomplete and requested additional information. A revised Plan Mod was prepared and submitted on December 13, 2023.
- WDNR determined in a letter dated March 12, 2024 that the revised Plan Mod was incomplete and requested additional information. Following this request a second revision to the Plan Mod was prepared and submitted on August 23, 2024.
- On November 14, 2024, a notification letter from WDNR provided concurrence on completeness of the Plan Mod. A virtual meeting was held on December 10, 2024, allowing public comment on the Plan Mod. and the public comment period remained open until January 10, 2025.

Comparisons of the concentrations of detected parameters to Ch. NR 140 standards (Preventive Action Limits [PALs] and Enforcement Standards [ESs]) were not completed because Alternative Concentration Limits (ACLs) for these parameters and proposed monitoring locations are pending WDNR's decision. Accordingly, no changes have occurred to the monitoring program status in calendar year 2024.

Beginning in 2016, sampling at the WDS3 Landfill was completed in accordance with the Detection Monitoring Program requirements specified in Title 40 of the Code of Federal Regulations (40 C.F.R.) Section (§) 257.94. Following updates to the Wis. Adm. Code in 2022, groundwater sampling has been completed in accordance with Ch. NR 507.15(3)(L) (Detection Monitoring).

In 2025, groundwater sampling will continue to be completed in accordance with Ch. NR 507.15(3)(L).

3. KEY ACTIONS COMPLETED IN 2024

The Detection Monitoring Program is summarized in **Table A** on the following page. The groundwater monitoring system, including the CCR unit and all background (upgradient) and downgradient monitoring wells, is presented in **Figure 1**. No changes were made to the monitoring system in 2024.

In general, one groundwater sample was collected from each background and downgradient well during each monitoring event. All samples were collected and analyzed in accordance with the *Sampling and Analysis Plan* (SAP)*, Revision 1, Caledonia Ash Landfill* (Ramboll, 2023) submitted as Appendix B of the ESAP Addendum. Potentiometric surface maps for both monitoring events in 2024 are included in **Figures 2 and 3**. Water level data, collected from background and downgradient monitoring wells, are included in **Table 1**. All monitoring data and analytical results obtained under Ch. NR 507.15(3)(L) in 2024 are presented in **Table 2**. Laboratory reports for all 2024 monitoring events are included in **Appendix A**. Results for analysis of additional samples required by Ch. NR 507 are included in some reports because they were collected during the same sampling events, but are not summarized in this report.

In 2023, additional sampling was completed to establish baseline groundwater quality for select parameters listed in Ch. NR 507 Appendix I, Tables 1A and 3 that were not analyzed as part of the 40 C.F.R. § 257.94 Detection Monitoring Program was completed. A total of 8 samples were collected from each monitoring well and analyzed for each parameter listed in Ch. NR 507 Appendix I Tables 1A and 3. In 2024, one Lithium sample was collected from wells W49 and W50 and a resample was collected at W98D for chloride. The data was submitted, and the baseline dataset requirement was completed with the exception of Radium-226 and -228 combined, which were only analyzed for 2 sampling events for W49 and W50. Radium-226 and -228 will be analyzed in samples collected during future semiannual monitoring events until a total of 8 sampling events have been completed.

In 2024, groundwater sampling was completed in accordance with Ch. NR 507.15(3)(L).

Table A. 2024 Detection Monitoring Program Summary

Sampling Date	Purpose	Analytical Data Receipt Date	Parameters Analyzed
May 7-8, 2024	Detection Monitoring	July 30, 2024	Ch. NR 507 App A Tables 1A
September 4, 2024	Baseline Sampling	January 9, 2025	Wells W49 & W50 (lithium)
	Resample	January 9, 2025	Well W08D (chloride)
November 6, 2024	Detection Monitoring	January 7, 2025	Ch. NR 507 App A Table 1A

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the Groundwater Monitoring Program during 2024. Groundwater samples were collected and analyzed in accordance with the SAP and all data were accepted.

5. KEY ACTIVITIES PLANNED FOR 2025

The following key activities are planned for 2025:

- Detection Monitoring in accordance with Ch. NR 507.15(3)(L) with semi-annual sampling scheduled for the second and fourth quarters of 2025. Expanded leachate sampling also to occur as listed in Ch. NR 507 Appendix I, Tables 4 and 5 as applicable.
- Complete evaluation of analytical data from the compliance wells against Ch. NR 140 standards including Preventive Action Limits, Enforcement Standards, and/or ACLs, following WDNR decision on the Plan Mod.
- A notification will be provided to WDNR when results indicate concentrations have attained or exceeded groundwater standards in accordance with Ch. NR 507.30. The notification shall specify the parameters that have attained or exceeded standards, the wells at which the standards (PAL, ES, or ACL) were attained or exceeded, and provide a preliminary analysis of the cause and significance of each concentration in accordance with Chs. NR 140.24(1)(a) or 140.26(1)(a). The notification shall also include the intent to either begin assessment monitoring or determine whether a false exceedance occurred.
- As described in Chs. NR 508.06(1)(c) and NR 507.28(3), if a groundwater standard exceedance is detected in a CCR well, a demonstration may be completed to indicating a source other than CAL is the cause or the exceedance is due to an error.
  - If WDNR concurs with the false exceedance demonstration within 30 days of receipt, Detection Monitoring will continue.
  - If WDNR does not concur within 30 days, an Assessment Monitoring Program in accordance with Ch. NR 508.06(2) will be initiated following discussion with WDNR.

6. REFERENCES

Ramboll Americas Engineering Solutions, Inc., 2023, *Sampling and Analysis Plan - Revision 1, Caledonia Ash Landfill, Caledonia, Wisconsin.* December 12, 2023.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS
2024 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
CALEDONIA ASH LANDFILL
CALEDONIA, WI

Well ID	Well Type	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Date	Groundwater Elevation (ft NAVD88)
W46D	Background (Upgradient/Side-gradient)	42.83840	-87.84685	5/07/2024	657.12
				11/06/2024	653.26
W48	Background (Upgradient)	42.83564	-87.84441	5/08/2024	658.44
				11/06/2024	655.13
W08D	Compliance (Downgradient)	42.83621	-87.83965	5/07/2024	655.47
				11/06/2024	653.84
W09D	Compliance (Downgradient)	42.83892	-87.83924	5/07/2024	656.21
				11/06/2024	653.32
W10D	Compliance (Downgradient)	42.83985	-87.84015	5/08/2024	655.52
				11/06/2024	652.64
W49	Compliance (Downgradient)	42.83987	-87.84187	5/08/2024	655.88
				11/06/2024	653.16
W50	Compliance (Downgradient)	42.83751	-87.83865	5/08/2024	657.23
				11/06/2024	647.50

Notes:
ft = foot/feet
NAVD88 = North American Vertical Datum of 1988

Caledonia
Table 2. Analytical Results - Baseline and CCR Parameters

Date Range: 01/01/2024 to 12/31/2024

Lab Methods:

Well Id	Date Sampled	Lab Id	Alkalinity, lab, mg/L	Boron, total, mg/L	Calcium, total, mg/L	Chloride, total, mg/L	Fluoride, total, mg/L	Hardness, tot, mg/L
W08D	5/7/2024	40283183002		0.481				
		AE72726	140.0		51.4	16.0	1.10	214.00
	9/4/2024	40283576002				3.6		
	11/6/2024	AE75298	148.0	0.423	45.7	11.1	1.30	200.00
W09D	5/7/2024	40283183003		0.439				
		AE72727	130.0		18.7	5.4	1.30	87.00
	11/6/2024	AE75299	143.0	0.387	17.3	4.2	1.40	82.90
W10D	5/8/2024	40283183004		0.440				
		AE72728	130.0		21.4	4.8	1.10	86.00
	11/6/2024	AE75300	138.0	0.390	19.3	4.0	1.30	80.50
W46D	5/7/2024	40283183005		0.358				
		AE72729	150.0		25.5	5.9	0.98	124.00
	11/6/2024	AE75301	158.0	0.337	23.9	5.4	1.20	122.00
W48	5/8/2024	40283183006		0.390				
		AE72730	210.0		26.2	5.1	0.92	132.00
	11/6/2024	AE75302	230.0	0.353	25.0	4.0	0.98	133.00
W49	5/8/2024	40283183007		0.466				
		AE72731	110.0		16.6	5.2	1.20	69.00
	11/6/2024	AE75303	125.0	0.429	15.8	4.4	1.40	69.00
W50	5/8/2024	40283183008		0.528				
		AE72732	150.0		28.8	5.8	0.95	114.00
	11/6/2024	AE75304	154.0	0.464	25.8	5.4	1.20	107.00

Caledonia
Table 2. Analytical Results - Baseline and CCR Parameters

Date Range: 01/01/2024 to 12/31/2024

Lab Methods:

Well Id	Date Sampled	Lab Id	Li, tot, ug/L	pH (Field), SU	Sulfate, total, mg/L	TDS, mg/L
W08D	5/7/2024	AE72726		7.6	200.0	460
	11/6/2024	AE75298		7.7	208.0	890
W09D	5/7/2024	AE72727		8.1	41.0	260
	11/6/2024	AE75299		8.3	39.2	260
W10D	5/8/2024	AE72728		8.1	37.0	230
	11/6/2024	AE75300		8.1	42.7	480
W46D	5/7/2024	AE72729		7.6	32.0	500
	11/6/2024	AE75301		7.7	34.8	520
W48	5/8/2024	AE72730		7.9	2.1	310
	11/6/2024	AE75302		8.1	<0.4	440
W49	5/8/2024	AE72731		8.1	50.0	230
	9/4/2024	40283576003	2.700			
	11/6/2024	AE75303		8.0	51.9	830
W50	5/8/2024	AE72732		7.6	73.0	280
	9/4/2024	40283576001	4.500			
	11/6/2024	AE75304		7.7	78.4	1200

FIGURES

Y:\GIS\Projects\161\660\CALEDONIA\MXD\GM_CAR_2023\Figure 1_GW Samp Well Loc_Caledonia.mxd

PROJECT: 71202 | DATED: 1/30/2024 | DESIGNER: GALARNMC

CCR RULE BACKGROUND MONITORING WELL LOCATION

CCR RULE DOWNGRADIENT MONITORING WELL LOCATION

CCR RULE UPGRADIENT MONITORING WELL LOCATION

UNIT BOUNDARY

NOTES

IMAGERY DATE = 5/1/2022

0 200 400 Feet

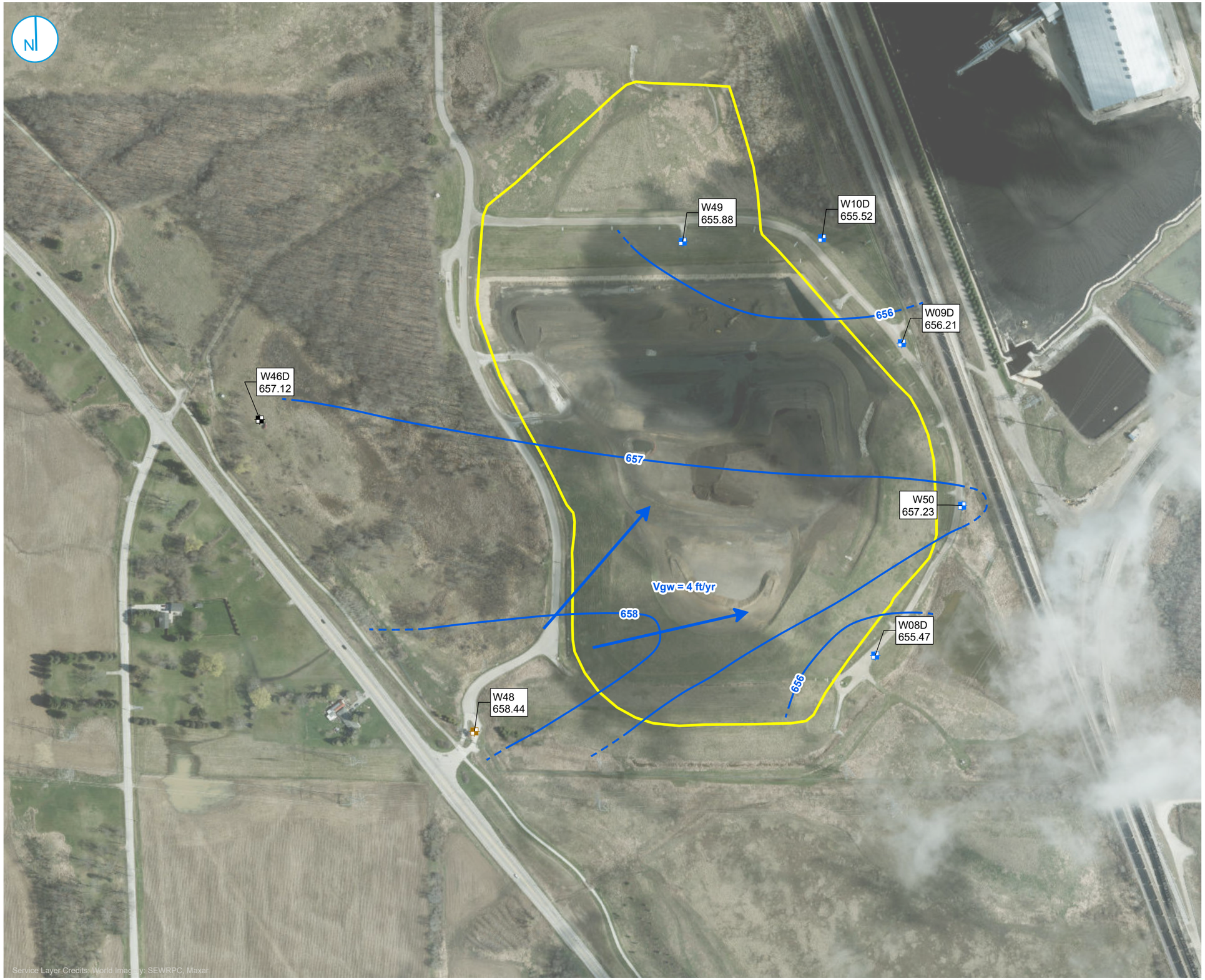
MONITORING WELL LOCATION MAP

2024 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
CALEDONIA ASH LANDFILL
CALEDONIA POWER PLANT
CALEDONIA, WISCONSIN

FIGURE 1

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL



CCR RULE BACKGROUND MONITORING WELL LOCATION

CCR RULE DOWNGRADIENT MONITORING WELL LOCATION

CCR RULE UPGRADIENT MONITORING WELL LOCATION

UNIT BOUNDARY

GROUNDWATER ELEVATION CONTOUR (1-FT CONTOUR INTERVAL, NAVD88)

INFERRED GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW DIRECTION

NOTES
Vgw = ESTIMATED FT/YR GROUNDWATER FLOW VELOCITY
IMAGERY DATE = 5/1/2022

0 150 300
Feet

POTENTIOMETRIC SURFACE MAP MAY 7-8, 2024

2024 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
CALEDONIA ASH LANDFILL
CALEDONIA POWER PLANT
CALEDONIA, WISCONSIN

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC

RAMBOLL

Y:\GIS\Projects\161660\CALEDONIA\MXD\GM_CAR_2024\GM_CAR_2024_Caledonia_Landfill_LBR.aprx

PROJECT: 169000XXXX | DATED: 1/27/2025 | DESIGNER: PWYSIATKO

GROUNDWATER AVERAGE LINEAR VELOCITY CALCULATIONS
CALEDONIA ASH LANDFILL
CALEDONIA, WISCONSIN

May 2024 **$V = K\,i\,/\,n_e$**

V = Groundwater Velocity
K = Hydraulic Conductivity
i = Hydraulic Gradient (unitless value)
n_e = Effective Porosity

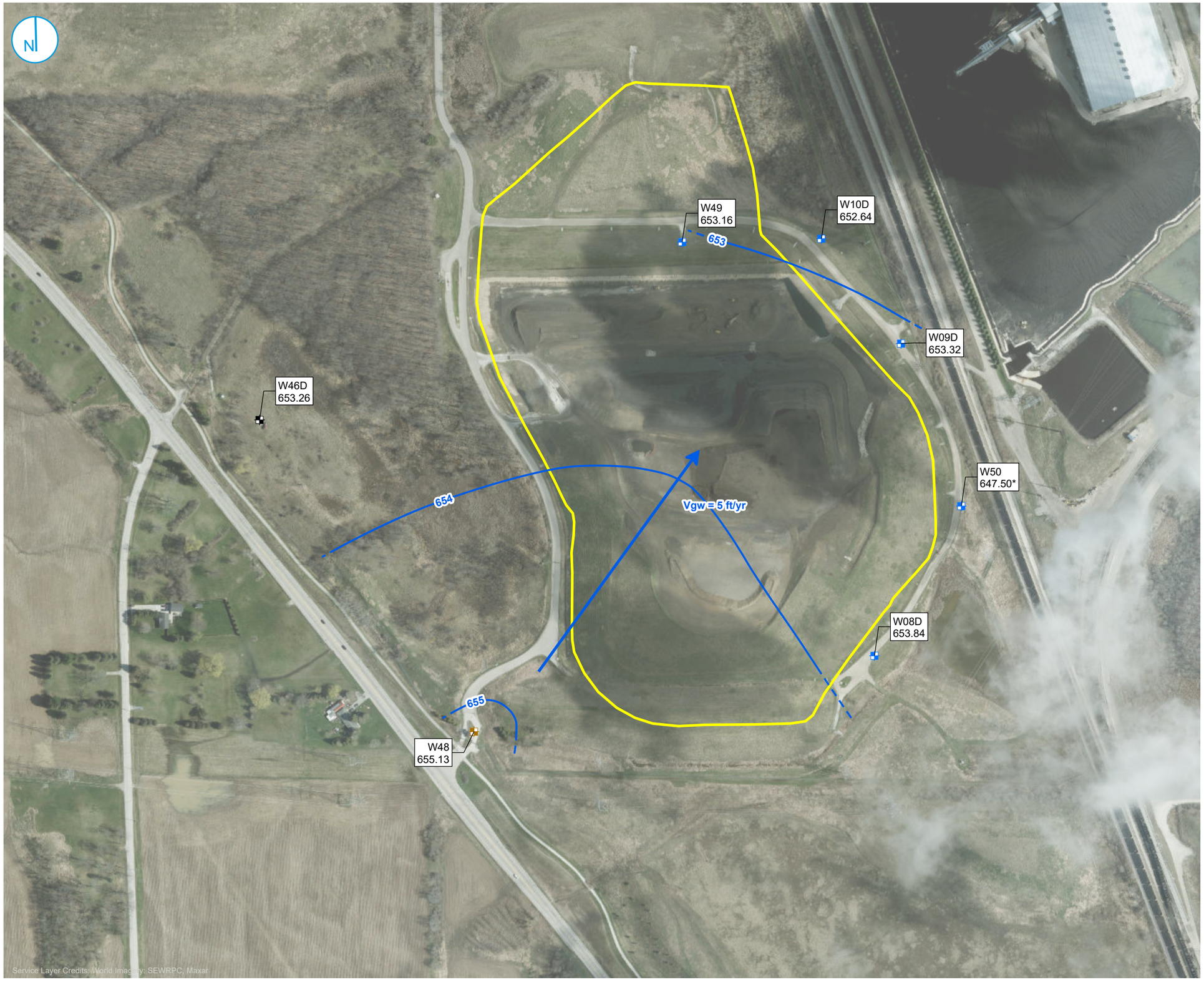
UPPERMOST AQUIFER

Contours	**658**	**to**	**657**	**North to Northeast Across the Landfill**	Elevation Change (ft)		Distance Change (ft)	
K =	1.04E+03	ft/yr	Geometric mean for Landfill 3 (all)					
i =	0.001		between contours identified above					
n_e =	25	%			1	/	1114	0.001

$$V = \frac{1.04E+03 * 8.98E-04}{0.25}$$

V = 4 feet/year

[O: KJS 8/8/2024, C: NRK 1/28/2025]



- CCR RULE BACKGROUND MONITORING WELL LOCATION
- CCR RULE DOWNGRADIENT MONITORING WELL LOCATION
- CCR RULE UPGRADIENT MONITORING WELL LOCATION
- UNIT BOUNDARY
- GROUNDWATER ELEVATION CONTOUR (1-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTES
* = ELEVATION NOT USED FOR CONTOURING
Vgw = ESTIMATED FT/YR GROUNDWATER FLOW VELOCITY
IMAGERY DATE = 5/1/2022

0 150 300
Feet

POTENTIOMETRIC SURFACE MAP NOVEMBER 6, 2024

2024 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
CALEDONIA ASH LANDFILL
CALEDONIA POWER PLANT
CALEDONIA, WISCONSIN

FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC

RAMBOLL

Y:\GIS\Projects\161660\CALEDONIA\MXD\GM_CAR_2024\GM_CAR_2024_Caledonia_Landfill_LBR.aprx

PROJECT: 169000XXXX | DATED: 1/27/2025 | DESIGNER: PWYSIATKO

GROUNDWATER AVERAGE LINEAR VELOCITY CALCULATIONS
CALEDONIA ASH LANDFILL
CALEDONIA, WISCONSIN

NOVEMBER 2024 **$V = K\,i\,/\,n_e$**

V = Groundwater Velocity
K = Hydraulic Conductivity
i = Hydraulic Gradient (unitless value)
n_e = Effective Porosity

UPPERMOST AQUIFER

Contours	**655**	**to**	**654**	**North to Northeast Across the Landfill**	Elevation Change (ft)		Distance Change (ft)
K =	1.04E+03	ft/yr	Geometric mean for Landfill 3 (all)				
i =	0.001		between contours identified above		1	/	890 = 0.001
n_e =	25	%					

$$V = \frac{1.04E+03 * 1.12E-03}{0.25}$$

V = 5 feet/year

[O:KJS 11/25/2024 , C: NRK 1/28/2025]

APPENDIX A
LABORATORY REPORTS

To: ERIC KOVATCH
PSB Annex A231

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

Report Date: Friday, August 30, 2024

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

Sample Description: **W08D** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE72726 Sample Collection Date/Time: 05/07/2024 13:00
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	42.81	0.05	feet		1		H2OD	5/7/24	L ANDERSON
Field Temperature	12.1	0.1	Degrees (		1		TEMP	5/7/24	L ANDERSON
Field Conductivity	687	0	umhos		1		FCOND25	5/7/24	L ANDERSON
Field pH	7.59	0.1	Units	0.1	1		FIELDPH	5/7/24	L ANDERSON
Total Boron	481	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	51410	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	214	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	1.1	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	16	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	200	1.2	mg/L	3.9	5		EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	140	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	460	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Sample Comments:

Sample Description: **W09D** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE72727 Sample Collection Date/Time: 05/07/2024 13:42
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	51.14	0.05	feet		1		H2OD	5/7/24	L ANDERSON
Field Temperature	12.1	0.1	Degrees (		1		TEMP	5/7/24	L ANDERSON
Field Conductivity	346	0	umhos		1		FCOND25	5/7/24	L ANDERSON
Field pH	8.14	0.1	Units	0.1	1		FIELDPH	5/7/24	L ANDERSON
Total Boron	439	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	18730	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	87	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	1.3	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	5.4	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	41	1.2	mg/L	3.9	5		EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	130	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	260	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Report Date: Friday, August 30, 2024

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

Sample Comments:

Sample Description: **W10D Caledonia Landfill Semi Annual Sample**
Sample ID: AE72728 Sample Collection Date/Time: 05/08/2024 10:05
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	47.58	0.05	feet		1		H2OD	5/8/24	L ANDERSON
Field Temperature	13.5	0.1	Degrees C		1		TEMP	5/8/24	L ANDERSON
Field Conductivity	343	0	umhos		1		FCOND25	5/8/24	L ANDERSON
Field pH	8.12	0.1	Units	0.1	1		FIELDPH	5/8/24	L ANDERSON
Total Boron	440	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	21410	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	86	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	1.1	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	4.8	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	37	1.2	mg/L	3.9	5		EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	130	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	230	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Sample Comments:

Sample Description: **W46D Caledonia Landfill Semi Annual Sample**
Sample ID: AE72729 Sample Collection Date/Time: 05/07/2024 12:25
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	44.14	0.05	feet		1		H2OD	5/7/24	L ANDERSON
Field Temperature	12.3	0.1	Degrees C		1		TEMP	5/7/24	L ANDERSON
Field Conductivity	369	0	umhos		1		FCOND25	5/7/24	L ANDERSON
Field pH	7.60	0.1	Units	0.1	1		FIELDPH	5/7/24	L ANDERSON
Total Boron	358	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	25540	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	124	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	0.98	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	5.9	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	32	1.2	mg/L	3.9	5		EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	150	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	500	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Report Date: Friday, August 30, 2024

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

Sample Comments:

Sample Description: **W48 Caledonia Landfill Semi Annual Sample**
Sample ID: AE72730 Sample Collection Date/Time: 05/08/2024 10:41
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	57.44	0.05	feet		1		H2OD	5/8/24	L ANDERSON
Field Temperature	13.8	0.1	Degrees C		1		TEMP	5/8/24	L ANDERSON
Field Conductivity	412	0	umhos		1		FCOND25	5/8/24	L ANDERSON
Field pH	7.89	0.1	Units	0.1	1		FIELDPH	5/8/24	L ANDERSON
Total Boron	390	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	26190	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	132	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	0.92	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	5.1	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	2.1	1.2	mg/L	3.9	5	J	EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	210	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	310	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Sample Comments:

Sample Description: **W49 Caledonia Landfill Semi Annual Sample**
Sample ID: AE72731 Sample Collection Date/Time: 05/08/2024 11:55
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	61.61	0.05	feet		1		H2OD	5/8/24	L ANDERSON
Field Temperature	14.2	0.1	Degrees C		1		TEMP	5/8/24	L ANDERSON
Field Conductivity	337	0	umhos		1		FCOND25	5/8/24	L ANDERSON
Field pH	8.05	0.1	Units	0.1	1		FIELDPH	5/8/24	L ANDERSON
Total Boron	466	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	16560	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	69	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	1.2	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	5.2	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	50	1.2	mg/L	3.9	5		EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	110	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	230	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Report Date: Friday, August 30, 2024

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

Sample Comments:

Sample Description: **W50** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE72732 Sample Collection Date/Time: 05/08/2024 12:45
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	37.45	0.05	feet		1		H2OD	5/8/24	L ANDERSON
Field Temperature	14.0	0.1	Degrees C		1		TEMP	5/8/24	L ANDERSON
Field Conductivity	456	0	umhos		1		FCOND25	5/8/24	L ANDERSON
Field pH	7.57	0.1	Units	0.1	1		FIELDPH	5/8/24	L ANDERSON
Total Boron	528	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	28770	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	114	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	0.95	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	5.8	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	73	1.2	mg/L	3.9	5		EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	150	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	280	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Sample Comments:

Sample Description: **QC01** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE72733 Sample Collection Date/Time: 05/07/2024 13:47
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Boron	435	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	19030	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	88	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	1.1	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	5.0	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	36	1.2	mg/L	3.9	5		EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	130	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	250	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Sample Comments:

Report Date: Friday, August 30, 2024

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

Sample Description: **EB3** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE72734 Sample Collection Date/Time: 05/07/2024 15:35
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Temperature	22.3	0.1	Degrees C		1		TEMP	5/7/24	L ANDERSON
Field Conductivity	2.43	0	umhos		1		FCOND25	5/7/24	L ANDERSON
Field pH	7.61	0.1	Units	0.1	1		FIELDPH	5/7/24	L ANDERSON
Total Boron	Less Than	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	49	12.4	ug/L	170.3	1	J	EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	Less Than	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	Less Than	0.06	mg/L	0.195	5		EPA 300.0	5/13/24	AEU
Total Chloride	2.2	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	7.2	1.2	mg/L	3.9	5		EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	Less Than	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	60	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

Sample Comments:

Sample Description: **EB4** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE72735 Sample Collection Date/Time: 05/08/2024 13:00
Sample Received: 05/08/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Temperature	22.8	0.1	Degrees C		1		TEMP	5/8/24	L ANDERSON
Field Conductivity	2.96	0	umhos		1		FCOND25	5/8/24	L ANDERSON
Field pH	8.01	0.1	Units	0.1	1		FIELDPH	5/8/24	L ANDERSON
Total Boron	Less Than	17.3	ug/L	40.0	1		EPA 200.7	8/28/24	020
Total Calcium	Less Than	12.4	ug/L	170.3	1		EPA 200.7	5/21/24	EDL
Total Hardness as CaCO3	Less Than	1	mg/L		1		Std Mtd 2340B	5/21/24	EDL
Total Fluoride	Less Than	0.06	mg/L	0.195	5		EPA 300.0	5/14/24	AEU
Total Chloride	2.2	0.295	mg/L	0.99	5		EPA 300.0	5/14/24	AEU
Total Sulfate	2.1	1.2	mg/L	3.9	5	J	EPA 300.0	5/14/24	AEU
Total Alkalinity as CaCO3	Less Than	20	mg/L		1		SM 2320 B-1997	5/15/24	AEU
Total Dissolved Solids	Less Than	20	mg/L		1		Std Mtd 2540 C	5/14/24	SAA

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 Lab Services: 414-221-4595

To: Eric Kovatch
PSB Annex A231

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

Report Date: Thursday, January 9, 2025

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

Sample Description: **W50** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE74755 Sample Collection Date/Time: 09/04/2024 10:29
Sample Received: 09/24/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Lithium	4.5	0.22	ug/L	1.0	1		EPA 200.8	9/13/24	020

Sample Comments:

Sample Description: **W08D** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE74756 Sample Collection Date/Time: 09/04/2024 11:00
Sample Received: 09/24/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Chloride	3.6	0.59	mg/L	2.0	1		EPA 300.0	9/6/24	020

Sample Comments:

Sample Description: **W49** **Caledonia Landfill Semi Annual Sample**
Sample ID: AE74757 Sample Collection Date/Time: 09/04/2024 11:55
Sample Received: 09/24/2024 Sample Collector: LAUREN ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Lithium	2.7	0.22	ug/L	1.0	1		EPA 200.8	9/13/24	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 Lab Services: 414-221-4595

To: Eric Kovatch
PSB Annex A231

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

Report Date: Thursday, January 16, 2025

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

Sample Description: **W08D** **Caledonia CCR Well Sample**
Sample ID: AE75298 Sample Collection Date/Time: 11/06/2024 09:41
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	44.44	0.05	feet		1		H2OD	11/6/24	N DUDA
Field Temperature	11.3	0.1	Degrees C		1		TEMP	11/6/24	N DUDA
Field Conductivity	807	0	umhos		1		FCOND25	11/6/24	N DUDA
Field pH	7.7	0.1	Units	0.1	1		FIELDPH	11/6/24	N DUDA
Total Alkalinity as CaCO3	148	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020
Bicarbonate Ion	148	5.0	mg/L	10.0	1		HCO3	11/12/24	020
Total Dissolved Solids	890	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	1.3	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	11.1	0.59	mg/L	2.0	1		EPA 300.0	11/19/24	020
Total Sulfate	208	4.4	mg/L	20.0	10		EPA 300.0	11/20/24	020
Dissolved Chloride	11.1	0.59	mg/L	2.0	1		EPA 300.0	11/20/24	020
Dissolved Sulfate	190	4.4	mg/L	20.0	10		EPA 300.0	11/20/24	020
Total Boron	423	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	45700	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	200	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	45900	76.2	ug/L	254	1	D9	EPA 200.7	11/15/24	020
Dissolved Magnesium	21200	31.2	ug/L	250	1	D9	EPA 200.7	11/15/24	020
Dissolved Sodium	72200	42.0	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Potassium	2770	237	ug/L	789	1		EPA 200.7	11/15/24	020

Sample Comments:

Qualifier D9: Dissolved result is greater than total. Data is within laborator
y control limits.

Sample Description: **W09D** **Caledonia CCR Well Sample**
Sample ID: AE75299 Sample Collection Date/Time: 11/06/2024 10:42
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	54.03	0.05	feet		1		H2OD	11/6/24	N DUDA
Field Temperature	12.1	0.1	Degrees C		1		TEMP	11/6/24	N DUDA
Field Conductivity	344	0	umhos		1		FCOND25	11/6/24	N DUDA
Field pH	8.3	0.1	Units	0.1	1		FIELDPH	11/6/24	N DUDA
Total Alkalinity as CaCO3	143	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020

Report Date: Thursday, January 16, 2025

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

Sample Description: **W09D Caledonia CCR Well Sample**
Sample ID: AE75299 Sample Collection Date/Time: 11/06/2024 10:42
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Bicarbonate Ion	143	5.0	mg/L	10.0	1		HCO3	11/12/24	020
Total Dissolved Solids	260	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	1.4	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	4.2	0.59	mg/L	2.0	1		EPA 300.0	11/19/24	020
Total Sulfate	39.2	0.44	mg/L	2.0	1		EPA 300.0	11/19/24	020
Dissolved Chloride	4.3	0.59	mg/L	2.0	1		EPA 300.0	11/20/24	020
Dissolved Sulfate	39.4	0.44	mg/L	2.0	1		EPA 300.0	11/20/24	020
Total Boron	387	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	17300	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	82.9	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	17300	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Dissolved Magnesium	9910	31.2	ug/L	250	1	D9	EPA 200.7	11/15/24	020
Dissolved Sodium	41800	42.0	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Potassium	904	237	ug/L	789	1		EPA 200.7	11/15/24	020

Sample Comments:

Sample Description: **W10D Caledonia CCR Well Sample**
Sample ID: AE75300 Sample Collection Date/Time: 11/06/2024 11:21
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	50.46	0.05	feet		1		H2OD	11/6/24	N DUDA
Field Temperature	10.7	0.1	Degrees C		1		TEMP	11/6/24	N DUDA
Field Conductivity	405	0	umhos		1		FCOND25	11/6/24	N DUDA
Field pH	8.1	0.1	Units	0.1	1		FIELDPH	11/6/24	N DUDA
Total Alkalinity as CaCO3	138	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020
Bicarbonate Ion	138	5.0	mg/L	10.0	1		HCO3	11/12/24	020
Total Dissolved Solids	480	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	1.3	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	4.0	0.59	mg/L	2.0	1		EPA 300.0	11/19/24	020
Total Sulfate	42.7	0.44	mg/L	2.0	1		EPA 300.0	11/19/24	020
Dissolved Chloride	4.1	0.59	mg/L	2.0	1		EPA 300.0	11/20/24	020
Dissolved Sulfate	43.2	0.44	mg/L	2.0	1		EPA 300.0	11/20/24	020
Total Boron	390	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	19300	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	80.5	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	19500	76.2	ug/L	254	1	D9	EPA 200.7	11/15/24	020
Dissolved Magnesium	8190	31.2	ug/L	250	1	D9	EPA 200.7	11/15/24	020
Dissolved Sodium	44500	42.0	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Potassium	1250	237	ug/L	789	1		EPA 200.7	11/15/24	020

Report Date: Thursday, January 16, 2025

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

Sample Comments:

Sample Description: **W46D Caledonia CCR Well Sample**
Sample ID: AE75301 Sample Collection Date/Time: 11/06/2024 08:51
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	48.00	0.05	feet		1		H2OD	11/6/24	N DUDA
Field Temperature	11.0	0.1	Degrees C		1		TEMP	11/6/24	N DUDA
Field Conductivity	434	0	umhos		1		FCOND25	11/6/24	N DUDA
Field pH	7.7	0.1	Units	0.1	1		FIELDPH	11/6/24	N DUDA
Total Alkalinity as CaCO3	158	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020
Bicarbonate Ion	158	5.0	mg/L	10.0	1		HCO3	11/12/24	020
Total Dissolved Solids	520	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	1.2	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	5.4	0.59	mg/L	2.0	1		EPA 300.0	11/19/24	020
Total Sulfate	34.8	0.44	mg/L	2.0	1		EPA 300.0	11/19/24	020
Dissolved Chloride	5.6	0.59	mg/L	2.0	1		EPA 300.0	11/20/24	020
Dissolved Sulfate	36.2	0.44	mg/L	2.0	1		EPA 300.0	11/20/24	020
Total Boron	337	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	23900	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	122	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	22800	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Dissolved Magnesium	14900	31.2	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Sodium	34300	420	ug/L	2500	10		EPA 200.7	11/15/24	020
Dissolved Potassium	1420	237	ug/L	789	1		EPA 200.7	11/15/24	020

Sample Comments:

Sample Description: **W48 Caledonia CCR Well Sample**
Sample ID: AE75302 Sample Collection Date/Time: 11/06/2024 11:59
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	60.75	0.05	feet		1		H2OD	11/6/24	N DUDA
Field Temperature	10.9	0.1	Degrees C		1		TEMP	11/6/24	N DUDA
Field Conductivity	488	0	umhos		1		FCOND25	11/6/24	N DUDA
Field pH	8.1	0.1	Units	0.1	1		FIELDPH	11/6/24	N DUDA
Total Alkalinity as CaCO3	230	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020
Bicarbonate Ion	230	5.0	mg/L	10.0	1		HCO3	11/12/24	020

Report Date: Thursday, January 16, 2025

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

Sample Description: **W48 Caledonia CCR Well Sample**
Sample ID: AE75302 Sample Collection Date/Time: 11/06/2024 11:59
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Dissolved Solids	440	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	0.98	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	4.0	0.59	mg/L	2.0	1		EPA 300.0	11/19/24	020
Total Sulfate	Less Than	0.44	mg/L	2.0	1		EPA 300.0	11/19/24	020
Dissolved Chloride	4.0	0.59	mg/L	2.0	1	M0	EPA 300.0	11/20/24	020
Dissolved Sulfate	Less Than	0.44	mg/L	2.0	1	M0	EPA 300.0	11/20/24	020
Total Boron	353	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	25000	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	133	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	24400	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Dissolved Magnesium	16800	31.2	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Sodium	44000	42.0	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Potassium	1390	237	ug/L	789	1		EPA 200.7	11/15/24	020

Sample Comments:

Sample Description: **W49 Caledonia CCR Well Sample**
Sample ID: AE75303 Sample Collection Date/Time: 11/06/2024 12:53
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	64.33	0.05	feet		1		H2OD	11/6/24	N DUDA
Field Temperature	11.2	0.1	Degrees C		1		TEMP	11/6/24	N DUDA
Field Conductivity	404	0	umhos		1		FCOND25	11/6/24	N DUDA
Field pH	8.0	0.1	Units	0.1	1		FIELDPH	11/6/24	N DUDA
Total Alkalinity as CaCO3	125	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020
Bicarbonate Ion	125	5.0	mg/L	10.0	1		HCO3	11/12/24	020
Total Dissolved Solids	830	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	1.4	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	4.4	0.59	mg/L	2.0	1	M0	EPA 300.0	11/19/24	020
Total Sulfate	51.9	2.2	mg/L	10.0	5		EPA 300.0	11/20/24	020
Dissolved Chloride	4.4	0.59	mg/L	2.0	1		EPA 300.0	11/20/24	020
Dissolved Sulfate	53.6	0.44	mg/L	2.0	1	D9	EPA 300.0	11/20/24	020
Total Boron	429	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	15800	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	69.0	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	14700	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Dissolved Magnesium	6570	31.2	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Sodium	49900	42.0	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Potassium	699	237	ug/L	789	1	J	EPA 200.7	11/15/24	020

Report Date: Thursday, January 16, 2025

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

Sample Comments:

Sample Description: **W50** **Caledonia CCR Well Sample**
Sample ID: AE75304 Sample Collection Date/Time: 11/06/2024 13:46
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	47.18	0.05	feet		1		H2OD	11/6/24	N DUDA
Field Temperature	11.0	0.1	Degrees C		1		TEMP	11/6/24	N DUDA
Field Conductivity	528	0	umhos		1		FCOND25	11/6/24	N DUDA
Field pH	7.7	0.1	Units	0.1	1		FIELDPH	11/6/24	N DUDA
Total Alkalinity as CaCO3	154	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020
Bicarbonate Ion	154	5.0	mg/L	10.0	1		HCO3	11/12/24	020
Total Dissolved Solids	1200	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	1.2	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	5.4	0.59	mg/L	2.0	1		EPA 300.0	11/19/24	020
Total Sulfate	78.4	2.2	mg/L	10.0	5		EPA 300.0	11/20/24	020
Dissolved Chloride	5.5	0.59	mg/L	2.0	1		EPA 300.0	11/20/24	020
Dissolved Sulfate	81.9	2.2	mg/L	10.0	5		EPA 300.0	11/20/24	020
Total Boron	464	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	25800	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	107	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	26100	76.2	ug/L	254	1	D9	EPA 200.7	11/15/24	020
Dissolved Magnesium	10300	31.2	ug/L	250	1	D9	EPA 200.7	11/15/24	020
Dissolved Sodium	57500	42.0	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Potassium	1420	237	ug/L	789	1		EPA 200.7	11/15/24	020

Sample Comments:

Sample Description: **QC01** **Caledonia CCR Well Sample**
Sample ID: AE75305 Sample Collection Date/Time: 11/06/2024 10:47
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Alkalinity as CaCO3	140	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020
Bicarbonate Ion	140	5.0	mg/L	10.0	1		HCO3	11/12/24	020
Total Dissolved Solids	810	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	1.4	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	4.2	0.59	mg/L	2.0	1		EPA 300.0	11/19/24	020
Total Sulfate	39.3	0.44	mg/L	2.0	1		EPA 300.0	11/19/24	020

Report Date: Thursday, January 16, 2025

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

Sample Description: **QC01 Caledonia CCR Well Sample**
Sample ID: AE75305 Sample Collection Date/Time: 11/06/2024 10:47
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Dissolved Chloride	4.2	0.59	mg/L	2.0	1		EPA 300.0	11/20/24	020
Dissolved Sulfate	39.5	0.44	mg/L	2.0	1		EPA 300.0	11/20/24	020
Total Boron	389	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	17300	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	83.6	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	17700	76.2	ug/L	254	1	D9	EPA 200.7	11/15/24	020
Dissolved Magnesium	10000	31.2	ug/L	250	1	D9	EPA 200.7	11/15/24	020
Dissolved Sodium	42400	42.0	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Potassium	931	237	ug/L	789	1		EPA 200.7	11/15/24	020

Sample Comments:

Sample Description: **EB Caledonia CCR Well Sample**
Sample ID: AE75306 Sample Collection Date/Time: 11/06/2024 14:15
Sample Received: 11/06/2024 Sample Collector: NATE DUDA

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Temperature	12.6	0.1	Degrees (		1		TEMP	11/6/24	N DUDA
Field Conductivity	20.5	0	umhos		1		FCOND25	11/6/24	N DUDA
Field pH	8.6	0.1	Units	0.1	1		FIELDPH	11/6/24	N DUDA
Total Alkalinity as CaCO3	Less Than	5.0	mg/L	10.0	1		SM 2320 B-1997	11/12/24	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/12/24	020
Bicarbonate Ion	Less Than	5.0	mg/L	10.0	1		HCO3	11/12/24	020
Total Dissolved Solids	58	20	mg/L		1		Std Mtd 2540 C	11/15/24	CMW
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	11/19/24	020
Total Chloride	Less Than	0.59	mg/L	2.0	1		EPA 300.0	11/19/24	020
Total Sulfate	Less Than	0.44	mg/L	2.0	1		EPA 300.0	11/19/24	020
Dissolved Chloride	Less Than	0.59	mg/L	2.0	1		EPA 300.0	11/20/24	020
Dissolved Sulfate	Less Than	0.44	mg/L	2.0	1		EPA 300.0	11/20/24	020
Total Boron	Less Than	3.0	ug/L	10.0	1		EPA 200.7	11/15/24	020
Total Calcium	Less Than	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Total Hardness as CaCO3	Less Than	0.32	mg/L	1.7	1		Std Mtd 2340B	11/15/24	020
Dissolved Calcium	Less Than	76.2	ug/L	254	1		EPA 200.7	11/15/24	020
Dissolved Magnesium	Less Than	31.2	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Sodium	Less Than	42.0	ug/L	250	1		EPA 200.7	11/15/24	020
Dissolved Potassium	Less Than	237	ug/L	789	1		EPA 200.7	11/15/24	020

Report Date: Thursday, January 16, 2025

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 Lab Services: 414-221-4595