



2025 Annual Groundwater Monitoring and Corrective Action Report

Ash Disposal Area

*Big Stone Plant
Big Stone City, South Dakota*



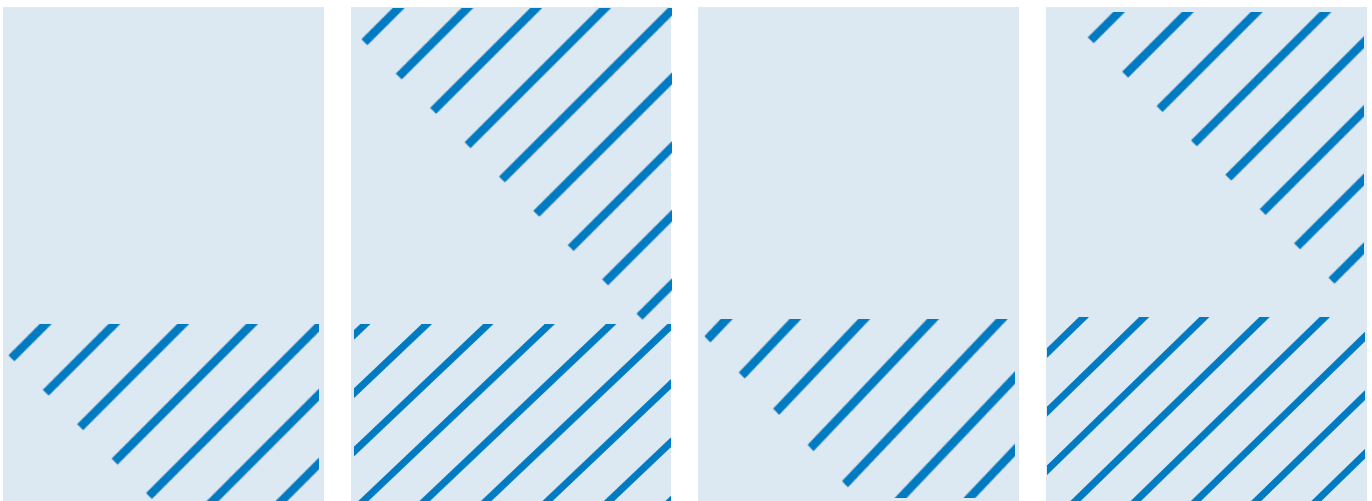
Prepared for
Otter Tail Power Company

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Acronyms

ADA	Ash Disposal Area
CCR	coal combustion residuals
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
OTP	Otter Tail Power Company
SSI	statistically significant increase

Executive Summary

This summary provides an overview of the Groundwater Monitoring & Corrective Action Program status as required by §257.90(e)(6). The coal combustion residuals (CCR) unit operated under the detection monitoring program described in §257.94 at the start and at the end of the 2025 annual reporting period. The current status of the facility is detection monitoring.

The monitoring program did not identify any statistically significant increases (SSIs) over background for any of the constituents listed in Appendix III to the CCR Rule; therefore, assessment monitoring of the constituents listed in Appendix IV to the CCR Rule were not monitored. Corrective action provisions of the CCR Rule were not required.

The monitoring network continues to be refined and augmented to adjust to data collected.

1 Introduction

Otter Tail Power Company (OTP) operates the Big Stone Plant (Big Stone), located near Big Stone City, South Dakota. Big Stone is a coal-fired electrical generating plant, the operation of which results in CCR as a by-product. Management of CCR from plant operations includes placing CCR in an on-site landfill, referred to as the Ash Disposal Area (ADA). The ADA is required to comply with the provisions of the U.S. Environmental Protection Agency (EPA) CCR Rule (40 CFR Parts 257 and 261, Disposal of Coal Combustion Residuals from Electric Utilities) for existing CCR landfills. The location of the ADA is shown on Figure 1.

This 2025 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) describes the monitoring program and results for the ADA at Big Stone. The ADA is currently in detection monitoring, as described by §257.94 of the CCR Rule.

1.1 Purpose

As stated in Section §257.90(e), the purpose of the Annual Report is to:

- Document the status of monitoring and corrective action program for the CCR unit
- Summarize key actions completed
- Describe any problems encountered
- Discuss actions to resolve the problems
- Highlight key activities for the upcoming year

1.2 Status of the Groundwater Monitoring and Corrective Action Program

Baseline monitoring for the network was completed in 2017, as documented in the 2017 Annual Groundwater Monitoring and Corrective Action Report, Ash Disposal Area (Barr, 2018). Wells H10, H11, and H12 were added in 2022 and 2023, as described in Section 2.1.2.

Statistical evaluation of detection monitoring results began on October 17, 2017, and continued through 2025. In 2025, the monitoring program did not identify any SSIs over background for any of the constituents listed in Appendix III to the CCR Rule; therefore, constituents listed in Appendix IV to the CCR Rule were not monitored. Corrective action provisions of the CCR Rule were not required.

1.3 CCR Rule Requirements

This Annual Report has been prepared in accordance with the requirements of §257.90(e) of the CCR Rule, as outlined in the following Table 1-1.

Table 1-1 CCR Rule Requirements

CCR Rule Reference	Content Required in Report	Location
§257.90(e)(1)	Map showing the CCR unit and all monitoring wells that are part of the groundwater monitoring system	Section 2.1.1 Documentation; see Figure 1
§257.90(e)(2)	Discuss any new or decommissioned monitoring wells	Not applicable in 2025
§257.90(e)(3)	All monitoring data obtained under §257.90 through §257.98; provide the number and date groundwater samples were collected, and the monitoring (i.e., detection or assessment)	Section 2.2 Monitoring and Analytical Results; Attached Table 1, Figure 2, Figure 3, Appendix A, Appendix B
§257.90(e)(4)	Discuss any transition between monitoring programs	Not applicable – no transition between monitoring programs was necessary
§257.90(e)(5)	Other information specified in §257.90 through §257.98	Throughout report
§257.90(e)(6)	Overview at beginning of annual report	Executive Summary

2 Groundwater Monitoring and Corrective Action Program

This section documents the status of the groundwater monitoring and corrective action program for the ADA for 2025. The groundwater monitoring system is described in Section 2.1, the monitoring and analytical results are described in Section 2.2, key actions completed and problems encountered are described in Section 2.3, and key activities planned for 2026 are described in Section 2.4.

2.1 Groundwater Monitoring System

2.1.1 Documentation

Figure 1 shows an aerial image of the ADA and all upgradient (background) and downgradient monitoring wells, including the well identification numbers, that are part of the groundwater monitoring system, as required by §257.90(e)(1). Further details on the monitoring system and the ADA monitoring wells can be found in the Groundwater Monitoring System Report, Big Stone Plant Ash Disposal Area (Barr, 2025).

2.1.2 Changes to Monitoring System

One upgradient monitoring well, H12, was installed east of the cooling pond on September 14, 2023, to provide a representative upgradient well for the area upgradient of H6 and H8 based on recent groundwater flow interpretations (Figure 1). Baseline sample collection began on October 17, 2023, and concluded on April 14, 2025. The baseline sample results were reviewed and there was a statistical outlier for sulfate at H12 during the April 15, 2024, sampling event.

In 2022, two downgradient monitoring wells were installed (H10 and H11). Baseline sample collection for H10 and H11 wells began on May 15, 2023; however, after the data were reviewed, the initial sampling event was considered a statistical outlier due to calcium analytical results. The initial baseline sampling event for H10 and H11 is now considered to have occurred on June 12, 2023. Baseline sample collection concluded on April 14, 2025.

The Groundwater Monitoring System Report, Big Stone Plant Ash Disposal Area has been updated to include the monitoring system changes described above (Barr, 2025).

There were no changes to the monitoring system in 2025.

2.2 Monitoring and Analytical Results

Groundwater samples were collected from monitoring wells H2OX, H3OX, H4OX, H8, H9, H10, H11, and H12 during two semiannual sampling events. Downgradient monitoring well H6 was sampled in fall 2025 but was not sampled in spring 2025 due to insufficient volume during the sampling event. A total of seventeen groundwater samples (eight monitoring wells and two sampling events; one monitoring well and one sampling event;) were collected and analyzed for the constituents listed in Appendix III (Part 257) in 2025 under the detection monitoring program, consistent with the requirements of §257.94(c). Dates of sampling are reported on the field data sheets, and analytical laboratory reports are presented in Appendix A. Results are summarized in Attached Table 1 from samples collected at monitoring wells previously included in the detection monitoring program. Results from baseline samples collected at newly installed monitoring wells are summarized in Attached Table 2. Groundwater flow data, as required by §257.93(c), are presented in Figure 2, Figure 3 and Appendix C.

2.3 Key Actions Completed/Problems Encountered

The following key actions were completed for the groundwater monitoring program during 2025:

- Completed semiannual groundwater sampling under the detection monitoring program.
- Updated the Groundwater Monitoring Network to include monitoring wells H10, H11, and H12.
- Background was statistically evaluated and updated to include data through spring 2025 according to the Statistical Analysis Plan, Appendix B of the CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2017).
- Statistical analysis was conducted according to the Statistical Analysis Plan, Appendix B of the CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2017).
- Evaluated results for potential SSIs using intrawell prediction limits and interwell prediction limits in accordance with the CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2017). Elevated concentrations were measured for calcium and chloride in H9 during the April 2025 sampling event.
 - Following verification resampling during August 2025, concentrations of calcium and chloride in H9 were not elevated and therefore are not considered SSIs.
- Determined, pursuant to §257.93(h), that no SSIs over background levels occurred for any of the constituents listed in Appendix III at any downgradient monitoring well during the 2025 detection monitoring sampling events.

2.4 Key Activities for Upcoming Year

The following key groundwater monitoring program activities are planned for 2026:

- Continue the detection monitoring program in accordance with the CCR Rule.
- Evaluate analytical results from the 2026 semiannual detection monitoring events for SSIs according to the Statistical Analysis Plan (Carlson McCain, 2017).

3 References

Barr, 2018. 2017 Annual Groundwater Monitoring and Corrective Action Report, Big Stone Plant Ash Disposal Area. Prepared for Otter Tail Power Company. January 2018.

Barr, 2025. Groundwater Monitoring System Certification, Big Stone Plant Ash Disposal Area. Prepared for Otter Tail Power Company. March 2025.

Carlson McCain, 2017. CCR Groundwater Sampling and Analysis Plan (Including Statistical Method Selection and Certification), Big Stone Plant Ash Disposal Area. Prepared for Otter Tail Power Company. October 2017.



Attached Tables

Attached Table 1
Detection Monitoring Well Groundwater Analytical Data Summary
Big Stone Plant
Offter Tail Power Company

Location			H2OX	H2OX	H3OX	H3OX	H4OX	H4OX	H6	H8	H8	H9	H9	H9	H10
Date			4/14/2025	10/13/2025	4/14/2025	10/13/2025	4/14/2025	10/13/2025	10/13/2025	4/14/2025	10/13/2025	4/14/2025	8/14/2025	10/13/2025	4/14/2025
Sample Type			N	N	N	N	N	N	N	N	N	N	R	N	N
Parameter	Analysis Location	Units													
Appendix III Parameters															
Boron, total	Lab	mg/l	0.228	0.234	7.100	8.110	0.521	0.558	3.350	3.050	3.040	1.240	--	1.400	0.316
Calcium, total	Lab	mg/l	503.0	491.0	452.0	439.0	292.0	280.0	43.20	110.0	108.0	647.0	584.0	612.0	471.0
Chloride	Lab	mg/l	3.2	< 30 U	62.8	63.3	40.2	41.8	< 3 U	< 3 U	< 3 U	109	82.1	77.8	6.3
Fluoride	Lab	mg/l	0.280	0.360	0.280	0.390	0.440	0.520	0.510	0.500	0.540	0.310	--	0.370	0.290
pH	Lab	pH units	7.0	7.2	6.9	7.0	7.0	7.4	7.6	7.3	7.4	6.8	--	6.9	7.0
pH	Field	pH units	7.18	7.01	6.99	6.85	6.88	7.02	7.31	7.06	7.19	6.53	6.40	6.63	6.96
Solids, total dissolved	Lab	mg/l	3900	3790	3300	3360	2070	2070	570	910	919	3010	--	2820	4550
Sulfate, as SO4	Lab	mg/l	2260	2170	1610	1650	1000	984	93.6	258	276	1530	--	1440	2850
Groundwater elevation	Field	ft amsl	1093.53	1096.30	1088.28	1087.84	1090.80	1090.77	1085.26	1074.03	1073.99	1075.94	1077.01	1076.00	1077.62

N Sample Type: Normal Detection Monitoring
R Sample Type: Resample
--: The analyte was not sampled for.
U: The analyte was analyzed for, but was not detected.

Attached Table 1
Detection Monitoring Well Groundwater Analytical Data Summary
Big Stone Plant
Otter Tail Power Company

Location			H10	H11	H11	H12	H12
Date			10/13/2025	6/10/2024	10/13/2025	4/14/2025	10/13/2025
Sample Type			N	N	N	N	N
Parameter	Analysis Location	Units					
Appendix III Parameters							
Boron, total	Lab	mg/l	0.311	0.260	0.237	0.350	0.338
Calcium, total	Lab	mg/l	492.0	551.0	530.0	23.90	20.10
Chloride	Lab	mg/l	6.1	3.9	< 3 U	< 3 U	< 3 U
Fluoride	Lab	mg/l	0.260	0.160	0.200	0.320	0.350
pH	Lab	pH units	6.9	7.0	6.8	8.0	8.0
pH	Field	pH units	6.94	6.67	6.62	8.24	7.97
Solids, total dissolved	Lab	mg/l	4570	4060	4220	154	188
Sulfate, as SO4	Lab	mg/l	2670	1950	2270	< 5 U	5.9
Groundwater elevation	Field	ft amsl	1080.98	1086.69	1083.66	1108.98	1110.04

N Sample Type: Normal Detection Monitoring

R Sample Type: Resample

--: The analyte was not sampled for.

U: The analyte was analyzed for, but was not detected.

Attached Table 2
New Well Groundwater Analytical Data Summary
Big Stone Plant
Offer Tail Power Company

Parameter	Location	H10	H10	H10	H10	H10	H10	H10	H10	H10	H10	H11	H11	H11	H11
	Date	5/15/2023	6/12/2023	8/21/2023	10/17/2023	12/11/2023	2/19/2024	4/15/2024	6/10/2024	10/14/2024	4/14/2025	5/15/2023	6/12/2023	8/21/2023	10/17/2023
Sample Type	Units	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Appendix III															
Boron, Total	mg/l	0.292	0.284	0.298	0.358	0.349	0.359	0.369	0.368	0.273	0.316	0.232	0.247	0.245	0.271
Calcium, Total	mg/l	284.0	489.0	492.0	509.0	499.0	499.0	496.0	469.0	356.0	471.0	217.0	547.0	543.0	573.0
Chloride	mg/l	7.1	6.6	6.3	6.3	6.4	6.7	6.7	7.5	6.8	6.3	4.7	3.9	3.5	3.6
Fluoride	mg/l	0.200	0.180	0.180	0.190	0.200	0.240	0.240	0.220	0.190	0.290	0.140	0.130	0.140	0.140
pH	pH units	7.0	7.1	7.0	7.2	7.0	7.1	7.1	7.2	7.0	7.0	7.0	7.0	6.9	6.9
pH, Field	pH units	6.34	7.00	6.88	6.51	6.87	6.95	7.01	6.91	6.38	6.96	6.37	6.80	6.70	6.59
Solids, total dissolved	mg/l	4810	4820	4840	4840	4650	5100	4990	4970	4200	4550	4270	4230	4220	4220
Sulfate, as SO4	mg/l	2590	2650	2270	2590	2450	2310	2930	2620	2690	2850	2640	2170	2440	2580
Appendix IV															
Antimony, Total	mg/l	< 0.0025 U	< 0.001 U	< 0.001 U	< 0.0025 U	0.00156	< 0.001 U	< 0.0025 U	< 0.001 U	--	< 0.0025 U	< 0.0005 U	< 0.0005 U	< 0.001 U	< 0.0025 U
Arsenic, Total	mg/l	< 0.0025 U	< 0.001 U	< 0.001 U	< 0.0025 U	0.00121	< 0.001 U	< 0.0025 U	< 0.001 U	--	< 0.0025 U	< 0.0025 U	< 0.001 U	< 0.001 U	< 0.0025 U
Barium, Total	mg/l	0.026	0.026	0.023	0.027	0.026	0.023	0.023	0.022	--	0.026	0.036	0.035	0.034	0.030
Beryllium, Total	mg/l	< 0.005 U	< 0.005 U	< 0.00005 U	< 0.005 U	< 0.0001 U	< 0.0001 U	< 0.00025 U	< 0.0001 U	--	< 0.00025 U	< 0.005 U	< 0.005 U	< 0.0001 U	< 0.005 U
Cadmium, Total	mg/l	< 0.0005 U	0.00025	< 0.0002 U	< 0.0005 U	< 0.0002 U	< 0.0002 U	< 0.0005 U	< 0.0002 U	--	< 0.0005 U	0.00038	0.00035	0.00027	< 0.0005 U
Chromium, Total	mg/l	< 0.01 U	< 0.01 U	< 0.0005 U	< 0.0025 U	0.00141	< 0.01 U	< 0.0025 U	< 0.001 U	--	< 0.0025 U	< 0.01 U	< 0.01 U	< 0.001 U	< 0.0025 U
Cobalt, Total	mg/l	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	--	< 0.005 U	0.008	0.009	0.008	< 0.005 U
Lead, Total	mg/l	< 0.0025 U	< 0.001 U	< 0.0025 U	< 0.0025 U	< 0.0025 U	< 0.0025 U	< 0.0025 U	< 0.001 U	--	< 0.0025 U	< 0.0025 U	< 0.001 U	< 0.001 U	< 0.0025 U
Lithium, Total	mg/l	0.226	0.235	0.271	0.298	0.298	0.295	0.321	0.354	--	0.321	0.223	0.251	0.303	0.332
Mercury, Total	mg/l	< 0.000005 U	< 0.000005 U	< 0.000005 U	< 0.000005 U	< 0.000005 U	< 0.000005 U	< 0.000005 U	< 0.000005 U	--	< 0.000005 U	< 0.000005 U	< 0.000005 U	< 0.000005 U	< 0.000005 U
Molybdenum, Total	mg/l	0.017	< 0.015 U	0.00865	0.0123	0.0142	0.0133	0.0176	0.0145	--	0.0125	< 0.015 U	< 0.015 U	0.00490	0.00303
Selenium, Total	mg/l	0.00495	0.00474	0.00454	0.00379 J+	0.00482	0.00465	0.00360	0.00248	--	< 0.0025 U	< 0.0025 U	0.00172 J+	< 0.002 U	< 0.0025 U
Thallium, Total	mg/l	< 0.0005 U	< 0.0002 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0002 U	--	< 0.0005 U	< 0.0005 U	< 0.0002 U	< 0.0002 U	< 0.0005 U
Radium 226	pCi/l	4.42 +/- 0.989	0.390 +/- 0.250	0.290 +/- 0.217	0.0723 +/- 0.186 ND	0.986 +/- 0.401	0.719 +/- 0.380	0.433 +/- 0.324 B	0.241 +/- 0.202	--	0.280 +/- 0.184	1.27 +/- 0.422	0.171 +/- 0.205 ND	1.83 +/- 0.496	0.0392 +/- 0.107 ND
Radium 228	pCi/l	0.726 +/- 0.251	0.402 +/- 0.331 ND	0.465 +/- 0.265 ND	0.238 +/- 0.287 ND	0.840 +/- 0.251	0.467 +/- 0.197	-0.486 +/- 0.306 ND	0.371 +/- 0.496 ND	--	0.284 +/- 0.507 ND	0.875 +/- 0.201	0.772 +/- 0.328	0.798 +/- 0.293 B	0.538 +/- 0.242
Radium, combined (226+228) [Barr Calculation]	pCi/l	5.15 +/- 1.02	0.792 +/- 0.415 q	0.755 +/- 0.340 q	0.310 +/- 0.342 ND	1.826 +/- 0.473	1.186 +/- 0.428	-0.486 +/- 0.306 ND	0.612 +/- 0.536 q	--	0.564 +/- 0.540 q	2.15 +/- 0.467	0.943 +/- 0.387 q	1.83 +/- 0.496	0.577 +/- 0.265 q
Other															
Groundwater elevation, Field	ft amsl	1079.81	1078.28	1075.36	1073.73	1077.51	1075.85	1080.06	1085.00	1076.17	1077.62	1082.58	1082.19	1079.29	1078.43

Notes:

N Sample Type: Normal Detection Monitoring

J+ The result is an estimated quantity and may be biased high.

ND the analyte was analyzed for, but was not detected.

q The combined radium result includes both detected and not detected values.

B The analyte was detected in one of the associated laboratory, equipment, field or trip blank samples and is considered non-detect at the concentration reported by the laboratory.

Note: The samples collected from H10 and H11 on 5/15/2023 are considered to be statistical outliers and are not considered baseline samples.

Attached Table 2
New Well Groundwater Analytical Data Summary
Big Stone Plant
Offer Tail Power Company

Parameter	Location Date Sample Type	H11	H11	H11	H11	H11	H11	H12	H12	H12	H12	H12	H12	H12
		12/11/2023	2/19/2024	4/15/2024	6/10/2024	10/14/2024	4/14/2025	10/17/2023	12/11/2023	2/19/2024	4/15/2024	6/10/2024	8/12/2024	10/14/2024
	Units	N	N	N	N	N	N	N	N	N	N	N	N	N
Appendix III														
Boron, Total	mg/l	0.263	0.263	0.261	0.260	0.218	0.233	0.402	0.415	0.392	0.381	0.610	0.369	0.358
Calcium, Total	mg/l	558.0	552.0	553.0	551.0	607.0	532.0	25.60	21.70	23.00	23.20	39.90	20.70	25.60
Chloride	mg/l	3.7	3.9	4.0	3.9	4.0	3.4	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U
Fluoride	mg/l	0.160	0.160	0.160	0.160	0.150	0.170	0.290	0.300	0.320	0.320	0.380	0.340	0.310
pH	pH units	6.8	6.8	6.9	7.0	6.8	6.8	8.2	7.8	7.9	8.2	7.8	7.2	8.0
pH, Field	pH units	6.78	6.71	6.64	6.67	6.66	6.66	7.99	7.98	8.00	8.21	7.79	7.80	8.23
Solids, total dissolved	mg/l	4160	4240	4660	4060	4140	4240	197	156	159	184	207	133	197
Sulfate, as SO4	mg/l	2410	2500	2280	1950	2250	2400	20.8	< 5 U	7.1	485	90.7	8.8	8.4
Appendix IV														
Antimony, Total	mg/l	< 0.0005 U	< 0.001 U	< 0.0025 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U
Arsenic, Total	mg/l	< 0.001 U	< 0.001 U	< 0.0025 U	< 0.001 U	--	0.00058	0.00274	0.00118	0.00187	0.00164	0.00142	0.00127	0.00252
Barium, Total	mg/l	0.030	0.030	0.028	0.027	--	0.043	0.058	0.032	0.045	0.041	0.089	0.039	0.067
Beryllium, Total	mg/l	< 0.00005 U	< 0.0001 U	< 0.00025 U	< 0.00005 U	--	< 0.00005 U	< 0.005 U	< 0.00005 U	< 0.00005 U	< 0.00005 U	< 0.00005 U	< 0.0001 U	< 0.005 U
Cadmium, Total	mg/l	< 0.0002 U	< 0.0002 U	< 0.0005 U	0.00014	--	0.00027	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0002 U
Chromium, Total	mg/l	< 0.0005 U	< 0.01 U	< 0.0025 U	< 0.001 U	--	0.00053	0.00371	0.00056	< 0.01 U	0.00184	0.00197	0.00177	< 0.01 U
Cobalt, Total	mg/l	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	--	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U
Lead, Total	mg/l	< 0.001 U	< 0.001 U	< 0.0025 U	0.00055	--	< 0.0005 U	0.00153	< 0.0005 U	0.00081	0.00059	0.00052	< 0.0005 U	0.00136
Lithium, Total	mg/l	0.345	0.326	0.332	0.358	--	0.320	< 0.02 U	< 0.02 U	< 0.02 U	0.031	< 0.02 U	< 0.02 U	< 0.02 U
Mercury, Total	mg/l	< 0.000005 U	< 0.000005 U	0.000005	< 0.000005 U	--	< 0.000005 U	0.000012	< 0.000005 U	< 0.000005 U	0.000009	< 0.000005 U	< 0.000005 U	0.000009
Molybdenum, Total	mg/l	0.00204	0.00214	< 0.0025 U	0.00206	--	0.00295	0.0342	0.0387	0.0382	0.0378	0.0277	0.0394	0.039
Selenium, Total	mg/l	0.00237	< 0.002 U	< 0.0025 U	< 0.001 U	--	0.00082	< 0.0005 U	< 0.0005 U	< 0.001 U	< 0.0005 U	0.00199	< 0.0005 U	< 0.0005 U
Thallium, Total	mg/l	< 0.0002 U	< 0.0002 U	< 0.0005 U	< 0.0001 U	--	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0001 U	< 0.0001 U
Radium 226	pCi/l	0.267 +/- 0.384 ND	0.260 +/- 0.264 ND	0.119 +/- 0.184 ND	0.160 +/- 0.169 ND	--	0.211 +/- 0.185 J	0.182 +/- 0.170 ND	0.0839 +/- 0.180 ND	-0.00784 +/- 0.114 ND	0.0967 +/- 0.187 ND	0.147 +/- 0.155 ND	0.836 +/- 0.345	0.0912 +/- 0.196 ND
Radium 228	pCi/l	0.128 +/- 0.262 ND	-0.421 +/- 0.381 ND	0.0113 +/- 0.279 ND	-0.115 +/- 0.699 ND	--	0.798 +/- 0.477	0.465 +/- 0.228	0.947 +/- 0.196	0.710 +/- 0.274	1.85 +/- 2.81	0.604 +/- 0.488 ND	0.0603 +/- 0.228 ND	0.742 +/- 0.238
Radium, combined (226+228) [Barr Calculation]	pCi/l	0.395 +/- 0.465 ND	0.260 +/- 0.264 ND	0.130 +/- 0.334 ND	0.160 +/- 0.169 ND	--	1.009 +/- 0.510 q	0.647 +/- 0.284 q	1.031 +/- 0.266 q	0.710 +/- 0.274 q	1.95 +/- 2.82 ND	0.751 +/- 0.512 ND	0.896 +/- 0.414 q	0.833 +/- 0.308 q
Other														
Groundwater elevation, Field	ft amsl	1079.48	1082.61	1083.12	1086.69	1079.28	1078.16	1109.26	1108.72	1109.29	1108.88	1111.77	1110.62	1109.46

Notes:

N Sample Type: Normal Detection Monitoring

J+ The result is an estimated quantity and may be biased high.

ND the analyte was analyzed for, but was not detected.

q The combined radium result includes both detected and not detected values.

B The analyte was detected in one of the associated laboratory, equipment, field or trip blank samples and is considered non-detect at the concentration reported by the laboratory.

Note: The samples collected from H10 and H11 on 5/15/2023 are considered to be statistical outliers and are not considered baseline samples.

Attached Table 2
New Well Groundwater Analytical Data Summary
Big Stone Plant
Offer Tail Power Company

Parameter	Location	H12	H12
	Date	12/16/2024	4/14/2025
Sample Type	Units	N	N
Appendix III			
Boron, Total	mg/l	0.376	0.350
Calcium, Total	mg/l	19.70	23.90
Chloride	mg/l	< 3 U	< 3 U
Fluoride	mg/l	0.340	0.320
pH	pH units	8.0	8.0
pH, Field	pH units	8.64	8.24
Solids, total dissolved	mg/l	221 J	154
Sulfate, as SO4	mg/l	< 5 U	< 5 U
Appendix IV			
Antimony, Total	mg/l	< 0.0005 U	--
Arsenic, Total	mg/l	0.00102	--
Barium, Total	mg/l	0.036	--
Beryllium, Total	mg/l	< 0.00005 U	--
Cadmium, Total	mg/l	< 0.0001 U	--
Chromium, Total	mg/l	0.00112	--
Cobalt, Total	mg/l	< 0.005 U	--
Lead, Total	mg/l	< 0.0005 U	--
Lithium, Total	mg/l	< 0.02 U	--
Mercury, Total	mg/l	< 0.000005 U	--
Molybdenum, Total	mg/l	0.0446	--
Selenium, Total	mg/l	< 0.001 U	--
Thallium, Total	mg/l	< 0.0001 U	--
Radium 226	pCi/l	0.376 +/- 0.234 ND	--
Radium 228	pCi/l	0.683 +/- 0.271 UB	--
Radium, combined (226+228) [Barr Calculation]	pCi/l	0.376 +/- 0.234 ND	--
Other			
Groundwater elevation, Field	ft amsl	1109.06	1108.98

Notes:

N Sample Type: Normal Detection Monitoring

J+ The result is an estimated quantity and may be biased high.

ND the analyte was analyzed for, but was not detected.

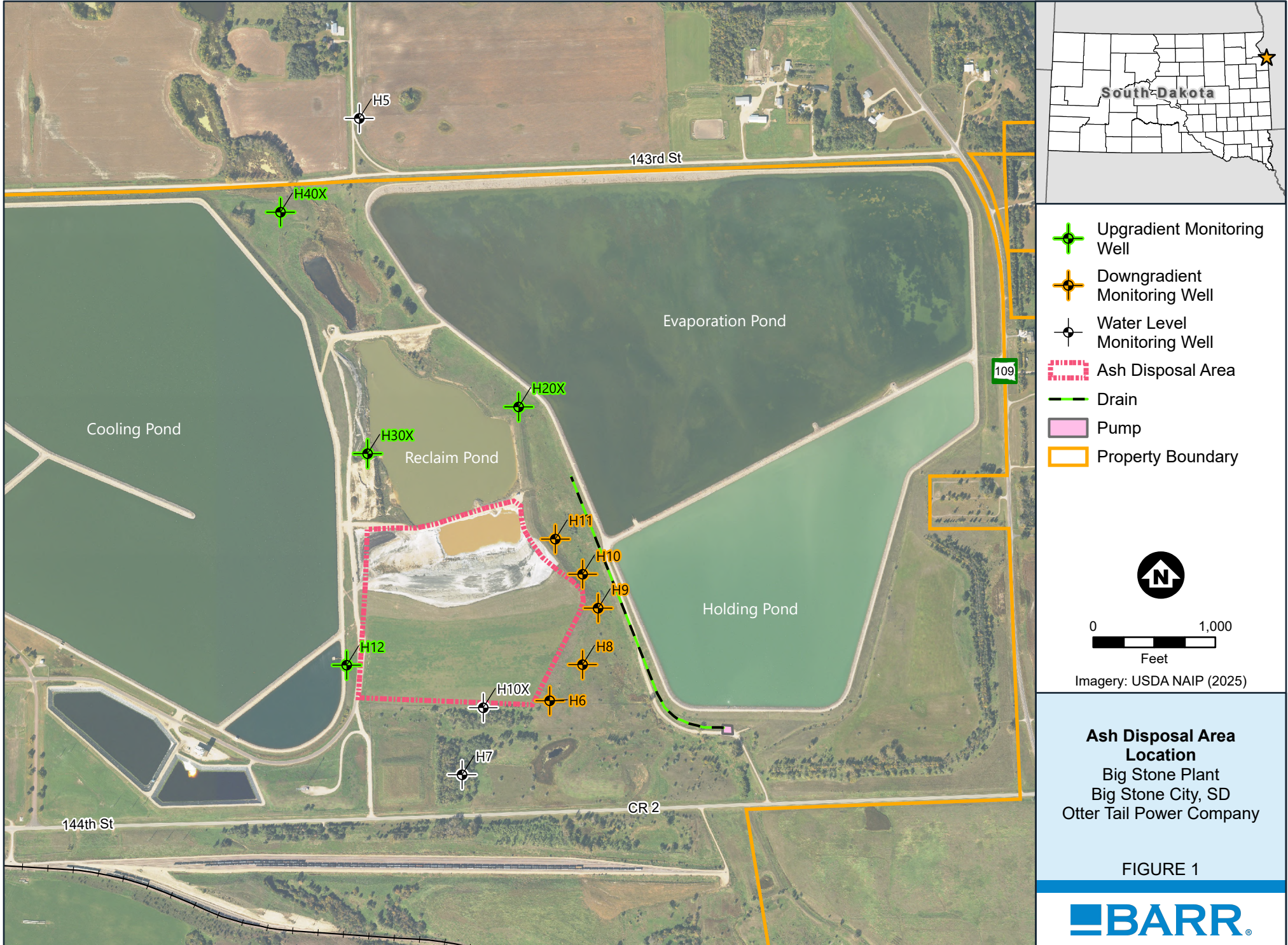
q The combined radium result includes both detected and not detected values.

B The analyte was detected in one of the associated laboratory, equipment, field or trip blank samples and is considered non-detect at the concentration reported by the laboratory.









Note: The samples collected from H10 and H11 on 5/15/2023 are considered to be statistical outliers and are not considered baseline samples.



Figures





-  Upgradient Monitoring Well
-  Downgradient Monitoring Well
-  Water Level Monitoring Well
-  Groundwater Contour (ft MSL, dashed where inferred)
-  Groundwater Flow Direction
-  Drain
-  Pump
-  Property Boundary

Notes:
Ponds surveyed in March 2020.











Imagery: USDA NAIP (2025)

Groundwater Elevation Contours
Spring 2025
 Big Stone Plant
 Big Stone City, SD
 Otter Tail Power Company

FIGURE 2





-  Upgradient Monitoring Well
-  Downgradient Monitoring Well
-  Water Level Monitoring Well
-  Groundwater Contour (ft MSL, dashed where inferred)
-  Groundwater Flow Direction
-  Drain
-  Pump
-  Property Boundary

Notes:
Ponds surveyed in March 2020.



Imagery: USDA NAIP (2025)

Groundwater Elevation Contours
Fall 2025
 Big Stone Plant
 Big Stone City, SD
 Otter Tail Power Company

FIGURE 3





Appendices



Appendix A

Laboratory and Field Reports



MINNESOTA VALLEY TESTING LABORATORIES, INC.

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FINAL REPORT COMPLETION DATE: 14 Feb 25 AR

Date Reported: 12 Feb 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 31-0204
Account #: 006106
PO #: 108267

Project Name: BIG STONE PLANT CCR

Josh Hoffman 12 Feb 25
Field Service Manager/Date Reviewed

[Signature] 12 Feb 25
Chemistry Lab Manager/Date Reviewed

[Signature] 12 Feb 25
Quality Assurance Director/Date Reviewed

- RL = Reporting Limits
- NQ = Not Present, Qualitative Only
- PQ = Present, Qualitative Only
- ND = Not Determined



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3786
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:18
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H12

Temp at Receipt: 0.8C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
MS Water Digestions					2 Jan 25	NS
Water Digestions					2 Jan 25	NS
pH, Field	8.64	units	1.00	SM4500-H+-2011	16 Dec 24 11:18	NM
pH	* 8.0	units	1.0	SM 4500 H+ B-2000	17 Dec 24 13:25	KFL
Radium 226	0.38	pCi/L	0.60		30 Dec 24 21:15	OL
Radium 228	0.68	pCi/L	3.00	EPA M9320	9 Jan 25 22:45	OL
Sulfate	< 5	mg/L	5	ASTM D516-11	26 Dec 24 8:37	KRM
Chloride	< 3	mg/L	3	SM 4500 Cl E	26 Dec 24 9:50	DT
Mercury	< 0.005	ug/L	0.005	EPA 245.7	23 Dec 24 12:16	RMB
Solids, Total Dissolved	221	mg/L	10	SM 2540 C-97	18 Dec 24 9:25	KFL
	See Narrative					
Calcium	19.70	mg/L	0.500	SW6010D	3 Jan 25 12:25	TMM
Lithium	< 0.02	mg/L	0.02	SW6010D	3 Jan 25 12:25	TMM
Barium	0.036	mg/L	0.005	SW6010D	3 Jan 25 12:25	TMM
Cobalt	< 0.005	mg/L	0.005	SW6010D	3 Jan 25 12:25	TMM
Boron	0.376	mg/L	0.100	SW6010D	3 Jan 25 12:25	TMM
Antimony	< 0.5	ug/L	0.5	SW6020B	3 Jan 25 14:23	SS
Arsenic	1.02	ug/L	0.50	SW6020B	3 Jan 25 11:42	SS
Beryllium	< 0.05	ug/L	0.05	SW6020B	3 Jan 25 10:33	SS
	See Narrative					
Cadmium	< 0.1	ug/L	0.1	SW6020B	3 Jan 25 14:23	SS
Chromium	1.12	ug/L	0.50	SW6020B	3 Jan 25 10:33	SS
Lead	< 0.5	ug/L	0.5	SW6020B	3 Jan 25 10:33	SS
Molybdenum	44.6	ug/L	0.50	SW6020B	3 Jan 25 14:23	SS
Selenium	< 1	ug/L	0.5	SW6020B	3 Jan 25 12:24	SS
	See Narrative^					
Thallium	< 0.1	ug/L	0.1	SW6020B	3 Jan 25 10:33	SS
Fluoride	0.340	mg/L	0.020	EPA 300.0	19 Dec 24 23:19	MDH

RL = Reporting Limit
Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:
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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3786
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:18
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H12

Temp at Receipt: 0.8C

As Received Result	Method RL	Method Reference	Date Analyzed	Analyst
--------------------	-----------	------------------	---------------	---------

* Holding Time Exceeded

Radium 226 subcontracted to:
Pace Analytical Services Inc.
1700 Elm Street Suite 200
Minneapolis, MN 55414
1-612-607-1700

Radium 228 subcontracted to:
Pace Analytical Services Inc.
1700 Elm Street Suite 200
Minneapolis, MN 55414
1-612-607-1700

^ The reporting limit (RL) was elevated due to instrument performance at the lower limit of quantitation (LLOQ). This will only impact results that are found to be below the elevated RL. Results above the elevated RL are unaffected.

OL = Analysis performed by an Outside Laboratory.

RL = Reporting Limit
Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:
@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response
CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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Date Reported: 12 Feb 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 202431-0204
Account Number: 006106
PO #: 108267

Project Name: BIG STONE PLANT CCR

LABORATORY NARRATIVE

INORGANIC AND METALS ANALYSES

Due to an issue with the analysis of the Total Dissolved Solids duplicate related to sample 24-A3786, the duplicate failed to replicate within acceptable limits. Data was reported based on acceptable recovery of knowns before and after this group of samples.

The relative standard deviation for the recovery of beryllium in one of the knowns for sample 24-A3786 was elevated. Data was reported based on acceptable recovery of beryllium in the known.

The relative standard deviation for the recovery of selenium in one of the knowns for sample 24-A3786 was elevated. Data was reported based on acceptable recovery of selenium in the known.

No other problems were encountered with these analyses.



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3787
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 10:58
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: WELL 10

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	47.01	feet	NA	Field	16 Dec 24 10:58	DS
Water Level Before Purge	17.12	feet	NA	NA	16 Dec 24 10:58	DS
Static Elevation, Field	1081.58	ft	NA	Field	16 Dec 24 10:58	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3788
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:02
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: WELL 11

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	127.22	feet	NA	Field	16 Dec 24 11:02	DS
Water Level Before Purge	98.13	feet	NA	NA	16 Dec 24 11:02	DS
Static Elevation, Field	1005.87	ft	NA	Field	16 Dec 24 11:02	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3789
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:07
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: WELL 12

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	112.40	feet	NA	Field	16 Dec 24 11:07	DS
Water Level Before Purge	66.15	feet	NA	NA	16 Dec 24 11:07	DS
Static Elevation, Field	1005.74	ft	NA	Field	16 Dec 24 11:07	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3790
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:15
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: WELL 1

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	78.00	feet	NA	Field	16 Dec 24 11:15	DS
Water Level Before Purge	62.31	feet	NA	NA	16 Dec 24 11:15	DS
Static Elevation, Field	1028.40	ft	NA	Field	16 Dec 24 11:15	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3791
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:40
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H10X

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	32.33	feet	NA	Field	16 Dec 24 11:40	DS
Water Level Before Purge	28.58	feet	NA	NA	16 Dec 24 11:40	DS
Static Elevation, Field	1087.31	ft	NA	Field	16 Dec 24 11:40	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3792
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:42
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: HLINT

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	60.15	feet	NA	Field	16 Dec 24 11:42	DS
Water Level Before Purge	29.11	feet	NA	NA	16 Dec 24 11:42	DS
Static Elevation, Field	1086.70	ft	NA	Field	16 Dec 24 11:42	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3793
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:20
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H2OX

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	32.83	feet	NA	Field	16 Dec 24 11:20	DS
Water Level Before Purge	10.86	feet	NA	NA	16 Dec 24 11:20	DS
Static Elevation, Field	1093.00	ft	NA	Field	16 Dec 24 11:20	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

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@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3794
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:22
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H2INT

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	62.45	feet	NA	Field	16 Dec 24 11:22	DS
Water Level Before Purge	61.34	feet	NA	NA	16 Dec 24 11:22	DS
Static Elevation, Field	1042.57	ft	NA	Field	16 Dec 24 11:22	DS

RL = Reporting Limit

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! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3795
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:32
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H3OX

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	22.68	feet	NA	Field	16 Dec 24 11:32	DS
Water Level Before Purge	5.16	feet	NA	NA	16 Dec 24 11:32	DS
Static Elevation, Field	1090.10	ft	NA	Field	16 Dec 24 11:32	DS

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The reporting limit was elevated for any analyte requiring a dilution as coded below:

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3796
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:34
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H3INT

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	54.42	feet	NA	Field	16 Dec 24 11:34	DS
Water Level Before Purge	27.35	feet	NA	NA	16 Dec 24 11:34	DS
Static Elevation, Field	1067.82	ft	NA	Field	16 Dec 24 11:34	DS

RL = Reporting Limit

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3797
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:26
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H40X

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	27.48	feet	NA	Field	16 Dec 24 11:26	DS
Water Level Before Purge	15.48	feet	NA	NA	16 Dec 24 11:26	DS
Static Elevation, Field	1092.77	ft	NA	Field	16 Dec 24 11:26	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

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@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3798
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:28
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H4INT

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	60.10	feet	NA	Field	16 Dec 24 11:28	DS
Water Level Before Purge	15.83	feet	NA	NA	16 Dec 24 11:28	DS
Static Elevation, Field	1092.78	ft	NA	Field	16 Dec 24 11:28	DS

RL = Reporting Limit
Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
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! = Due to sample quantity + = Due to internal standard response
CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3799
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:50
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H5

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	44.90	feet	NA	Field	16 Dec 24 11:50	DS
Water Level Before Purge	13.08	feet	NA	NA	16 Dec 24 11:50	DS
Static Elevation, Field	1107.72	ft	NA	Field	16 Dec 24 11:50	DS

RL = Reporting Limit

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= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3800
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:40
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H6

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	17.92	feet	NA	Field	16 Dec 24 11:40	DS
Water Level Before Purge	12.13	feet	NA	NA	16 Dec 24 11:40	DS
Static Elevation, Field	1085.63	ft	NA	Field	16 Dec 24 11:40	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3801
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:12
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H7

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	35.60	feet	NA	Field	16 Dec 24 11:12	DS
Water Level Before Purge	25.23	feet	NA	NA	16 Dec 24 11:12	DS
Static Elevation, Field	1080.83	ft	NA	Field	16 Dec 24 11:12	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3802
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:43
Sampled By: MVTl FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H8

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	22.33	feet	NA	Field	16 Dec 24 11:43	DS
Water Level Before Purge	19.37	feet	NA	NA	16 Dec 24 11:43	DS
Static Elevation, Field	1061.86	ft	NA	Field	16 Dec 24 11:43	DS

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

! = Due to sample quantity

= Due to concentration of other analytes

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

MVTl guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTl to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTl. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 12 Feb 2025
Lab Number: 24-A3803
Work Order #: 31-0204
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 16 Dec 2024 11:46
Sampled By: MVTL FIELD PERSONNEL
Date Received: 16 Dec 2024 15:01
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H9

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	30.71	feet	NA	Field	16 Dec 24 11:46	DS
Water Level Before Purge	18.41	feet	NA	NA	16 Dec 24 11:46	DS
Static Elevation, Field	1067.80	ft	NA	Field	16 Dec 24 11:46	DS

RL = Reporting Limit

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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MEMBER
ACIL

Quality Control Report

Lab ID: 24-A3786

Project: BIG STONE PLANT CCR

Work Order: 202431-0204

Analyte	LCS Spike Amt	LCS Rec %	LCS % Rec Limits	Matrix Spike Amt	Matrix Spike ID	Matrix Spike Orig Result	Matrix Spike Result	Matrix Spike Rec %	Matrix Spike % Rec Limits	MSD/ Dup Orig Result	MSD/ Dup Result	MSD Rec %	MSD/ Dup RPD	MSD/ Dup RPD Limit (<)	Known Rec (%)	Known % Rec Limits	Method Blank
Antimony ug/L	25.0	115	85-115	25.0	24-A3786	< 0.5	27.4	110	75-125	27.4	26.9	108	1.8	10	102	90-110	< 0.5
Arsenic ug/L	25.0	96	85-115	25.0	24-A3786	1.02	26.3	101	75-125	26.3	27.1	104	3.0	10	102	90-110	< 0.5
Barium mg/L	1.000	103	85-115	1.00	24-A3786	0.036	1.060	102	75-125	1.060	1.050	101	0.9	10	101	90-110	< 0.005
Beryllium ug/L	2.50	108	85-115	2.50	24-A3786	< 0.05	2.44	98	75-125	2.44	2.36	94	3.3	10	93	90-110	< 0.05
Boron mg/L	1.000	102	85-115	1.00	24-A3786	0.376	1.440	106	75-125	1.440	1.430	105	0.7	10	98	90-110	< 0.1
Cadmium ug/L	5.00	114	85-115	5.00	24-A3786	< 0.1	5.19	104	75-125	5.19	5.18	104	0.2	10	101	90-110	< 0.1
Calcium mg/L	50.00	100	85-115	50.0	24-A3786	19.70	69.50	100	75-125	69.50	68.90	98	0.9	10	103	90-110	< 0.5
Chloride mg/L	-	-	-	60.0	24-A3786	< 3	70.6	118	80-120	70.6	62.9	105	11.5	20	96	90-110	< 3
Chromium ug/L	25.0	109	85-115	25.0	24-A3786	1.12	26.1	100	75-125	26.1	26.2	100	0.4	10	100	90-110	< 0.5
Cobalt mg/L	1.000	102	85-115	1.00	24-A3786	< 0.005	0.985	98	75-125	0.985	0.982	98	0.3	10	101	90-110	< 0.005
Fluoride mg/L	-	-	-	2.00	73965014qc	< 0.2	2.20	110	80-120	2.20	2.20	110	0.0	10	104	90-110	< 0.02
Lead ug/L	25.0	106	85-115	25.0	24-A3786	< 0.5	25.8	103	75-125	25.8	25.8	103	0.0	10	97	90-110	< 0.5
Lithium mg/L	1.000	105	85-115	1.00	24-A3786	< 0.02	1.030	103	75-125	1.030	1.030	103	0.0	10	103	90-110	< 0.02
Mercury ug/L	-	-	-	0.10	74140001qc	< 0.005	0.073	73	63-111	0.073	0.071	71	2.8	18	93	76-113	< 0.005
Molybdenum ug/L	25.0	113	85-115	25.0	24-A3786	44.6	68.9	97	75-125	68.9	67.8	93	1.6	10	102	90-110	< 0.5
pH units	-	-	-	-	-	-	-	-	-	8.0	8.0	-	0.0	2.5	101	90-110	-
Selenium ug/L	25.0	111	85-115	25.0	24-A3786	< 1	26.0	104	75-125	26.0	26.5	106	1.9	10	96	90-110	< 0.5
Solids, Total Dissolved mg/L	-	-	-	-	-	-	-	-	-	221	197	-	11.5	10	110	85-115	< 10
Sulfate mg/L	-	-	-	50.0	24-A3786	< 5	50.0	100	80-120	50.0	52.7	105	5.3	10	86	85-115	< 5
Thallium ug/L	5.00	106	85-115	5.00	24-A3786	< 0.1	5.15	103	75-125	5.15	5.18	104	0.6	10	96	90-110	< 0.1

The sample duplicated in the Total Dissolved Solids analysis batch failed to duplicate within acceptance limits. See narrative. Report updated 24 Feb 2025 to include Blank data for Fluoride, which had been missed on the original.

Approved by: 



February 06, 2025

Todd Rieger
MVTL Laboratories
1126 North Front Street
New Ulm, MN 56073

RE: Project: 31-0204 Otter Tail Power
Pace Project No.: 10719326

Dear Todd Rieger:

Enclosed are the analytical results for sample(s) received by the laboratory on December 18, 2024. 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:

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

Sincerely,

Piper Gibbs
piper.gibbs@pacelabs.com
(612)607-6456
Project Manager

Enclosures

cc: Barb Zins, MVTL



REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 31-0204 Otter Tail Power
Pace Project No.: 10719326

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10719326001	24A3786-H12	Water	12/16/24 11:18	12/18/24 10:35

REPORT OF LABORATORY ANALYSIS

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ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: MVTL PROJECT #: _____

WO# : 10719326
 PM: PG Due Date: 01/20/25
 CLIENT: MVTL

COURIER: Client Commercial FedEx Pace
 SpeeDee UPS USPS

TRACKING NUMBER: _____ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: YES NO Seals Intact: YES NO Biological Tissue Frozen: YES NO N/A
 Packing Material: Bubble Bags Bubble Wrap None Other Temp Blank: YES NO Type of Ice: Blue Dry Wet
 Thermometer: T1 (0461) T2 (0436) T3 (0459) T4 (0402) T5 (0178) T6 (0235)
 T7 (0042) T8 (0775) T9 (0727) 01339252 (1710) Melted None

Did Samples Originate in West Virginia: YES NO Were All Container Temps taken: YES NO N/A
 Correction Factor: 0.2 Cooler Temp Read w/Temp Blank: 1.3 °C Average Corrected Temp (no Temp Blank Only): _____ °C
 Cooler Temp Corrected w/Temp Blank: 1.1 °C
 NOTE: Temp should be above freezing to 6°C. See Exceptions Form ENV-FRM-MIN4-0142 1 Container

USDA Regulated Soil: N/A - Water Sample/Other (describe): _____ Initials & Date of Person Examining Contents: CRL 12/18/24
 Did Samples originate from one of the following states (check maps) - AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: YES NO Did samples originate from a foreign source (International, including Hawaii and Puerto Rico): YES NO
 NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

LOCATION (check one)	DULUTH	MINNEAPOLIS	VIRGINIA	YES	NO	N/A	COMMENT(S)
Chain of Custody Present and Filled Out?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Relinquished?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. <u>CRL 12/18/24</u>
Sampler Name and/or Signature on COC?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Samples Arrived within Hold Time?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. If Fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 hr <input type="checkbox"/> No
Short Hold Time Analysis (<72 hr)?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. <input type="checkbox"/> BOD / cBOD <input type="checkbox"/> Fecal coliform <input type="checkbox"/> Hex Chrom. <input type="checkbox"/> HPC <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Ortho Phos <input type="checkbox"/> Total coliform/E. coli <input type="checkbox"/> Other:
Rush Turn Around Time Requested?		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. <u>received 2 containers</u>
Sufficient Sample Volume?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. <u>COC states 1.</u>
Correct Containers Used?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
- Pace Containers Used?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Field Filtered Volume Received for Dissolved Tests?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. Is sediment visible in the dissolved container: <input type="checkbox"/> YES <input type="checkbox"/> NO
Is sufficient information available to reconcile the samples to the COC? NOTE: If ID/Date/Time don't match fill out section 11. Matrix: <input type="checkbox"/> Oil <input type="checkbox"/> Soil <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. If NO, write ID/Date/Time of container below: <input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked? All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. Sample #: <u>001</u> <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> Zinc Acetate Positive for Residual Chlorine: <input type="checkbox"/> YES <input type="checkbox"/> NO pH Paper Lot # Residual Chlorine: <u>205224</u>
NOTE: If adding preservation to the container, verify with the PM first. Clients may require adding preservative to the field and equipment blanks when this occurs.							<input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0142
Headspace in Methyl Mercury Container?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Extra labels present on soil VOA or WIDRO containers?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Headspace in VOA Vials (greater than 6mm)?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
Trip Blank Custody Seals Present?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Pace Trip Blank Lot # (If purchased): _____

CLIENT NOTIFICATION / RESOLUTION FIELD DATA REQUIRED: YES NO
 Person Contacted: _____ Date & Time: _____
 Comments / Resolution: _____

Project Manager Review: [Signature] Date: 12/18/24

NOTE: When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).
 Labeled By: CRL Line: 3

Internal Transfer Chain of Custody

D013



Rush Multiplier X
 Samples Pre-Logged into eCOC

State Of Origin: MN
 Cert. Needed: Yes No

Workorder: 10719326 Workorder Name: 31-0204 Otter Tail Power

Owner Received Date: 12/18/2024 Results Requested By: 1/20/2025

Report To		Subcontract To				Requested Analysis																																																																																																			
Piper Gibbs Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-6456		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858				<table border="1"> <tr> <td colspan="10">Preserved Containers</td> <td rowspan="6">Radium 226/228</td> <td rowspan="6">LAB USE ONLY</td> </tr> <tr> <td>Item</td> <td>Sample ID</td> <td>Sample Type</td> <td>Collect. Date/Time</td> <td>Lab ID</td> <td>Matrix</td> <td>HNO3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1</td> <td>24A3786-H12</td> <td>PS</td> <td>12/16/2024 11:18</td> <td>10719326001</td> <td>Water</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										Preserved Containers										Radium 226/228	LAB USE ONLY	Item	Sample ID	Sample Type	Collect. Date/Time	Lab ID	Matrix	HNO3							1	24A3786-H12	PS	12/16/2024 11:18	10719326001	Water	2							2													3													4													5												
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Released By	Date/Time	Received By	Date/Time																																																																																																						
Nick V. Pace	12/18/24 3:30	[Signature]	12/19/24 0900																																																																																																						
Cooler Temperature on Receipt <u>2.6°C</u> Custody Seal <input checked="" type="checkbox"/> or N												Received on Ice <input checked="" type="checkbox"/> or N		Samples Intact <input checked="" type="checkbox"/> or N																																																																																											

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist **total 2**

COC Seal Present/Intact: Y N If Applicable
 VOC Zero Headspace: Y N
 Correct bottles used: Y N Pres. Correct/Check: Y N
 Sufficient volume sent: Y N
 RA screen <0.5 mR/hr: Y N

4243 5577 0178



Ship To:
 Pace National
 12065 Lebanon Rd
 Mt. Juliet, TN 37122
 Phone (615) 758-5858

12/18/24

INTER LABORATORY WORK ORDER # 10719326

(To be completed by sending lab)

Sending Project No:	10719326
Receiving Project No:	
Check Box for Consolidated Invoice:	<input type="checkbox"/>
Date Prepared:	12/18/24
REQUESTED COMPLETION DATE:	1/20/2025

Sending Region	IR10-Minnesota	Sending Project Mgr.	Piper Gibbs
Receiving Region	IR850-Pace National	External Client	MVTL Laboratories
State of Sample Origin	MN	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Dry Weight IRWO Lab Need to run? Cert. Needed _____

WORK REQUESTED						
Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Radium 226/228	BP1N	2	HNO3	1	SI-38RAD	SUB PASI RAD

Special Requirements: Report C, QC Limits (C),FR Only no EDD (0)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: Yes No

DISPOSITION of FORM

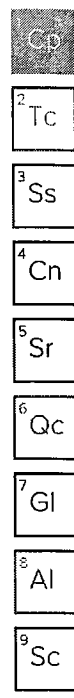
Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.



ANALYTICAL REPORT

January 21, 2025



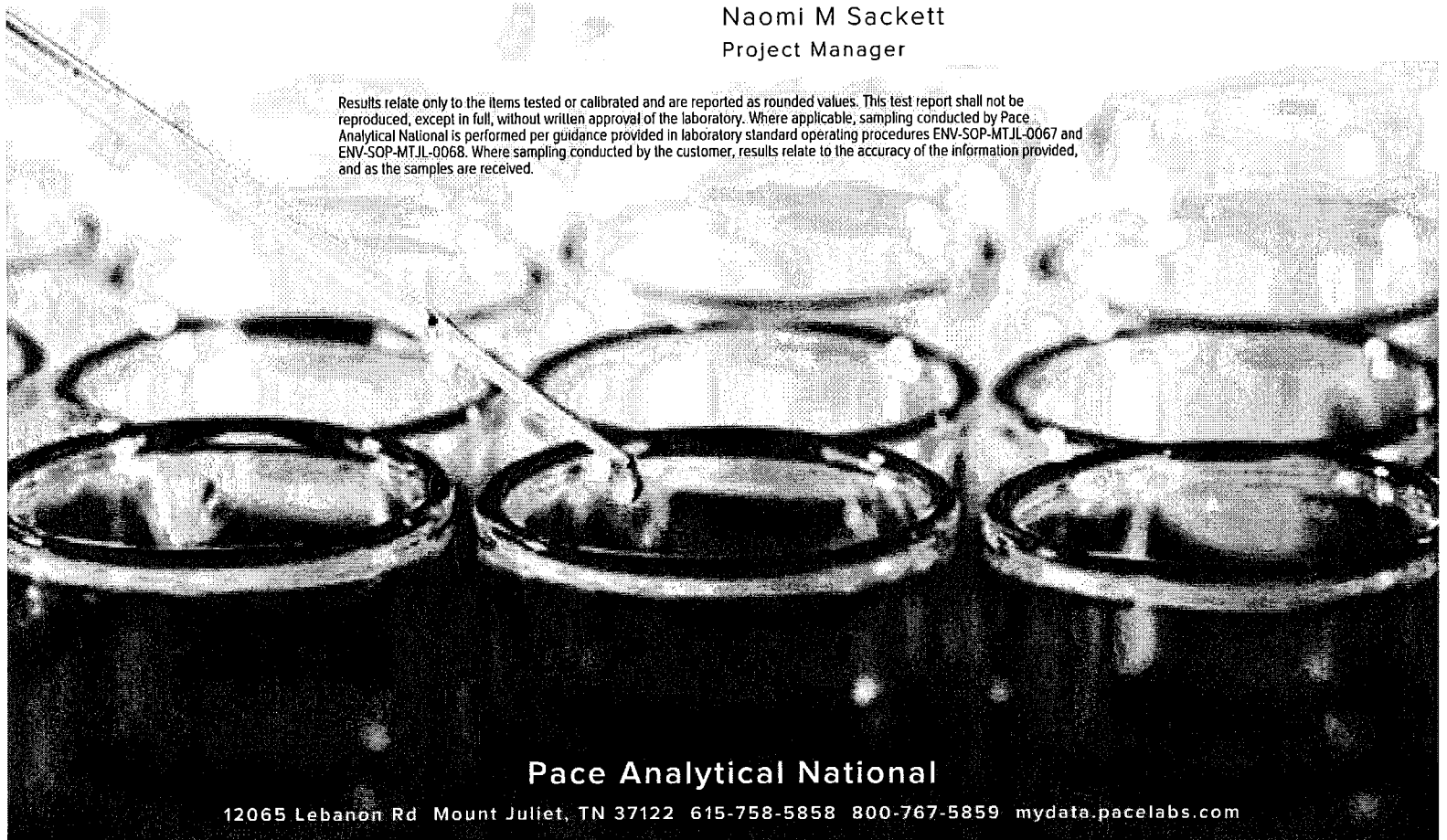
Pace Analytical - Minnesota

Sample Delivery Group: L1811217
 Samples Received: 12/19/2024
 Project Number: 10719326
 Description: 31-0204 Otter Tail Power
 Site: 001
 Report To: Piper Gibbs
 1700 Elm Street Suite 200
 Minneapolis, MN 55414

Entire Report Reviewed By:

Naomi M Sackett
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

Page 6 of 18

ACCOUNT:
Pace Analytical - Minnesota










PROJECT:
10719326

SDG:
L1811217

DATE/TIME:
01/21/25 11:45

PAGE:
1 of 11

TABLE OF CONTENTS

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Qc: Quality Control Summary	6	
Radiochemistry by Method 904/9320	6	
Radiochemistry by Method SM7500Ra B M	7	
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Sc: Sample Chain of Custody	10	
		

SAMPLE SUMMARY

24A3786-H12 L1811217-01 Non-Potable Water

Collected by: _____ Collected date/time: 12/16/24 11:18 Received date/time: 12/19/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2426287	1	12/30/24 10:00	01/09/25 22:45	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2425027	1	12/26/24 15:53	01/09/25 22:45	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2425027	1	12/26/24 15:53	12/30/24 21:15	ZRG	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Naomi M Sackett
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.683		0.271	0.511	0.477	0.253	01/09/2025 22:45	<u>WG2426287</u>
(T) Barium	97.7					30.0-143	01/09/2025 22:45	<u>WG2426287</u>
(T) Yttrium	72.7					30.0-136	01/09/2025 22:45	<u>WG2426287</u>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.06		0.358	0.512	01/09/2025 22:45	<u>WG2425027</u>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.376		0.234	0.470	0.187	0.147	12/30/2024 21:15	<u>WG2425027</u>
(T) Barium-133	95.2					30.0-143	12/30/2024 21:15	<u>WG2425027</u>

WG2426287

Radiochemistry by Method 904/9320

QUALITY CONTROL SUMMARY

L1811217-01

Method Blank (MB)

(MB) R4167316-1 01/09/25 22:45

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.430		0.178	0.314	0.166
(T) Barium	99.1		99.1		
(T) Yttrium	82.5		82.5		

L1811252-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1811252-02 01/09/25 22:45 • (DUP) R4167316-5 01/09/25 22:45

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	1.19	0.352	0.609	0.323	2.89	0.451	0.747	0.390	83.6	2.98		20	3
(T) Barium	105				93.9	93.9							
(T) Yttrium	81.0				90.6	90.6							

Laboratory Control Sample (LCS)

(LCS) R4167316-2 01/09/25 22:45

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.34	107	80.0-120	
(T) Barium			102		
(T) Yttrium			82.5		

L1811284-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1811284-07 01/15/25 16:21 • (MS) R4167316-3 01/09/25 22:45 • (MSD) R4167316-4 01/09/25 22:45

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	1.99	11.8	13.2	98.0	112	1	70.0-130			11.0		20
(T) Barium		104			99.9	92.4							
(T) Yttrium		39.3			80.3	76.8							

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gf
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R4164250-1 12/30/24 21:15

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE +/-	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0119	<u>U</u>	0.0302	0.0512	0.0317
(T) Barium-133	98.1		98.1		

L1809641-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1809641-01 12/30/24 21:15 • (DUP) R4164250-5 12/30/24 21:15

Analyte	Original Result pCi/l	Original 2 sigma CE +/-	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE +/-	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.257	0.237	0.283	0.206	0.0476	0.195	0.334	0.218	137	0.681	<u>U</u>	20	3
(T) Barium-133	83.1				97.9	97.9							

Laboratory Control Sample (LCS)

(LCS) R4164250-2 12/30/24 21:15

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.09	102	80.0-120	
(T) Barium-133			97.0		

L1808983-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1808983-01 12/30/24 21:15 • (MS) R4164250-3 12/30/24 21:15 • (MSD) R4164250-4 12/30/24 21:15

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	2.05	23.8	21.9	109	99.2	1	75.0-125			8.44		20
(T) Barium-133		96.9			102	103							

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gf
- 8 Al
- 9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
U	Below Detectable Limits: Indicates that the analyte was not detected.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 GI
- 8 AI
- 9 Sc

ACCREDITATIONS & LOCATIONS

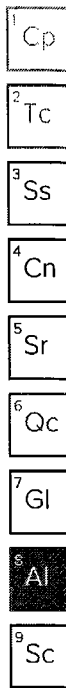
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA - ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA - ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.





Ship To:
 Pace National
 12065 Lebanon Rd
 Mt. Juliet, TN 37122
 Phone (615) 758-5858

12/18/24

INTER LABORATORY WORK ORDER # 10719326

(To be completed by sending lab)

Sending Project No.	10719326
Receiving Project No.	
Check Box for Consolidated Invoice	<input type="checkbox"/>
Date Prepared	12/18/24
REQUESTED COMPLETION DATE:	1/20/2025

Sending Region	IR10-Minnesota	Sending Project Mgr.	Piper Gibbs
Receiving Region	IR850-Pace National	External Client	MVTL Laboratories
State of Sample Origin	MN	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Dry Weight IRWO Lab Need to run? Cert. Needed _____

WORK REQUESTED						
Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Radium 226/228	BP1N	2	HNO3	1	SI-38RAD	SUB PASI RAD

Special Requirements: Report C, QC Limits (C),FR Only no EDD (0)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: Yes No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

Minnesota Valley Testing Laboratories

1126 North Front Street New Ulm, MN 56003
 Phone: 800 782 3557 Fax: 507 359 2890

Field Service Chain of Custody Record

Project Otter Tail Power Company	Project Type: Big Stone Plant CCR	Name of Samplers: <i>NW</i>
Report Otter Tail Power Company	Carbon Copy: Barr Engineering	Quote Number:
Attn: Paul Vukonich	Attn:	Work Order Number: <i>31-0204</i>
Address P.O. Box 496	Address:	Lab Numbers: <i>A3786 - A3803</i>
Fergus Falls, MN 56538-0496		
Phone: 218-739-8349		

Sample Information					Bottle Type										Analysis				
Lab Number	Sample ID	Unique Station ID	Date	Time	Sample Type	Sample Location	1000 HNO3 Inner Mountain	500 None	1000 none	500 HNO3	Filter? Y or N	500 H2SO4	Filter? Y or N	1000 HNO3 Pace	1000 Amber H2SO4	500 NaOH	Other: 150 H2SO4	Other 150 None	Analysis Required
A3786	H12		16 Dec 24	1118	GW			1	1	N				2					CCR 3&4

Comments:

Samples Relinquished By: <i>NW ML</i>			Samples Received By: <i>SP</i>		
Date: <i>16 Dec 24</i>	Time: <i>1501</i>	Temp: <i>0.8</i>	Date: <i>16 Dec 24</i>	Time: <i>1501</i>	Temp: <i>0.8 774</i>
Samples Relinquished into: Fridge <u>Log in Cart</u> Other:					
Samples Relinquished By:			Samples Received By:		
Date:	Time:	Temp:	Date:	Time:	Temp:
Delivery: <u>Samplers</u> Other:			Seal Number(s) - If Used		
Transport: Ambient <u>Ice</u> Other:			Seals Intact? Yes No		

CCR - Appendix III Detection Monitoring

Field Parameters

pH*

* Field and Laboratory Measurements

Total Concentration Parameters

	Method
Boron	6010
Calcium	6010
Chloride	SM4500 CL E
Fluoride	EPA 300
pH	SM 4500 H+B-96
Sulfate	ASTM D516
Dissolved Solids, Total	SM 2540 C-97

Note: These are non-filtered samples.

CCR - Appendix IV - Assessment Monitoring

Total Concentration Parameters

	Method
Antimony	SW6020A
Arsenic	SW602A
Barium	SW6010C
Beryllium	SW6020A
Cadmium	SW6020A
Chromium, Total	SW6020A
Cobalt	SW6010C
Fluoride	EPA 300
Lead	SW6020A
Lithium	SW6010C
Mercury	EPA 245.7
Molybdenum	SW6020A
Selenium	SW6020A
Thallium	SW6020A
Radium 226 + 228	

Note: These are non-filtered samples.

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel: NMM

Site: Otter Tail Power Co./ Big Stone

Facility ID: _____

Date: 16 Dec 24

Unique Station ID: _____

Sample ID: H12

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 22.63
 Constructed Depth: 24.00
 Casing Diameter: 2"
 Water Level Before Purge: 18.38
 Well Volume: 0.69 Gallons

Well Casing Elevation: NA
 Static Water Elevation: L
 Previous Static: _____
 Water Level After Sample: 18.61
 Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 33° Wind: 21 WNW Sky: cloudy
 Sampling Method: Grundfos Bladder SS/T Disp. Bailer Whale Grab Other:
 Dedicated Equipment: Yes No Pumping Rate: 0.25 gpm
 Well Purged Dry? Yes No Time Pump Began: 11:09 pm
 Time Purged Dry? ← Time of Sampling: 11:18 pm
 Duplicate Sample? Yes No ID: — Sample EH: 109.2
 Sample Appearance: General: clear Color: none Phase: none Odor: none

(3) Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1112	8.62	246.5	11.2	1.30	4.97	0.75	1	
1115	8.63	247.3	11.2	1.28	2.02	1.50	2	
1118	8.64	247.1	11.2	1.26	1.98	2.25	3	
							4	
							5	

Stabilized? Yes No Amount Water Removed: 2.25 Gallons

Comments: _____

Exceptions to Protocol: _____



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FINAL REPORT COMPLETION DATE: 4 June 25 AP

Date Reported: 3 Jun 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 31-0061
Account #: 006106
PO #: 108267

Project Name: BIG STONE PLANT-CCR

[Signature] 03 June 25
Field Service Manager/Date Reviewed

[Signature] 03 June 25
Chemistry Lab Manager/Date Reviewed

[Signature] 03 June 2025
Quality Assurance Director/Date Reviewed

- RL = Reporting Limits
NQ = Not Present, Qualitative Only
PQ = Present, Qualitative Only
ND = Not Determined

All data for this report has been approved by MVTL Laboratory Management.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
Lab Number: 25-A884
Work Order #: 31-0061
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Apr 2025 12:41
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Apr 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H20X

Temp at Receipt: 2.4C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					16 Apr 25	NS
pH, Field	7.18	units	1.00	SM4500-H+-2011	14 Apr 25 12:36	JLH
pH	* 7.0	units	1.0	SM 4500 H+ B-2000	15 Apr 25 10:46	KFL
Sulfate	2260 ~	mg/L	5.0	ASTM D516-11	17 Apr 25 10:15	SB
Chloride	3.2	mg/L	3.0	SM 4500 Cl E	17 Apr 25 9:34	DT
Solids, Total Dissolved	3900	mg/L	10	SM 2540 C-97	16 Apr 25 8:40	KFL
Calcium	503.0 ~	mg/L	0.500	SW6010D	17 Apr 25 12:40	TMM
Boron	0.228	mg/L	0.100	SW6010D	17 Apr 25 12:40	TMM
	See Narrative					
Fluoride	0.280 @	mg/L	0.020	EPA 300.0	16 Apr 25 19:22	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards. The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
Lab Number: 25-A885
Work Order #: 31-0061
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Apr 2025 10:30
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Apr 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H30X

Temp at Receipt: 2.4C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					16 Apr 25	NS
pH, Field	6.99	units	1.00	SM4500-H+-2011	14 Apr 25 10:30	JLH
pH	* 6.9	units	1.0	SM 4500 H+ B-2000	15 Apr 25 10:46	KFL
Sulfate	1610 ~	mg/L	5.0	ASTM D516-11	17 Apr 25 10:15	SB
Chloride	62.8	mg/L	3.0	SM 4500 Cl E	17 Apr 25 9:34	DT
Solids, Total Dissolved	3300	mg/L	10	SM 2540 C-97	16 Apr 25 8:40	KFL
Calcium	452.0 ~	mg/L	0.500	SW6010D	17 Apr 25 12:40	TMM
Boron	7.100	mg/L	0.100	SW6010D	17 Apr 25 12:40	TMM
	See Narrative, ~					
Fluoride	0.280	mg/L	0.020	EPA 300.0	16 Apr 25 19:22	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
Lab Number: 25-A886
Work Order #: 31-0061
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Apr 2025 11:29
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Apr 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H40X

Temp at Receipt: 2.4C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					16 Apr 25	NS
pH, Field	6.88	units	1.00	SM4500-H+-2011	14 Apr 25 11:29	JLH
pH	* 7.0	units	1.0	SM 4500 H+ B-2000	15 Apr 25 10:46	KFL
Sulfate	1000 ~	mg/L	5.0	ASTM D516-11	17 Apr 25 10:15	SB
Chloride	40.2	mg/L	3.0	SM 4500 Cl E	17 Apr 25 9:34	DT
Solids, Total Dissolved	2070	mg/L	10	SM 2540 C-97	16 Apr 25 8:40	KFL
Calcium	292.0	mg/L	0.500	SW6010D	17 Apr 25 12:40	TMM
Boron	0.521	mg/L	0.100	SW6010D	17 Apr 25 12:40	TMM
	See Narrative					
Fluoride	0.440	mg/L	0.020	EPA 300.0	16 Apr 25 19:22	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
Lab Number: 25-A887
Work Order #: 31-0061
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Apr 2025 12:42
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Apr 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H8

Temp at Receipt: 2.4C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					16 Apr 25	NS
pH, Field	7.06	units	1.00	SM4500-H+-2011	14 Apr 25 12:42	DGF
pH	* 7.3	units	1.0	SM 4500 H+ B-2000	15 Apr 25 10:46	KFL
Sulfate	258 @	mg/L	5.0	ASTM D516-11	17 Apr 25 10:15	SB
Chloride	< 3	mg/L	3	SM 4500 Cl E	17 Apr 25 9:34	DT
Solids, Total Dissolved	910	mg/L	10	SM 2540 C-97	16 Apr 25 8:40	KFL
Calcium	110.0	mg/L	0.500	SW6010D	17 Apr 25 12:40	TMM
Boron	3.050	mg/L	0.100	SW6010D	17 Apr 25 12:40	TMM
	See Narrative					
Fluoride	0.500	mg/L	0.020	EPA 300.0	16 Apr 25 22:52	MDH

* Holding Time Exceeded

RL = Reporting Limit
Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:
@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
Lab Number: 25-A888
Work Order #: 31-0061
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Apr 2025 13:34
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Apr 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H9

Temp at Receipt: 2.4C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					16 Apr 25	NS
pH, Field	6.53	units	1.00	SM4500-H+-2011	14 Apr 25 13:34	JLH
pH	* 6.8	units	1.0	SM 4500 H+ B-2000	15 Apr 25 10:46	KFL
Sulfate	1530 ~	mg/L	5.0	ASTM D516-11	17 Apr 25 10:15	SB
Chloride	109	mg/L	3.0	SM 4500 Cl E	17 Apr 25 9:34	DT
Solids, Total Dissolved	3010	mg/L	10	SM 2540 C-97	16 Apr 25 8:40	KFL
Calcium	647.0 ~	mg/L	0.500	SW6010D	17 Apr 25 12:40	TMM
Boron	1.240	mg/L	0.100	SW6010D	17 Apr 25 12:40	TMM
	See Narrative					
Fluoride	0.310	mg/L	0.020	EPA 300.0	16 Apr 25 22:52	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
Lab Number: 25-A889
Work Order #: 31-0061
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Apr 2025 13:38
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Apr 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H10

Temp at Receipt: 2.4C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
MS Water Digestions					16 Apr 25	NS
Water Digestions					16 Apr 25	NS
pH, Field	6.96	units	1.00	SM4500-H+-2011	14 Apr 25 13:38	JLH
pH	* 7.0	units	1.0	SM 4500 H+ B-2000	15 Apr 25 10:46	KFL
Radium 226	0.28	pCi/L	0.60		5 May 25 19:46	OL
Radium 228	0.28	pCi/L	3.00	EPA M9320	11 May 25 19:36	OL
Sulfate	2850 ~	mg/L	5.0	ASTM D516-11	17 Apr 25 10:15	SB
Chloride	6.3	mg/L	3.0	SM 4500 Cl E	17 Apr 25 9:34	DT
Mercury	< 0.005	ug/L	0.005	EPA 245.7	18 Apr 25 17:48	RMB
Solids, Total Dissolved	4550	mg/L	10	SM 2540 C-97	16 Apr 25 8:40	KFL
Calcium	471.0 ~	mg/L	0.500	SW6010D	17 Apr 25 12:40	TMM
Lithium	0.321	mg/L	0.020	SW6010D	17 Apr 25 12:40	TMM
Barium	0.026	mg/L	0.005	SW6010D	17 Apr 25 12:40	TMM
Cobalt	< 0.005	mg/L	0.005	SW6010D	17 Apr 25 12:40	TMM
Boron	0.316	mg/L	0.100	SW6010D	17 Apr 25 12:40	TMM
	See Narrative					
Antimony	< 2.5 @	ug/L	0.5	SW6020B	17 Apr 25 10:56	SS
Arsenic	< 2.5 @	ug/L	0.5	SW6020B	17 Apr 25 14:32	SS
Beryllium	< 0.25 @	ug/L	0.05	SW6020B	17 Apr 25 14:32	SS
Cadmium	< 0.5	ug/L	0.1	SW6020B	17 Apr 25 10:56	SS
	@See Narrative					
Chromium	< 2.5 @	ug/L	0.5	SW6020B	17 Apr 25 14:32	SS
Lead	< 2.5 @	ug/L	0.5	SW6020B	17 Apr 25 14:32	SS
Molybdenum	12.5 @	ug/L	0.50	SW6020B	17 Apr 25 10:56	SS
Selenium	< 2.5 @	ug/L	0.5	SW6020B	17 Apr 25 14:32	SS
Thallium	< 0.5 @	ug/L	0.1	SW6020B	17 Apr 25 14:32	SS
Fluoride	0.290	mg/L	0.020	EPA 300.0	16 Apr 25 22:52	MDH

* Holding Time Exceeded

Radium 226 subcontracted to:
Pace Analytical Services Inc.
1700 Elm Street Suite 200
Minneapolis, MN 55414
1-612-607-1700

Radium 228 subcontracted to:
Pace Analytical Services Inc.
1700 Elm Street Suite 200
Minneapolis, MN 55414
1-612-607-1700

~ Sample diluted due to result above calibration of linear range.

OL = Analysis performed by an Outside Laboratory.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analyte

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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JOSH HOLLEN
 OTTER TAIL POWER CO
 PO BOX 496
 FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
 Lab Number: 25-A890
 Work Order #: 31-0061
 Account #: 006106
 Sample Matrix: GROUNDWATER
 Date Sampled: 14 Apr 2025 13:03
 Sampled By: MVTL FIELD PERSONNEL
 Date Received: 14 Apr 2025 16:50
 PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H11

Temp at Receipt: 2.4C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
MS Water Digestions					16 Apr 25	NS
Water Digestions					16 Apr 25	NS
pH, Field	6.66	units	1.00	SM4500-H+-2011	14 Apr 25 13:03	JLH
pH	* 6.8	units	1.0	SM 4500 H+ B-2000	15 Apr 25 11:08	KFL
Radium 226	0.21	pCi/L	0.60		5 May 25 19:46	OL
Radium 228	0.80	pCi/L	3.00	EPA M9320	11 May 25 19:36	OL
Sulfate	2400 ~	mg/L	5.0	ASTM D516-11	17 Apr 25 10:15	SB
Chloride	3.4	mg/L	3.0	SM 4500 Cl E	17 Apr 25 9:34	DT
Mercury	< 0.005	ug/L	0.005	EPA 245.7	18 Apr 25 17:48	RMB
Solids, Total Dissolved	4240	mg/L	10	SM 2540 C-97	16 Apr 25 8:40	KFL
Calcium	532.0 ~	mg/L	0.500	SW6010D	17 Apr 25 14:07	TMM
Lithium	0.320	mg/L	0.020	SW6010D	17 Apr 25 14:07	TMM
Barium	0.043	mg/L	0.005	SW6010D	17 Apr 25 14:07	TMM
Cobalt	< 0.005	mg/L	0.005	SW6010D	17 Apr 25 14:07	TMM
Boron	0.233	mg/L	0.100	SW6010D	17 Apr 25 14:07	TMM
Antimony	< 0.5	ug/L	0.5	SW6020B	17 Apr 25 10:56	SS
Arsenic	0.58	ug/L	0.50	SW6020B	17 Apr 25 14:32	SS
Beryllium	< 0.05	ug/L	0.05	SW6020B	17 Apr 25 14:32	SS
Cadmium	0.27	ug/L	0.10	SW6020B	17 Apr 25 10:56	SS
	^See Narrative					
Chromium	0.53	ug/L	0.50	SW6020B	17 Apr 25 14:32	SS
Lead	< 0.5	ug/L	0.5	SW6020B	17 Apr 25 14:32	SS
Molybdenum	2.95	ug/L	0.50	SW6020B	17 Apr 25 10:56	SS
Selenium	0.82	ug/L	0.50	SW6020B	17 Apr 25 14:32	SS
Thallium	< 0.1	ug/L	0.1	SW6020B	17 Apr 25 14:32	SS
Fluoride	0.170	mg/L	0.020	EPA 300.0	2 May 25 1:32	MDH

RL = Reporting Limit
 Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
 The reporting limit was elevated for any analyte requiring a dilution as coded below:
 @ = Due to sample matrix # = Due to concentration of other analytes
 ! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
Lab Number: 25-A890
Work Order #: 31-0061
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Apr 2025 13:03
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Apr 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H11

Temp at Receipt: 2.4C

As Received Result	Method RL	Method Reference	Date Analyzed	Analyst
--------------------	-----------	------------------	---------------	---------

* Holding Time Exceeded

Radium 226 subcontracted to:
Pace Analytical Services Inc.
1700 Elm Street Suite 200
Minneapolis, MN 55414
1-612-607-1700

Radium 228 subcontracted to:
Pace Analytical Services Inc.
1700 Elm Street Suite 200
Minneapolis, MN 55414
1-612-607-1700

~ Sample diluted due to result above calibration of linear range.

^ The reporting limit (RL) was elevated due to instrument performance at the lower limit of quantitation (LLOQ). This will only impact results that are found to be below the elevated RL. Results above the elevated RL are unaffected.

OL = Analysis performed by an Outside Laboratory.

RL = Reporting Limit
Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:
@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 3 Jun 2025
Lab Number: 25-A891
Work Order #: 31-0061
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Apr 2025 13:57
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Apr 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT-CCR

Sample Description: H12

Temp at Receipt: 2.4C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					21 Apr 25	NS
pH, Field	8.24	units	1.00	SM4500-H+-2011	14 Apr 25 13:57	DS
pH	* 8.0	units	1.0	SM 4500 H+ B-2000	15 Apr 25 11:08	KFL
Sulfate	< 5	mg/L	5	ASTM D516-11	17 Apr 25 10:15	SB
Chloride	< 3	mg/L	3	SM 4500 Cl E	17 Apr 25 9:34	DT
Solids, Total Dissolved	154	mg/L	10	SM 2540 C-97	16 Apr 25 8:40	KFL
Calcium	23.90	mg/L	0.500	SW6010D	23 Apr 25 12:52	RMV
Boron	0.350	mg/L	0.100	SW6010D	23 Apr 25 12:52	RMV
Fluoride	0.320	mg/L	0.020	EPA 300.0	2 May 25 1:32	MDH

* Holding Time Exceeded

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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Date Reported: 3 Jun 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 202531-0061
Account Number: 006106
PO #: 108267

Project Name: BIG STONE PLANT-CCR

LABORATORY NARRATIVE

INORGANIC AND METALS ANALYSES

Due to high concentration, boron recovery was outside acceptance range in the matrix spikes for samples 25-A884 through 25-A889. Data reported based on acceptable recoveries in the laboratory control spike and relative percent difference between matrix spikes.

Cadmium was detected at 0.115 ug/L in the interference blank associated with samples 25-A889 through 25-A890. Cadmium results that were below the reporting limit were reported. Results above 0.1 ug/L will have the reporting limit raised to 0.2 ug/L.



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Date Reported: 3 Jun 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 202531-0061
Account Number: 006106
PO #: 108267

Project Name: BIG STONE PLANT-CCR

LABORATORY NARRATIVE

INSUFFICIENT VOLUME TO PURGE-NO SAMPLE



MINNESOTA VALLEY TESTING LABORATORIES, INC.

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MEMBER
ACIL

Quality Control Report

Lab IDs: 25-A884 to 25-A891

Project: BIG STONE PLANT-CCR

Work Order: 202531-0061

Analyte	LCS Spike Amt	LCS Rec %	LCS % Rec Limits	Matrix Spike Amt	Matrix Spike ID	Matrix Spike Orig Result	Matrix Spike Result	Matrix Spike Rec %	Matrix Spike % Rec Limits	MSD/ Dup Orig Result	MSD/ Dup Result	MSD Rec %	MSD/ Dup RPD	MSD/ Dup RPD Limit (<)	Known Rec (%)	Known % Rec Limits	Method Blank
Antimony ug/L	25.0	98	85-115	25.0	25A889q	< 2.5	25.7	103	75-125	25.7	25.0	100	2.8	10	99	90-110	< 0.5
	25.0	91	85-115	25.0	25-A894qc	< 1	26.4	106	75-125	26.4	26.7	107	1.1	10	-	-	-
Arsenic ug/L	25.0	103	85-115	25.0	25A889q	< 2.5	27.7	111	75-125	27.7	26.5	106	4.4	10	100	90-110	< 0.5
	25.0	94	85-115	25.0	25-A894qc	1.33	29.0	111	75-125	29.0	29.4	112	1.4	10	-	-	-
Barium mg/L	1.000	93	85-115	1.00	25A874qc	0.012	0.947	94	75-125	0.947	0.954	94	0.7	10	95	90-110	< 0.005
	1.000	93	85-115	1.00	25A890qc	0.043	0.972	93	75-125	0.972	0.973	93	0.1	10	93	90-110	< 0.005
Beryllium ug/L	2.50	98	85-115	2.50	25A889q	< 0.25	2.61	104	75-125	2.61	2.36	94	10.1	10	106	90-110	< 0.05
	2.50	86	85-115	2.50	25-A894qc	0.10	2.37	91	75-125	2.37	2.36	90	0.4	10	-	-	-
Boron mg/L	1.000	94	85-115	1.00	25A874qc	7.250	8.530	128	75-125	8.530	8.520	127	0.1	10	94	90-110	< 0.1
	1.000	94	85-115	1.00	25A890qc	0.233	1.200	97	75-125	1.200	1.200	97	0.0	10	91	90-110	< 0.1
	1.000	100	85-115	1.00	25A875q	1.130	2.190	106	75-125	2.190	2.160	103	1.4	10	95	90-110	< 0.1
Cadmium ug/L	5.00	98	85-115	5.00	25A889q	< 0.5	5.01	100	75-125	5.01	4.89	98	2.4	10	98	90-110	< 0.1
	5.00	91	85-115	5.00	25-A894qc	< 0.2	5.20	104	75-125	5.20	5.23	105	0.6	10	-	-	-
Calcium mg/L	50.00	96	85-115	50.0	25A874qc	447.0	501.0	108	75-125	501.0	497.0	100	0.8	10	100	90-110	< 0.5
	50.00	99	85-115	50.0	25A890qc	532.0	582.0	100	75-125	582.0	577.0	90	0.9	10	101	90-110	< 0.5
	50.00	101	85-115	50.0	25A875q	283.0	331.0	96	75-125	331.0	325.0	84	1.8	10	100	90-110	< 0.5
Chloride mg/L	-	-	-	60.0	25-A894	52.4	109	94	80-120	109	104	86	4.7	20	97	90-110	< 3
Chromium ug/L	25.0	96	85-115	25.0	25A889q	< 2.5	26.0	104	75-125	26.0	24.3	97	6.8	10	99	90-110	< 0.5
	25.0	92	85-115	25.0	25-A894qc	3.15	25.7	90	75-125	25.7	25.9	91	0.8	10	-	-	-
Cobalt mg/L	1.000	97	85-115	1.00	25A874qc	< 0.005	0.932	93	75-125	0.932	0.941	94	1.0	10	98	90-110	< 0.005
	1.000	100	85-115	1.00	25A890qc	< 0.005	0.921	92	75-125	0.921	0.920	92	0.1	10	98	90-110	< 0.005
Fluoride mg/L	-	-	-	4.00	83549007qc	0.300	4.66	109	80-120	4.66	4.77	112	2.3	10	94	90-110	-
	-	-	-	0.40	25-A927qc	0.170	0.630	115	80-120	0.630	0.650	120	3.1	10	95	90-110	-
	-	-	-	0.20	25-A890qc	0.170	0.340	85	80-120	0.340	0.360	95	5.7	10	97	90-110	-
Lead ug/L	25.0	103	85-115	25.0	25A889q	< 2.5	21.0	84	75-125	21.0	19.5	78	7.4	10	101	90-110	< 0.5
	25.0	94	85-115	25.0	25-A894qc	1.66	23.8	89	75-125	23.8	24.0	89	0.8	10	-	-	-
Lithium mg/L	1.000	95	85-115	1.00	25A874qc	0.120	1.140	102	75-125	1.140	1.130	101	0.9	10	99	90-110	< 0.02
	1.000	96	85-115	1.00	25A890qc	0.320	1.330	101	75-125	1.330	1.330	101	0.0	10	98	90-110	< 0.02

Quality Control Report

Lab IDs: 25-A884 to 25-A891

Project: BIG STONE PLANT-CCR

Work Order: 202531-0061

Analyte	LCS Spike Amt	LCS Rec %	LCS % Rec Limits	Matrix Spike Amt	Matrix Spike ID	Matrix Spike Orig Result	Matrix Spike Result	Matrix Spike Rec %	Matrix Spike % Rec Limits	MSD/ Dup Orig Result	MSD/ Dup Result	MSD Rec %	MSD/ Dup RPD	MSD/ Dup RPD Limit (<)	Known Rec (%)	Known % Rec Limits	Method Blank
Mercury ug/L	-	-	-	0.10	25-A959	< 0.005	0.071	71	63-111	0.071	0.072	72	1.4	18	78	76-113	< 0.005
Molybdenum ug/L	25.0 25.0	97 89	85-115 85-115	25.0 25.0	25A889q 25-A894qc	12.5 2.50	39.5 28.3	108 103	75-125 75-125	39.5 28.3	36.9 28.8	98 105	6.8 1.8	10 10	98 -	90-110 -	< 0.5 -
pH units	- -	- -	- -	- -	- -	- -	- -	- -	- -	7.0 6.8	7.0 6.8	- -	0.0 0.0	2.5 2.5	101 101	90-110 90-110	- -
Selenium ug/L	25.0 25.0	103 96	85-115 85-115	25.0 25.0	25A889q 25-A894qc	< 2.5 15.4	31.3 44.0	125 114	75-125 75-125	31.3 44.0	29.1 44.0	116 114	7.3 0.0	10 10	100 -	90-110 -	< 0.5 -
Solids, Total Dissolved mg/L	- -	- -	- -	- -	- -	- -	- -	- -	- -	3900 441	3850 439	- -	1.3 0.5	10 10	95 -	85-115 -	< 10 -
Sulfate mg/L	-	-	-	50.0	25-A891	< 5	45.0	90	80-120	45.0	47.3	95	5.0	20	96	85-115	< 5
Thallium ug/L	5.00 5.00	102 94	85-115 85-115	5.00 5.00	25A889q 25-A894qc	< 0.5 < 0.1	4.97 4.69	99 94	75-125 75-125	4.97 4.69	4.71 4.76	94 95	5.4 1.5	10 10	101 -	90-110 -	< 0.1 -

One of the Boron matrix spike sets failed to recover within acceptance limits, see narrative.

Approved by: 



May 21, 2025

Todd Rieger
MVTL Laboratories
1126 North Front Street
New Ulm, MN 56073

RE: Project: 31-0061 Otter Tail Power Co
Pace Project No.: 10731224

Dear Todd Rieger:

Enclosed are the analytical results for sample(s) received by the laboratory on April 16, 2025. 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:

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

Sincerely,

Piper Gibbs
piper.gibbs@pacelabs.com
(612)607-6456
Project Manager

Enclosures

cc: Barb Zins, MVTL



REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.



SAMPLE SUMMARY

Project: 31-0061 Otter Tail Power Co
Pace Project No.: 10731224

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10731224001	25A889 H10	Water	04/14/25 13:38	04/16/25 11:13
10731224002	25A890 H11	Water	04/14/25 13:03	04/16/25 11:13

REPORT OF LABORATORY ANALYSIS

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ENV-FRM-MIN4-0150 v19 Sample Condition Upon Receipt

Person Examining & Date: LOJ 4/16/25

PROJECT #:

WO#: **10731224**

PM: PG Due Date: 05/15/25
CLIENT: MVTL

Client Name: MVTL

Custody Seal Present: YES NO Seals Intact: YES NO

Tracking Number: _____ See Exceptions form ENV-FRM-MIN4-0142.

Courier: Client Commercial FedEx Pace Courier/Field Speedee UPS USPS

Packing Material: Bubble Bags Bubble Wrap None Other: _____ Biological Tissue Frozen: YES NO

Thermometer: T1 (0461) T2 (0431) T3 (0459) T4 (0402) T5 (0187) T6 (0396) T7 (0377) T8 (0775) T9 (0428) 01339252 (0710) Type of Ice: Blue Dry Wet Melted None

Temp Blank: YES NO

NOTE: Temp should be ≤ 6°C, but above freezing.
Read Temp w/Temp Blank: 1.8 °C
Correction Factor: +0.1
Corrected Temp w/Temp Blank: 1.9 °C

Did Samples Originate in West Virginia: YES NO (list temps on exception)
Were All Container Temps Taken: YES NO N/A
Average Corrected Temp (No Temp Blank Only): _____
 See Exceptions form ENV-FRM-MIN4-0142. 1 Container

USDA Regulated Soil: N/A - (Water Sample/Other (describe): _____)
Did Samples originate from one of the following states (check maps): YES NO Are samples from a foreign source (International, including Hawaii and Puerto Rico): YES NO
Circle State: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, VA

NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

LOCATION (check one):	<input type="checkbox"/> DULUTH	<input checked="" type="checkbox"/> MINNEAPOLIS	<input type="checkbox"/> VIRGINIA	YES	NO	N/A	COMMENT(S)
Chain of Custody Present and Filled Out? (i.e., Analysis/ID/Date/Time)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		1.
Chain of Custody Relinquished?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		2.
Sampler Name and/or Signature on COC?		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		3.
Samples Arrived within Hold Time?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		4.
If Fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr but <24 hr <input type="checkbox"/> >24 hr		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
Short Hold Time Analysis (<72 hr)?		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		5. <input type="checkbox"/> BOD / cBOD <input type="checkbox"/> Fecal coliform <input type="checkbox"/> Hex Chrom <input type="checkbox"/> HPC <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Ortho Phos <input type="checkbox"/> Total coliform/E. coli <input type="checkbox"/> Turbidity <input type="checkbox"/> Other: _____
Rush Turn Around Time Requested?		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		6. <input type="checkbox"/> Same Day <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day Due Date: _____
Sufficient Sample Volume? (if NO, list approximate volume in section 7.)		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		7.
Correct Containers Used?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		8.
- Pace Containers Used?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
Containers Intact?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		9.
Field Filtered Volume Received for Dissolved Tests?		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		10. Is sediment visible in the dissolved container: <input type="checkbox"/> YES <input type="checkbox"/> NO
ID/Date/Time Match? (if NO, fill out section 11.)		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		11.
Matrix: <input type="checkbox"/> Oil <input type="checkbox"/> Soil <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		12.

Sample #: HNO3 - 2 2/2 H2SO4 NaOH Zinc Acetate

pH Paper Lot #: _____ Residual Chlorine 0-6 Roll 205224 0-6 Strip 0-14 Strip

Positive for Residual Chlorine (NaOH containers only): YES NO

Preserved containers in compliance with EPA recommendations? (HNO3, H2SO4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide) YES NO See Exceptions form ENV-FRM-MIN4-0142

EXCEPTIONS (water only): VOA, Coliform, TOC/DOC, Oil & Grease, Phenols, DRO/8015, Dioxins, and PFAS YES NO

Extra labels present on soil VOA or WIDRO containers? (soil only) YES NO 13.

Headspace in Methyl Mercury Container? YES NO 14.

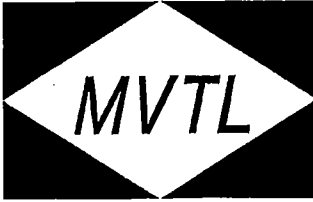
Headspace in VOA Vials (greater than 6mm)? YES NO See Exceptions form ENV-FRM-MIN4-0140

Trip Blanks Present? YES NO 15.

Trip Blank Custody Seals Present? YES NO Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION / RESOLUTION: _____ Labeled By: LOJ Line: 5

Person Contacted & Date/Time: _____ PM Review & Date: 4/17/25 Paper J. Shickles
NOTE: When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office.



Minnesota Valley Testing
 Laboratories, Inc.
 1126 North Front Street
 New Ulm, MN 56073
 507-233-7131
 Fax 507-359-1231

P.O. Number: CL13299

To: Pace Analytical 1700 Elm Street SE Suite# 200 Minneapolis, MN 55414	Ship To (if different address):
--	--

P.O. Date	Placed By	Date Expected	Ship Via	F.O.B.	Terms
15-Apr-25	Todd Rieger	N/A	N/A	N/A	Net 30

QTY.	Description	Unit Price	Total
			\$ -
	Lab ID# 25A889 - 90		\$ -
	WO# 31-0061		\$ -
			\$ -
2	Radium 226 (water) 1 L HN03	\$ [REDACTED]	\$ [REDACTED]
2	Radium 228 (water)	\$ [REDACTED]	\$ [REDACTED]
			\$ -
2	Disposal Fee	\$ [REDACTED]	\$ [REDACTED]
1	Environmental Impact	\$ [REDACTED]	\$ [REDACTED]
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
	email results to: trieger@mvtl.com, alieder@mvtl.com		\$ -
			\$ -
			\$ -

 Authorized Signature

Shipping & handling
 Subtotal \$ [REDACTED]
 Sales Tax
 Total Due \$ [REDACTED]

Internal Transfer Chain of Custody

H077 2025



Rush Multiplier X
 Samples Pre-Logged into eCOC

State Of Origin: MN
 Cert. Needed: Yes No

Workorder: 10731224 Workorder Name: Otter Tail Power Co Work Order

Owner Received Date: 4/16/2025 Results Requested By: 5/15/2025

Report To		Subcontract To		Requested Analysis																																			
Piper Gibbs Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-6456		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858		<table border="1"> <tr> <td colspan="12">Radium 226/228</td> </tr> <tr> <td colspan="12">LAB USE ONLY</td> </tr> </table>												Radium 226/228												LAB USE ONLY											
Radium 226/228																																							
LAB USE ONLY																																							
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HNO3																																	
1	25A889 H10	PS	4/14/2025 13:38	10731224001	Water	2																																	
2	25A890 H11	PS	4/14/2025 13:03	10731224002	Water	2																																	
3																																							
4																																							
5																																							

Transfers					Comments	
Released By	Date/Time	Received By	Date/Time			
<i>[Signature]</i>	4/17/25 15:10	<i>[Signature]</i>	04/16/25 0900			

Cooler Temperature on Receipt 1.0°C Custody Seal or N Received on Ice or N Samples Intact or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist *done*

COC Seal Present/Intact: Y N *MP* If Applicable
 COC Signed/Accurate: Y N *VOA Zero Headspace:* Y N
 Bottles arrive intact: Y N *Pres. Correct/Check:* Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N *Condition:* NCF OK
 RA Screen <0.5 mB/hr: Y N *4243 5579 2022*



Ship To:
 Pace National
 12065 Lebanon Rd
 Mt. Juliet, TN 37122
 Phone (615) 758-5858

INTER LABORATORY WORK ORDER # 10731224 **4849395**
 (To be completed by sending lab)

Page 7 of 10

Sending Project No:	10731224
Receiving Project No:	
Check Box for Consolidated Invoice:	<input type="checkbox"/>
Date Prepared:	04/17/25
REQUESTED COMPLETION DATE:	5/15/2025

Sending Region	IR10-Minnesota	Sending Project Mgr.	Piper Gibbs
Receiving Region	IR850-Pace National	External Client	MVTL Laboratories
State of Sample Origin	MN	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Dry Weight IRWO Lab Need to run? Cert. Needed _____

WORK REQUESTED						
Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Radium 226/228	BP1N	4	HNO3	2	SI-38RAD	SUB PASI RAD

Special Requirements: Report C, QC Limits (C),FR Only no EDD (0)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: Yes No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.
 When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.



ANALYTICAL REPORT

May 19, 2025

- ^{Cp}
- ²Tc
- ³Ss
- ⁴Cn
- ⁵Sr
- ⁶Qc
- ⁷Gl
- ⁸Al
- ⁹Sc

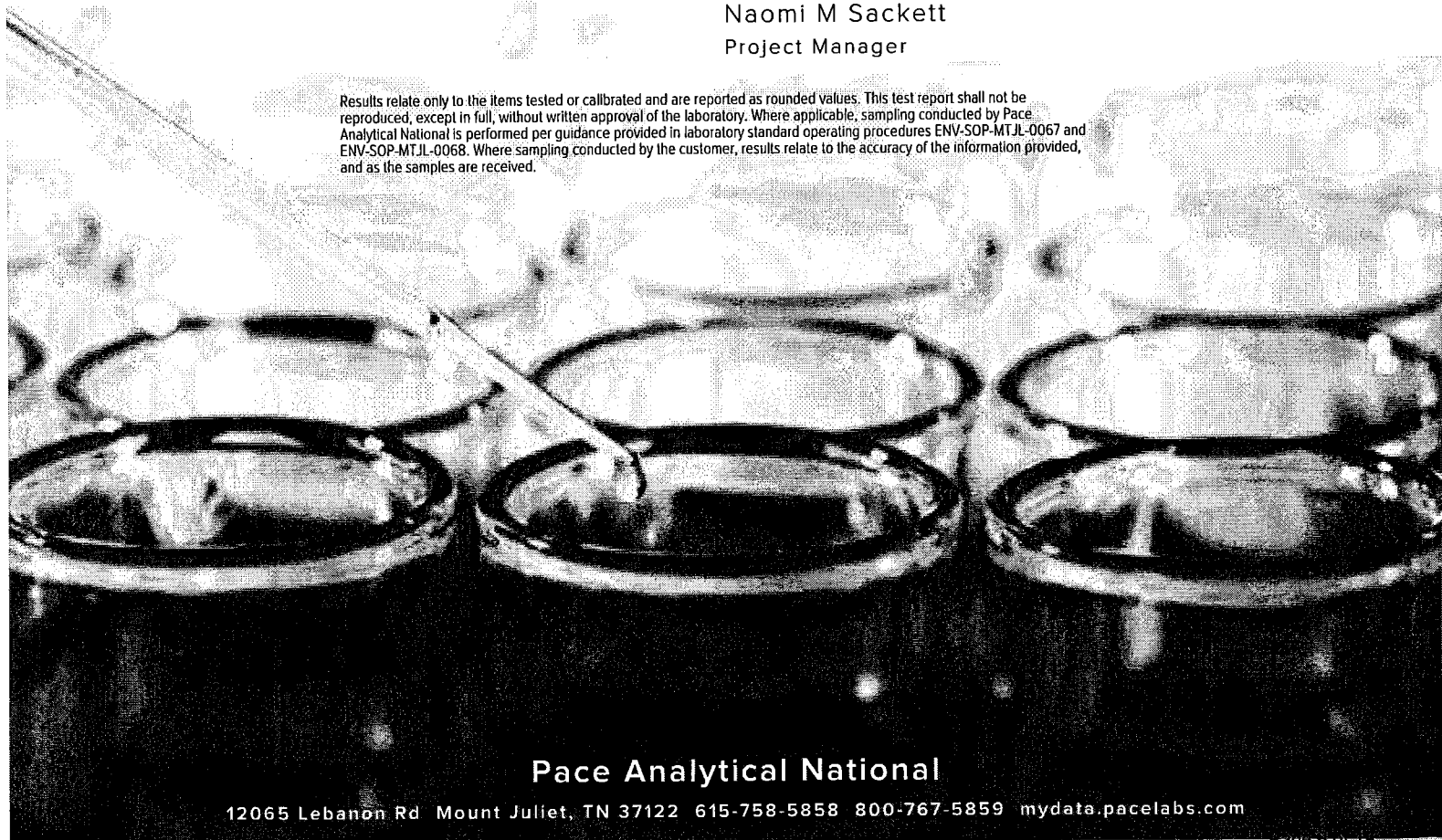
Pace Analytical - Minnesota

Sample Delivery Group: L1849395
 Samples Received: 04/18/2025
 Project Number: 10731224
 Description: Otter Trail Co Work Order
 Site: 001
 Report To: Piper Gibbs
 1700 Elm Street Suite 200
 Minneapolis, MN 55414

Entire Report Reviewed By:

Naomi M Sackett
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

Page 8 of 15

ACCOUNT:
Pace Analytical - Minnesota

PROJECT:
10731224

SDG:
L1849395

DATE/TIME:
05/19/25 15:34

PAGE:
1 of 12

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SAMPLE SUMMARY

Collected by _____ Collected date/time 04/14/25 13:38 Received date/time 04/18/25 09:00

25A889 H10 L1849395-01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2509168	1	05/08/25 06:22	05/11/25 19:36	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2505210	1	05/02/25 11:13	05/05/25 19:46	ZRG	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Collected by _____ Collected date/time 04/14/25 13:03 Received date/time 04/18/25 09:00

25A889 H11 L1849395-02

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2509168	1	05/08/25 06:22	05/11/25 19:36	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2505210	1	05/02/25 11:13	05/05/25 19:46	ZRG	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Naomi M Sackett
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.284	<u>U</u>	0.507	0.531	0.864	0.293	05/11/2025 19:36	WG2509168
(T) Barium	109					30.0-143	05/11/2025 19:36	WG2509168
(T) Yttrium	88.3					30.0-136	05/11/2025 19:36	WG2509168

1 Cp

2 Tc

3 Ss

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.280		0.184	0.259	0.154	0.0333	05/05/2025 19:46	WG2505210
(T) Barium-133	99.3					30.0-143	05/05/2025 19:46	WG2505210

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.798		0.477	0.518	0.774	0.261	05/11/2025 19:36	WG2509168
(T) Barium	96.8					30.0-143	05/11/2025 19:36	WG2509168
(T) Yttrium	113					30.0-136	05/11/2025 19:36	WG2509168

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.211	J	0.185	0.281	0.216	0.0615	05/05/2025 19:46	WG2505210
(T) Barium-133	101					30.0-143	05/05/2025 19:46	WG2505210

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R4213586-1 05/11/25 19:36

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE +/-	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.00582	<u>U</u>	0.242	0.427	0.143
(T) Barium	114		114		
(T) Yttrium	93.1		93.1		

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

L1855777-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1855777-08 05/11/25 19:36 • (DUP) R4213586-5 05/11/25 19:36

Analyte	Original Result pCi/l	Original 2 sigma CE +/-	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE +/-	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.0669	0.612	1.07	0.360	0.536	0.588	0.987	0.333	156	0.552	<u>J</u>	20	3
(T) Barium	96.1				99.7	99.7							
(T) Yttrium	110				109	109							

Laboratory Control Sample (LCS)

(LCS) R4213586-2 05/11/25 19:36

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.78	95.6	80.0-120	
(T) Barium			113		
(T) Yttrium			93.8		

L1849096-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1849096-21 05/11/25 19:36 • (MS) R4213586-3 05/11/25 19:36 • (MSD) R4213586-4 05/11/25 19:36

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	4.60	19.4	21.4	88.3	100	1	70.0-130			9.87		20
(T) Barium		137			129	119							
(T) Yttrium		96.2			103	109							

Method Blank (MB)

(MB) R4210392-1 05/05/25 19:46

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	-0.0247	U	0.0312	0.0881	0.0288
(T) Barium-133	89.2		89.2		

L1848996-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1848996-02 05/05/25 19:46 • (DUP) R4210392-5 05/05/25 19:46

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.0202	0.188	0.382	0.116	0.106	0.155	0.233	0.0639	136	0.352	J	20	3
(T) Barium-133	70.2				96.6	96.6							

Laboratory Control Sample (LCS)

(LCS) R4210392-2 05/05/25 19:46

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.64	92.9	80.0-120	
(T) Barium-133			106		

L1853830-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1853830-01 05/05/25 19:46 • (MS) R4210392-3 05/05/25 19:46 • (MSD) R4210392-4 05/05/25 19:46

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.0160	15.4	16.9	76.9	84.3	1	75.0-125			9.18		20
(T) Barium-133		97.6		101	97.1								

- Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gf
- 8 Al
- 9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
-----------	-------------

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

9 Sc

ACCREDITATIONS & LOCATIONS

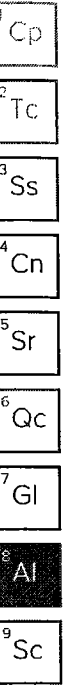
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ⁴	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas ⁵	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA - ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA - ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.





Ship To:
 Pace National
 12065 Lebanon Rd
 Mt. Juliet, TN 37122
 Phone (615) 758-5858

INTER LABORATORY WORK ORDER # 10731224 U849395
 (To be completed by sending lab)

Page 19 of 19

Sending Project No	10731224
Receiving Project No	
Check Box for Consolidated Invoice	<input type="checkbox"/>
Date Prepared	04/17/25
REQUESTED COMPLETION DATE	5/15/2025

Sending Region	IR10-Minnesota	Sending Project Mgr.	Piper Gibbs
Receiving Region	IR850-Pace National	External Client	MVTL Laboratories
State of Sample Origin	MN	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Dry Weight IRWO Lab Need to run? _____ Cert. Needed _____

WORK REQUESTED						
Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Radium 226/228	BP1N	4	HNO3	2	SI-38RAD	SUB PASI RAD

Special Requirements: Report C, QC Limits (C),FR Only no EDD (0)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: Yes No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

Minnesota Valley Testing Laboratories

1126 North Front Street New Ulm, MN 56003
 Phone: 800 782 3557 Fax: 507 359 2890

Field Service Chain of Custody Record

This is an exact copy of the original document
 By AS Date 15 Apr 25
 pages 1-13

Project Otter Tail Power Company	Project Type: Big Stone Plant CCR	Name of Samplers: JH, DF, DS, VM
Report Otter Tail Power Company	Carbon Copy: Barr Engineering	Quote Number:
Attn: Paul Vukonich	Attn:	Work Order Number: 31-0061
Address P.O. Box 496	Address:	Lab Numbers:
Fergus Falls, MN 56538-0496		
Phone: 218-739-8349		

Sample Information					Bottle Type										Analysis				
Lab Number	Sample ID	Unique Station ID	Date	Time	Sample Type	Sample Location	1000 HNO3 Inner Mountain	500 None	1000 none	500 HNO3	Filter? Y or N	500 H2SO4	Filter? Y or N	1000 HNO3 Pace	1000 Amber H2SO4	500 NaOH	Other: 150 H2SO4	Other 150 None	Analysis Required
A 884	H2OX		14 Apr 25	1241	GW				1	1	N								CCR 3
85	H3OX			1030	GW				1	1	N								CCR 3
86	H4OX			1129	GW				1	1	N								CCR 3
A 892	H6 NS			1205	GW				1	1	N								CCR 3
87	H8			1242	GW				1	1	N								CCR 3
88	H9			1334	GW				1	1	N								CCR 3
89	H10			1338	GW				1	1	N			2					CCR 3&4
90	H11			1303	GW				1	1	N			2					CCR 3&4
91	H12			1357	GW				1	1	N								CCR 3

Comments:

Samples Relinquished By: <u>AS</u>			Samples Received By: <u>A. Fredin</u>		
Date: <u>14 Apr 25</u>	Time: <u>1650</u>	Temp: <u>2.9 °C</u>	Date: <u>14 Apr 25</u>	Time: <u>1650</u>	Temp: <u>2.4 °C</u>
Samples Relinquished into: <u>Fridge</u> Log in Cart Other:					
Samples Relinquished By: <u>AS</u>			Samples Received By:		
Date:	Time:	Temp:	Date:	Time:	Temp:
Delivery:	Samplers	Other:	Seal Number(s) - If Used		
Transport:	Ambient	Ice	Other:	Seals Intact?	Yes No

April 2025 Sampling

2025 Big Stone Sampling - CCR

Landfill or ADA wells

Site	Parameter List	Well Depth (constructed)	Diameter (Inches)	Well Elevation (TOC)	Sample Equipment	Dedicated?	Pump Rate (ml/minute)	Goes Dry?	Sampling Seasons**
H2OX	CCR 3	32.20	2	1103.86	Bladder	Yes	100	Yes	April & Oct
H3OX	CCR 3	22.55	2	1095.26	Bladder	Yes	100	Yes	April & Oct
H4OX	CCR 3	27.20	2	1108.25	Bladder	Yes	100	No	April & Oct
H12	CCR 3	22.00	2	1127.40	Bladder	Yes	100	No	April & Oct
H6	CCR 3	15.00	2	1097.76	Bladder	Yes	100	Yes	April & Oct
H8	CCR 3	22.05	2	1081.23	Bladder	Yes	100	No	April & Oct
H9	CCR 3	30.20	2	1086.21	Bladder	Yes	100	No	April & Oct
H10	CCR 3 & CCR4	35.49	2	1090.83	Bladder	Yes	100		April
H11	CCR 3 & CCR4	42.15	2	1093.24	Bladder	Yes	100		April
H10	CCR 3	35.49	2	1090.83	Bladder	Yes	100		October
H11	CCR 3	42.15	2	1093.24	Bladder	Yes	100		October

Note: CCR sampling is for total recoverable metals. They are not filtered in the field.

CCR 3 & 4 parameters see the first two tabs labeled CCR 3 and CCR 4

CCR - Appendix III Detection Monitoring

Field Parameters

pH*

* Field and Laboratory Measurements

Total Concentration Parameters

	Method
Boron	6010
Calcium	6010
Chloride	SM4500 CL E
Fluoride	EPA 300
pH	SM 4500 H+B-96
Sulfate	ASTM D516
Dissolved Solids, Total	SM 2540 C-97

Note: These are non-filtered samples.

CCR - Appendix IV - Assessment Monitoring

Total Concentration Parameters

	Method
Antimony	SW6020A
Arsenic	SW602A
Barium	SW6010C
Beryllium	SW6020A
Cadmium	SW6020A
Chromium, Total	SW6020A
Cobalt	SW6010C
Fluoride	EPA 300
Lead	SW6020A
Lithium	SW6010C
Mercury	EPA 245.7
Molybdenum	SW6020A
Selenium	SW6020A
Thallium	SW6020A
Radium 226 + 228	

Note: These are non-filtered samples.

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

JH

Site: Otter Tail Power Co./ Big Stone

Facility ID: _____

Date: 14 Apr 25

Unique Station ID: _____

Sample ID: Well H2OX

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 32.83
 Constructed Depth: 32.20
 Casing Diameter: 2"
 Water Level Before Purge: 10.33
 Well Volume: 3.67 Gallons

Well Casing Elevation: 1103.91
 Static Water Elevation: 1093.58
 Previous Static: ←
 Water Level After Sample: BELOW pump
 Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 45 Wind: NW-20 Sky: Cloudy
 Sampling Method: Grundfos Bladder SST Disp. Bailer Whale Grab Other:
 Dedicated Equipment: Yes No Pumping Rate: 0.25 gpm
 Well Purged Dry? Yes No Time Pump Began: 12:21 am / pm
 Time Purged Dry? 12:36 Time of Sampling: 12:41 am / pm
 Duplicate Sample? Yes No ID: _____ Sample EH: 43.9
 Sample Appearance: General: Clear Color: none Phase: NONE Odor: NONE

15 Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
12:36	7.18	3662	20.2	NA	NA	3.25	1	
							2	
							3	
							4	
							5	

Stabilized? Yes No

Amount Water Removed: _____ Gallons

Comments:

* Insufficient volume for recharge readings

Exceptions to Protocol: _____

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

JH

Site: Otter Tail Power Co./ Big Stone

Facility ID: _____

Date: 14 Apr 25

Unique Station ID: _____

Sample ID: Well H3OX

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 22.68
 Constructed Depth: 22.55
 Casing Diameter: 2"
 Water Level Before Purge: 6.98
 Well Volume: 2.5 Gallons

Well Casing Elevation: 1095.19
 Static Water Elevation: 1088.21
 Previous Static: —
 Water Level After Sample: Below pump
 Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 45 Wind: NW - 20 Sky: Sun
 Sampling Method: Grundfos Bladder SST Disp. Bailer Whale Grab Other:
 Dedicated Equipment: Yes No
 Well Purged Dry? Yes No
 Time Purged Dry? 10:25
 Duplicate Sample? Yes No ID: —
 Pumping Rate: .25 gpm
 Time Pump Began: 10:15 am / pm
 Time of Sampling: 10:30 am / pm
 Sample EH: 188.4
 Sample Appearance: General: Clear Color: none Phase: none Odor: none

ID Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1025	6.98	3438	7.26	5.55	2.4	2.5	1	
							2	
1030	6.99	3466	7.85	6.24	2.8	—	3	Recharge
							4	
							5	

Stabilized? Yes No

Amount Water Removed: 2.5 Gallons

Comments: _____

Exceptions to Protocol: _____

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Site: Otter Tail Power Co./ Big Stone

Sampling Personnel:

JH

Facility ID: _____

Date: 14 Apr 25

Unique Station ID: _____

Sample ID: Well H4OX

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 27.48
 Constructed Depth: 27.20
 Casing Diameter: 2"
 Water Level Before Purge: 17.45
 Well Volume: 1.63 Gallons

Well Casing Elevation: 1108.22
 Static Water Elevation: 1090.77
 Previous Static:
 Water Level After Sample: Below Pump
 Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 45 Wind: NW-20 Sky: Sun
 Sampling Method: Grundfos Bladder SS/T Disp. Bailer Whale Grab Other: _____
 Dedicated Equipment: Yes No Pumping Rate: .25 gpm
 Well Purged Dry? Yes No Time Pump Began: 11:17 am pm
 Time Purged Dry? 11:24 Time of Sampling: 11:29 am pm
 Duplicate Sample? Yes No ID: Sample EH: 94.2
 Sample Appearance: General: Clear Color: none Phase: none Odor: none

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
<u>7</u>								
<u>11:24</u>	<u>6.88</u>	<u>2507</u>	<u>7.95</u>	<u>NA</u>	<u>NA</u>	<u>1.75</u>	<u>1</u>	
				<u>↓</u>	<u>↓</u>		<u>2</u>	
<u>11:29</u>	<u>6.88</u>	<u>2485</u>	<u>7.99</u>			<u> </u>	<u>3</u>	<u>Recharge</u>
							<u>4</u>	
							<u>5</u>	

Stabilized? Yes No

Amount Water Removed: 1.75 Gallons

Comments:

Exceptions to Protocol:

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

DF

Site: Otter Tail Power Co./ Big Stone

Facility ID: —

Date: 14 Apr 25

Unique Station ID: —

Sample ID: Well H8

Well Condition

Well Locked? Yes No

Well Labeled? Yes No

Casing Straight? Yes No

Protective Posts? Yes No

State ID Tag? Yes No

Grout Seal Intact? Yes No

Repairs Necessary:

Well Information

Well Depth: 22.33

Well Casing Elevation: 1081.23

Constructed Depth: 22.05

Static Water Elevation: 1074.03

Casing Diameter: 2"

Previous Static: —

Water Level Before Purge: 7.20

Water Level After Sample: 9.30

Well Volume: 2.47 Gallons

Measurement Method: Elec. WD Steel Tape

Sampling Information

Weather Conditions: Temp: 45 Wind: NW 20 Sky: Cloudy

Sampling Method: Grundfos Bladder SST Disp. Bailer Whale Grab Other:

Dedicated Equipment: Yes No

Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No

Time Pump Began: 1212 am / pm

Time Purged Dry? —

Time of Sampling: 1242 am / pm

Duplicate Sample? Yes No ID: —

Sample EH: 105.5

Sample Appearance: General: Clear Color: None Phase: None Odor: None

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1222	7.07	1335	7.06	NA	NA	2.5	1	
1232	7.07	1335	7.07			5	2	
1242	7.06	1335	7.08			7.5	3	
							4	
							5	

Stabilized? Yes No

Amount Water Removed: 7.5 Gallons

Comments:

+CCR

Exceptions to Protocol:

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

JH

Site: Otter Tail Power Co./ Big Stone

Facility ID: _____

Date: 14 Apr 25

Unique Station ID: _____

Sample ID: _____ H10

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 35.49
 Constructed Depth: 35.49
 Casing Diameter: 2"
 Water Level Before Purge: 13.21
 Well Volume: 3.63 Gallons

Well Casing Elevation: 1090.83
 Static Water Elevation: 1077.62
 Previous Static: _____
 Water Level After Sample: Below Pump
 Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 45 Wind: NW-20 Sky: cloudy/rain
 Sampling Method: Grundfos Bladder SS/T Disp. Bailer Whale Grab Other:
 Dedicated Equipment: Yes No Pumping Rate: .25 gpm
 Well Purged Dry? Yes No Time Pump Began: 1318 am / pm
 Time Purged Dry? 1333 Time of Sampling: 1338 am / pm
 Duplicate Sample? Yes No ID: _____ Sample EH: -65.5
 Sample Appearance: General: clear Color: none Phase: none Odor: none

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
15 1333	6.94	4452	7.40	NA	NA	3.75	1	
							2	
1338	6.96	4478	7.43			-	3	Recharge
							4	
							5	

Stabilized? Yes No

Amount Water Removed: 3.75 Gallons

Comments: _____

Exceptions to Protocol: _____

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

JA

Site: Otter Tail Power Co./ Big Stone

Facility ID: _____

Date: 14 Apr 25

Unique Station ID: _____

Sample ID: H11

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 42.15
 Constructed Depth: 42.15
 Casing Diameter: 2"
 Water Level Before Purge: 15.08
 Well Volume: 4.41 Gallons

Well Casing Elevation: 1093.24
 Static Water Elevation: 1078.16
 Previous Static: _____
 Water Level After Sample: Below Pump
 Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 45 Wind: NW-20 Sky: Cloudy
 Sampling Method: Grundfos Bladder SS/T Disp. Bailer Whale Grab Other: _____
 Dedicated Equipment: Yes No
 Well Purged Dry? Yes No
 Time Purged Dry? 12:58
 Duplicate Sample? Yes No ID: _____
 Pumping Rate: 0.25 gpm
 Time Pump Began: 12:40 am / pm
 Time of Sampling: 13:03 am / pm
 Sample EH: 19.9
 Sample Appearance: General: Clear Color: none Phase: none Odor: none

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
<u>12:58</u>	<u>6.82</u>	<u>3952</u>	<u>8.02</u>	<u>NA</u>	<u>NA</u>	<u>4.5</u>	<u>1</u>	
							<u>2</u>	
<u>1303</u>	<u>6.66</u>	<u>3996</u>	<u>8.17</u>	<u>L</u>	<u>L</u>	<u>-</u>	<u>3</u>	<u>Recharge</u>
							<u>4</u>	
							<u>5</u>	

Stabilized? Yes No Amount Water Removed: 4.5 Gallons

Comments:

Exceptions to Protocol:

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

DS

Site: Otter Tail Power Co./ Big Stone

Facility ID: _____

Date: 14 Apr 25

Unique Station ID: _____

Sample ID: H12

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 22.63
 Constructed Depth: 24.00
 Casing Diameter: 2"
 Water Level Before Purge: 18.42
 Well Volume: 0.69 Gallons

Well Casing Elevation: NA
 Static Water Elevation: L
 Previous Static: L
 Water Level After Sample: 19.07
 Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 45° Wind: W@21 Sky: Mostly Cloudy
 Sampling Method: Grundfos Bladder SST Disp. Bailer Whale Grab Other: _____
 Dedicated Equipment: Yes No Pumping Rate: 0.25 gpm
 Well Purged Dry? Yes No Time Pump Began: 1345 am pm
 Time Purged Dry? - Time of Sampling: 1357 am pm
 Duplicate Sample? Yes No ID: - Sample EH: 110.6
 Sample Appearance: General: Clear Color: None Phase: None Odor: None

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1348	8.24	347	10.41	NA	NA	0.75	1	
1351	8.25	323	10.56	L	L	1.5	2	
1354	8.24	320	10.53	L	L	2.25	3	
1357	8.24	316	10.54	L	L	3	4	
							5	

Stabilized? Yes No

Amount Water Removed: 3 Gallons

Comments:

State + CCR

Exceptions to Protocol:

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

DF

Site: Otter Tail Power Co./ Big Stone

Facility ID: _____

Date: 14 Apr 25

Unique Station ID: _____

Sample ID: _____

Well H6

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 18.09

Well Casing Elevation: NA

Constructed Depth: 17.70

Static Water Elevation: _____

Casing Diameter: 2"

Previous Static: _____

Water Level Before Purge: 17.94

Water Level After Sample: _____

Well Volume: 0.02 Gallons

Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 45 Wind: NW 20 Sky: Cloudy

Sampling Method: Grundfos Bladder SST Disp. Bailer Whale Grab Other: _____

Dedicated Equipment: Yes No

Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No

Time Pump Began: _____ am / pm

Time Purged Dry? _____

Time of Sampling: 1207 am / pm

Duplicate Sample? Yes No

Sample EH: _____

Sample Appearance: General: _____ Color: _____ Phase: _____ Odor: _____

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
							1	
							2	
							3	
							4	
							5	

Stabilized? Yes No

Amount Water Removed: _____

Gallons

Comments:

- Insufficient volume to purge / sample
 - No sample!
 HCR

Exceptions to Protocol:



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FINAL REPORT COMPLETION DATE: 26 Aug 25

Date Reported: 26 Aug 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 31-0161
Account #: 006106
PO #: 108267

Project Name: BIG STONE PLANT CCR

Ant Rys 26 Aug 25
Field Service Manager/Date Reviewed
[Signature] 26 Aug 25
Chemistry Lab Manager/Date Reviewed
[Signature] 26 Aug 2025
Quality Assurance Director/Date Reviewed

RL = Reporting Limits
NQ = Not Present, Qualitative Only
PQ = Present, Qualitative Only
ND = Not Determined

All data for this report has been approved by MVTL Laboratory Management.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2382
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 11:42
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H9

Temp at Receipt: 2.0C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					19 Aug 25	NS
Appearance, Field	CLEAR		NA	SM 2110	14 Aug 25 11:42	NM
Temperature - Field	9.50	deg. C	NA	170.1	14 Aug 25 11:42	NM
Specific Conductance, Fld	2958	umhos/cm	1	120.1	14 Aug 25 11:42	NM
pH, Field	6.40	units	1.00	SM4500-H+-2011	14 Aug 25 11:42	NM
EH, Field	137.8	units	NA	SM 2580B	14 Aug 25 11:42	NM
Dissolved Oxygen, Field	1.34	mg/L	0.10	SM 4500-O G	14 Aug 25 11:42	NM
Turbidity, Field	0.0	NTU	0.1	180.1	14 Aug 25 11:42	NM
Chloride	82.1	mg/L	3.0	SM 4500 Cl E	15 Aug 25 7:42	PD
Calcium	584.0 ~	mg/L	0.500	SW6010D	20 Aug 25 13:36	SB

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards. The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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Date Reported: 26 Aug 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 202531-0161
Account Number: 006106
PO #: 108267

Project Name: BIG STONE PLANT CCR

LABORATORY NARRATIVE

INORGANIC AND METALS ANALYSES:

No problems were encountered with these analyses.



MINNESOTA VALLEY TESTING LABORATORIES, INC.

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2383
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 10:05
Sampled By: MVTl FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: WELL 10

Table with 6 columns: As Received Result, Method RL, Method Reference, Date Analyzed, Analyst. Rows include Well Depth, Field; Water Level Before Purge; Static Elevation, Field.

RL = Reporting Limit
Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:
0 = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response
CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

MVTl guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTl to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTl. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2385
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 10:15
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: WELL 12

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	112.40	feet	NA	Field	14 Aug 25 10:15	DGF
Water Level Before Purge	65.55	feet	NA	NA	14 Aug 25 10:15	DGF
Static Elevation, Field	1006.34	ft	NA	Field	14 Aug 25 10:15	DGF

RL = Reporting Limit

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2386
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 10:25
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: WELL 1

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	78.00	feet	NA	Field	14 Aug 25 10:25	DGF
Water Level Before Purge	65.16	feet	NA	NA	14 Aug 25 10:25	DGF
Static Elevation, Field	1025.55	ft	NA	Field	14 Aug 25 10:25	DGF

RL = Reporting Limit

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! = Due to sample quantity + = Due to internal standard response

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2387
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 10:42
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H10X

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	32.33	feet	NA	Field	14 Aug 25 10:42	DGF
Water Level Before Purge	25.88	feet	NA	NA	14 Aug 25 10:42	DGF
Static Elevation, Field	1083.56	ft	NA	Field	14 Aug 25 10:42	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

! = Due to sample quantity

= Due to concentration of other analytes

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2388
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 10:40
Sampled By: MVT FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H1INT

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	60.15	feet	NA	Field	14 Aug 25 10:40	DGF
Water Level Before Purge	26.31	feet	NA	NA	14 Aug 25 10:40	DGF
Static Elevation, Field	1089.50	ft	NA	Field	14 Aug 25 10:40	DGF

RL = Reporting Limit

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The reporting limit was elevated for any analyte requiring a dilution as coded below:

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND NW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2389
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 11:35
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H2OX

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	32.83	feet	NA	Field	14 Aug 25 11:35	DGF
Water Level Before Purge	6.71	feet	NA	NA	14 Aug 25 11:35	DGF
Static Elevation, Field	1097.15	ft	NA	Field	14 Aug 25 11:35	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

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@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND Ww/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2390
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 11:33
Sampled By: MVTl FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H2INT

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	62.62	feet	NA	Field	14 Aug 25 11:33	DGF
Water Level Before Purge	61.40	feet	NA	NA	14 Aug 25 11:33	DGF
Static Elevation, Field	1042.00	ft	NA	Field	14 Aug 25 11:33	DGF

RL = Reporting Limit

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND W/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
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FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2391
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 11:50
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H30X

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	22.68	feet	NA	Field	14 Aug 25 11:50	DGF
Water Level Before Purge	7.32	feet	NA	NA	14 Aug 25 11:50	DGF
Static Elevation, Field	1087.94	ft	NA	Field	14 Aug 25 11:50	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2392
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 11:52
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H3INT

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	54.42	feet	NA	Field	14 Aug 25 11:52	DGF
Water Level Before Purge	27.05	feet	NA	NA	14 Aug 25 11:52	DGF
Static Elevation, Field	1068.12	ft	NA	Field	14 Aug 25 11:52	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

g = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2393
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 12:10
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H40X

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	27.48	feet	NA	Field	14 Aug 25 12:10	DGF
Water Level Before Purge	16.89	feet	NA	NA	14 Aug 25 12:10	DGF
Static Elevation, Field	1091.36	ft	NA	Field	14 Aug 25 12:10	DGF

RL = Reporting Limit

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The reporting limit was elevated for any analyte requiring a dilution as coded below:

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! = Due to sample quantity + = Due to internal standard response

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FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2394
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 12:12
Sampled By: MVT FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H4INT

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	60.10	feet	NA	Field	14 Aug 25 12:12	DGF
Water Level Before Purge	17.50	feet	NA	NA	14 Aug 25 12:12	DGF
Static Elevation, Field	1091.11	ft	NA	Field	14 Aug 25 12:12	DGF

RL = Reporting Limit

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! = Due to sample quantity + = Due to internal standard response

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OTTER TAIL POWER CO
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FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2395
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 9:55
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H5

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	44.99	feet	NA	Field	14 Aug 25 9:55	DGF
Water Level Before Purge	8.81	feet	NA	NA	14 Aug 25 9:55	DGF
Static Elevation, Field	1113.99	ft	NA	Field	14 Aug 25 9:55	DGF

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OTTER TAIL POWER CO
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FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2396
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 10:45
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H6

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	17.92	feet	NA	Field	14 Aug 25 10:45	DGF
Water Level Before Purge	12.50	feet	NA	NA	14 Aug 25 10:45	DGF
Static Elevation, Field	1079.84	ft	NA	Field	14 Aug 25 10:45	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND RW/DW # R-040



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OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2397
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 10:20
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H7

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	35.60	feet	NA	Field	14 Aug 25 10:20	DGF
Water Level Before Purge	18.85	feet	NA	NA	14 Aug 25 10:20	DGF
Static Elevation, Field	1087.21	ft	NA	Field	14 Aug 25 10:20	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

0 = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
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Report Date: 26 Aug 2025
Lab Number: 25-A2398
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 11:05
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H8

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	22.33	feet	NA	Field	14 Aug 25 11:05	DGF
Water Level Before Purge	6.22	feet	NA	NA	14 Aug 25 11:05	DGF
Static Elevation, Field	1075.01	ft	NA	Field	14 Aug 25 11:05	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

0 = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND W/W/DW # R-040



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OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2399
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 11:00
Sampled By: MVTL FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H9

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	30.71	feet	NA	Field	14 Aug 25 11:00	DGF
Water Level Before Purge	9.20	feet	NA	NA	14 Aug 25 11:00	DGF
Static Elevation, Field	1077.01	ft	NA	Field	14 Aug 25 11:00	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND KW/DW # R-040



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 26 Aug 2025
Lab Number: 25-A2400
Work Order #: 31-0161
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 14 Aug 2025 11:20
Sampled By: MVT FIELD PERSONNEL
Date Received: 14 Aug 2025 15:30
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H10

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Well Depth, Field	35.49	feet	NA	Field	14 Aug 25 11:20	DGF
Water Level Before Purge	8.83	feet	NA	NA	14 Aug 25 11:20	DGF
Static Elevation, Field	1082.00	ft	NA	Field	14 Aug 25 11:20	DGF

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND NW/DW # R-040

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Quality Control Report

Lab ID: 25-A2382

Project: BIG STONE PLANT CCR

Work Order: 202531-0161

Analyte	LCS Spike Amt	LCS Rec %	LCS % Rec Limits	Matrix Spike Amt	Matrix Spike ID	Matrix Spike Orig Result	Matrix Spike Result	Matrix Spike Rec %	Matrix Spike % Rec Limits	MSD/ Dup Orig Result	MSD/ Dup Result	MSD Rec %	MSD/ Dup RPD	MSD/ Dup RPD Limit (<)	Known Rec (%)	Known % Rec Limits	Method Blank
Calcium mg/L	50.00	93	85-115	50.0	96015001qc	<0.5	47.90	96	75-125	47.90	47.50	95	0.8	10	101	90-110	<0.5
Chloride mg/L	-	-	-	60.0	25-A2382	82.1	145	105	80-120	145	142	100	2.1	20	96	90-110	<3

Approved by: _____



This is an exact copy of the original document

By DF Date 14 Aug 25
pages 1-5

Minnesota Valley Testing Laboratories

1126 North Front Street New Ulm, MN 56003
Phone: 800 782 3557 Fax: 507 359 2890

Field Service Chain of Custody Record

Project: Otter Tail Power Company	Project Type: Big Stone Plant CCR	Name of Samplers: DF, NM
Report: Otter Tail Power Company	Carbon Copy: Barr Engineering	Quote Number:
Attn: Paul Vukonich	Attn:	Work Order Number: 31-0161
Address: P.O. Box 496	Address:	Lab Numbers:
Fergus Falls, MN 56538-0496		
Phone: 218-739-8349		

Sample Information					Bottle Type										Analysis					
Lab Number	Sample ID	Unique Station ID	Date	Time	Sample Type	Sample Location	1000 HNO3 Inner Mountain	500 None	1000 none	500 HNO3	Filter? Y or N	500 H2SO4	Filter? Y or N	1000 HNO3 Pace	1000 Amber H2SO4	500 NaOH	Other: 150 H2SO4	Other: 150 None	Analysis Required	
A2382	H9		14 Aug 25	1142	GW				1	1	N									CO3 Calcium Chloride

Comments:

Rush Samples!

Samples Relinquished By: <u>DF</u>			Samples Received By: <u>SP</u>		
Date: <u>14 Aug 25</u>	Time: <u>1530</u>	Temp: <u>2.02</u>	Date: <u>14 Aug 25</u>	Time: <u>1530/1530</u>	Temp: <u>2.0°C</u>
Samples Relinquished into: Fridge <u>log in Cart</u> Other:					
Samples Relinquished By:			Samples Received By:		
Date:	Time:	Temp:	Date:	Time:	Temp:
Delivery: Samplers Other:			Seal Number(s) - If Used		
Transport: Ambient Ice Other:			Seals Intact? Yes No		

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 5607

507 354 8517

Groundwater Assessment

Sampling Personne

NJM
DF

Site: Otter Tail Power Co./ Big Stone

Facility ID:

Date: 14 Aug 25

Unique Station ID:

Sample ID: Well H9

Well Condition

Well Locked? Yes No

Well Labeled? Yes No

Casing Straight? Yes No

Repairs Necessary:

Protective Posts? Yes No

State ID Tag? Yes No

Grout Seal Intact? Yes No

Well Information

Well Depth: 30.71

Constructed Depth: 30.20

Casing Diameter: 2"

Water Level Before Purge: 9.20

Well Volume: 3.50 Gallons

Well Casing Elevation: 1086.21

Static Water Elevation: 1077.01

Previous Static:

Water Level After Sample: 13.50

Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions Temp: 76° Wind: 2-SE Sky: Cloudy

Sampling Method: Grundfos Bladder SS/T Disp. Bailer Whale Grab Other:

Dedicated Equipment? Yes No Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No Time Pump Began: 1100 am/pm

Time Purged Dry? — Time of Sampling: 1142 am/pm

Duplicate Sample? Yes No ID: — Sample EH: 137.8

Sample Appearance General: Clear Color: none Phase: none Odor: none

Time	pH	Specific Cond.	Temp	D. O.	Turbidity	Gallons	SEQ #	Comments:
1114	6.41	2934	9.6°	1.45	0	5.50	1	
1128	6.41	2944	9.6°	1.42	0	7.00	2	
1142	6.40	2958	9.5°	1.34	0	10.50	3	
							4	
							5	

Stabiliz Yes No Amount Water Removed: 10.50 Gallons

Comments:

Exceptions to Protocol:

Aug 14, 2025

Jeff Hoffman

From: Hollen, Josh <jhollen@otpc.com>
Sent: Monday, July 28, 2025 12:14 PM
To: Jeff Hoffman
Subject: Big Stone Plant - CCR resampling

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Jeff,

We need to get a resample at Big Stone for CCR parameters. Monitoring well H9 needs to get resampled for ~~calcium and chloride~~.

The other wells will need to get groundwater levels.



Josh Hollen

Environmental Compliance Specialist
Environmental Services Dept.

Phone: (218) 739-8314

otpc.com





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FINAL REPORT COMPLETION DATE: 31 Oct 25th

Date Reported: 31 Oct 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 31-0180
Account #: 006106
PO #: 108267

Project Name: BIG STONE PLANT CCR

Josh Hollen 31 Oct 25
Field Service Manager/Date Reviewed

[Signature] 31 Oct 25
Chemistry Lab Manager/Date Reviewed

[Signature] 31 Oct 2025
Quality Assurance Director/Date Reviewed

- RL = Reporting Limits
- NQ = Not Present, Qualitative Only
- PQ = Present, Qualitative Only
- ND = Not Determined



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2709
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 12:47
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H2OX

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	7.01	units	1.00	SM4500-H+-2011	13 Oct 25 12:47	JLH
pH	* 7.2	units	1.0	SM 4500 H+ B-2000	14 Oct 25 9:56	KFL
Sulfate	2170 ~	mg/L	5.0	ASTM D516-16	14 Oct 25 13:36	SS
Chloride	< 30 @	mg/L	3	SM 4500 Cl E	16 Oct 25 10:17	DT
Solids, Total Dissolved	3790	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	491.0 ~	mg/L	0.500	SW6010D	16 Oct 25 11:22	SB
Boron	0.234	mg/L	0.100	SW6010D	16 Oct 25 11:22	SB
Fluoride	0.360	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WR/DW # R-040

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2710
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 10:20
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H3OX

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	6.85	units	1.00	SM4500-H+-2011	13 Oct 25 10:20	JLH
pH	* 7.0	units	1.0	SM 4500 H+ B-2000	14 Oct 25 10:12	KFL
Sulfate	1650 ~	mg/L	5.0	ASTM D516-16	14 Oct 25 13:36	SS
Chloride	63.3	mg/L	3.0	SM 4500 Cl E	16 Oct 25 10:33	DT
Solids, Total Dissolved	3360	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	439.0 ~	mg/L	0.500	SW6010D	16 Oct 25 12:11	SB
Boron	8.110 ~	mg/L	0.100	SW6010D	16 Oct 25 12:11	SB
Fluoride	0.390	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2711
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 12:03
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H4OX

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	7.02	units	1.00	SM4500-H+-2011	13 Oct 25 12:03	JLH
pH	* 7.4	units	1.0	SM 4500 H+ B-2000	14 Oct 25 10:12	KFL
Sulfate	984 ~	mg/L	5.0	ASTM D516-16	14 Oct 25 13:36	SS
Chloride	41.8	mg/L	3.0	SM 4500 Cl E	16 Oct 25 10:33	DT
Solids, Total Dissolved	2070	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	280.0	mg/L	0.500	SW6010D	16 Oct 25 12:11	SB
Boron	0.558	mg/L	0.100	SW6010D	16 Oct 25 12:11	SB
Fluoride	0.520	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards. The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2712
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 12:27
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H6

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	7.31	units	1.00	SM4500-H+-2011	13 Oct 25 12:27	DGF
pH	* 7.6	units	1.0	SM 4500 H+ B-2000	14 Oct 25 10:12	KFL
Sulfate	93.6 @	mg/L	5.0	ASTM D516-16	14 Oct 25 13:36	SS
Chloride	< 3	mg/L	3	SM 4500 Cl E	16 Oct 25 10:33	DT
Solids, Total Dissolved	570	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	43.20	mg/L	0.500	SW6010D	16 Oct 25 12:11	SB
Boron	3.350	mg/L	0.100	SW6010D	16 Oct 25 12:11	SB
Fluoride	0.510	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2713
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 13:02
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H8

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	7.19	units	1.00	SM4500-H+-2011	13 Oct 25 13:02	DGF
pH	* 7.4	units	1.0	SM 4500 H+ B-2000	14 Oct 25 10:12	KFL
Sulfate	276 @	mg/L	5.0	ASTM D516-16	14 Oct 25 13:36	SS
Chloride	< 3	mg/L	3	SM 4500 Cl E	16 Oct 25 10:33	DT
Solids, Total Dissolved	919	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	108.0	mg/L	0.500	SW6010D	16 Oct 25 12:11	SB
Boron	3.040	mg/L	0.100	SW6010D	16 Oct 25 12:11	SB
Fluoride	0.540	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards. The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2714
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 13:52
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H9

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	6.63	units	1.00	SM4500-H+-2011	13 Oct 25 13:52	DGF
pH	* 6.9	units	1.0	SM 4500 H+ B-2000	14 Oct 25 10:12	KFL
Sulfate	1440 ~	mg/L	5.0	ASTM D516-16	14 Oct 25 13:36	SS
Chloride	77.8	mg/L	3.0	SM 4500 Cl E	16 Oct 25 10:33	DT
Solids, Total Dissolved	2820	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	612.0 ~	mg/L	0.500	SW6010D	16 Oct 25 12:11	SB
Boron	1.400	mg/L	0.100	SW6010D	16 Oct 25 12:11	SB
Fluoride	0.370	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

! = Due to sample quantity

= Due to concentration of other analytes

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2715
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 13:53
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H10

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	6.94	units	1.00	SM4500-H+-2011	13 Oct 25 13:53	DGF
pH	* 6.9	units	1.0	SM 4500 H+ B-2000	14 Oct 25 10:12	KFL
Sulfate	2670 ~	mg/L	5.0	ASTM D516-16	14 Oct 25 13:36	SS
Chloride	6.1	mg/L	3.0	SM 4500 Cl E	16 Oct 25 10:33	DT
Solids, Total Dissolved	4570	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	492.0 ~	mg/L	0.500	SW6010D	16 Oct 25 12:11	SB
Boron	0.311	mg/L	0.100	SW6010D	16 Oct 25 12:11	SB
Fluoride	0.260	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

! = Due to sample quantity

= Due to concentration of other analytes

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

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JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2716
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 14:33
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H11

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	6.62	units	1.00	SM4500-H+-2011	13 Oct 25 14:33	DS
pH	* 6.8	units	1.0	SM 4500 H+ B-2000	14 Oct 25 10:12	KFL
Sulfate	2270 ~	mg/L	5.0	ASTM D516-16	14 Oct 25 13:36	SS
Chloride	< 3	mg/L	3	SM 4500 Cl E	16 Oct 25 10:33	DT
Solids, Total Dissolved	4220	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	530.0 ~	mg/L	0.500	SW6010D	16 Oct 25 12:11	SB
Boron	0.237	mg/L	0.100	SW6010D	16 Oct 25 12:11	SB
Fluoride	0.200	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

~ Sample diluted due to result above calibration of linear range.

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
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Page: 10 of 11

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Report Date: 31 Oct 2025
Lab Number: 25-A2717
Work Order #: 31-0180
Account #: 006106
Sample Matrix: GROUNDWATER
Date Sampled: 13 Oct 2025 13:57
Sampled By: MVTL FIELD PERSONNEL
Date Received: 13 Oct 2025 16:50
PO #: 108267

Project Name: BIG STONE PLANT CCR

Sample Description: H12

Temp at Receipt: 0.5C

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Water Digestions					14 Oct 25	NS
pH, Field	7.97	units	1.00	SM4500-H+-2011	13 Oct 25 13:57	DS
pH	* 8.0	units	1.0	SM 4500 H+ B-2000	14 Oct 25 10:12	KFL
Sulfate	5.9	mg/L	5.0	ASTM D516-16	14 Oct 25 13:54	SS
Chloride	< 3	mg/L	3	SM 4500 Cl E	16 Oct 25 10:33	DT
Solids, Total Dissolved	188	mg/L	10	SM 2540 C-97	14 Oct 25 9:30	CC
Calcium	20.10	mg/L	0.500	SW6010D	16 Oct 25 12:11	SB
Boron	0.338	mg/L	0.100	SW6010D	16 Oct 25 12:11	SB
Fluoride	0.350	mg/L	0.020	EPA 300.0	16 Oct 25 23:00	MDH

* Holding Time Exceeded

RL = Reporting Limit

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

= Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Page: 11 of 11

Date Reported: 31 Oct 2025

JOSH HOLLEN
OTTER TAIL POWER CO
PO BOX 496
FERGUS FALLS MN 56538-0496

Work Order #: 202531-0180
Account Number: 006106
PO #: 108267

Project Name: BIG STONE PLANT CCR

LABORATORY NARRATIVE

INORGANIC AND METALS ANALYSES:

No problems were encountered with these analyses.

Quality Control Report

Lab IDs: 25-A2709 to 25-A2717

Project: BIG STONE PLANT CCR

Work Order: 202531-0180

Analyte	LCS Spike Amt	LCS Rec %	LCS % Rec Limits	Matrix Spike Amt	Matrix Spike ID	Matrix Spike Orig Result	Matrix Spike Result	Matrix Spike Rec %	Matrix Spike % Rec Limits	MSD/ Dup Orig Result	MSD/ Dup Result	MSD Rec %	MSD/ Dup RPD	MSD/ Dup RPD Limit (<=)	Known Rec (%)	Known % Rec Limits	Method Blank
Boron mg/L	1.000	97	85-115	1.00	25A2699q	0.237	1.260	102	75-125	1.260	1.230	99	2.4	10	96	90-110	< 0.1
	1.000	98	85-115	1.00	25-A2710q	8.110	9.290	118	75-125	9.290	9.220	111	0.8	10	97	90-110	< 0.1
Calcium mg/L	50.00	99	85-115	50.0	25A2699q	510.0	570.0	120	75-125	570.0	567.0	114	0.5	10	102	90-110	< 0.5
	50.00	100	85-115	50.0	25-A2710q	439.0	496.0	114	75-125	496.0	491.0	104	1.0	10	105	90-110	< 0.5
Chloride mg/L	-	-	-	60.0	25-A2707	59.8	117	95	80-120	117	120	100	2.5	20	100	90-110	< 3
	-	-	-	60.0	25-A2718	33.3	91.6	97	80-120	91.6	92.8	99	1.3	20	97	90-110	< 3
Fluoride mg/L	-	-	-	0.20	25-A2717q	0.350	0.550	100	80-120	0.550	0.540	95	1.8	10	105	90-110	-
pH units	-	-	-	-	-	-	-	-	-	6.9	6.9	-	0.0	2.5	101	90-110	-
	-	-	-	-	-	-	-	-	-	7.0	7.0	-	0.0	2.5	101	90-110	-
Solids, Total Dissolved mg/L	-	-	-	-	-	-	-	-	-	377	379	-	0.5	10	100	85-115	< 10
	-	-	-	-	-	-	-	-	-	919	891	-	3.1	10	-	-	-
Sulfate mg/L	-	-	-	500	25-A2712	93.6	550	91	80-120	550	562	94	2.2	20	103	85-115	< 5
	-	-	-	500	25-A2723	519	1070	110	80-120	1070	1070	110	0.0	20	99	85-115	< 5

Approved by: 

Minnesota Valley Testing Laboratories

1126 North Front Street New Ulm, MN 56003
 Phone: 800 782 3557 Fax: 507 359 2890

Field Service Chain of Custody Record

This is an exact copy of the original document
 By AS Date 14 Oct 25
 Pages 1-13

Project Otter Tail Power Company	Project Type: Big Stone Plant CCR	Name of Samplers: JH, ZH, NM, DF, AS
Report Otter Tail Power Company	Carbon Copy: Barr Engineering	Quote Number:
Attn: Paul Vukonich	Attn:	Work Order Number: 31-180
Address P.O. Box 496	Address:	Lab Numbers:
Fergus Falls, MN 56538-0496		
Phone: 218-739-8349		

Sample Information					Bottle Type										Analysis						
Lab Number	Sample ID	Unique Station ID	Date	Time	Sample Type	Sample Location	1000 HNO3 Inner Mountain	500 None	1000 none	500 HNO3	Filter? Y or N	500 H2SO4	Filter? Y or N	1000 HNO3 Pace	1000 Amber H2SO4	500 NaOH	Other: 150 H2SO4	Other: 150 None	Analysis Required		
A2709	H2OX		13 Oct 25	1247	GW				1	1	N									CCR 3	
10	H3OX		}	1020	GW				1	1	N									CCR 3	
11	H4OX			1203	GW					1	1	N									CCR 3
12	H6			1227	GW					1	1	N									CCR 3
13	H8			1302	GW					1	1	N									CCR 3
14	H9			1352	GW					1	1	N									CCR 3
15	H10			1353	GW					1	1	N									CCR 3
16	H11			1433	GW					1	1	N									CCR 3
17	H12			1357	GW					1	1	N									CCR 3

Comments:

POF DR 14 Oct 25 16:50 / 07:36
 0.5C
 TM
 77

Samples Relinquished By: <u>GM</u>	Samples Received By:
Date: 13 Oct 25	Date:
Time: 1650	Time:
Temp: 0.5	Temp:
Samples Relinquished into: Fridge <u>Log in Cart</u> - Other:	
Samples Relinquished By:	Samples Received By:
Date:	Date:
Time:	Time:
Temp:	Temp:
Delivery: Samplers Other:	Seal Number(s) - If Used
Transport: Ambient Ice Other:	Seals Intact? Yes No

Oct 15, 2025 Sampling

2025 Big Stone Sampling - CCR

Landfill or ADA wells

Site	Parameter List	Well Depth (constructed)	Diameter (Inches)	Well Elevation (TOC)	Sample Equipment	Dedicated?	Pump Rate (ml/minute)	Goes Dry?	Sampling Seasons**
H2OX	CCR 3	32.20	2	1103.86	Bladder	Yes	100	Yes	April & Oct
H3OX	CCR 3	22.55	2	1095.26	Bladder	Yes	100	Yes	April & Oct
H4OX	CCR 3	27.20	2	1108.25	Bladder	Yes	100	No	April & Oct
H12	CCR 3	22.00	2	1127.40	Bladder	Yes	100	No	April & Oct
H6	CCR 3	15.00	2	1097.76	Bladder	Yes	100	Yes	April & Oct
H8	CCR 3	22.05	2	1081.23	Bladder	Yes	100	No	April & Oct
H9	CCR 3	30.20	2	1086.21	Bladder	Yes	100	No	April & Oct
H10	CCR 3 & CCR 4	35.49	2	1090.83	Bladder	Yes	100		April Oct
H11	CCR 3 & CCR 4	42.15	2	1093.24	Bladder	Yes	100		April Oct
H10	CCR 3	35.49	2	1090.83	Bladder	Yes	100		October
H11	CCR 3	42.15	2	1093.24	Bladder	Yes	100		October
H12	CCR 3								October

Note: CCR sampling is for total recoverable metals. They are not filtered in the field.

CCR 3 & 4 parameters see the first two tabs labeled CCR 3 and CCR 4

CCR - Appendix III Detection Monitoring

Field Parameters

pH*

* Field and Laboratory Measurements

Total Concentration Parameters

	Method
Boron	6010
Calcium	6010
Chloride	SM4500 CL E
Fluoride	EPA 300
pH	SM 4500 H+B-96
Sulfate	ASTM D516
Dissolved Solids, Total	SM 2540 C-97

Note: These are non-filtered samples.

CCR - Appendix IV - Assessment Monitoring

Total Concentration Parameters	Method
Antimony	SW6020A
Arsenic	SW602A
Barium	SW6010C
Beryllium	SW6020A
Cadmium	SW6020A
Chromium, Total	SW6020A
Cobalt	SW6010C
Fluoride	EPA 300
Lead	SW6020A
Lithium	SW6010C
Mercury	EPA 245.7
Molybdenum	SW6020A
Selenium	SW6020A
Thallium	SW6020A
Radium 226 + 228	

Note: These are non-filtered samples.

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Site: Otter Tail Power Co./ Big Stone

Sampling Personnel:

Facility ID:

JH
ZH

Date: 13 Oct 25

Unique Station ID:

Sample ID: Well H20X

Well Condition

Well Locked? Yes No
Well Labeled? Yes No
Casing Straight? Yes No

Protective Posts? Yes No
State ID Tag? Yes No
Grout Seal Intact? Yes No

Repairs Necessary:

Well Information

Well Depth: 32.83

Well Casing Elevation: 1103.91

Constructed Depth: 32.20

Static Water Elevation: 1096.35

Casing Diameter: 2"

Previous Static:

Water Level Before Purge: 7.56

Water Level After Sample: Below Pump

Well Volume: 4.12 Gallons

Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 48 Wind: NW-10 Sky: Sunny

Sampling Method: Grundfos Bladder SST Disp. Bailer Whale Grab Other:

Dedicated Equipment: Yes No

Pumping Rate: .25 gpm

Well Purged Dry? Yes No

Time Pump Began: 12:25 am / pm

Time Purged Dry? 12:42

Time of Sampling: 12:47 am / pm

Duplicate Sample? Yes No ID: -

Sample EH: -193.0

Sample Appearance: General: Clear Color: none Phase: none Odor: Sulfurous

17 Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1242	7.01	3992	10.54	NA	NA	4.25	1	
							2	
1247	7.01	3999	10.75			-	3	Recharge
							4	
							5	

Stabilized? Yes No Amount Water Removed: 4.25 Gallons

Comments:

- slow recharge

Exceptions to Protocol:

State to CCR

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Site: Otter Tall Power Co./ Big Stone

Sampling Personnel:

ZH
JH

Facility ID: _____

Date: 13 Oct 25

Unique Station ID: _____

Sample ID: Well H30X

Well Condition

Well Locked? Yes No
Well Labeled? Yes No
Casing Straight? Yes No

Protective Posts? Yes No
State ID Tag? Yes No
Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 22.68

Well Casing Elevation: 1095.19

Constructed Depth: 22.55

Static Water Elevation: 1087.77

Casing Diameter: 2"

Previous Static: _____

Water Level Before Purge: 7.42

Water Level After Sample: Below Pump

Well Volume: 2.48 Gallons

Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 46 Wind: NW-5 Sky: Sunny

Sampling Method: Grundfos Bladder SS/T Disp. Baller Whale Grab Other: _____

Dedicated Equipment: Yes No

Pumping Rate: .25 gpm

Well Purged Dry? Yes No

Time Pump Began: 10:05 (am) / pm

Time Purged Dry? 10:15

Time of Sampling: 10:20 (am) / pm

Duplicate Sample? Yes No ID: _____

Sample EH: 142.9

Sample Appearance: General: Clear Color: none Phase: none Odor: none

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1015	6.94	3620	13.10	4.07	0.0	2.50	1	
							2	
1020	6.85	3864	12.16	5.58	0.0	-	3	Recharge
							4	
							5	

Stabilized? Yes No

Amount Water Removed: 2.50 Gallons

Comments: _____

Exceptions to Protocol:

State & CCR

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Site: Otter Tail Power Co./ Big Stone

Sampling Personnel:

Facility ID: _____

JH

Date: 13 Oct 25

ZH

Unique Station ID: _____

Sample ID: Well H40X

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 27.48

Well Casing Elevation: 1108.22

Constructed Depth: 27.20

Static Water Elevation: 1090.74

Casing Diameter: 2"

Previous Static: —

Water Level Before Purge: 17.48

Water Level After Sample: 20.55

Well Volume: 1.63 Gallons

Measurement Method: Elec. Wire Steel Tape

Sampling Information

Weather Conditions: Temp: 48 Wind: NW-7 Sky: Sunny

Sampling Method: Grundfos Bladder SST Disp. Baller Whale Grab Other: _____

Dedicated Equipment: Yes No

Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No

Time Pump Began: 11:42 am pm

Time Purged Dry? —

Time of Sampling: 12:03 am pm

Duplicate Sample? Yes No ID: _____

Sample EH: 101.8

Sample Appearance: General: Clear Color: none Phase: none Odor: none

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
<u>11:49</u>	<u>7.01</u>	<u>2565</u>	<u>9.19</u>	<u>NA</u>	<u>NA</u>	<u>1.75</u>	<u>1</u>	
<u>11:56</u>	<u>7.01</u>	<u>2551</u>	<u>9.13</u>	<u>↓</u>	<u>↓</u>	<u>3.50</u>	<u>2</u>	
<u>12:03</u>	<u>7.02</u>	<u>2543</u>	<u>9.15</u>	<u>↓</u>	<u>↓</u>	<u>5.25</u>	<u>3</u>	
							<u>4</u>	
							<u>5</u>	

Stabilized? Yes No

Amount Water Removed: 5.25 Gallons

Comments: _____

Exceptions to Protocol:

State & CCR

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

DF

Site: Otter Tail Power Co./ Big Stone

Facility ID: —

Date: 13 Oct 25

Unique Station ID: —

Sample ID: Well H6

Well H6

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary: —

Well Information

Well Depth: 17.92

Well Casing Elevation: NA

Constructed Depth: 17.70

Static Water Elevation: L

Casing Diameter: 2"

Previous Static: L

Water Level Before Purge: 12.50

Water Level After Sample: 13.50

Well Volume: 0.88 Gallons

Measurement Method: Elec. W/L Steel Tape

Sampling Information

Weather Conditions: Temp: 50 Wind: N 9 Sky: Sunny

Sampling Method: Grundfos Bladder SSA Disp. Bailor Whale Grab Other: —

Dedicated Equipment: Yes No

Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No

Time Pump Began: 1215 am / pm

Time Purged Dry? —

Time of Sampling: 1227 am / pm

Duplicate Sample? Yes No ID: —

Sample EH: -70.0

Sample Appearance: General: Clear Color: None Phase: None Odor: None

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
<u>4</u> 1219	<u>7.31</u> 6.92	947	11.50	NA	NA	1	1	
1223	6.93	947	11.50			2	2	
1227	6.99	947	11.49			3	3	
	7.31						4	
							5	

30 Oct 25
DF

Stabilized? Yes No

Amount Water Removed: 3 Gallons

Comments:

Exceptions to Protocol:

State to CCR

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

DF

Site: Offer Tail Power Co./ Big Stone

Facility ID:

Date: 13 Oct 25

Unique Station ID:

Sample ID: Well H8

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary:

Well Information

Well Depth: 22.33

Well Casing Elevation: 1081.23

Constructed Depth: 22.05

Static Water Elevation: 1073.99

Casing Diameter: 2"

Previous Static:

Water Level Before Purge: 7.24

Water Level After Sample: 9.15

Well Volume: 2.46 Gallons

Measurement Method: Elec. W/L Steel Tape

Sampling Information

Weather Conditions: Temp: 50 Wind: N 9 Sky: Sunny

Sampling Method: Grundfos Bladder S&T Disp. Bailer Whale Grab Other:

Dedicated Equipment: Yes No

Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No

Time Pump Began: 1232 am / pm

Time Purged Dry?

Time of Sampling: 1302 am / pm

Duplicate Sample? Yes No ID:

Sample EH: 53.0

Sample Appearance: General: Clear Color: None Phase: None Odor: None

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1242	7.20	1344	10.57	NA	NA	2.5	1	
1252	7.19	1344	10.57			5	2	
1302	7.19	1343	10.58			7.5	3	
							4	
							5	

Stabilized? Yes No

Amount Water Removed: 7.5 Gallons

Comments:

Exceptions to Protocol:

State & CCR

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

DF

Site: Otter Tail Power Co./ Big Stone

Facility ID:

Date: 13 Oct 25

Unique Station ID:

Sample ID: Well H9

Well Condition

Well Locked? Yes No

Well Labeled? Yes No

Casing Straight? Yes No

Protective Posts? Yes No

State ID Tag? Yes No

Grout Seal Intact? Yes No

Repairs Necessary:

Well Information

Well Depth: 30.71

Well Casing Elevation: 1086.21

Constructed Depth: 30.20

Static Water Elevation: 1076.00

Casing Diameter: 2"

Previous Static:

Water Level Before Purge: 10.21

Water Level After Sample: 14.05

Well Volume: 3.34 Gallons

Measurement Method: Elec. WD Steel Tape

Sampling Information

Weather Conditions: Temp: 50 Wind: N 9 Sky: Sunny

Sampling Method: Grundfos Bladder SST Disp. Bailer Whale Grab Other:

Dedicated Equipment: Yes No

Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No

Time Pump Began: 1310 am / pm

Time Purged Dry?

Time of Sampling: 1352 am / pm

Duplicate Sample? Yes No ID:

Sample EH: 855

Sample Appearance: General: Clear Color: None Phase: None Odor: None

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1324	6.63	3104	10.03	NA	NA	3.5	1	
1338	6.63	3110	10.01			7	2	
1352	6.63	3115	10.01			10.5	3	
							4	
							5	

Stabilized? Yes No

Amount Water Removed: 10.5 Gallons

Comments:

Exceptions to Protocol:

State to CCR

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Site: Otter Tail Power Co./ Big Stone

Sampling Personnel:

Facility ID: _____

JH
ZH

Date: 13 Oct 25

Unique Station ID: _____

Sample ID: H10

Well Condition

Well Locked? Yes No

Protective Posts? Yes No

Well Labeled? Yes No

State ID Tag? Yes No

Casing Straight? Yes No

Grout Seal Intact? Yes No

Repairs Necessary: _____

Well Information

Well Depth: 38.53

Well Casing Elevation: 1090.83

Constructed Depth: 35.49

Static Water Elevation: 1080.98

Casing Diameter: 2"

Previous Static: _____

Water Level Before Purge: 9.85

Water Level After Sample: Below pump

Well Volume: 4.67 Gallons

Measurement Method: Elec. WLI Steel Tape

Sampling Information

Weather Conditions: Temp: 50 Wind: NW-10 Sky: Sunny

Sampling Method: Grundfos Bladder SS/T Disp. Baller Whale Grab Other: _____

Dedicated Equipment: Yes No

Pumping Rate: .25 gpm

Well Purged Dry? Yes No

Time Pump Began: 13:10 am / pm

Time Purged Dry? 13:48

Time of Sampling: 13:53 am / pm

Duplicate Sample? Yes No ID: _____

Sample EH: -74.3

Sample Appearance: General: Clear Color: none Phase: none Odor: none

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1329	6.98	4838	9.68	NA	NA	4.75	1	
1348	7.01	4764	9.42	↓	↓	9.50	2	
							3	
1353	6.94	4775	9.34				4	Recharge
							5	

Stabilized? Yes No

Amount Water Removed: _____ Gallons

Comments: _____

Exceptions to Protocol:

State & CCR

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

DS

Site: Otter Tail Power Co./ Big Stone

Facility ID:

Date:

13 Oct 25

Unique Station ID:

Sample ID:

H11

Well Condition

Well Locked? Yes No

Well Labeled? Yes No

Casing Straight? Yes No

Protective Posts? Yes No

State ID Tag? Yes No

Grout Seal Intact? Yes No

Repairs Necessary:

Well Information

Well Depth: 44.32

Well Casing Elevation: 1093.24

Constructed Depth: 42.15

Static Water Elevation: 1083.66

Casing Diameter: 2"

Previous Static: 1079.28

Water Level Before Purge: 9.58

Water Level After Sample: 40.17

Well Volume: 5.67 Gallons

Measurement Method: Elec. WL Steel Tape

Sampling Information

Weather Conditions: Temp: 48° Wind: NW 7 Sky: Clear

Sampling Method: Grundfos Bladder SSF Disp. Bailer Whale Grab Other:

Dedicated Equipment: Yes No

Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No

Time Pump Began: 1405 am / pm

Time Purged Dry? 1428

Time of Sampling: 1433 am / pm

Duplicate Sample? Yes No ID: —

Sample EH: -184.8

Sample Appearance: General: Clear Color: None Phase: None Odor: None

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
<u>1428</u>	<u>6.60</u>	<u>4409</u>	<u>8.72</u>	<u>NA</u>	<u>NA</u>	<u>5.75</u>	<u>1</u>	
							<u>2</u>	
							<u>3</u>	
							<u>4</u>	
<u>1433</u>	<u>6.62</u>	<u>4423</u>	<u>8.84</u>	<u>NA</u>	<u>NA</u>	<u>—</u>	<u>5</u>	<u>recharge</u>

Stabilized? Yes No

Amount Water Removed: 5.75 Gallons

Comments:

Exceptions to Protocol:

State CCR

Minnesota Valley Testing Laboratories, Inc.

New Ulm, MN 56073

507 354 8517

Groundwater Assessment

Sampling Personnel:

DS

Site: Otter Tail Power Co./ Big Stone

Facility ID:

Date:

130625

Unique Station ID:

Sample ID:

H12

Well Condition

Well Locked? Yes No
 Well Labeled? Yes No
 Casing Straight? Yes No

Protective Posts? Yes No
 State ID Tag? Yes No
 Grout Seal Intact? Yes No

Repairs Necessary:

Well Information

Well Depth: 22.63

Well Casing Elevation: NA

Constructed Depth: 24.00

Static Water Elevation: L

Casing Diameter: 2"

Previous Static: L

Water Level Before Purge: 17.36

Water Level After Sample: 17.45

Well Volume: 0.86 Gallons

Measurement Method: Elec. W/L Steel Tape

Sampling Information

Weather Conditions: Temp: 48° Wind: NNW@7 Sky: Clear

Sampling Method: Grundfos Bladder SST Disp. Bailer Whale Grab Other:

Dedicated Equipment: Yes No

Pumping Rate: 0.25 gpm

Well Purged Dry? Yes No

Time Pump Began: 1345 am / pm

Time Purged Dry? -

Time of Sampling: 1357 am / pm

Duplicate Sample? Yes No ID: -

Sample EH: 77.1

Sample Appearance: General: ~~St Cloudy~~ Clear Color: None Phase: None Odor: None

Time	pH	Specific Cond.	Temp °C	D. O. mg/L	Turbidity NTU	Gallons Removed	SEQ #	Comments:
1349	7.98	306	11.24	NA	NA	1	1	
1353	7.98	305	11.29	L	L	2	2	
1357	7.97	306	11.31	L	L	3	3	
							4	
							5	

Stabilized? Yes No

Amount Water Removed: 3 Gallons

Comments:

Exceptions to Protocol:

State to CCR

DS
1306



Appendix B

Groundwater Flow Calculations

Big Stone Ash Disposal Area Groundwater Velocity Calculation

Date 4/14/2025

Kh	2.10E-04	cm/s	Groundwater Monitoring System Report (Barr, 2016)
	5.95E-01	ft/day	
n	0.25		Groundwater Monitoring System Report (Barr, 2016)

	Top of Casing Elevation (1)	Depth to Water	Water Level Elevation
	ft amsl	ft below TOC	ft amsl
H3OX	1095.26	6.98	1088.28
H9	1086.21	10.27	1075.94

(1) Groundwater Monitoring System Report (Barr, 2016)

horizontal distance, ft

	H3OX
H9	2272.3

difference in WL elevation, ft

	H3OX
H9	12.34

horizontal gradient, ft/ft

	H3OX
H9	0.00543

V, ft/d

	H3OX
H9	0.01293

V, ft/yr

	H3OX
H9	4.7

V avg, ft/y

4.7

Big Stone Ash Disposal Area Groundwater Velocity Calculation

Date 8/26/2025

Kh	2.10E-04	cm/s	Groundwater Monitoring System Report (Barr, 2016)
	5.95E-01	ft/day	
n	0.25		Groundwater Monitoring System Report (Barr, 2016)

	Top of Casing Elevation (1)	Depth to Water	Water Level Elevation
	ft amsl	ft below TOC	ft amsl
H3OX	1095.26	7.32	1087.94
H9	1086.21	9.20	1077.01

(1) Groundwater Monitoring System Report (Barr, 2016)

horizontal distance, ft

	H3OX
H9	2272.3

difference in WL elevation, ft

	H3OX
H9	10.93

horizontal gradient, ft/ft

	H3OX
H9	0.00481

V, ft/d

	H3OX
H9	0.01145

V, ft/yr

	H3OX
H9	4.2

V avg, ft/y

4.2

Big Stone Ash Disposal Area Groundwater Velocity Calculation

Date 10/13/2025

Kh	2.10E-04	cm/s	Groundwater Monitoring System Report (Barr, 2016)
	5.95E-01	ft/day	
n	0.25		Groundwater Monitoring System Report (Barr, 2016)

	Top of Casing Elevation (1)	Depth to Water	Water Level Elevation
	ft amsl	ft below TOC	ft amsl
H3OX	1095.26	7.42	1087.84
H9	1086.21	10.21	1076.00

(1) Groundwater Monitoring System Report (Barr, 2016)

horizontal distance, ft

	H3OX
H9	2272.3

difference in WL elevation, ft

	H3OX
H9	11.84

horizontal gradient, ft/ft

	H3OX
H9	0.00521

V, ft/d

	H3OX
H9	0.01241

V, ft/yr

	H3OX
H9	4.5

V avg, ft/y

4.5



Appendix C
Additional Groundwater
Elevations

Appendix C
Additional 2025 Water Elevations
Big Stone Plant
Otter Tail Power Company

Location	Well Casing Elevation ft AMSL	4/14/2025 ft AMSL	8/14/2025 ft AMSL	10/13/2025 ft AMSL
H10	1090.83	1077.62	1082	1080.98
H11	1093.24	1078.16	1084.41	1079.28
H11INT	1115.81	1086.42	1089.5	1089.79
H1OX	1115.89	1086.99	1083.56	1090.31
H2I	1103.91	1042.45	1042	1042.43
H2OX	1103.86	1093.58	1097.15	1096.35
H3I	1095.17	1066.37	1068.12	1067.87
H3OX	1095.26	1088.21	1087.94	1087.77
H4I	1108.61	1090.73	1091.11	1090.13
H4OX	1108.25	1090.77	1091.36	1090.74
H5	1122.8	1109.25	1113.99	1114.01
H6	1097.76	1079.82	1079.84	1085.26
H7	1106.06	1079.21	1087.21	1087.14
H8	1081.23	1074.03	1075.01	1073.99
H9	1086.21	1075.94	1077.01	1076
WELL 1	1090.71	1025.39	1025.55	1026.23
WELL 10	1098.7	1079.89	1083.77	1083.85
WELL 11	1104	1008.37	1008.5	1008.58
WELL 12	1071.89	1005.7	1006.34	1005.94

Notes:

-- Not Measured