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Dynegy Midwest Generation, LLC

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1940102203-008

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

EAST ASH POND HENNEPIN POWER PLANT HENNEPIN, ILLINOIS CCR UNIT 803

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT HENNEPIN POWER PLANT EAST ASH POND

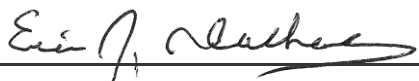
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ACRONYMS AND ABBREVIATIONS

§	Section
35 I.A.C.	Title 35 of the Illinois Administrative Code
40 C.F.R.	Title 40 of the Code of Federal Regulations
ASD	Alternate Source Demonstration
CCR	coal combustion residuals
CMA	Corrective Measures Assessment
EAP	East Ash Pond
GWPS	groundwater protection standard
HPP	Hennepin Power Plant
IEPA	Illinois Environmental Protection Agency
NA	not applicable
NRT/OBG	Natural Resource Technology, an OBG Company
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SAP	Sampling and Analysis Plan
SSI	statistically significant increase
SSL	statistically significant level
TBD	to be determined

EXECUTIVE SUMMARY

This report has been prepared to provide the information required by Title 40 of the Code of Federal Regulations (40 C.F.R.) Section (§) 257.90(e) for the East Ash Pond (EAP) located at the Hennepin Power Plant (HPP) near Hennepin, Illinois.

Groundwater is being monitored at the EAP in accordance with the Assessment Monitoring Program requirements specified in 40 C.F.R. § 257.95. Assessment monitoring was initiated at the EAP on April 9, 2018.

No changes were made to the monitoring system in 2022 (no wells were installed or decommissioned). As discussed in Section 5 of this annual report, the monitoring well network will be updated in 2023 to use the same monitoring well network developed for compliance with Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845, which was submitted to the Illinois Environmental Protection Agency (IEPA) via an operating permit application.

No Statistically Significant Levels (SSLs) of 40 C.F.R. § 257 Appendix IV parameters over groundwater protection standards (GWPSs) were determined in 2022, but statistically significant increases (SSIs) of Appendix III parameters greater than background values were determined. Consequently, a Corrective Measures Assessment (CMA) is not required and the EAP remains in the Assessment Monitoring Program.

1. INTRODUCTION

This report has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) on behalf of Dynegy Midwest Generation, LLC, to provide the information required by 40 C.F.R. § 257.90(e) for the EAP located at the HPP near Hennepin, Illinois.

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

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

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

This report provides the required information for the EAP for calendar year 2022.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

No changes have occurred to the Monitoring Program status in calendar year 2022 and the EAP remains in the Assessment Monitoring Program in accordance with 40 C.F.R. § 257.95.

3. KEY ACTIONS COMPLETED IN 2022

The Assessment Monitoring Program is summarized in **Table A** on the following page. The groundwater monitoring system, including the CCR unit and all background and compliance monitoring wells, is presented in **Figure 1**. No changes were made to the monitoring system in 2022 (no wells were installed or decommissioned). In general, one groundwater sample was collected from each background and compliance well during each monitoring event.¹ All samples were collected and analyzed in accordance with the Sampling and Analysis Plan (SAP) (Natural Resource Technology, an OBG Company [NRT/OBG], 2017a). Potentiometric surface maps for the third quarter of 2021 and both monitoring events in 2022 are included in **Figures 2 through 4**. All monitoring data and analytical results obtained under 40 C.F.R. § 257.90 through 257.98 (as applicable) in the third quarter of 2021 and both monitoring events in 2022 are presented in **Tables 1 through 3**. Laboratory reports for the third quarter of 2021 and both monitoring events in 2022 are included in **Appendix A**.

Analytical data were evaluated in accordance with the Statistical Analysis Plan (NRT/OBG, 2017b) to determine any SSLs of Appendix IV parameters over GWPSs and statistically significant increases (SSIs) of Appendix III parameters greater than background values. SSL notifications were completed in accordance with 40 C.F.R. § 257.95(g). SSIs are highlighted in **Table 2**. Statistical background values are provided in **Table 4** and GWPSs in **Table 5**. A flow chart showing the statistical methodology for determination of background values is included as **Appendix B**. A summary of the determination of SSLs is included in **Table 6**. A flow chart showing the statistical methodology for determination of SSLs is included as **Appendix C**.

¹

Table A. 2021-2022 Assessment Monitoring Program Summary

Sampling Dates	Analytical Data Receipt Date	Parameters Collected	SSL(s)	SSL(s) Determination Date	ASD Completion Date
September 9-10 and September 22, 2021	October 15, 2021	Appendix III Appendix IV Detected ¹	None	January 13, 2022	NA
March 22-23, 2022	June 01, 2022	Appendix III Appendix IV	None	August 01, 2022	NA
September 14, 2022	October 31, 2022	Appendix III Appendix IV Detected ¹	None	January 31, 2023	NA

Notes:

ASD: Alternate Source Demonstration

NA: not applicable

SSL: Statistically Significant Level

TBD: to be determined

¹ Groundwater sample analysis was limited to Appendix IV parameters detected during previous events in accordance with 40 C.F.R. § 257.95(d)(1).

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

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

5. KEY ACTIVITIES PLANNED FOR 2023

The following key activities are planned for 2023:

- Beginning in 2023, the current monitoring well system will be updated to use the same monitoring well network that was proposed for compliance with 35 I.A.C. § 845 which includes all of the monitoring wells used in the 2022 monitoring system. This is a logical step toward aligning the two regulatory programs. The following documents support the expanded monitoring system for 2023:
 - Hydrogeological Site Characterization Report (Ramboll, 2021), which expands upon the hydrogeologic information provided in the Hydrogeologic Monitoring Plan (NRT/OBG, 2017c)
 - Multi-Site SAP (Ramboll, 2022a)
 - Multi-Site Quality Assurance Project Plan (Ramboll, 2022b)
 - Multi-Site Data Management Plan (Ramboll, 2022c)
 - Multi-Site Statistical Analysis Plan and Certification (Ramboll, 2022d)
 - 40 C.F.R. § 257 Groundwater Monitoring Plan (Ramboll, 2022e), which replaces the monitoring plan provided in the Hydrogeologic Monitoring Plan
 - Monitoring Well Network Certification
- Continuation of the Assessment Monitoring Program with semi-annual sampling scheduled for the first and third quarters of 2023.
- Complete evaluation of analytical data from the compliance wells using background data to determine whether an SSI of Appendix III parameters detected at concentrations greater than background concentrations has occurred.
- Complete evaluation of analytical data from the compliance wells to determine whether an SSL of Appendix IV parameters above GWPSs has occurred.
- If an SSL is identified, potential alternate sources (*i.e.*, a source other than the CCR unit caused the SSL or that the SSL resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated.
 - If an alternate source is identified to be the cause of the SSL, a written demonstration will be completed within 90 days of SSL determination and included in the 2023 Annual Groundwater Monitoring and Corrective Action Report.
 - If an alternate source(s) is not identified to be the cause of the SSL, the applicable requirements of 40 C.F.R. §§ 257.94 through 257.98 (*e.g.*, assessment of corrective measures) as may apply in 2023 will be met, including associated recordkeeping/notifications required by 40 C.F.R. §§ 257.105 through 257.108.

6. REFERENCES

Natural Resource Technology, an OBG Company (NRT/OBG), 2017a. Sampling and Analysis Plan, Hennepin East Ash Pond, Hennepin Power Station, Hennepin, Illinois, Project No. 2285, Revision 0, October 17, 2017.

Natural Resource Technology, an OBG Company (NRT/OBG), 2017b. Statistical Analysis Plan, Baldwin Energy Complex, Havana Power Station, Hennepin Power Station, Wood River Power Station, Dynegy Midwest Generation, LLC, October 17, 2017.

Natural Resource Technology, an OBG Company (NRT/OBG), 2017c. Hydrogeologic Monitoring Plan, Coffeen Power Station, Coffeen, Illinois. October 17, 2017.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021. Hydrogeological Site Characterization Report, the East Ash Pond, Hennepin Power Plant, Hennepin, Illinois. October 21, 2021.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022a. Multi-Site Sampling and Analysis Plan. December 28, 2022.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022b. Multi-Site Quality Assurance Project Plan. December 28, 2022.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022c. Multi-Site Data Management Plan. December 28, 2022.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022d. Multi-Site Statistical Analysis Plan, 40 C.F.R. § 257. December 28, 2022.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022e. 40 C.F.R. § 257 Groundwater Monitoring Plan, the East Ash Pond, Hennepin Power Plant, Hennepin, Illinois. December 28, 2022.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Well ID	Monitored Unit	Well Screen Interval (feet BGS)	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
02	UA	45 - 55	Water Level Only	41.30132	-89.30915	09/08/2021	45.30	446.71
02	UA	45 - 55	Water Level Only	41.30132	-89.30915	03/21/2022	44.26	447.75
02	UA	45 - 55	Water Level Only	41.30132	-89.30915	09/13/2022	44.95	447.06
03R	UA	42 - 52	Water Level Only	41.30458	-89.30869	09/08/2021	34.35	447.57
03R	UA	42 - 52	Water Level Only	41.30458	-89.30869	03/21/2022	34.21	447.71
03R	UA	42 - 52	Water Level Only	41.30458	-89.30869	09/14/2022	34.78	447.14
04R	UA	41 - 51	Water Level Only	41.30556	-89.30118	09/08/2021	38.82	447.78
04R	UA	41 - 51	Water Level Only	41.30556	-89.30118	03/21/2022	38.88	447.72
04R	UA	41 - 51	Water Level Only	41.30556	-89.30118	09/14/2022	39.10	447.50
05R	UA	44 - 54	Water Level Only	41.30516	-89.30545	09/08/2021	40.59	447.84
05R	UA	44 - 54	Water Level Only	41.30516	-89.30545	03/21/2022	40.59	447.84
05R	UA	44 - 54	Water Level Only	41.30516	-89.30545	09/14/2022	41.03	447.40
05DR	UA	70 - 75	Water Level Only	41.30516	-89.30547	09/08/2021	40.67	447.70
05DR	UA	70 - 75	Water Level Only	41.30516	-89.30547	03/21/2022	40.62	447.75
05DR	UA	70 - 75	Water Level Only	41.30516	-89.30547	09/14/2022	41.05	447.32
06	UA	28.7 - 38.7	Water Level Only	41.30418	-89.31028	09/08/2021	22.19	447.56
06	UA	28.7 - 38.7	Water Level Only	41.30418	-89.31028	03/21/2022	21.95	447.80
06	UA	28.7 - 38.7	Water Level Only	41.30418	-89.31028	09/14/2022	22.22	447.53
07	UA	67.5 - 77.5	Background	41.29799	-89.30571	09/08/2021	67.02	451.25
07	UA	67.5 - 77.5	Background	41.29799	-89.30571	03/21/2022	67.62	450.65
07	UA	67.5 - 77.5	Background	41.29799	-89.30571	09/14/2022	66.70	451.57
08	UA	51.5 - 61.5	Background	41.30070	-89.30440	09/08/2021	53.08	448.30
08	UA	51.5 - 61.5	Background	41.30070	-89.30440	03/21/2022	53.48	447.90
08	UA	51.5 - 61.5	Background	41.30070	-89.30440	09/14/2022	53.73	447.65
08D	UA	83 - 88	Background	41.30080	-89.30452	09/08/2021	53.80	447.54
08D	UA	83 - 88	Background	41.30080	-89.30452	03/21/2022	53.49	447.85
08D	UA	83 - 88	Background	41.30080	-89.30452	09/14/2022	53.96	447.38
10	UA	48.8 - 58.8	Water Level Only	41.30282	-89.30766	09/08/2021	49.92	448.11
10	UA	48.8 - 58.8	Water Level Only	41.30282	-89.30766	03/21/2022	50.03	448.00
10	UA	48.8 - 58.8	Water Level Only	41.30282	-89.30766	09/14/2022	50.55	447.48
12	UA	49.45 - 59.5	Compliance	41.30366	-89.30430	09/08/2021	50.34	448.10
12	UA	49.45 - 59.5	Compliance	41.30366	-89.30430	03/21/2022	50.52	447.92
12	UA	49.45 - 59.5	Compliance	41.30366	-89.30430	09/14/2022	50.90	447.54
13	UA	67 - 69	Compliance	41.30366	-89.30432	09/08/2021	50.34	448.13
13	UA	67 - 69	Compliance	41.30366	-89.30432	03/21/2022	50.53	447.94

TABLE 1
GROUNDWATER ELEVATIONS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Well ID	Monitored Unit	Well Screen Interval (feet BGS)	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
13	UA	67 - 69	Compliance	41.30366	-89.30432	09/14/2022	50.91	447.56
15	UA	50.65 - 60.7	Water Level Only	41.30439	-89.30200	09/08/2021	48.80	448.00
15	UA	50.65 - 60.7	Water Level Only	41.30439	-89.30200	03/21/2022	49.03	447.77
15	UA	50.65 - 60.7	Water Level Only	41.30439	-89.30200	09/14/2022	41.90	454.90
16	UA	56 - 66	Water Level Only	41.30168	-89.30286	09/08/2021	53.55	448.19
16	UA	56 - 66	Water Level Only	41.30168	-89.30286	03/21/2022	53.92	447.82
16	UA	56 - 66	Water Level Only	41.30168	-89.30286	09/14/2022	53.22	448.52
17	UA	58.06 - 68.1	Water Level Only	41.30220	-89.30060	09/08/2021	54.33	452.80
17	UA	58.06 - 68.1	Water Level Only	41.30220	-89.30060	03/21/2022	57.70	449.43
17	UA	58.06 - 68.1	Water Level Only	41.30220	-89.30060	09/14/2022	55.25	451.88
18S	UA	40 - 50	Water Level Only	41.30494	-89.30710	09/08/2021	40.12	447.58
18S	UA	40 - 50	Water Level Only	41.30494	-89.30710	03/21/2022	39.93	447.77
18S	UA	40 - 50	Water Level Only	41.30494	-89.30710	09/14/2022	40.55	447.15
18D	UA	71 - 76	Water Level Only	41.30492	-89.30709	09/08/2021	40.28	447.32
18D	UA	71 - 76	Water Level Only	41.30492	-89.30709	03/21/2022	39.91	447.69
18D	UA	71 - 76	Water Level Only	41.30492	-89.30709	09/14/2022	40.60	447.00
19S	UA	40 - 50	Water Level Only	41.30546	-89.30320	09/08/2021	39.51	447.75
19S	UA	40 - 50	Water Level Only	41.30546	-89.30320	03/21/2022	39.52	447.74
19S	UA	40 - 50	Water Level Only	41.30546	-89.30320	09/14/2022	40.91	446.35
19D	UA	67 - 72	Water Level Only	41.30546	-89.30320	09/08/2021	39.42	447.77
19D	UA	67 - 72	Water Level Only	41.30546	-89.30320	03/21/2022	39.44	447.75
19D	UA	67 - 72	Water Level Only	41.30546	-89.30320	09/14/2022	40.92	446.27
40S	UA	40 - 50	Water Level Only	41.30529	-89.30436	09/08/2021	39.80	447.87
40S	UA	40 - 50	Water Level Only	41.30529	-89.30436	03/21/2022	39.87	447.80
40S	UA	40 - 50	Water Level Only	41.30529	-89.30436	09/14/2022	41.21	446.46
45S	UA	35 - 45	Water Level Only	41.30375	-89.31019	09/08/2021	19.80	447.68
45S	UA	35 - 45	Water Level Only	41.30375	-89.31019	03/21/2022	19.61	447.87
45S	UA	35 - 45	Water Level Only	41.30375	-89.31019	09/14/2022	20.23	447.25
46	UA	50 - 60	Compliance	41.30395	-89.30347	09/08/2021	50.53	448.22
46	UA	50 - 60	Compliance	41.30395	-89.30347	03/21/2022	50.75	448.00
46	UA	50 - 60	Compliance	41.30395	-89.30347	09/14/2022	51.00	447.75
47	UA	50 - 60	Compliance	41.30330	-89.30599	09/08/2021	54.83	447.82

TABLE 1
GROUNDWATER ELEVATIONS
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HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Well ID	Monitored Unit	Well Screen Interval (feet BGS)	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
47	UA	50 - 60	Compliance	41.30330	-89.30599	03/21/2022	54.98	447.67
47	UA	50 - 60	Compliance	41.30330	-89.30599	09/14/2022	55.39	447.26
48	UA	44 - 54	Water Level Only	41.30523	-89.30493	09/08/2021	39.55	447.91
48	UA	44 - 54	Water Level Only	41.30523	-89.30493	03/21/2022	39.58	447.88
48	UA	44 - 54	Water Level Only	41.30523	-89.30493	09/14/2022	39.99	447.47
55	BR	90 - 95	Water Level Only	41.30366	-89.30435	03/21/2022	50.30	448.16
55	BR	90 - 95	Water Level Only	41.30366	-89.30435	09/13/2022	55.21	443.25

Notes:
BGS = below ground surface
BMP = below measuring point
NAVD88 = North American Vertical Datum of 1988
Monitored Unit Abbreviations:
BR = bedrock
UA = uppermost aquifer

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
 2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 HENNEPIN POWER PLANT
 803 - EAST ASH POND
 HENNEPIN, IL

Well ID	Well Type	Date	Event ID	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)	pH (field) (SU)	Sulfate, total (mg/L)	Total Dissolved Solids (mg/L)
Background Value(s)	--	--	--	0.153	280	396	0.120	6.6/7.5	200	1,520
07	Background	09/09/2021	D9	0.0764	156	70.0	0.110	6.7	52.0	654
07	Background	03/22/2022	D10	0.0755	140	49.0	0.120	6.8	56.0	582
07	Background	09/14/2022	A5D/D11	0.0649	160	180	0.110	6.7	92.0	954
08	Background	09/09/2021	D9	0.111	188	152	0.1 U	6.6	100	876
08	Background	03/22/2022	D10	0.124	207	247	0.110	6.7	153	1,170
08	Background	09/14/2022	A5D/D11	0.0900	182	224	0.100	6.6	115	1,060
08D	Background	09/09/2021	D9	0.0965	216	250	0.100	6.6	123	1,090
08D	Background	03/22/2022	D10	0.112	208	257	0.110	6.6	174	1,210
08D	Background	09/14/2022	A5D/D11	0.0951	232	297	0.110	6.5	198	1,410
16	Background	09/09/2021	D9	0.138	80.2	100	0.250	7.1	70.0	476
16	Background	03/22/2022	D10	0.216	91.5	75.0	0.260	7.2	61.0	474
16	Background	09/14/2022	D11	0.131	92.0	101	0.230	6.9	65.0	572
17	Background	09/09/2021	D9	0.105	68.6	74.0	0.240	7.3	58.0	398
17	Background	03/22/2022	D10	0.167	132	88.0	0.180	7.0	66.0	628
17	Background	09/14/2022	D11	0.103	91.6	84.0	0.220	7.0	64.0	576
12	Compliance	09/09/2021	A4D	0.224	85.9	65.0	0.250	7.3	62.0	422
12	Compliance	03/23/2022	A5	0.240	91.5	68.0	0.220	7.2	66.0	488
12	Compliance	09/14/2022	A5D	0.139	77.8	86.0	0.250	7.2	60.0	494
13	Compliance	09/09/2021	A4D	0.345	78.7	65.0	0.220	7.4	61.0	434
13	Compliance	03/23/2022	A5	1.23	82.3	77.0	0.240	7.3	107	528
13	Compliance	09/14/2022	A5D	0.220	79.1	83.0	0.220	7.3	65.0	540
46	Compliance	09/09/2021	A4D	0.192	84.8	75.0	0.250	7.2	66.0	434
46	Compliance	03/23/2022	A5	0.335	85.0	72.0	0.230	7.2	74.0	488
46	Compliance	09/14/2022	A5D	0.142	73.7	88.0	0.250	7.1	59.0	490

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Well ID	Well Type	Date	Event ID	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)	pH (field) (SU)	Sulfate, total (mg/L)	Total Dissolved Solids (mg/L)
47	Compliance	09/09/2021	A4D	0.239	102	84.0	0.280	7.0	62.0	476
47	Compliance	03/23/2022	A5	0.591	90.0	87.0	0.300	7.2	81.0	502
47	Compliance	09/14/2022	A5D	0.185	94.6	93.0	0.300	7.0	67.0	526

Notes:
Exceedance of Background
mg/L = milligrams per liter
SU = Standard Units
U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate. Lab reports may or may not report both the limit of detection and the limit of quantitation. Limits are provided in the electronic data deliverable. As such, the U-flagged result value provided in this table may not match the result value provided in the lab report.

TABLE 3
ANALYTICAL RESULTS - APPENDIX IV PARAMETERS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Well ID	Well Type	Date	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Chromium, total (mg/L)	Cobalt, total (mg/L)	Fluoride, total (mg/L)	Lead, total (mg/L)	Lithium, total (mg/L)	Mercury, total (mg/L)	Molybdenum, total (mg/L)	Radium 226 + 228 (pCi/L)	Selenium, total (mg/L)	Thallium, total (mg/L)
07	Background	09/14/2022	0.0004 U	0.0004 U	0.162	0.0002 U	0.0002 U	0.0011 J	0.0676	0.110	0.0006 U	0.0105	0.00006 U	0.0007 J	1.67	0.0006 U	0.001 U
08	Background	09/14/2022	0.0004 U	0.0004 U	0.0864	0.0002 U	0.0002 J	0.0007 U	0.00270	0.100	0.0006 U	0.0106	0.00006 U	0.0014 J	1.71	0.0006 U	0.001 U
08D	Background	09/14/2022	0.0004 U	0.0004 U	0.118	0.0002 U	0.0004 J	0.0007 U	0.00350	0.110	0.0006 U	0.0125	0.00006 U	0.0013 J	1.59	0.0006 U	0.001 U
12	Compliance	09/09/2021	--	0.001 U	0.0556	--	0.001 U	0.0015 U	0.001 U	0.250	0.001 U	0.0121	--	0.0260	--	0.001 U	--
12	Compliance	09/22/2021	--	--	--	--	--	--	--	--	--	--	--	--	0.759	--	--
12	Compliance	03/23/2022	0.001 U	0.001 U	0.0642	0.001 U	0.001 U	0.0015 U	0.001 U	0.220	0.001 U	0.0110	0.0002 UJ	0.0211	0.571 B	0.001 U	0.002 U
12	Compliance	09/14/2022	0.0004 U	0.0004 U	0.0517	--	0.0002 U	0.0011 J	0.0001 U	0.250	0.0006 U	0.00870	--	0.0180	1.82	0.0006 U	--
13	Compliance	09/09/2021	--	0.001 U	0.0409	--	0.001 U	0.00170	0.001 U	0.220	0.001 U	0.0160	--	0.0185	0.778	0.00100	--
13	Compliance	03/23/2022	0.001 U	0.001 U	0.0555	0.001 U	0.001 U	0.0015 U	0.001 U	0.240	0.001 U	0.0281	0.0002 U	0.0239	1.04	0.00180	0.002 U
13	Compliance	09/14/2022	0.0004 U	0.0005 J	0.0404	--	0.0002 U	0.001 J	0.0001 J	0.220	0.0006 U	0.0120	--	0.0155	1.10	0.0008 J	--
46	Compliance	09/09/2021	--	0.001 U	0.0675	--	0.001 U	0.0015 U	0.001 U	0.250	0.001 U	0.0102	--	0.0229	0.415	0.001 U	--
46	Compliance	03/23/2022	0.001 U	0.001 U	0.0771	0.001 U	0.001 U	0.0015 U	0.001 U	0.230	0.001 U	0.0121	0.0002 U	0.0192	0.335	0.001 U	0.002 U
46	Compliance	09/14/2022	0.0004 U	0.0004 U	0.0652	--	0.0002 U	0.0007 U	0.0001 U	0.250	0.0006 U	0.00930	--	0.0175	0.505	0.0006 U	--
47	Compliance	09/09/2021	--	0.001 U	0.0906	--	0.001 U	0.0015 U	0.001 U	0.280	0.001 U	0.00930	--	0.0268	1.34	0.001 U	--
47	Compliance	03/23/2022	0.001 U	0.001 U	0.0899	0.001 U	0.001 U	0.0015 U	0.001 U	0.300	0.001 U	0.0108	0.0002 U	0.0293	0.137	0.001 U	0.002 U
47	Compliance	09/14/2022	0.0004 U	0.0004 U	0.0826	--	0.0002 U	0.00320	0.0001 U	0.300	0.0006 U	0.00980	--	0.0250	0.559 J	0.0006 U	--

Notes:
mg/L = milligrams per liter
pCi/L = picoCuries per liter
- = not analyzed
U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate. Lab reports may or may not report both the limit of detection and the limit of quantitation. Limits are provided in the electronic data deliverable. As such, the U-flagged result value provided in this table may not match the result value provided in the lab report.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
B = The analyte was found in sample and in associated method blank.

TABLE 4
STATISTICAL BACKGROUND VALUES
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Parameter	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Background Value (LPL/UPL)
Boron (mg/L)	12/08/2015 - 06/09/2017	24	0	Parametric UPL	0.153
Calcium (mg/L)	12/08/2015 - 06/09/2017	24	0	Parametric UPL	280
Chloride (mg/L)	12/08/2015 - 06/09/2017	24	0	Parametric UPL	396
Fluoride (mg/L)	12/08/2015 - 06/09/2017	24	58	Non-parametric UPL	0.120
pH (field) (SU)	12/08/2015 - 06/09/2017	24	0	Non-parametric LPL/UPL	6.6/7.5
Sulfate (mg/L)	12/08/2015 - 06/09/2017	24	0	Parametric UPL	200
Total Dissolved Solids (mg/L)	12/08/2015 - 06/09/2017	24	0	Parametric UPL	1,520

Notes:
LPL = lower prediction limit (applicable for pH only)
mg/L = milligrams per liter
SU = standard units
UPL = upper prediction limit

TABLE 5
GROUNDWATER PROTECTION STANDARDS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Parameter	Background					MCL/HBL	Groundwater Protection Standard*	Groundwater Protection Standard Source
	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Value			
Antimony (mg/L)	12/08/2015 - 06/09/2017	24	100	All ND - Last Reporting Limit	0.001	0.006	0.006	MCL/HBL
Arsenic (mg/L)	12/08/2015 - 06/09/2017	24	100	All ND - Last Reporting Limit	0.001	0.010	0.010	MCL/HBL
Barium (mg/L)	12/08/2015 - 06/09/2017	24	0	Parametric UTL	0.212	2	2	MCL/HBL
Beryllium (mg/L)	12/08/2015 - 06/09/2017	24	100	All ND - Last Reporting Limit	0.001	0.004	0.004	MCL/HBL
Cadmium (mg/L)	12/08/2015 - 06/09/2017	24	88	Non-parametric UTL	0.00230	0.005	0.005	MCL/HBL
Chromium (mg/L)	12/08/2015 - 06/09/2017	24	96	Non-parametric UTL	0.00100	0.1	0.1	MCL/HBL
Cobalt (mg/L)	12/08/2015 - 06/09/2017	24	33	Non-parametric UTL	0.0385	0.006	0.0385	Background
Fluoride (mg/L)	12/08/2015 - 06/09/2017	24	58	Non-parametric UTL	0.120	4.0	4.0	MCL/HBL
Lead (mg/L)	12/08/2015 - 06/09/2017	24	96	Non-parametric UTL	0.00150	0.015	0.015	MCL/HBL
Lithium (mg/L)	12/08/2015 - 06/09/2017	24	0	Parametric UTL (log-transformed)	0.0187	0.04	0.04	MCL/HBL
Mercury (mg/L)	12/08/2015 - 06/09/2017	24	100	All ND - Last Reporting Limit	0.0002	0.002	0.002	MCL/HBL
Molybdenum (mg/L)	12/08/2015 - 06/09/2017	24	29	Non-parametric UTL	0.00170	0.1	0.1	MCL/HBL
Radium 226 + Radium 228 (pCi/L)	12/08/2015 - 06/09/2017	24	0	Parametric UTL	1.51	5	5	MCL/HBL
Selenium (mg/L)	12/08/2015 - 06/09/2017	24	79	Non-parametric UTL	0.00140	0.05	0.05	MCL/HBL
Thallium (mg/L)	12/08/2015 - 06/09/2017	24	100	All ND - Last Reporting Limit	0.001	0.002	0.002	MCL/HBL

Notes:
* Groundwater Protection Standard is the higher of the MCL/HBL or background.
MCL/HBL = maximum contaminant level/health-based level
mg/L = milligrams per liter
ND = non-detect
pCi/L = picoCuries per liter
UTL = upper tolerance limit

TABLE 6
DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Sample Location	Constituent	Result Unit	Event	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Result	GWPS	GWPS Source
12	Antimony, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.001	0.006	MCL/HBL
12	Antimony, total	mg/L	A5D	12/09/2015 - 09/14/2022	14	100	All ND - Last	0.0004	0.006	MCL/HBL
12	Arsenic, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	100	All ND - Last	0.001	0.010	MCL/HBL
12	Arsenic, total	mg/L	A5	12/09/2015 - 03/23/2022	15	100	All ND - Last	0.001	0.010	MCL/HBL
12	Arsenic, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	100	All ND - Last	0.0004	0.010	MCL/HBL
12	Barium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CB around linear reg	0.0491	2	MCL/HBL
12	Barium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CB around linear reg	0.0505	2	MCL/HBL
12	Barium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CB around linear reg	0.0479	2	MCL/HBL
12	Beryllium, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.001	0.004	MCL/HBL
12	Cadmium, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	100	All ND - Last	0.001	0.005	MCL/HBL
12	Cadmium, total	mg/L	A5	12/09/2015 - 03/23/2022	16	100	All ND - Last	0.001	0.005	MCL/HBL
12	Cadmium, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	100	All ND - Last	0.0002	0.005	MCL/HBL
12	Chromium, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	93	CB around T-S line	0.00100	0.1	MCL/HBL
12	Chromium, total	mg/L	A5	12/09/2015 - 03/23/2022	15	93	CB around T-S line	0.00100	0.1	MCL/HBL
12	Chromium, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	94	CB around T-S line	0.00100	0.1	MCL/HBL
12	Cobalt, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	100	All ND - Last	0.001	0.0385	Background
12	Cobalt, total	mg/L	A5	12/09/2015 - 03/23/2022	16	100	All ND - Last	0.001	0.0385	Background
12	Cobalt, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	100	All ND - Last	0.0001	0.0385	Background
12	Fluoride, total	mg/L	A4D	12/09/2015 - 09/09/2021	17	0	CI around mean	0.236	4.0	MCL/HBL
12	Fluoride, total	mg/L	A5	12/09/2015 - 03/23/2022	18	0	CI around mean	0.235	4.0	MCL/HBL
12	Fluoride, total	mg/L	A5D	12/09/2015 - 09/14/2022	19	0	CI around mean	0.236	4.0	MCL/HBL
12	Lead, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	100	All ND - Last	0.001	0.015	MCL/HBL
12	Lead, total	mg/L	A5	12/09/2015 - 03/23/2022	15	100	All ND - Last	0.001	0.015	MCL/HBL
12	Lead, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	100	All ND - Last	0.0006	0.015	MCL/HBL
12	Lithium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.0126	0.04	MCL/HBL
12	Lithium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.0125	0.04	MCL/HBL
12	Lithium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.0121	0.04	MCL/HBL
12	Mercury, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.0002	0.002	MCL/HBL
12	Molybdenum, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.0264	0.1	MCL/HBL
12	Molybdenum, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.0259	0.1	MCL/HBL

TABLE 6
DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Sample Location	Constituent	Result Unit	Event	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Result	GWPS	GWPS Source
12	Molybdenum, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.0251	0.1	MCL/HBL
12	Radium 226 + Radium 228, total	pCi/L	A4D	12/09/2015 - 09/22/2021	16	0	CI around mean	0.368	5	MCL/HBL
12	Radium 226 + Radium 228, total	pCi/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.382	5	MCL/HBL
12	Radium 226 + Radium 228, total	pCi/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.418	5	MCL/HBL
12	Selenium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	19	CI around median	0.00110	0.05	MCL/HBL
12	Selenium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	24	CI around median	0.00100	0.05	MCL/HBL
12	Selenium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	28	CI around median	0.00100	0.05	MCL/HBL
12	Thallium, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.002	0.002	MCL/HBL
13	Antimony, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.001	0.006	MCL/HBL
13	Antimony, total	mg/L	A5D	12/09/2015 - 09/14/2022	14	100	All ND - Last	0.0004	0.006	MCL/HBL
13	Arsenic, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	93	CI around median	0.00100	0.010	MCL/HBL
13	Arsenic, total	mg/L	A5	12/09/2015 - 03/23/2022	15	93	CI around median	0.00100	0.010	MCL/HBL
13	Arsenic, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	94	CI around median	0.00100	0.010	MCL/HBL
13	Barium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.0415	2	MCL/HBL
13	Barium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.0420	2	MCL/HBL
13	Barium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.0419	2	MCL/HBL
13	Beryllium, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.001	0.004	MCL/HBL
13	Cadmium, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	100	All ND - Last	0.001	0.005	MCL/HBL
13	Cadmium, total	mg/L	A5	12/09/2015 - 03/23/2022	16	100	All ND - Last	0.001	0.005	MCL/HBL
13	Cadmium, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	100	All ND - Last	0.0002	0.005	MCL/HBL
13	Chromium, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	79	CB around linear reg	0.00148	0.1	MCL/HBL
13	Chromium, total	mg/L	A5	12/09/2015 - 03/23/2022	15	80	CB around linear reg	0.00146	0.1	MCL/HBL
13	Chromium, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	81	CB around T-S line	0.00100	0.1	MCL/HBL
13	Cobalt, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	100	All ND - Last	0.001	0.0385	Background
13	Cobalt, total	mg/L	A5	12/09/2015 - 03/23/2022	16	100	All ND - Last	0.001	0.0385	Background
13	Cobalt, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	100	All ND - Last	0.0001	0.0385	Background
13	Fluoride, total	mg/L	A4D	12/09/2015 - 09/09/2021	17	0	CB around linear reg	0.218	4.0	MCL/HBL
13	Fluoride, total	mg/L	A5	12/09/2015 - 03/23/2022	18	0	CB around linear reg	0.220	4.0	MCL/HBL
13	Fluoride, total	mg/L	A5D	12/09/2015 - 09/14/2022	19	0	CB around linear reg	0.216	4.0	MCL/HBL

TABLE 6
DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Sample Location	Constituent	Result Unit	Event	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Result	GWPS	GWPS Source
13	Lead, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	100	All ND - Last	0.001	0.015	MCL/HBL
13	Lead, total	mg/L	A5	12/09/2015 - 03/23/2022	15	100	All ND - Last	0.001	0.015	MCL/HBL
13	Lead, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	100	All ND - Last	0.0006	0.015	MCL/HBL
13	Lithium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.0182	0.04	MCL/HBL
13	Lithium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.0186	0.04	MCL/HBL
13	Lithium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.0179	0.04	MCL/HBL
13	Mercury, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.0002	0.002	MCL/HBL
13	Molybdenum, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.0156	0.1	MCL/HBL
13	Molybdenum, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.0161	0.1	MCL/HBL
13	Molybdenum, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.0160	0.1	MCL/HBL
13	Radium 226 + Radium 228, total	pCi/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.409	5	MCL/HBL
13	Radium 226 + Radium 228, total	pCi/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.440	5	MCL/HBL
13	Radium 226 + Radium 228, total	pCi/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.468	5	MCL/HBL
13	Selenium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.00172	0.05	MCL/HBL
13	Selenium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.00172	0.05	MCL/HBL
13	Selenium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	6	CI around mean	0.00160	0.05	MCL/HBL
13	Thallium, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.002	0.002	MCL/HBL
46	Antimony, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.001	0.006	MCL/HBL
46	Antimony, total	mg/L	A5D	12/09/2015 - 09/14/2022	14	100	All ND - Last	0.0004	0.006	MCL/HBL
46	Arsenic, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	100	All ND - Last	0.001	0.010	MCL/HBL
46	Arsenic, total	mg/L	A5	12/09/2015 - 03/23/2022	15	100	All ND - Last	0.001	0.010	MCL/HBL
46	Arsenic, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	100	All ND - Last	0.0004	0.010	MCL/HBL
46	Barium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CB around linear reg	0.0592	2	MCL/HBL
46	Barium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CB around linear reg	0.0628	2	MCL/HBL
46	Barium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CB around linear reg	0.0625	2	MCL/HBL
46	Beryllium, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.001	0.004	MCL/HBL
46	Cadmium, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	100	All ND - Last	0.001	0.005	MCL/HBL
46	Cadmium, total	mg/L	A5	12/09/2015 - 03/23/2022	16	100	All ND - Last	0.001	0.005	MCL/HBL
46	Cadmium, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	100	All ND - Last	0.0002	0.005	MCL/HBL

TABLE 6
DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Sample Location	Constituent	Result Unit	Event	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Result	GWPS	GWPS Source
46	Chromium, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	86	CB around linear reg	0.00138	0.1	MCL/HBL
46	Chromium, total	mg/L	A5	12/09/2015 - 03/23/2022	15	87	CB around linear reg	0.00140	0.1	MCL/HBL
46	Chromium, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	88	CB around T-S line	0.000925	0.1	MCL/HBL
46	Cobalt, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	100	All ND - Last	0.001	0.0385	Background
46	Cobalt, total	mg/L	A5	12/09/2015 - 03/23/2022	16	100	All ND - Last	0.001	0.0385	Background
46	Cobalt, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	100	All ND - Last	0.0001	0.0385	Background
46	Fluoride, total	mg/L	A4D	12/09/2015 - 09/09/2021	17	0	CI around mean	0.248	4.0	MCL/HBL
46	Fluoride, total	mg/L	A5	12/09/2015 - 03/23/2022	18	0	CI around mean	0.246	4.0	MCL/HBL
46	Fluoride, total	mg/L	A5D	12/09/2015 - 09/14/2022	19	0	CI around mean	0.247	4.0	MCL/HBL
46	Lead, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	100	All ND - Last	0.001	0.015	MCL/HBL
46	Lead, total	mg/L	A5	12/09/2015 - 03/23/2022	15	100	All ND - Last	0.001	0.015	MCL/HBL
46	Lead, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	100	All ND - Last	0.0006	0.015	MCL/HBL
46	Lithium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.00970	0.04	MCL/HBL
46	Lithium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.00980	0.04	MCL/HBL
46	Lithium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.00975	0.04	MCL/HBL
46	Mercury, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.0002	0.002	MCL/HBL
46	Molybdenum, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CB around T-S line	0.0127	0.1	MCL/HBL
46	Molybdenum, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CB around T-S line	0.0104	0.1	MCL/HBL
46	Molybdenum, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CB around T-S line	0.00936	0.1	MCL/HBL
46	Radium 226 + Radium 228, total	pCi/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around geomean	0.256	5	MCL/HBL
46	Radium 226 + Radium 228, total	pCi/L	A5	12/09/2015 - 03/23/2022	17	0	CI around geomean	0.261	5	MCL/HBL
46	Radium 226 + Radium 228, total	pCi/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around geomean	0.311	5	MCL/HBL
46	Selenium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	44	CI around median	0.00100	0.05	MCL/HBL
46	Selenium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	47	CI around median	0.00100	0.05	MCL/HBL
46	Selenium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	50	CI around median	0.00100	0.05	MCL/HBL
46	Thallium, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.002	0.002	MCL/HBL
47	Antimony, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.001	0.006	MCL/HBL
47	Antimony, total	mg/L	A5D	12/09/2015 - 09/14/2022	14	100	All ND - Last	0.0004	0.006	MCL/HBL
47	Arsenic, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	93	Most recent sample	0.001	0.010	MCL/HBL

TABLE 6
DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Sample Location	Constituent	Result Unit	Event	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Result	GWPS	GWPS Source
47	Arsenic, total	mg/L	A5	12/09/2015 - 03/23/2022	15	93	Most recent sample	0.001	0.010	MCL/HBL
47	Arsenic, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	94	Most recent sample	0.0004	0.010	MCL/HBL
47	Barium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.0753	2	MCL/HBL
47	Barium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.0762	2	MCL/HBL
47	Barium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.0766	2	MCL/HBL
47	Beryllium, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.001	0.004	MCL/HBL
47	Cadmium, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	100	All ND - Last	0.001	0.005	MCL/HBL
47	Cadmium, total	mg/L	A5	12/09/2015 - 03/23/2022	16	100	All ND - Last	0.001	0.005	MCL/HBL
47	Cadmium, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	100	All ND - Last	0.0002	0.005	MCL/HBL
47	Chromium, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	100	All ND - Last	0.0015	0.1	MCL/HBL
47	Chromium, total	mg/L	A5	12/09/2015 - 03/23/2022	15	100	All ND - Last	0.0015	0.1	MCL/HBL
47	Chromium, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	94	CB around T-S line	0.00100	0.1	MCL/HBL
47	Cobalt, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	73	Future median	0.00100	0.0385	Background
47	Cobalt, total	mg/L	A5	12/09/2015 - 03/23/2022	16	75	Future median	0.00100	0.0385	Background
47	Cobalt, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	76	CI around median	0.00100	0.0385	Background
47	Fluoride, total	mg/L	A4D	12/09/2015 - 09/09/2021	17	0	CB around linear reg	0.235	4.0	MCL/HBL
47	Fluoride, total	mg/L	A5	12/09/2015 - 03/23/2022	18	0	CB around linear reg	0.235	4.0	MCL/HBL
47	Fluoride, total	mg/L	A5D	12/09/2015 - 09/14/2022	19	0	CB around linear reg	0.236	4.0	MCL/HBL
47	Lead, total	mg/L	A4D	12/09/2015 - 09/09/2021	14	100	All ND - Last	0.001	0.015	MCL/HBL
47	Lead, total	mg/L	A5	12/09/2015 - 03/23/2022	15	100	All ND - Last	0.001	0.015	MCL/HBL
47	Lead, total	mg/L	A5D	12/09/2015 - 09/14/2022	16	100	All ND - Last	0.0006	0.015	MCL/HBL
47	Lithium, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.00821	0.04	MCL/HBL
47	Lithium, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.00836	0.04	MCL/HBL
47	Lithium, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.00845	0.04	MCL/HBL
47	Mercury, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.0002	0.002	MCL/HBL
47	Molybdenum, total	mg/L	A4D	12/09/2015 - 09/09/2021	16	0	CB around linear reg	0.0135	0.1	MCL/HBL
47	Molybdenum, total	mg/L	A5	12/09/2015 - 03/23/2022	17	0	CB around linear reg	0.0123	0.1	MCL/HBL
47	Molybdenum, total	mg/L	A5D	12/09/2015 - 09/14/2022	18	0	CB around linear reg	0.0114	0.1	MCL/HBL
47	Radium 226 + Radium 228, total	pCi/L	A4D	12/09/2015 - 09/09/2021	16	0	CI around mean	0.299	5	MCL/HBL

TABLE 6
DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
803 - EAST ASH POND
HENNEPIN, IL

Sample Location	Constituent	Result Unit	Event	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Result	GWPS	GWPS Source
47	Radium 226 + Radium 228, total	pCi/L	A5	12/09/2015 - 03/23/2022	17	0	CI around mean	0.283	5	MCL/HBL
47	Radium 226 + Radium 228, total	pCi/L	A5D	12/09/2015 - 09/14/2022	18	0	CI around mean	0.296	5	MCL/HBL
47	Selenium, total	mg/L	A4D	12/09/2015 - 09/09/2021	15	100	All ND - Last	0.001	0.05	MCL/HBL
47	Selenium, total	mg/L	A5	12/09/2015 - 03/23/2022	16	100	All ND - Last	0.001	0.05	MCL/HBL
47	Selenium, total	mg/L	A5D	12/09/2015 - 09/14/2022	17	100	All ND - Last	0.0006	0.05	MCL/HBL
47	Thallium, total	mg/L	A5	12/09/2015 - 03/23/2022	13	100	All ND - Last	0.002	0.002	MCL/HBL

Notes:

mg/L = milligrams per liter
pCi/L = picocuries per liter
Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result
Statistical Calculation = method used to calculate the statistical result:
All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown
CB around linear reg = Confidence band around linear regression
CB around T-S line = Confidence band around Thiel-Sen line
CI around geomean = Confidence interval around the geometric mean
CI around mean = Confidence interval around the mean
CI around median = Confidence interval around the median
Future median = Median of the three most recent samples
Most recent sample = Result for the most recently collected sample used due to insufficient data
Statistical Result = calculated in accordance with Statistical Analysis Plan using constituent concentrations observed at monitoring well during all sampling events within the specified date range
GWPS = Groundwater Protection Standard
GWPS Source:
MCL/HBL = maximum contaminant level/health-based level
Background = background concentration

FIGURES



- BACKGROUND WELL
- COMPLIANCE WELL
- MONITORING WELL
- 40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

0 175 350
Feet

MONITORING WELL LOCATION
MAP

2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
EAST ASH POND
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000X.XXX | DATED: 3/24/2022 | DESIGNER: galammc
Y:\Mapping\Projects\2212285\WxD\GW_Contours\Hennepin\HennepinEAP_803\HEN GWE Contours D9A4A 20210908.mxd



- BACKGROUND WELL
- COMPLIANCE WELL
- PORE WATER WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- 40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

NOTES:
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. NM = NOT MEASURED
3. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
*ILLINOIS RIVER ELEVATION OBTAINED FROM STAFF GAGE SG02, LOCATED AT THE HENNEPIN POWER PLANT

0 175 350 Feet

POTENTIOMETRIC SURFACE MAP
SEPTEMBER 8, 2021

2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
EAST ASH POND
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000XXXX | DATED: 10/3/2022 | DESIGNER: galammc
Y:\Mapping\Projects\22\2285\MXD\GW_Contours\Round_2022\Hennepin\EAP_803\HEN EAP 803 Pot Surface 20220321.mxd



- BACKGROUND WELL
- COMPLIANCE WELL
- PORE WATER WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- 40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

NOTES:
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
*ILLINOIS RIVER ELEVATION OBTAINED FROM STAFF GAGE SG02, LOCATED AT THE HENNEPIN POWER PLANT



POTENTIOMETRIC SURFACE MAP
MARCH 21, 2022

2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
EAST ASH POND
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- 40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

NOTES:
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
*ILLINOIS RIVER ELEVATION OBTAINED FROM STAFF GAGE SG02, LOCATED AT THE HENNEPIN POWER PLANT

0 175 350
Feet

POTENTIOMETRIC SURFACE MAP SEPTEMBER 13 AND 14, 2022

2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
EAST ASH POND
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



APPENDICES

APPENDIX A LABORATORY REPORTS

October 15, 2021

Brian Voelker
Vistra Energy
1500 Eastport Plaza Drive
Collinsville, IL 62234
TEL: (217) 412-6605
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Hennepin GW Q3 2021

WorkOrder: 21081266

Dear Brian Voelker:

TEKLAB, INC received 43 samples on 9/10/2021 2:25:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	18
Dates Report	19
Quality Control Results	26
Receiving Check List	70
Chain of Custody	Appended

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| C - RL shown is a Client Requested Quantitation Limit | E - Value above quantitation range |
| H - Holding times exceeded | I - Associated internal standard was outside method criteria |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | T - TIC(Tentatively identified compound) |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Cooler Receipt Temp: 2.8 °C

An employee of Teklab, Inc. collected the sample(s).

Perchlorate analysis was performed by Keystone Laboratories, Inc. See attached report for QC summary.

This report contains CCR 803 data. EAH 10/14/21

Locations

Collinsville

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Phone (618) 344-1004
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Email jhriley@teklabinc.com

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Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Vistra Energy**Work Order:** 21081266**Client Project:** Hennepin GW Q3 2021**Report Date:** 15-Oct-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

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Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-007
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 07
 Collection Date: 09/09/2021 17:08

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		67.02	ft	1	09/09/2021 17:08	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		3.9	NTU	1	09/09/2021 17:08	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		141	mV	1	09/09/2021 17:08	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		11.6	°C	1	09/09/2021 17:08	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		2.67	mg/L	1	09/09/2021 17:08	R299257
SW-846 9040B								
pH, Field	*	1.00		6.73		1	09/09/2021 17:08	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		1330	µS/cm	1	09/09/2021 17:08	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		468	mg/L	1	09/13/2021 11:47	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 11:47	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		654	mg/L	1	09/14/2021 15:10	R298970
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		52	mg/L	2	09/16/2021 1:30	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.11	mg/L	1	09/13/2021 11:41	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	2		70	mg/L	2	09/16/2021 1:30	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		156	mg/L	1	09/17/2021 21:57	181934
Magnesium	NELAP	0.0500		53.4	mg/L	1	09/17/2021 21:57	181934
Potassium	NELAP	0.100		3.24	mg/L	1	09/20/2021 11:44	181934
Sodium	NELAP	0.0500		44.1	mg/L	1	09/17/2021 21:57	181934
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 11:47	181937
Barium	NELAP	0.0010		0.131	mg/L	5	09/24/2021 11:47	181937
Boron	NELAP	0.0250		0.0764	mg/L	5	09/27/2021 12:46	181937
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 11:47	181937
Chromium	NELAP	0.0015	J	0.0012	mg/L	5	09/24/2021 11:47	181937
Cobalt	NELAP	0.0010		0.0164	mg/L	5	09/24/2021 11:47	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 11:47	181937
Lithium	*	0.0030		0.0100	mg/L	5	09/24/2021 11:47	181937
Molybdenum	NELAP	0.0015	J	0.0008	mg/L	5	09/24/2021 11:47	181937
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 11:47	181937



Laboratory Results

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Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-008
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 08
 Collection Date: 09/09/2021 14:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.08	ft	1	09/09/2021 14:33	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		4.2	NTU	1	09/09/2021 14:33	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		157	mV	1	09/09/2021 14:33	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.6	°C	1	09/09/2021 14:33	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		2.62	mg/L	1	09/09/2021 14:33	R299257
SW-846 9040B								
pH, Field	*	1.00		6.60		1	09/09/2021 14:33	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		1730	µS/cm	1	09/09/2021 14:33	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		515	mg/L	1	09/13/2021 11:54	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 11:54	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		876	mg/L	1	09/14/2021 15:10	R298970
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		100	mg/L	10	09/16/2021 1:33	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10	J	0.09	mg/L	1	09/13/2021 11:42	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	10		152	mg/L	10	09/16/2021 1:33	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		188	mg/L	1	09/17/2021 21:59	181934
Magnesium	NELAP	0.0500		54.0	mg/L	1	09/17/2021 21:59	181934
Potassium	NELAP	0.100		3.04	mg/L	1	09/20/2021 11:46	181934
Sodium	NELAP	0.0500		84.1	mg/L	1	09/17/2021 21:59	181934
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 11:55	181937
Barium	NELAP	0.0010		0.0878	mg/L	5	09/24/2021 11:55	181937
Boron	NELAP	0.0250		0.111	mg/L	5	09/27/2021 12:52	181937
Cadmium	NELAP	0.0010	J	0.0002	mg/L	5	09/24/2021 11:55	181937
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/24/2021 11:55	181937
Cobalt	NELAP	0.0010		0.0049	mg/L	5	09/24/2021 11:55	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 11:55	181937
Lithium	*	0.0030		0.0130	mg/L	5	09/24/2021 11:55	181937
Molybdenum	NELAP	0.0015	J	0.0012	mg/L	5	09/24/2021 11:55	181937
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 11:55	181937



Laboratory Results

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Client: Vistra Energy
Client Project: Hennepin GW Q3 2021
Lab ID: 21081266-009
Matrix: GROUNDWATER

Work Order: 21081266
Report Date: 15-Oct-21
Client Sample ID: 08 Duplicate
Collection Date: 09/09/2021 14:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.08	ft	1	09/09/2021 14:33	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		4.2	NTU	1	09/09/2021 14:33	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		157	mV	1	09/09/2021 14:33	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.6	°C	1	09/09/2021 14:33	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		2.62	mg/L	1	09/09/2021 14:33	R299257
SW-846 9040B								
pH, Field	*	1.00		6.60		1	09/09/2021 14:33	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		1730	µS/cm	1	09/09/2021 14:33	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		514	mg/L	1	09/13/2021 12:01	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 12:01	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		860	mg/L	1	09/14/2021 15:11	R298970
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		104	mg/L	10	09/16/2021 1:52	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10	J	0.09	mg/L	1	09/13/2021 11:44	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	10		156	mg/L	10	09/16/2021 1:52	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100	S	191	mg/L	1	09/17/2021 22:00	181934
Magnesium	NELAP	0.0500	S	54.8	mg/L	1	09/17/2021 22:00	181934
Potassium	NELAP	0.100		3.04	mg/L	1	09/20/2021 11:48	181934
Sodium	NELAP	0.0500	S	84.4	mg/L	1	09/17/2021 22:00	181934
<i>Matrix spike control limits for Ca, Mg and Na are not applicable due to high sample/spike ratio.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:04	181937
Barium	NELAP	0.0010		0.0878	mg/L	5	09/24/2021 12:04	181937
Boron	NELAP	0.0250		0.114	mg/L	5	09/27/2021 12:58	181937
Cadmium	NELAP	0.0010	J	0.0002	mg/L	5	09/24/2021 12:04	181937
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/24/2021 12:04	181937
Cobalt	NELAP	0.0010		0.0049	mg/L	5	09/24/2021 12:04	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:04	181937
Lithium	*	0.0030		0.0131	mg/L	5	09/24/2021 12:04	181937
Molybdenum	NELAP	0.0015	J	0.0011	mg/L	5	09/24/2021 12:04	181937
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:04	181937

Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-010
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 08D
 Collection Date: 09/09/2021 14:11

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.80	ft	1	09/09/2021 14:11	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		3.7	NTU	1	09/09/2021 14:11	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		146	mV	1	09/09/2021 14:11	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		14.3	°C	1	09/09/2021 14:11	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.29	mg/L	1	09/09/2021 14:11	R299257
SW-846 9040B								
pH, Field	*	1.00		6.58		1	09/09/2021 14:11	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		2150	µS/cm	1	09/09/2021 14:11	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		518	mg/L	1	09/13/2021 12:09	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 12:09	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		1090	mg/L	1	09/14/2021 15:11	R298970
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		123	mg/L	10	09/16/2021 1:54	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.10	mg/L	1	09/13/2021 11:46	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	10		250	mg/L	10	09/16/2021 1:54	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		216	mg/L	1	09/17/2021 22:06	181934
Magnesium	NELAP	0.0500		63.9	mg/L	1	09/17/2021 22:06	181934
Potassium	NELAP	0.100		4.56	mg/L	1	09/20/2021 11:53	181934
Sodium	NELAP	0.0500		128	mg/L	1	09/17/2021 22:06	181934
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:30	181937
Barium	NELAP	0.0010		0.122	mg/L	5	09/24/2021 12:30	181937
Boron	NELAP	0.0250		0.0965	mg/L	5	09/27/2021 13:17	181937
Cadmium	NELAP	0.0010	J	0.0004	mg/L	5	09/24/2021 12:30	181937
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/24/2021 12:30	181937
Cobalt	NELAP	0.0010		0.0032	mg/L	5	09/24/2021 12:30	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:30	181937
Lithium	*	0.0030		0.0137	mg/L	5	09/24/2021 12:30	181937
Molybdenum	NELAP	0.0015	J	0.0010	mg/L	5	09/24/2021 12:30	181937
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:30	181937

Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-012
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 12
 Collection Date: 09/09/2021 12:41

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.34	ft	1	09/09/2021 12:41	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		3.8	NTU	1	09/09/2021 12:41	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		88	mV	1	09/09/2021 12:41	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		18.6	°C	1	09/09/2021 12:41	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.20	mg/L	1	09/09/2021 12:41	R299257
SW-846 9040B								
pH, Field	*	1.00		7.28		1	09/09/2021 12:41	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		870	µS/cm	1	09/09/2021 12:41	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		238	mg/L	1	09/13/2021 12:32	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 12:32	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		422	mg/L	1	09/14/2021 15:11	R298970
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		62	mg/L	2	09/16/2021 2:02	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.25	mg/L	1	09/13/2021 11:49	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	2		65	mg/L	2	09/16/2021 2:02	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100	S	85.9	mg/L	1	09/17/2021 22:21	181934
Magnesium	NELAP	0.0500	S	33.5	mg/L	1	09/17/2021 22:21	181934
Potassium	NELAP	0.100		4.41	mg/L	1	09/20/2021 12:09	181934
Sodium	NELAP	0.0500	S	42.5	mg/L	1	09/17/2021 22:21	181934
<i>Matrix spike control limits for Ca, Mg and Na are not applicable due to high sample/spike ratio.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:47	181937
Barium	NELAP	0.0010		0.0556	mg/L	5	09/24/2021 12:47	181937
Boron	NELAP	0.0250		0.224	mg/L	5	09/27/2021 13:29	181937
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:47	181937
Chromium	NELAP	0.0015	J	0.0010	mg/L	5	09/24/2021 12:47	181937
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:47	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/24/2021 12:47	181937
Lithium	*	0.0030		0.0121	mg/L	5	09/24/2021 12:47	181937
Molybdenum	NELAP	0.0015		0.0260	mg/L	5	09/24/2021 12:47	181937
Selenium	NELAP	0.0010	J	0.0007	mg/L	5	09/24/2021 12:47	181937

Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-013
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 13
 Collection Date: 09/09/2021 12:24

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.34	ft	1	09/09/2021 12:24	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		3.7	NTU	1	09/09/2021 12:24	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		78	mV	1	09/09/2021 12:24	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		17.5	°C	1	09/09/2021 12:24	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.16	mg/L	1	09/09/2021 12:24	R299257
SW-846 9040B								
pH, Field	*	1.00		7.37		1	09/09/2021 12:24	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		869	µS/cm	1	09/09/2021 12:24	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		228	mg/L	1	09/13/2021 12:38	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 12:38	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		434	mg/L	1	09/14/2021 15:12	R298970
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		61	mg/L	2	09/16/2021 2:07	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.22	mg/L	1	09/13/2021 11:58	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	2		65	mg/L	2	09/16/2021 2:08	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		78.7	mg/L	1	09/17/2021 22:09	181934
Magnesium	NELAP	0.0500		30.7	mg/L	1	09/17/2021 22:09	181934
Potassium	NELAP	0.100		4.82	mg/L	1	09/20/2021 12:14	181934
Sodium	NELAP	0.0500		41.6	mg/L	1	09/17/2021 22:09	181934
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010	J	0.0007	mg/L	5	09/23/2021 0:27	181937
Barium	NELAP	0.0010		0.0409	mg/L	5	09/23/2021 0:27	181937
Boron	NELAP	0.0250		0.345	mg/L	5	09/27/2021 14:11	181937
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:27	181937
Chromium	NELAP	0.0015		0.0017	mg/L	5	09/23/2021 0:27	181937
Cobalt	NELAP	0.0010	J	0.0001	mg/L	5	09/23/2021 0:27	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:27	181937
Lithium	*	0.0030		0.0160	mg/L	5	09/23/2021 0:27	181937
Molybdenum	NELAP	0.0015		0.0185	mg/L	5	09/23/2021 0:27	181937
Selenium	NELAP	0.0010		0.0010	mg/L	5	09/23/2021 0:27	181937

Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-015
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 16
 Collection Date: 09/09/2021 13:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.55	ft	1	09/09/2021 13:53	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		3.8	NTU	1	09/09/2021 13:53	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		113	mV	1	09/09/2021 13:53	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		23.8	°C	1	09/09/2021 13:53	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.25	mg/L	1	09/09/2021 13:53	R299257
SW-846 9040B								
pH, Field	*	1.00		7.11		1	09/09/2021 13:53	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		877	µS/cm	1	09/09/2021 13:53	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		221	mg/L	1	09/13/2021 12:45	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 12:45	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		476	mg/L	1	09/15/2021 15:18	R299042
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		70	mg/L	2	09/16/2021 2:10	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.25	mg/L	1	09/13/2021 12:00	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		100	mg/L	5	09/16/2021 21:06	R299090
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		80.2	mg/L	1	09/17/2021 22:11	181934
Magnesium	NELAP	0.0500		29.3	mg/L	1	09/17/2021 22:11	181934
Potassium	NELAP	0.100		4.88	mg/L	1	09/20/2021 12:16	181934
Sodium	NELAP	0.0500		54.4	mg/L	1	09/17/2021 22:11	181934
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:36	181937
Barium	NELAP	0.0010		0.0818	mg/L	5	09/23/2021 0:36	181937
Boron	NELAP	0.0250		0.138	mg/L	5	09/27/2021 14:17	181937
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:36	181937
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/23/2021 0:36	181937
Cobalt	NELAP	0.0010	J	0.0001	mg/L	5	09/23/2021 0:36	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:36	181937
Lithium	*	0.0030		0.0082	mg/L	5	09/23/2021 0:36	181937
Molybdenum	NELAP	0.0015		0.0071	mg/L	5	09/23/2021 0:36	181937
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:36	181937

Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-016
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 17
 Collection Date: 09/09/2021 13:36

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		54.33	ft	1	09/09/2021 13:36	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		3.7	NTU	1	09/09/2021 13:36	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		110	mV	1	09/09/2021 13:36	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		22.9	°C	1	09/09/2021 13:36	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.10	mg/L	1	09/09/2021 13:36	R299257
SW-846 9040B								
pH, Field	*	1.00		7.26		1	09/09/2021 13:36	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		798	µS/cm	1	09/09/2021 13:36	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		180	mg/L	1	09/13/2021 12:57	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 12:57	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		398	mg/L	1	09/15/2021 15:18	R299042
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		58	mg/L	2	09/16/2021 2:15	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.24	mg/L	1	09/13/2021 12:02	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	2		74	mg/L	2	09/16/2021 2:16	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		68.6	mg/L	1	09/17/2021 22:26	181934
Magnesium	NELAP	0.0500		27.4	mg/L	1	09/17/2021 22:26	181934
Potassium	NELAP	0.100		4.28	mg/L	1	09/20/2021 12:18	181934
Sodium	NELAP	0.0500		36.7	mg/L	1	09/17/2021 22:26	181934
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:44	181937
Barium	NELAP	0.0010		0.0533	mg/L	5	09/23/2021 0:44	181937
Boron	NELAP	0.0250		0.105	mg/L	5	09/27/2021 14:23	181937
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:44	181937
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/23/2021 0:44	181937
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:44	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:44	181937
Lithium	*	0.0030		0.0062	mg/L	5	09/23/2021 0:44	181937
Molybdenum	NELAP	0.0015		0.0060	mg/L	5	09/23/2021 0:44	181937
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 0:44	181937

Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-037
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 46
 Collection Date: 09/09/2021 13:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.53	ft	1	09/09/2021 13:01	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		6.1	NTU	1	09/09/2021 13:01	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		99	mV	1	09/09/2021 13:01	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		19.4	°C	1	09/09/2021 13:01	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.07	mg/L	1	09/09/2021 13:01	R299257
SW-846 9040B								
pH, Field	*	1.00		7.22		1	09/09/2021 13:01	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		885	µS/cm	1	09/09/2021 13:01	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		241	mg/L	1	09/13/2021 14:41	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 14:41	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		434	mg/L	1	09/15/2021 16:42	R299042
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		66	mg/L	5	09/16/2021 3:49	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.25	mg/L	1	09/13/2021 12:45	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		75	mg/L	5	09/16/2021 3:49	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		84.8	mg/L	1	09/17/2021 22:50	181934
Magnesium	NELAP	0.0500		33.3	mg/L	1	09/17/2021 22:50	181934
Potassium	NELAP	0.100		4.19	mg/L	1	09/20/2021 12:44	181934
Sodium	NELAP	0.0500		38.7	mg/L	1	09/17/2021 22:50	181934
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:37	181937
Barium	NELAP	0.0010		0.0675	mg/L	5	09/23/2021 2:37	181937
Boron	NELAP	0.0250		0.192	mg/L	5	09/27/2021 16:00	181937
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:37	181937
Chromium	NELAP	0.0015	J	0.0008	mg/L	5	09/23/2021 2:37	181937
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:37	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:37	181937
Lithium	*	0.0030		0.0102	mg/L	5	09/23/2021 2:37	181937
Molybdenum	NELAP	0.0015		0.0229	mg/L	5	09/23/2021 2:37	181937
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:37	181937

Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-038
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: 47
 Collection Date: 09/09/2021 12:03

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		54.83	ft	1	09/09/2021 12:03	R299257
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		3.7	NTU	1	09/09/2021 12:03	R299257
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		69	mV	1	09/09/2021 12:03	R299257
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		21.2	°C	1	09/09/2021 12:03	R299257
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.57	mg/L	1	09/09/2021 12:03	R299257
SW-846 9040B								
pH, Field	*	1.00		6.99		1	09/09/2021 12:03	R299257
SW-846 9050A								
Spec. Conductance, Field	*	1.00		970	µS/cm	1	09/09/2021 12:03	R299257
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		265	mg/L	1	09/13/2021 14:56	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 14:56	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		476	mg/L	1	09/15/2021 16:43	R299042
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		62	mg/L	5	09/16/2021 3:59	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.28	mg/L	1	09/13/2021 12:47	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		84	mg/L	5	09/16/2021 4:00	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		102	mg/L	1	09/17/2021 22:52	181934
Magnesium	NELAP	0.0500		33.2	mg/L	1	09/17/2021 22:52	181934
Potassium	NELAP	0.100		4.86	mg/L	1	09/20/2021 12:45	181934
Sodium	NELAP	0.0500		44.6	mg/L	1	09/17/2021 22:52	181934
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:46	181937
Barium	NELAP	0.0010		0.0906	mg/L	5	09/23/2021 2:46	181937
Boron	NELAP	0.0250		0.239	mg/L	5	09/27/2021 16:06	181937
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:46	181937
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/23/2021 2:46	181937
Cobalt	NELAP	0.0010	J	0.0001	mg/L	5	09/23/2021 2:46	181937
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:46	181937
Lithium	*	0.0030		0.0093	mg/L	5	09/23/2021 2:46	181937
Molybdenum	NELAP	0.0015		0.0268	mg/L	5	09/23/2021 2:46	181937
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2021 2:46	181937

Client: Vistra Energy
 Client Project: Hennepin GW Q3 2021
 Lab ID: 21081266-043
 Matrix: GROUNDWATER

Work Order: 21081266
 Report Date: 15-Oct-21
 Client Sample ID: Field Blank
 Collection Date: 09/10/2021 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		1	mg/L	1	09/13/2021 15:34	R298870
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/13/2021 15:34	R298870
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		< 20	mg/L	1	09/16/2021 16:52	R299087
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	09/16/2021 4:34	R299021
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		< 0.10	mg/L	1	09/13/2021 12:56	R298849
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		< 1	mg/L	1	09/16/2021 4:34	R299022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		< 0.100	mg/L	1	09/20/2021 13:42	181946
Magnesium	NELAP	0.0500		< 0.0500	mg/L	1	09/20/2021 13:42	181946
Potassium	NELAP	0.100		< 0.100	mg/L	1	09/20/2021 13:42	181946
Sodium	NELAP	0.0500		< 0.0500	mg/L	1	09/20/2021 13:42	181946
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2021 21:50	181947
Barium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2021 21:50	181947
Boron	NELAP	0.0250		< 0.0250	mg/L	5	09/21/2021 21:50	181947
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2021 21:50	181947
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/21/2021 21:50	181947
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2021 21:50	181947
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2021 21:50	181947
Lithium	*	0.0030		< 0.0030	mg/L	5	09/21/2021 21:50	181947
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/21/2021 21:50	181947
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2021 21:50	181947



Sample Summary

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
21081266-007	07	Groundwater	2	09/09/2021 17:08
21081266-008	08	Groundwater	2	09/09/2021 14:33
21081266-009	08 Duplicate	Groundwater	2	09/09/2021 14:33
21081266-010	08D	Groundwater	2	09/09/2021 14:11
21081266-012	12	Groundwater	2	09/09/2021 12:41
21081266-013	13	Groundwater	2	09/09/2021 12:24
21081266-015	16	Groundwater	2	09/09/2021 13:53
21081266-016	17	Groundwater	2	09/09/2021 13:36
21081266-037	46	Groundwater	2	09/09/2021 13:01
21081266-038	47	Groundwater	2	09/09/2021 12:03
21081266-043	Field Blank	Groundwater	2	09/10/2021 10:45

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
21081266-007A	07	09/09/2021 17:08	09/10/2021 14:25		
	Field Elevation Measurements				09/09/2021 17:08
	Standard Methods 2130 B Field				09/09/2021 17:08
	Standard Methods 18th Ed. 2580 B Field				09/09/2021 17:08
	Standard Methods 2320 B (Total) 1997, 2011				09/13/2021 11:47
	Standard Methods 2320 B 1997, 2011				09/13/2021 11:47
	Standard Methods 2540 C (Total) 1997, 2011				09/14/2021 15:10
	Standard Methods 2550 B Field				09/09/2021 17:08
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/10/2021 19:07
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/10/2021 19:07
	Standard Methods 4500-O G Field				09/09/2021 17:08
	SW-846 9036 (Total)				09/16/2021 1:30
	SW-846 9040B				09/09/2021 17:08
	SW-846 9050A				09/09/2021 17:08
	SW-846 9214 (Total)				09/13/2021 11:41
	SW-846 9251 (Total)				09/16/2021 1:30
21081266-007D	07	09/09/2021 17:08	09/10/2021 14:25		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/17/2021 21:57
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/20/2021 11:44
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/24/2021 11:47
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/27/2021 12:46
	SW-846 7470A (Total)			09/16/2021 7:00	09/16/2021 18:04
21081266-008A	08	09/09/2021 14:33	09/10/2021 14:25		
	Field Elevation Measurements				09/09/2021 14:33
	Standard Methods 2130 B Field				09/09/2021 14:33
	Standard Methods 2320 B 1997, 2011				09/13/2021 11:54
	Standard Methods 18th Ed. 2580 B Field				09/09/2021 14:33
	Standard Methods 2320 B (Total) 1997, 2011				09/13/2021 11:54
	Standard Methods 2320 B 1997, 2011				09/13/2021 11:54
	Standard Methods 2540 C (Total) 1997, 2011				09/14/2021 15:10
	Standard Methods 2550 B Field				09/09/2021 14:33
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/10/2021 19:08
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/10/2021 19:22
	Standard Methods 4500-O G Field				09/09/2021 14:33
	SW-846 9036 (Total)				09/16/2021 1:33
	SW-846 9040B				09/09/2021 14:33
	SW-846 9050A				09/09/2021 14:33
	SW-846 9214 (Total)				09/13/2021 11:42

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
SW-846 9251 (Total)					
21081266-008D	08	09/09/2021 14:33	09/10/2021 14:25		09/16/2021 1:33
SW-846 3005A, 6010B, Metals by ICP (Total)					
SW-846 3005A, 6010B, Metals by ICP (Total)					
SW-846 3005A, 6020A, Metals by ICPMS (Total)					
SW-846 3005A, 6020A, Metals by ICPMS (Total)					
SW-846 7470A (Total)					
21081266-009A	08 Duplicate	09/09/2021 14:33	09/10/2021 14:25		
Field Elevation Measurements					
Standard Methods 2130 B Field					
Standard Methods 2320 B 1997, 2011					
Standard Methods 18th Ed. 2580 B Field					
Standard Methods 2320 B (Total) 1997, 2011					
Standard Methods 2320 B 1997, 2011					
Standard Methods 2540 C (Total) 1997, 2011					
Standard Methods 2550 B Field					
Standard Methods 4500-NO2 B (Total) 2000, 2011					
Standard Methods 4500-NO3 F (Total) 2000, 2011					
Standard Methods 4500-O G Field					
SW-846 9036 (Total)					
SW-846 9040B					
SW-846 9050A					
SW-846 9214 (Total)					
SW-846 9251 (Total)					
21081266-009D	08 Duplicate	09/09/2021 14:33	09/10/2021 14:25		
SW-846 3005A, 6010B, Metals by ICP (Total)					
SW-846 3005A, 6010B, Metals by ICP (Total)					
SW-846 3005A, 6020A, Metals by ICPMS (Total)					
SW-846 3005A, 6020A, Metals by ICPMS (Total)					
SW-846 7470A (Total)					
21081266-010A	08D	09/09/2021 14:11	09/10/2021 14:25		
Field Elevation Measurements					
Standard Methods 2130 B Field					
Standard Methods 2320 B 1997, 2011					
Standard Methods 18th Ed. 2580 B Field					
Standard Methods 2320 B (Total) 1997, 2011					
Standard Methods 2320 B 1997, 2011					

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
	Standard Methods 2540 C (Total) 1997, 2011				09/14/2021 15:11
	Standard Methods 2550 B Field				09/09/2021 14:11
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/10/2021 19:09
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/10/2021 19:26
	Standard Methods 4500-O G Field				09/09/2021 14:11
	SW-846 9036 (Total)				09/16/2021 1:54
	SW-846 9040B				09/09/2021 14:11
	SW-846 9050A				09/09/2021 14:11
	SW-846 9214 (Total)				09/13/2021 11:46
	SW-846 9251 (Total)				09/16/2021 1:54
21081266-010D	08D	09/09/2021 14:11	09/10/2021 14:25		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/17/2021 22:06
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/20/2021 11:53
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/24/2021 12:30
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/27/2021 13:17
	SW-846 7470A (Total)			09/17/2021 10:47	09/17/2021 22:55
21081266-012A	12	09/09/2021 12:41	09/10/2021 14:25		
	Field Elevation Measurements				09/09/2021 12:41
	Standard Methods 2130 B Field				09/09/2021 12:41
	Standard Methods 2320 B 1997, 2011				09/13/2021 12:32
	Standard Methods 18th Ed. 2580 B Field				09/09/2021 12:41
	Standard Methods 2320 B (Total) 1997, 2011				09/13/2021 12:32
	Standard Methods 2320 B 1997, 2011				09/13/2021 12:32
	Standard Methods 2540 C (Total) 1997, 2011				09/14/2021 15:11
	Standard Methods 2550 B Field				09/09/2021 12:41
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/10/2021 19:11
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/10/2021 19:37
	Standard Methods 4500-O G Field				09/09/2021 12:41
	SW-846 9036 (Total)				09/16/2021 2:02
	SW-846 9040B				09/09/2021 12:41
	SW-846 9050A				09/09/2021 12:41
	SW-846 9214 (Total)				09/13/2021 11:49
	SW-846 9251 (Total)				09/16/2021 2:02
21081266-012C	12	09/09/2021 12:41	09/10/2021 14:25		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/17/2021 22:21
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/20/2021 12:09
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/24/2021 12:47
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/27/2021 13:29

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
21081266-013A	13	09/09/2021 12:24	09/10/2021 14:25		
	Field Elevation Measurements				09/09/2021 12:24
	Standard Methods 2130 B Field				09/09/2021 12:24
	Standard Methods 2320 B 1997, 2011				09/13/2021 12:38
	Standard Methods 18th Ed. 2580 B Field				09/09/2021 12:24
	Standard Methods 2320 B (Total) 1997, 2011				09/13/2021 12:38
	Standard Methods 2320 B 1997, 2011				09/13/2021 12:38
	Standard Methods 2540 C (Total) 1997, 2011				09/14/2021 15:12
	Standard Methods 2550 B Field				09/09/2021 12:24
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/10/2021 19:11
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/10/2021 19:39
	Standard Methods 4500-O G Field				09/09/2021 12:24
	SW-846 9036 (Total)				09/16/2021 2:07
	SW-846 9040B				09/09/2021 12:24
	SW-846 9050A				09/09/2021 12:24
	SW-846 9214 (Total)				09/13/2021 11:58
	SW-846 9251 (Total)				09/16/2021 2:08
21081266-013C	13	09/09/2021 12:24	09/10/2021 14:25		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/17/2021 22:09
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/20/2021 12:14
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/23/2021 0:27
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/27/2021 14:11
21081266-015A	16	09/09/2021 13:53	09/10/2021 14:25		
	Field Elevation Measurements				09/09/2021 13:53
	Standard Methods 2130 B Field				09/09/2021 13:53
	Standard Methods 18th Ed. 2580 B Field				09/09/2021 13:53
	Standard Methods 2320 B (Total) 1997, 2011				09/13/2021 12:45
	Standard Methods 2320 B 1997, 2011				09/13/2021 12:45
	Standard Methods 2540 C (Total) 1997, 2011				09/15/2021 15:18
	Standard Methods 2550 B Field				09/09/2021 13:53
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/10/2021 18:58
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/10/2021 19:44
	Standard Methods 4500-O G Field				09/09/2021 13:53
	SW-846 9036 (Total)				09/16/2021 2:10
	SW-846 9040B				09/09/2021 13:53
	SW-846 9050A				09/09/2021 13:53
	SW-846 9214 (Total)				09/13/2021 12:00
	SW-846 9251 (Total)				09/16/2021 21:06

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
21081266-015C	16	09/09/2021 13:53	09/10/2021 14:25		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/17/2021 22:11
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/20/2021 12:16
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/23/2021 0:36
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/27/2021 14:17
21081266-016A	17	09/09/2021 13:36	09/10/2021 14:25		
	Field Elevation Measurements				09/09/2021 13:36
	Standard Methods 2130 B Field				09/09/2021 13:36
	Standard Methods 18th Ed. 2580 B Field				09/09/2021 13:36
	Standard Methods 2320 B (Total) 1997, 2011				09/13/2021 12:57
	Standard Methods 2320 B 1997, 2011				09/13/2021 12:57
	Standard Methods 2540 C (Total) 1997, 2011				09/15/2021 15:18
	Standard Methods 2550 B Field				09/09/2021 13:36
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/10/2021 18:59
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/10/2021 19:59
	Standard Methods 4500-O G Field				09/09/2021 13:36
	SW-846 9036 (Total)				09/16/2021 2:15
	SW-846 9040B				09/09/2021 13:36
	SW-846 9050A				09/09/2021 13:36
	SW-846 9214 (Total)				09/13/2021 12:02
	SW-846 9251 (Total)				09/16/2021 2:16
21081266-016C	17	09/09/2021 13:36	09/10/2021 14:25		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/17/2021 22:26
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 8:04	09/20/2021 12:18
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/23/2021 0:44
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 8:19	09/27/2021 14:23
21081266-037A	46	09/09/2021 13:01	09/10/2021 14:25		
	Field Elevation Measurements				09/09/2021 13:01
	Standard Methods 2130 B Field				09/09/2021 13:01
	Standard Methods 18th Ed. 2580 B Field				09/09/2021 13:01
	Standard Methods 2320 B (Total) 1997, 2011				09/13/2021 14:41
	Standard Methods 2320 B 1997, 2011				09/13/2021 14:41
	Standard Methods 2540 C (Total) 1997, 2011				09/15/2021 16:42
	Standard Methods 2550 B Field				09/09/2021 13:01
	Standard Methods 4500-O G Field				09/09/2021 13:01
	SW-846 9036 (Total)				09/16/2021 3:49
	SW-846 9040B				09/09/2021 13:01

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date	Test Name	Prep Date/Time	Analysis Date/Time
				SW-846 9050A		09/09/2021 13:01
				SW-846 9214 (Total)		09/13/2021 12:45
				SW-846 9251 (Total)		09/16/2021 3:49
21081266-037B	46	09/09/2021 13:01	09/10/2021 14:25			
				SW-846 3005A, 6010B, Metals by ICP (Total)	09/17/2021 8:04	09/17/2021 22:50
				SW-846 3005A, 6010B, Metals by ICP (Total)	09/17/2021 8:04	09/20/2021 12:44
				SW-846 3005A, 6020A, Metals by ICPMS (Total)	09/17/2021 8:19	09/23/2021 2:37
				SW-846 3005A, 6020A, Metals by ICPMS (Total)	09/17/2021 8:19	09/27/2021 16:00
21081266-038A	47	09/09/2021 12:03	09/10/2021 14:25			
				Field Elevation Measurements		09/09/2021 12:03
				Standard Methods 2130 B Field		09/09/2021 12:03
				Standard Methods 18th Ed. 2580 B Field		09/09/2021 12:03
				Standard Methods 2320 B (Total) 1997, 2011		09/13/2021 14:56
				Standard Methods 2320 B 1997, 2011		09/13/2021 14:56
				Standard Methods 2540 C (Total) 1997, 2011		09/15/2021 16:43
				Standard Methods 2550 B Field		09/09/2021 12:03
				Standard Methods 4500-O G Field		09/09/2021 12:03
				SW-846 9036 (Total)		09/16/2021 3:59
				SW-846 9040B		09/09/2021 12:03
				SW-846 9050A		09/09/2021 12:03
				SW-846 9214 (Total)		09/13/2021 12:47
				SW-846 9251 (Total)		09/16/2021 4:00
21081266-038B	47	09/09/2021 12:03	09/10/2021 14:25			
				SW-846 3005A, 6010B, Metals by ICP (Total)	09/17/2021 8:04	09/17/2021 22:52
				SW-846 3005A, 6010B, Metals by ICP (Total)	09/17/2021 8:04	09/20/2021 12:45
				SW-846 3005A, 6020A, Metals by ICPMS (Total)	09/17/2021 8:19	09/23/2021 2:46
				SW-846 3005A, 6020A, Metals by ICPMS (Total)	09/17/2021 8:19	09/27/2021 16:06
21081266-043A	Field Blank	09/10/2021 10:45	09/10/2021 14:25			
				Standard Methods 2320 B 1997, 2011		09/13/2021 15:34
				Standard Methods 2320 B (Total) 1997, 2011		09/13/2021 15:34
				Standard Methods 2320 B 1997, 2011		09/13/2021 15:34
				Standard Methods 2540 C (Total) 1997, 2011		09/16/2021 16:52
				Standard Methods 4500-NO2 B (Total) 2000, 2011		09/10/2021 19:02
				Standard Methods 4500-NO3 F (Total) 2000, 2011		09/10/2021 20:20
				SW-846 9036 (Total)		09/16/2021 4:34
				SW-846 9214 (Total)		09/13/2021 12:56
				SW-846 9251 (Total)		09/16/2021 4:34



Dates Report

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
21081266-043D	Field Blank	09/10/2021 10:45	09/10/2021 14:25		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/17/2021 11:38	09/20/2021 13:42
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 11:57	09/21/2021 21:50
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/17/2021 11:38	10/02/2021 1:16
	SW-846 7470A (Total)			09/17/2021 10:53	09/17/2021 21:50



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9040B

Batch R299257		SampType: LCS		Units						
SampID: LCS-R299257										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH, Field	*	1.00		7.10	7.000	0	101.4	98.57	101.4	09/08/2021
pH, Field	*	1.00		6.99	7.000	0	99.9	98.57	101.4	09/09/2021
pH, Field	*	1.00		7.04	7.000	0	100.6	98.57	101.4	09/10/2021

SW-846 9050A

Batch R299257		SampType: LCS		Units $\mu\text{S/cm}$							
SampID: LCS-R299257											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Spec. Conductance, Field	*	1.00		1330	1412	0	94.3	90	110	09/09/2021	
Spec. Conductance, Field	*	1.00		1410	1412	0	99.6	90	110	09/10/2021	
Spec. Conductance, Field	*	1.00		1500	1412	0	106.4	90	110	09/08/2021	

STANDARD METHODS 2320 B 1997, 2011

Batch R298870		SampType: MBLK		Units mg/L							
SampID: MBLK											Date Analyzed
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Alkalinity, Total (as CaCO3)			0		0						
										09/13/2021	

Batch R298870 SampType: LCS Units mg/L

SampleID: LCS										Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Alkalinity, Total (as CaCO3)		0		235	232.0	0	101.3	90	110	09/13/2021

STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011

Batch R299042		SampType: DUP		Units mg/L					RPD Limit: 5		
SampID: 21081266-013BDUP											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids			20		454				444.0	2.23	09/15/2021

Batch R299042 SampType: DUP Units mg/L

SampleID: 21081266-019BDUP										Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Total Dissolved Solids		20		386				374.0	3.16	09/15/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011

Batch R299087		SampType: DUP		Units mg/L				RPD Limit: 5			Date Analyzed
SampID: 21081266-004BDUP											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Total Dissolved Solids			20		516				502.0	2.75	09/16/2021

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R298922		SampType: MBLK		Units mg/L							
SampID: MBLK											Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Total Dissolved Solids		20	S	42	16.00	0	262.5	-100	100	09/13/2021	
Total Dissolved Solids		20	S	30	16.00	0	187.5	-100	100	09/13/2021	
Total Dissolved Solids		20	S	58	16.00	0	362.5	-100	100	09/13/2021	

Batch R298922		SampType: Lcs		Units mg/L							
SampID: LCS											Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Total Dissolved Solids		20	B	952	1000	0	95.2	90	110	09/13/2021	
Total Dissolved Solids		20	B	958	1000	0	95.8	90	110	09/13/2021	
Total Dissolved Solids		20	B	944	1000	0	94.4	90	110	09/13/2021	

Batch R298970		SampType: MBLK		Units mg/L							
SampID: MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/14/2021	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/14/2021	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/14/2021	

Batch R298970		SampType: LCS		Units mg/L							
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids		20		900	1000	0	90.0	90	110	09/14/2021	
Total Dissolved Solids		20		928	1000	0	92.8	90	110	09/14/2021	
Total Dissolved Solids		20		914	1000	0	91.4	90	110	09/14/2021	

Batch R298970		SampType: DUP		Units mg/L				RPD Limit: 5			
SampID: 21081266-010ADUP											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids			20		1070				1094	2.03	09/14/2021



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R298970		SampType: DUP		Units mg/L				RPD Limit: 5			Date Analyzed	
SampID: 21081266-033ADUP												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Total Dissolved Solids			20		1130				1136	0.88		
09/14/2021												

Batch R299042		SampType: MBLK		Units mg/L							
SampID: MBLK											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/15/2021	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/15/2021	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/15/2021	

Batch R299042		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		918	1000	0	91.8	90	110	09/16/2021
Total Dissolved Solids		20		928	1000	0	92.8	90	110	09/15/2021
Total Dissolved Solids		20		924	1000	0	92.4	90	110	09/15/2021

Batch R299042		SampType: DUP		Units mg/L				RPD Limit: 5			Date Analyzed	
SampID: 21081266-030ADUP												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Total Dissolved Solids			20		488				486.0	0.41		
09/15/2021												

Batch R299042		SampType: DUP		Units mg/L				RPD Limit: 5			Date Analyzed	
SampID: 21081266-037ADUP												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Total Dissolved Solids			20		446				434.0	2.73		
09/15/2021												

Batch R299087		SampType: MBLK		Units mg/L							
SampID: MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/16/2021	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/16/2021	



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy
Client Project: Hennepin GW Q3 2021

Work Order: 21081266
Report Date: 15-Oct-21

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R299087		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		912	1000	0	91.2	90	110	09/16/2021
Total Dissolved Solids		20		930	1000	0	93.0	90	110	09/16/2021

Batch R299087		SampType: DUP		Units mg/L				RPD Limit: 5			
SampID: 21081266-018ADUP											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids			20		522				548.0	4.86	09/16/2021

STANDARD METHODS 4500-NH3 G (TOTAL) 1997, 2011

Batch R298862		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Ammonia (as N)		0.10		< 0.10	0.0270	0	0	-100	100	09/13/2021	

Batch R298862		SampType: LCS		Units mg/L							
SampID: ICV/LCS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Ammonia (as N)		0.10		1.00	1.000	0	99.8	90	110	09/13/2021	

Batch R298862		SampType: MS		Units mg/L						
SampID: 21081266-008HMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		1.97	2.000	0.06500	95.2	90	110	09/13/2021

Batch R298862		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 21081266-008HMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Ammonia (as N)			0.10		1.96	2.000	0.06500	94.9	1.968	0.25	09/13/2021

Batch R298862		SampType: MS		Units mg/L							
SampID: 21081266-035GMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Ammonia (as N)		0.10		1.95	2.000	0	97.6	90	110	09/13/2021	



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

STANDARD METHODS 4500-NH3 G (TOTAL) 1997, 2011

Batch R298862		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed
SampID: 21081266-035GMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Nitrogen, Ammonia (as N)			0.10		1.96	2.000	0	98.2	1.951	0.72	09/13/2021

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R298804		SampType: MBLK		Units mg/L							
SampID: MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrite (as N)		0.05		< 0.05	0.0250	0	0	-100	100	09/10/2021	
Nitrogen, Nitrite (as N)		0.05		< 0.05	0.0250	0	0	-100	100	09/10/2021	

Batch R298804		SampType: LCS		Units mg/L							
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrite (as N)		0.25		1.66	1.520	0	109.5	90	110	09/10/2021	
Nitrogen, Nitrite (as N)		0.25		1.66	1.520	0	109.5	90	110	09/10/2021	

Batch R298804		SampType: MS		Units mg/L							
SampID: 21081266-001AMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrite (as N)		0.05			0.49	0.5000	0	98.2	85	115	09/10/2021

Batch R298804		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 21081266-001AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)			0.05		0.52	0.5000	0	103.2	0.4910	4.97	09/10/2021

Batch R298804		SampType: MS		Units mg/L							
SampID: 21081266-011AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrite (as N)		0.05		0.47	0.5000	0	93.4	85	115	09/10/2021	

Batch R298804		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed	
SampID: 21081266-011AMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Nitrogen, Nitrite (as N)			0.05		0.50	0.5000	0	99.2	0.4670	6.02	09/10/2021	



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R298804 SampType: MS Units mg/L

SampID: 21081266-014AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		0.51	0.5000	0	101.2	85	115	09/10/2021

Batch R298804 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 21081266-014AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		0.49	0.5000	0	98.8	0.5060	2.40	09/10/2021

STANDARD METHODS 4500-NO3 F (TOTAL) 2000, 2011

Batch R298842 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		< 0.050	0.0090	0	0	-100	100	09/10/2021

Batch R298842 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		0.496	0.5000	0	99.3	90	110	09/10/2021

Batch R298842 SampType: MS Units mg/L

SampID: 21081266-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		1.00		12.6	5.000	7.446	102.8	85	115	09/10/2021

Batch R298842 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 21081266-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		1.00		12.8	5.000	7.446	106.1	12.59	1.29	09/10/2021

Batch R298842 SampType: MS Units mg/L

SampID: 21081266-011AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		1.00		7.56	5.000	2.594	99.3	85	115	09/10/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

STANDARD METHODS 4500-NO3 F (TOTAL) 2000, 2011

Batch R298842		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed
SampID: 21081266-011AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Nitrogen, Nitrate-Nitrite (as N)			1.00		7.68	5.000	2.594	101.8	7.558	1.63	09/10/2021

Batch R298842		SampType: MS		Units mg/L						
SampID: 21081266-019AMS										Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Nitrogen, Nitrate-Nitrite (as N)		1.00		8.21	5.000	3.183	100.5	85	115	09/10/2021

Batch R298842		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed	
SampID: 21081266-019AMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Nitrogen, Nitrate-Nitrite (as N)			1.00		8.17	5.000	3.183	99.8	8.206	0.38	09/10/2021	

SW-846 9012A (TOTAL)

Batch 181732		SampType: MBLK		Units mg/L							
SampID: MBLK 210913 TCN1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cyanide		0.005		< 0.005	0.0015	0	0	-100	100	09/14/2021	

Batch 181732		SampType: LCS		Units mg/L							
SampID: LCS 210913 TCN1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cyanide		0.005		0.024	0.0250	0	96.9	90	110	09/14/2021	

Batch 181732		SampType: MS		Units mg/L							
SampID: 21081266-008FMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cyanide		0.005		0.031	0.0250	0.006460	99.6	75	125	09/14/2021	

Batch 181732		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-008FMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cyanide			0.005		0.031	0.0250	0.006460	99.5	0.03136	0.05	09/14/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9012A (TOTAL)

Batch 181840 SampType: MS Units mg/L

SampID: 21081266-019EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.026	0.0250	0	103.1	75	125	09/16/2021

Batch 181840 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 21081266-019EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cyanide		0.005		0.023	0.0250	0	90.1	0.02578	13.43	09/16/2021

Batch 181844 SampType: MBLK Units mg/L

SampID: MBLK 210915 TCN1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		< 0.005	0.0015	0	0	-100	100	09/16/2021

Batch 181844 SampType: LCS Units mg/L

SampID: LCS 210915 TCN1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.023	0.0250	0	92.6	85	115	09/16/2021

Batch 181844 SampType: MS Units mg/L

SampID: 21081266-011FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.025	0.0250	0	100.6	75	125	09/16/2021

Batch 181844 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 21081266-011FMDS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cyanide		0.005		0.026	0.0250	0	103.8	0.02515	3.13	09/16/2021

SW-846 9036 (DISSOLVED)

Batch R298928 SampType: MS Units mg/L

SampID: 21081266-012BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		20	E	103	40.00	64.61	95.1	85	115	09/14/2021



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9036 (DISSOLVED)

Batch R298928		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed
SampID: 21081266-012BMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Sulfate		20	E	103	40.00	64.61	97.2	102.6	0.81	09/14/2021	

Batch R299021		SampType: MS		Units mg/L							
SampID: 21081266-001CMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate		50		178	100.0	71.63	106.5	85	115	09/15/2021	

Batch R299021		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed	
SampID: 21081266-001CMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Sulfate			50		176	100.0	71.63	104.4	178.2	1.21	09/15/2021	

Batch R299089		SampType: MS		Units mg/L							
SampID: 21081266-019BMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate		50		191	100.0	90.60	100.4	85	115	09/16/2021	

Batch R299089		SampType: MSD		Units mg/L					RPD Limit: 10		
SampID: 21081266-019BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate			50		191	100.0	90.60	100.2	191.0	0.05	09/16/2021

Batch R299276		SampType: MBLK		Units mg/L							Date Analyzed
SampID: MB-R299276											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate		10		< 10	7.620	0	0	-100	100	09/20/2021	

Batch R299276		SampType: LCS		Units mg/L							
SampID: LCS-R299276											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		20	20.00	0	98.5	90	110	09/20/2021	



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9036 (TOTAL)

Batch R298928 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		< 10	6.140	0	0	-100	100	09/13/2021

Batch R298928 SampType: LCS Units mg/L

SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		21	20.00	0	105.2	90	110	09/13/2021

Batch R299021 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		< 10	6.140	0	0	-100	100	09/15/2021

Batch R299021 SampType: LCS Units mg/L

SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		20	20.00	0	98.5	90	110	09/15/2021

Batch R299021 SampType: MS Units mg/L

SampID: 21081266-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		50		183	100.0	86.35	96.2	85	115	09/16/2021

Batch R299021 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 21081266-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		50		182	100.0	86.35	96.0	182.6	0.16	09/16/2021

Batch R299021 SampType: MS Units mg/L

SampID: 21081266-037AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		50		159	100.0	65.81	93.2	85	115	09/16/2021

Batch R299021 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 21081266-037AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		50		165	100.0	65.81	98.9	159.0	3.50	09/16/2021



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9036 (TOTAL)

Batch R299089		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		< 10	6.140	0	0	-100	100	09/16/2021	

Batch R299089		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		21	20.00	0	106.4	90	110	09/16/2021	

Batch R299089		SampType: MS		Units mg/L							
SampID: 21081266-004AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		50		189	100.0	84.17	104.4	85	115	09/16/2021	

Batch R299089		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 21081266-004AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate			50		188	100.0	84.17	104.1	188.6	0.15	09/16/2021

Batch R299276		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate		10		< 10	6.140	0	0	-100	100	09/20/2021	

Batch R299276		SampType: LCS		Units mg/L							
SampID: ICB/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		20	20.00	0	98.5	90	110	09/20/2021	

SW-846 9066 (TOTAL)

Batch R298976		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Phenols		0.005		< 0.005	0.0028	0	0	-100	100	09/15/2021	



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9066 (TOTAL)

Batch R298976 SampType: LCS Units mg/L

SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phenols		0.005		0.050	0.0500	0	99.2	90	110	09/15/2021

Batch R298976 SampType: MS Units µg/L

SampID: 21081266-011GMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phenols		5		53	50.00	0	106.4	85	115	09/15/2021

Batch R298976 SampType: MSD Units µg/L

SampID: 21081266-011GMSD

RPD Limit: 15

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Phenols		5		57	50.00	0	113.6	53.21	6.51	09/15/2021

SW-846 9214 (DISSOLVED)

Batch R298849 SampType: MS Units mg/L

SampID: 21081266-008CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		2.22	2.000	0.09100	106.4	75	125	09/13/2021

Batch R298849 SampType: MSD Units mg/L

SampID: 21081266-008CMSD

RPD Limit: 15

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		2.23	2.000	0.09100	106.9	2.218	0.49	09/13/2021

Batch R298849 SampType: MS Units mg/L

SampID: 21081266-016BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		2.34	2.000	0.2320	105.2	75	125	09/13/2021

Batch R298849 SampType: MSD Units mg/L

SampID: 21081266-016BMSD

RPD Limit: 15

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		2.33	2.000	0.2320	104.8	2.336	0.30	09/13/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9214 (DISSOLVED)

Batch R298849		SampType: MS		Units mg/L							
SampID: 21081266-043CMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		2.08	2.000	0	104.0	75	125	09/13/2021	

Batch R298849		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-043CMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.09	2.000	0	104.6	2.079	0.58	09/13/2021

SW-846 9214 (TOTAL)

Batch R298849		SampType: MBLK		Units mg/L							
SampID: MBLK											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		< 0.10	0.0370	0	0	-100	100	09/13/2021	

Batch R298849		SampType: LCS		Units mg/L							
SampID: LCS										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		0.94	1.000	0	94.5	90	110	09/13/2021	

Batch R298849		SampType: MS		Units mg/L							
SampID: 21081266-012AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.36	2.000	0.2520	105.4	75	125	09/13/2021	

Batch R298849		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-012AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.38	2.000	0.2520	106.4	2.360	0.84	09/13/2021

Batch R298849		SampType: MS		Units mg/L							
SampID: 21081266-021AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.22	2.000	0.1440	104.0	75	125	09/13/2021	



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9214 (TOTAL)

Batch R298849		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed
SampID: 21081266-021AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Fluoride			0.10		2.24	2.000	0.1440	104.8	2.223	0.72	09/13/2021

Batch R298849		SampType: MS		Units mg/L							
SampID: 21081266-035AMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		2.26	2.000	0.1540	105.4	75	125	09/13/2021	

Batch R298849		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed	
SampID: 21081266-035AMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Fluoride			0.10		2.27	2.000	0.1540	105.7	2.262	0.26	09/13/2021	

Batch R298849		SampType: MS		Units mg/L							
SampID: 21081266-043AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.08	2.000	0	104.0	75	125	09/13/2021	

Batch R298849		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed
SampID: 21081266-043AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Fluoride			0.10		2.11	2.000	0	105.6	2.080	1.57	09/13/2021

SW-846 9251 (DISSOLVED)

Batch R298905		SampType: MS		Units mg/L							
SampID: 21081266-001CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		2	E	101	40.00	64.33	91.8	85	115	09/14/2021	

Batch R298905		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-001CMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride			2	E	102	40.00	64.33	93.0	101.1	0.46	09/14/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9251 (DISSOLVED)

Batch R298905 SampType: MS Units mg/L

SampID: 21081266-012BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		2	E	108	40.00	66.90	102.7	85	115	09/14/2021

Batch R298905 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 21081266-012BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		2	E	110	40.00	66.90	108.5	108.0	2.10	09/14/2021

Batch R299022 SampType: MS Units mg/L

SampID: 21081266-019BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		2	E	111	40.00	70.71	101.6	85	115	09/15/2021

Batch R299022 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 21081266-019BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		2	E	112	40.00	70.71	104.4	111.4	0.98	09/15/2021

Batch R299022 SampType: MS Units mg/L

SampID: 21081266-023BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		5		193	100.0	98.87	94.3	85	115	09/16/2021

Batch R299022 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 21081266-023BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		5		192	100.0	98.87	93.2	193.2	0.59	09/16/2021

SW-846 9251 (TOTAL)

Batch R298905 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		< 1	0.5000	0	0	-100	100	09/13/2021
Chloride		1		< 1	0.5000	0	0	-100	100	09/13/2021



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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9251 (TOTAL)

Batch R298905		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		21	20.00	0	104.6	90	110	09/13/2021
Chloride		1		21	20.00	0	102.9	90	110	09/13/2021

Batch R299022		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		1		< 1	0.5000	0	0	-100	100	09/15/2021	

Batch R299022		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		1		20	20.00	0	98.6	90	110	09/15/2021	

Batch R299022		SampType: MS		Units mg/L						
SampID: 21081266-002AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		5		167	100.0	78.08	88.5	85	115	09/16/2021

Batch R299022		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-002AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride			5		165	100.0	78.08	87.0	166.6	0.92	09/16/2021

Batch R299022		SampType: MS		Units mg/L							
SampID: 21081266-037AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		5		161	100.0	75.03	86.4	85	115	09/16/2021	

Batch R299022		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-037AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride			5		166	100.0	75.03	90.6	161.5	2.54	09/16/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 9251 (TOTAL)

Batch R299090 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		< 1	0.5000	0	0	-100	100	09/16/2021

Batch R299090 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		20	20.00	0	100.4	90	110	09/16/2021

Batch R299090 SampType: MS Units mg/L

SampID: 21081266-004AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		5		172	100.0	84.89	87.2	85	115	09/16/2021

Batch R299090 SampType: MSD Units mg/L

SampID: 21081266-004AMSD

RPD Limit: 15

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		5	S	170	100.0	84.89	84.9	172.1	1.32	09/16/2021

Batch R299278 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		< 1	0.5000	0	0	-100	100	09/20/2021

Batch R299278 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		20	20.00	0	99.8	90	110	09/20/2021

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 181824 SampType: MBLK Units mg/L

SampID: MBLK-181824

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	09/15/2021
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	09/15/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 181824 SampType: LCS Units mg/L

SampleID: LCS-181824

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.39	2.500	0	95.4	85	115	09/15/2021
Magnesium		0.0500		2.48	2.500	0	99.4	85	115	09/15/2021

Batch 181824 SampType: MS Units mg/L

SampleID: 21081266-043EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.41	2.500	0	96.5	75	125	09/15/2021
Magnesium		0.0500		2.49	2.500	0	99.5	75	125	09/15/2021

Batch 181824 SampType: MSD Units mg/L

RPD Limit: 20

SampleID: 21081266-043EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		2.39	2.500	0	95.7	2.412	0.83	09/15/2021
Magnesium		0.0500		2.48	2.500	0	99.4	2.488	0.16	09/15/2021

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 181934 SampType: MBLK Units mg/L

SampleID: MBLK-181934

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	09/17/2021
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	09/17/2021
Potassium		0.100		< 0.100	0.0400	0	0	-100	100	09/20/2021
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	09/17/2021

Batch 181934 SampType: LCS Units mg/L

SampleID: LCS-181934

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.32	2.500	0	92.8	85	115	09/17/2021
Magnesium		0.0500		2.68	2.500	0	107.3	85	115	09/17/2021
Potassium		0.100		2.76	2.500	0	110.6	85	115	09/20/2021
Sodium		0.0500		2.34	2.500	0	93.6	85	115	09/17/2021



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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 181934 SampType: MS Units mg/L

SampleID: 21081266-009DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	197	2.500	190.8	240.4	75	125	09/17/2021
Magnesium		0.0500	S	58.8	2.500	54.81	158.6	75	125	09/17/2021
Potassium		0.100		5.84	2.500	3.038	112.3	75	125	09/20/2021
Sodium		0.0500	S	88.3	2.500	84.38	158.4	75	125	09/17/2021

Batch 181934 SampType: MSD Units mg/L

RPD Limit: 20

SampleID: 21081266-009DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	191	2.500	190.8	21.2	196.9	2.82	09/17/2021
Magnesium		0.0500		57.2	2.500	54.81	94.0	58.78	2.79	09/17/2021
Potassium		0.100		5.85	2.500	3.038	112.4	5.845	0.04	09/20/2021
Sodium		0.0500	S	85.8	2.500	84.38	58.8	88.34	2.86	09/17/2021

Batch 181934 SampType: MS Units mg/L

SampleID: 21081266-012CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	85.1	2.500	85.87	-31.2	75	125	09/17/2021
Magnesium		0.0500	S	34.8	2.500	33.48	52.7	75	125	09/17/2021
Potassium		0.100		6.81	2.500	4.415	95.7	75	125	09/20/2021
Sodium		0.0500	S	43.5	2.500	42.51	38.8	75	125	09/17/2021

Batch 181934 SampType: MSD Units mg/L

RPD Limit: 20

SampleID: 21081266-012CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	82.2	2.500	85.87	-146.0	85.09	3.43	09/17/2021
Magnesium		0.0500	S	33.6	2.500	33.48	6.0	34.80	3.41	09/17/2021
Potassium		0.100		6.82	2.500	4.415	96.2	6.806	0.20	09/20/2021
Sodium		0.0500	S	43.0	2.500	42.51	20.0	43.48	1.09	09/17/2021

Batch 181936 SampType: MBLK Units mg/L

SampleID: MBLK-181936

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	09/17/2021
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	09/17/2021
Potassium		0.100		< 0.100	0.0400	0	0	-100	100	09/17/2021
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	09/17/2021

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)
Batch 181936 **SampType:** LCS Units mg/L

SampID: LCS-181936

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.62	2.500	0	104.7	85	115	09/17/2021
Magnesium		0.0500		2.69	2.500	0	107.5	85	115	09/17/2021
Potassium		0.100		2.53	2.500	0	101.3	85	115	09/17/2021
Sodium		0.0500		2.42	2.500	0	96.6	85	115	09/17/2021

Batch 181936 **SampType:** MS Units mg/L

SampID: 21081266-041CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	117	2.500	118.6	-64.0	75	125	09/17/2021
Magnesium		0.0500	S	34.9	2.500	33.45	56.8	75	125	09/17/2021
Potassium		0.100	E	11.8	2.500	9.691	84.4	75	125	09/17/2021
Sodium		0.0500	S	59.1	2.500	58.64	18.0	75	125	09/17/2021

Batch 181936 **SampType:** MSD Units mg/L

RPD Limit: 20

SampID: 21081266-041CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		121	2.500	118.6	104.0	117.0	3.53	09/17/2021
Magnesium		0.0500		36.1	2.500	33.45	105.2	34.87	3.41	09/17/2021
Potassium		0.100	E	12.3	2.500	9.691	103.2	11.80	3.91	09/17/2021
Sodium		0.0500		61.3	2.500	58.64	107.2	59.09	3.70	09/17/2021

Batch 181946 **SampType:** MBLK Units mg/L

SampID: MBLK-181946

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	09/20/2021
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	09/20/2021
Molybdenum		0.0100		< 0.0100	0.0037	0	0	-100	100	09/20/2021
Potassium		0.100		< 0.100	0.0400	0	0	-100	100	09/20/2021
Selenium		0.0400		< 0.0400	0.0170	0	0	-100	100	09/20/2021
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	09/20/2021
Thallium		0.0500		< 0.0500	0.0111	0	0	-100	100	09/20/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 181946 SampType: LCS Units mg/L

SampleID: LCS-181946

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.66	2.500	0	106.2	85	115	09/20/2021
Magnesium		0.0500		2.77	2.500	0	110.9	85	115	09/20/2021
Molybdenum		0.0100		0.518	0.5000	0	103.7	85	115	09/20/2021
Potassium		0.100		2.58	2.500	0	103.2	85	115	09/20/2021
Selenium		0.0400		0.533	0.5000	0	106.6	85	115	09/20/2021
Sodium		0.0500		2.49	2.500	0	99.7	85	115	09/20/2021
Thallium		0.0500		0.259	0.2500	0	103.5	85	115	09/20/2021

Batch 181946 SampType: MS Units mg/L

SampleID: 21081266-005CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	93.6	2.500	89.29	173.2	75	125	09/20/2021
Magnesium		0.0500		35.1	2.500	32.31	112.4	75	125	09/20/2021
Potassium		0.500		12.5	2.500	9.945	103.4	75	125	09/20/2021
Sodium		0.0500	S	51.8	2.500	49.95	72.8	75	125	09/20/2021

Batch 181946 SampType: MSD Units mg/L

RPD Limit: 20

SampleID: 21081266-005CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	90.6	2.500	89.29	50.8	93.62	3.32	09/20/2021
Magnesium		0.0500	S	34.0	2.500	32.31	68.4	35.12	3.18	09/20/2021
Potassium		0.500		12.1	2.500	9.945	86.8	12.53	3.37	09/20/2021
Sodium		0.0500	S	49.9	2.500	49.95	-2.0	51.77	3.68	09/20/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181825		SampType: MBLK		Units mg/L							Date Analyzed	
SampID: MBLK-181825												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Aluminum		0.0250		< 0.0250	0.0125	0	0	-100	100	09/15/2021		
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/15/2021		
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/15/2021		
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/15/2021		
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/17/2021		
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/21/2021		
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/15/2021		
Chromium		0.0150		< 0.0150	0.0007	0	0	-100	100	09/15/2021		
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/15/2021		
Copper		0.0010		< 0.0010	0.0003	0	0	-100	100	09/15/2021		
Iron		0.0250		< 0.0250	0.0115	0	0	-100	100	09/15/2021		
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/15/2021		
Manganese		0.0020		< 0.0020	0.0008	0	0	-100	100	09/15/2021		
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	09/15/2021		
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	09/15/2021		
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/17/2021		
Silver		0.0010		< 0.0010	0.0001	0	0	-100	100	09/15/2021		
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/15/2021		
Vanadium		0.0050		< 0.0050	0.0028	0	0	-100	100	09/15/2021		
Zinc		0.0150		< 0.0150	0.0059	0	0	-100	100	09/15/2021		



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181825 SampType: LCS

Units mg/L

SampleID: LCS-181825

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Aluminum		0.0250		1.89	2.000	0	94.7	85	115	09/15/2021
Antimony		0.0010		0.457	0.5000	0	91.5	85	115	09/15/2021
Arsenic		0.0010		0.481	0.5000	0	96.3	85	115	09/15/2021
Barium		0.0010		2.15	2.000	0	107.5	85	115	09/15/2021
Beryllium		0.0010		0.0446	0.0500	0	89.3	85	115	09/17/2021
Boron		0.0250		0.457	0.5000	0	91.5	85	115	09/21/2021
Cadmium		0.0010		0.0434	0.0500	0	86.8	85	115	09/15/2021
Chromium		0.0150		0.173	0.2000	0	86.5	85	115	09/15/2021
Cobalt		0.0010		0.432	0.5000	0	86.4	85	115	09/15/2021
Copper		0.0010		0.218	0.2500	0	87.0	85	115	09/15/2021
Iron		0.0250		1.71	2.000	0	85.3	85	115	09/15/2021
Lead		0.0010		0.469	0.5000	0	93.9	85	115	09/15/2021
Manganese		0.0020		0.475	0.5000	0	95.1	85	115	09/15/2021
Molybdenum		0.0015		0.453	0.5000	0	90.6	85	115	09/16/2021
Nickel		0.0010		0.462	0.5000	0	92.4	85	115	09/16/2021
Selenium		0.0010		0.479	0.5000	0	95.7	85	115	09/17/2021
Silver		0.0010		0.0433	0.0500	0	86.6	85	115	09/15/2021
Thallium		0.0020		0.228	0.2500	0	91.2	85	115	09/15/2021
Vanadium		0.0050		0.453	0.5000	0	90.5	85	115	09/15/2021
Zinc		0.0150		0.434	0.5000	0	86.8	85	115	09/15/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181825		SampType: MS		Units mg/L							Date Analyzed
SampID: 21081266-043EMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Aluminum		0.0250		1.79	2.000	0	89.6	75	125	09/15/2021	
Antimony		0.0010		0.447	0.5000	0	89.3	75	125	09/15/2021	
Arsenic		0.0010		0.466	0.5000	0	93.3	75	125	09/15/2021	
Barium		0.0010		2.08	2.000	0	104.2	75	125	09/15/2021	
Beryllium		0.0010		0.0416	0.0500	0	83.1	75	125	09/21/2021	
Boron		0.0250		0.447	0.5000	0	89.3	75	125	09/21/2021	
Cadmium		0.0010		0.0416	0.0500	0	83.1	75	125	09/15/2021	
Chromium		0.0015		0.167	0.2000	0	83.4	75	125	09/15/2021	
Cobalt		0.0010		0.413	0.5000	0	82.7	75	125	09/15/2021	
Copper		0.0010		0.233	0.2500	0.001857	92.6	75	125	09/21/2021	
Iron		0.0250		1.63	2.000	0	81.3	75	125	09/15/2021	
Lead		0.0010		0.473	0.5000	0	94.7	75	125	09/15/2021	
Manganese		0.0020		0.461	0.5000	0	92.1	75	125	09/15/2021	
Molybdenum		0.0015		0.446	0.5000	0	89.2	75	125	09/21/2021	
Nickel		0.0010		0.472	0.5000	0	94.4	75	125	09/16/2021	
Selenium		0.0010		0.476	0.5000	0	95.1	75	125	09/17/2021	
Silver		0.0010		0.0406	0.0500	0	81.2	75	125	09/15/2021	
Thallium		0.0020		0.224	0.2500	0	89.8	75	125	09/15/2021	
Vanadium		0.0050		0.438	0.5000	0	87.6	75	125	09/15/2021	
Zinc		0.0150		0.423	0.5000	0	84.5	75	125	09/15/2021	



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181825		SampType: MSD		Units mg/L			RPD Limit: 20			
SampleID: 21081266-043EMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Aluminum		0.0250		1.75	2.000	0	87.3	1.793	2.65	09/15/2021
Antimony		0.0010		0.462	0.5000	0	92.3	0.4467	3.30	09/15/2021
Arsenic		0.0010		0.471	0.5000	0	94.2	0.4663	1.06	09/15/2021
Barium		0.0010		2.11	2.000	0	105.5	2.084	1.24	09/15/2021
Beryllium		0.0010		0.0419	0.0500	0	83.7	0.04157	0.68	09/21/2021
Boron		0.0250		0.434	0.5000	0	86.8	0.4467	2.90	09/21/2021
Cadmium		0.0010		0.0424	0.0500	0	84.7	0.04156	1.90	09/15/2021
Chromium		0.0015		0.164	0.2000	0	82.2	0.1668	1.50	09/15/2021
Cobalt		0.0010		0.417	0.5000	0	83.4	0.4135	0.80	09/15/2021
Copper		0.0010		0.233	0.2500	0.001857	92.3	0.2333	0.27	09/21/2021
Iron		0.0250		1.67	2.000	0	83.5	1.626	2.75	09/15/2021
Lead		0.0010		0.470	0.5000	0	93.9	0.4733	0.80	09/15/2021
Manganese		0.0020		0.458	0.5000	0	91.6	0.4606	0.59	09/15/2021
Molybdenum		0.0015		0.440	0.5000	0	88.0	0.4462	1.39	09/21/2021
Nickel		0.0010		0.476	0.5000	0	95.2	0.4720	0.88	09/16/2021
Selenium		0.0010		0.477	0.5000	0	95.3	0.4756	0.20	09/17/2021
Silver		0.0010		0.0417	0.0500	0	83.4	0.04060	2.69	09/15/2021
Thallium		0.0020		0.229	0.2500	0	91.5	0.2244	1.96	09/15/2021
Vanadium		0.0050		0.437	0.5000	0	87.4	0.4382	0.25	09/15/2021
Zinc		0.0150		0.425	0.5000	0	85.0	0.4226	0.59	09/15/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181873		SampType: MBLK		Units mg/L							Date Analyzed	
SampID: MBLK-181873												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/21/2021		
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/18/2021		
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/18/2021		
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/18/2021		
Boron		0.0250		< 0.0250	0.0150	0	0	-100	100	09/21/2021		
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/18/2021		
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/18/2021		
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/18/2021		
Copper		0.0010		< 0.0010	0.0003	0	0	-100	100	09/18/2021		
Iron		0.0250		< 0.0250	0.0115	0	0	-100	100	09/18/2021		
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/18/2021		
Manganese		0.0020		< 0.0020	0.0008	0	0	-100	100	09/18/2021		
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	09/18/2021		
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/18/2021		
Silver		0.0010		< 0.0010	0.0001	0	0	-100	100	09/18/2021		
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/23/2021		
Vanadium		0.0050		< 0.0050	0.0028	0	0	-100	100	09/21/2021		
Zinc		0.0150		< 0.0150	0.0059	0	0	-100	100	09/21/2021		



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181873		SampType: LCS		Units mg/L							
SampID: LCS-181873											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Antimony		0.0010		0.444	0.5000	0	88.9	80	120	09/21/2021	
Arsenic		0.0010		0.456	0.5000	0	91.1	80	120	09/18/2021	
Barium		0.0010		1.94	2.000	0	97.0	80	120	09/18/2021	
Beryllium		0.0010		0.0406	0.0500	0	81.2	80	120	09/18/2021	
Boron		0.0250		0.461	0.5000	0	92.2	80	120	09/21/2021	
Cadmium		0.0010		0.0422	0.0500	0	84.4	80	120	09/18/2021	
Chromium		0.0015		0.166	0.2000	0	83.1	80	120	09/18/2021	
Cobalt		0.0010		0.417	0.5000	0	83.5	80	120	09/18/2021	
Copper		0.0010		0.216	0.2500	0	86.4	80	120	09/18/2021	
Iron		0.0250		1.62	2.000	0	80.9	80	120	09/18/2021	
Lead		0.0010		0.441	0.5000	0	88.1	80	120	09/18/2021	
Manganese		0.0020		0.447	0.5000	0	89.5	80	120	09/18/2021	
Nickel		0.0010		0.417	0.5000	0	83.4	80	120	09/18/2021	
Selenium		0.0010		0.460	0.5000	0	91.9	80	120	09/18/2021	
Silver		0.0010		0.0470	0.0500	0	94.1	80	120	09/18/2021	
Thallium		0.0020		0.237	0.2500	0	94.8	80	120	09/23/2021	
Vanadium		0.0050		0.449	0.5000	0	89.9	80	120	09/21/2021	
Zinc		0.0150		0.434	0.5000	0	86.7	80	120	09/21/2021	



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181873		SampType: MS		Units mg/L						
SampID: 21081266-015DMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.466	0.5000	0	93.2	75	125	09/21/2021
Arsenic		0.0010		0.484	0.5000	0	96.8	75	125	09/21/2021
Barium		0.0010		2.05	2.000	0.07375	98.9	75	125	09/21/2021
Beryllium		0.0010		0.0433	0.0500	0	86.6	75	125	09/21/2021
Boron		0.0250		0.564	0.5000	0.1175	89.3	75	125	09/21/2021
Cadmium		0.0010		0.0442	0.0500	0	88.3	75	125	09/21/2021
Chromium		0.0015		0.178	0.2000	0	88.8	75	125	09/21/2021
Cobalt		0.0010		0.452	0.5000	0.0001438	90.3	75	125	09/21/2021
Copper		0.0010		0.228	0.2500	0.002347	90.2	75	125	09/21/2021
Iron		0.0250		1.65	2.000	0	82.4	75	125	09/21/2021
Lead		0.0010		0.487	0.5000	0	97.5	75	125	09/21/2021
Manganese		0.0020		0.464	0.5000	0	92.8	75	125	09/21/2021
Nickel		0.0010		0.472	0.5000	0.001356	94.1	75	125	09/23/2021
Selenium		0.0010		0.453	0.5000	0	90.5	75	125	09/21/2021
Silver		0.0010		0.0402	0.0500	0	80.5	75	125	09/21/2021
Thallium		0.0020		0.249	0.2500	0	99.6	75	125	09/23/2021
Zinc		0.0150		0.433	0.5000	0	86.7	75	125	09/21/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch	181873	SampType:	MSD	Units				mg/L	RPD Limit: 20		
SampID: 21081266-015DMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Antimony		0.0010		0.472	0.5000	0	94.4	0.4661	1.20	09/21/2021	
Arsenic		0.0010		0.479	0.5000	0	95.9	0.4838	0.91	09/21/2021	
Barium		0.0010		2.06	2.000	0.07375	99.5	2.053	0.58	09/21/2021	
Beryllium		0.0010		0.0431	0.0500	0	86.1	0.04330	0.52	09/21/2021	
Boron		0.0250		0.577	0.5000	0.1175	91.9	0.5640	2.28	09/21/2021	
Cadmium		0.0010		0.0442	0.0500	0	88.3	0.04417	0.03	09/21/2021	
Chromium		0.0015		0.177	0.2000	0	88.6	0.1775	0.22	09/21/2021	
Cobalt		0.0010		0.456	0.5000	0.0001438	91.2	0.4516	1.03	09/21/2021	
Copper		0.0010		0.227	0.2500	0.002347	89.8	0.2278	0.38	09/21/2021	
Iron		0.0250		1.69	2.000	0	84.3	1.648	2.30	09/21/2021	
Lead		0.0010		0.475	0.5000	0	95.0	0.4875	2.56	09/21/2021	
Manganese		0.0020		0.462	0.5000	0	92.3	0.4638	0.45	09/21/2021	
Nickel		0.0010		0.465	0.5000	0.001356	92.7	0.4716	1.40	09/23/2021	
Selenium		0.0010		0.449	0.5000	0	89.8	0.4527	0.85	09/21/2021	
Silver		0.0010		0.0401	0.0500	0	80.3	0.04023	0.26	09/21/2021	
Thallium		0.0020		0.247	0.2500	0	98.9	0.2489	0.64	09/23/2021	
Zinc		0.0150		0.432	0.5000	0	86.3	0.4334	0.43	09/21/2021	



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181873 SampType: MS

Units mg/L

SampID: 21081266-020DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.475	0.5000	0.001452	94.7	75	125	09/21/2021
Arsenic		0.0010		0.484	0.5000	0.001151	96.6	75	125	09/21/2021
Barium		0.0010		2.09	2.000	0.07700	100.5	75	125	09/21/2021
Beryllium		0.0010		0.0429	0.0500	0	85.7	75	125	09/21/2021
Boron		0.0250	S	4.35	0.5000	4.000	69.3	75	125	09/21/2021
Cadmium		0.0010		0.0445	0.0500	0	88.9	75	125	09/21/2021
Chromium		0.0015		0.179	0.2000	0.001370	88.9	75	125	09/21/2021
Cobalt		0.0010		0.457	0.5000	0.0004484	91.3	75	125	09/21/2021
Copper		0.0010		0.229	0.2500	0.0007152	91.2	75	125	09/21/2021
Iron		0.0250		1.89	2.000	0.2403	82.7	75	125	09/21/2021
Lead		0.0010		0.492	0.5000	0	98.5	75	125	09/21/2021
Manganese		0.0020		0.587	0.5000	0.1225	92.9	75	125	09/21/2021
Nickel		0.0010		0.489	0.5000	0.001956	97.5	75	125	09/23/2021
Selenium		0.0010		0.470	0.5000	0.01707	90.5	75	125	09/21/2021
Silver		0.0010		0.0405	0.0500	0	80.9	75	125	09/21/2021
Thallium		0.0020		0.244	0.2500	0	97.5	75	125	09/23/2021
Zinc		0.0150		0.441	0.5000	0	88.2	75	125	09/21/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181873		SampType: MSD		Units mg/L				RPD Limit: 20		
SampID: 21081266-020DMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.486	0.5000	0.001452	97.0	0.4752	2.29	09/21/2021
Arsenic		0.0010		0.487	0.5000	0.001151	97.2	0.4842	0.61	09/21/2021
Barium		0.0010		2.11	2.000	0.07700	101.7	2.087	1.14	09/21/2021
Beryllium		0.0010		0.0441	0.0500	0	88.1	0.04286	2.74	09/21/2021
Boron		0.0250	S	4.33	0.5000	4.000	65.1	4.347	0.49	09/21/2021
Cadmium		0.0010		0.0452	0.0500	0	90.4	0.04446	1.71	09/21/2021
Chromium		0.0015		0.182	0.2000	0.001370	90.2	0.1792	1.42	09/21/2021
Cobalt		0.0010		0.462	0.5000	0.0004484	92.3	0.4571	1.06	09/21/2021
Copper		0.0010		0.232	0.2500	0.0007152	92.7	0.2288	1.58	09/21/2021
Iron		0.0250		2.05	2.000	0.2403	90.6	1.894	7.97	09/21/2021
Lead		0.0010		0.501	0.5000	0	100.2	0.4925	1.67	09/21/2021
Manganese		0.0020		0.593	0.5000	0.1225	94.2	0.5871	1.08	09/21/2021
Nickel		0.0010		0.489	0.5000	0.001956	97.4	0.4894	0.07	09/23/2021
Selenium		0.0010		0.474	0.5000	0.01707	91.5	0.4695	1.05	09/21/2021
Silver		0.0010		0.0406	0.0500	0	81.2	0.04045	0.32	09/21/2021
Thallium		0.0020		0.249	0.2500	0	99.5	0.2437	2.01	09/23/2021
Zinc		0.0150		0.444	0.5000	0	88.9	0.4408	0.79	09/21/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181874		SampType: MBLK		Units mg/L							Date Analyzed	
SampID: MBLK-181874												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Aluminum		0.0250		< 0.0250	0.0125	0	0	-100	100	09/18/2021		
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/18/2021		
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/18/2021		
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/18/2021		
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/18/2021		
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/18/2021		
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/18/2021		
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/18/2021		
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/18/2021		
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/18/2021		
Copper		0.0010		< 0.0010	0.0003	0	0	-100	100	09/18/2021		
Iron		0.0250		< 0.0250	0.0040	0	0	-100	100	09/18/2021		
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/18/2021		
Manganese		0.0020		< 0.0020	0.0008	0	0	-100	100	09/18/2021		
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	09/18/2021		
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/18/2021		
Silver		0.0010		< 0.0010	0.0001	0	0	-100	100	09/18/2021		
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/17/2021		
Vanadium		0.0050		< 0.0050	0.0028	0	0	-100	100	09/17/2021		
Zinc		0.0150		< 0.0150	0.0059	0	0	-100	100	09/17/2021		



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181874 SampType: LCS

Units mg/L

SampleID: LCS-181874

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Aluminum		0.0250		1.95	2.000	0	97.4	80	120	09/18/2021
Antimony		0.0010		0.471	0.5000	0	94.3	80	120	09/18/2021
Arsenic		0.0010		0.488	0.5000	0	97.7	80	120	09/18/2021
Arsenic		0.0010		0.480	0.5000	0	96.0	80	120	09/18/2021
Barium		0.0010		2.00	2.000	0	99.9	80	120	09/18/2021
Beryllium		0.0010		0.0418	0.0500	0	83.7	80	120	09/18/2021
Boron		0.0250		0.436	0.5000	0	87.3	80	120	09/18/2021
Cadmium		0.0010		0.0425	0.0500	0	85.0	80	120	09/18/2021
Chromium		0.0015		0.174	0.2000	0	86.8	80	120	09/18/2021
Cobalt		0.0010		0.442	0.5000	0	88.4	80	120	09/18/2021
Copper		0.0010		0.226	0.2500	0	90.5	80	120	09/18/2021
Iron		0.0250		1.69	2.000	0	84.4	80	120	09/18/2021
Lead		0.0010		0.461	0.5000	0	92.3	80	120	09/18/2021
Manganese		0.0020		0.470	0.5000	0	93.9	80	120	09/18/2021
Nickel		0.0010		0.438	0.5000	0	87.5	80	120	09/18/2021
Selenium		0.0010		0.473	0.5000	0	94.5	80	120	09/18/2021
Silver		0.0010		0.0471	0.0500	0	94.2	80	120	09/18/2021
Thallium		0.0020		0.223	0.2500	0	89.1	80	120	09/17/2021
Vanadium		0.0050		0.465	0.5000	0	93.0	80	120	09/17/2021
Zinc		0.0150		0.468	0.5000	0	93.7	80	120	09/17/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181874 SampType: MS

Units mg/L

SampleID: 21081266-036EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.481	0.5000	0	96.2	75	125	09/20/2021
Arsenic		0.0010		0.496	0.5000	0	99.2	75	125	09/20/2021
Barium		0.0010		2.09	2.000	0.06081	101.6	75	125	09/18/2021
Beryllium		0.0010		0.0432	0.0500	0	86.4	75	125	09/18/2021
Boron		0.0250		0.671	0.5000	0.2236	89.5	75	125	09/18/2021
Cadmium		0.0010		0.0446	0.0500	0.0005411	88.1	75	125	09/18/2021
Chromium		0.0015		0.176	0.2000	0	87.8	75	125	09/18/2021
Cobalt		0.0010		0.442	0.5000	0.0005000	88.2	75	125	09/18/2021
Copper		0.0010		0.224	0.2500	0.001851	88.9	75	125	09/18/2021
Iron		0.0250		1.74	2.000	0	87.0	75	125	09/18/2021
Lead		0.0010		0.472	0.5000	0	94.4	75	125	09/18/2021
Manganese		0.0020		0.474	0.5000	0	94.8	75	125	09/18/2021
Nickel		0.0010		0.438	0.5000	0.003447	86.9	75	125	09/18/2021
Selenium		0.0010		0.472	0.5000	0	94.3	75	125	09/20/2021
Silver		0.0010		0.0490	0.0500	0	97.9	75	125	09/18/2021
Thallium		0.0020		0.230	0.2500	0	91.9	75	125	09/17/2021
Vanadium		0.0050		0.471	0.5000	0	94.2	75	125	09/17/2021
Zinc		0.0150		0.461	0.5000	0	92.2	75	125	09/17/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 181874		SampType: MSD		Units mg/L			RPD Limit: 20			
SampleID: 21081266-036EMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.482	0.5000	0	96.4	0.4809	0.19	09/20/2021
Arsenic		0.0010		0.494	0.5000	0	98.7	0.4959	0.46	09/20/2021
Barium		0.0010		2.09	2.000	0.06081	101.2	2.093	0.36	09/18/2021
Beryllium		0.0010		0.0431	0.0500	0	86.2	0.04322	0.27	09/18/2021
Boron		0.0250		0.688	0.5000	0.2236	92.9	0.6711	2.47	09/18/2021
Cadmium		0.0010		0.0440	0.0500	0.0005411	86.9	0.04458	1.34	09/18/2021
Chromium		0.0015		0.171	0.2000	0	85.3	0.1755	2.88	09/18/2021
Cobalt		0.0010		0.437	0.5000	0.0005000	87.2	0.4416	1.14	09/18/2021
Copper		0.0010		0.221	0.2500	0.001851	87.5	0.2241	1.60	09/18/2021
Iron		0.0250		1.72	2.000	0	86.2	1.740	0.99	09/18/2021
Lead		0.0010		0.458	0.5000	0	91.7	0.4719	2.94	09/18/2021
Manganese		0.0020		0.468	0.5000	0	93.6	0.4742	1.29	09/18/2021
Nickel		0.0010		0.431	0.5000	0.003447	85.5	0.4378	1.52	09/18/2021
Selenium		0.0010		0.471	0.5000	0	94.1	0.4717	0.24	09/20/2021
Silver		0.0010		0.0483	0.0500	0	96.6	0.04895	1.36	09/18/2021
Thallium		0.0020		0.228	0.2500	0	91.4	0.2297	0.51	09/17/2021
Vanadium		0.0050		0.466	0.5000	0	93.1	0.4712	1.19	09/17/2021
Zinc		0.0150		0.462	0.5000	0	92.3	0.4611	0.12	09/17/2021

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 181826		SampType: MBLK		Units mg/L							Date Analyzed
SampleID: MBLK-181826											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/16/2021	
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/16/2021	
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/16/2021	
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/16/2021	
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/17/2021	
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/16/2021	
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/16/2021	
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/16/2021	
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/16/2021	
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	09/16/2021	
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	09/16/2021	
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/16/2021	
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/17/2021	



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 181826 SampType: LCS Units mg/L

SampID: LCS-181826

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.498	0.5000	0	99.6	85	115	09/16/2021
Arsenic		0.0010		0.531	0.5000	0	106.2	85	115	09/16/2021
Barium		0.0010		2.06	2.000	0	102.9	85	115	09/16/2021
Beryllium		0.0010		0.0502	0.0500	0	100.3	85	115	09/16/2021
Boron		0.0250		0.520	0.5000	0	104.1	85	115	09/20/2021
Cadmium		0.0010		0.0551	0.0500	0	110.2	85	115	09/16/2021
Chromium		0.0015		0.205	0.2000	0	102.5	85	115	09/16/2021
Cobalt		0.0010		0.510	0.5000	0	101.9	85	115	09/16/2021
Lead		0.0010		0.525	0.5000	0	105.0	85	115	09/16/2021
Lithium	*	0.0030		0.526	0.5000	0	105.2	85	115	09/16/2021
Molybdenum		0.0015		0.495	0.5000	0	99.0	85	115	09/16/2021
Selenium		0.0010		0.455	0.5000	0	91.1	85	115	09/16/2021
Thallium		0.0020		0.235	0.2500	0	93.9	85	115	09/16/2021

Batch 181826 SampType: MS Units mg/L

SampID: 21081266-041CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.470	0.5000	0	93.9	75	125	09/16/2021
Arsenic		0.0010		0.496	0.5000	0.0006075	99.0	75	125	09/16/2021
Barium		0.0010		2.05	2.000	0.09765	97.8	75	125	09/16/2021
Beryllium		0.0010		0.0503	0.0500	0	100.7	75	125	09/16/2021
Boron		0.0250		1.22	0.5000	0.6961	104.7	75	125	09/20/2021
Cadmium		0.0010		0.0487	0.0500	0.001544	94.4	75	125	09/16/2021
Chromium		0.0015		0.194	0.2000	0	96.9	75	125	09/16/2021
Cobalt		0.0010		0.486	0.5000	0.006753	95.9	75	125	09/16/2021
Lead		0.0010		0.488	0.5000	0	97.7	75	125	09/16/2021
Lithium	*	0.0030		0.540	0.5000	0.01967	104.1	75	125	09/21/2021
Molybdenum		0.0015		0.529	0.5000	0.03575	98.7	75	125	09/16/2021
Selenium		0.0010		0.446	0.5000	0	89.2	75	125	09/16/2021
Thallium		0.0020		0.234	0.2500	0	93.7	75	125	09/16/2021

Client: Vistra Energy
Client Project: Hennepin GW Q3 2021

Work Order: 21081266
Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 181826		SampType: MSD		Units mg/L				RPD Limit: 20			Date Analyzed
SampleID: 21081266-041CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Antimony		0.0010		0.491	0.5000	0	98.1	0.4695	4.37	09/16/2021	
Arsenic		0.0010		0.515	0.5000	0.0006075	102.8	0.4957	3.73	09/16/2021	
Barium		0.0010		2.13	2.000	0.09765	101.7	2.054	3.65	09/16/2021	
Beryllium		0.0010		0.0517	0.0500	0	103.3	0.05033	2.64	09/16/2021	
Boron		0.0250		1.26	0.5000	0.6961	112.8	1.219	3.29	09/20/2021	
Cadmium		0.0010		0.0507	0.0500	0.001544	98.3	0.04874	3.93	09/16/2021	
Chromium		0.0015		0.201	0.2000	0	100.7	0.1937	3.92	09/16/2021	
Cobalt		0.0010		0.506	0.5000	0.006753	99.8	0.4864	3.92	09/16/2021	
Lead		0.0010		0.505	0.5000	0	101.0	0.4883	3.39	09/16/2021	
Lithium	*	0.0030		0.537	0.5000	0.01967	103.4	0.5404	0.71	09/21/2021	
Molybdenum		0.0015		0.558	0.5000	0.03575	104.4	0.5294	5.19	09/16/2021	
Selenium		0.0010		0.465	0.5000	0	93.0	0.4458	4.25	09/16/2021	
Thallium		0.0020		0.246	0.2500	0	98.5	0.2343	4.96	09/16/2021	

Batch 181937		SampType: MBLK		Units mg/L							Date Analyzed	
SampleID: MBLK-181937												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/21/2021		
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/21/2021		
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/21/2021		
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/21/2021		
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/21/2021		
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/21/2021		
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/21/2021		
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/21/2021		
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/21/2021		
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	09/21/2021		
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	09/21/2021		
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/21/2021		
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/23/2021		



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 181937 SampType: LCS Units mg/L

SampleID: LCS-181937

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.495	0.5000	0	99.1	80	120	09/23/2021
Arsenic		0.0010		0.530	0.5000	0	105.9	80	120	09/21/2021
Barium		0.0010		2.17	2.000	0	108.5	80	120	09/21/2021
Beryllium		0.0010		0.0518	0.0500	0	103.5	80	120	09/21/2021
Boron		0.0250		0.507	0.5000	0	101.4	80	120	09/21/2021
Cadmium		0.0010		0.0575	0.0500	0	114.9	80	120	09/21/2021
Chromium		0.0015		0.205	0.2000	0	102.4	80	120	09/21/2021
Cobalt		0.0010		0.529	0.5000	0	105.7	80	120	09/21/2021
Lead		0.0010		0.508	0.5000	0	101.6	80	120	09/21/2021
Lithium	*	0.0030		0.533	0.5000	0	106.6	80	120	09/21/2021
Molybdenum		0.0015		0.506	0.5000	0	101.2	80	120	09/21/2021
Selenium		0.0010		0.493	0.5000	0	98.7	80	120	09/21/2021
Thallium		0.0020		0.273	0.2500	0	109.2	80	120	09/23/2021

Batch 181937 SampType: MS Units mg/L

SampleID: 21081266-009DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.523	0.5000	0	104.5	75	125	09/24/2021
Arsenic		0.0010		0.535	0.5000	0	107.1	75	125	09/24/2021
Barium		0.0010		2.21	2.000	0.08785	106.3	75	125	09/24/2021
Beryllium		0.0010		0.0548	0.0500	0	109.7	75	125	09/24/2021
Boron		0.0250		0.650	0.5000	0.1137	107.3	75	125	09/27/2021
Cadmium		0.0010		0.0493	0.0500	0.0002488	98.2	75	125	09/24/2021
Chromium		0.0015		0.199	0.2000	0	99.5	75	125	09/24/2021
Cobalt		0.0010		0.494	0.5000	0.004875	97.8	75	125	09/24/2021
Lead		0.0010		0.513	0.5000	0	102.6	75	125	09/24/2021
Lithium	*	0.0030		0.566	0.5000	0.01313	110.5	75	125	09/24/2021
Molybdenum		0.0015		0.497	0.5000	0.001136	99.2	75	125	09/24/2021
Selenium		0.0010		0.498	0.5000	0	99.5	75	125	09/24/2021
Thallium		0.0020		0.251	0.2500	0	100.6	75	125	09/24/2021



Quality Control Results

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Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch	181937	SampType:	MSD	Units				mg/L	RPD Limit: 20		
SampleID: 21081266-009DMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony			0.0010		0.529	0.5000	0	105.8	0.5227	1.17	09/24/2021
Arsenic			0.0010		0.536	0.5000	0	107.3	0.5354	0.17	09/24/2021
Barium			0.0010		2.24	2.000	0.08785	107.4	2.214	1.03	09/24/2021
Beryllium			0.0010		0.0543	0.0500	0	108.7	0.05484	0.92	09/24/2021
Boron			0.0250		0.675	0.5000	0.1137	112.3	0.6502	3.76	09/27/2021
Cadmium			0.0010		0.0499	0.0500	0.0002488	99.4	0.04933	1.19	09/24/2021
Chromium			0.0015		0.199	0.2000	0	99.3	0.1989	0.18	09/24/2021
Cobalt			0.0010		0.494	0.5000	0.004875	97.8	0.4937	0.01	09/24/2021
Lead			0.0010		0.514	0.5000	0	102.9	0.5131	0.24	09/24/2021
Lithium		*	0.0030		0.556	0.5000	0.01313	108.5	0.5659	1.80	09/24/2021
Molybdenum			0.0015		0.497	0.5000	0.001136	99.2	0.4974	0.06	09/24/2021
Selenium			0.0010		0.502	0.5000	0	100.4	0.4977	0.87	09/24/2021
Thallium			0.0020		0.253	0.2500	0	101.4	0.2514	0.79	09/24/2021

Batch	181937	SampType:	MS	Units							mg/L
SampID: 21081266-012CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Arsenic		0.0010		0.534	0.5000	0	106.8	75	125	09/24/2021	
Barium		0.0010		2.18	2.000	0.05559	106.0	75	125	09/24/2021	
Boron		0.0250		0.761	0.5000	0.2242	107.4	75	125	09/27/2021	
Cadmium		0.0010		0.0486	0.0500	0	97.2	75	125	09/24/2021	
Chromium		0.0015		0.198	0.2000	0.0009706	98.5	75	125	09/24/2021	
Cobalt		0.0010		0.482	0.5000	0	96.4	75	125	09/24/2021	
Lead		0.0010		0.506	0.5000	0	101.2	75	125	09/24/2021	
Lithium	*	0.0030		0.548	0.5000	0.01209	107.1	75	125	09/24/2021	
Molybdenum		0.0015		0.515	0.5000	0.02598	97.9	75	125	09/24/2021	
Selenium		0.0010		0.502	0.5000	0.0006941	100.3	75	125	09/24/2021	



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 181937		SampType: MSD		Units mg/L				RPD Limit: 20		
SampID: 21081266-012CMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Arsenic		0.0010		0.531	0.5000	0	106.3	0.5339	0.49	09/24/2021
Barium		0.0010		2.16	2.000	0.05559	105.1	2.175	0.84	09/24/2021
Boron		0.0250		0.770	0.5000	0.2242	109.1	0.7611	1.11	09/27/2021
Cadmium		0.0010		0.0490	0.0500	0	98.0	0.04858	0.82	09/24/2021
Chromium		0.0015		0.198	0.2000	0.0009706	98.6	0.1980	0.09	09/24/2021
Cobalt		0.0010		0.484	0.5000	0	96.9	0.4822	0.43	09/24/2021
Lead		0.0010		0.506	0.5000	0	101.3	0.5061	0.05	09/24/2021
Lithium	*	0.0030		0.539	0.5000	0.01209	105.4	0.5478	1.58	09/24/2021
Molybdenum		0.0015		0.514	0.5000	0.02598	97.5	0.5153	0.34	09/24/2021
Selenium		0.0010		0.505	0.5000	0.0006941	100.8	0.5022	0.49	09/24/2021

Batch 181947		SampType: MBLK		Units mg/L							
SampID: MBLK-181947											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/21/2021	
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/21/2021	
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/21/2021	
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/21/2021	
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/21/2021	
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/21/2021	
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/21/2021	
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/21/2021	
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/21/2021	
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	09/21/2021	
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	09/21/2021	
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/21/2021	
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/23/2021	



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 181947 SampType: LCS Units mg/L

SampID: LCS-181947

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.528	0.5000	0	105.7	80	120	09/21/2021
Arsenic		0.0010		0.519	0.5000	0	103.7	80	120	09/21/2021
Barium		0.0010		2.20	2.000	0	110.2	80	120	09/21/2021
Beryllium		0.0010		0.0459	0.0500	0	91.8	80	120	09/21/2021
Boron		0.0250		0.460	0.5000	0	92.0	80	120	09/21/2021
Cadmium		0.0010		0.0491	0.0500	0	98.2	80	120	09/21/2021
Chromium		0.0015		0.193	0.2000	0	96.6	80	120	09/21/2021
Cobalt		0.0010		0.496	0.5000	0	99.2	80	120	09/21/2021
Lead		0.0010		0.534	0.5000	0	106.9	80	120	09/21/2021
Lithium	*	0.0030		0.471	0.5000	0	94.1	80	120	09/21/2021
Molybdenum		0.0015		0.511	0.5000	0	102.1	80	120	09/21/2021
Selenium		0.0010		0.490	0.5000	0	98.0	80	120	09/21/2021
Thallium		0.0020		0.257	0.2500	0	102.8	80	120	09/23/2021

Batch 181947 SampType: MS Units mg/L

SampID: 21081266-005CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.519	0.5000	0	103.8	75	125	09/21/2021
Arsenic		0.0010		0.520	0.5000	0.001073	103.7	75	125	09/21/2021
Barium		0.0010		2.21	2.000	0.05243	108.1	75	125	09/21/2021
Boron		0.0250		1.19	0.5000	0.7149	95.9	75	125	09/21/2021
Cadmium		0.0010		0.0478	0.0500	0.0002589	95.2	75	125	09/21/2021
Chromium		0.0015		0.189	0.2000	0	94.4	75	125	09/21/2021
Cobalt		0.0010		0.480	0.5000	0.0002782	95.9	75	125	09/21/2021
Lead		0.0010		0.519	0.5000	0	103.8	75	125	09/21/2021
Lithium	*	0.0030		0.499	0.5000	0.04025	91.7	75	125	09/21/2021
Molybdenum		0.0015		0.530	0.5000	0.01926	102.2	75	125	09/21/2021
Selenium		0.0010		0.494	0.5000	0.003437	98.2	75	125	09/21/2021



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 181947		SampType: MSD		Units mg/L				RPD Limit: 20		
SampID: 21081266-005CMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.507	0.5000	0	101.5	0.5188	2.22	09/21/2021
Arsenic		0.0010		0.512	0.5000	0.001073	102.2	0.5196	1.44	09/21/2021
Barium		0.0010		2.19	2.000	0.05243	106.9	2.214	1.09	09/21/2021
Boron		0.0250		1.15	0.5000	0.7149	86.4	1.194	4.05	09/21/2021
Cadmium		0.0010		0.0469	0.0500	0.0002589	93.2	0.04785	2.07	09/21/2021
Chromium		0.0015		0.191	0.2000	0	95.6	0.1888	1.27	09/21/2021
Cobalt		0.0010		0.479	0.5000	0.0002782	95.8	0.4797	0.14	09/21/2021
Lead		0.0010		0.523	0.5000	0	104.7	0.5188	0.88	09/21/2021
Lithium	*	0.0030		0.498	0.5000	0.04025	91.5	0.4988	0.18	09/21/2021
Molybdenum		0.0015		0.507	0.5000	0.01926	97.6	0.5302	4.41	09/21/2021
Selenium		0.0010		0.483	0.5000	0.003437	95.9	0.4944	2.36	09/21/2021

SW-846 7470A (DISSOLVED)

Batch 181944		SampType: MS		Units mg/L						
SampID: 21081266-006CMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00490	0.0050	0	98.0	75	125	09/17/2021

Batch 181944		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed
SampID: 21081266-006CMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Mercury			0.00020		0.00469	0.0050	0	93.7	0.004901	4.46	09/17/2021

Batch 181944		SampType: MS		Units mg/L							Date Analyzed
SampID: 21081266-009EMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020		0.00511	0.0050	0	102.2	75	125		

Batch 181944		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed
SampID: 21081266-009EMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Mercury			0.00020		0.00499	0.0050	0	99.7	0.005112	2.50	09/17/2021



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 7470A (DISSOLVED)

Batch 181945		SampType: MS		Units mg/L							
SampID: 21081266-020DMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020		0.00503	0.0050	0	100.6	75	125	09/17/2021	

Batch 181945		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-020DMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury			0.00020		0.00517	0.0050	0	103.5	0.005030	2.83	09/17/2021

SW-846 7470A (TOTAL)

Batch 181879		SampType: MBLK		Units mg/L							
SampID: MBLK-181879											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	09/16/2021	

Batch 181879		SampType: LCS		Units mg/L							
SampID: LCS-181879											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020		0.00492	0.0050	0	98.4	85	115	09/16/2021	

Batch 181879		SampType: MS		Units mg/L							
SampID: 21081266-007DMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00493	0.0050	0	98.5	75	125	09/16/2021	

Batch 181879		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-007DMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury			0.00020		0.00485	0.0050	0	96.9	0.004927	1.63	09/16/2021

Batch 181879		SampType: MS		Units mg/L							
SampID: 21081266-041CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00501	0.0050	0	100.2	75	125	09/16/2021	



Quality Control Results

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

SW-846 7470A (TOTAL)

Batch 181879		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-041CMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury			0.00020		0.00494	0.0050	0	98.7	0.005009	1.48	09/16/2021

Batch 181944		SampType: MBLK		Units mg/L						
SampID: MBLK-181944										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	09/18/2021
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	09/18/2021

Batch 181944		SampType: LCS		Units mg/L							
SampID: LCS-181944											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020		0.00497	0.0050	0	99.3	85	115	09/17/2021	

Batch 181945		SampType: MBLK		Units mg/L							
SampID: MBLK-181945											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	09/17/2021	

Batch 181945		SampType: LCS		Units mg/L							
SampID: LCS-181945											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020		0.00505	0.0050	0	101.0	85	115	09/17/2021	

Batch 181945		SampType: MS		Units mg/L							
SampID: 21081266-032CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00468	0.0050	0	93.7	75	125	09/17/2021	

Batch 181945		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 21081266-032CMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury			0.00020		0.00459	0.0050	0	91.9	0.004684	1.94	09/17/2021



Receiving Check List

<http://www.teklabinc.com/>

Client: Vistra Energy

Work Order: 21081266

Client Project: Hennepin GW Q3 2021

Report Date: 15-Oct-21

Carrier: Joe Riley

Received By: MEK

Completed by:

On:

10-Sep-21

Mary E. Kemp

Reviewed by:

On:

10-Sep-21

Elizabeth A. Hurley

Pages to follow: Chain of custody

4

Extra pages included

0

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C 2.8

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☒

Lab ☐

NA ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?

Yes ☒

No ☐

No VOA vials ☐

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☒

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

pH strip #77366/75846. - ERH/MKemp - 9/10/2021 4:45:11 PM

Additional nitric acid (78237) was needed in 02, 08, 08D, 32, and 51, and additional sodium hydroxide (78386) was needed in all samples for cyanide analysis but the Field Blank upon arrival at the laboratory. - ERH/MKemp - 9/10/2021 4:45:27 PM

CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 21081266

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

HS^{ok} vial 10

Client: <u>Vistra Energy</u> Address: <u>1500 Eastport Plaza Drive</u> City/State/Zip: <u>Collinsville, IL 62234</u> Contact: <u>Brian Voelker</u> Phone: <u>(217) 412-6605</u> Email: <u>brian.voelker@vistraenergy.com</u> Fax: _____				Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE <u>2.8</u> °C LTG# <u>5</u> Preserved in: ☒ LAB ☐ FIELD <u>FOR LAB USE ONLY</u> LAB NOTES: <u>ANDs (78237) to 02, 08, 08D, 32, 51</u> <u>NaOH (78380) to all but FB 77300 / 75840</u> Client Comments: _____ Field measurements required: pH, conductivity, temperature, ORP, DO, turbidity, and depths Metals determined by program requirements.																						
Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No Are these samples known to be hazardous? ☐ Yes ☒ No Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No																										
PROJECT NAME/NUMBER <u>Hennepin GW Q3 2021</u>		SAMPLE COLLECTOR'S NAME <u>J. RILEY J. WILSON</u>		# and Type of Containers UNP HNO3 NaOH H2SO4 HCL MeOH NaHSO4 TSP Other		INDICATE ANALYSIS REQUESTED (T) Cl, SO4, F- Total TDS Diss. Cl, SO4 Diss. F- Diss. TDS Total Alkalinity Bicarb/Carb. Nitrate Metals Total Cyanide Phenol Ammonia BTEX Perchlorate																				
RESULTS REQUESTED ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)		BILLING INSTRUCTIONS <u>Vistra PO#s</u>																								
Lab Use Only	Sample ID	Date/Time Sampled	Matrix	UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	(T) Cl, SO4, F-	Total TDS	Diss. Cl, SO4	Diss. F-	Diss. TDS	Total Alkalinity	Bicarb/Carb.	Nitrate	Metals	Total Cyanide	Phenol	Ammonia	BTEX	Perchlorate
21081266-001	02	9/9/21 1503	Groundwater	3	1	1		3						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
002	03R	9/10/21 0934	Groundwater	3	2	1		3						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
003	04R	9/9/21 1521	Groundwater	2	1	1								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
004	05DR	9/10/21 0931	Groundwater	2	2	1	2							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
005	05R	9/10/21 0920	Groundwater	2	2	1	2							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
006	06	9/10/21 1010	Groundwater	2	1	1								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
007	07	9/9/21 1708	Groundwater	3	2	1		3						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
008	08	9/9/21 1433	Groundwater	3	2	1	2	3						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
009	08 Duplicate	9/9/21 1433	Groundwater	3	2	1	2	3						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
010	08D	9/9/21 1411	Groundwater	3	2	1	2	3						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
011	10	9/9/21 1140	Groundwater	3	2	1	2	3						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Relinquished By		Date/Time		Received By		Date/Time																				
<u>[Signature]</u>		9/10/21 1425		<u>Mary Lamp</u>		9/10/21 1425																				

EH 9/10/21

EH 9/10/21

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CoC Rev C Aug 2020

Pg 2 of 4 Workorder # 21081266

Client: Vistra Energy
Address: 1500 Eastport Plaza Drive
City/State/Zip: Collinsville, IL 62234
Contact: Brian Voelker Phone: (217) 412-6605
Email: brian.voelker@vistraenergy.com Fax: _____

Preserved in: ☐ LAB ☐ FIELD **FOR LAB USE ONLY**

Client Comments:

Field measurements required: pH, conductivity, temperature, ORP, DO, turbidity, and depths
Metals determined by program requirements.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No

Are these samples known to be hazardous? ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☒ No

PROJECT NAME/NUMBER	Hennepin GW Q3 2021
---------------------	---------------------

SAMPLE COLLECTOR'S NAME

#	Type of Containers
1	100% Plastic
2	100% Metal
3	100% Glass
4	100% Paper
5	100% Composite
6	100% Other
7	Other

INDICATE ANALYSIS REQUESTED

RESULTS REQUESTED

☒ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS
Vistra PO#s

[illegible]

Relinquished By	Date/Time
	9/10/21 1425

Received By	Date/Time
Mang Kamp	9/10/21 1425

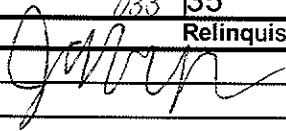
*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CoC Rev C Aug 2020

CHAIN OF CUSTODY

Pg 3 of 4 Workorder # 21081266

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: <u>Vistra Energy</u> Address: <u>1500 Eastport Plaza Drive</u> City/State/Zip: <u>Collinsville, IL 62234</u> Contact: <u>Brian Voelker</u> Phone: <u>(217) 412-6605</u> Email: <u>brian.voelker@vistraenergy.com</u> Fax: _____				Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____ Preserved in: ☐ LAB ☐ FIELD <u>FOR LAB USE ONLY</u> LAB NOTES: _____														
Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No Are these samples known to be hazardous? ☐ Yes ☒ No Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No				Client Comments: Field measurements required: pH, conductivity, temperature, ORP, DO, turbidity, and depths Depths only: 25, 26, 30, 31, and 33 Metals determined by program requirements.														
PROJECT NAME/NUMBER <u>Hennepin GW Q3 2021</u>		SAMPLE COLLECTOR'S NAME _____		# and Type of Containers UNP HNO3 NaOH H2SO4 HCL MeOH NaHSO4 TSP Other		INDICATE ANALYSIS REQUESTED Total TDS Diss. SO4, F- Diss. TDS Total Alkalinity Bicarb/Carb. Nitrate Metals Total Cyanide Phenol Ammonia BTEX Perchlorate												
RESULTS REQUESTED ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)		BILLING INSTRUCTIONS <u>Vistra PO#s</u>																
Lab Use Only	Sample ID	Date/Time Sampled	Matrix															
21081266-023	22D	9/8/21 1401	Groundwater	2	2													
024	23	9/9/21 1112	Groundwater	2	2													
025	25	9/8/21 1615	Groundwater															
026	26	9/8/21 1616	Groundwater															
027	27	9/9/21 0824	Groundwater	2	2													
028	30	9/8/21 1455	Groundwater															
029	31	9/8/21 1456	Groundwater															
030	32	9/9/21 0848	Groundwater	2	2													
031	33	9/8/21 1508	Groundwater															
032	34	9/9/21 0935	Groundwater	2	2													
033	35	9/8/21 1602	Groundwater	2	2													
Relinquished By 		Date/Time <u>9/10/21 1425</u>		Received By <u>Mary Kemp</u>		Date/Time <u>9/10/21 1425</u>												

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CHAIN OF CUSTODY

Pg 4 of 4 Workorder # 21081266

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: Vistra Energy
 Address: 1500 Eastport Plaza Drive
 City/State/Zip: Collinsville, IL 62234
 Contact: Brian Voelker Phone: (217) 412-6605
 Email: brian.voelker@vistraenergy.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE °C LTG# _____
 Preserved in: ☐ LAB ☐ FIELD **FOR LAB USE ONLY**
 LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No
 Are these samples known to be hazardous? ☐ Yes ☒ No
 Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No

Client Comments:
 Field measurements required: pH, conductivity, temperature, ORP, DO, turbidity, and depths
 Depths only: 36
 Metals determined by program requirements.

PROJECT NAME/NUMBER: Hennepin GW Q3 2021
 SAMPLE COLLECTOR'S NAME: _____
 RESULTS REQUESTED: ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____
 BILLING INSTRUCTIONS: Vistra PO#s
☐ 3 Day (50% Surcharge)

# and Type of Containers									INDICATE ANALYSIS REQUESTED													
UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	(T) Cl, SO4, F-	Total TDS	Diss. Cl	Diss. SO4, F-	Diss. TDS	Total Alkalinity	Bicarb/Carb.	Nitrate	Metals	Total Cyanide	Phenol	Ammonia	BTEX	Perchlorate
2	2	1	2																			
3	2	1		3																		
1	1																					
1	1																					
1	1																					
2	2																					
2	2																					
2	2																					
2	2																					
3	2	1	2	3																		

Lab Use Only	Sample ID	Date/Time Sampled	Matrix
21081266-034	36	9/8/21 1619	Groundwater
035	40S	9/9/21 1626	Groundwater
036	45S	9/10/21 1024	Groundwater
037	46	9/9/21 1501	Groundwater
038	47	9/9/21 1203	Groundwater
039	48	9/10/21 0955	Groundwater
040	49	9/8/21 1635	Groundwater
041	50	9/8/21 1313	Groundwater
042	51	9/9/21 1044	Groundwater
043	Field Blank	9/10/21 1045	Groundwater
			Groundwater

Relinquished By: [Signature] Date/Time: 9/10/21 1425

Received By: Mary Lup Date/Time: 9/10/21 1425

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

October 12, 2021

Steve Wiskes
Ramboll
234 W. Florida St.
5th Floor
Milwaukee, WI 53204
TEL: (414) 837-3614
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Hennepin CCR Q3 2021

WorkOrder: 21081267

Dear Steve Wiskes:

TEKLAB, INC received 30 samples on 9/10/2021 2:25:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
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Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	16
Dates Report	17
Receiving Check List	18
Chain of Custody	Appended

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| C - RL shown is a Client Requested Quantitation Limit | E - Value above quantitation range |
| H - Holding times exceeded | I - Associated internal standard was outside method criteria |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | T - TIC(Tentatively identified compound) |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Cooler Receipt Temp: 2.8 °C

An employee of Teklab, Inc. collected the sample(s).

45S was not collected due to field error; the sample will be collected at a later date. EAH 9/13/21

05DR, 08D, and 12 were lost in transit and recollected for reporting on a separate WO#. (ehurley - 9/30/2021 1:35:31 PM)

Radium-226 and Radium-228 analysis was performed by Pace Analytical Services, LLC. See attached report for results.

This report contains CCR 803 data. EAH 10/12/21

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Ramboll**Work Order:** 21081267**Client Project:** Hennepin CCR Q3 2021**Report Date:** 12-Oct-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Lab ID: 21081267-004

Client Sample ID: 07

Matrix: GROUNDWATER

Collection Date: 09/09/2021 17:08

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pCi/L	1	09/22/2021 0:00	R299679
Radium-228	*	0		See Attached	pCi/L	1	09/22/2021 0:00	R299679



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Lab ID: 21081267-005

Client Sample ID: 08

Matrix: GROUNDWATER

Collection Date: 09/09/2021 14:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679
Radium-228	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679

Client: Ramboll
Client Project: Hennepin CCR Q3 2021
Lab ID: 21081267-006
Matrix: GROUNDWATER

Work Order: 21081267
Report Date: 12-Oct-21
Client Sample ID: 08 Duplicate
Collection Date: 09/09/2021 14:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679
Radium-228	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin CCR Q3 2021
Lab ID: 21081267-009
Matrix: GROUNDWATER

Work Order: 21081267
Report Date: 12-Oct-21
Client Sample ID: 13
Collection Date: 09/09/2021 12:24

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679
Radium-228	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin CCR Q3 2021
Lab ID: 21081267-010
Matrix: GROUNDWATER

Work Order: 21081267
Report Date: 12-Oct-21
Client Sample ID: 16
Collection Date: 09/09/2021 13:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679
Radium-228	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin CCR Q3 2021
Lab ID: 21081267-011
Matrix: GROUNDWATER

Work Order: 21081267
Report Date: 12-Oct-21
Client Sample ID: 17
Collection Date: 09/09/2021 13:36

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679
Radium-228	*	0		See Attached	pci/L	1	09/22/2021 0:00	R299679



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Lab ID: 21081267-025

Client Sample ID: 46

Matrix: GROUNDWATER

Collection Date: 09/09/2021 13:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	09/23/2021 0:00	R299679
Radium-228	*	0		See Attached	pci/L	1	09/23/2021 0:00	R299679

Client: Ramboll**Work Order:** 21081267**Client Project:** Hennepin CCR Q3 2021**Report Date:** 12-Oct-21**Lab ID:** 21081267-026**Client Sample ID:** 47**Matrix:** GROUNDWATER**Collection Date:** 09/09/2021 12:03

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	09/23/2021 0:00	R299679
Radium-228	*	0		See Attached	pci/L	1	09/23/2021 0:00	R299679

Client: Ramboll
Client Project: Hennepin CCR Q3 2021
Lab ID: 21081267-030
Matrix: GROUNDWATER

Work Order: 21081267
Report Date: 12-Oct-21
Client Sample ID: Field Blank
Collection Date: 09/10/2021 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	09/23/2021 0:00	R299679
Radium-228	*	0		See Attached	pci/L	1	09/23/2021 0:00	R299679

Sample Summary

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
21081267-004	07	Groundwater	1	09/09/2021 17:08
21081267-005	08	Groundwater	1	09/09/2021 14:33
21081267-006	08 Duplicate	Groundwater	1	09/09/2021 14:33
21081267-007	08D	Groundwater	1	09/09/2021 14:11
21081267-008	12	Groundwater	1	09/09/2021 12:41
21081267-009	13	Groundwater	1	09/09/2021 12:24
21081267-010	16	Groundwater	1	09/09/2021 13:53
21081267-011	17	Groundwater	1	09/09/2021 13:36
21081267-025	46	Groundwater	1	09/09/2021 13:01
21081267-026	47	Groundwater	1	09/09/2021 12:03
21081267-030	Field Blank	Groundwater	1	09/10/2021 10:45



Dates Report

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
21081267-004A	07	09/09/2021 17:08	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/22/2021 0:00
21081267-005A	08	09/09/2021 14:33	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/22/2021 0:00
21081267-006A	08 Duplicate	09/09/2021 14:33	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/22/2021 0:00
21081267-009A	13	09/09/2021 12:24	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/22/2021 0:00
21081267-010A	16	09/09/2021 13:53	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/22/2021 0:00
21081267-011A	17	09/09/2021 13:36	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/22/2021 0:00
21081267-025A	46	09/09/2021 13:01	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/23/2021 0:00
21081267-026A	47	09/09/2021 12:03	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/23/2021 0:00
21081267-030A	Field Blank	09/10/2021 10:45	09/10/2021 14:25		
	EPA 903.0/904.0, Radium 226/228				09/23/2021 0:00



Receiving Check List

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21081267

Client Project: Hennepin CCR Q3 2021

Report Date: 12-Oct-21

Carrier: Joseph Riley

Received By: MEK

Completed by:

On:

13-Sep-21

Mary E. Kemp

Reviewed by:

On:

13-Sep-21

Elizabeth A. Hurley

Pages to follow:

Chain of custody

3

Extra pages included

43

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C 2.8

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☐

Lab ☐

NA ☒

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?

Yes ☐

No ☐

No VOA vials ☒

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☒

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

pH strip #78237. - MLDII/MKemp - 9/13/2021 8:54:15 AM

Additional nitric acid (78237) was needed in 08 Duplicate, 34, and 51 upon arrival at the laboratory. - MLDII/MKemp - 9/13/2021 8:54:17 AM

Pg i of 3 Workorder # 21081267

Client: <u>Ramboll</u> Address: <u>234 W. Florida St.</u> City/State/Zip: <u>Milwaukee, WI 53204</u> Contact: <u>Steve Wiskes</u> Phone: <u>(414) 837-3607</u> Email: <u>steve.wiskes@ramboll.com</u> Fax: _____				Samples on: ☒ ICE ☐ BLUE ICE ☐ NOICE <u>2-8 °C LTG#</u> Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY LAB NOTES: <u>Add HNO₃ (75237) to lot 2 & 3; 2 of 2 OGDUP and 5L MNDI 9/10/21</u>																				
Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No Are these samples known to be hazardous? ☐ Yes ☒ No Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☒ No				Client Comments: <u>Bottles for UES empty upon arrival mEK 9/10/21</u> Subcontract to Pace-National Program reporting: Closure 802-806, Closure 804, CCR 802, CCR 803, and CCR 804																				
PROJECT NAME/NUMBER		SAMPLE COLLECTOR'S NAME																						
<u>Hennepin CCR Q3 2021</u>		<u>J. RILEY J. WILSON</u>																						
RESULTS REQUESTED ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)		BILLING INSTRUCTIONS <u>Vistra PO# 1054896</u>																						
Lab Use Only	Sample ID	Date/Time Sampled	Matrix	# and Type of Containers INDICATE ANALYSIS REQUESTED																				
				UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	Radium 226	Radium 228										
<u>21081267-001</u>	<u>03R</u>	<u>9/10/21 0934</u>	<u>Groundwater</u>	2									✓	✓										
<u>002</u>	<u>05DR</u>	<u>9/10/21 0834</u>	<u>Groundwater</u>	2									✓	✓										
<u>003</u>	<u>05R</u>	<u>9/10/21 0820</u>	<u>Groundwater</u>	2									✓	✓										
<u>004</u>	<u>07</u>	<u>9/9/21 1708</u>	<u>Groundwater</u>	2									✓	✓										
<u>005</u>	<u>08</u>	<u>9/9/21 1433</u>	<u>Groundwater</u>	2									✓	✓										
<u>006</u>	<u>08 Duplicate</u>	<u>9/9/21 1433</u>	<u>Groundwater</u>	2									✓	✓										
<u>007</u>	<u>08D</u>	<u>9/9/21 1411</u>	<u>Groundwater</u>	2									✓	✓										
<u>008</u>	<u>12</u>	<u>9/9/21 1241</u>	<u>Groundwater</u>	2									✓	✓										
<u>009</u>	<u>13</u>	<u>9/9/21 1224</u>	<u>Groundwater</u>	2									✓	✓										
<u>010</u>	<u>16</u>	<u>9/9/21 1353</u>	<u>Groundwater</u>	2									✓	✓										
<u>011</u>	<u>17</u>	<u>9/9/21 1336</u>	<u>Groundwater</u>	2									✓	✓										
Relinquished By		Date/Time		Received By										Date/Time										
		<u>9/10/21 1425</u>		<u>Mary Kemp</u>										<u>9/10/21 1425</u>										

CoC Rev C Aug 2020

Pg 2 of 3 Workorder # 21081267

Client: Ramboll
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 53204
Contact: Steve Wiskes Phone: (414) 837-3607
Email: steve.wiskes@ramboll.com Fax: _____

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

Client Comments:

Subcontract to Pace-National

Program reporting: Closure 802-806, Closure 804, CCR 802, CCR 803, and CCR 804

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No

Are these samples known to be hazardous? ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☒ No

PROJECT NAME/NUMBER

SAMPLE COLLECTOR'S NAME

Hennepin CCR Q3 2021

RESULTS REQUESTED

☒ Standard

☐ 1-2 Day (100% Surcharge)☐ Other☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

Vistra PO# 1054896

and Type of Containers

INDICATE ANALYSIS REQUESTED

[illegible]

Relinquished By

Date/Time

Received By

Date/Time

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CoC Rev C Aug 2020

CHAIN OF CUSTODY

Pg 3 of 3 Workorder # 21081267

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: <u>Ramboll</u> Address: <u>234 W. Florida St.</u> City/State/Zip: <u>Milwaukee, WI 53204</u> Contact: <u>Steve Wiskes</u> Phone: <u>(414) 837-3607</u> Email: <u>steve.wiskes@ramboll.com</u> Fax: _____				Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____ Preserved in: ☐ LAB ☐ FIELD <u>FOR LAB USE ONLY</u> LAB NOTES: _____																																											
Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No Are these samples known to be hazardous? ☐ Yes ☒ No Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No				Client Comments: Subcontract to Pace-National Program reporting: Closure 802-806, Closure 804, CCR 802, CCR 803, and CCR 804																																											
PROJECT NAME/NUMBER <u>Hennepin CCR Q3 2021</u>		SAMPLE COLLECTOR'S NAME _____		# and Type of Containers <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>UNP</th> <th>HNO3</th> <th>NaOH</th> <th>H2SO4</th> <th>HCL</th> <th>MeOH</th> <th>NaHSO4</th> <th>TSP</th> <th>Other</th> <th>Radium 226</th> <th>Radium 228</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </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> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	Radium 226	Radium 228											2									✓	✓										
UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	Radium 226	Radium 228																																					
2									✓	✓																																					
RESULTS REQUESTED ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)		BILLING INSTRUCTIONS <u>Vistra PO# 1054896</u>		INDICATE ANALYSIS REQUESTED																																											
Lab Use Only	Sample ID	Date/Time Sampled	Matrix																																												
<u>21081267-023</u>	<u>35</u>	<u>9/8/21 1602</u>	Groundwater																																												
<u>024</u>	<u>45S</u>	<u>9/10/21 1024</u>	Groundwater																																												
<u>025</u>	<u>46</u>	<u>9/9/21 1301</u>	Groundwater																																												
<u>026</u>	<u>47</u>	<u>9/9/21 1203</u>	Groundwater																																												
<u>027</u>	<u>49</u>	<u>9/9/21 1635</u>	Groundwater																																												
<u>028</u>	<u>50</u>	<u>9/8/21 1313</u>	Groundwater																																												
<u>029</u>	<u>51</u>	<u>9/9/21 1044</u>	Groundwater																																												
<u>030</u>	<u>Field Blank</u>	<u>9/10/21 1045</u>	Groundwater																																												
			Groundwater																																												
			Groundwater																																												
			Groundwater																																												
Relinquished By <u>[Signature]</u>		Date/Time <u>9/10/21 1425</u>		Received By <u>Mary Kemp</u>		Date/Time <u>9/10/21 1425</u>																																									

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CoC Rev C Aug 2020

October 02, 2021

Revised Report

TEKLAB, Inc.

Sample Delivery Group: L1403564

Samples Received: 09/15/2021

Project Number: 21081267

Description:

Report To: Elizabeth Hurley
5445 Horseshoe Lake Road
Collinsville, IL 62234

Entire Report Reviewed By:



Mark W. Beasley
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.

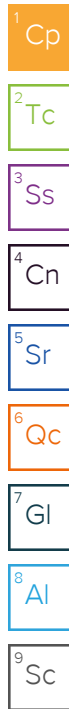
Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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

SAMPLE SUMMARY

21081267-001 L1403564-01 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/10/21 09:34	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

21081267-003 L1403564-02 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/10/21 08:34	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

21081267-004 L1403564-03 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 17:08	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

21081267-005 L1403564-04 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 14:33	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

21081267-006 L1403564-05 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 14:33	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

21081267-009 L1403564-06 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 12:24	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

21081267-010 L1403564-07 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 13:53	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

21081267-011 L1403564-08 Non-Potable Water

Collected by
Collected date/time
09/09/21 13:36
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

21081267-012 L1403564-09 Non-Potable Water

Collected by
Collected date/time
09/10/21 09:09
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 10:48	RGT	Mt. Juliet, TN

21081267-013 L1403564-10 Non-Potable Water

Collected by
Collected date/time
09/10/21 08:54
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

21081267-014 L1403564-11 Non-Potable Water

Collected by
Collected date/time
09/09/21 16:08
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

21081267-015 L1403564-12 Non-Potable Water

Collected by
Collected date/time
09/09/21 17:51
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

21081267-016 L1403564-13 Non-Potable Water

Collected by
Collected date/time
09/09/21 10:13
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

21081267-017 L1403564-14 Non-Potable Water

Collected by
Collected date/time
09/08/21 13:45
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

21081267-018 L1403564-15 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/08/21 14:01	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

21081267-019 L1403564-16 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 11:12	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

21081267-020 L1403564-17 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 08:29	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

21081267-021 L1403564-18 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 08:48	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

21081267-022 L1403564-19 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 09:35	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743106	1	09/23/21 09:55	09/28/21 13:49	RGT	Mt. Juliet, TN

21081267-023 L1403564-20 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/08/21 16:02	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743108	1	09/28/21 09:10	09/28/21 16:57	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743108	1	09/28/21 09:10	09/28/21 16:57	RGT	Mt. Juliet, TN

21081267-025 L1403564-21 Non-Potable Water

				Collected by	Collected date/time	Received date/time
					09/09/21 13:01	09/15/21 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743108	1	09/28/21 09:10	09/28/21 16:57	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743108	1	09/28/21 09:10	09/28/21 16:57	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

21081267-026 L1403564-22 Non-Potable Water

Collected by
Collected date/time
09/09/21 12:03
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743108	1	09/28/21 09:10	09/28/21 16:57	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743108	1	09/28/21 09:10	09/28/21 16:57	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

21081267-027 L1403564-23 Non-Potable Water

Collected by
Collected date/time
09/08/21 16:35
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743108	1	09/28/21 09:10	09/28/21 16:57	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743108	1	09/28/21 09:10	09/28/21 16:57	RGT	Mt. Juliet, TN

21081267-028 L1403564-24 Non-Potable Water

Collected by
Collected date/time
09/08/21 13:13
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743108	1	09/28/21 09:10	09/28/21 20:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743108	1	09/28/21 09:10	09/28/21 20:48	RGT	Mt. Juliet, TN

21081267-029 L1403564-25 Non-Potable Water

Collected by
Collected date/time
09/09/21 10:44
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743108	1	09/28/21 09:10	09/28/21 20:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743108	1	09/28/21 09:10	09/28/21 20:48	RGT	Mt. Juliet, TN

21081267-030 L1403564-26 Non-Potable Water

Collected by
Collected date/time
09/10/21 10:45
Received date/time
09/15/21 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1743108	1	09/28/21 09:10	09/28/21 20:48	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1743108	1	09/28/21 09:10	09/28/21 20:48	RGT	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.



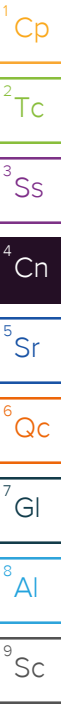
Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 09/29/21 22:57

Project Narrative

Corrected analysis time.



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0135	<u>U</u>	0.345	0.673	09/22/2021 12:15	WG1737787
(T) Barium	93.6			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	106			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.000	<u>U</u>	0.526	1.1	09/28/2021 10:48	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0758	<u>U</u>	0.181	0.422	09/28/2021 10:48	WG1743106
(T) Barium-133	94.3			30.0-143	09/28/2021 10:48	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.298	<u>U</u>	0.334	0.66	09/22/2021 12:15	WG1737787
(T) Barium	96.9			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	98.4			79.0-136	09/22/2021 12:15	WG1737787

¹ Cp² Tc³ Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.322	<u>J</u>	0.564	0.839	09/28/2021 10:48	WG1743106

⁴ Cn⁵ Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.322		0.230	0.179	09/28/2021 10:48	WG1743106
(T) Barium-133	95.7			30.0-143	09/28/2021 10:48	WG1743106

⁶ Qc⁷ Gl⁸ Al⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.667		0.311	0.587	09/22/2021 12:15	WG1737787
(T) Barium	103			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	101			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.14		0.584	0.761	09/28/2021 10:48	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.473		0.273	0.174	09/28/2021 10:48	WG1743106
(T) Barium-133	100			30.0-143	09/28/2021 10:48	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.681	U	0.327	0.648	09/22/2021 12:15	WG1737787
(T) Barium	91.4			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	103			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.295	U	0.556	0.876	09/28/2021 10:48	WG1743106

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.295		0.229	0.228	09/28/2021 10:48	WG1743106
(T) Barium-133	94.6			30.0-143	09/28/2021 10:48	WG1743106

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.631		0.300	0.554	09/22/2021 12:15	WG1737787
(T) Barium	93.3			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	92.6			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.855		0.506	0.756	09/28/2021 10:48	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.224		0.206	0.202	09/28/2021 10:48	WG1743106
(T) Barium-133	94.7			30.0-143	09/28/2021 10:48	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.721		0.310	0.568	09/22/2021 12:15	WG1737787
(T) Barium	96.1			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	98.4			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.778	J	0.459	0.845	09/28/2021 10:48	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0572	U	0.149	0.277	09/28/2021 10:48	WG1743106
(T) Barium-133	91.7			30.0-143	09/28/2021 10:48	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0280	U	0.315	0.602	09/22/2021 12:15	WG1737787
(T) Barium	97.0			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	105			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.226	U	0.553	0.904	09/28/2021 10:48	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.226	J	0.238	0.302	09/28/2021 10:48	WG1743106
(T) Barium-133	94.0			30.0-143	09/28/2021 10:48	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.392	J	0.328	0.617	09/22/2021 12:15	WG1737787
(T) Barium	98.3			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	105			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.511	J	0.512	0.901	09/28/2021 10:48	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.119	J	0.184	0.284	09/28/2021 10:48	WG1743106
(T) Barium-133	98.5			30.0-143	09/28/2021 10:48	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.729		0.317	0.582	09/22/2021 12:15	WG1737787
(T) Barium	95.2			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	101			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.833	J	0.545	0.948	09/28/2021 10:48	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.104	U	0.228	0.366	09/28/2021 10:48	WG1743106
(T) Barium-133	100			30.0-143	09/28/2021 10:48	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.684		0.360	0.666	09/22/2021 12:15	WG1737787
(T) Barium	89.9			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	103			79.0-136	09/22/2021 12:15	WG1737787

¹ Cp² Tc³ Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.930		0.573	0.879	09/28/2021 13:49	WG1743106

⁴ Cn⁵ Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.246		0.213	0.213	09/28/2021 13:49	WG1743106
(T) Barium-133	99.8			30.0-143	09/28/2021 13:49	WG1743106

⁶ Qc⁷ Gl⁸ Al⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.138	U	0.322	0.611	09/22/2021 12:15	WG1737787
(T) Barium	100			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	96.0			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.242	U	0.484	0.86	09/28/2021 13:49	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.104	J	0.162	0.249	09/28/2021 13:49	WG1743106
(T) Barium-133	98.1			30.0-143	09/28/2021 13:49	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.434	U	0.328	0.644	09/22/2021 12:15	WG1737787
(T) Barium	89.8			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	98.2			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0737	U	0.457	0.858	09/28/2021 13:49	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0737	U	0.129	0.214	09/28/2021 13:49	WG1743106
(T) Barium-133	96.1			30.0-143	09/28/2021 13:49	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.832		0.309	0.564	09/22/2021 12:15	WG1737787
(T) Barium	96.9			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	107			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.54		0.751	1.02	09/28/2021 13:49	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.704		0.442	0.452	09/28/2021 13:49	WG1743106
(T) Barium-133	88.0			30.0-143	09/28/2021 13:49	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.354	J	0.336	0.631	09/22/2021 12:15	WG1737787
(T) Barium	87.9			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	102			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.431	J	0.455	0.811	09/28/2021 13:49	WG1743106

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0764	J	0.119	0.18	09/28/2021 13:49	WG1743106
(T) Barium-133	95.1			30.0-143	09/28/2021 13:49	WG1743106

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.483	J	0.309	0.576	09/22/2021 12:15	WG1737787
(T) Barium	98.1			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	107			79.0-136	09/22/2021 12:15	WG1737787

¹ Cp² Tc³ Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.15		0.639	0.759	09/28/2021 13:49	WG1743106

⁴ Cn⁵ Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.665		0.330	0.183	09/28/2021 13:49	WG1743106
(T) Barium-133	95.1			30.0-143	09/28/2021 13:49	WG1743106

⁶ Qc⁷ Gl⁸ Al⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.178	U	0.332	0.628	09/22/2021 12:15	WG1737787
(T) Barium	91.1			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	100			79.0-136	09/22/2021 12:15	WG1737787

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.281	U	0.507	0.906	09/28/2021 13:49	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.103	J	0.175	0.278	09/28/2021 13:49	WG1743106
(T) Barium-133	91.3			30.0-143	09/28/2021 13:49	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.539	J	0.295	0.546	09/22/2021 12:15	WG1737787
(T) Barium	91.7			62.0-143	09/22/2021 12:15	WG1737787
(T) Yttrium	101			79.0-136	09/22/2021 12:15	WG1737787

¹ Cp² Tc³ Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.582	J	0.452	0.849	09/28/2021 13:49	WG1743106

⁴ Cn⁵ Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0435	U	0.157	0.303	09/28/2021 13:49	WG1743106
(T) Barium-133	93.9			30.0-143	09/28/2021 13:49	WG1743106

⁶ Qc⁷ Gl⁸ Al⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.586	J	0.330	0.617	09/23/2021 12:10	WG1738092
(T) Barium	98.4			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	97.0			79.0-136	09/23/2021 12:10	WG1738092

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.755	J	0.538	0.901	09/28/2021 13:49	WG1743106

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.168	J	0.208	0.284	09/28/2021 13:49	WG1743106
(T) Barium-133	98.7			30.0-143	09/28/2021 13:49	WG1743106

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.273	J	0.301	0.572	09/23/2021 12:10	WG1738092
(T) Barium	105			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	98.4			79.0-136	09/23/2021 12:10	WG1738092

1
Cp

2
Tc

3
Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.596	J	0.602	0.946	09/28/2021 13:49	WG1743106

4
Cn

5
Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.322	J	0.301	0.374	09/28/2021 13:49	WG1743106
(T) Barium-133	97.9			30.0-143	09/28/2021 13:49	WG1743106

6
Qc

7
Gl

8
Al

9
Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.403	U	0.368	0.726	09/23/2021 12:10	WG1738092
(T) Barium	90.8			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	103			79.0-136	09/23/2021 12:10	WG1738092

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.360	U	0.628	1.02	09/28/2021 16:57	WG1743108

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.360		0.260	0.289	09/28/2021 16:57	WG1743108
(T) Barium-133	99.5			30.0-143	09/28/2021 16:57	WG1743108

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.524	U	0.295	0.596	09/23/2021 12:10	WG1738092
(T) Barium	102			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	99.4			79.0-136	09/23/2021 12:10	WG1738092

1
Cp

2
Tc

3
Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.415	J	0.558	0.78	09/28/2021 16:57	WG1743108

4
Cn

5
Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.415		0.263	0.184	09/28/2021 16:57	WG1743108
(T) Barium-133	99.9			30.0-143	09/28/2021 16:57	WG1743108

6
Qc

7
Gl

8
Al

9
Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.25		0.347	0.628	09/23/2021 12:10	WG1738092
(T) Barium	106			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	89.1			79.0-136	09/23/2021 12:10	WG1738092

¹ Cp² Tc³ Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.34		0.515	0.903	09/28/2021 16:57	WG1743108

⁴ Cn⁵ Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0910	U	0.168	0.275	09/28/2021 16:57	WG1743108
(T) Barium-133	92.3			30.0-143	09/28/2021 16:57	WG1743108

⁶ Qc⁷ Gl⁸ Al⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.372	J	0.342	0.647	09/23/2021 12:10	WG1738092
(T) Barium	102			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	94.1			79.0-136	09/23/2021 12:10	WG1738092

1
Cp

2
Tc

3
Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.452	J	0.521	0.953	09/28/2021 16:57	WG1743108

4
Cn

5
Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0802	U	0.179	0.306	09/28/2021 16:57	WG1743108
(T) Barium-133	95.2			30.0-143	09/28/2021 16:57	WG1743108

6
Qc

7
Gl

8
Al

9
Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.398	J	0.297	0.56	09/23/2021 12:10	WG1738092
(T) Barium	100			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	99.0			79.0-136	09/23/2021 12:10	WG1738092

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.764	J	0.566	0.795	09/28/2021 20:48	WG1743108

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.366		0.269	0.235	09/28/2021 20:48	WG1743108
(T) Barium-133	93.0			30.0-143	09/28/2021 20:48	WG1743108

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.438	J	0.313	0.589	09/23/2021 12:10	WG1738092
(T) Barium	92.8			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	104			79.0-136	09/23/2021 12:10	WG1738092

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.53		0.720	0.794	09/28/2021 20:48	WG1743108

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	1.09		0.407	0.205	09/28/2021 20:48	WG1743108
(T) Barium-133	94.6			30.0-143	09/28/2021 20:48	WG1743108

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.474	U	0.304	0.603	09/23/2021 12:10	WG1738092
(T) Barium	101			62.0-143	09/23/2021 12:10	WG1738092
(T) Yttrium	93.4			79.0-136	09/23/2021 12:10	WG1738092

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.564	J	0.641	0.95	09/28/2021 20:48	WG1743108

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.564		0.337	0.347	09/28/2021 20:48	WG1743108
(T) Barium-133	95.2			30.0-143	09/28/2021 20:48	WG1743108

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3707941-1 09/22/21 12:15

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.130	<u>U</u>	0.414
(T) Barium	102		
(T) Yttrium	104		

L1404457-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1404457-01 09/22/21 12:15 • (DUP) R3707941-5 09/22/21 12:15

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.266	-0.854	1	200	1.88	<u>U</u>	20	3
(T) Barium	89.8	102						
(T) Yttrium	98.3	95.6						

Laboratory Control Sample (LCS)

(LCS) R3707941-2 09/22/21 12:15

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.55	111	80.0-120	
(T) Barium			105		
(T) Yttrium			105		

L1403564-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1403564-01 09/22/21 12:15 • (MS) R3707941-3 09/22/21 12:15 • (MSD) R3707941-4 09/22/21 12:15

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-228	16.7	-0.0135	19.5	17.4	117	104	1	70.0-130			11.3		20
(T) Barium		93.6			98.8	103							
(T) Yttrium		106			98.1	103							

1
Cp

2
Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R3708395-1 09/23/21 12:10

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	-0.255	<u>U</u>	0.467
(T) Barium	101		
(T) Yttrium	92.6		

L1403564-26 Original Sample (OS) • Duplicate (DUP)

(OS) L1403564-26 09/23/21 12:10 • (DUP) R3708395-5 09/23/21 12:10

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	-0.474	-0.627	1	0.000	0.262	<u>U</u>	20	3
(T) Barium	101	106						
(T) Yttrium	93.4	101						

Laboratory Control Sample (LCS)

(LCS) R3708395-2 09/23/21 12:10

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.75	115	80.0-120	
(T) Barium			95.1		
(T) Yttrium			98.9		

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3708395-3 09/23/21 12:10 • (MSD) R3708395-4 09/23/21 12:10

Analyte	Spike Amount pCi/l	Original Result	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		20.5	20.3	117	116	1	70.0-130			0.933		20
(T) Barium					106	106							
(T) Yttrium					98.1	94.9							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3709796-1 09/28/21 10:48

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.00526	U	0.0627
(T) Barium-133	94.6		

L1403564-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1403564-19 09/28/21 13:49 • (DUP) R3709796-5 09/28/21 10:48

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.322	0.208	1	43.2	0.317	J	20	3
(T) Barium-133	97.9	94.2						

Laboratory Control Sample (LCS)

(LCS) R3709796-2 09/28/21 10:48

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.87	97.0	80.0-120	
(T) Barium-133			100		

L1403564-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1403564-04 09/28/21 10:48 • (MS) R3709796-3 09/28/21 10:48 • (MSD) R3709796-4 09/28/21 10:48

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	20.1	0.295	20.3	19.9	99.4	97.4	1	75.0-125			1.99		20
(T) Barium-133		94.6			96.7	96.7							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3710087-1 09/28/21 16:57

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	0.00952	<u>U</u>	0.0663
(T) Barium-133	103		

L1403564-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1403564-20 09/28/21 16:57 • (DUP) R3710087-5 09/28/21 16:57

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.360	0.0854	1	123	0.881	<u>U</u>	20	3
(T) Barium-133	99.5	100						

Laboratory Control Sample (LCS)

(LCS) R3710087-2 09/28/21 16:57

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.61	91.8	80.0-120	
(T) Barium-133			105		

L1405085-37 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1405085-37 09/28/21 16:57 • (MS) R3710087-3 09/28/21 16:57 • (MSD) R3710087-4 09/28/21 16:57

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	20.1	-0.0263	19.9	18.5	98.8	92.0	1	75.0-125			7.09		20
(T) Barium-133		88.7			103	101							

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Cp

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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 Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

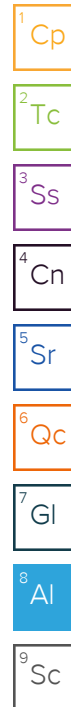
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☒ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ FieldTeklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234Cooler Temp: Sampler: J. Riley J. Wilson

QC Level: 3

Project# 21081267

Contact: Elizabeth A. Hurley

Email: ehurley@teklabinc.com

Requested Due Date: 10-15 day TAT

Billing/PO: 31803

Comments: Please Issue reports and invoices via email only

Please analyze for Radium 226/228 per methods specified for Vistra/Ramboll projects.

IL site

Batch QC is required for all analyses requested.

Any changes to analysis/methods must be approved by Teklab, Inc.

Phone: (618) 3441004 ext 33

A205

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Ra226/228														
-01	21081267-001	9/10/21 0934	HNO3	Groundwater	✓														
	21081267-002	9/10/21 0834	HNO3	Groundwater	✓														
-02	21081267-003	9/10/21 0820	HNO3	Groundwater	✓														
-03	21081267-004	9/9/21 1708	HNO3	Groundwater	✓														
-04	21081267-005	9/9/21 1433	HNO3	Groundwater	✓														
-05	21081267-006	9/9/21 1433	HNO3	Groundwater	✓														
	21081267-007	9/9/21 1411	HNO3	Groundwater	✓														
	21081267-008	9/9/21 1241	HNO3	Groundwater	✓														
-06	21081267-009	9/9/21 1224	HNO3	Groundwater	✓														
-07	21081267-010	9/9/21 1353	HNO3	Groundwater	✓														
-08	21081267-011	9/9/21 1336	HNO3	Groundwater	✓														

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kump	9/13/21 1600	Wally M	9/15/21 1100

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights.

Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016530052014673
53005201465
530052014602

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☒ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ FieldTeklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234Cooler Temp: Sampler: J. Riley J. Wilson

QC Level: 3

Project# 21081267

Contact: Elizabeth A. Hurley

Email: ehurley@teklabinc.com

Requested Due Date: 10-15 day TAT

Billing/PO: 31803

Phone: (618) 3441004 ext 33

Comments: Please issue reports and invoices via email only

Please analyze for Radium 22/228 per methods specified for Vistra/Ramboll projects.

IL site

Batch QC is required for all analyses requested.

Any changes to analysis/methods must be approved by Teklab, Inc.

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Ra226/228														
-09	21081267-012	9/10/21 0909	HNO3	Groundwater	✓														
-10	21081267-013	9/10/21 0854	HNO3	Groundwater	✓														
-11	21081267-014	9/9/21 1608	HNO3	Groundwater	✓														
-12	21081267-015	9/9/21 1751	HNO3	Groundwater	✓														
-13	21081267-016	9/9/21 1013	HNO3	Groundwater	✓														
-14	21081267-017	9/8/21 1345	HNO3	Groundwater	✓														
-15	21081267-018	9/8/21 1401	HNO3	Groundwater	✓														
-16	21081267-019	9/9/21 1112	HNO3	Groundwater	✓														
-17	21081267-020	9/9/21 0829	HNO3	Groundwater	✓														
-18	21081267-021	9/9/21 0848	HNO3	Groundwater	✓														
-19	21081267-022	9/9/21 0935	HNO3	Groundwater	✓														

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp	9/13/21 1600	Harley M	09/15/21 1100

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☒ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: J. Riley J. Wilson

QC Level: 3

Project#	21081267
----------	----------

Contact: Elizabeth A. Hurley

Email: ehurley@teklabinc.com

Requested Due Date: 10-15 day TAT

Billing/PO: 31803

Comments: Please Issue reports and invoices via email only

Please analyze for Radium 22/228 per methods specified for Vistra/Ramboll projects.

IL site

Batch QC is required for all analyses requested.

Any changes to analysis/methods must be approved by Teklab, Inc.

Phone: (618) 3441004 ext 33

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix
-20	21081267-023	9/8/21 1602	HNO3	Groundwater
-21	21081267-025	9/9/21 1301	HNO3	Groundwater
-22	21081267-026	9/9/21 1203	HNO3	Groundwater
-23	21081267-027	9/8/21 1635	HNO3	Groundwater
-24	21081267-028	9/8/21 1313	HNO3	Groundwater
-25	21081267-029	9/9/21 1044	HNO3	Groundwater
-26	21081267-030	9/10/21 1045	HNO3	Groundwater

[illegible]

Sample Receipt Checklist

Sample Receipt Checklist			
COC Seal Present/Intact:	<u>Y</u>	<u>N</u>	If Applicable
COC Signed/Accurate:	<u>Y</u>	<u>N</u>	VOA Zero Headspace:
Bottles arrive intact:	<u>Y</u>	<u>N</u>	Pres. Correct/Check:
Correct bottles used:	<u>Y</u>	<u>N</u>	
Sufficient volume sent:	<u>Y</u>	<u>N</u>	
Rad Screen <0.5 mR/hr:	<u>Y</u>	<u>N</u>	

IO3	Groundwater
IO3	Groundwater
IO3	Groundwater
O3	Groundwater

1*Relinquished By

Date/Time	Location	Activity	Remarks
10/10/2023 10:00	Room 101	Meeting with Mr. Smith	Discussed project progress
10/10/2023 14:30	Field Site A	Environmental Survey	Collected samples for analysis
10/11/2023 09:15	Office	Report Writing	Completed initial draft of report
10/11/2023 16:00	Conference Room	Team Meeting	Reviewed findings and next steps
10/12/2023 08:45	Lab 205	Equipment Calibration	Ensured accuracy of measurement tools
10/12/2023 13:00	Site B	Water Quality Test	Conducted pH and temperature readings
10/13/2023 11:30	Library	Research on Climate Change	Found relevant articles for literature review
10/13/2023 15:45	Workshop	Public Engagement Session	Presented findings to community members
10/14/2023 10:00	Office	Data Analysis	Processed and interpreted survey results
10/14/2023 17:00	Meeting Room	Stakeholder Consultation	Discussed concerns and suggestions from stakeholders
10/15/2023 09:30	Field Site C	Vegetation Sampling	Collected plant specimens for identification
10/15/2023 14:00	Office	Report Review	Peer-reviewed draft of final report
10/16/2023 08:00	Lab 205	Equipment Maintenance	Performed routine checks and repairs
10/16/2023 12:30	Site D	Soil Sampling	Collected soil samples for nutrient analysis
10/17/2023 10:45	Office	Report Finalization	Completed final draft of report
10/17/2023 16:15	Conference Room	Final Presentation	Presented findings to management team
10/18/2023 09:00	Field Site E	Water Level Monitoring	Recorded water levels in local reservoir
10/18/2023 13:45	Office	Report Distribution	Delivered final report to stakeholders
10/19/2023 11:00	Workshop	Community Feedback Session	Received input from local residents
10/19/2023 15:30	Office	Report Archiving	Stored final report in digital archive
10/20/2023 08:30	Lab 205	Equipment Cleaning	Thoroughly cleaned all laboratory equipment
10/20/2023 12:00	Site F	Soil Moisture Measurement	Recorded moisture levels in agricultural field
10/21/2023 10:15	Office	Report Proofreading	Reviewed report for typos and errors
10/21/2023 16:45	Meeting Room	Stakeholder Meeting	Discussed report findings with stakeholders
10/22/2023 09:45	Field Site G	Water Quality Monitoring	Conducted regular water quality checks
10/22/2023 14:15	Office	Report Submission	Submitted final report to management
10/23/2023 11:45	Workshop	Public Consultation	Engaged with community members for feedback
10/23/2023 15:00	Office	Report Archiving	Stored report in physical archive
10/24/2023 08:15	Lab 205	Equipment Calibration	Ensured accuracy of measurement tools
10/24/2023 12:45	Site H	Soil Sampling	Collected soil samples for analysis
10/25/2023 10:30	Office	Report Review	Reviewed report for accuracy and clarity
10/25/2023 16:00	Conference Room	Final Meeting	Concluded project with final discussions
10/26/2023 09:00	Field Site I	Water Level Monitoring	Recorded water levels in local reservoir
10/26/2023 13:30	Office	Report Distribution	Delivered final report to stakeholders
10/27/2023 11:15	Workshop	Community Feedback Session	Received input from local residents
10/27/2023 15:45	Office	Report Archiving	Stored final report in digital archive
10/28/2023 08:45	Lab 205	Equipment Cleaning	Thoroughly cleaned all laboratory equipment
10/28/2023 12:15	Site J	Soil Moisture Measurement	Recorded moisture levels in agricultural field
10/29/2023 10:00	Office	Report Proofreading	Reviewed report for typos and errors
10/29/2023 16:30	Meeting Room	Stakeholder Meeting	Discussed report findings with stakeholders
10/30/2023 09:30	Field Site K	Water Quality Monitoring	Conducted regular water quality checks
10/30/2023 14:00	Office	Report Submission	Submitted final report to management
10/31/2023 11:30	Workshop	Public Consultation	Engaged with community members for feedback
10/31/2023 15:00	Office	Report Archiving	Stored final report in physical archive

Received By

Date/Time	Location	Activity	Remarks
10/10/2023 10:00	Room 101	Meeting	Discuss project progress
10/10/2023 14:30	Room 202	Training	Software training session
10/10/2023 16:00	Room 303	Workshop	Design workshop
10/10/2023 18:00	Room 404	Dinner	Team dinner
10/10/2023 20:00	Room 505	Event	Networking event

9/15-NCF-L1403564 TEKLABIL

R5

Time estimate: 0h Time spent: 0h

Members

 Hailey Melson (responsible)  Mark Beasley

Due on 18 September 2021 8:00 AM for target Done

- ☒ Login Clarification needed
- ☐ Chain of custody is incomplete
- ☐ Please specify Metals requested
- ☐ Please specify TCLP requested
- ☐ Received additional samples not listed on COC
- ☐ Sample IDs on containers do not match IDs on COC
- ☐ Client did not "X" analysis
- ☐ Chain of Custody is missing
- ☐ If no COC: Received by: _____
- ☐ If no COC: Date/Time: _____
- ☐ If no COC: Temp./Cont.Rec./pH: _____
- ☐ If no COC: Carrier: _____
- ☐ If no COC: Tracking #: _____
- ☐ Client informed by call
- ☐ Client informed by Email
- ☐ Client informed by Voicemail
- ☐ Date/Time: 9/15/21 _____
- ☐ PM initials: _____ MB _____
- ☐ Client Contact: _____ Elizabeth Hurley _____

Comments

Hailey Melson	15 September 2021 4:33 PM
Missing samples -002, -007, and -008.	
Mark Beasley	15 September 2021 5:39 PM
Client notified	

October 14, 2021

Steve Wiskes
Ramboll
234 W. Florida St.
5th Floor
Milwaukee, WI 53204
TEL: (414) 837-3614
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Hennepin CCR Q3 2021 Resampling

WorkOrder: 21091099

Dear Steve Wiskes:

TEKLAB, INC received 4 samples on 9/23/2021 7:20:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Ramboll

Work Order: 21091099

Client Project: Hennepin CCR Q3 2021 Resampling

Report Date: 14-Oct-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	9
Dates Report	10
Quality Control Results	11
Receiving Check List	12
Chain of Custody	Appended

Client: Ramboll**Work Order:** 21091099**Client Project:** Hennepin CCR Q3 2021 Resampling**Report Date:** 14-Oct-21**Abbr Definition**

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Ramboll

Work Order: 21091099

Client Project: Hennepin CCR Q3 2021 Resampling

Report Date: 14-Oct-21

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| C - RL shown is a Client Requested Quantitation Limit | E - Value above quantitation range |
| H - Holding times exceeded | I - Associated internal standard was outside method criteria |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | T - TIC(Tentatively identified compound) |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21091099

Client Project: Hennepin CCR Q3 2021 Resampling

Report Date: 14-Oct-21

Cooler Receipt Temp: 0.2 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Pace Analytical Services, LLC. See attached report for results.

This report contains CCR 803 data. EAH 10/14/21

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Ramboll**Work Order:** 21091099**Client Project:** Hennepin CCR Q3 2021 Resampling**Report Date:** 14-Oct-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin CCR Q3 2021 Resampling
Lab ID: 21091099-002
Matrix: GROUNDWATER

Work Order: 21091099
Report Date: 14-Oct-21

Client Sample ID: 08D

Collection Date: 09/22/2021 13:29

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.01	ft	1	09/22/2021 13:29	R301262
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.58		1	09/22/2021 13:29	R301262
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		8.7	NTU	1	09/22/2021 13:29	R301262
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		181	mV	1	09/22/2021 13:29	R301262
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		2580	µS/cm	1	09/22/2021 13:29	R301262
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		14.2	°C	1	09/22/2021 13:29	R301262
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.39	mg/L	1	09/22/2021 13:29	R301262
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0	See Attached		pci/L	1	10/06/2021 0:00	R301230
Radium-228	*	0	See Attached		pci/L	1	10/06/2021 0:00	R301230



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin CCR Q3 2021 Resampling
Lab ID: 21091099-003
Matrix: GROUNDWATER

Work Order: 21091099
Report Date: 14-Oct-21

Client Sample ID: 12

Collection Date: 09/22/2021 13:44

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.13	ft	1	09/22/2021 13:44	R301262
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		7.25		1	09/22/2021 13:44	R301262
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		4.7	NTU	1	09/22/2021 13:44	R301262
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		157	mV	1	09/22/2021 13:44	R301262
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1080	µS/cm	1	09/22/2021 13:44	R301262
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		19.3	°C	1	09/22/2021 13:44	R301262
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.02	mg/L	1	09/22/2021 13:44	R301262
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0	See Attached		pci/L	1	10/06/2021 0:00	R301230
Radium-228	*	0	See Attached		pci/L	1	10/06/2021 0:00	R301230



Sample Summary

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21091099

Client Project: Hennepin CCR Q3 2021 Resampling

Report Date: 14-Oct-21

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
21091099-002	08D	Groundwater	2	09/22/2021 13:29
21091099-003	12	Groundwater	2	09/22/2021 13:44

Dates Report

<http://www.teklabinc.com/>
Client: Ramboll

Work Order: 21091099

Client Project: Hennepin CCR Q3 2021 Resampling

Report Date: 14-Oct-21

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
21091099-002A	08D	09/22/2021 13:29	09/23/2021 7:20		
	EPA 903.0/904.0, Radium 226/228				10/06/2021 0:00
21091099-002B	08D	09/22/2021 13:29	09/23/2021 7:20		
	Field Elevation Measurements				09/22/2021 13:29
	Standard Method 4500-H B 2001 Field				09/22/2021 13:29
	Standard Methods 2130 B Field				09/22/2021 13:29
	Standard Methods 18th Ed. 2580 B Field				09/22/2021 13:29
	Standard Methods 2510 B Field				09/22/2021 13:29
	Standard Methods 2550 B Field				09/22/2021 13:29
	Standard Methods 4500-O G Field				09/22/2021 13:29
21091099-003A	12	09/22/2021 13:44	09/23/2021 7:20		
	EPA 903.0/904.0, Radium 226/228				10/06/2021 0:00
21091099-003B	12	09/22/2021 13:44	09/23/2021 7:20		
	Field Elevation Measurements				09/22/2021 13:44
	Standard Method 4500-H B 2001 Field				09/22/2021 13:44
	Standard Methods 2130 B Field				09/22/2021 13:44
	Standard Methods 18th Ed. 2580 B Field				09/22/2021 13:44
	Standard Methods 2510 B Field				09/22/2021 13:44
	Standard Methods 2550 B Field				09/22/2021 13:44
	Standard Methods 4500-O G Field				09/22/2021 13:44



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21091099

Client Project: Hennepin CCR Q3 2021 Resampling

Report Date: 14-Oct-21

STANDARD METHOD 4500-H B 2001 FIELD

Batch R301262		SampType: LCS		Units						
SampID: LCS-R301262										Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
pH	*	1.00		6.96	7.000	0	99.4	98.57	101.4	
09/22/2021										

STANDARD METHODS 2510 B FIELD

Batch R301262		SampType: LCS		Units μS/cm						
SampleID: LCS-R301262										Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Spec. Conductance, Field	*	0		1340	1409	0	95.3	90	110	
09/22/2021										



Receiving Check List

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 21091099

Client Project: Hennepin CCR Q3 2021 Resampling

Report Date: 14-Oct-21

Carrier: Joe Riley

Received By: EAH

Completed by:

Reviewed by:

On:

On:

23-Sep-21

23-Sep-21

Mary E. Kemp

Elizabeth A. Hurley

Pages to follow:

Chain of custody

1

Extra pages included

13

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C 0.2

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☒

Lab ☐

NA ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?

Yes ☐

No ☐

No VOA vials ☒

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☒

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

pH strip #77492. - PR/MKemp - 9/23/2021 9:01:34 AM

Additional nitric acid (78366) was needed in all samples upon arrival at the laboratory. - PR/MKemp - 9/23/2021 9:01:36 AM

CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 21091099

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: <u>Ramboll</u> Address: <u>234 W. Florida St.</u> City/State/Zip: <u>Milwaukee, WI 53204</u> Contact: <u>Steve Wiskes</u> Phone: <u>(414) 837-3614</u> Email: <u>steve.wiskes@ramboll.com</u> Fax: _____				Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE <u>0.2</u> °C LTG# <u>5</u> Preserved in: ☒ LAB ☐ FIELD <u>77492 FOR LAB USE ONLY</u> LAB NOTES: <u>Added HNO3 (78366) to all samples</u> Client Comments: _____																							
Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No Are these samples known to be hazardous? ☐ Yes ☒ No Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No				Field: Elevations, pH, Temp., Turbidity, Conductivity, ORP, DO Subcontract Ra226/228 to Pace-National (Nashville, TN). Multiple program reports required.																							
PROJECT NAME/NUMBER <u>Hennepin CCR Q3 2021 Resampling</u>		SAMPLE COLLECTOR'S NAME <u>J. RILEY A. Brooks</u>		# and Type of Containers <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>UNP</th> <th>HNO3</th> <th>NaOH</th> <th>H2SO4</th> <th>HCL</th> <th>MeOH</th> <th>NaHSO4</th> <th>TSP</th> <th>Other</th> <th>Ra226/228</th> <th>Field Tests</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>		UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	Ra226/228	Field Tests											
UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	Ra226/228	Field Tests																	
RESULTS REQUESTED ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)		BILLING INSTRUCTIONS <u>Vistra PO# 1054896</u>																									
Lab Use Only	Sample ID	Date/Time Sampled	Matrix																								
21091099-001	05DR	9/22/21 1401	Groundwater	2						✓	✓																
002	08D	9/22/21 1329	Groundwater	2						✓	✓																
003	12	9/22/21 1344	Groundwater	2						✓	✓																
004	45S	9/22/21 1715	Groundwater	2						✓	✓																
			Aqueous																								
			Aqueous																								
			Aqueous																								
			Aqueous																								
			Aqueous																								
			Aqueous																								
			Aqueous																								
			Aqueous																								
Relinquished By <u>[Signature]</u>		Date/Time <u>9/23/21 0720</u>		Received By <u>[Signature]</u>		Date/Time <u>9/23/21 0720</u>																					

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

TEKLAB, Inc.

Sample Delivery Group: L1409908

Samples Received: 09/27/2021

Project Number: 21091099

Description:

Report To: Elizabeth Hurley
5445 Horseshoe Lake Road
Collinsville, IL 62234

Entire Report Reviewed By:



Mark W. Beasley
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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

21091099-001 L1409908-01 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/22/21 14:01

09/27/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1740797	1	10/06/21 14:20	10/07/21 12:35	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1740797	1	10/06/21 14:20	10/07/21 12:35	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

21091099-002 L1409908-02 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/22/21 13:29

09/27/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1740797	1	10/06/21 14:20	10/07/21 12:35	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1740797	1	10/06/21 14:20	10/07/21 12:35	RGT	Mt. Juliet, TN

21091099-003 L1409908-03 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/22/21 13:44

09/27/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1740797	1	10/06/21 14:20	10/07/21 12:35	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1740797	1	10/06/21 14:20	10/07/21 12:35	RGT	Mt. Juliet, TN

21091099-004 L1409908-04 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/22/21 14:15

09/27/21 09:30

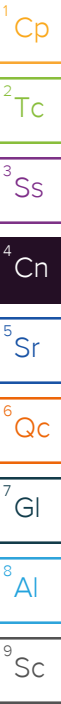
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1740797	1	10/06/21 14:20	10/07/21 12:36	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1740797	1	10/06/21 14:20	10/07/21 12:36	RGT	Mt. Juliet, TN

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.



Mark W. Beasley
Project Manager



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.713		0.281	0.527	10/06/2021 16:45	WG1748732
(T) Barium	111			62.0-143	10/06/2021 16:45	WG1748732
(T) Yttrium	102			79.0-136	10/06/2021 16:45	WG1748732

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.05		0.576	0.867	10/07/2021 12:35	WG1740797

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.337	J	0.295	0.34	10/07/2021 12:35	WG1740797
(T) Barium-133	98.5			30.0-143	10/07/2021 12:35	WG1740797

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.15		0.286	0.52	10/06/2021 16:45	WG1748732
(T) Barium	112			62.0-143	10/06/2021 16:45	WG1748732
(T) Yttrium	96.6			79.0-136	10/06/2021 16:45	WG1748732

¹ Cp² Tc³ Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.67		0.625	0.869	10/07/2021 12:35	WG1740797

⁴ Cn⁵ Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.512		0.339	0.349	10/07/2021 12:35	WG1740797
(T) Barium-133	98.2			30.0-143	10/07/2021 12:35	WG1740797

⁶ Qc⁷ Gl⁸ Al⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.375	J	0.300	0.576	10/06/2021 16:45	WG1748732
(T) Barium	108			62.0-143	10/06/2021 16:45	WG1748732
(T) Yttrium	92.4			79.0-136	10/06/2021 16:45	WG1748732

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.759	J	0.564	0.794	10/07/2021 12:35	WG1740797

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.385		0.264	0.218	10/07/2021 12:35	WG1740797
(T) Barium-133	101			30.0-143	10/07/2021 12:35	WG1740797

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0558	U	0.254	0.5	10/06/2021 16:45	WG1748732
(T) Barium	103			62.0-143	10/06/2021 16:45	WG1748732
(T) Yttrium	95.4			79.0-136	10/06/2021 16:45	WG1748732

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.630	J	0.577	0.772	10/07/2021 12:36	WG1740797

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.574		0.323	0.272	10/07/2021 12:36	WG1740797
(T) Barium-133	97.4			30.0-143	10/07/2021 12:36	WG1740797

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3713547-1 10/06/21 16:45

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.545		0.405
(T) Barium	97.9		
(T) Yttrium	100		

Laboratory Control Sample (LCS)

(LCS) R3713547-2 10/06/21 16:45

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.45	109	80.0-120	
(T) Barium			109		
(T) Yttrium			98.2		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3714137-1 10/07/21 12:35

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.0231	<u>U</u>	0.0925
(T) Barium-133	92.3		

L1402891-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1402891-01 10/07/21 12:35 • (DUP) R3714137-5 10/07/21 12:35

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	-0.0385	0.0487	1	200	0.446	<u>U</u>	20	3
(T) Barium-133	92.4	92.5						

Laboratory Control Sample (LCS)

(LCS) R3714137-2 10/07/21 12:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.44	108	80.0-120	
(T) Barium-133			96.9		

L1409908-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1409908-04 10/07/21 12:36 • (MS) R3714137-3 10/07/21 12:35 • (MSD) R3714137-4 10/07/21 12:35

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	20.1	0.574	20.8	20.5	100	99.2	1	75.0-125			1.21		20
(T) Barium-133		97.4			94.8	96.6							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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 Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

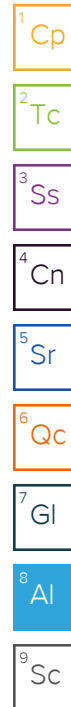
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☒ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp:

Sampler: Teklab

QC Level: 3

Comments: Please Issue reports and invoices via email only

Please analyze for Radium 22/228 per methods specified for Vistra/Ramboll projects.

IL site

Batch QC is required for all analyses requested.

Any changes to analysis/methods must be approved by Teklab, Inc.

Phone: (618) 344-1004 ext 33

Project#	21091099
----------	----------

Contact: Elizabeth A. Hurley

Email: ehurley@teklabinc.com

Requested Due Date: 10-15 day TAT

Billing/PO: 31868

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix
-01	21091099-001	9/22/21 1401	HNO3	Groundwater
-02	21091099-002	9/22/21 1329	HNO3	Groundwater
-03	21091099-003	9/22/21 1344	HNO3	Groundwater
-04	21091099-004	9/22/21 1415	HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N 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
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

[illegible]

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp	9/23/21 1600		
		Mary Kemp	9/23/21 9:30

June 01, 2022

Eric Bauer
Ramboll
234 W. Florida St.
5th Floor
Milwaukee, WI 53204
TEL: (414) 837-3607
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Hennepin Q1 Groundwater

WorkOrder: 22030530

Dear Eric Bauer:

TEKLAB, INC received 49 samples on 3/24/2022 7:50:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

This reporting package includes the following:

Cover Letter	1
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Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	33
Dates Report	34
Quality Control Results	46
Receiving Check List	90
Chain of Custody	Appended

Client: Ramboll**Work Order:** 22030530**Client Project:** Hennepin Q1 Groundwater**Report Date:** 01-Jun-22**Abbr Definition**

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| C - RL shown is a Client Requested Quantitation Limit | E - Value above quantitation range |
| H - Holding times exceeded | I - Associated internal standard was outside method criteria |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | T - TIC(Tentatively identified compound) |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Cooler Receipt Temp: 1.8 °C

An employee of Teklab, Inc. collected the sample(s).

Perchlorate analysis was performed by Keystone Laboratories, Inc. See attached report for QC summary.

Mercury (total) was omitted from 12 in error at sample log in and will be prepped/analyzed out of hold time. EAH 4/26/22

Hennepin East Ash Pond CCR 803 data is included in this report. EAH 5/2/22

This report was revised on June 1, 2022 per Eric Bauer (Ramboll)'s request. The reason for the revision is to corrected elevation values for 08D, 22, and 22D and to correct the Thallium result for 22D. Please replace reports dated May 2, 2022 and May 3, 2022 with these program reports. EAH 6/1/22

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Ramboll**Work Order:** 22030530**Client Project:** Hennepin Q1 Groundwater**Report Date:** 01-Jun-22

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2023	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2023	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2023	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

<http://www.teklabin.com/>

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-007
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: 07
Collection Date: 03/22/2022 15:31

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		67.62	ft	1	03/21/2022 14:20	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.81		1	03/22/2022 15:31	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		7.8	NTU	1	03/22/2022 15:31	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		50	mV	1	03/22/2022 15:31	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1350	µS/cm	1	03/22/2022 15:31	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		11.2	°C	1	03/22/2022 15:31	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		4.93	mg/L	1	03/22/2022 15:31	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		390	mg/L	1	03/29/2022 7:41	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 7:41	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		582	mg/L	1	03/28/2022 14:24	R309037
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		56	mg/L	2	03/25/2022 20:50	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.12	mg/L	1	03/31/2022 11:10	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	2		49	mg/L	2	03/25/2022 20:49	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		140	mg/L	1	03/30/2022 9:24	188963
Magnesium	NELAP	0.0500		49.8	mg/L	1	03/30/2022 9:24	188963
Potassium	NELAP	0.100		2.53	mg/L	1	03/30/2022 9:24	188963
Sodium	NELAP	0.0500		22.3	mg/L	1	03/30/2022 9:24	188963
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:50	188963
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 14:56	188963
Barium	NELAP	0.0010		0.104	mg/L	5	03/29/2022 20:50	188963
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 14:56	188963
Boron	NELAP	0.0250		0.0755	mg/L	5	03/31/2022 14:56	188963
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 14:56	188963
Chromium	NELAP	0.0015	J	0.0013	mg/L	5	03/31/2022 14:56	188963
Cobalt	NELAP	0.0010		0.0018	mg/L	5	03/31/2022 14:56	188963
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:50	188963
Lithium	*	0.0030		0.0098	mg/L	5	03/31/2022 14:56	188963
Molybdenum	NELAP	0.0015	J	0.0010	mg/L	5	03/31/2022 14:56	188963
Selenium	NELAP	0.0010	J	0.0007	mg/L	5	03/31/2022 14:56	188963
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 20:50	188963

Client: Ramboll**Work Order:** 22030530**Client Project:** Hennepin Q1 Groundwater**Report Date:** 01-Jun-22**Lab ID:** 22030530-007**Client Sample ID:** 07**Matrix:** GROUNDWATER**Collection Date:** 03/22/2022 15:31

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/24/2022 18:14	188965



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-008
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: 08
Collection Date: 03/22/2022 14:24

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.48	ft	1	03/21/2022 12:38	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.69		1	03/22/2022 14:24	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		0.09	NTU	1	03/22/2022 14:24	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		15	mV	1	03/22/2022 14:24	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		2690	µS/cm	1	03/22/2022 14:24	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.2	°C	1	03/22/2022 14:24	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.07	mg/L	1	03/22/2022 14:24	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		545	mg/L	1	03/29/2022 7:47	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 7:47	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		1170	mg/L	1	03/28/2022 14:24	R309037
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		153	mg/L	10	03/25/2022 20:52	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.11	mg/L	1	03/31/2022 11:13	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	10		247	mg/L	10	03/25/2022 20:52	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		207	mg/L	1	03/30/2022 9:28	188963
Magnesium	NELAP	0.0500		57.5	mg/L	1	03/30/2022 9:28	188963
Potassium	NELAP	0.100		6.07	mg/L	1	03/30/2022 9:28	188963
Sodium	NELAP	0.0500		192	mg/L	1	03/30/2022 9:28	188963
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:57	188963
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:02	188963
Barium	NELAP	0.0010		0.113	mg/L	5	03/29/2022 20:57	188963
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:02	188963
Boron	NELAP	0.0250		0.124	mg/L	5	03/31/2022 15:02	188963
Cadmium	NELAP	0.0010	J	0.0004	mg/L	5	03/31/2022 15:02	188963
Chromium	NELAP	0.0015	J	0.0009	mg/L	5	03/31/2022 15:02	188963
Cobalt	NELAP	0.0010		0.0070	mg/L	5	03/31/2022 15:02	188963
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:57	188963
Lithium	*	0.0030		0.0155	mg/L	5	03/31/2022 15:02	188963
Molybdenum	NELAP	0.0015		0.0016	mg/L	5	03/31/2022 15:02	188963
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:02	188963
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 20:57	188963

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-008
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: 08
Collection Date: 03/22/2022 14:24

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/28/2022 16:12	189038

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-009
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22
 Client Sample ID: 08 Duplicate
 Collection Date: 03/22/2022 14:24

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.48	ft	1	03/21/2022 12:38	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.69		1	03/22/2022 14:24	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		0.09	NTU	1	03/22/2022 14:24	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		15	mV	1	03/22/2022 14:24	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		2690	µS/cm	1	03/22/2022 14:24	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.2	°C	1	03/22/2022 14:24	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.07	mg/L	1	03/22/2022 14:24	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		544	mg/L	1	03/29/2022 7:54	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 7:54	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		1190	mg/L	1	03/28/2022 14:25	R309037
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		154	mg/L	10	03/25/2022 20:58	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.11	mg/L	1	03/31/2022 11:15	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	10		246	mg/L	10	03/25/2022 20:57	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		207	mg/L	1	03/30/2022 9:32	188963
Magnesium	NELAP	0.0500		57.4	mg/L	1	03/30/2022 9:32	188963
Potassium	NELAP	0.100		6.10	mg/L	1	03/30/2022 9:32	188963
Sodium	NELAP	0.0500		191	mg/L	1	03/30/2022 9:32	188963
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 21:03	188963
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:08	188963
Barium	NELAP	0.0010		0.117	mg/L	5	03/29/2022 21:03	188963
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:08	188963
Boron	NELAP	0.0250		0.128	mg/L	5	03/31/2022 15:08	188963
Cadmium	NELAP	0.0010	J	0.0003	mg/L	5	03/31/2022 15:08	188963
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	03/31/2022 15:08	188963
Cobalt	NELAP	0.0010		0.0072	mg/L	5	03/31/2022 15:08	188963
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 21:03	188963
Lithium	*	0.0030		0.0166	mg/L	5	03/31/2022 15:08	188963
Molybdenum	NELAP	0.0015		0.0016	mg/L	5	03/31/2022 15:08	188963
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:08	188963
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 21:03	188963

Client: Ramboll**Work Order:** 22030530**Client Project:** Hennepin Q1 Groundwater**Report Date:** 01-Jun-22**Lab ID:** 22030530-009**Client Sample ID:** 08 Duplicate**Matrix:** GROUNDWATER**Collection Date:** 03/22/2022 14:24

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/28/2022 16:21	189038

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-010
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22
 Client Sample ID: 08D
 Collection Date: 03/22/2022 14:04

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.49	ft	1	03/21/2022 12:37	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.64		1	03/22/2022 14:04	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		3.0	NTU	1	03/22/2022 14:04	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		8	mV	1	03/22/2022 14:04	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		2790	µS/cm	1	03/22/2022 14:04	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.2	°C	1	03/22/2022 14:04	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.32	mg/L	1	03/22/2022 14:04	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		544	mg/L	1	03/29/2022 8:00	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 8:00	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		1210	mg/L	1	03/28/2022 16:46	R309037
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		174	mg/L	10	03/25/2022 21:00	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.11	mg/L	1	03/31/2022 11:18	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	10		257	mg/L	10	03/25/2022 21:00	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		208	mg/L	1	03/30/2022 9:35	188963
Magnesium	NELAP	0.0500		59.7	mg/L	1	03/30/2022 9:35	188963
Potassium	NELAP	0.100		4.50	mg/L	1	03/30/2022 9:35	188963
Sodium	NELAP	0.0500		192	mg/L	1	03/30/2022 9:35	188963
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 21:09	188963
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:14	188963
Barium	NELAP	0.0010		0.136	mg/L	5	03/29/2022 21:09	188963
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:14	188963
Boron	NELAP	0.0250		0.112	mg/L	5	03/31/2022 15:14	188963
Cadmium	NELAP	0.0010	J	0.0007	mg/L	5	03/31/2022 15:14	188963
Chromium	NELAP	0.0015	J	0.0008	mg/L	5	03/31/2022 15:14	188963
Cobalt	NELAP	0.0010		0.0050	mg/L	5	03/31/2022 15:14	188963
Lead	NELAP	0.0010	J	0.0010	mg/L	5	03/29/2022 21:09	188963
Lithium	*	0.0030		0.0165	mg/L	5	03/31/2022 15:14	188963
Molybdenum	NELAP	0.0015	J	0.0013	mg/L	5	03/31/2022 15:14	188963
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 15:14	188963
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 21:09	188963



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Lab ID: 22030530-010

Client Sample ID: 08D

Matrix: GROUNDWATER

Collection Date: 03/22/2022 14:04

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/28/2022 16:26	189038

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-012
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22
 Client Sample ID: 12
 Collection Date: 03/23/2022 8:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.52	ft	1	03/21/2022 13:01	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		7.19		1	03/23/2022 8:50	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		0.28	NTU	1	03/23/2022 8:50	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		29	mV	1	03/23/2022 8:50	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1200	µS/cm	1	03/23/2022 8:50	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		17.7	°C	1	03/23/2022 8:50	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.17	mg/L	1	03/23/2022 8:50	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		246	mg/L	1	03/29/2022 8:12	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 8:12	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		488	mg/L	1	03/29/2022 14:18	R309039
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		66	mg/L	2	03/25/2022 21:08	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.22	mg/L	1	03/31/2022 11:21	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	2		68	mg/L	2	03/25/2022 21:08	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		91.5	mg/L	1	03/30/2022 9:39	188963
Magnesium	NELAP	0.0500		34.9	mg/L	1	03/30/2022 9:39	188963
Potassium	NELAP	0.100		4.08	mg/L	1	03/30/2022 9:39	188963
Sodium	NELAP	0.0500		43.2	mg/L	1	03/30/2022 9:39	188963
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/26/2022 12:23	188963
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/26/2022 12:23	188963
Barium	NELAP	0.0010		0.0642	mg/L	5	03/26/2022 12:23	188963
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/26/2022 12:23	188963
Boron	NELAP	0.0250		0.240	mg/L	5	03/30/2022 20:43	188963
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	03/26/2022 12:23	188963
Chromium	NELAP	0.0015	J	0.0007	mg/L	5	04/28/2022 18:04	191095
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	03/26/2022 12:23	188963
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 21:15	188963
Lithium	*	0.0030		0.0110	mg/L	5	04/29/2022 9:12	191095
Molybdenum	NELAP	0.0015		0.0211	mg/L	5	03/26/2022 12:23	188963
Selenium	NELAP	0.0010	J	0.0009	mg/L	5	03/26/2022 12:23	188963
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 21:15	188963



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Lab ID: 22030530-012

Client Sample ID: 12

Matrix: GROUNDWATER

Collection Date: 03/23/2022 8:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020	H	< 0.00020	mg/L	1	04/27/2022 10:17	191075

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-013
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22
 Client Sample ID: 13
 Collection Date: 03/23/2022 9:07

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.53	ft	1	03/21/2022 13:02	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		7.30		1	03/23/2022 9:07	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	03/23/2022 9:07	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		-56	mV	1	03/23/2022 9:07	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1250	µS/cm	1	03/23/2022 9:07	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		17.2	°C	1	03/23/2022 9:07	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.26	mg/L	1	03/23/2022 9:07	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		232	mg/L	1	03/29/2022 8:17	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 8:17	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		528	mg/L	1	03/29/2022 14:18	R309039
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		107	mg/L	5	03/25/2022 21:32	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.24	mg/L	1	03/31/2022 11:31	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		77	mg/L	5	03/25/2022 21:32	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		82.3	mg/L	1	03/30/2022 10:39	188963
Magnesium	NELAP	0.0500		31.4	mg/L	1	03/30/2022 10:39	188963
Potassium	NELAP	0.100		5.21	mg/L	1	03/30/2022 10:39	188963
Sodium	NELAP	0.0500		65.8	mg/L	1	03/30/2022 10:39	188963
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/26/2022 12:30	188963
Arsenic	NELAP	0.0010	J	0.0007	mg/L	5	03/26/2022 12:30	188963
Barium	NELAP	0.0010		0.0555	mg/L	5	03/26/2022 12:30	188963
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/26/2022 12:30	188963
Boron	NELAP	0.0250		1.23	mg/L	5	04/22/2022 19:54	190743
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	03/26/2022 12:30	188963
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	04/28/2022 18:09	191095
Cobalt	NELAP	0.0010	J	0.0003	mg/L	5	03/26/2022 12:30	188963
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 21:46	188963
Lithium	*	0.0030		0.0281	mg/L	5	04/28/2022 14:45	191095
Molybdenum	NELAP	0.0015		0.0239	mg/L	5	03/26/2022 12:30	188963
Selenium	NELAP	0.0010		0.0018	mg/L	5	03/26/2022 12:30	188963
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 21:46	188963



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-013
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: 13
Collection Date: 03/23/2022 9:07

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/28/2022 16:35	189038

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-037
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22
 Client Sample ID: 46
 Collection Date: 03/23/2022 9:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.75	ft	1	03/21/2022 12:58	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		7.17		1	03/23/2022 9:25	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	03/23/2022 9:25	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		6	mV	1	03/23/2022 9:25	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1220	µS/cm	1	03/23/2022 9:25	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		17.2	°C	1	03/23/2022 9:25	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.71	mg/L	1	03/23/2022 9:25	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		251	mg/L	1	03/29/2022 9:53	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 9:53	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		488	mg/L	1	03/29/2022 14:21	R309039
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		74	mg/L	5	03/25/2022 23:37	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.23	mg/L	1	03/31/2022 12:34	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		72	mg/L	5	03/25/2022 23:37	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		85.0	mg/L	1	03/29/2022 22:45	188980
Magnesium	NELAP	0.0500		32.8	mg/L	1	03/29/2022 22:45	188980
Potassium	NELAP	0.100		3.92	mg/L	1	03/31/2022 12:31	188980
Sodium	NELAP	0.0500		45.4	mg/L	1	03/29/2022 22:45	188980
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010	J	0.0007	mg/L	5	03/31/2022 18:02	188980
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/30/2022 1:06	188980
Barium	NELAP	0.0010		0.0771	mg/L	5	03/31/2022 18:02	188980
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 18:02	188980
Boron	NELAP	0.0250		0.335	mg/L	5	03/31/2022 18:02	188980
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	03/30/2022 1:06	188980
Chromium	NELAP	0.0015	J	0.0011	mg/L	5	03/31/2022 18:02	188980
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 18:02	188980
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/30/2022 1:06	188980
Lithium	*	0.0030		0.0121	mg/L	5	03/31/2022 18:02	188980
Molybdenum	NELAP	0.0015		0.0192	mg/L	5	03/30/2022 1:06	188980
Selenium	NELAP	0.0010	J	0.0007	mg/L	5	03/30/2022 1:06	188980
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/30/2022 1:06	188980

Client: Ramboll**Work Order:** 22030530**Client Project:** Hennepin Q1 Groundwater**Report Date:** 01-Jun-22**Lab ID:** 22030530-037**Client Sample ID:** 46**Matrix:** GROUNDWATER**Collection Date:** 03/23/2022 9:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/28/2022 18:10	189039

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-038
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22
 Client Sample ID: 47
 Collection Date: 03/23/2022 8:27

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		54.98	ft	1	03/21/2022 13:04	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		7.16		1	03/23/2022 8:27	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		0.32	NTU	1	03/23/2022 8:27	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		8	mV	1	03/23/2022 8:27	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1250	µS/cm	1	03/23/2022 8:27	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		18.1	°C	1	03/23/2022 8:27	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.64	mg/L	1	03/23/2022 8:27	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		243	mg/L	1	03/29/2022 9:58	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 9:58	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		502	mg/L	1	03/29/2022 14:21	R309039
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		81	mg/L	5	03/25/2022 23:45	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.30	mg/L	1	03/31/2022 13:48	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		87	mg/L	5	03/25/2022 23:45	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		90.0	mg/L	1	03/29/2022 23:15	188980
Magnesium	NELAP	0.0500		27.1	mg/L	1	03/29/2022 23:15	188980
Potassium	NELAP	0.100		4.52	mg/L	1	03/31/2022 12:35	188980
Sodium	NELAP	0.0500		58.3	mg/L	1	03/29/2022 23:15	188980
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/30/2022 1:12	188980
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/30/2022 1:12	188980
Barium	NELAP	0.0010		0.0899	mg/L	5	03/31/2022 18:08	188980
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 18:08	188980
Boron	NELAP	0.0250		0.591	mg/L	5	03/31/2022 18:08	188980
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	03/30/2022 1:12	188980
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	03/31/2022 18:08	188980
Cobalt	NELAP	0.0010	J	0.0008	mg/L	5	03/31/2022 18:08	188980
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/30/2022 1:12	188980
Lithium	*	0.0030		0.0108	mg/L	5	03/31/2022 18:08	188980
Molybdenum	NELAP	0.0015		0.0293	mg/L	5	03/30/2022 1:12	188980
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	03/30/2022 1:12	188980
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/30/2022 1:12	188980



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Lab ID: 22030530-038

Client Sample ID: 47

Matrix: GROUNDWATER

Collection Date: 03/23/2022 8:27

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/28/2022 18:13	189039

Client: Ramboll**Work Order:** 22030530**Client Project:** Hennepin Q1 Groundwater**Report Date:** 01-Jun-22**Lab ID:** 22030530-043**Client Sample ID:** 55**Matrix:** GROUNDWATER**Collection Date:** 03/21/2022 13:02

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.30	ft	1	03/21/2022 13:02	R308977

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-044
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: SG02
Collection Date: 03/21/2022 14:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		444.50	ft	1	03/21/2022 14:01	R308977

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-045
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22
 Client Sample ID: XPW01
 Collection Date: 03/22/2022 13:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		9.82	ft	1	03/21/2022 12:44	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		11.2		1	03/22/2022 13:01	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		5.2	NTU	1	03/22/2022 13:01	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		ND	mV	1	03/22/2022 13:01	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1400	µS/cm	1	03/22/2022 13:01	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		15.8	°C	1	03/22/2022 13:01	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.44	mg/L	1	03/22/2022 13:01	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 10:29	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		99	mg/L	1	03/29/2022 10:29	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		542	mg/L	1	03/28/2022 17:34	R309037
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		184	mg/L	5	03/26/2022 0:28	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.33	mg/L	1	03/31/2022 13:59	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		83	mg/L	5	03/26/2022 0:28	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		42.0	mg/L	1	03/28/2022 23:42	189006
Magnesium	NELAP	0.0500		3.63	mg/L	1	03/28/2022 23:42	189006
Potassium	NELAP	1.00	B	38.2	mg/L	10	03/30/2022 8:16	189006
Sodium	NELAP	0.0500		154	mg/L	1	03/28/2022 23:42	189006
<i>Sample result(s) for K exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010	J	0.0009	mg/L	5	03/29/2022 19:17	189006
Arsenic	NELAP	0.0010		0.0063	mg/L	5	03/29/2022 19:17	189006
Barium	NELAP	0.0010		0.587	mg/L	5	03/29/2022 19:17	189006
Beryllium	NELAP	0.0010	J	0.0006	mg/L	5	03/31/2022 18:33	189006
Boron	NELAP	0.0250		2.13	mg/L	5	03/31/2022 18:33	189006
Cadmium	NELAP	0.0010	J	0.0002	mg/L	5	03/29/2022 19:17	189006
Chromium	NELAP	0.0015		0.0078	mg/L	5	03/31/2022 18:33	189006
Cobalt	NELAP	0.0010		0.0023	mg/L	5	03/31/2022 18:33	189006
Lead	NELAP	0.0010		0.0031	mg/L	5	03/29/2022 19:17	189006
Lithium	*	0.0030		0.0585	mg/L	5	03/31/2022 18:33	189006
Molybdenum	NELAP	0.0015		0.0799	mg/L	5	03/29/2022 19:17	189006
Selenium	NELAP	0.0010		0.0089	mg/L	5	03/29/2022 19:17	189006
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 19:17	189006



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-045
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: XPW01
Collection Date: 03/22/2022 13:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/28/2022 18:24	189039



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-046
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: XPW02
Collection Date: 03/23/2022 8:06

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		13.89	ft	1	03/21/2022 12:50	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		12.0		1	03/23/2022 8:06	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		6.9	NTU	1	03/23/2022 8:06	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		-143	mV	1	03/23/2022 8:06	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		5250	µS/cm	1	03/23/2022 8:06	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		15.4	°C	1	03/23/2022 8:06	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.30	mg/L	1	03/23/2022 8:06	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 10:36	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		171	mg/L	1	03/29/2022 10:36	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		1340	mg/L	1	03/29/2022 14:22	R309039
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		330	mg/L	10	04/01/2022 17:52	R309090
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		1.74	mg/L	1	03/31/2022 14:01	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		45	mg/L	5	03/26/2022 0:36	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		31.3	mg/L	1	03/28/2022 23:46	189006
Magnesium	NELAP	0.0500		0.0837	mg/L	1	03/28/2022 23:46	189006
Potassium	NELAP	1.00	B	55.0	mg/L	10	03/30/2022 8:20	189006
Sodium	NELAP	0.0500		454	mg/L	1	03/28/2022 23:46	189006
<i>Sample result(s) for K exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 19:23	189006
Arsenic	NELAP	0.0010		0.0045	mg/L	5	03/31/2022 18:39	189006
Barium	NELAP	0.0010		0.304	mg/L	5	03/29/2022 19:23	189006
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 18:39	189006
Boron	NELAP	0.0250		3.29	mg/L	5	03/31/2022 18:39	189006
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 18:39	189006
Chromium	NELAP	0.0015		0.0067	mg/L	5	03/31/2022 18:39	189006
Cobalt	NELAP	0.0010	J	0.0001	mg/L	5	03/31/2022 18:39	189006
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 19:23	189006
Lithium	*	0.0030		0.0042	mg/L	5	03/31/2022 18:39	189006
Molybdenum	NELAP	0.0015		0.463	mg/L	5	03/31/2022 18:39	189006
Selenium	NELAP	0.0010		0.162	mg/L	5	03/31/2022 18:39	189006
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 19:23	189006

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-046
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: XPW02
Collection Date: 03/23/2022 8:06

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/29/2022 17:38	189040

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-047
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22

Client Sample ID: XPW03

Collection Date: 03/23/2022 13:12

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		5.34	ft	1	03/21/2022 13:00	R308977
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		11.5		1	03/23/2022 13:12	R308977
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		10	NTU	1	03/23/2022 13:12	R308977
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		-187	mV	1	03/23/2022 13:12	R308977
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		2240	µS/cm	1	03/23/2022 13:12	R308977
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.3	°C	1	03/23/2022 13:12	R308977
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.40	mg/L	1	03/23/2022 13:12	R308977
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 10:48	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		56	mg/L	1	03/29/2022 10:48	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		652	mg/L	1	03/30/2022 8:49	R309043
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		227	mg/L	5	03/26/2022 0:57	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.16	mg/L	1	03/31/2022 14:02	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	5		69	mg/L	5	03/26/2022 0:57	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		100	mg/L	1	03/29/2022 0:15	189006
Magnesium	NELAP	0.0500		0.411	mg/L	1	03/29/2022 0:15	189006
Potassium	NELAP	1.00	B	25.8	mg/L	10	03/30/2022 8:24	189006
Sodium	NELAP	0.0500	S	123	mg/L	1	03/29/2022 0:15	189006
<i>Sample result(s) for K exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Matrix spike control limits for Na are not applicable due to high sample/spike ratio.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 19:30	189006
Arsenic	NELAP	0.0010		0.0017	mg/L	5	03/29/2022 19:30	189006
Barium	NELAP	0.0010		0.323	mg/L	5	03/29/2022 19:30	189006
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 20:00	189006
Boron	NELAP	0.0250		2.98	mg/L	5	03/31/2022 20:00	189006
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 19:30	189006
Chromium	NELAP	0.0015	J	0.0012	mg/L	5	03/31/2022 20:00	189006
Cobalt	NELAP	0.0010	J	0.0004	mg/L	5	03/31/2022 20:00	189006
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 19:30	189006
Lithium	*	0.0030		0.0607	mg/L	5	03/31/2022 20:00	189006
Molybdenum	NELAP	0.0015		0.0563	mg/L	5	03/29/2022 19:30	189006
Selenium	NELAP	0.0010		0.0062	mg/L	5	03/29/2022 19:30	189006

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030530-047
Matrix: GROUNDWATER

Work Order: 22030530
Report Date: 01-Jun-22
Client Sample ID: XPW03
Collection Date: 03/23/2022 13:12

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 19:30	189006
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/29/2022 17:40	189040

Client: Ramboll**Work Order:** 22030530**Client Project:** Hennepin Q1 Groundwater**Report Date:** 01-Jun-22**Lab ID:** 22030530-048**Client Sample ID:** XSG01**Matrix:** GROUNDWATER**Collection Date:** 03/21/2022 12:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		15.19	ft	1	03/21/2022 12:53	R308977

Client: Ramboll
 Client Project: Hennepin Q1 Groundwater
 Lab ID: 22030530-049
 Matrix: GROUNDWATER

Work Order: 22030530
 Report Date: 01-Jun-22
 Client Sample ID: Field Blank
 Collection Date: 03/23/2022 13:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		2	mg/L	1	03/29/2022 10:56	R308865
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	03/29/2022 10:56	R308865
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		< 20	mg/L	1	03/30/2022 8:49	R309043
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	03/26/2022 1:03	R308817
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		< 0.10	mg/L	1	03/31/2022 14:12	R308988
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		< 1	mg/L	1	03/26/2022 1:03	R308818
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		< 0.100	mg/L	1	03/28/2022 23:49	189006
Magnesium	NELAP	0.0500		< 0.0500	mg/L	1	03/28/2022 23:49	189006
Potassium	NELAP	0.10	BJ	0.050	mg/L	1	03/28/2022 23:49	189006
Sodium	NELAP	0.0500		< 0.0500	mg/L	1	03/28/2022 23:49	189006
<i>Contamination present in the MBLK for K. Sample results below the reporting limit are reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:26	189006
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:26	189006
Barium	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:26	189006
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 19:29	189006
Boron	NELAP	0.0250		< 0.0250	mg/L	5	03/31/2022 19:29	189006
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:26	189006
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	03/31/2022 19:29	189006
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	03/31/2022 19:29	189006
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:26	189006
Lithium	*	0.0030		< 0.0030	mg/L	5	03/31/2022 19:29	189006
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	03/29/2022 20:26	189006
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	03/29/2022 20:26	189006
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	03/29/2022 20:26	189006
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	03/29/2022 17:43	189040

Client: Ramboll**Work Order:** 22030530**Client Project:** Hennepin Q1 Groundwater**Report Date:** 01-Jun-22

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
22030530-007	07	Groundwater	7	03/22/2022 15:31
22030530-008	08	Groundwater	12	03/22/2022 14:24
22030530-009	08 Duplicate	Groundwater	12	03/22/2022 14:24
22030530-010	08D	Groundwater	12	03/22/2022 14:04
22030530-012	12	Groundwater	10	03/23/2022 8:50
22030530-013	13	Groundwater	10	03/23/2022 9:07
22030530-037	46	Groundwater	2	03/23/2022 9:25
22030530-038	47	Groundwater	2	03/23/2022 8:27
22030530-043	55	Groundwater	1	03/21/2022 13:02
22030530-044	SG02	Groundwater	1	03/21/2022 14:01
22030530-045	XPW01	Groundwater	2	03/22/2022 13:01
22030530-046	XPW02	Groundwater	2	03/23/2022 8:06
22030530-047	XPW03	Groundwater	2	03/23/2022 13:12
22030530-048	XSG01	Groundwater	1	03/21/2022 12:53
22030530-049	Field Blank	Groundwater	13	03/23/2022 13:30

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
22030530-007A	07	03/22/2022 15:31	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 14:20
	Standard Method 4500-H B 2001 Field				03/22/2022 15:31
	Standard Methods 2130 B Field				03/22/2022 15:31
	Standard Methods 18th Ed. 2580 B Field				03/22/2022 15:31
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 7:41
	Standard Methods 2320 B 1997, 2011				03/29/2022 7:41
	Standard Methods 2510 B Field				03/22/2022 15:31
	Standard Methods 2540 C (Total) 1997, 2011				03/28/2022 14:24
	Standard Methods 2550 B Field				03/22/2022 15:31
	Standard Methods 4500-NO2 B (Total) 2000, 2011				03/24/2022 12:49
	Standard Methods 4500-NO3 F (Total) 2000, 2011				03/24/2022 12:05
	Standard Methods 4500-O G Field				03/22/2022 15:31
	SW-846 9036 (Total)				03/25/2022 20:50
	SW-846 9214 (Total)				03/31/2022 11:10
	SW-846 9251 (Total)				03/25/2022 20:49
22030530-007B	07	03/22/2022 15:31	03/24/2022 7:50		
	SW-846 9036 (Dissolved)				03/25/2022 16:50
	SW-846 9214 (Dissolved)				03/31/2022 14:29
	SW-846 9251 (Dissolved)				03/25/2022 16:50
22030530-007C	07	03/22/2022 15:31	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 11:27	03/30/2022 9:24
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/29/2022 20:50
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/31/2022 14:56
	SW-846 7470A (Total)			03/24/2022 11:41	03/24/2022 18:14
22030530-007D	07	03/22/2022 15:31	03/24/2022 7:50		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	03/31/2022 22:04
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	04/01/2022 17:25
	SW-846 7470A (Dissolved)			03/27/2022 10:12	03/29/2022 17:29
22030530-007E	07	03/22/2022 15:31	03/24/2022 7:50		
	SW-846 9012A (Total)			03/25/2022 13:27	03/28/2022 13:58
22030530-007F	07	03/22/2022 15:31	03/24/2022 7:50		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				03/24/2022 13:52
22030530-007G	07	03/22/2022 15:31	03/24/2022 7:50		
	EPA 314.0				04/05/2022 0:00
22030530-008A	08	03/22/2022 14:24	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 12:38

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
	Standard Method 4500-H B 2001 Field				03/22/2022 14:24
	Standard Methods 2130 B Field				03/22/2022 14:24
	Standard Methods 2320 B 1997, 2011				03/29/2022 7:47
	Standard Methods 18th Ed. 2580 B Field				03/22/2022 14:24
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 7:47
	Standard Methods 2320 B 1997, 2011				03/29/2022 7:47
	Standard Methods 2510 B Field				03/22/2022 14:24
	Standard Methods 2540 C (Total) 1997, 2011				03/28/2022 14:24
	Standard Methods 2550 B Field				03/22/2022 14:24
	Standard Methods 4500-NO2 B (Total) 2000, 2011				03/24/2022 12:50
	Standard Methods 4500-NO3 F (Total) 2000, 2011				03/24/2022 12:07
	Standard Methods 4500-O G Field				03/22/2022 14:24
	SW-846 9036 (Total)				03/25/2022 20:52
	SW-846 9214 (Total)				03/31/2022 11:13
	SW-846 9251 (Total)				03/25/2022 20:52
22030530-008B	08	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9036 (Dissolved)				03/25/2022 16:55
	SW-846 9214 (Dissolved)				03/31/2022 14:40
	SW-846 9251 (Dissolved)				03/25/2022 16:55
22030530-008C	08	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 11:27	03/30/2022 9:28
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/29/2022 20:57
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/31/2022 15:02
	SW-846 7470A (Total)			03/27/2022 10:12	03/28/2022 16:12
22030530-008D	08	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			03/25/2022 13:22	03/29/2022 5:12
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	03/31/2022 21:33
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	04/01/2022 17:46
	SW-846 7470A (Dissolved)			03/27/2022 10:12	03/28/2022 16:15
22030530-008E	08	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9012A (Total)			03/25/2022 13:27	03/28/2022 14:02
22030530-008F	08	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9012A (Dissolved)			03/25/2022 13:27	03/28/2022 12:23
22030530-008G	08	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9066 (Total)				03/28/2022 12:26
22030530-008H	08	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9066 (Dissolved)				03/28/2022 11:17

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
22030530-008I	08	03/22/2022 14:24	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				03/25/2022 18:45
22030530-008J	08	03/22/2022 14:24	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Dissolved) 1997, 2011				03/25/2022 17:49
22030530-008K	08	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				03/24/2022 14:21
22030530-008L	08	03/22/2022 14:24	03/24/2022 7:50		
	EPA 314.0				04/05/2022 0:00
22030530-009A	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 12:38
	Standard Method 4500-H B 2001 Field				03/22/2022 14:24
	Standard Methods 2130 B Field				03/22/2022 14:24
	Standard Methods 2320 B 1997, 2011				03/29/2022 7:54
	Standard Methods 18th Ed. 2580 B Field				03/22/2022 14:24
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 7:54
	Standard Methods 2320 B 1997, 2011				03/29/2022 7:54
	Standard Methods 2510 B Field				03/22/2022 14:24
	Standard Methods 2540 C (Total) 1997, 2011				03/28/2022 14:25
	Standard Methods 2550 B Field				03/22/2022 14:24
	Standard Methods 4500-NO2 B (Total) 2000, 2011				03/24/2022 12:50
	Standard Methods 4500-NO3 F (Total) 2000, 2011				03/24/2022 12:09
	Standard Methods 4500-O G Field				03/22/2022 14:24
	SW-846 9036 (Total)				03/25/2022 20:58
	SW-846 9214 (Total)				03/31/2022 11:15
	SW-846 9251 (Total)				03/25/2022 20:57
22030530-009B	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9036 (Dissolved)				03/25/2022 16:58
	SW-846 9214 (Dissolved)				03/31/2022 14:42
	SW-846 9251 (Dissolved)				03/25/2022 16:58
22030530-009C	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 11:27	03/30/2022 9:32
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/29/2022 21:03
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/31/2022 15:08
	SW-846 7470A (Total)			03/27/2022 10:12	03/28/2022 16:21
22030530-009D	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			03/25/2022 13:22	03/29/2022 5:15
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	03/31/2022 21:39

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	04/01/2022 17:50
	SW-846 7470A (Dissolved)			03/27/2022 10:12	03/28/2022 16:24
22030530-009E	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9012A (Total)			03/25/2022 13:27	03/28/2022 14:06
22030530-009F	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9012A (Dissolved)			03/25/2022 13:27	03/28/2022 12:27
22030530-009G	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9066 (Total)				03/28/2022 12:30
22030530-009H	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 9066 (Dissolved)				03/28/2022 11:25
22030530-009I	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				03/25/2022 18:47
22030530-009J	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Dissolved) 1997, 2011				03/25/2022 17:52
22030530-009K	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				03/24/2022 14:51
22030530-009L	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	EPA 314.0				04/05/2022 0:00
22030530-010A	08D	03/22/2022 14:04	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 12:37
	Standard Method 4500-H B 2001 Field				03/22/2022 14:04
	Standard Methods 2130 B Field				03/22/2022 14:04
	Standard Methods 2320 B 1997, 2011				03/29/2022 8:00
	Standard Methods 18th Ed. 2580 B Field				03/22/2022 14:04
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 8:00
	Standard Methods 2320 B 1997, 2011				03/29/2022 8:00
	Standard Methods 2510 B Field				03/22/2022 14:04
	Standard Methods 2540 C (Total) 1997, 2011				03/28/2022 16:46
	Standard Methods 2550 B Field				03/22/2022 14:04
	Standard Methods 4500-NO2 B (Total) 2000, 2011				03/24/2022 12:51
	Standard Methods 4500-NO3 F (Total) 2000, 2011				03/24/2022 12:11
	Standard Methods 4500-O G Field				03/22/2022 14:04
	SW-846 9036 (Total)				03/25/2022 21:00
	SW-846 9214 (Total)				03/31/2022 11:18
	SW-846 9251 (Total)				03/25/2022 21:00
22030530-010B	08D	03/22/2022 14:04	03/24/2022 7:50		

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Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 9036 (Dissolved)				03/25/2022 17:00
	SW-846 9214 (Dissolved)				03/31/2022 14:44
	SW-846 9251 (Dissolved)				03/25/2022 17:00
22030530-010C	08D	03/22/2022 14:04	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 11:27	03/30/2022 9:35
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/29/2022 21:09
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/31/2022 15:14
	SW-846 7470A (Total)			03/27/2022 10:12	03/28/2022 16:26
22030530-010D	08D	03/22/2022 14:04	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			03/25/2022 13:22	03/29/2022 5:19
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	03/31/2022 21:46
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	04/01/2022 17:53
	SW-846 7470A (Dissolved)			03/27/2022 10:12	03/28/2022 16:28
22030530-010E	08D	03/22/2022 14:04	03/24/2022 7:50		
	SW-846 9012A (Total)			03/25/2022 13:27	03/28/2022 14:11
22030530-010F	08D	03/22/2022 14:04	03/24/2022 7:50		
	SW-846 9012A (Dissolved)			03/25/2022 13:27	03/28/2022 12:31
22030530-010G	08D	03/22/2022 14:04	03/24/2022 7:50		
	SW-846 9066 (Total)				03/28/2022 12:34
22030530-010H	08D	03/22/2022 14:04	03/24/2022 7:50		
	SW-846 9066 (Dissolved)				03/28/2022 11:30
22030530-010I	08D	03/22/2022 14:04	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				03/25/2022 19:03
22030530-010J	08D	03/22/2022 14:04	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Dissolved) 1997, 2011				03/25/2022 17:54
22030530-010K	08D	03/22/2022 14:04	03/24/2022 7:50		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				03/24/2022 15:20
22030530-010L	08D	03/22/2022 14:04	03/24/2022 7:50		
	EPA 314.0				04/05/2022 0:00
22030530-012A	12	03/23/2022 8:50	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 13:01
	Standard Method 4500-H B 2001 Field				03/23/2022 8:50
	Standard Methods 2130 B Field				03/23/2022 8:50
	Standard Methods 2320 B 1997, 2011				03/29/2022 8:12
	Standard Methods 18th Ed. 2580 B Field				03/23/2022 8:50
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 8:12

Client: Ramboll

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Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
	Standard Methods 2320 B 1997, 2011				03/29/2022 8:12
	Standard Methods 2510 B Field				03/23/2022 8:50
	Standard Methods 2540 C (Total) 1997, 2011				03/29/2022 14:18
	Standard Methods 2550 B Field				03/23/2022 8:50
	Standard Methods 4500-NO2 B (Total) 2000, 2011				03/24/2022 12:52
	Standard Methods 4500-NO3 F (Total) 2000, 2011				03/24/2022 12:53
	Standard Methods 4500-O G Field				03/23/2022 8:50
	SW-846 9036 (Total)				03/25/2022 21:08
	SW-846 9214 (Total)				03/31/2022 11:21
	SW-846 9251 (Total)				03/25/2022 21:08
22030530-012B	12	03/23/2022 8:50	03/24/2022 7:50		
	SW-846 9036 (Dissolved)				03/25/2022 17:27
	SW-846 9214 (Dissolved)				03/31/2022 14:48
	SW-846 9251 (Dissolved)				03/25/2022 17:27
22030530-012C	12	03/23/2022 8:50	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 11:27	03/30/2022 9:39
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/26/2022 12:23
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/29/2022 21:15
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/30/2022 20:43
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			04/27/2022 6:30	04/28/2022 18:04
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			04/27/2022 6:30	04/29/2022 9:12
	SW-846 7470A (Total)			04/26/2022 13:05	04/27/2022 10:17
22030530-012D	12	03/23/2022 8:50	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			03/25/2022 13:22	03/29/2022 5:27
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	03/31/2022 21:58
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	04/01/2022 18:00
	SW-846 7470A (Dissolved)			03/27/2022 10:12	03/28/2022 16:33
22030530-012E	12	03/23/2022 8:50	03/24/2022 7:50		
	SW-846 9012A (Total)			03/25/2022 13:27	03/28/2022 14:19
22030530-012F	12	03/23/2022 8:50	03/24/2022 7:50		
	SW-846 9012A (Dissolved)			03/25/2022 13:27	03/28/2022 12:44
22030530-012G	12	03/23/2022 8:50	03/24/2022 7:50		
	SW-846 9066 (Total)				03/28/2022 12:43
22030530-012H	12	03/23/2022 8:50	03/24/2022 7:50		
	SW-846 9066 (Dissolved)				03/28/2022 11:34
22030530-012I	12	03/23/2022 8:50	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				03/25/2022 19:08

Client: Ramboll

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Client Project: Hennepin Q1 Groundwater

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Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
22030530-012J	12	03/23/2022 8:50	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Dissolved) 1997, 2011				03/25/2022 18:20
22030530-013A	13	03/23/2022 9:07	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 13:02
	Standard Method 4500-H B 2001 Field				03/23/2022 9:07
	Standard Methods 2130 B Field				03/23/2022 9:07
	Standard Methods 2320 B 1997, 2011				03/29/2022 8:17
	Standard Methods 18th Ed. 2580 B Field				03/23/2022 9:07
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 8:17
	Standard Methods 2320 B 1997, 2011				03/29/2022 8:17
	Standard Methods 2510 B Field				03/23/2022 9:07
	Standard Methods 2540 C (Total) 1997, 2011				03/29/2022 14:18
	Standard Methods 2550 B Field				03/23/2022 9:07
	Standard Methods 4500-NO2 B (Total) 2000, 2011				03/24/2022 12:52
	Standard Methods 4500-NO3 F (Total) 2000, 2011				03/24/2022 12:55
	Standard Methods 4500-O G Field				03/23/2022 9:07
	SW-846 9036 (Total)				03/25/2022 21:32
	SW-846 9214 (Total)				03/31/2022 11:31
	SW-846 9251 (Total)				03/25/2022 21:32
22030530-013B	13	03/23/2022 9:07	03/24/2022 7:50		
	SW-846 9036 (Dissolved)				03/25/2022 17:35
	SW-846 9214 (Dissolved)				03/31/2022 14:53
	SW-846 9251 (Dissolved)				03/25/2022 17:35
22030530-013C	13	03/23/2022 9:07	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 11:27	03/30/2022 10:39
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/26/2022 12:30
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/29/2022 21:46
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	03/30/2022 20:46
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	04/12/2022 18:23
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 11:27	04/12/2022 19:54
	SW-846 3005A, 6020A, Metals by ICPMS (Total)				04/22/2022 1:51
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			04/18/2022 13:35	04/22/2022 19:54
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			04/27/2022 6:30	04/28/2022 14:45
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			04/27/2022 6:30	04/28/2022 18:09
	SW-846 7470A (Total)			03/27/2022 10:12	03/28/2022 16:35
22030530-013D	13	03/23/2022 9:07	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			03/25/2022 13:22	03/29/2022 5:30

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Client Project: Hennepin Q1 Groundwater

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Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	03/31/2022 22:48
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	04/01/2022 18:04
	SW-846 7470A (Dissolved)			03/27/2022 10:12	03/28/2022 16:42
22030530-013E	13	03/23/2022 9:07	03/24/2022 7:50		
	SW-846 9012A (Total)			03/25/2022 13:27	03/28/2022 14:24
22030530-013F	13	03/23/2022 9:07	03/24/2022 7:50		
	SW-846 9012A (Dissolved)			03/25/2022 13:27	03/28/2022 12:49
22030530-013G	13	03/23/2022 9:07	03/24/2022 7:50		
	SW-846 9066 (Total)				03/28/2022 12:48
22030530-013H	13	03/23/2022 9:07	03/24/2022 7:50		
	SW-846 9066 (Dissolved)				03/28/2022 11:38
22030530-013I	13	03/23/2022 9:07	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				03/30/2022 18:16
22030530-013J	13	03/23/2022 9:07	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Dissolved) 1997, 2011				03/25/2022 18:22
22030530-037A	46	03/23/2022 9:25	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 12:58
	Standard Method 4500-H B 2001 Field				03/23/2022 9:25
	Standard Methods 2130 B Field				03/23/2022 9:25
	Standard Methods 18th Ed. 2580 B Field				03/23/2022 9:25
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 9:53
	Standard Methods 2320 B 1997, 2011				03/29/2022 9:53
	Standard Methods 2510 B Field				03/23/2022 9:25
	Standard Methods 2540 C (Total) 1997, 2011				03/29/2022 14:21
	Standard Methods 2550 B Field				03/23/2022 9:25
	Standard Methods 4500-O G Field				03/23/2022 9:25
	SW-846 9036 (Total)				03/25/2022 23:37
	SW-846 9214 (Total)				03/31/2022 12:34
	SW-846 9251 (Total)				03/25/2022 23:37
22030530-037B	46	03/23/2022 9:25	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 15:30	03/29/2022 22:45
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 15:30	03/31/2022 12:31
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 15:30	03/30/2022 1:06
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 15:30	03/31/2022 18:02
	SW-846 7470A (Total)			03/27/2022 10:16	03/28/2022 18:10
22030530-038A	47	03/23/2022 8:27	03/24/2022 7:50		

Client: Ramboll

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Client Project: Hennepin Q1 Groundwater

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Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	Field Elevation Measurements				03/21/2022 13:04
	Standard Method 4500-H B 2001 Field				03/23/2022 8:27
	Standard Methods 2130 B Field				03/23/2022 8:27
	Standard Methods 18th Ed. 2580 B Field				03/23/2022 8:27
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 9:58
	Standard Methods 2320 B 1997, 2011				03/29/2022 9:58
	Standard Methods 2510 B Field				03/23/2022 8:27
	Standard Methods 2540 C (Total) 1997, 2011				03/29/2022 14:21
	Standard Methods 2550 B Field				03/23/2022 8:27
	Standard Methods 4500-O G Field				03/23/2022 8:27
	SW-846 9036 (Total)				03/25/2022 23:45
	SW-846 9214 (Total)				03/31/2022 13:48
	SW-846 9251 (Total)				03/25/2022 23:45
22030530-038B	47	03/23/2022 8:27	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 15:30	03/29/2022 23:15
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/24/2022 15:30	03/31/2022 12:35
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 15:30	03/30/2022 1:12
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/24/2022 15:30	03/31/2022 18:08
	SW-846 7470A (Total)			03/27/2022 10:16	03/28/2022 18:13
22030530-043A	55	03/21/2022 13:02	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 13:02
22030530-044A	SG02	03/21/2022 14:01	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 14:01
22030530-045A	XPW01	03/22/2022 13:01	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 12:44
	Standard Method 4500-H B 2001 Field				03/22/2022 13:01
	Standard Methods 2130 B Field				03/22/2022 13:01
	Standard Methods 18th Ed. 2580 B Field				03/22/2022 13:01
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 10:29
	Standard Methods 2320 B 1997, 2011				03/29/2022 10:29
	Standard Methods 2510 B Field				03/22/2022 13:01
	Standard Methods 2540 C (Total) 1997, 2011				03/28/2022 17:34
	Standard Methods 2550 B Field				03/22/2022 13:01
	Standard Methods 4500-O G Field				03/22/2022 13:01
	SW-846 9036 (Total)				03/26/2022 0:28
	SW-846 9214 (Total)				03/31/2022 13:59
	SW-846 9251 (Total)				03/26/2022 0:28

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
22030530-045B	XPW01	03/22/2022 13:01	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/25/2022 11:06	03/28/2022 23:42
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/25/2022 11:06	03/30/2022 8:16
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/25/2022 11:06	03/29/2022 19:17
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/25/2022 11:06	03/31/2022 18:33
	SW-846 7470A (Total)			03/27/2022 10:17	03/28/2022 18:24
22030530-046A	XPW02	03/23/2022 8:06	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 12:50
	Standard Method 4500-H B 2001 Field				03/23/2022 8:06
	Standard Methods 2130 B Field				03/23/2022 8:06
	Standard Methods 18th Ed. 2580 B Field				03/23/2022 8:06
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 10:36
	Standard Methods 2320 B 1997, 2011				03/29/2022 10:36
	Standard Methods 2510 B Field				03/23/2022 8:06
	Standard Methods 2540 C (Total) 1997, 2011				03/29/2022 14:22
	Standard Methods 2550 B Field				03/23/2022 8:06
	Standard Methods 4500-O G Field				03/23/2022 8:06
	SW-846 9036 (Total)				04/01/2022 17:52
	SW-846 9214 (Total)				03/31/2022 14:01
	SW-846 9251 (Total)				03/26/2022 0:36
22030530-046B	XPW02	03/23/2022 8:06	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/25/2022 11:06	03/28/2022 23:46
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/25/2022 11:06	03/30/2022 8:20
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/25/2022 11:06	03/29/2022 19:23
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/25/2022 11:06	03/31/2022 18:39
	SW-846 7470A (Total)			03/27/2022 10:20	03/29/2022 17:38
22030530-047A	XPW03	03/23/2022 13:12	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 13:00
	Standard Method 4500-H B 2001 Field				03/23/2022 13:12
	Standard Methods 2130 B Field				03/23/2022 13:12
	Standard Methods 18th Ed. 2580 B Field				03/23/2022 13:12
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 10:48
	Standard Methods 2320 B 1997, 2011				03/29/2022 10:48
	Standard Methods 2510 B Field				03/23/2022 13:12
	Standard Methods 2540 C (Total) 1997, 2011				03/30/2022 8:49
	Standard Methods 2550 B Field				03/23/2022 13:12
	Standard Methods 4500-O G Field				03/23/2022 13:12

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
	SW-846 9036 (Total)				03/26/2022 0:57
	SW-846 9214 (Total)				03/31/2022 14:02
	SW-846 9251 (Total)				03/26/2022 0:57
22030530-047B	XPW03	03/23/2022 13:12	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/25/2022 11:06	03/29/2022 0:15
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/25/2022 11:06	03/30/2022 8:24
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/25/2022 11:06	03/29/2022 19:30
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/25/2022 11:06	03/31/2022 20:00
	SW-846 7470A (Total)			03/27/2022 10:20	03/29/2022 17:40
22030530-048A	XSG01	03/21/2022 12:53	03/24/2022 7:50		
	Field Elevation Measurements				03/21/2022 12:53
22030530-049A	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	Standard Methods 2320 B 1997, 2011				03/29/2022 10:56
	Standard Methods 2320 B (Total) 1997, 2011				03/29/2022 10:56
	Standard Methods 2320 B 1997, 2011				03/29/2022 10:56
	Standard Methods 2540 C (Total) 1997, 2011				03/30/2022 8:49
	Standard Methods 4500-NO2 B (Total) 2000, 2011				03/24/2022 12:58
	Standard Methods 4500-NO3 F (Total) 2000, 2011				03/24/2022 13:45
	SW-846 9036 (Total)				03/26/2022 1:03
	SW-846 9214 (Total)				03/31/2022 14:12
	SW-846 9251 (Total)				03/26/2022 1:03
22030530-049B	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 9214 (Dissolved)				03/31/2022 15:22
	SW-846 9251 (Dissolved)				03/25/2022 20:07
22030530-049C	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Total)			03/25/2022 11:06	03/28/2022 23:49
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/25/2022 11:06	03/29/2022 20:26
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			03/25/2022 11:06	03/31/2022 19:29
	SW-846 7470A (Total)			03/27/2022 10:20	03/29/2022 17:43
22030530-049D	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			03/25/2022 13:22	03/28/2022 21:47
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			03/25/2022 13:22	04/01/2022 14:14
	SW-846 7470A (Dissolved)			03/27/2022 10:20	03/29/2022 17:45
22030530-049E	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 9012A (Total)			03/25/2022 13:27	03/28/2022 15:16
22030530-049F	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 9012A (Dissolved)			03/25/2022 13:27	03/28/2022 12:57

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
22030530-049G	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 9066 (Total)				03/28/2022 12:55
22030530-049H	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 9066 (Dissolved)				03/28/2022 11:52
22030530-049I	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				03/25/2022 19:25
22030530-049J	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	Standard Methods 4500-NH3 G (Dissolved) 1997, 2011				03/25/2022 18:27
22030530-049K	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				03/24/2022 12:53
22030530-049L	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	EPA 314.0				04/05/2022 0:00
22030530-049M	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	SW-846 9036 (Dissolved)				04/06/2022 13:18

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

STANDARD METHOD 4500-H B 2001 FIELD

Batch R308977		SampType: LCS		Units							
SampID: LCS-R308977											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
pH	*	1.00		7.06	7.000	0	100.9	98.57	101.4	03/22/2022	
pH	*	1.00		7.05	7.000	0	100.7	98.57	101.4	03/23/2022	

STANDARD METHODS 2510 B FIELD

Batch R308977		SampType: LCS		Units $\mu\text{S/cm}$							
SampID: LCS-R308977											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Spec. Conductance, Field	*	0		1460	1409	0	103.3	90	110	03/23/2022	
Spec. Conductance, Field	*	0		1510	1409	0	107.4	90	110	03/22/2022	

STANDARD METHODS 2320 B 1997, 2011

Batch R308865		SampType: MBLK		Units mg/L							
SampID: MBLK											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Alkalinity, Total (as CaCO3)			0		0						03/29/2022

Batch R308865		SampType: LCS		Units mg/L							
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Alkalinity, Total (as CaCO3)		0		235	236.0	0	99.6	90	110	03/29/2022	

Batch R308865		SampType: DUP		Units mg/L				RPD Limit: 10				Date Analyzed
SampID: 22030530-013ADUP												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Alkalinity, Total (as CaCO3)			0		239				232.0	2.97		

Batch R308865		SampType: DUP		Units mg/L				RPD Limit: 10				Date Analyzed
SampID: 22030530-049ADUP												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Alkalinity, Total (as CaCO3)			0		2				2.000	0.00		
03/29/2022												



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R309037 SampType: MBLK Units mg/L

SampleID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20	J	16	16.00	0	100.0	-100	100	03/28/2022
Total Dissolved Solids		20	J	16	16.00	0	100.0	-100	100	03/28/2022

Batch R309037 SampType: LCS Units mg/L

SampleID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		944	1000	0	94.4	90	110	03/28/2022
Total Dissolved Solids		20		980	1000	0	98.0	90	110	03/28/2022

Batch R309037 SampType: DUP Units mg/L

SampleID: 22030530-011ADUP

RPD Limit: 5

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		438				456.0	4.03	03/28/2022

Batch R309037 SampType: DUP Units mg/L

SampleID: 22030530-030ADUP

RPD Limit: 5

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		514				514.0	0.00	03/28/2022

Batch R309039 SampType: MBLK Units mg/L

SampleID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	03/29/2022

Batch R309039 SampType: LCS Units mg/L

SampleID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		944	1000	0	94.4	90	110	03/29/2022

Batch R309039 SampType: DUP Units mg/L

SampleID: 22030530-003ADUP

RPD Limit: 5

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		468				470.0	0.43	03/29/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R309043 SampType: MBLK Units mg/L

SampleID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	03/30/2022
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	03/30/2022

Batch R309043 SampType: LCS Units mg/L

SampleID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		956	1000	0	95.6	90	110	03/30/2022
Total Dissolved Solids		20		940	1000	0	94.0	90	110	03/30/2022

Batch R309043 SampType: DUP Units mg/L

SampleID: 22030530-002ADUP

RPD Limit: 5

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		518				522.0	0.77	03/30/2022

STANDARD METHODS 4500-NH3 G (DISSOLVED) 1997, 2011

Batch R308756 SampType: MS Units mg/L

SampleID: 22030530-004JMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		1.83	2.000	0.03000	90.0	90	110	03/25/2022

Batch R308756 SampType: MSD Units mg/L

SampleID: 22030530-004JMSD

RPD Limit: 10

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		1.83	2.000	0.03000	90.2	1.830	0.16	03/25/2022

Batch R308756 SampType: MS Units mg/L

SampleID: 22030530-011IMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10	S	1.75	2.000	0	87.6	90	110	03/25/2022

Batch R308756 SampType: MSD Units mg/L

SampleID: 22030530-011IMS

RPD Limit: 10

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Ammonia (as N)		0.10	S	1.78	2.000	0	88.8	1.752	1.36	03/25/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

STANDARD METHODS 4500-NH3 G (TOTAL) 1997, 2011

Batch R308756 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		< 0.10	0.0270	0	0	-100	100	03/25/2022

Batch R308756 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		1.01	1.000	0	101.3	90	110	03/25/2022

Batch R308856 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		< 0.10	0.0270	0	0	-100	100	03/29/2022

Batch R308856 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		1.07	1.000	0	107.4	90	110	03/29/2022

Batch R308922 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		< 0.10	0.0270	0	0	-100	100	03/30/2022

Batch R308922 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		1.03	1.000	0	102.5	90	110	03/30/2022

Batch R308922 SampType: MS Units mg/L

SampID: 22030530-005IMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10	S	1.75	2.000	0	87.5	90	110	03/30/2022

Batch R308922 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 22030530-005IMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Ammonia (as N)		0.10	S	1.61	2.000	0	80.4	1.750	8.52	03/30/2022

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

STANDARD METHODS 4500-NH3 G (TOTAL) 1997, 2011

Batch R308922		SampType: MS		Units mg/L							
SampID: 22030530-013IMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Ammonia (as N)		0.10	S	1.75	2.000	0	87.4	90	110	03/30/2022	

Batch R308922		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 22030530-013IMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Ammonia (as N)			0.10	S	1.74	2.000	0	87.2	1.747	0.23	03/30/2022

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R308687		SampType: MBLK		Units mg/L							
SampID: MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrite (as N)		0.05		< 0.05	0.0250	0	0	-100	100	03/24/2022	
Nitrogen, Nitrite (as N)		0.05		< 0.05	0.0250	0	0	-100	100	03/24/2022	

Batch R308687		SampType: LCS		Units mg/L							
SampID: LCS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrite (as N)		0.25		1.47	1.460	0	100.7	90	110	03/24/2022	
Nitrogen, Nitrite (as N)		0.25		1.48	1.460	0	101.4	90	110	03/24/2022	

Batch R308687		SampType: MS		Units mg/L							
SampID: 22030530-003AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrite (as N)		0.05		0.50	0.5000	0	99.8	85	115	03/24/2022	

Batch R308687		SampType: MSD		Units mg/L				RPD Limit: 10				
SampID: 22030530-003AMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Nitrogen, Nitrite (as N)			0.05		0.50	0.5000	0	0.05	99.4	0.4990	0.40	03/24/2022

Batch R308687		SampType: MS		Units mg/L							
SampID: 22030530-006AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrite (as N)		0.05		0.49	0.5000	0	97.6	85	115	03/24/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R308687		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed
SampID: 22030530-006AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Nitrogen, Nitrite (as N)		0.05		0.49	0.5000	0	98.0	0.4880	0.41	03/24/2022	

Batch R308687		SampType: MS		Units mg/L							
SampID: 22030530-017AMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrite (as N)		0.05		0.49	0.5000	0	98.4	85	115	03/24/2022	

Batch R308687		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed	
SampID: 22030530-017AMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Nitrogen, Nitrite (as N)			0.05		0.49	0.5000	0	0.05	98.0	0.4920	0.41	03/24/2022

STANDARD METHODS 4500-NO3 F (TOTAL) 2000, 2011

Batch R308736		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrate-Nitrite (as N)		0.050		< 0.050	0.0090	0	0	-100	100	03/24/2022	

Batch R308736		SampType: LCS		Units mg/L							
SampID: ICB/LCS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrate-Nitrite (as N)			0.050		0.499	0.5000	0	99.8	90	110	03/24/2022

Batch R308736		SampType: MS		Units mg/L							
SampID: 22030530-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrate-Nitrite (as N)		1.00		14.9	5.000	10.38	91.2	85	115	03/24/2022	

Batch R308736		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 22030530-001AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)			1.00		14.9	5.000	10.38	90.9	14.94	0.10	03/24/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

STANDARD METHODS 4500-NO3 F (TOTAL) 2000, 2011

Batch R308736 SampType: MS Units mg/L

SampID: 22030530-011AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		1.00		8.52	5.000	3.614	98.2	85	115	03/24/2022

Batch R308736 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 22030530-011AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		1.00		8.40	5.000	3.614	95.6	8.522	1.50	03/24/2022

Batch R308736 SampType: MS Units mg/L

SampID: 22030530-036AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.500		5.46	2.500	2.986	98.8	85	115	03/24/2022

Batch R308736 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 22030530-036AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.500		5.44	2.500	2.986	98.4	5.455	0.18	03/24/2022

Batch R308811 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		< 0.050	0.0090	0	0	-100	100	03/25/2022

Batch R308811 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		0.504	0.5000	0	100.8	90	110	03/25/2022

SW-846 9012A (DISSOLVED)

Batch 189001 SampType: MS Units mg/L

SampID: 22030530-005FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.028	0.0250	0	110.8	75	125	03/28/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9012A (DISSOLVED)

Batch 189001		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed
SampID: 22030530-005FMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Cyanide		0.005		0.027	0.0250	0	109.8	0.02769	0.87	03/28/2022	

SW-846 9012A (TOTAL)

Batch 189001		SampType: MBLK		Units mg/L							
SampID: MBLK 220325 TCN1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cyanide		0.005		< 0.005	0.0015	0	0	-100	100	03/28/2022	

Batch 189001		SampType: LCS		Units mg/L							
SampID: LCS 220325 TCN1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cyanide		0.005		0.027	0.0250	0	109.0	85	115	03/28/2022	

Batch 189001		SampType: MS		Units mg/L							
SampID: 22030530-004EMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Cyanide		0.005		0.033	0.0250	0.005585	109.5	75	125	03/28/2022	

Batch 189001		SampType: MSD		Units mg/L				RPD Limit: 15				Date Analyzed
SampID: 22030530-004EMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Cyanide			0.005		0.032	0.0250	0.005585	107.3	0.03296	1.68	03/28/2022	

Batch 189002		SampType: MBLK		Units mg/L							
SampID: MBLK 220325 TCN2											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cyanide		0.005		< 0.005	0.0015	0	0	-100	100	03/28/2022	

Batch 189002		SampType: LCS		Units mg/L							
SampID: LCS 220325 TCN2											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cyanide		0.005		0.028	0.0250	0	110.8	85	115	03/28/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9012A (TOTAL)

Batch 189002 SampType: MS Units mg/L

SampleID: 22030530-017EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.032	0.0250	0.005700	106.5	75	125	03/28/2022

Batch 189002 SampType: MSD Units mg/L

RPD Limit: 15

SampleID: 22030530-017EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cyanide		0.005		0.033	0.0250	0.005700	107.2	0.03232	0.59	03/28/2022

Batch 189002 SampType: MS Units mg/L

SampleID: 22030530-035EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.028	0.0250	0	111.0	75	125	03/28/2022

Batch 189002 SampType: MSD Units mg/L

RPD Limit: 15

SampleID: 22030530-035EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cyanide		0.005		0.028	0.0250	0	113.1	0.02776	1.87	03/28/2022

SW-846 9036 (DISSOLVED)

Batch R308817 SampType: MS Units mg/L

SampleID: 22030530-015BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		20		96	40.00	60.51	89.3	85	115	03/25/2022

Batch R308817 SampType: MSD Units mg/L

RPD Limit: 10

SampleID: 22030530-015BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		20		95	40.00	60.51	86.4	96.24	1.21	03/25/2022

Batch R308817 SampType: MS Units mg/L

SampleID: 22030530-036BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		50		161	100.0	73.18	88.2	85	115	03/25/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9036 (DISSOLVED)

Batch R308817		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 22030530-036BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate			50		170	100.0	73.18	96.7	161.4	5.16	03/25/2022

Batch R309090		SampType: MS		Units mg/L							
SampID: 22030530-001BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		50		146	100.0	53.39	93.1	85	115	04/01/2022	

Batch R309090		SampType: MSD		Units mg/L				RPD Limit: 10				Date Analyzed
SampID: 22030530-001BMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Sulfate			50		158	100.0	53.39	104.6	146.4	7.61	04/01/2022	

Batch R309090		SampType: MS		Units mg/L							
SampID: 22030530-020BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		50		240	100.0	144.3	95.2	85	115	04/01/2022	

Batch R309090		SampType: MSD		Units mg/L				RPD Limit: 10				Date Analyzed
SampID: 22030530-020BMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Sulfate			50		247	100.0	144.3	103.0	239.5	3.21	04/01/2022	

SW-846 9036 (TOTAL)

Batch R308817		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		< 10	6.140	0	0	-100	100	03/25/2022	

Batch R308817		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		19	20.00	0	96.8	90	110	03/25/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9036 (TOTAL)

Batch R308817		SampType: MS		Units mg/L							
SampID: 22030530-002AMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate		50		178	100.0	90.46	87.3	85	115	03/25/2022	

Batch R308817		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 22030530-002AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate			50		181	100.0	90.46	90.8	177.7	1.99	03/25/2022

Batch R308817		SampType: MS		Units mg/L							
SampID: 22030530-015AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		20		95	40.00	61.36	85.1	85	115	03/25/2022	

Batch R308817		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 22030530-015AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate			20		96	40.00	61.36	87.4	95.40	0.98	03/25/2022

Batch R308817		SampType: MS		Units mg/L							
SampID: 22030530-036AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		50		163	100.0	69.60	93.2	85	115	03/25/2022	

Batch R308817		SampType: MSD		Units mg/L				RPD Limit: 10			
SampID: 22030530-036AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate			50		166	100.0	69.60	96.5	162.8	2.06	03/25/2022

Batch R309090		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		< 10	6.140	0	0	-100	100	04/01/2022	

Batch R309090		SampType: MBLK		Units mg/L							
SampID: MBLK 220327											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate	*	10		< 10	7.620	0	0	-100	100	04/01/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9036 (TOTAL)

Batch R309090		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		20	20.00	0	99.6	90	110	04/01/2022	

Batch R309284		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		< 10	6.140	0	0	-100	100	04/06/2022	

Batch R309284		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		19	20.00	0	95.3	90	110	04/06/2022	

SW-846 9066 (DISSOLVED)

Batch R308861		SampType: MS		Units mg/L						
SampID: 22030530-011GMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phenols		0.005		0.062	0.0500	0.01284	98.5	85	115	03/28/2022

Batch R308861		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-011GMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Phenols			0.005		0.067	0.0500	0.01284	108.5	0.06207	7.76	03/28/2022

SW-846 9066 (TOTAL)

Batch R308861		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Phenols		0.005		< 0.005	0.0028	0	0	-100	100	03/28/2022	

Batch R308861		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Phenols		0.005		0.050	0.0500	0	100.4	90	110	03/28/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9066 (TOTAL)

Batch R308861		SampType: MS		Units mg/L							
SampID: 22030530-011FMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Phenols		0.005		0.055	0.0500	0.01118	87.0	85	115	03/28/2022	

Batch R308861		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed	
SampID: 22030530-011FMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Phenols			0.005		0.059	0.0500	0.01118	96.6	0.05468	8.43		

SW-846 9214 (DISSOLVED)

Batch R308988		SampType: MS		Units mg/L							
SampID: 22030530-007BMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		2.15	2.000	0.1210	101.4	75	125	03/31/2022	

Batch R308988		SampType: MSD		Units mg/L		RPD Limit: 15					Date Analyzed	
SampID: 22030530-007BMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Fluoride			0.10		2.25	2.000	0.1210	106.2	2.149	4.41		

Batch R308988		SampType: MS		Units mg/L							
SampID: 22030530-015BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.39	2.000	0.2480	106.9	75	125	03/31/2022	

Batch R308988		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-015BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.38	2.000	0.2480	106.5	2.386	0.34	03/31/2022

Batch R308988		SampType: MS		Units mg/L							
SampID: 22030530-049BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.12	2.000	0	106.2	75	125	03/31/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9214 (DISSOLVED)

Batch R308988		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-049BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.11	2.000	0	105.4	2.125	0.76	03/31/2022

SW-846 9214 (TOTAL)

Batch R308988		SampType: MBLK		Units mg/L							
SampID: MBLK											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		< 0.10	0.0370	0	0	-100	100	03/31/2022	

Batch R308988		SampType: LCS		Units mg/L							
SampID: LCS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		0.99	1.000	0	99.0	90	110	03/31/2022	

Batch R308988		SampType: MS		Units mg/L							
SampID: 22030530-012AMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		2.33	2.000	0.2240	105.4	75	125	03/31/2022	

Batch R308988		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-012AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.38	2.000	0.2240	107.6	2.333	1.83	03/31/2022

Batch R308988		SampType: MS		Units mg/L							
SampID: 22030530-023AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.12	2.000	0.1230	99.8	75	125	03/31/2022	

Batch R308988		SampType: MSD		Units mg/L				RPD Limit: 15				Date Analyzed
SampID: 22030530-023AMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Fluoride			0.10		2.09	2.000	0.1230	98.5	2.119	1.23		



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9214 (TOTAL)

Batch R308988		SampType: MS		Units mg/L							
SampID: 22030530-037AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.26	2.000	0.2260	101.7	75	125	03/31/2022	

Batch R308988		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-037AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.25	2.000	0.2260	101.4	2.259	0.27	03/31/2022

Batch R308988		SampType: MS		Units mg/L							
SampID: 22030530-047AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.09	2.000	0.1620	96.2	75	125	03/31/2022	

Batch R308988		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-047AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.09	2.000	0.1620	96.6	2.087	0.29	03/31/2022

SW-846 9251 (DISSOLVED)

Batch R308818		SampType: MS		Units mg/L							
SampID: 22030530-001BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		2		69	40.00	31.97	92.7	85	115	03/25/2022	

Batch R308818		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-001BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride			2		68	40.00	31.97	91.0	69.05	0.99	03/25/2022

Batch R308818		SampType: MS		Units mg/L							
SampID: 22030530-015BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		2	E	113	40.00	75.41	93.8	85	115	03/25/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9251 (DISSOLVED)

Batch R308818		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed
SampID: 22030530-015BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Chloride			2	E	112	40.00	75.41	92.0	112.9	0.66	03/25/2022

Batch R308818		SampType: MS		Units mg/L							
SampID: 22030530-020BMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Chloride		2		100	40.00	63.24	90.8	85	115	03/25/2022	

Batch R308818		SampType: MSD		Units mg/L				RPD Limit: 15				Date Analyzed
SampID: 22030530-020BMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Chloride			2		99	40.00	63.24	89.0	99.55	0.71	03/25/2022	

Batch R308818		SampType: MS		Units mg/L							
SampID: 22030530-036BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		5		186	100.0	94.24	92.1	85	115	03/25/2022	

Batch R308818		SampType: MSD		Units mg/L				RPD Limit: 15				Date Analyzed
SampID: 22030530-036BMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Chloride			5		185	100.0	94.24	90.4	186.3	0.91	03/25/2022	

SW-846 9251 (TOTAL)

Batch R308818		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		1		< 1	0.5000	0	0	-100	100	03/25/2022	

Batch R308818		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		1		20	20.00	0	101.4	90	110	03/25/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9251 (TOTAL)

Batch R308818 SampType: MS Units mg/L

SampID: 22030530-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		5		175	100.0	81.04	93.5	85	115	03/25/2022

Batch R308818 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 22030530-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		5		178	100.0	81.04	96.5	174.6	1.69	03/25/2022

Batch R308818 SampType: MS Units mg/L

SampID: 22030530-015AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		2	E	111	40.00	75.11	89.8	85	115	03/25/2022

Batch R308818 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 22030530-015AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		2	E	114	40.00	75.11	96.0	111.0	2.19	03/25/2022

Batch R308818 SampType: MS Units mg/L

SampID: 22030530-036AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		5		189	100.0	93.43	95.8	85	115	03/25/2022

Batch R308818 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 22030530-036AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		5		191	100.0	93.43	97.8	189.2	1.05	03/25/2022

Batch R309091 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		< 1	0.5000	0	0	-100	100	04/01/2022

Batch R309091 SampType: LCS Units mg/L

SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		21	20.00	0	104.2	90	110	04/01/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 9251 (TOTAL)

Batch R309285		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		1		< 1	0.5000	0	0	-100	100	04/06/2022	

Batch R309285		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		1		19	20.00	0	97.3	90	110	04/06/2022	

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 189014		SampType: MBLK		Units mg/L							
SampID: MBLK-189014											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	03/29/2022	
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	03/29/2022	

Batch 189014		SampType: LCS		Units mg/L						
SampID: LCS-189014										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.35	2.500	0	94.0	85	115	03/29/2022
Magnesium		0.0500		2.41	2.500	0	96.5	85	115	03/29/2022

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)
Batch 189015 **SampType:** MBLK **Units** mg/L

SampleID: MBLK-189015

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Aluminum		0.0250		< 0.0250	0.0127	0	0	-100	100	03/28/2022
Antimony		0.0500		< 0.0500	0.0068	0	0	-100	100	03/29/2022
Arsenic		0.0250		< 0.0250	0.0087	0	0	-100	100	03/29/2022
Arsenic		0.0250		< 0.0250	0.0087	0	0	-100	100	03/28/2022
Barium		0.0025		< 0.0025	0.0007	0	0	-100	100	03/28/2022
Barium		0.0025		< 0.0025	0.0007	0	0	-100	100	03/29/2022
Beryllium		0.0005		< 0.0005	0.0002	0	0	-100	100	03/28/2022
Beryllium		0.0005		< 0.0005	0.0002	0	0	-100	100	03/29/2022
Cadmium		0.0020		< 0.0020	0.0005	0	0	-100	100	03/28/2022
Cadmium		0.0020		< 0.0020	0.0005	0	0	-100	100	03/29/2022
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	03/28/2022
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	03/29/2022
Chromium		0.0050		< 0.0050	0.0028	0	0	-100	100	03/29/2022
Chromium		0.0050		< 0.0050	0.0028	0	0	-100	100	03/28/2022
Cobalt		0.0050		< 0.0050	0.0020	0	0	-100	100	03/29/2022
Cobalt		0.0050		< 0.0050	0.0020	0	0	-100	100	03/28/2022
Copper		0.0050		< 0.0050	0.0013	0	0	-100	100	03/28/2022
Lead		0.0150		< 0.0150	0.0014	0	0	-100	100	03/29/2022
Lead		0.0150		< 0.0150	0.0014	0	0	-100	100	03/28/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	03/29/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	03/28/2022
Molybdenum		0.0100		< 0.0100	0.0037	0	0	-100	100	03/29/2022
Molybdenum		0.0100		< 0.0100	0.0037	0	0	-100	100	03/28/2022
Nickel		0.0050		< 0.0050	0.0016	0	0	-100	100	03/28/2022
Selenium		0.0400		< 0.0400	0.0170	0	0	-100	100	03/29/2022
Selenium		0.0400		< 0.0400	0.0170	0	0	-100	100	03/28/2022
Silver		0.0070		< 0.0070	0.0027	0	0	-100	100	03/28/2022
Thallium		0.0500		< 0.0500	0.0111	0	0	-100	100	03/29/2022
Thallium		0.0500		< 0.0500	0.0111	0	0	-100	100	03/28/2022
Vanadium		0.0100		< 0.0100	0.0009	0	0	-100	100	03/28/2022
Zinc		0.0100		< 0.0100	0.0050	0	0	-100	100	03/28/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 189015 SampType: LCS Units mg/L

SampleID: LCS-189015

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Aluminum		0.0250		1.84	2.000	0	91.8	85	115	03/28/2022
Antimony		0.0500		0.457	0.5000	0	91.4	85	115	03/29/2022
Arsenic		0.0250		0.478	0.5000	0	95.7	85	115	03/28/2022
Arsenic		0.0250		0.485	0.5000	0	97.1	85	115	03/29/2022
Barium		0.0025		1.89	2.000	0	94.5	85	115	03/28/2022
Barium		0.0025		1.90	2.000	0	94.8	85	115	03/29/2022
Beryllium		0.0005		0.0471	0.0500	0	94.2	85	115	03/29/2022
Beryllium		0.0005		0.0466	0.0500	0	93.2	85	115	03/28/2022
Cadmium		0.0020		0.0458	0.0500	0	91.6	85	115	03/28/2022
Cadmium		0.0020		0.0466	0.0500	0	93.2	85	115	03/29/2022
Calcium		0.100		2.37	2.500	0	94.7	85	115	03/28/2022
Calcium		0.100		2.39	2.500	0	95.5	85	115	03/29/2022
Chromium		0.0050		0.183	0.2000	0	91.5	85	115	03/28/2022
Chromium		0.0050		0.186	0.2000	0	93.0	85	115	03/29/2022
Cobalt		0.0050		0.469	0.5000	0	93.8	85	115	03/28/2022
Cobalt		0.0050		0.480	0.5000	0	95.9	85	115	03/29/2022
Copper		0.0050		0.240	0.2500	0	96.0	85	115	03/28/2022
Lead		0.0150		0.457	0.5000	0	91.4	85	115	03/28/2022
Lead		0.0150		0.462	0.5000	0	92.4	85	115	03/29/2022
Magnesium		0.0500		2.42	2.500	0	96.9	85	115	03/28/2022
Magnesium		0.0500		2.46	2.500	0	98.4	85	115	03/29/2022
Molybdenum		0.0100		0.464	0.5000	0	92.8	85	115	03/28/2022
Molybdenum		0.0100		0.465	0.5000	0	93.0	85	115	03/29/2022
Nickel		0.0050		0.463	0.5000	0	92.6	85	115	03/28/2022
Selenium		0.0400		0.472	0.5000	0	94.4	85	115	03/29/2022
Selenium		0.0400		0.458	0.5000	0	91.7	85	115	03/28/2022
Silver		0.0070		0.0471	0.0500	0	94.2	85	115	03/28/2022
Thallium		0.0500		0.238	0.2500	0	95.1	85	115	03/28/2022
Thallium		0.0500		0.242	0.2500	0	96.7	85	115	03/29/2022
Vanadium		0.0100		0.464	0.5000	0	92.9	85	115	03/28/2022
Zinc		0.0100		0.458	0.5000	0	91.6	85	115	03/28/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 190778 SampType: MBLK Units mg/L

SampleID: MBLK-190778

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	04/19/2022
Iron		0.0400		< 0.0400	0.0200	0	0	-100	100	04/19/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	04/19/2022
Manganese		0.0070		< 0.0070	0.0025	0	0	-100	100	04/19/2022

Batch 190778 SampType: LCS Units mg/L

SampleID: LCS-190778

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.35	2.500	0	93.9	85	115	04/19/2022
Iron		0.0400		1.78	2.000	0	89.2	85	115	04/19/2022
Magnesium		0.0500		2.41	2.500	0	96.4	85	115	04/19/2022
Manganese		0.0070		0.454	0.5000	0	90.9	85	115	04/19/2022

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 188963 SampType: MBLK Units mg/L

SampleID: MBLK-188963

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	03/30/2022
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	03/25/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	03/25/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	03/30/2022
Potassium		0.100		< 0.100	0.0400	0	0	-100	100	03/30/2022
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	03/30/2022
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	03/25/2022

Batch 188963 SampType: LCS Units mg/L

SampleID: LCS-188963

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.72	2.500	0	108.9	85	115	03/25/2022
Calcium		0.100		2.73	2.500	0	109.2	85	115	03/30/2022
Magnesium		0.0500		2.81	2.500	0	112.3	85	115	03/25/2022
Magnesium		0.0500		2.83	2.500	0	113.4	85	115	03/30/2022
Potassium		0.100		2.58	2.500	0	103.3	85	115	03/30/2022
Sodium		0.0500		2.53	2.500	0	101.3	85	115	03/30/2022
Sodium		0.0500		2.52	2.500	0	101.0	85	115	03/25/2022

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)
Batch 188963 **SampType:** MS Units mg/L

SamplID: 22030530-027CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	140	2.500	140.2	-24.0	75	125	03/30/2022
Magnesium		0.0500		40.8	2.500	38.90	75.2	75	125	03/30/2022
Potassium		0.100		6.44	2.500	3.833	104.4	75	125	03/30/2022
Sodium		0.0500	S	59.3	2.500	58.43	35.6	75	125	03/30/2022

Batch 188963 **SampType:** MSD Units mg/L

RPD Limit: 20

SamplID: 22030530-027CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	140	2.500	140.2	-4.0	139.6	0.36	03/30/2022
Magnesium		0.0500	S	40.4	2.500	38.90	60.4	40.78	0.91	03/30/2022
Potassium		0.100		6.44	2.500	3.833	104.2	6.443	0.09	03/30/2022
Sodium		0.0500	S	59.7	2.500	58.43	52.4	59.32	0.71	03/30/2022

Batch 188980 **SampType:** MBLK Units mg/L

SamplID: MBLK-188980

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	03/29/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	03/29/2022
Potassium		0.100		< 0.100	0.0500	0	0	-100	100	04/27/2022
Potassium		0.100	J	0.040	0.0400	0	100.0	-100	100	03/31/2022
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	03/29/2022

Batch 188980 **SampType:** LCS Units mg/L

SamplID: LCS-188980

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.63	2.500	0	105.3	85	115	03/29/2022
Magnesium		0.0500		2.66	2.500	0	106.6	85	115	03/29/2022
Potassium		0.100		2.48	2.500	0	99.3	85	115	04/27/2022
Potassium		0.100		2.52	2.500	0	100.7	85	115	03/31/2022
Sodium		0.0500		2.35	2.500	0	93.9	85	115	03/29/2022

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 188980		SampType: LCSD		Units mg/L				RPD Limit: 20		
SampID: LCSD-188980										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		2.66	2.500	0	106.3	2.633	0.95	03/29/2022
Magnesium		0.0500		2.71	2.500	0	108.4	2.664	1.68	03/29/2022
Potassium		0.100		2.56	2.500	0	102.5	2.517	1.81	03/31/2022
Potassium		0.100		2.55	2.500	0	102.1	2.534	0.71	04/27/2022
Sodium		0.0500		2.35	2.500	0	94.2	2.348	0.26	03/29/2022

Batch 188980		SampType: MS		Units mg/L						
SampID: 22030530-035CMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	79.0	2.500	78.22	32.4	75	125	03/29/2022
Magnesium		0.0500		33.8	2.500	31.69	83.2	75	125	03/29/2022
Potassium		0.100		9.82	2.500	7.374	97.8	75	125	04/27/2022
Sodium		0.0500	S	49.6	2.500	47.92	68.8	75	125	03/29/2022

Batch	188980	SampType:	MSD	Units mg/L					RPD Limit: 20		
SampID: 22030530-035CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Calcium		0.100	S	77.9	2.500	78.22	-12.0	79.03	1.41	03/29/2022	
Magnesium		0.0500	S	32.7	2.500	31.69	42.0	33.77	3.10	03/29/2022	
Potassium		0.100		9.72	2.500	7.374	93.8	9.818	1.02	04/27/2022	
Sodium		0.0500	S	48.7	2.500	47.92	32.8	49.64	1.83	03/29/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 189006 SampType: MBLK Units mg/L

SampleID: MBLK-189006

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		0.0250		< 0.0250	0.0087	0	0	-100	100	03/28/2022
Barium		0.0025		< 0.0025	0.0007	0	0	-100	100	03/28/2022
Beryllium		0.0005		< 0.0005	0.0002	0	0	-100	100	03/28/2022
Cadmium		0.0020		< 0.0020	0.0005	0	0	-100	100	03/28/2022
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	03/28/2022
Chromium		0.0050		< 0.0050	0.0028	0	0	-100	100	03/28/2022
Cobalt		0.0050		< 0.0050	0.0020	0	0	-100	100	03/28/2022
Lead		0.0150		< 0.0150	0.0040	0	0	-100	100	03/28/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	03/28/2022
Molybdenum		0.0100		< 0.0100	0.0037	0	0	-100	100	03/28/2022
Potassium		0.100	JS	0.045	0.0400	0	111.8	-100	100	03/28/2022
Selenium		0.0400		< 0.0400	0.0170	0	0	-100	100	03/28/2022
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	03/28/2022
Thallium		0.0500		< 0.0500	0.0111	0	0	-100	100	03/28/2022

Batch 189006 SampType: LCS Units mg/L

SampleID: LCS-189006

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		0.0250		0.533	0.5000	0	106.6	85	115	03/28/2022
Barium		0.0025		2.09	2.000	0	104.3	85	115	03/28/2022
Beryllium		0.0005		0.0516	0.0500	0	103.2	85	115	03/28/2022
Cadmium		0.0020		0.0502	0.0500	0	100.4	85	115	03/28/2022
Calcium		0.100		2.59	2.500	0	103.6	85	115	03/28/2022
Chromium		0.0050		0.202	0.2000	0	100.8	85	115	03/28/2022
Cobalt		0.0050		0.514	0.5000	0	102.7	85	115	03/28/2022
Lead		0.0150		0.500	0.5000	0	99.9	85	115	03/28/2022
Magnesium		0.0500		2.66	2.500	0	106.6	85	115	03/28/2022
Molybdenum		0.0100		0.514	0.5000	0	102.7	85	115	03/28/2022
Potassium		0.100	B	2.44	2.500	0	97.6	85	115	03/28/2022
Selenium		0.0400		0.504	0.5000	0	100.8	85	115	03/28/2022
Sodium		0.0500		2.38	2.500	0	95.3	85	115	03/28/2022
Thallium		0.0500		0.257	0.2500	0	102.9	85	115	03/28/2022

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)
Batch 189006 **SampType:** MS Units mg/L

SampleID: 22030530-047BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		102	2.500	100.2	88.0	75	125	03/29/2022
Magnesium		0.0500		3.13	2.500	0.4110	108.8	75	125	03/29/2022
Potassium		1.00	B	28.5	2.500	25.75	111.6	75	125	03/30/2022
Sodium		0.0500	S	124	2.500	123.0	60.0	75	125	03/29/2022

Batch 189006 **SampType:** MSD Units mg/L

RPD Limit: 20

SampleID: 22030530-047BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		103	2.500	100.2	104.0	102.4	0.39	03/29/2022
Magnesium		0.0500		3.10	2.500	0.4110	107.6	3.132	0.99	03/29/2022
Potassium		1.00	B	28.2	2.500	25.75	97.6	28.54	1.23	03/30/2022
Sodium		0.0500		125	2.500	123.0	80.0	124.5	0.40	03/29/2022

Batch 191095 **SampType:** MBLK Units mg/L

SampleID: MBLK-191095

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	04/27/2022
Molybdenum		0.0100		< 0.0100	0.0037	0	0	-100	100	04/27/2022
Potassium		0.100		< 0.100	0.0400	0	0	-100	100	04/27/2022
Selenium		0.0400		< 0.0400	0.0170	0	0	-100	100	04/27/2022
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	04/27/2022
Thallium		0.0500		< 0.0500	0.0111	0	0	-100	100	04/27/2022

Batch 191095 **SampType:** LCS Units mg/L

SampleID: LCS-191095

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.69	2.500	0	107.6	85	115	04/27/2022
Molybdenum		0.0100		0.523	0.5000	0	104.6	85	115	04/27/2022
Potassium		0.100		2.61	2.500	0	104.2	85	115	04/27/2022
Selenium		0.0400		0.537	0.5000	0	107.4	85	115	04/27/2022
Sodium		0.0500		2.62	2.500	0	104.6	85	115	04/27/2022
Thallium		0.0500		0.266	0.2500	0	106.3	85	115	04/27/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 189014		SampType: MBLK		Units mg/L							Date Analyzed
SampID: MBLK-189014											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Aluminum		0.0250		< 0.0250	0.0125	0	0	-100	100	03/31/2022	
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	03/31/2022	
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	03/31/2022	
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	03/31/2022	
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	03/31/2022	
Boron		0.0250		< 0.0250	0.0105	0	0	-100	100	03/31/2022	
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	03/31/2022	
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	03/31/2022	
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	03/31/2022	
Copper		0.0010		< 0.0010	0.0003	0	0	-100	100	03/31/2022	
Iron		0.0250		< 0.0250	0.0115	0	0	-100	100	03/31/2022	
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	03/31/2022	
Manganese		0.0020		< 0.0020	0.0008	0	0	-100	100	03/31/2022	
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	03/31/2022	
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	03/31/2022	
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	03/31/2022	
Silver		0.0010		< 0.0010	0.0001	0	0	-100	100	03/31/2022	
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	03/31/2022	
Vanadium		0.0050		< 0.0050	0.0028	0	0	-100	100	03/31/2022	
Zinc		0.0150		< 0.0150	0.0059	0	0	-100	100	04/01/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 189014 SampType: LCS

Units mg/L

SampleID: LCS-189014

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Aluminum		0.0250		1.88	2.000	0	94.0	80	120	03/31/2022
Antimony		0.0010		0.482	0.5000	0	96.3	80	120	03/31/2022
Arsenic		0.0010		0.483	0.5000	0	96.7	80	120	03/31/2022
Barium		0.0010		1.96	2.000	0	98.0	80	120	03/31/2022
Beryllium		0.0010		0.0473	0.0500	0	94.6	80	120	03/31/2022
Boron		0.0250		0.499	0.5000	0	99.8	80	120	03/31/2022
Cadmium		0.0010		0.0460	0.0500	0	91.9	80	120	03/31/2022
Chromium		0.0015		0.192	0.2000	0	95.9	80	120	03/31/2022
Cobalt		0.0010		0.478	0.5000	0	95.7	80	120	03/31/2022
Copper		0.0010		0.245	0.2500	0	97.9	80	120	03/31/2022
Iron		0.0250		1.78	2.000	0	88.9	80	120	03/31/2022
Lead		0.0010		0.493	0.5000	0	98.6	80	120	03/31/2022
Manganese		0.0020		0.486	0.5000	0	97.2	80	120	03/31/2022
Molybdenum		0.0015		0.474	0.5000	0	94.7	80	120	03/31/2022
Nickel		0.0010		0.478	0.5000	0	95.7	80	120	03/31/2022
Selenium		0.0010		0.456	0.5000	0	91.2	80	120	03/31/2022
Silver		0.0010		0.0475	0.0500	0	95.0	80	120	03/31/2022
Thallium		0.0020		0.245	0.2500	0	97.9	80	120	03/31/2022
Vanadium		0.0050		0.482	0.5000	0	96.4	80	120	03/31/2022
Zinc		0.0150		0.455	0.5000	0	91.1	80	120	04/01/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 189014		SampType: MS		Units mg/L						
SampID: 22030530-007DMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.466	0.5000	0	93.2	75	125	03/31/2022
Arsenic		0.0010		0.455	0.5000	0	91.1	75	125	03/31/2022
Barium		0.0010		1.97	2.000	0.09428	93.6	75	125	03/31/2022
Beryllium		0.0010		0.0447	0.0500	0	89.5	75	125	03/31/2022
Boron		0.0250		0.516	0.5000	0.05738	91.7	75	125	03/31/2022
Cadmium		0.0010		0.0437	0.0500	0	87.4	75	125	03/31/2022
Chromium		0.0015		0.179	0.2000	0	89.3	75	125	03/31/2022
Cobalt		0.0010		0.434	0.5000	0.001421	86.5	75	125	03/31/2022
Copper		0.0010		0.217	0.2500	0.002596	85.9	75	125	03/31/2022
Iron		0.0250		1.67	2.000	0	83.5	75	125	03/31/2022
Lead		0.0010		0.461	0.5000	0	92.2	75	125	03/31/2022
Manganese		0.0020		0.450	0.5000	0	90.0	75	125	03/31/2022
Nickel		0.0010		0.431	0.5000	0.006568	84.9	75	125	03/31/2022
Selenium		0.0010		0.425	0.5000	0	85.0	75	125	03/31/2022
Silver		0.0010		0.0442	0.0500	0	88.3	75	125	03/31/2022
Thallium		0.0020		0.231	0.2500	0	92.4	75	125	03/31/2022
Vanadium		0.0050		0.456	0.5000	0	91.2	75	125	03/31/2022
Zinc		0.0150		0.407	0.5000	0	81.5	75	125	04/01/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 189014		SampType: MSD		Units mg/L				RPD Limit: 20		
SampleID: 22030530-007DMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.463	0.5000	0	92.5	0.4660	0.76	03/31/2022
Arsenic		0.0010		0.461	0.5000	0	92.2	0.4554	1.18	03/31/2022
Barium		0.0010		2.00	2.000	0.09428	95.1	1.966	1.56	03/31/2022
Beryllium		0.0010		0.0459	0.0500	0	91.9	0.04475	2.63	03/31/2022
Boron		0.0250		0.529	0.5000	0.05738	94.3	0.5157	2.49	03/31/2022
Cadmium		0.0010		0.0437	0.0500	0	87.4	0.04368	0.03	03/31/2022
Chromium		0.0015		0.182	0.2000	0	90.9	0.1787	1.76	03/31/2022
Cobalt		0.0010		0.442	0.5000	0.001421	88.1	0.4337	1.83	03/31/2022
Copper		0.0010		0.222	0.2500	0.002596	87.9	0.2174	2.24	03/31/2022
Iron		0.0250		1.69	2.000	0	84.5	1.669	1.28	03/31/2022
Lead		0.0010		0.479	0.5000	0	95.7	0.4610	3.76	03/31/2022
Manganese		0.0020		0.459	0.5000	0	91.8	0.4501	1.93	03/31/2022
Nickel		0.0010		0.440	0.5000	0.006568	86.7	0.4312	2.04	03/31/2022
Selenium		0.0010		0.429	0.5000	0	85.9	0.4250	1.03	03/31/2022
Silver		0.0010		0.0437	0.0500	0	87.5	0.04416	0.93	03/31/2022
Thallium		0.0020		0.238	0.2500	0	95.3	0.2310	3.09	03/31/2022
Vanadium		0.0050		0.465	0.5000	0	92.9	0.4560	1.85	03/31/2022
Zinc		0.0150		0.484	0.5000	0	96.9	0.4074	17.24	04/01/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 189014		SampType: MS		Units mg/L							Date
SampID: 22030530-016DMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Antimony		0.0010		0.457	0.5000	0	91.4	75	125	04/04/2022	
Arsenic		0.0010		0.471	0.5000	0	94.1	75	125	04/04/2022	
Barium		0.0010		2.00	2.000	0.1234	93.7	75	125	04/04/2022	
Beryllium		0.0010		0.0441	0.0500	0	88.1	75	125	04/04/2022	
Boron		0.0250		0.619	0.5000	0.1510	93.6	75	125	04/05/2022	
Cadmium		0.0010		0.0445	0.0500	0	89.1	75	125	04/04/2022	
Chromium		0.0015	S	0.258	0.2000	0.001129	128.4	75	125	03/31/2022	
Cobalt		0.0010		0.622	0.5000	0	124.3	75	125	03/31/2022	
Copper		0.0010		0.307	0.2500	0.002698	121.9	75	125	03/31/2022	
Iron		0.0250	S	2.58	2.000	0.01394	128.2	75	125	03/31/2022	
Lead		0.0010		0.475	0.5000	0	95.0	75	125	04/04/2022	
Manganese		0.0020	S	0.651	0.5000	0.001296	130.0	75	125	03/31/2022	
Nickel		0.0010		0.608	0.5000	0.001095	121.3	75	125	03/31/2022	
Selenium		0.0010		0.583	0.5000	0	116.7	75	125	03/31/2022	
Silver		0.0010		0.0576	0.0500	0	115.2	75	125	03/31/2022	
Thallium		0.0020		0.307	0.2500	0	122.8	75	125	03/31/2022	
Vanadium		0.0050		0.476	0.5000	0	95.2	75	125	04/04/2022	
Zinc		0.0150		0.430	0.5000	0	85.9	75	125	04/05/2022	

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 189014		SampType: MSD		Units mg/L				RPD Limit: 20		
SampleID: 22030530-016DMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.462	0.5000	0	92.3	0.4572	0.95	04/04/2022
Arsenic		0.0010		0.471	0.5000	0	94.2	0.4706	0.03	04/04/2022
Barium		0.0010		2.00	2.000	0.1234	93.9	1.997	0.21	04/04/2022
Beryllium		0.0010		0.0439	0.0500	0	87.8	0.04405	0.40	04/04/2022
Boron		0.0250		0.642	0.5000	0.1510	98.3	0.6189	3.72	04/05/2022
Cadmium		0.0010		0.0452	0.0500	0	90.5	0.04453	1.57	04/04/2022
Chromium		0.0015	S	0.253	0.2000	0.001129	126.2	0.2580	1.78	03/31/2022
Cobalt		0.0010		0.614	0.5000	0	122.7	0.6216	1.29	03/31/2022
Copper		0.0010		0.305	0.2500	0.002698	120.9	0.3075	0.83	03/31/2022
Iron		0.0250	S	2.55	2.000	0.01394	126.7	2.578	1.16	03/31/2022
Lead		0.0010		0.465	0.5000	0	93.1	0.4748	1.99	04/04/2022
Manganese		0.0020	S	0.638	0.5000	0.001296	127.3	0.6514	2.11	03/31/2022
Nickel		0.0010		0.601	0.5000	0.001095	120.0	0.6077	1.13	03/31/2022
Selenium		0.0010		0.576	0.5000	0	115.2	0.5835	1.31	03/31/2022
Silver		0.0010		0.0586	0.0500	0	117.2	0.05759	1.72	03/31/2022
Thallium		0.0020		0.304	0.2500	0	121.7	0.3069	0.88	03/31/2022
Vanadium		0.0050		0.466	0.5000	0	93.2	0.4758	2.12	04/04/2022
Zinc		0.0150		0.463	0.5000	0	92.6	0.4296	7.44	04/05/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 189015		SampType: MBLK		Units mg/L							Date Analyzed	
SampID: MBLK-189015												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Aluminum		0.0250		< 0.0250	0.0125	0	0	-100	100			
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100			
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100			
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100			
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100			
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100			
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100			
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100			
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100			
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100			
Copper		0.0010		< 0.0010	0.0003	0	0	-100	100			
Iron		0.0250		< 0.0250	0.0115	0	0	-100	100			
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100			
Manganese		0.0020		< 0.0020	0.0008	0	0	-100	100			
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100			
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100			
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100			
Silver		0.0010		< 0.0010	0.0001	0	0	-100	100			
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100			
Vanadium		0.0050		< 0.0050	0.0028	0	0	-100	100			
Zinc		0.0150		< 0.0150	0.0059	0	0	-100	100			



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 189015		SampType: LCS		Units mg/L							
SampID: LCS-189015											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Aluminum		0.0250		1.94	2.000	0	96.9	80	120	04/01/2022	
Antimony		0.0010		0.483	0.5000	0	96.7	80	120	04/01/2022	
Arsenic		0.0010		0.469	0.5000	0	93.8	80	120	04/01/2022	
Barium		0.0010		1.96	2.000	0	98.1	80	120	04/01/2022	
Beryllium		0.0010		0.0468	0.0500	0	93.6	80	120	04/01/2022	
Boron		0.0250		0.475	0.5000	0	94.9	80	120	03/30/2022	
Cadmium		0.0010		0.0462	0.0500	0	92.5	80	120	04/01/2022	
Chromium		0.0015		0.190	0.2000	0	94.8	80	120	04/01/2022	
Cobalt		0.0010		0.466	0.5000	0	93.2	80	120	04/01/2022	
Copper		0.0010		0.237	0.2500	0	94.8	80	120	04/01/2022	
Iron		0.0250		1.74	2.000	0	87.0	80	120	04/01/2022	
Lead		0.0010		0.493	0.5000	0	98.7	80	120	04/01/2022	
Manganese		0.0020		0.479	0.5000	0	95.8	80	120	04/01/2022	
Molybdenum		0.0015		0.460	0.5000	0	92.0	80	120	04/01/2022	
Nickel		0.0010		0.460	0.5000	0	92.1	80	120	04/01/2022	
Selenium		0.0010		0.447	0.5000	0	89.4	80	120	04/01/2022	
Silver		0.0010		0.0463	0.0500	0	92.5	80	120	04/01/2022	
Thallium		0.0020		0.243	0.2500	0	97.1	80	120	04/01/2022	
Vanadium		0.0050		0.477	0.5000	0	95.3	80	120	04/01/2022	
Zinc		0.0150		0.490	0.5000	0	98.1	80	120	04/01/2022	

Batch 189015		SampType: MS		Units mg/L							
SampID: 22030530-033DMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Boron		0.0250	S	10.1	0.5000	9.026	217.4	75	125	03/30/2022	

Batch 189015		SampType: MSD		Units mg/L				RPD Limit: 20			
SampID: 22030530-033DMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron			0.0250	S	9.35	0.5000	9.026	65.1	10.11	7.83	03/30/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 190778		SampType: LCS		Units mg/L						
SampID: LCS-190778										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		0.0250		0.450	0.5000	0	90.1	80	120	04/22/2022
Iron		0.0250		1.86	2.000	0	92.8	80	120	04/22/2022
Manganese		0.0020		0.467	0.5000	0	93.4	80	120	04/22/2022

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 188963		SampType: MBLK		Units mg/L							Date Analyzed	
SampID: MBLK-188963												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100			
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100			
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100			
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100			
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100			
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100			
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100			
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100			
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100			
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100			
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100			
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100			
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100			



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 188963 SampType: LCS Units mg/L

SampleID: LCS-188963

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.503	0.5000	0	100.7	80	120	03/29/2022
Arsenic		0.0010		0.506	0.5000	0	101.2	80	120	03/29/2022
Barium		0.0010		2.06	2.000	0	103.2	80	120	03/29/2022
Beryllium		0.0010		0.0535	0.0500	0	107.0	80	120	03/31/2022
Beryllium		0.0010		0.0455	0.0500	0	91.0	80	120	03/29/2022
Boron		0.0250		0.517	0.5000	0	103.4	80	120	03/30/2022
Cadmium		0.0010		0.0490	0.0500	0	98.0	80	120	03/29/2022
Chromium		0.0015		0.202	0.2000	0	100.9	80	120	03/29/2022
Chromium		0.0015		0.213	0.2000	0	106.6	80	120	03/31/2022
Cobalt		0.0010		0.540	0.5000	0	107.9	80	120	03/31/2022
Cobalt		0.0010		0.508	0.5000	0	101.6	80	120	03/29/2022
Lead		0.0010		0.504	0.5000	0	100.8	80	120	03/29/2022
Lithium	*	0.0030		0.584	0.5000	0	116.8	80	120	04/01/2022
Lithium	*	0.0030		0.509	0.5000	0	101.8	80	120	03/29/2022
Molybdenum		0.0015		0.499	0.5000	0	99.8	80	120	03/29/2022
Selenium		0.0010		0.467	0.5000	0	93.5	80	120	03/29/2022
Thallium		0.0020		0.233	0.2500	0	93.2	80	120	03/29/2022

Batch 188963 SampType: MS Units mg/L

SampleID: 22030530-027CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.552	0.5000	0	110.3	75	125	03/31/2022
Arsenic		0.0010		0.539	0.5000	0.0005658	107.7	75	125	03/31/2022
Barium		0.0010		2.26	2.000	0.08625	108.7	75	125	03/31/2022
Beryllium		0.0010		0.0548	0.0500	0	109.5	75	125	03/31/2022
Boron		0.0250		2.86	0.5000	2.408	89.7	75	125	04/06/2022
Cadmium		0.0010		0.0530	0.0500	0.0004006	105.2	75	125	03/31/2022
Chromium		0.0015		0.212	0.2000	0.0008341	105.4	75	125	03/31/2022
Cobalt		0.0010		0.519	0.5000	0.002606	103.2	75	125	03/31/2022
Lead		0.0010		0.499	0.5000	0.001241	99.5	75	125	03/29/2022
Lithium	*	0.0030		0.554	0.5000	0.02306	106.2	75	125	04/06/2022
Molybdenum		0.0015		0.542	0.5000	0.004277	107.5	75	125	03/31/2022
Selenium		0.0010		0.496	0.5000	0	99.3	75	125	03/31/2022
Thallium		0.0020		0.240	0.2500	0	96.1	75	125	03/29/2022



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 188963		SampType: MSD		Units mg/L				RPD Limit: 20		
SampleID: 22030530-027CMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.562	0.5000	0	112.4	0.5516	1.90	03/31/2022
Arsenic		0.0010		0.558	0.5000	0.0005658	111.5	0.5392	3.41	03/31/2022
Barium		0.0010		2.33	2.000	0.08625	111.9	2.260	2.82	03/31/2022
Beryllium		0.0010		0.0559	0.0500	0	111.8	0.05477	2.00	03/31/2022
Boron		0.0250		3.01	0.5000	2.408	120.2	2.856	5.20	04/06/2022
Cadmium		0.0010		0.0539	0.0500	0.0004006	107.0	0.05300	1.72	03/31/2022
Chromium		0.0015		0.220	0.2000	0.0008341	109.7	0.2116	4.02	03/31/2022
Cobalt		0.0010		0.538	0.5000	0.002606	107.1	0.5186	3.65	03/31/2022
Lead		0.0010		0.528	0.5000	0.001241	105.3	0.4987	5.65	03/29/2022
Lithium	*	0.0030		0.574	0.5000	0.02306	110.2	0.5539	3.53	04/06/2022
Molybdenum		0.0015		0.563	0.5000	0.004277	111.8	0.5420	3.83	03/31/2022
Selenium		0.0010		0.521	0.5000	0	104.1	0.4964	4.76	03/31/2022
Thallium		0.0020		0.256	0.2500	0	102.3	0.2403	6.24	03/29/2022

Batch 188980		SampType: MBLK		Units mg/L						
SampleID: MBLK-188980										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	03/26/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	03/26/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	03/26/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	03/26/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	03/26/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	03/26/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	03/26/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	03/26/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	03/26/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	03/26/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	03/26/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	03/26/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	03/26/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 188980 SampType: LCS Units mg/L
SampleID: LCS-188980

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.480	0.5000	0	95.9	80	120	03/26/2022
Arsenic		0.0010		0.499	0.5000	0	99.8	80	120	03/26/2022
Barium		0.0010		1.98	2.000	0	98.8	80	120	03/26/2022
Beryllium		0.0010		0.0427	0.0500	0	85.3	80	120	03/26/2022
Boron		0.0250		0.443	0.5000	0	88.6	80	120	03/26/2022
Cadmium		0.0010		0.0474	0.0500	0	94.9	80	120	03/26/2022
Chromium		0.0015		0.219	0.2000	0	109.4	80	120	03/31/2022
Cobalt		0.0010		0.486	0.5000	0	97.2	80	120	03/26/2022
Lead		0.0010		0.515	0.5000	0	103.0	80	120	03/29/2022
Lithium	*	0.0030		0.584	0.5000	0	116.8	80	120	04/01/2022
Molybdenum		0.0015		0.490	0.5000	0	98.0	80	120	03/26/2022
Selenium		0.0010		0.464	0.5000	0	92.7	80	120	03/26/2022
Thallium		0.0020		0.230	0.2500	0	92.1	80	120	03/26/2022

Batch 188980 SampType: LCSD Units mg/L
SampleID: LCSD-188980

RPD Limit: 20

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.524	0.5000	0	104.8	0.4795	8.85	03/29/2022
Arsenic		0.0010		0.505	0.5000	0	101.0	0.4990	1.18	03/29/2022
Barium		0.0010		2.11	2.000	0	105.4	1.976	6.40	03/29/2022
Beryllium		0.0010		0.0528	0.0500	0	105.5	0.05491	4.01	03/31/2022
Boron		0.0250		0.506	0.5000	0	101.1	0.4431	13.21	03/30/2022
Cadmium		0.0010		0.0500	0.0500	0	99.9	0.04743	5.20	03/29/2022
Chromium		0.0015		0.206	0.2000	0	103.1	0.2188	5.93	03/31/2022
Cobalt		0.0010		0.511	0.5000	0	102.3	0.5382	5.09	03/31/2022
Lead		0.0010		0.507	0.5000	0	101.4	0.4922	3.00	03/29/2022
Lithium	*	0.0030		0.566	0.5000	0	113.1	0.5842	3.22	04/01/2022
Molybdenum		0.0015		0.502	0.5000	0	100.3	0.4900	2.36	03/29/2022
Selenium		0.0010		0.470	0.5000	0	93.9	0.4635	1.34	03/29/2022
Thallium		0.0020		0.244	0.2500	0	97.7	0.2301	5.93	03/29/2022

Batch 188980 SampType: MS Units mg/L
SampleID: 22030530-035CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		0.0250		2.75	0.5000	2.166	116.3	75	125	04/01/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 188980		SampType: MSD		Units mg/L				RPD Limit: 20			Date Analyzed
SampID: 22030530-035CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Boron		0.0250		2.72	0.5000	2.166	110.9	2.747	0.99	04/01/2022	

Batch 189006		SampType: MBLK		Units mg/L							Date Analyzed	
SampID: MBLK-189006												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	03/29/2022		
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	03/28/2022		
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	03/28/2022		
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	03/29/2022		
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	03/29/2022		
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	03/29/2022		
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	03/29/2022		
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	03/29/2022		
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	03/28/2022		
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	03/29/2022		
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	03/29/2022		
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	03/28/2022		
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	03/29/2022		

Batch 189006		SampType: LCS		Units mg/L							
SampID: LCS-189006											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Antimony		0.0010		0.500	0.5000	0	100.1	85	115	03/29/2022	
Arsenic		0.0010		0.489	0.5000	0	97.9	85	115	03/29/2022	
Barium		0.0010		2.01	2.000	0	100.7	85	115	03/29/2022	
Beryllium		0.0010		0.0433	0.0500	0	86.7	85	115	03/29/2022	
Boron		0.0250		0.441	0.5000	0	88.1	85	115	03/29/2022	
Cadmium		0.0010		0.0478	0.0500	0	95.5	85	115	03/29/2022	
Chromium		0.0015		0.198	0.2000	0	99.0	85	115	03/29/2022	
Cobalt		0.0010		0.493	0.5000	0	98.5	85	115	03/29/2022	
Lead		0.0010		0.486	0.5000	0	97.2	85	115	03/29/2022	
Lithium	*	0.0030		0.478	0.5000	0	95.6	85	115	03/29/2022	
Molybdenum		0.0015		0.491	0.5000	0	98.3	85	115	03/29/2022	
Selenium		0.0010		0.449	0.5000	0	89.9	85	115	03/29/2022	
Thallium		0.0020		0.229	0.2500	0	91.5	85	115	03/29/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 189006 SampType: MS Units mg/L

SampleID: 22030530-047BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.518	0.5000	0	103.5	75	125	03/29/2022
Arsenic		0.0010		0.500	0.5000	0.001741	99.6	75	125	03/29/2022
Barium		0.0010		2.38	2.000	0.3230	103.0	75	125	03/29/2022
Beryllium		0.0010		0.0544	0.0500	0	108.7	75	125	03/31/2022
Boron		0.0250		3.49	0.5000	2.983	102.2	75	125	03/31/2022
Cadmium		0.0010		0.0491	0.0500	0	98.2	75	125	03/29/2022
Chromium		0.0015		0.204	0.2000	0.001161	101.2	75	125	03/31/2022
Cobalt		0.0010		0.502	0.5000	0.0003621	100.4	75	125	03/31/2022
Lead		0.0010		0.501	0.5000	0	100.2	75	125	03/29/2022
Lithium	*	0.0030		0.645	0.5000	0.06073	116.8	75	125	03/31/2022
Molybdenum		0.0015		0.571	0.5000	0.05630	102.9	75	125	03/29/2022
Selenium		0.0010		0.458	0.5000	0.006224	90.4	75	125	03/29/2022
Thallium		0.0020		0.237	0.2500	0	94.9	75	125	03/29/2022

Batch 189006 SampType: MSD Units mg/L

RPD Limit: 20

SampleID: 22030530-047BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.511	0.5000	0	102.3	0.5177	1.24	03/29/2022
Arsenic		0.0010		0.508	0.5000	0.001741	101.3	0.4999	1.65	03/29/2022
Barium		0.0010		2.37	2.000	0.3230	102.5	2.382	0.41	03/29/2022
Beryllium		0.0010		0.0539	0.0500	0	107.8	0.05437	0.90	03/31/2022
Boron		0.0250		3.52	0.5000	2.983	107.0	3.494	0.69	03/31/2022
Cadmium		0.0010		0.0481	0.0500	0	96.1	0.04910	2.12	03/29/2022
Chromium		0.0015		0.203	0.2000	0.001161	101.0	0.2036	0.22	03/31/2022
Cobalt		0.0010		0.508	0.5000	0.0003621	101.5	0.5025	1.06	03/31/2022
Lead		0.0010		0.497	0.5000	0	99.4	0.5012	0.86	03/29/2022
Lithium	*	0.0030		0.644	0.5000	0.06073	116.6	0.6449	0.15	03/31/2022
Molybdenum		0.0015		0.564	0.5000	0.05630	101.6	0.5706	1.11	03/29/2022
Selenium		0.0010		0.465	0.5000	0.006224	91.8	0.4583	1.46	03/29/2022
Thallium		0.0020		0.240	0.2500	0	96.1	0.2372	1.22	03/29/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 190743 SampType: MBLK Units mg/L

SampID: MBLK-190743

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	04/24/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	04/24/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	04/22/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	04/24/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	04/24/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	04/24/2022

Batch 190743 SampType: LCS Units mg/L

SampID: LCS-190743

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.532	0.5000	0	106.5	85	115	04/24/2022
Arsenic		0.0010		0.528	0.5000	0	105.7	85	115	04/24/2022
Boron		0.0250		0.484	0.5000	0	96.8	80	120	04/22/2022
Lead		0.0010		0.532	0.5000	0	106.4	85	115	04/24/2022
Selenium		0.0010		0.505	0.5000	0	101.0	85	115	04/24/2022
Thallium		0.0020		0.268	0.2500	0	107.3	85	115	04/24/2022

Batch 191095 SampType: MBLK Units mg/L

SampID: MBLK-191095

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	04/27/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	04/27/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	04/28/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	04/27/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	04/28/2022

Batch 191095 SampType: LCS Units mg/L

SampID: LCS-191095

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.474	0.5000	0	94.8	80	120	04/27/2022
Arsenic		0.0010		0.474	0.5000	0	94.8	80	120	04/27/2022
Chromium		0.0015		0.186	0.2000	0	93.0	80	120	04/28/2022
Lead		0.0010		0.468	0.5000	0	93.6	80	120	04/27/2022
Lithium	*	0.0030		0.519	0.5000	0	103.8	80	120	04/28/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 7470A (DISSOLVED)

Batch 189038 SampType: MS Units mg/L

SampleID: 22030530-013DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00509	0.0050	0	101.7	75	125	03/28/2022

Batch 189038 SampType: MSD Units mg/L

RPD Limit: 15

SampleID: 22030530-013DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		0.00514	0.0050	0	102.8	0.005085	1.05	03/28/2022

Batch 189040 SampType: MS Units mg/L

SampleID: 22030530-049DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00516	0.0050	0	103.2	75	125	03/29/2022

Batch 189040 SampType: MSD Units mg/L

RPD Limit: 15

SampleID: 22030530-049DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		0.00521	0.0050	0	104.2	0.005158	1.00	03/29/2022

SW-846 7470A (TOTAL)

Batch 188965 SampType: MBLK Units mg/L

SampleID: MBLK-188965

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	03/24/2022

Batch 188965 SampType: LCS Units mg/L

SampleID: LCS-188965

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00548	0.0050	0	109.7	85	115	03/24/2022

Batch 188965 SampType: MS Units mg/L

SampleID: 22030530-007CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00516	0.0050	0	103.2	75	125	03/24/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 7470A (TOTAL)

Batch 188965		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed
SampID: 22030530-007CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Mercury		0.00020		0.00502	0.0050	0	100.4	0.005161	2.74	03/24/2022	

Batch 189038		SampType: MBLK		Units mg/L							
SampID: MBLK-189038											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	03/28/2022	
Mercury		0.20		< 0.20	0.0550	0	0	-100	100	03/28/2022	

Batch 189038		SampType: LCS		Units mg/L							
SampID: LCS-189038											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00506	0.0050	0	101.1	85	115	03/28/2022	
Mercury		0.20		5.06	5.000	0	101.1	85	115	03/28/2022	

Batch 189038		SampType: MS		Units mg/L							
SampID: 22030530-013CMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020		0.00517	0.00500	0	103.4	75	125	03/28/2022	

Batch 189038		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-013CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Mercury		0.00020		0.00501	0.00500	0	100.2	0.00517	3.09	03/28/2022	

Batch 189039		SampType: MBLK		Units mg/L							Date Analyzed
SampID: MBLK-189039											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	03/28/2022	

Batch 189039		SampType: LCS		Units mg/L							
SampID: LCS-189039											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00513	0.0050	0	102.6	85	115	03/28/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 7470A (TOTAL)

Batch 189039 SampType: MS Units mg/L

SamplID: 22030530-024CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00545	0.0050	0	109.1	75	125	03/28/2022

Batch 189039 SampType: MSD Units mg/L

RPD Limit: 15

SamplID: 22030530-024CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		0.00525	0.0050	0	105.0	0.005455	3.84	03/28/2022

Batch 189039 SampType: MS Units mg/L

SamplID: 22030530-030CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00534	0.0050	0	106.8	75	125	03/28/2022

Batch 189039 SampType: MSD Units mg/L

RPD Limit: 15

SamplID: 22030530-030CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		0.00534	0.0050	0	106.7	0.005339	0.05	03/28/2022

Batch 189040 SampType: MBLK Units mg/L

SamplID: MBLK-189040

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	03/29/2022

Batch 189040 SampType: LCS Units mg/L

SamplID: LCS-189040

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00429	0.0050	0	85.9	85	115	03/29/2022

Batch 191075 SampType: MBLK Units mg/L

SamplID: MBLK-191075

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	04/27/2022

Batch 191075 SampType: LCS Units mg/L

SamplID: LCS-191075

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00477	0.0050	0	95.4	85	115	04/27/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

SW-846 7470A (TOTAL)

Batch 191075		SampType: MS		Units mg/L							
SampID: 22030530-012CMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.00020	H	0.00481	0.00500	0	96.3	75	125	04/27/2022	

Batch 191075		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22030530-012CMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury			0.00020	H	0.00477	0.00500	0	95.4	0.00481	0.91	04/27/2022



Receiving Check List

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030530

Client Project: Hennepin Q1 Groundwater

Report Date: 01-Jun-22

Carrier: Adam Bridges

Received By: PWR

Completed by:

On:

24-Mar-22

Mary E. Kemp

Reviewed by:

On:

24-Mar-22

Elizabeth A. Hurley

Pages to follow:

Chain of custody

5

Extra pages included

0

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C

1.8

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice

☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☒

Lab ☐

NA ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?

Yes ☒

No ☐

No VOA vials ☐

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☒

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

pH strip #78011/75146. - PRY/MKemp - 3/24/2022 10:53:33 AM

Additional nitric acid (80810) was needed in 08 upon arrival at the laboartory. Additional sulfuric acid (80586) was needed in 10 upon arrival at the laboratory. Additional sodium hydroxide (78408) was needed in 08, 08 Duplicate, 08D, and 19D upon arrival at the laboratory. - PRY/MKemp - 3/24/2022 10:53:38 AM

Field Blank was filtered and preserved with nitric acid (80810), sulfuric acid (80586), and sodium hydroxide (78408) for the dissolved parameters upon arrival at the laboratory. - MKemp - 3/24/2022 10:53:41 AM

CHAIN OF CUSTODY

Pg 1 of 5 Workorder # 22030530

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

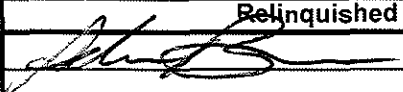
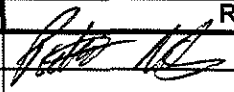
Client: <u>Ramboll / Vistra</u> Address: <u>234 W. Florida St.</u> City/State/Zip: <u>Milwaukee, WI 53204</u> Contact: <u>Eric Bauer</u> Phone: <u>(414) 837-3607</u> Email: <u>eric.bauer@ramboll.com</u> Fax: _____				Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE <u>1.8 °C</u> LTG# <u>5</u> Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY LAB NOTES: <u>PH 7.8011/75146, Added NaOH 78408 to 8/8 DVP/80/19D, HN0380810 to 8, H2SO4 80586 to 10, PNT 3/24/17</u> Client Comments: <u>⊗ Filter in Lab OHS, PNT 3/24/17</u> Field Tests = pH, DO, ORP, Conductivity, Temperature, Turbidity, and DTW *Perchlorate subcontracted to Keystone. Multiple program reports will be generated (metals lists per program requirements). 02, 04R, 06, 15, 19D, and 19S do not require Total Fluoride. 25, 26, 30, 31, 33, 36, 55, SG02, and XSG01 require only DTW.			
Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No Are these samples known to be hazardous? ☐ Yes ☒ No Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No							
PROJECT NAME/NUMBER <u>Hennepin Q1 Groundwater</u>		SAMPLE COLLECTOR'S NAME <u>J. RILEY A. BRIDGES</u>		# and Type of Containers UNP HNO3 NaOH H2SO4 HCL MeOH NaHSO4 TSP Other		INDICATE ANALYSIS REQUESTED BTEX/Per* D-NH3/OOH T-NH3/OOH D-Cyanide T-Cyanide D-Metals Total Metals D-CI/SO4/F- Total Nitrate Total Alkalinity Bicarb./Carb. TDS, Total F- Total CI/SO4 Field Tests	
RESULTS REQUESTED ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ☐ 3 Day (50% Surcharge)		BILLING INSTRUCTIONS <u>Vistra PO#s</u>					
Lab Use Only	Sample ID	Date/Time Sampled	Matrix				
22030530-001	02	03/23/22 1343	Groundwater				
002	03R	03/23/22 1208	Groundwater				
003	04R	03/23/22 0958	Groundwater				
004	05DR	03/23/22 1121	Groundwater				
005	05R	03/23/22 1108	Groundwater				
006	06	03/23/22 1223	Groundwater				
007	07	03/23/22 1531	Groundwater				
008	08	03/23/22 1424	Groundwater				
009	08 Duplicate	03/23/22 1424	Groundwater				
010	08D	03/23/22 1404	Groundwater				
011	10	03/23/22 1326	Groundwater				
Relinquished By		Date/Time	Received By		Date/Time		
		3-24-22 0750			3/24/22 0750		

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CHAIN OF CUSTODY

Pg 2 of 5 Workorder # 22030530

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

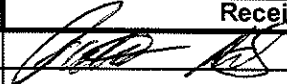
Client: <u>Ramboll / Vistra</u> Address: <u>234 W. Florida St.</u> City/State/Zip: <u>Milwaukee, WI 53204</u> Contact: <u>Eric Bauer</u> Phone: <u>(414) 837-3607</u> Email: <u>eric.bauer@ramboll.com</u> Fax: _____				Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____ Preserved in: ☐ LAB ☐ FIELD <u>FOR LAB USE ONLY</u> LAB NOTES: _____																																	
Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No Are these samples known to be hazardous? ☐ Yes ☒ No Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No				Client Comments: Field Tests = pH, DO, ORP, Conductivity, Temperature, Turbidity, and DTW *Perchlorate subcontracted to Keystone. Multiple program reports will be generated (metals lists per program requirements). 21R, 22, 22D, 23, 27, 32, 34, 35, 49, 50, and 51 do not require Dissolved SO4/F.																																	
PROJECT NAME/NUMBER <u>Hennepin Q1 Groundwater</u>		SAMPLE COLLECTOR'S NAME _____		# and Type of Containers UNP _____ HNO3 _____ NaOH _____ H2SO4 _____ HCL _____ MeOH _____ NaHSO4 _____ TSP _____ Other _____		INDICATE ANALYSIS REQUESTED <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <th>BTEX/Per*</th> <th>D - NH3/OOH</th> <th>T - NH3/OOH</th> <th>D - Cyanide</th> <th>T - Cyanide</th> <th>D - Metals</th> <th>Total Metals</th> <th>D - Cl/SO4/F-</th> <th>Total Nitrate</th> <th>Total Alkalinity</th> <th>Bicarb./Carb.</th> <th>TDS, Total F-</th> <th>Total Cl/SO4</th> <th>Field Tests</th> </tr> <tr> <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></td><td></td> </tr> </table>				BTEX/Per*	D - NH3/OOH	T - NH3/OOH	D - Cyanide	T - Cyanide	D - Metals	Total Metals	D - Cl/SO4/F-	Total Nitrate	Total Alkalinity	Bicarb./Carb.	TDS, Total F-	Total Cl/SO4	Field Tests														
BTEX/Per*	D - NH3/OOH	T - NH3/OOH	D - Cyanide	T - Cyanide	D - Metals	Total Metals	D - Cl/SO4/F-	Total Nitrate	Total Alkalinity	Bicarb./Carb.	TDS, Total F-	Total Cl/SO4	Field Tests																								
RESULTS REQUESTED ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)		BILLING INSTRUCTIONS <u>Vistra PO#s</u>																																			
Lab Use Only	Sample ID	Date/Time Sampled	Matrix																																		
<u>22030530-012</u>	<u>12</u>	<u>03/23/22 0850</u>	<u>Groundwater</u>																																		
<u>013</u>	<u>13</u>	<u>03/23/22 0907</u>	<u>Groundwater</u>																																		
<u>014</u>	<u>15</u>	<u>03/23/22 0944</u>	<u>Groundwater</u>																																		
<u>015</u>	<u>16</u>	<u>03/23/22 1450</u>	<u>Groundwater</u>																																		
<u>016</u>	<u>17</u>	<u>03/23/22 1504</u>	<u>Groundwater</u>																																		
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CHAIN OF CUSTODY

Pg 3 of 5 Workorder # 22030530

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

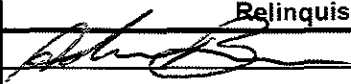
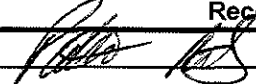
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CHAIN OF CUSTODY

Pg 4 of 5 Workorder # 22030530

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

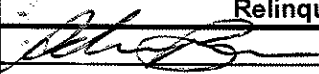
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CHAIN OF CUSTODY

Pg 5 of 5 Workorder # 22030530

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: <u>Ramboll / Vistra</u> Address: <u>234 W. Florida St.</u> City/State/Zip: <u>Milwaukee, WI 53204</u> Contact: <u>Eric Bauer</u> Phone: <u>(414) 837-3607</u> Email: <u>eric.bauer@ramboll.com</u> Fax: _____				Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____ Preserved in: ☐ LAB ☐ FIELD <u>FOR LAB USE ONLY</u> LAB NOTES: _____																																																			
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April 21, 2022

Eric Bauer
Ramboll
234 W. Florida St.
5th Floor
Milwaukee, WI 61704
TEL: (414) 837-3607
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Hennepin Q1 Groundwater

WorkOrder: 22030531

Dear Eric Bauer:

TEKLAB, INC received 24 samples on 3/24/2022 7:50:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	16
Dates Report	17
Receiving Check List	18
Chain of Custody	Appended

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| C - RL shown is a Client Requested Quantitation Limit | E - Value above quantitation range |
| H - Holding times exceeded | I - Associated internal standard was outside method criteria |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | T - TIC(Tentatively identified compound) |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

Cooler Receipt Temp: 1.8 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Pace Analytical Services, LLC. See attached report for results.

East Ash Pond CCR 803 data is included in this report. EAH 4/21/22

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Ramboll**Work Order:** 22030531**Client Project:** Hennepin Q1 Groundwater**Report Date:** 21-Apr-22

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030531-002
Matrix: GROUNDWATER

Work Order: 22030531
Report Date: 21-Apr-22
Client Sample ID: 07
Collection Date: 03/22/2022 15:31

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630
Radium-228	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

Lab ID: 22030531-003

Client Sample ID: 08

Matrix: GROUNDWATER

Collection Date: 03/22/2022 14:24

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630
Radium-228	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630

Client: Ramboll**Work Order:** 22030531**Client Project:** Hennepin Q1 Groundwater**Report Date:** 21-Apr-22**Lab ID:** 22030531-004**Client Sample ID:** 08 Duplicate**Matrix:** GROUNDWATER**Collection Date:** 03/22/2022 14:24

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630
Radium-228	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630

Client: Ramboll**Work Order:** 22030531**Client Project:** Hennepin Q1 Groundwater**Report Date:** 21-Apr-22**Lab ID:** 22030531-005**Client Sample ID:** 08D**Matrix:** GROUNDWATER**Collection Date:** 03/22/2022 14:04

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630
Radium-228	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630

Client: Ramboll**Work Order:** 22030531**Client Project:** Hennepin Q1 Groundwater**Report Date:** 21-Apr-22**Lab ID:** 22030531-006**Client Sample ID:** 12**Matrix:** GROUNDWATER**Collection Date:** 03/23/2022 8:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630
Radium-228	*	0		See Attached	pci/L	1	04/05/2022 0:00	R309630

Client: Ramboll**Work Order:** 22030531**Client Project:** Hennepin Q1 Groundwater**Report Date:** 21-Apr-22**Lab ID:** 22030531-007**Client Sample ID:** 13**Matrix:** GROUNDWATER**Collection Date:** 03/23/2022 9:07

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	04/04/2022 0:00	R309630
Radium-228	*	0		See Attached	pci/L	1	04/04/2022 0:00	R309630



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

Lab ID: 22030531-019

Client Sample ID: 46

Matrix: GROUNDWATER

Collection Date: 03/23/2022 9:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pCi/L	1	04/08/2022 0:00	R309630
Radium-228	*	0		See Attached	pCi/L	1	04/08/2022 0:00	R309630

Client: Ramboll
Client Project: Hennepin Q1 Groundwater
Lab ID: 22030531-020
Matrix: GROUNDWATER

Work Order: 22030531
Report Date: 21-Apr-22
Client Sample ID: 47
Collection Date: 03/23/2022 8:27

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	04/08/2022 0:00	R309630
Radium-228	*	0		See Attached	pci/L	1	04/08/2022 0:00	R309630

Client: Ramboll**Work Order:** 22030531**Client Project:** Hennepin Q1 Groundwater**Report Date:** 21-Apr-22**Lab ID:** 22030531-024**Client Sample ID:** Field Blank**Matrix:** AQUEOUS**Collection Date:** 03/23/2022 13:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	04/09/2022 0:00	R309630
Radium-228	*	0		See Attached	pci/L	1	04/09/2022 0:00	R309630

Sample Summary

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
22030531-002	07	Groundwater	1	03/22/2022 15:31
22030531-003	08	Groundwater	1	03/22/2022 14:24
22030531-004	08 Duplicate	Groundwater	1	03/22/2022 14:24
22030531-005	08D	Groundwater	1	03/22/2022 14:04
22030531-006	12	Groundwater	1	03/23/2022 8:50
22030531-007	13	Groundwater	1	03/23/2022 9:07
22030531-019	46	Groundwater	1	03/23/2022 9:25
22030531-020	47	Groundwater	1	03/23/2022 8:27
22030531-024	Field Blank	Aqueous	1	03/23/2022 13:30



Dates Report

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
22030531-002A	07	03/22/2022 15:31	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/05/2022 0:00
22030531-003A	08	03/22/2022 14:24	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/05/2022 0:00
22030531-004A	08 Duplicate	03/22/2022 14:24	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/05/2022 0:00
22030531-005A	08D	03/22/2022 14:04	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/05/2022 0:00
22030531-006A	12	03/23/2022 8:50	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/05/2022 0:00
22030531-007A	13	03/23/2022 9:07	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/04/2022 0:00
22030531-019A	46	03/23/2022 9:25	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/08/2022 0:00
22030531-020A	47	03/23/2022 8:27	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/08/2022 0:00
22030531-024A	Field Blank	03/23/2022 13:30	03/24/2022 7:50		
	EPA 903.0/904.0, Radium 226/228				04/09/2022 0:00



Receiving Check List

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22030531

Client Project: Hennepin Q1 Groundwater

Report Date: 21-Apr-22

Carrier: Adam Bridges

Received By: PWR

Completed by:

On:

24-Mar-22

Mary E. Kemp

Reviewed by:

On:

24-Mar-22

Elizabeth A. Hurley

Pages to follow:

Chain of custody

3

Extra pages included

40

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C 1.8

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☐

Lab ☐

NA ☒

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?

Yes ☐

No ☐

No VOA vials ☒

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☒

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

pH strip #78011. - MKemp - 3/24/2022 4:27:34 PM

Additional nitric acid (80810) was needed in 08 and 34 upon arrival at the laboratory. - MKemp - 3/24/2022 4:27:36 PM

CHAIN OF CUSTODY

Pg 1 of 3 Workorder # 22030531

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: <u>Ramboll / Vistra</u> Address: <u>234 W. Florida St.</u> City/State/Zip: <u>Milwaukee, WI 53204</u> Contact: <u>Eric Bauer</u> Phone: <u>(414) 837-3607</u> Email: <u>eric.bauer@ramboll.com</u> Fax: _____				Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE <u>1.8 °C</u> LTG# <u>5</u> Preserved in: ☐ LAB ☐ FIELD <u>FOR LAB USE ONLY</u> LAB NOTES: <u>7801, additional HNO3 (80810) to 08+34 MEK 3/24/22</u>																																																													
Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☒ No Are these samples known to be hazardous? ☐ Yes ☒ No Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No				Client Comments: Subcontracted to Pace-National Multiple program reports will be generated																																																													
PROJECT NAME/NUMBER <u>Hennepin Q1 Groundwater</u>		SAMPLE COLLECTOR'S NAME <u>J. KILLEY A. BRIDGES</u>		# and Type of Containers <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>UNP</th> <th>HNO3</th> <th>NaOH</th> <th>H2SO4</th> <th>HCL</th> <th>MeOH</th> <th>NaHSO4</th> <th>TSP</th> <th>Other</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other										INDICATE ANALYSIS REQUESTED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Ra226/228</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <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></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Ra226/228																																							
UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other																																																									
Ra226/228																																																																	
RESULTS REQUESTED ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)		BILLING INSTRUCTIONS <u>Vistra PD#</u>																																																															
Lab Use Only	Sample ID	Date/Time Sampled	Matrix																																																														
<u>22030531-001</u>	<u>03R</u>	<u>03/23/22 1208</u>	<u>Groundwater</u>																																																														
<u>002</u>	<u>07</u>	<u>03/23/22 1531</u>	<u>Groundwater</u>																																																														
<u>003</u>	<u>08</u>	<u>03/22/22 1924</u>	<u>Groundwater</u>																																																														
<u>004</u>	<u>08 Duplicate</u>	<u>03/08/22 1424</u>	<u>Groundwater</u>																																																														
<u>005</u>	<u>08D</u>	<u>03/23/22 1404</u>	<u>Groundwater</u>																																																														
<u>006</u>	<u>12</u>	<u>03/23/22 0850</u>	<u>Groundwater</u>																																																														
<u>007</u>	<u>13</u>	<u>03/23/22 0807</u>	<u>Groundwater</u>																																																														
<u>008</u>	<u>18S</u>	<u>03/23/22 1137</u>	<u>Groundwater</u>																																																														
<u>009</u>	<u>18D</u>	<u>03/23/22 151</u>	<u>Groundwater</u>																																																														
<u>010</u>	<u>21R</u>	<u>3/20/22 0844</u>	<u>Groundwater</u>																																																														
<u>011</u>	<u>22</u>	<u>03/22/22 1150</u>	<u>Groundwater</u>																																																														
Relinquished By <u>[Signature]</u>		Date/Time <u>3-24-22 0750</u>		Received By <u>[Signature]</u>		Date/Time <u>3/24/22 0850</u>																																																											

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CHAIN OF CUSTODY

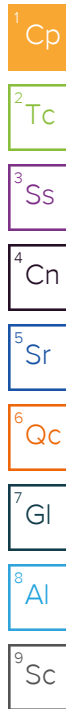
Pg 3 of 3 Workorder # 22030531

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

[illegible]

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

April 12, 2022



TEKLAB, Inc.

Sample Delivery Group: L1476141
Samples Received: 03/28/2022
Project Number: 22030531
Description:

Report To: Elizabeth Hurley
5445 Horseshoe Lake Road
Collinsville, IL 62234

Entire Report Reviewed By:



Mark W. Beasley
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 www.pacenational.com

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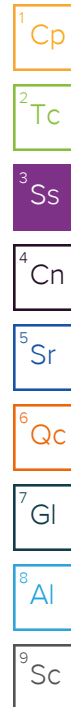
¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY

22030531-001A L1476141-01 Non-Potable Water

Collected by
Collected date/time
03/23/22 12:08
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN



22030531-002A L1476141-02 Non-Potable Water

Collected by
Collected date/time
03/22/22 15:31
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-003A L1476141-03 Non-Potable Water

Collected by
Collected date/time
03/22/22 14:24
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-004A L1476141-04 Non-Potable Water

Collected by
Collected date/time
03/22/22 14:24
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-005A L1476141-05 Non-Potable Water

Collected by
Collected date/time
03/22/22 14:04
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-006A L1476141-06 Non-Potable Water

Collected by
Collected date/time
03/23/22 08:50
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/06/22 12:30	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

22030531-007A L1476141-07 Non-Potable Water

Collected by
Collected date/time
03/23/22 09:07
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/04/22 15:55	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/05/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

22030531-008A L1476141-08 Non-Potable Water

Collected by
Collected date/time
03/23/22 11:37
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/04/22 15:55	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/05/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-009A L1476141-09 Non-Potable Water

Collected by
Collected date/time
03/23/22 11:51
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/04/22 15:55	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/05/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-010A L1476141-10 Non-Potable Water

Collected by
Collected date/time
03/22/22 08:44
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1840609	1	03/30/22 15:24	04/04/22 15:55	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/05/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-011A L1476141-11 Non-Potable Water

Collected by
Collected date/time
03/22/22 11:50
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-012A L1476141-12 Non-Potable Water

Collected by
Collected date/time
03/22/22 12:16
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

22030531-013A L1476141-13 Non-Potable Water

Collected by
Collected date/time
03/22/22 11:15
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

22030531-014A L1476141-14 Non-Potable Water

Collected by
Collected date/time
03/22/22 09:56
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1840707	1	04/01/22 13:55	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1840707	1	04/01/22 13:55	04/05/22 13:10	RGT	Mt. Juliet, TN

22030531-015A L1476141-15 Non-Potable Water

Collected by
Collected date/time
03/22/22 10:18
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/09/22 10:57	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:57	RGT	Mt. Juliet, TN

22030531-016A L1476141-16 Non-Potable Water

Collected by
Collected date/time
03/22/22 08:09
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/09/22 10:57	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:57	RGT	Mt. Juliet, TN

22030531-017A L1476141-17 Non-Potable Water

Collected by
Collected date/time
03/22/22 09:10
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/09/22 10:57	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:57	RGT	Mt. Juliet, TN

22030531-018A L1476141-18 Non-Potable Water

Collected by
Collected date/time
03/23/22 12:36
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/09/22 10:58	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:58	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

22030531-019A L1476141-19 Non-Potable Water

Collected by
Collected date/time
03/23/22 09:25
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/09/22 10:58	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:58	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

22030531-020A L1476141-20 Non-Potable Water

Collected by
Collected date/time
03/23/22 08:27
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/09/22 10:58	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:58	RGT	Mt. Juliet, TN

22030531-021A L1476141-21 Non-Potable Water

Collected by
Collected date/time
03/22/22 11:32
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/08/22 13:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/09/22 10:58	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:58	RGT	Mt. Juliet, TN

22030531-022A L1476141-22 Non-Potable Water

Collected by
Collected date/time
03/22/22 12:35
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/11/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/11/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:58	RGT	Mt. Juliet, TN

22030531-023A L1476141-23 Non-Potable Water

Collected by
Collected date/time
03/22/22 10:46
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/11/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/11/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:58	RGT	Mt. Juliet, TN

22030531-024A L1476141-24 Non-Potable Water

Collected by
Collected date/time
03/23/22 13:30
Received date/time
03/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1841735	1	04/01/22 09:00	04/11/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1841143	1	04/08/22 11:21	04/11/22 13:10	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1841143	1	04/08/22 11:21	04/09/22 10:57	RGT	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.



Mark W. Beasley
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	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.704		0.296	0.525	04/06/2022 12:30	WG1840609
(T) Barium	99.0			62.0-143	04/06/2022 12:30	WG1840609
(T) Yttrium	96.7			79.0-136	04/06/2022 12:30	WG1840609

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.840		0.339	0.565	04/06/2022 12:30	WG1840707

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.136	J	0.166	0.208	04/05/2022 13:10	WG1840707
(T) Barium-133	93.9			30.0-143	04/05/2022 13:10	WG1840707

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.612		0.288	0.514	04/06/2022 12:30	WG1840609
(T) Barium	96.4			62.0-143	04/06/2022 12:30	WG1840609
(T) Yttrium	100			79.0-136	04/06/2022 12:30	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.852		0.356	0.564	04/06/2022 12:30	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.240		0.209	0.232	04/05/2022 13:10	WG1840707
(T) Barium-133	96.1			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.32		0.360	0.621	04/06/2022 12:30	WG1840609
(T) Barium	92.5			62.0-143	04/06/2022 12:30	WG1840609
(T) Yttrium	99.4			79.0-136	04/06/2022 12:30	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.48		0.397	0.648	04/06/2022 12:30	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.162	J	0.168	0.184	04/05/2022 13:10	WG1840707
(T) Barium-133	93.6			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.185	U	0.337	0.632	04/06/2022 12:30	WG1840609
(T) Barium	89.3			62.0-143	04/06/2022 12:30	WG1840609
(T) Yttrium	106			79.0-136	04/06/2022 12:30	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.196	U	0.400	0.691	04/06/2022 12:30	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.196	J	0.216	0.279	04/05/2022 13:10	WG1840707
(T) Barium-133	96.7			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.433	J	0.314	0.571	04/06/2022 12:30	WG1840609
(T) Barium	86.7			62.0-143	04/06/2022 12:30	WG1840609
(T) Yttrium	98.0			79.0-136	04/06/2022 12:30	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.480	J	0.337	0.615	04/06/2022 12:30	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0473	U	0.123	0.229	04/05/2022 13:10	WG1840707
(T) Barium-133	96.6			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.502		0.275	0.495	04/06/2022 12:30	WG1840609
(T) Barium	92.8			62.0-143	04/06/2022 12:30	WG1840609
(T) Yttrium	98.7			79.0-136	04/06/2022 12:30	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.571		0.307	0.549	04/06/2022 12:30	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0686	U	0.136	0.238	04/05/2022 13:10	WG1840707
(T) Barium-133	93.2			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.970		0.295	0.548	04/04/2022 15:55	WG1840609
(T) Barium	91.5			62.0-143	04/04/2022 15:55	WG1840609
(T) Yttrium	101			79.0-136	04/04/2022 15:55	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.04		0.324	0.597	04/05/2022 13:10	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0682	U	0.135	0.236	04/05/2022 13:10	WG1840707
(T) Barium-133	96.3			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.761		0.301	0.569	04/04/2022 15:55	WG1840609
(T) Barium	90.6			62.0-143	04/04/2022 15:55	WG1840609
(T) Yttrium	106			79.0-136	04/04/2022 15:55	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.885		0.356	0.640	04/05/2022 13:10	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.123	J	0.191	0.294	04/05/2022 13:10	WG1840707
(T) Barium-133	94.3			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.564		0.257	0.488	04/04/2022 15:55	WG1840609
(T) Barium	93.9			62.0-143	04/04/2022 15:55	WG1840609
(T) Yttrium	105			79.0-136	04/04/2022 15:55	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.653		0.301	0.553	04/05/2022 13:10	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0896	U	0.157	0.260	04/05/2022 13:10	WG1840707
(T) Barium-133	91.1			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.06		0.316	0.584	04/04/2022 15:55	WG1840609
(T) Barium	84.8			62.0-143	04/04/2022 15:55	WG1840609
(T) Yttrium	109			79.0-136	04/04/2022 15:55	WG1840609

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.58		0.465	0.660	04/05/2022 13:10	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.521		0.341	0.308	04/05/2022 13:10	WG1840707
(T) Barium-133	93.8			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.101	U	0.323	0.589	04/08/2022 13:35	WG1841735
(T) Barium	86.7			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	102			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.223	U	0.385	0.675	04/08/2022 13:35	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.123	J	0.210	0.329	04/05/2022 13:10	WG1840707
(T) Barium-133	93.8			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.305	J	0.318	0.573	04/08/2022 13:35	WG1841735
(T) Barium	92.9			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	111			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.765		0.426	0.611	04/08/2022 13:35	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.459		0.283	0.212	04/05/2022 13:10	WG1840707
(T) Barium-133	94.1			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.345	J	0.278	0.499	04/08/2022 13:35	WG1841735
(T) Barium	96.0			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	102			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.377	J	0.289	0.526	04/08/2022 13:35	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0325	U	0.0802	0.167	04/05/2022 13:10	WG1840707
(T) Barium-133	96.3			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.578	J	0.355	0.632	04/08/2022 13:35	WG1841735
(T) Barium	84.7			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	103			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.691		0.390	0.676	04/08/2022 13:35	WG1840707

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.114	J	0.162	0.239	04/05/2022 13:10	WG1840707
(T) Barium-133	91.5			30.0-143	04/05/2022 13:10	WG1840707

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0309	U	0.291	0.534	04/08/2022 13:35	WG1841735
(T) Barium	98.5			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	108			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0309	U	0.301	0.566	04/09/2022 10:57	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.000	U	0.0787	0.187	04/09/2022 10:57	WG1841143
(T) Barium-133	97.3			30.0-143	04/09/2022 10:57	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0599	U	0.272	0.502	04/08/2022 13:35	WG1841735
(T) Barium	103			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	108			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.360	J	0.343	0.521	04/09/2022 10:57	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.360		0.209	0.141	04/09/2022 10:57	WG1841143
(T) Barium-133	97.1			30.0-143	04/09/2022 10:57	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0844	U	0.351	0.653	04/08/2022 13:35	WG1841735
(T) Barium	90.9			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	104			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0841	U	0.380	0.695	04/09/2022 10:57	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0841	U	0.146	0.238	04/09/2022 10:57	WG1841143
(T) Barium-133	95.0			30.0-143	04/09/2022 10:57	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.211	U	0.314	0.569	04/08/2022 13:35	WG1841735
(T) Barium	93.8			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	102			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.459	J	0.372	0.602	04/09/2022 10:58	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.248		0.200	0.198	04/09/2022 10:58	WG1841143
(T) Barium-133	95.9			30.0-143	04/09/2022 10:58	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.184	U	0.310	0.563	04/08/2022 13:35	WG1841735
(T) Barium	89.4			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	104			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.335	J	0.359	0.616	04/09/2022 10:58	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.151	J	0.182	0.250	04/09/2022 10:58	WG1841143
(T) Barium-133	94.5			30.0-143	04/09/2022 10:58	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0480	U	0.282	0.523	04/08/2022 13:35	WG1841735
(T) Barium	94.1			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	107			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.137	U	0.333	0.582	04/09/2022 10:58	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.137	J	0.178	0.255	04/09/2022 10:58	WG1841143
(T) Barium-133	102			30.0-143	04/09/2022 10:58	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.923	U	0.312	0.606	04/08/2022 13:35	WG1841735
(T) Barium	92.3			62.0-143	04/08/2022 13:35	WG1841735
(T) Yttrium	101			79.0-136	04/08/2022 13:35	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.113	U	0.338	0.628	04/09/2022 10:58	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.113	J	0.129	0.166	04/09/2022 10:58	WG1841143
(T) Barium-133	96.4			30.0-143	04/09/2022 10:58	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.525	J	0.302	0.549	04/11/2022 13:10	WG1841735
(T) Barium	88.8			62.0-143	04/11/2022 13:10	WG1841735
(T) Yttrium	107			79.0-136	04/11/2022 13:10	WG1841735

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.919		0.368	0.564	04/11/2022 13:10	WG1841143

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.393		0.211	0.131	04/09/2022 10:58	WG1841143
(T) Barium-133	96.7			30.0-143	04/09/2022 10:58	WG1841143

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.901		0.274	0.482	04/11/2022 13:10	WG1841735
(T) Barium	96.3			62.0-143	04/11/2022 13:10	WG1841735
(T) Yttrium	109			79.0-136	04/11/2022 13:10	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.66		0.413	0.515	04/11/2022 13:10	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.759		0.309	0.180	04/09/2022 10:58	WG1841143
(T) Barium-133	98.2			30.0-143	04/09/2022 10:58	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.674		0.290	0.521	04/11/2022 13:10	WG1841735
(T) Barium	92.0			62.0-143	04/11/2022 13:10	WG1841735
(T) Yttrium	114			79.0-136	04/11/2022 13:10	WG1841735

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.674		0.322	0.599	04/11/2022 13:10	WG1841143

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0261	U	0.140	0.295	04/09/2022 10:57	WG1841143
(T) Barium-133	100			30.0-143	04/09/2022 10:57	WG1841143

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3778692-1 04/06/22 12:30

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	0.535		0.211	0.375
(T) Barium	104		104	
(T) Yttrium	99.3		99.3	

L1476141-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1476141-01 04/06/22 12:30 • (DUP) R3778692-5 04/06/22 12:30

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.704	0.296	0.525	-0.639	0.932	0.525	1	200	1.37	U	20	3
(T) Barium	99.0			96.7	96.7							
(T) Yttrium	96.7			93.3	93.3							

Laboratory Control Sample (LCS)

(LCS) R3778692-2 04/06/22 12:30

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.08	102	80.0-120	
(T) Barium			106		
(T) Yttrium			99.6		

L1475358-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1475358-04 04/06/22 12:30 • (MS) R3778692-3 04/06/22 12:30 • (MSD) R3778692-4 04/06/22 12:30

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	0.329	16.9	19.8	99.3	116	1	70.0-130			15.6		20
(T) Barium		93.4			102	101							
(T) Yttrium		97.0			97.0	98.5							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3780286-1 04/08/22 13:35

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	0.0402	<u>U</u>	0.232	0.423
(T) Barium	97.7		97.7	
(T) Yttrium	111	<u>C1</u>	111	

L1471347-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1471347-02 04/08/22 13:35 • (DUP) R3780286-5 04/08/22 13:35

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.928	0.408	0.718	0.383	0.864	0.718	1	83.2	0.571	<u>U</u>	20	3
(T) Barium	96.3			99.6	99.6							
(T) Yttrium	108			107	107							

Laboratory Control Sample (LCS)

(LCS) R3780286-2 04/08/22 13:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.73	115	80.0-120	
(T) Barium			98.9		
(T) Yttrium			101		

L1476141-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476141-18 04/08/22 13:35 • (MS) R3780286-3 04/08/22 13:35 • (MSD) R3780286-4 04/08/22 13:35

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	0.211	18.0	17.4	107	103	1	70.0-130			3.22		20
(T) Barium		93.8			96.6	92.9							
(T) Yttrium		102			117	114			<u>C1</u>	<u>C1</u>			

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3778684-1 04/05/22 13:10

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-226	-0.0197	<u>U</u>	0.0300	0.0899
(T) Barium-133	96.7		96.7	

L1475291-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1475291-21 04/05/22 13:10 • (DUP) R3778684-5 04/05/22 13:10

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.445	0.304	0.296	0.211	0.232	0.296	1	71.2	0.611	<u>J</u>	20	3
(T) Barium-133	96.0			95.8	95.8							

Laboratory Control Sample (LCS)

(LCS) R3778684-2 04/05/22 13:10

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.55	90.7	80.0-120	
(T) Barium-133			96.3		

L1476141-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476141-14 04/05/22 13:10 • (MS) R3778684-3 04/05/22 13:10 • (MSD) R3778684-4 04/05/22 13:10

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	0.114	20.2	20.6	100	103	1	75.0-125			2.16		20
(T) Barium-133		91.5			93.4	94.8							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3779719-1 04/09/22 10:57

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-226	0.00477	<u>U</u>	0.0184	0.0419
(T) Barium-133	93.5		93.5	

L1476166-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1476166-03 04/09/22 10:57 • (DUP) R3779719-5 04/09/22 10:57

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.0292	0.163	0.305	0.0202	0.121	0.305	1	36.7	0.0446	<u>U</u>	20	3
(T) Barium-133	94.8			95.9	95.9							

Laboratory Control Sample (LCS)

(LCS) R3779719-2 04/09/22 10:57

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.24	104	80.0-120	
(T) Barium-133			95.3		

L1474227-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474227-01 04/09/22 10:57 • (MS) R3779719-3 04/09/22 10:57 • (MSD) R3779719-4 04/09/22 10:57

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	0.263	19.3	19.2	95.2	94.7	1	75.0-125			0.519		20
(T) Barium-133		94.4			98.8	97.0							

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

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

C1	Tracer recovery limits have been exceeded; values are outside upper control limits.
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 Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

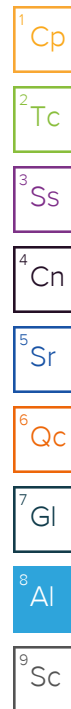
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☒ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field**Teklab Inc**5445 Horseshoe Lake Road
Collinsville, IL 62234Cooler Temp:

Sampler: Joseph Riley/Adam Bridges

QC Level:

Project# 22030531

Contact: Elizabeth Hurley

Email: EHurley@TekLabInc.com

Requested Due Date: Standard TAT

Billing/PO: 32601

Phone: (618) 344-1004 ext 33

Comments: Please issue reports and invoices via email only

Please analyze for Radium 226/228 on your standard turn around time.

Samples collected from an IL site.

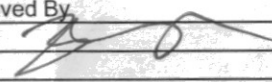
Batch QC is required for all analyses requested. EDD requested..

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Ra226/228															
-01	22030531-001A	3/23/22 1208	HNO3	Groundwater	✓															
-02	22030531-002A	3/22/22 1531	HNO3	Groundwater	✓															
-03	22030531-003A	3/22/22 1424	HNO3	Groundwater	✓															
-04	22030531-004A	3/22/22 1424	HNO3	Groundwater	✓															
-05	22030531-005A	3/22/22 1404	HNO3	Groundwater	✓															
-06	22030531-006A	3/23/22 0850	HNO3	Groundwater	✓															
-07	22030531-007A	3/23/22 0907	HNO3	Groundwater	✓															
-08	22030531-008A	3/23/22 1137	HNO3	Groundwater	✓															
-09	22030531-009A	3/23/22 1151	HNO3	Groundwater	✓															
-10	22030531-010A	3/22/22 0844	HNO3	Groundwater	✓															
-11	22030531-011A	3/22/22 1150	HNO3	Groundwater	✓															

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp	3/25/22 1600		3/29/22 QTCN

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☒ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc

5445 Horseshoe Lake Road
Collinsville, IL 62234Cooler Temp: Sampler: Joseph Riley/Adam BridgesQC Level: 3

Comments: Please issue reports and invoices via email only

Please analyze for Radium 226/228 on your standard turn around time.

Samples collected from an IL site.

Batch QC is required for all analyses requested. EDD requested..

Project# 22030531

Contact: Elizabeth Hurley

Email: EHurley@TekLabInc.com

Requested Due Date: Standard TAT

Billing/PO: 32601

Phone: (618) 344-1004 ext 33

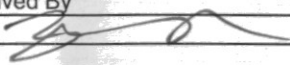
L1476141

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Ra226/228														
-12	22030531-012A	3/22/22 1216	HNO3	Groundwater	✓														
-13	22030531-013A	3/22/22 1115	HNO3	Groundwater	✓														
-14	22030531-014A	3/22/22 0956	HNO3	Groundwater	✓														
-15	22030531-015A	3/22/22 1018	HNO3	Groundwater	✓														
-16	22030531-016A	3/22/22 0809	HNO3	Groundwater	✓														
-17	22030531-017A	3/22/22 0910	HNO3	Groundwater	✓														
-18	22030531-018A	3/23/22 1236	HNO3	Groundwater	✓														
-19	22030531-019A	3/23/22 0925	HNO3	Groundwater	✓														
-20	22030531-020A	3/23/22 0827	HNO3	Groundwater	✓														
-21	22030531-021A	3/22/22 1132	HNO3	Groundwater	✓														
-22	22030531-022A	3/22/22 1235	HNO3	Groundwater	✓														

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp	3/25/22 1600		3/29/22 1120

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☒ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ FieldTeklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234Cooler Temp: Sampler: Joseph Riley/Adam Bridges QC Level: 3

Project# 22030531

Contact: Elizabeth Hurley

Email: EHurley@TekLabInc.com

Requested Due Date: Standard TAT

Billing/PO: 32601

Phone: (618) 344-1004 ext 33

Comments: Please Issue reports and invoices via email only

Please analyze for Radium 226/228 on your standard turn around time.

Samples collected from an IL site.

Batch QC is required for all analyses requested. EDD requested..

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix
-23	22030531-023A	3/22/22 1046	HNO3	Groundwater
-24	22030531-024A	3/23/22 1330	HNO3	Aqueous
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater

Ra226/228																			

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N 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
 RAD Screen <0.5 mR/hr: ☒ Y ☐ N

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp	3/25/22 1600	[Signature]	3/28/22 0900

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization, and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

October 31, 2022

Eric Bauer
Ramboll
234 W. Florida St.
Milwaukee, WI 53204
TEL: (414) 837-3614
FAX: (414) 837-3608



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Hennepin Q3 Groundwater

WorkOrder: 22081261

Dear Eric Bauer:

TEKLAB, INC received 46 samples on 9/15/2022 10:05:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	19
Dates Report	20
Quality Control Results	30
Receiving Check List	65
Chain of Custody	Appended

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| C - RL shown is a Client Requested Quantitation Limit | E - Value above quantitation range |
| H - Holding times exceeded | I - Associated internal standard was outside method criteria |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | T - TIC(Tentatively identified compound) |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Cooler Receipt Temp: 4.4 °C

An employee of Teklab, Inc. collected the sample(s).

34 could not be accessed for sample collection.

Perchlorate analysis was performed by Keystone Laboratories, Inc. See attached for QC results.

This report contains HEN_257_803 data. EAH 10/31/22

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Ramboll**Work Order:** 22081261**Client Project:** Hennepin Q3 Groundwater**Report Date:** 31-Oct-22

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2023	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2023	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2023	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2023	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville

Client: Ramboll
 Client Project: Hennepin Q3 Groundwater
 Lab ID: 22081261-005
 Matrix: GROUNDWATER

Work Order: 22081261
 Report Date: 31-Oct-22
 Client Sample ID: 07
 Collection Date: 09/14/2022 17:21

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		66.70	ft	1	09/14/2022 17:21	R319062
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.73		1	09/14/2022 17:21	R319062
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	09/14/2022 17:21	R319062
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		175	mV	1	09/14/2022 17:21	R319062
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1990	µS/cm	1	09/14/2022 17:21	R319062
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		11.6	°C	1	09/14/2022 17:21	R319062
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		4.38	mg/L	1	09/14/2022 17:21	R319062
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		515	mg/L	1	09/21/2022 14:45	R318378
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/21/2022 14:45	R318378
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		954	mg/L	1	09/20/2022 15:17	R318312
<i>QC has recovered outside the acceptance range. Data is validated by passing LCS.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		92	mg/L	5	09/21/2022 12:43	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.11	mg/L	1	09/22/2022 16:35	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	20		180	mg/L	5	09/21/2022 12:43	R318345
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		160	mg/L	1	09/16/2022 18:22	196679
Magnesium	NELAP	0.050		57.4	mg/L	1	09/16/2022 18:22	196679
Potassium	NELAP	0.100		3.58	mg/L	1	09/16/2022 18:22	196679
Sodium	NELAP	0.050		113	mg/L	1	09/16/2022 18:22	196679
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:50	196679
Arsenic	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:50	196679
Barium	NELAP	1.0		162	µg/L	5	09/19/2022 20:50	196679
Boron	NELAP	25.0		64.9	µg/L	5	09/20/2022 15:37	196679
Cadmium	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:50	196679
Chromium	NELAP	1.5	J	1.1	µg/L	5	09/22/2022 14:14	196679
Cobalt	NELAP	1.0		67.6	µg/L	5	09/20/2022 15:37	196679
Lead	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:50	196679
Lithium	*	3.0		10.5	µg/L	5	09/20/2022 15:37	196679
Molybdenum	NELAP	1.5	J	0.7	µg/L	5	09/19/2022 20:50	196679
Selenium	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:50	196679

Client: Ramboll
 Client Project: Hennepin Q3 Groundwater
 Lab ID: 22081261-006
 Matrix: GROUNDWATER

Work Order: 22081261
 Report Date: 31-Oct-22
 Client Sample ID: 08
 Collection Date: 09/14/2022 9:37

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.73	ft	1	09/14/2022 9:37	R319062
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.58		1	09/14/2022 9:37	R319062
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	09/14/2022 9:37	R319062
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		184	mV	1	09/14/2022 9:37	R319062
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		2200	µS/cm	1	09/14/2022 9:37	R319062
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.4	°C	1	09/14/2022 9:37	R319062
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		2.82	mg/L	1	09/14/2022 9:37	R319062
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		486	mg/L	1	09/21/2022 14:52	R318378
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/21/2022 14:52	R318378
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		1060	mg/L	1	09/20/2022 15:10	R318312
<i>QC has recovered outside the acceptance range. Data is validated by passing LCS.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		115	mg/L	5	09/21/2022 12:46	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.10	mg/L	1	09/22/2022 16:38	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	40		224	mg/L	10	09/21/2022 12:51	R318345
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		182	mg/L	1	09/16/2022 18:26	196679
Magnesium	NELAP	0.050		48.0	mg/L	1	09/16/2022 18:26	196679
Potassium	NELAP	0.100		6.92	mg/L	1	09/16/2022 18:26	196679
Sodium	NELAP	0.050		133	mg/L	1	09/16/2022 18:26	196679
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:56	196679
Arsenic	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:56	196679
Barium	NELAP	1.0		86.4	µg/L	5	09/19/2022 20:56	196679
Boron	NELAP	25.0		90.0	µg/L	5	09/20/2022 15:43	196679
Cadmium	NELAP	1.0	J	0.2	µg/L	5	09/19/2022 20:56	196679
Chromium	NELAP	1.5		< 1.5	µg/L	5	09/22/2022 14:57	196679
Cobalt	NELAP	1.0		2.7	µg/L	5	09/20/2022 15:43	196679
Lead	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:56	196679
Lithium	*	3.0		10.6	µg/L	5	09/20/2022 15:43	196679
Molybdenum	NELAP	1.5	J	1.4	µg/L	5	09/19/2022 20:56	196679
Selenium	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 20:56	196679

Client: Ramboll
 Client Project: Hennepin Q3 Groundwater
 Lab ID: 22081261-007
 Matrix: GROUNDWATER

Work Order: 22081261
 Report Date: 31-Oct-22
 Client Sample ID: 08D
 Collection Date: 09/14/2022 9:09

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.96	ft	1	09/14/2022 9:09	R319062
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.47		1	09/14/2022 9:09	R319062
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	09/14/2022 9:09	R319062
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		214	mV	1	09/14/2022 9:09	R319062
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		2790	µS/cm	1	09/14/2022 9:09	R319062
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.7	°C	1	09/14/2022 9:09	R319062
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		0.46	mg/L	1	09/14/2022 9:09	R319062
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		550	mg/L	1	09/21/2022 14:58	R318378
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/21/2022 14:58	R318378
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		1410	mg/L	1	09/20/2022 15:11	R318312
<i>QC has recovered outside the acceptance range. Data is validated by passing LCS.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		198	mg/L	10	09/21/2022 12:54	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.11	mg/L	1	09/22/2022 16:40	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	40		297	mg/L	10	09/21/2022 12:54	R318345
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		232	mg/L	1	09/16/2022 18:29	196679
Magnesium	NELAP	0.050		66.3	mg/L	1	09/16/2022 18:29	196679
Potassium	NELAP	0.100		4.45	mg/L	1	09/16/2022 18:29	196679
Sodium	NELAP	0.050		181	mg/L	1	09/16/2022 18:29	196679
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:03	196679
Arsenic	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:03	196679
Barium	NELAP	1.0		118	µg/L	5	09/19/2022 21:03	196679
Boron	NELAP	25.0		95.1	µg/L	5	09/20/2022 15:50	196679
Cadmium	NELAP	1.0	J	0.4	µg/L	5	10/20/2022 17:27	198935
Chromium	NELAP	1.5		< 1.5	µg/L	5	09/22/2022 15:02	196679
Cobalt	NELAP	1.0		3.5	µg/L	5	09/20/2022 15:50	196679
Lead	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:03	196679
Lithium	*	3.0		12.5	µg/L	5	09/20/2022 15:50	196679
Molybdenum	NELAP	1.5	J	1.3	µg/L	5	09/19/2022 21:03	196679
Selenium	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:03	196679

Client: Ramboll
 Client Project: Hennepin Q3 Groundwater
 Lab ID: 22081261-009
 Matrix: GROUNDWATER

Work Order: 22081261
 Report Date: 31-Oct-22
 Client Sample ID: 12
 Collection Date: 09/14/2022 11:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.90	ft	1	09/14/2022 11:05	R319062
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		7.19		1	09/14/2022 11:05	R319062
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	09/14/2022 11:05	R319062
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		180	mV	1	09/14/2022 11:05	R319062
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1010	µS/cm	1	09/14/2022 11:05	R319062
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		20.7	°C	1	09/14/2022 11:05	R319062
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.11	mg/L	1	09/14/2022 11:05	R319062
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		232	mg/L	1	09/21/2022 15:04	R318378
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/21/2022 15:04	R318378
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	R	494	mg/L	1	09/19/2022 15:47	R318312
<i>RPD for DUP was outside control limits due to sample composition.</i>								
<i>QC has recovered outside the acceptance range. Data is validated by passing LCS.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		60	mg/L	5	09/21/2022 13:21	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.25	mg/L	1	09/22/2022 16:59	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	20		86	mg/L	5	09/21/2022 13:21	R318345
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		77.8	mg/L	1	09/16/2022 18:33	196679
Magnesium	NELAP	0.050		29.0	mg/L	1	09/16/2022 18:33	196679
Potassium	NELAP	0.100		4.21	mg/L	1	09/16/2022 18:33	196679
Sodium	NELAP	0.050		48.6	mg/L	1	09/16/2022 18:33	196679
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:09	196679
Arsenic	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:09	196679
Barium	NELAP	1.0		51.7	µg/L	5	09/19/2022 21:09	196679
Boron	NELAP	25.0		139	µg/L	5	09/20/2022 16:22	196679
Cadmium	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:09	196679
Chromium	NELAP	1.5	J	1.1	µg/L	5	10/20/2022 17:40	198935
Cobalt	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 16:22	196679
Lead	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:09	196679
Lithium	*	3.0		8.7	µg/L	5	09/20/2022 16:22	196679
Molybdenum	NELAP	1.5		18.0	µg/L	5	09/19/2022 21:09	196679
Selenium	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:09	196679

Client: Ramboll
 Client Project: Hennepin Q3 Groundwater
 Lab ID: 22081261-010
 Matrix: GROUNDWATER

Work Order: 22081261
 Report Date: 31-Oct-22
 Client Sample ID: 13
 Collection Date: 09/14/2022 11:19

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		50.91	ft	1	09/14/2022 11:19	R319062
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		7.30		1	09/14/2022 11:19	R319062
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	09/14/2022 11:19	R319062
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		178	mV	1	09/14/2022 11:19	R319062
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		993	µS/cm	1	09/14/2022 11:19	R319062
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		18.7	°C	1	09/14/2022 11:19	R319062
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.25	mg/L	1	09/14/2022 11:19	R319062
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		229	mg/L	1	09/21/2022 15:09	R318378
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/21/2022 15:09	R318378
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		540	mg/L	1	09/19/2022 15:48	R318312
<i>QC has recovered outside the acceptance range. Data is validated by passing LCS.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		65	mg/L	5	09/21/2022 13:29	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.22	mg/L	1	09/22/2022 16:43	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	20		83	mg/L	5	09/21/2022 13:29	R318345
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		79.1	mg/L	1	09/16/2022 18:37	196679
Magnesium	NELAP	0.050		30.2	mg/L	1	09/16/2022 18:37	196679
Potassium	NELAP	0.100		4.32	mg/L	1	09/16/2022 18:37	196679
Sodium	NELAP	0.050		45.2	mg/L	1	09/16/2022 18:37	196679
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	10/20/2022 17:52	198935
Arsenic	NELAP	1.0	J	0.5	µg/L	5	09/19/2022 21:15	196679
Barium	NELAP	1.0		40.4	µg/L	5	09/19/2022 21:15	196679
Boron	NELAP	25.0		220	µg/L	5	09/20/2022 16:28	196679
Cadmium	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:15	196679
Chromium	NELAP	1.5	J	1.0	µg/L	5	09/22/2022 15:12	196679
Cobalt	NELAP	1.0	J	0.1	µg/L	5	09/20/2022 16:28	196679
Lead	NELAP	1.0		< 1.0	µg/L	5	09/19/2022 21:15	196679
Lithium	*	3.0		12.0	µg/L	5	09/20/2022 16:28	196679
Molybdenum	NELAP	1.5		15.5	µg/L	5	09/19/2022 21:15	196679
Selenium	NELAP	1.0	J	0.8	µg/L	5	10/20/2022 17:52	198935

Client: Ramboll
 Client Project: Hennepin Q3 Groundwater
 Lab ID: 22081261-031
 Matrix: GROUNDWATER

Work Order: 22081261
 Report Date: 31-Oct-22
 Client Sample ID: 46
 Collection Date: 09/14/2022 10:44

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		51.00	ft	1	09/14/2022 10:44	R319062
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		7.13		1	09/14/2022 10:44	R319062
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	09/14/2022 10:44	R319062
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		180	mV	1	09/14/2022 10:44	R319062
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1010	µS/cm	1	09/14/2022 10:44	R319062
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		21.1	°C	1	09/14/2022 10:44	R319062
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.07	mg/L	1	09/14/2022 10:44	R319062
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		236	mg/L	1	09/16/2022 11:38	R318111
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/16/2022 11:38	R318111
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		490	mg/L	1	09/20/2022 16:15	R318379
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		59	mg/L	5	09/21/2022 16:38	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.25	mg/L	1	09/22/2022 17:41	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	20		88	mg/L	5	09/21/2022 16:38	R318345
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		73.7	mg/L	1	09/19/2022 16:02	196682
Magnesium	NELAP	0.050		27.8	mg/L	1	09/19/2022 16:02	196682
Potassium	NELAP	0.100		4.21	mg/L	1	09/19/2022 16:02	196682
Sodium	NELAP	0.050		49.4	mg/L	1	09/19/2022 16:02	196682
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:03	196682
Arsenic	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:03	196682
Barium	NELAP	1.0		65.2	µg/L	5	09/20/2022 0:03	196682
Boron	NELAP	25.0		142	µg/L	5	09/20/2022 22:57	196682
Cadmium	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:03	196682
Chromium	NELAP	1.5		< 1.5	µg/L	5	09/22/2022 23:14	196682
Cobalt	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 22:57	196682
Lead	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:03	196682
Lithium	*	3.0		9.3	µg/L	5	09/20/2022 22:57	196682
Molybdenum	NELAP	1.5		17.5	µg/L	5	09/20/2022 0:03	196682
Selenium	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:03	196682



Laboratory Results

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Client: Ramboll
Client Project: Hennepin Q3 Groundwater
Lab ID: 22081261-032
Matrix: GROUNDWATER

Work Order: 22081261
Report Date: 31-Oct-22
Client Sample ID: 47
Collection Date: 09/14/2022 11:42

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		55.39	ft	1	09/14/2022 11:42	R319062
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.97		1	09/14/2022 11:42	R319062
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	09/14/2022 11:42	R319062
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		153	mV	1	09/14/2022 11:42	R319062
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		1110	µS/cm	1	09/14/2022 11:42	R319062
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		19.4	°C	1	09/14/2022 11:42	R319062
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		1.37	mg/L	1	09/14/2022 11:42	R319062
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		280	mg/L	1	09/16/2022 11:43	R318111
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/16/2022 11:43	R318111
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		526	mg/L	1	09/20/2022 16:15	R318379
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		67	mg/L	5	09/21/2022 16:59	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.30	mg/L	1	09/22/2022 17:44	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	20		93	mg/L	5	09/21/2022 16:59	R318345
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		94.6	mg/L	1	09/19/2022 16:06	196682
Magnesium	NELAP	0.050		28.6	mg/L	1	09/19/2022 16:06	196682
Potassium	NELAP	0.100		4.66	mg/L	1	09/19/2022 16:06	196682
Sodium	NELAP	0.050		52.2	mg/L	1	09/19/2022 16:06	196682
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:10	196682
Arsenic	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:10	196682
Barium	NELAP	1.0		82.6	µg/L	5	09/20/2022 0:10	196682
Boron	NELAP	25.0		185	µg/L	5	09/20/2022 23:03	196682
Cadmium	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:10	196682
Chromium	NELAP	1.5		3.2	µg/L	5	09/22/2022 23:18	196682
Cobalt	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 23:03	196682
Lead	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:10	196682
Lithium	*	3.0		9.8	µg/L	5	09/20/2022 23:03	196682
Molybdenum	NELAP	1.5		25.0	µg/L	5	09/20/2022 0:10	196682
Selenium	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 0:10	196682

Client: Ramboll**Work Order:** 22081261**Client Project:** Hennepin Q3 Groundwater**Report Date:** 31-Oct-22**Lab ID:** 22081261-037**Client Sample ID:** 55**Matrix:** GROUNDWATER**Collection Date:** 09/13/2022 15:11

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		55.21	ft	1	09/13/2022 15:11	R319062

Client: Ramboll**Work Order:** 22081261**Client Project:** Hennepin Q3 Groundwater**Report Date:** 31-Oct-22**Lab ID:** 22081261-038**Client Sample ID:** SG02**Matrix:** GROUNDWATER**Collection Date:** 09/13/2022 14:52

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		6.99	ft	1	09/13/2022 14:52	R319062



Laboratory Results

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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Lab ID: 22081261-039

Client Sample ID: XSG01

Matrix: GROUNDWATER

Collection Date: 09/13/2022 16:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		442.00	ft	1	09/13/2022 16:35	R319062

Client: Ramboll
 Client Project: Hennepin Q3 Groundwater
 Lab ID: 22081261-040
 Matrix: GROUNDWATER

Work Order: 22081261
 Report Date: 31-Oct-22
 Client Sample ID: 08 Duplicate
 Collection Date: 09/14/2022 9:37

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS								
Depth to water from measuring point	*	0		53.73	ft	1	09/14/2022 9:37	R319062
STANDARD METHOD 4500-H B 2001 FIELD								
pH	*	1.00		6.58		1	09/14/2022 9:37	R319062
STANDARD METHODS 2130 B FIELD								
Turbidity	*	1.0		< 1.0	NTU	1	09/14/2022 9:37	R319062
STANDARD METHODS 18TH ED. 2580 B FIELD								
Oxidation-Reduction Potential	*	-300		184	mV	1	09/14/2022 9:37	R319062
STANDARD METHODS 2510 B FIELD								
Spec. Conductance, Field	*	0		2200	µS/cm	1	09/14/2022 9:37	R319062
STANDARD METHODS 2550 B FIELD								
Temperature	*	0		13.4	°C	1	09/14/2022 9:37	R319062
STANDARD METHODS 4500-O G FIELD								
Oxygen, Dissolved	*	0		2.82	mg/L	1	09/14/2022 9:37	R319062
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		496	mg/L	1	09/21/2022 16:11	R318378
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/21/2022 16:11	R318378
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		1040	mg/L	1	09/20/2022 16:16	R318379
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		113	mg/L	5	09/21/2022 17:53	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10	J	0.10	mg/L	1	09/22/2022 18:08	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	40		214	mg/L	10	09/23/2022 9:16	R318566
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		172	mg/L	1	09/19/2022 16:36	196682
Magnesium	NELAP	0.050		44.8	mg/L	1	09/19/2022 16:36	196682
Potassium	NELAP	0.100		6.17	mg/L	1	09/19/2022 16:36	196682
Sodium	NELAP	0.050		122	mg/L	1	09/19/2022 16:36	196682
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:38	196682
Arsenic	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:38	196682
Barium	NELAP	1.0		99.7	µg/L	5	10/20/2022 18:55	196682
Boron	NELAP	25.0		87.2	µg/L	5	09/21/2022 0:18	196682
Cadmium	NELAP	1.0	J	0.2	µg/L	5	09/20/2022 1:38	196682
Chromium	NELAP	1.5		10.1	µg/L	5	09/23/2022 0:22	196682
Cobalt	NELAP	1.0		2.9	µg/L	5	09/21/2022 0:18	196682
Lead	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:38	196682
Lithium	*	3.0		11.5	µg/L	5	09/23/2022 0:22	196682
Molybdenum	NELAP	1.5		1.7	µg/L	5	10/20/2022 18:49	198935
Selenium	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:38	196682

Client: Ramboll
 Client Project: Hennepin Q3 Groundwater
 Lab ID: 22081261-041
 Matrix: AQUEOUS

Work Order: 22081261
 Report Date: 31-Oct-22
 Client Sample ID: Field Blank
 Collection Date: 09/14/2022 16:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO ₃)	NELAP	0		2	mg/L	1	09/22/2022 8:14	R318378
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO ₃)	NELAP	0		0	mg/L	1	09/22/2022 8:14	R318378
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		< 20	mg/L	1	09/20/2022 16:16	R318379
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	09/21/2022 17:58	R318339
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		< 0.10	mg/L	1	09/22/2022 18:10	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		< 4	mg/L	1	09/21/2022 17:58	R318345
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		< 0.100	mg/L	1	09/19/2022 16:39	196682
Magnesium	NELAP	0.050		< 0.050	mg/L	1	09/19/2022 16:39	196682
Potassium	NELAP	0.100		< 0.100	mg/L	1	09/20/2022 10:13	196682
Sodium	NELAP	0.050		< 0.050	mg/L	1	09/19/2022 16:39	196682
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:44	196682
Arsenic	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:44	196682
Barium	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:44	196682
Boron	NELAP	25.0		< 25.0	µg/L	5	09/21/2022 0:24	196682
Cadmium	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:44	196682
Chromium	NELAP	1.5		< 1.5	µg/L	5	09/23/2022 0:27	196682
Cobalt	NELAP	1.0		< 1.0	µg/L	5	09/21/2022 0:24	196682
Lead	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:44	196682
Lithium	*	3.0		< 3.0	µg/L	5	09/23/2022 0:27	196682
Molybdenum	NELAP	1.5		< 1.5	µg/L	5	09/20/2022 1:44	196682
Selenium	NELAP	1.0		< 1.0	µg/L	5	09/20/2022 1:44	196682

Client: Ramboll**Work Order:** 22081261**Client Project:** Hennepin Q3 Groundwater**Report Date:** 31-Oct-22

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
22081261-005	07	Groundwater	7	09/14/2022 17:21
22081261-006	08	Groundwater	9	09/14/2022 9:37
22081261-007	08D	Groundwater	9	09/14/2022 9:09
22081261-009	12	Groundwater	7	09/14/2022 11:05
22081261-010	13	Groundwater	7	09/14/2022 11:19
22081261-031	46	Groundwater	2	09/14/2022 10:44
22081261-032	47	Groundwater	2	09/14/2022 11:42
22081261-037	55	Groundwater	1	09/13/2022 15:11
22081261-038	SG02	Groundwater	1	09/13/2022 14:52
22081261-039	XSG01	Groundwater	1	09/13/2022 16:35
22081261-040	08 Duplicate	Groundwater	9	09/14/2022 9:37
22081261-041	Field Blank	Aqueous	9	09/14/2022 16:45

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
22081261-005A	07	09/14/2022 17:21	09/15/2022 10:05		
	Field Elevation Measurements				09/14/2022 17:21
	Standard Method 4500-H B 2001 Field				09/14/2022 17:21
	Standard Methods 2130 B Field				09/14/2022 17:21
	Standard Methods 18th Ed. 2580 B Field				09/14/2022 17:21
	Standard Methods 2320 B (Total) 1997, 2011				09/21/2022 14:45
	Standard Methods 2320 B 1997, 2011				09/21/2022 14:45
	Standard Methods 2510 B Field				09/14/2022 17:21
	Standard Methods 2540 C (Total) 1997, 2011				09/20/2022 15:17
	Standard Methods 2550 B Field				09/14/2022 17:21
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/15/2022 18:43
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/16/2022 14:35
	Standard Methods 4500-O G Field				09/14/2022 17:21
	SW-846 9036 (Total)				09/21/2022 12:43
	SW-846 9214 (Total)				09/22/2022 16:35
	SW-846 9251 (Total)				09/21/2022 12:43
22081261-005B	07	09/14/2022 17:21	09/15/2022 10:05		
	EPA 314.0				09/21/2022 0:00
22081261-005C	07	09/14/2022 17:21	09/15/2022 10:05		
	SW-846 9036 (Dissolved)				09/19/2022 13:55
	SW-846 9214 (Dissolved)				09/20/2022 11:37
	SW-846 9251 (Dissolved)				09/19/2022 13:55
22081261-005D	07	09/14/2022 17:21	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/16/2022 18:22
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/19/2022 20:50
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 15:37
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/22/2022 14:14
	SW-846 7470A (Total)			09/19/2022 10:35	09/20/2022 10:59
22081261-005E	07	09/14/2022 17:21	09/15/2022 10:05		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/20/2022 22:27
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/21/2022 19:23
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 4:21
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 16:12
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	10/03/2022 15:05
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/18/2022 14:32	10/26/2022 17:33
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/18/2022 14:32	10/26/2022 17:39
	SW-846 7470A (Dissolved)			09/19/2022 10:35	09/20/2022 11:01

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
22081261-005F	07	09/14/2022 17:21	09/15/2022 10:05		
	SW-846 9012A (Total)			09/16/2022 10:30	09/19/2022 14:49
22081261-005G	07	09/14/2022 17:21	09/15/2022 10:05		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				09/16/2022 12:42
22081261-006A	08	09/14/2022 9:37	09/15/2022 10:05		
	Field Elevation Measurements				09/14/2022 9:37
	Standard Method 4500-H B 2001 Field				09/14/2022 9:37
	Standard Methods 2130 B Field				09/14/2022 9:37
	Standard Methods 2320 B 1997, 2011				09/21/2022 14:52
	Standard Methods 18th Ed. 2580 B Field				09/14/2022 9:37
	Standard Methods 2320 B (Total) 1997, 2011				09/21/2022 14:52
	Standard Methods 2320 B 1997, 2011				09/21/2022 14:52
	Standard Methods 2510 B Field				09/14/2022 9:37
	Standard Methods 2540 C (Total) 1997, 2011				09/20/2022 15:10
	Standard Methods 2550 B Field				09/14/2022 9:37
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/15/2022 18:43
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/16/2022 15:39
	Standard Methods 4500-O G Field				09/14/2022 9:37
	SW-846 9036 (Total)				09/21/2022 12:46
	SW-846 9214 (Total)				09/22/2022 16:38
	SW-846 9251 (Total)				09/21/2022 12:51
22081261-006B	08	09/14/2022 9:37	09/15/2022 10:05		
	EPA 314.0				09/21/2022 0:00
22081261-006C	08	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 9036 (Dissolved)				09/19/2022 13:58
	SW-846 9214 (Dissolved)				09/20/2022 11:40
	SW-846 9251 (Dissolved)				09/19/2022 13:58
22081261-006D	08	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/16/2022 18:26
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/19/2022 20:56
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 15:43
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/22/2022 14:57
	SW-846 7470A (Total)			09/19/2022 10:35	09/20/2022 11:04
22081261-006E	08	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			09/19/2022 12:15	09/20/2022 8:59
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/20/2022 22:33
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/21/2022 19:29

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 4:27
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 16:18
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/30/2022 9:54
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	10/03/2022 15:11
	SW-846 7470A (Dissolved)			09/19/2022 10:35	09/20/2022 11:06
22081261-006F	08	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 9012A (Total)			09/16/2022 10:30	09/19/2022 14:53
22081261-006G	08	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 9066 (Total)				09/20/2022 9:03
22081261-006H	08	09/14/2022 9:37	09/15/2022 10:05		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				09/16/2022 22:23
22081261-006I	08	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				09/16/2022 13:06
22081261-007A	08D	09/14/2022 9:09	09/15/2022 10:05		
	Field Elevation Measurements				09/14/2022 9:09
	Standard Method 4500-H B 2001 Field				09/14/2022 9:09
	Standard Methods 2130 B Field				09/14/2022 9:09
	Standard Methods 2320 B 1997, 2011				09/21/2022 14:58
	Standard Methods 18th Ed. 2580 B Field				09/14/2022 9:09
	Standard Methods 2320 B (Total) 1997, 2011				09/21/2022 14:58
	Standard Methods 2320 B 1997, 2011				09/21/2022 14:58
	Standard Methods 2510 B Field				09/14/2022 9:09
	Standard Methods 2540 C (Total) 1997, 2011				09/20/2022 15:11
	Standard Methods 2550 B Field				09/14/2022 9:09
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/15/2022 18:46
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/16/2022 15:41
	Standard Methods 4500-O G Field				09/14/2022 9:09
	SW-846 9036 (Total)				09/21/2022 12:54
	SW-846 9214 (Total)				09/22/2022 16:40
	SW-846 9251 (Total)				09/21/2022 12:54
22081261-007B	08D	09/14/2022 9:09	09/15/2022 10:05		
	EPA 314.0				09/21/2022 0:00
22081261-007C	08D	09/14/2022 9:09	09/15/2022 10:05		
	SW-846 9036 (Dissolved)				09/19/2022 14:22
	SW-846 9214 (Dissolved)				09/20/2022 11:43
	SW-846 9251 (Dissolved)				09/19/2022 14:22
22081261-007D	08D	09/14/2022 9:09	09/15/2022 10:05		

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name				Prep Date/Time	Analysis Date/Time
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/16/2022 18:29
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/19/2022 21:03
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 15:50
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/22/2022 15:02
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/19/2022 7:43	10/20/2022 17:27
	SW-846 7470A (Total)			09/19/2022 10:35	09/20/2022 11:08
22081261-007E	08D	09/14/2022 9:09	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			09/19/2022 12:15	09/20/2022 9:40
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/20/2022 23:24
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/21/2022 19:35
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 5:17
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 16:50
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/30/2022 9:58
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	10/03/2022 15:17
	SW-846 7470A (Dissolved)			09/19/2022 10:35	09/20/2022 11:10
22081261-007F	08D	09/14/2022 9:09	09/15/2022 10:05		
	SW-846 9012A (Total)			09/16/2022 10:30	09/19/2022 14:57
22081261-007G	08D	09/14/2022 9:09	09/15/2022 10:05		
	SW-846 9066 (Total)				09/20/2022 9:12
22081261-007H	08D	09/14/2022 9:09	09/15/2022 10:05		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				09/16/2022 20:01
22081261-007I	08D	09/14/2022 9:09	09/15/2022 10:05		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				09/16/2022 13:33
22081261-009A	12	09/14/2022 11:05	09/15/2022 10:05		
	Field Elevation Measurements				09/14/2022 11:05
	Standard Method 4500-H B 2001 Field				09/14/2022 11:05
	Standard Methods 2130 B Field				09/14/2022 11:05
	Standard Methods 2320 B 1997, 2011				09/21/2022 15:04
	Standard Methods 18th Ed. 2580 B Field				09/14/2022 11:05
	Standard Methods 2320 B (Total) 1997, 2011				09/21/2022 15:04
	Standard Methods 2320 B 1997, 2011				09/21/2022 15:04
	Standard Methods 2510 B Field				09/14/2022 11:05
	Standard Methods 2540 C (Total) 1997, 2011				09/19/2022 15:47
	Standard Methods 2550 B Field				09/14/2022 11:05
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/15/2022 18:47
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/16/2022 16:07
	Standard Methods 4500-O G Field				09/14/2022 11:05

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
	SW-846 9036 (Total)				09/21/2022 13:21
	SW-846 9214 (Total)				09/22/2022 16:59
	SW-846 9251 (Total)				09/21/2022 13:21
22081261-009B	12	09/14/2022 11:05	09/15/2022 10:05		
	SW-846 9036 (Dissolved)				09/19/2022 14:43
	SW-846 9214 (Dissolved)				09/20/2022 11:47
	SW-846 9251 (Dissolved)				09/19/2022 14:43
22081261-009C	12	09/14/2022 11:05	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/16/2022 18:33
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/19/2022 21:09
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 16:22
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/19/2022 7:43	10/20/2022 17:40
22081261-009D	12	09/14/2022 11:05	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			09/19/2022 12:15	09/20/2022 9:43
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/20/2022 23:37
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/21/2022 20:32
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 5:29
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 17:02
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/30/2022 10:07
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	10/03/2022 16:39
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/18/2022 14:32	10/19/2022 22:22
	SW-846 7470A (Dissolved)			09/19/2022 10:35	09/20/2022 11:19
22081261-009E	12	09/14/2022 11:05	09/15/2022 10:05		
	SW-846 9012A (Total)			09/16/2022 10:30	09/19/2022 12:34
22081261-009F	12	09/14/2022 11:05	09/15/2022 10:05		
	SW-846 9066 (Total)				09/20/2022 9:20
22081261-009G	12	09/14/2022 11:05	09/15/2022 10:05		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				09/16/2022 20:08
22081261-010A	13	09/14/2022 11:19	09/15/2022 10:05		
	Field Elevation Measurements				09/14/2022 11:19
	Standard Method 4500-H B 2001 Field				09/14/2022 11:19
	Standard Methods 2130 B Field				09/14/2022 11:19
	Standard Methods 2320 B 1997, 2011				09/21/2022 15:09
	Standard Methods 18th Ed. 2580 B Field				09/14/2022 11:19
	Standard Methods 2320 B (Total) 1997, 2011				09/21/2022 15:09
	Standard Methods 2320 B 1997, 2011				09/21/2022 15:09
	Standard Methods 2510 B Field				09/14/2022 11:19

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name				Prep Date/Time	Analysis Date/Time
	Standard Methods 2540 C (Total) 1997, 2011				09/19/2022 15:48
	Standard Methods 2550 B Field				09/14/2022 11:19
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/15/2022 18:48
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/16/2022 16:12
	Standard Methods 4500-O G Field				09/14/2022 11:19
	SW-846 9036 (Total)				09/21/2022 13:29
	SW-846 9214 (Total)				09/22/2022 16:43
	SW-846 9251 (Total)				09/21/2022 13:29
22081261-010B	13	09/14/2022 11:19	09/15/2022 10:05		
	SW-846 9036 (Dissolved)				09/19/2022 14:51
	SW-846 9214 (Dissolved)				09/20/2022 11:49
	SW-846 9251 (Dissolved)				09/19/2022 14:51
22081261-010C	13	09/14/2022 11:19	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/16/2022 18:37
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/19/2022 21:15
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 16:28
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/22/2022 15:12
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/19/2022 7:43	10/20/2022 17:52
22081261-010D	13	09/14/2022 11:19	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			09/19/2022 12:15	09/20/2022 9:46
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/20/2022 23:44
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/21/2022 20:38
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 5:35
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/23/2022 17:09
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	09/30/2022 10:12
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:15	10/03/2022 16:45
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/18/2022 14:32	10/19/2022 22:29
	SW-846 7470A (Dissolved)			09/19/2022 10:35	09/20/2022 11:22
22081261-010E	13	09/14/2022 11:19	09/15/2022 10:05		
	SW-846 9012A (Total)			09/16/2022 10:30	09/19/2022 15:06
22081261-010F	13	09/14/2022 11:19	09/15/2022 10:05		
	SW-846 9066 (Total)				09/20/2022 9:23
22081261-010G	13	09/14/2022 11:19	09/15/2022 10:05		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				09/16/2022 20:11
22081261-031A	46	09/14/2022 10:44	09/15/2022 10:05		
	Field Elevation Measurements				09/14/2022 10:44
	Standard Method 4500-H B 2001 Field				09/14/2022 10:44

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	Standard Methods 2130 B Field				09/14/2022 10:44
	Standard Methods 18th Ed. 2580 B Field				09/14/2022 10:44
	Standard Methods 2320 B (Total) 1997, 2011				09/16/2022 11:38
	Standard Methods 2320 B 1997, 2011				09/16/2022 11:38
	Standard Methods 2510 B Field				09/14/2022 10:44
	Standard Methods 2540 C (Total) 1997, 2011				09/20/2022 16:15
	Standard Methods 2550 B Field				09/14/2022 10:44
	Standard Methods 4500-O G Field				09/14/2022 10:44
	SW-846 9036 (Total)				09/21/2022 16:38
	SW-846 9214 (Total)				09/22/2022 17:41
	SW-846 9251 (Total)				09/21/2022 16:38
22081261-031B	46	09/14/2022 10:44	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/19/2022 16:02
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 0:03
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 22:57
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/22/2022 23:14
22081261-032A	47	09/14/2022 11:42	09/15/2022 10:05		
	Field Elevation Measurements				09/14/2022 11:42
	Standard Method 4500-H B 2001 Field				09/14/2022 11:42
	Standard Methods 2130 B Field				09/14/2022 11:42
	Standard Methods 18th Ed. 2580 B Field				09/14/2022 11:42
	Standard Methods 2320 B (Total) 1997, 2011				09/16/2022 11:43
	Standard Methods 2320 B 1997, 2011				09/16/2022 11:43
	Standard Methods 2510 B Field				09/14/2022 11:42
	Standard Methods 2540 C (Total) 1997, 2011				09/20/2022 16:15
	Standard Methods 2550 B Field				09/14/2022 11:42
	Standard Methods 4500-O G Field				09/14/2022 11:42
	SW-846 9036 (Total)				09/21/2022 16:59
	SW-846 9214 (Total)				09/22/2022 17:44
	SW-846 9251 (Total)				09/21/2022 16:59
22081261-032B	47	09/14/2022 11:42	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/19/2022 16:06
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 0:10
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 23:03
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/22/2022 23:18
22081261-037A	55	09/13/2022 15:11	09/15/2022 10:05		
	Field Elevation Measurements				09/13/2022 15:11



Dates Report

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
22081261-038A	SG02	09/13/2022 14:52	09/15/2022 10:05		
	Field Elevation Measurements				09/13/2022 14:52
22081261-039A	XSG01	09/13/2022 16:35	09/15/2022 10:05		
	Field Elevation Measurements				09/13/2022 16:35
22081261-040A	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	Field Elevation Measurements				09/14/2022 9:37
	Standard Method 4500-H B 2001 Field				09/14/2022 9:37
	Standard Methods 2130 B Field				09/14/2022 9:37
	Standard Methods 2320 B 1997, 2011				09/21/2022 16:11
	Standard Methods 18th Ed. 2580 B Field				09/14/2022 9:37
	Standard Methods 2320 B (Total) 1997, 2011				09/21/2022 16:11
	Standard Methods 2320 B 1997, 2011				09/21/2022 16:11
	Standard Methods 2510 B Field				09/14/2022 9:37
	Standard Methods 2540 C (Total) 1997, 2011				09/20/2022 16:16
	Standard Methods 2550 B Field				09/14/2022 9:37
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/15/2022 18:53
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/15/2022 19:22
	Standard Methods 4500-O G Field				09/14/2022 9:37
	SW-846 9036 (Total)				09/21/2022 17:53
	SW-846 9214 (Total)				09/22/2022 18:08
	SW-846 9251 (Total)				09/23/2022 9:16
22081261-040B	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	EPA 314.0				09/21/2022 0:00
22081261-040C	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 9036 (Dissolved)				09/19/2022 18:44
	SW-846 9214 (Dissolved)				09/20/2022 12:12
	SW-846 9251 (Dissolved)				09/19/2022 18:43
22081261-040D	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/19/2022 16:36
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 1:38
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/21/2022 0:18
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/23/2022 0:22
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/19/2022 7:43	10/20/2022 18:49
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	10/20/2022 18:55
	SW-846 7470A (Total)			09/19/2022 10:39	09/20/2022 12:29
22081261-040E	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			09/19/2022 12:16	09/20/2022 9:49

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/21/2022 2:49
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/23/2022 8:27
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/23/2022 20:23
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/26/2022 14:20
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/29/2022 19:16
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	10/03/2022 17:23
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/18/2022 14:32	10/26/2022 17:58
	SW-846 7470A (Dissolved)			09/19/2022 10:39	09/20/2022 12:32
22081261-040F	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 9012A (Total)			09/16/2022 17:53	09/19/2022 16:15
22081261-040G	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 9066 (Total)				09/20/2022 9:56
22081261-040H	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	Standard Methods 4500-NH3 G (Total) 1997, 2011				09/19/2022 15:29
22081261-040I	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				09/16/2022 15:34
22081261-041A	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
	Standard Methods 2320 B 1997, 2011				09/22/2022 8:14
	Standard Methods 2320 B (Total) 1997, 2011				09/22/2022 8:14
	Standard Methods 2320 B 1997, 2011				09/22/2022 8:14
	Standard Methods 2540 C (Total) 1997, 2011				09/20/2022 16:16
	Standard Methods 4500-NO2 B (Total) 2000, 2011				09/15/2022 18:53
	Standard Methods 4500-NO3 F (Total) 2000, 2011				09/16/2022 14:04
	SW-846 9036 (Total)				09/21/2022 17:58
	SW-846 9214 (Total)				09/22/2022 18:10
	SW-846 9251 (Total)				09/21/2022 17:58
22081261-041B	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
	EPA 314.0				09/21/2022 0:00
22081261-041C	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
	SW-846 9036 (Dissolved)				09/19/2022 19:02
	SW-846 9214 (Dissolved)				09/20/2022 12:15
	SW-846 9251 (Dissolved)				09/19/2022 19:01
22081261-041D	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/19/2022 16:39
	SW-846 3005A, 6010B, Metals by ICP (Total)			09/16/2022 9:55	09/20/2022 10:13
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/20/2022 1:44
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/16/2022 9:55	09/21/2022 0:24

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name				Prep Date/Time	Analysis Date/Time
SW-846 3005A, 6020A, Metals by ICPMS (Total)				09/16/2022 9:55	09/23/2022 0:27
SW-846 7470A (Total)				09/19/2022 10:39	09/20/2022 12:38
22081261-041E	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
SW-846 3005A, 6010B, Metals by ICP (Dissolved)				09/19/2022 12:16	09/20/2022 9:58
SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)				09/19/2022 12:16	09/21/2022 2:56
SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)				09/19/2022 12:16	09/22/2022 0:04
SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)				09/19/2022 12:16	09/23/2022 8:33
SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)				09/19/2022 12:16	09/23/2022 20:29
SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)				09/19/2022 12:16	09/26/2022 14:26
SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)				09/19/2022 12:16	09/29/2022 19:22
SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)				09/19/2022 12:16	10/03/2022 18:26
SW-846 7470A (Dissolved)				09/19/2022 10:39	09/20/2022 12:41
22081261-041F	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
SW-846 9012A (Total)				09/16/2022 17:53	09/19/2022 16:41
22081261-041G	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
SW-846 9066 (Total)					09/20/2022 10:01
22081261-041H	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
Standard Methods 4500-NH3 G (Total) 1997, 2011					09/16/2022 20:54
22081261-041I	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS					09/16/2022 9:03

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

STANDARD METHOD 4500-H B 2001 FIELD

Batch R319062		SampType: LCS		Units							
SampID: LCS-R319062											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
pH	*	1.00		6.99	7.000	0	99.9	98.57	101.4	09/13/2022	
pH	*	1.00		7.05	7.000	0	100.7	98.57	101.4	09/14/2022	

STANDARD METHODS 2510 B FIELD

Batch R319062		SampType: LCS		Units $\mu\text{S/cm}$							Date Analyzed
SampID: LCS-R319062											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Spec. Conductance, Field	*	0		1400	1409	0	99.1	90	110	09/14/2022	
Spec. Conductance, Field	*	0		1390	1409	0	98.4	90	110	09/13/2022	

STANDARD METHODS 2320 B 1997, 2011

Batch R318378		SampType: MBLK		Units mg/L								
SampID: MBLK												Date Analyzed
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Alkalinity, Total (as CaCO3)			0		0						09/21/2022	

Batch R318378		SampType: LCS		Units mg/L							
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Alkalinity, Total (as CaCO3)		0		237	234.0	0	101.3	90	110	09/21/2022	

Batch R318378		SampType: DUP		Units mg/L				RPD Limit: 10				Date Analyzed
SampID: 22081261-040ADUP												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Alkalinity, Total (as CaCO3)			0		509				496.0	2.59	09/21/2022	

Batch R318378		SampType: DUP		Units mg/L				RPD Limit: 10				Date Analyzed
SampID: 22081261-041ADUP												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Alkalinity, Total (as CaCO3)			0	R	1				2.000	66.67	09/22/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R318312 SampType: MBLK Units mg/L

SampleID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/19/2022
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/19/2022
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/19/2022

Batch R318312 SampType: LCS Units mg/L

SampleID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		966	1000	0	96.6	90	110	09/19/2022
Total Dissolved Solids		20		958	1000	0	95.8	90	110	09/19/2022
Total Dissolved Solids		20		940	1000	0	94.0	90	110	09/19/2022

Batch R318312 SampType: DUP Units mg/L

RPD Limit: 5

SampleID: 22081261-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		628				614.0	2.25	09/19/2022

Batch R318312 SampType: DUP Units mg/L

RPD Limit: 5

SampleID: 22081261-009ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20	R	534				494.0	7.78	09/19/2022

Batch R318312 SampType: DUP Units mg/L

RPD Limit: 5

SampleID: 22081261-034ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20	R	590				658.0	10.90	09/19/2022

Batch R318379 SampType: MBLK Units mg/L

SampleID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/20/2022

Batch R318379 SampType: LCS Units mg/L

SampleID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		926	1000	0	92.6	90	110	09/20/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R318379		SampType: DUP		Units mg/L		RPD Limit: 5					
SampID: 22081261-030ADUP										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Total Dissolved Solids		20		510				508.0	0.39	09/20/2022	

Batch R318379		SampType: DUP		Units mg/L		RPD Limit: 5					
SampID: 22081261-045ADUP										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Total Dissolved Solids		20		400				394.0	1.51	09/20/2022	

Batch R318497		SampType: MBLK		Units mg/L							
SampID: MBLK										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/22/2022	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/23/2022	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/22/2022	

Batch R318497		SampType: LCS		Units mg/L							
SampID: LCS										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Total Dissolved Solids		20		970	1000	0	97.0	90	110	09/23/2022	
Total Dissolved Solids		20		954	1000	0	95.4	90	110	09/22/2022	
Total Dissolved Solids		20		952	1000	0	95.2	90	110	09/22/2022	

Batch R318497		SampType: DUP		Units mg/L		RPD Limit: 5					
SampID: 22081261-046ADUP										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Total Dissolved Solids		20	H	400				388.0	3.05	09/22/2022	

Batch R318645		SampType: MBLK		Units mg/L							
SampID: MBLK										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/26/2022	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/26/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R318645 SampType: LCS Units mg/L

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		974	1000	0	97.4	90	110	09/26/2022
Total Dissolved Solids		20		952	1000	0	95.2	90	110	09/26/2022

Batch R318645 SampType: DUP Units mg/L

RPD Limit: 5

SampID: 22081261-029ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		50	H	480				485.0	1.04	09/26/2022

STANDARD METHODS 4500-NH3 G (TOTAL) 1997, 2011

Batch R318162 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		< 0.10	0.0270	0	0	-100	100	09/16/2022

Batch R318162 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		1.02	1.000	0	102.2	90	110	09/16/2022

Batch R318162 SampType: MS Units mg/L

SampID: 22081261-003GMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10	S	1.78	2.000	0.02900	87.5	90	110	09/16/2022

Batch R318162 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 22081261-003GMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Ammonia (as N)		0.10	S	1.73	2.000	0.02900	85.1	1.779	2.74	09/16/2022

Batch R318237 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		< 0.10	0.0270	0	0	-100	100	09/19/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

STANDARD METHODS 4500-NH3 G (TOTAL) 1997, 2011

Batch R318237 SampType: LCS Units mg/L

SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)		0.10		1.08	1.000	0	108.0	90	110	09/19/2022

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R318110 SampType: MBLK Units mg/L

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		< 0.05	0.0250	0	0	-100	100	09/15/2022

Batch R318110 SampType: LCS Units mg/L

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.25		1.03	1.100	0	93.6	90	110	09/15/2022

Batch R318110 SampType: MS Units mg/L

SampID: 22081261-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		0.52	0.5000	0	103.6	85	115	09/15/2022

Batch R318110 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 22081261-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		0.52	0.5000	0	104.6	0.5180	0.96	09/15/2022

Batch R318110 SampType: MS Units mg/L

SampID: 22081261-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		0.54	0.5000	0.01600	105.8	85	115	09/15/2022

Batch R318110 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 22081261-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		0.55	0.5000	0.01600	106.6	0.5450	0.73	09/15/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R318110 SampType: MS Units mg/L

SampID: 22081261-004AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		0.52	0.5000	0	104.8	85	115	09/15/2022

Batch R318110 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 22081261-004AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		0.52	0.5000	0	104.6	0.5240	0.19	09/15/2022

STANDARD METHODS 4500-NO3 F (TOTAL) 2000, 2011

Batch R318114 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		< 0.050	0.0090	0	0	-100	100	09/15/2022

Batch R318114 SampType: LCS Units mg/L

SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		0.519	0.5000	0	103.8	90	110	09/15/2022

Batch R318170 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		< 0.050	0.0090	0	0	-100	100	09/16/2022

Batch R318170 SampType: LCS Units mg/L

SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		0.517	0.5000	0	103.4	90	110	09/16/2022

Batch R318170 SampType: MS Units mg/L

SampID: 22081261-005AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		2.50		26.2	12.50	13.35	102.6	85	115	09/16/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

STANDARD METHODS 4500-NO3 F (TOTAL) 2000, 2011

Batch R318170		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed
SampID: 22081261-005AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Nitrogen, Nitrate-Nitrite (as N)		2.50		26.3	12.50	13.35	103.7	26.18	0.48	09/16/2022	

Batch R318170		SampType: MS		Units mg/L							
SampID: 22081261-010AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrate-Nitrite (as N)		0.500	H	6.44	2.500	3.945	100.0	85	115	09/16/2022	

Batch R318170		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed
SampID: 22081261-010AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Nitrogen, Nitrate-Nitrite (as N)			0.500	H	6.38	2.500	3.945	97.3	6.444	1.05	09/16/2022

Batch R318170		SampType: MS		Units mg/L							
SampID: 22081261-043AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Nitrogen, Nitrate-Nitrite (as N)		0.500		5.84	2.500	3.394	97.8	85	115	09/16/2022	

Batch R318170		SampType: MSD		Units mg/L		RPD Limit: 10					Date Analyzed	
SampID: 22081261-043AMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Nitrogen, Nitrate-Nitrite (as N)			0.500		5.83	2.500	3.394	97.5	5.840	0.14	09/16/2022	

Batch R318305		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)			0.050		< 0.050	0.0090	0	0	-100	100	09/20/2022

Batch R318305		SampType: LCS		Units mg/L							Date Analyzed	
SampID: ICV/LCS												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Nitrogen, Nitrate-Nitrite (as N)		0.050		0.521	0.5000	0	104.2	90	110	09/20/2022		

Batch R318368		SampType: MBLK		Units mg/L							Date Analyzed
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrate-Nitrite (as N)			0.050		< 0.050	0.0090	0	0	-100	100	09/21/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

STANDARD METHODS 4500-NO3 F (TOTAL) 2000, 2011

Batch R318368 SampType: LCS Units mg/L

SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		0.518	0.5000	0	103.6	90	110	09/21/2022

Batch R318368 SampType: MS Units mg/L

SampID: 22081261-046AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.500	H	4.35	2.500	2.004	93.7	85	115	09/21/2022

Batch R318368 SampType: MSD Units mg/L

RPD Limit: 10

SampID: 22081261-046AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.500	H	4.49	2.500	2.004	99.4	4.346	3.24	09/21/2022

SW-846 9012A (TOTAL)

Batch 196683 SampType: MBLK Units mg/L

SampID: MBLK 220916 TCN1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		< 0.005	0.0015	0	0	-100	100	09/19/2022

Batch 196683 SampType: LCS Units mg/L

SampID: LCS 220916 TCN1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.026	0.0250	0	104.0	90	110	09/19/2022

Batch 196683 SampType: MS Units mg/L

SampID: 22081261-009EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.027	0.0250	0	106.9	75	125	09/19/2022

Batch 196683 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 22081261-009EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cyanide		0.005		0.027	0.0250	0	108.1	0.02673	1.06	09/19/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 9012A (TOTAL)

Batch 196703 SampType: MBLK Units mg/L

SampID: MBLK 220916 TCN2

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		< 0.005	0.0015	0	0	-100	100	09/19/2022

Batch 196703 SampType: LCS Units mg/L

SampID: LCS 220916 TCN2

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.027	0.0250	0	106.2	90	110	09/19/2022

Batch 196703 SampType: MS Units mg/L

SampID: 22081261-013FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.027	0.0250	0	107.6	75	125	09/19/2022

Batch 196703 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 22081261-013FMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cyanide		0.005		0.028	0.0250	0	111.3	0.02689	3.44	09/19/2022

Batch 196703 SampType: MS Units mg/L

SampID: 22081261-044DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cyanide		0.005		0.027	0.0250	0	106.5	75	125	09/19/2022

Batch 196703 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 22081261-044DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cyanide		0.005		0.024	0.0250	0	97.1	0.02662	9.22	09/19/2022

SW-846 9036 (DISSOLVED)

Batch R318277 SampType: MS Units mg/L

SampID: 22081261-011BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		50		177	100.0	69.61	107.2	85	115	09/19/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 9036 (DISSOLVED)

Batch R318277		SampType: MSD		Units mg/L				RPD Limit: 10			Date Analyzed
SampID: 22081261-011BMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Sulfate		50		176	100.0	69.61	106.3	176.8	0.47	09/19/2022	

Batch R318277		SampType: MS		Units mg/L							
SampID: 22081261-043BMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate		50		165	100.0	61.38	104.1	85	115	09/19/2022	

Batch R318277		SampType: MSD		Units mg/L				RPD Limit: 10				Date Analyzed
SampID: 22081261-043BMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Sulfate			50		166	100.0	61.38	104.2	165.5	0.06	09/19/2022	

Batch R318339		SampType: MS		Units mg/L							
SampID: 22081261-001CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		50		167	100.0	67.94	98.8	85	115	09/21/2022	

Batch R318339		SampType: MSD		Units mg/L				RPD Limit: 10				Date Analyzed
SampID: 22081261-001CMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Sulfate			50		170	100.0	67.94	102.5	166.7	2.21	09/21/2022	

SW-846 9036 (TOTAL)

Batch R318277		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate		10		< 10	6.140	0	0	-100	100	09/19/2022	

Batch R318277		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		22	20.00	0	107.6	90	110	09/19/2022	



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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 9036 (TOTAL)

Batch R318339		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate			10		< 10	6.140	0	0	-100	100	09/21/2022

Batch R318339		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		19	20.00	0	96.7	90	110	09/21/2022	

Batch R318339		SampType: MS		Units mg/L							
SampID: 22081261-012AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		50		164	100.0	64.25	99.5	85	115	09/21/2022	

Batch R318339		SampType: MSD		Units mg/L					RPD Limit: 10		
SampID: 22081261-012AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate			50		152	100.0	64.25	87.4	163.8	7.67	09/21/2022

Batch R318339		SampType: MS		Units mg/L							
SampID: 22081261-029AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		50	S	204	100.0	88.16	116.1	85	115	09/21/2022	

Batch R318339		SampType: MSD		Units mg/L					RPD Limit: 10		
SampID: 22081261-029AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate			50		193	100.0	88.16	104.8	204.2	5.67	09/21/2022

Batch R318485		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		< 10	6.140	0	0	-100	100	09/23/2022	

Batch R318485		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		20	20.00	0	100.0	90	110	09/23/2022	



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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

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SW-846 9066 (TOTAL)

Batch R318273		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Phenols		0.005		< 0.005	0.0028	0	0	-100	100	09/20/2022	

Batch R318273		SampType: LCS		Units mg/L							
SampID: ICV/LCS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Phenols		0.005		0.052	0.0500	0	103.9	90	110		
09/20/2022											

Batch R318273		SampType: MS		Units µg/L							
SampID: 22081261-003FMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Phenols		5		54	50.00	0	107.2	85	115	09/20/2022	

Batch R318273		SampType: MSD		Units µg/L				RPD Limit: 15				Date Analyzed
SampID: 22081261-003FMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Phenols			5		51	50.00	0	102.8	53.58	4.13	09/20/2022	

SW-846 9214 (DISSOLVED)

Batch R318287		SampType: MS		Units mg/L							
SampID: 22081261-003BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.29	2.000	0.1350	107.6	75	125	09/20/2022	

Batch R318287		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22081261-003BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.36	2.000	0.1350	111.1	2.286	3.06	09/20/2022

Batch R318287		SampType: MS		Units mg/L							
SampID: 22081261-011BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.34	2.000	0.2290	105.3	75	125	09/20/2022	



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Client Project: Hennepin Q3 Groundwater

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SW-846 9214 (DISSOLVED)

Batch R318287		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed
SampID: 22081261-011BMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Fluoride		0.10		2.39	2.000	0.2290	108.0	2.335	2.33	09/20/2022	

Batch R318287		SampType: MS		Units mg/L							
SampID: 22081261-042BMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		2.37	2.000	0.2010	108.4	75	125	09/20/2022	

Batch R318287		SampType: MSD		Units mg/L		RPD Limit: 15					Date Analyzed	
SampID: 22081261-042BMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Fluoride			0.10		2.40	2.000	0.2010	109.8	2.369	1.13	09/20/2022	

Batch R318287		SampType: MS		Units mg/L							
SampID: 22081261-046BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.27	2.000	0.1370	106.4	75	125	09/20/2022	

Batch R318287		SampType: MSD		Units mg/L			RPD Limit: 15				Date Analyzed
SampID: 22081261-046BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Fluoride			0.10		2.30	2.000	0.1370	108.2	2.266	1.49	09/20/2022

SW-846 9214 (TOTAL)

Batch R318287		SampType: MBLK		Units mg/L							
SampID: MBLK											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		< 0.10	0.0370	0	0	-100	100	09/20/2022	

Batch R318287		SampType: LCS		Units mg/L							
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		1.06	1.000	0	105.6	90	110	09/20/2022	



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Client Project: Hennepin Q3 Groundwater

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SW-846 9214 (TOTAL)

Batch R318437		SampType: MBLK		Units mg/L							
SampID: MBLK											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		< 0.10	0.0370	0	0	-100	100	09/22/2022	

Batch R318437		SampType: LCS		Units mg/L							
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		0.93	1.000	0	93.3	90	110	09/22/2022	

Batch R318437		SampType: MS		Units mg/L							
SampID: 22081261-011AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.39	2.000	0.2270	108.0	75	125	09/22/2022	

Batch R318437		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22081261-011AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.36	2.000	0.2270	106.9	2.387	0.93	09/22/2022

Batch R318437		SampType: MS		Units mg/L							
SampID: 22081261-018AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.27	2.000	0.1590	105.7	75	125	09/22/2022	

Batch R318437		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22081261-018AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.22	2.000	0.1590	103.3	2.273	2.13	09/22/2022

Batch R318437		SampType: MS		Units mg/L							
SampID: 22081261-033AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.26	2.000	0.1720	104.5	75	125	09/22/2022	

Batch R318437		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22081261-033AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.20	2.000	0.1720	101.6	2.262	2.60	09/22/2022



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Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 9214 (TOTAL)

Batch R318437		SampType: MS		Units mg/L							
SampID: 22081261-041AMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Fluoride		0.10		2.05	2.000	0	102.6	75	125	09/22/2022	

Batch R318437		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22081261-041AMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride			0.10		2.04	2.000	0	101.8	2.051	0.73	09/22/2022

SW-846 9251 (DISSOLVED)

Batch R318286		SampType: MS		Units mg/L							
SampID: 22081261-001CMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Chloride		20		149	100.0	59.30	89.3	85	115	09/19/2022	

Batch R318286		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22081261-001CMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride			20		150	100.0	59.30	91.2	148.6	1.24	09/19/2022

Batch R318286		SampType: MS		Units mg/L							
SampID: 22081261-016BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		20		191	100.0	95.98	94.9	85	115	09/19/2022	

Batch R318286		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22081261-016BMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride			20		181	100.0	95.98	85.5	190.9	5.05	09/19/2022

Batch R318286		SampType: MS		Units mg/L							
SampID: 22081261-043BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		20		182	100.0	90.73	91.0	85	115	09/19/2022	



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Client: Ramboll

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Client Project: Hennepin Q3 Groundwater

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SW-846 9251 (DISSOLVED)

Batch R318286		SampType: MSD		Units mg/L				RPD Limit: 15			Date Analyzed	
SampID: 22081261-043BMSD												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD			
Chloride		20		178	100.0	90.73	87.6	181.7	1.87	09/19/2022		

Batch R318345		SampType: MS		Units mg/L							
SampID: 22081261-011BMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Chloride		40		277	200.0	90.36	93.1	85	115	09/21/2022	

Batch R318345		SampType: MSD		Units mg/L				RPD Limit: 15				Date Analyzed
SampID: 22081261-011BMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Chloride			40		276	200.0	90.36	93.0	276.6	0.06	09/21/2022	

SW-846 9251 (TOTAL)

Batch R318286		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		< 4	0.5000	0	0	-100	100	09/19/2022	

Batch R318286		SampType: LCS		Units mg/L							
SampID: ICB/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		19	20.00	0	95.8	90	110	09/19/2022	

Batch R318345		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		< 4	0.5000	0	0	-100	100	09/21/2022	

Batch R318345		SampType: LCS		Units mg/L							
SampID: ICB/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		19	20.00	0	97.1	90	110	09/21/2022	



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Client Project: Hennepin Q3 Groundwater

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SW-846 9251 (TOTAL)

Batch R318345 SampType: MS Units mg/L

SampID: 22081261-012AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		20		178	100.0	84.03	93.7	85	115	09/21/2022

Batch R318345 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 22081261-012AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		20		173	100.0	84.03	89.4	177.7	2.43	09/21/2022

Batch R318345 SampType: MS Units mg/L

SampID: 22081261-029AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		20		175	100.0	82.28	92.7	85	115	09/21/2022

Batch R318345 SampType: MSD Units mg/L

RPD Limit: 15

SampID: 22081261-029AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		20		173	100.0	82.28	91.1	175.0	0.94	09/21/2022

Batch R318566 SampType: MBLK Units mg/L

SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		4		< 4	0.5000	0	0	-100	100	09/23/2022

Batch R318566 SampType: LCS Units mg/L

SampID: ICB/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		4		19	20.00	0	96.8	90	110	09/23/2022

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 197755 SampType: MBLK Units mg/L

SampID: MBLK-197755

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	09/20/2022
Magnesium		0.050		< 0.050	0.0055	0	0	-100	100	09/20/2022



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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

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SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 197755 SampType: LCS Units mg/L

SampleID: LCS-197755

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.26	2.500	0	90.3	85	115	09/20/2022
Magnesium		0.050		2.31	2.500	0	92.4	85	115	09/20/2022

Batch 197755 SampType: MS Units mg/L

SampleID: 22081261-003DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	77.0	2.500	75.19	71.6	75	125	09/20/2022
Magnesium		0.050		29.7	2.500	27.57	83.4	75	125	09/20/2022

Batch 197755 SampType: MSD Units mg/L

SampleID: 22081261-003DMSD

RPD Limit: 20

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	76.8	2.500	75.19	63.6	76.98	0.26	09/20/2022
Magnesium		0.050		29.7	2.500	27.57	86.1	29.65	0.23	09/20/2022

Batch 197756 SampType: MBLK Units mg/L

SampleID: MBLK-197756

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	09/20/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	09/20/2022

Batch 197756 SampType: LCS Units mg/L

SampleID: LCS-197756

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.20	2.500	0	88.2	85	115	09/20/2022
Magnesium		0.0500		2.26	2.500	0	90.4	85	115	09/20/2022

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 196679 SampType: MBLK Units mg/L

SampleID: MBLK-196679

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	09/16/2022
Magnesium		0.050		< 0.050	0.0055	0	0	-100	100	09/16/2022
Potassium		0.100		< 0.100	0.0400	0	0	-100	100	09/19/2022
Sodium		0.050		< 0.050	0.0180	0	0	-100	100	09/16/2022



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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 196679 SampType: LCS Units mg/L

SampleID: LCS-196679

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.49	2.500	0	99.6	85	115	09/16/2022
Magnesium		0.050		2.50	2.500	0	99.9	85	115	09/16/2022
Potassium		0.100		2.54	2.500	0	101.8	85	115	09/16/2022
Sodium		0.050		2.27	2.500	0	90.9	85	115	09/16/2022

Batch 196679 SampType: MS Units mg/L

SampleID: 22081261-002DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	93.5	2.500	91.81	67.6	75	125	09/16/2022
Magnesium		0.050		27.8	2.500	25.11	106.4	75	125	09/16/2022
Potassium		0.100	E	12.3	2.500	9.712	103.9	75	125	09/16/2022
Sodium		0.050		51.9	2.500	49.70	88.4	75	125	09/16/2022

Batch 196679 SampType: MSD Units mg/L

RPD Limit: 20

SampleID: 22081261-002DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		94.3	2.500	91.81	98.8	93.50	0.83	09/16/2022
Magnesium		0.050		27.9	2.500	25.11	113.2	27.77	0.61	09/16/2022
Potassium		0.100	E	12.4	2.500	9.712	108.7	12.31	0.97	09/16/2022
Sodium		0.050		52.6	2.500	49.70	116.8	51.91	1.36	09/16/2022

Batch 196679 SampType: MS Units mg/L

SampleID: 22081261-036CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		126	2.500	124.4	80.0	75	125	09/16/2022
Magnesium		0.050		39.2	2.500	36.67	100.0	75	125	09/16/2022
Potassium		0.100		9.03	2.500	6.490	101.5	75	125	09/16/2022
Sodium		0.050		57.8	2.500	55.46	92.4	75	125	09/16/2022

Batch 196679 SampType: MSD Units mg/L

RPD Limit: 20

SampleID: 22081261-036CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	128	2.500	124.4	148.0	126.4	1.34	09/16/2022
Magnesium		0.050		39.7	2.500	36.67	122.0	39.17	1.39	09/16/2022
Potassium		0.100		9.12	2.500	6.490	105.3	9.027	1.05	09/16/2022
Sodium		0.050		58.5	2.500	55.46	122.0	57.77	1.27	09/16/2022



Quality Control Results

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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 196682 SampType: MBLK Units mg/L

SampleID: MBLK-196682

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	09/19/2022
Magnesium		0.0500		< 0.0500	0.0055	0	0	-100	100	09/19/2022
Potassium		0.100		< 0.100	0.0400	0	0	-100	100	09/19/2022
Sodium		0.0500		< 0.0500	0.0180	0	0	-100	100	09/19/2022

Batch 196682 SampType: LCS Units mg/L

SampleID: LCS-196682

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		2.59	2.500	0	103.7	85	115	09/19/2022
Magnesium		0.0500		2.60	2.500	0	104.0	85	115	09/19/2022
Potassium		0.100		2.52	2.500	0	101.0	85	115	09/19/2022
Sodium		0.0500		2.36	2.500	0	94.2	85	115	09/19/2022

Batch 196682 SampType: MS Units mg/L

SampleID: 22081261-030DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		89.1	2.500	86.14	117.6	75	125	09/19/2022
Magnesium		0.050		29.6	2.500	26.91	106.4	75	125	09/19/2022
Potassium		0.100		8.13	2.500	5.493	105.6	75	125	09/19/2022
Sodium		0.050		56.2	2.500	53.31	117.2	75	125	09/19/2022

Batch 196682 SampType: MSD Units mg/L

RPD Limit: 20

SampleID: 22081261-030DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		88.8	2.500	86.14	106.8	89.08	0.30	09/19/2022
Magnesium		0.050		29.4	2.500	26.91	100.0	29.57	0.54	09/19/2022
Potassium		0.100		8.11	2.500	5.493	104.8	8.134	0.27	09/19/2022
Sodium		0.050		56.2	2.500	53.31	114.8	56.24	0.11	09/19/2022



Quality Control Results

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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197755		SampType: MBLK		Units µg/L							Date Analyzed
SampleID: MBLK-197755											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Aluminum		25.0		< 25.0	12.50	0	0	-100	100	09/23/2022	
Antimony		1.0		< 1.0	0.4500	0	0	-100	100	09/21/2022	
Arsenic		1.0		< 1.0	0.3750	0	0	-100	100	09/20/2022	
Barium		1.0		< 1.0	0.7000	0	0	-100	100	09/20/2022	
Beryllium		1.0		< 1.0	0.2500	0	0	-100	100	09/20/2022	
Boron		25.0		< 25.0	9.250	0	0	-100	100	09/20/2022	
Cadmium		1.0		< 1.0	0.1500	0	0	-100	100	09/20/2022	
Chromium		1.5		< 1.5	0.7000	0	0	-100	100	09/23/2022	
Cobalt		1.0		< 1.0	0.1500	0	0	-100	100	09/20/2022	
Copper		1.0		< 1.0	0.6500	0	0	-100	100	09/20/2022	
Iron		25.0		< 25.0	11.50	0	0	-100	100	10/03/2022	
Lead		1.0		< 1.0	0.6000	0	0	-100	100	09/20/2022	
Manganese		2.0		< 2.0	0.7500	0	0	-100	100	09/23/2022	
Molybdenum		1.5		< 1.5	0.9000	0	0	-100	100	09/20/2022	
Nickel		1.0		< 1.0	0.6000	0	0	-100	100	09/20/2022	
Selenium		1.0		< 1.0	0.6000	0	0	-100	100	09/20/2022	
Silver		1.0		< 1.0	0.1000	0	0	-100	100	09/20/2022	
Thallium		2.0		< 2.0	0.9500	0	0	-100	100	09/20/2022	
Vanadium		5.0		< 5.0	5.000	0	0	-100	100	09/20/2022	
Zinc		15.0		< 15.0	5.900	0	0	-100	100	09/20/2022	



Quality Control Results

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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197755		SampType: LCS		Units µg/L						
SampleID: LCS-197755										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Aluminum		25.0		2380	2000	0	118.9	80	120	09/30/2022
Antimony		1.0		484	500.0	0	96.8	80	120	09/21/2022
Arsenic		1.0		494	500.0	0	98.8	80	120	09/20/2022
Barium		1.0		1970	2000	0	98.7	80	120	09/20/2022
Beryllium		1.0		42.8	50.00	0	85.6	80	120	09/20/2022
Boron		25.0		444	500.0	0	88.8	80	120	09/20/2022
Cadmium		1.0		45.7	50.00	0	91.4	80	120	09/20/2022
Chromium		1.5		196	200.0	0	98.0	80	120	09/23/2022
Cobalt		1.0		485	500.0	0	97.1	80	120	09/20/2022
Copper		1.0		248	250.0	0	99.2	80	120	09/20/2022
Iron		25.0		2210	2000	0	110.6	80	120	10/03/2022
Lead		1.0		477	500.0	0	95.5	80	120	09/20/2022
Manganese		2.0		537	500.0	0	107.4	80	120	09/23/2022
Molybdenum		1.5		468	500.0	0	93.5	80	120	09/20/2022
Nickel		1.0		486	500.0	0	97.3	80	120	09/20/2022
Selenium		1.0		445	500.0	0	88.9	80	120	09/20/2022
Silver		1.0		48.0	50.00	0	95.9	80	120	09/20/2022
Thallium		2.0		235	250.0	0	94.0	80	120	09/20/2022
Vanadium		5.0		472	500.0	0	94.3	80	120	09/20/2022
Zinc		15.0		447	500.0	0	89.5	80	120	09/20/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197755 SampType: MS

Units µg/L

SampleID: 22081261-003DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Aluminum		25.0		2040	2000	0	102.0	75	125	09/30/2022
Antimony		1.0		488	500.0	0	97.7	75	125	09/21/2022
Arsenic		1.0		510	500.0	1.008	101.8	75	125	09/21/2022
Barium		1.0		1920	2000	66.94	92.8	75	125	09/20/2022
Beryllium		1.0		48.5	50.00	0	97.0	75	125	09/20/2022
Boron		25.0		1160	500.0	600.2	112.1	75	125	09/23/2022
Cadmium		1.0		47.1	50.00	0.1794	93.9	75	125	09/21/2022
Chromium		1.5		187	200.0	0	93.7	75	125	09/23/2022
Cobalt		1.0		484	500.0	0.2203	96.7	75	125	09/21/2022
Copper		1.0		242	250.0	0.7387	96.5	75	125	09/21/2022
Iron		25.0		2020	2000	0	100.8	75	125	10/03/2022
Lead		1.0		466	500.0	0	93.1	75	125	09/20/2022
Manganese		2.0		607	500.0	94.42	102.6	75	125	09/23/2022
Molybdenum		1.5		514	500.0	18.85	99.0	75	125	09/21/2022
Nickel		1.0		454	500.0	2.632	90.3	75	125	09/20/2022
Selenium		1.0		439	500.0	3.462	87.1	75	125	09/20/2022
Silver		1.0		45.1	50.00	0	90.1	75	125	09/20/2022
Thallium		2.0		233	250.0	0	93.2	75	125	09/20/2022
Zinc		15.0		457	500.0	0	91.4	75	125	09/21/2022



Quality Control Results

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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197755		SampType: MSD		Units µg/L			RPD Limit: 20			
SampleID: 22081261-003DMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Aluminum		25.0		2270	2000	0	113.4	2039	10.61	09/30/2022
Antimony		1.0		469	500.0	0	93.8	488.5	4.04	09/21/2022
Arsenic		1.0		476	500.0	1.008	95.0	509.9	6.85	09/21/2022
Barium		1.0		2340	2000	66.94	113.5	1924	19.37	09/20/2022
Beryllium		1.0		58.6	50.00	0	117.3	48.49	18.95	09/20/2022
Boron		25.0		1100	500.0	600.2	100.0	1161	5.38	09/23/2022
Cadmium		1.0		44.9	50.00	0.1794	89.5	47.11	4.69	09/21/2022
Chromium		1.5		183	200.0	0	91.3	187.4	2.56	09/23/2022
Cobalt		1.0		447	500.0	0.2203	89.3	483.5	7.94	09/21/2022
Copper		1.0		226	250.0	0.7387	90.1	241.9	6.83	09/21/2022
Iron		25.0		1960	2000	0	97.8	2015	2.96	10/03/2022
Lead		1.0		565	500.0	0	113.0	465.7	19.30	09/20/2022
Manganese		2.0		561	500.0	94.42	93.3	607.4	7.98	09/23/2022
Molybdenum		1.5		477	500.0	18.85	91.6	513.7	7.43	09/21/2022
Nickel		1.0		553	500.0	2.632	110.1	454.0	19.71	09/20/2022
Selenium		1.0		533	500.0	3.462	105.8	439.2	19.23	09/20/2022
Silver		1.0		53.1	50.00	0	106.2	45.06	16.42	09/20/2022
Thallium		2.0		270	250.0	0	107.9	233.0	14.63	09/20/2022
Zinc		15.0		432	500.0	0	86.5	457.1	5.55	09/21/2022

Batch 197755		SampType: MS		Units µg/L							
SampleID: 22081261-017DMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Boron		25.0		2120	500.0	1716	81.6	75	125	09/23/2022	

Batch 197755		SampType: MSD		Units µg/L				RPD Limit: 20			
SampleID: 22081261-017DMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron			25.0		2340	500.0	1716	124.9	2124	9.69	09/23/2022

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197756		SampType: MBLK		Units µg/L							Date Analyzed	
SampID: MBLK-197756												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
Aluminum		25.0		< 25.0	12.50	0	0	-100	100	09/23/2022		
Aluminum		25.0	JS	15	12.50	0	123.1	-100	100	09/28/2022		
Antimony		1.0		< 1.0	0.4500	0	0	-100	100	09/21/2022		
Antimony		1.0		< 1.0	0.4500	0	0	-100	100	09/23/2022		
Arsenic		1.0		< 1.0	0.3750	0	0	-100	100	09/21/2022		
Barium		1.0		< 1.0	0.7000	0	0	-100	100	09/21/2022		
Beryllium		1.0		< 1.0	0.2500	0	0	-100	100	09/23/2022		
Beryllium		1.0		< 1.0	0.2500	0	0	-100	100	09/21/2022		
Boron		25.0		< 25.0	9.250	0	0	-100	100	09/23/2022		
Cadmium		1.0		< 1.0	0.1340	0	0	-100	100	09/21/2022		
Chromium		1.5		< 1.5	0.7000	0	0	-100	100	09/23/2022		
Cobalt		1.0		< 1.0	0.1150	0	0	-100	100	09/21/2022		
Copper		1.0		< 1.0	0.4500	0	0	-100	100	09/21/2022		
Iron		25.0		< 25.0	11.50	0	0	-100	100	10/03/2022		
Lead		1.0		< 1.0	0.6000	0	0	-100	100	09/21/2022		
Manganese		2.0	JS	1.2	0.7500	0	164.0	-100	100	09/21/2022		
Molybdenum		1.5		< 1.5	0.6000	0	0	-100	100	09/21/2022		
Nickel		1.0		< 1.0	0.4300	0	0	-100	100	09/21/2022		
Selenium		1.0		< 1.0	0.6000	0	0	-100	100	09/21/2022		
Silver		1.0		< 1.0	0.1000	0	0	-100	100	09/21/2022		
Thallium		2.0		< 2.0	0.9500	0	0	-100	100	09/21/2022		
Vanadium		5.0		< 5.0	5.000	0	0	-100	100	09/21/2022		
Zinc		15.0		< 15.0	5.900	0	0	-100	100	09/21/2022		



Quality Control Results

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Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197756		SampType: LCS		Units µg/L							
SampID: LCS-197756											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Aluminum		25.0	B	2080	2000	0	104.1	80	120	09/28/2022	
Antimony		1.0		499	500.0	0	99.7	80	120	09/21/2022	
Antimony		1.0		502	500.0	0	100.4	80	120	09/23/2022	
Arsenic		1.0		472	500.0	0	94.4	80	120	09/21/2022	
Barium		1.0		1860	2000	0	93.0	80	120	09/21/2022	
Beryllium		1.0		48.4	50.00	0	96.8	80	120	09/23/2022	
Beryllium		1.0		47.4	50.00	0	94.8	80	120	09/23/2022	
Boron		25.0		516	500.0	0	103.2	80	120	09/23/2022	
Cadmium		1.0		44.0	50.00	0	88.0	80	120	09/21/2022	
Chromium		1.5		189	200.0	0	94.4	80	120	09/23/2022	
Cobalt		1.0		458	500.0	0	91.6	80	120	09/21/2022	
Copper		1.0		236	250.0	0	94.3	80	120	09/21/2022	
Iron		25.0		1850	2000	0	92.3	80	120	10/04/2022	
Lead		1.0		469	500.0	0	93.8	80	120	09/21/2022	
Manganese		2.0		493	500.0	0	98.6	80	120	09/23/2022	
Molybdenum		1.5		443	500.0	0	88.5	80	120	09/21/2022	
Nickel		1.0		463	500.0	0	92.6	80	120	09/21/2022	
Selenium		1.0		438	500.0	0	87.6	80	120	09/21/2022	
Silver		1.0		45.2	50.00	0	90.4	80	120	09/21/2022	
Thallium		2.0		226	250.0	0	90.3	80	120	09/21/2022	
Vanadium		5.0		456	500.0	0	91.2	80	120	09/21/2022	
Zinc		15.0		437	500.0	0	87.4	80	120	09/21/2022	

Batch 197756		SampType: MS		Units µg/L							
SampID: 22081261-034DMS											Date Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Boron		25.0	S	968	500.0	665.2	60.6	75	125	09/28/2022	

Batch 197756		SampType: MSD		Units µg/L				RPD Limit: 20			
SampID: 22081261-034DMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron			25.0	S	1000	500.0	665.2	67.5	968.1	3.51	09/28/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 196679 SampType: MBLK Units µg/L

SampleID: MBLK-196679

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		< 1.0	0.4500	0	0	-100	100	09/19/2022
Arsenic		1.0		< 1.0	0.3750	0	0	-100	100	09/19/2022
Barium		1.0		< 1.0	0.7000	0	0	-100	100	09/19/2022
Beryllium		1.0		< 1.0	0.2500	0	0	-100	100	09/19/2022
Boron		25.0		< 25.0	12.50	0	0	-100	100	09/20/2022
Cadmium		1.0		< 1.0	0.1340	0	0	-100	100	09/19/2022
Chromium		1.5		< 1.5	0.7000	0	0	-100	100	09/22/2022
Cobalt		1.0		< 1.0	0.1150	0	0	-100	100	09/20/2022
Lead		1.0		< 1.0	0.6000	0	0	-100	100	09/19/2022
Lithium	*	3.0		< 3.0	1.450	0	0	-100	100	09/19/2022
Molybdenum		1.5		< 1.5	0.6000	0	0	-100	100	09/19/2022
Selenium		1.0		< 1.0	0.6000	0	0	-100	100	09/19/2022
Thallium		2.0		< 2.0	0.9500	0	0	-100	100	09/19/2022

Batch 196679 SampType: LCS Units µg/L

SampleID: LCS-196679

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		552	500.0	0	110.5	80	120	09/19/2022
Arsenic		1.0		559	500.0	0	111.9	80	120	09/19/2022
Barium		1.0		2210	2000	0	110.6	80	120	09/19/2022
Beryllium		1.0		53.0	50.00	0	106.0	80	120	09/19/2022
Boron		25.0		454	500.0	0	90.7	80	120	09/20/2022
Cadmium		1.0		51.5	50.00	0	103.1	80	120	09/19/2022
Chromium		1.5		213	200.0	0	106.5	80	120	09/22/2022
Cobalt		1.0		449	500.0	0	89.8	80	120	09/20/2022
Lead		1.0		511	500.0	0	102.3	80	120	09/19/2022
Molybdenum		1.5		523	500.0	0	104.5	80	120	09/19/2022
Selenium		1.0		514	500.0	0	102.8	80	120	09/19/2022
Thallium		2.0		270	250.0	0	108.2	80	120	09/19/2022

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)
Batch 196679 **SampType:** MS Units µg/L

SampleID: 22081261-002DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		525	500.0	0	105.1	75	125	09/19/2022
Barium		1.0		2120	2000	59.20	103.0	75	125	09/19/2022
Beryllium		1.0		49.4	50.00	0	98.7	75	125	09/19/2022
Boron		25.0		1210	500.0	766.1	88.3	75	125	09/20/2022
Cadmium		1.0		48.5	50.00	0	96.9	75	125	09/19/2022
Chromium		1.5		226	200.0	10.49	107.6	75	125	09/22/2022
Cobalt		1.0		454	500.0	0.2100	90.8	75	125	09/20/2022
Lead		1.0		498	500.0	0	99.5	75	125	09/19/2022
Lithium	*	3.0		488	500.0	19.33	93.7	75	125	09/20/2022
Molybdenum		1.5		623	500.0	107.7	103.0	75	125	09/19/2022
Selenium		1.0		485	500.0	3.326	96.4	75	125	09/19/2022
Thallium		2.0		251	250.0	0	100.2	75	125	09/19/2022

Batch 196679 **SampType:** MSD Units µg/L

RPD Limit: 20

SampleID: 22081261-002DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		516	500.0	0	103.3	525.5	1.74	09/19/2022
Barium		1.0		2070	2000	59.20	100.3	2120	2.57	09/19/2022
Beryllium		1.0		48.4	50.00	0	96.8	49.37	1.97	09/19/2022
Boron		25.0		1270	500.0	766.1	100.7	1208	4.99	09/20/2022
Cadmium		1.0		48.5	50.00	0	97.1	48.46	0.17	09/19/2022
Chromium		1.5		240	200.0	10.49	114.5	225.7	5.96	09/22/2022
Cobalt		1.0		480	500.0	0.2100	96.0	454.0	5.63	09/20/2022
Lead		1.0		469	500.0	0	93.8	497.7	5.94	09/19/2022
Lithium	*	3.0		512	500.0	19.33	98.6	487.8	4.93	09/20/2022
Molybdenum		1.5		595	500.0	107.7	97.4	623.0	4.60	09/19/2022
Selenium		1.0		472	500.0	3.326	93.7	485.1	2.74	09/19/2022
Thallium		2.0		243	250.0	0	97.2	250.6	3.11	09/19/2022

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)
Batch 196679 **SampType:** MS Units µg/L

SampID: 22081261-036CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	S	648	500.0	0	129.5	75	125	09/20/2022
Arsenic		1.0		497	500.0	20.58	95.3	75	125	09/20/2022
Barium		1.0		1990	2000	91.71	94.7	75	125	09/20/2022
Beryllium		1.0		60.3	50.00	0	120.6	75	125	09/20/2022
Cadmium		1.0		60.1	50.00	0	120.2	75	125	09/20/2022
Chromium		1.5		199	200.0	0	99.3	75	125	09/22/2022
Cobalt		1.0		436	500.0	0.4932	87.1	75	125	09/20/2022
Lead		1.0		590	500.0	0.6460	117.9	75	125	09/20/2022
Lithium	*	3.0		478	500.0	21.34	91.4	75	125	09/20/2022
Molybdenum		1.5		612	500.0	6.196	121.1	75	125	09/20/2022
Selenium		1.0		566	500.0	0	113.1	75	125	09/20/2022
Thallium		2.0		293	250.0	0	117.2	75	125	09/20/2022

Batch 196679 **SampType:** MSD Units µg/L

RPD Limit: 20

SampID: 22081261-036CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0	S	635	500.0	0	127.1	647.7	1.90	09/20/2022
Arsenic		1.0		498	500.0	20.58	95.6	497.0	0.29	09/20/2022
Barium		1.0		1910	2000	91.71	91.1	1986	3.67	09/20/2022
Beryllium		1.0		59.4	50.00	0	118.7	60.29	1.55	09/20/2022
Cadmium		1.0		58.9	50.00	0	117.9	60.09	1.94	09/20/2022
Chromium		1.5		235	200.0	0	117.3	198.7	16.62	09/22/2022
Cobalt		1.0		432	500.0	0.4932	86.3	436.2	0.95	09/20/2022
Lead		1.0		591	500.0	0.6460	118.0	590.2	0.07	09/20/2022
Lithium	*	3.0		459	500.0	21.34	87.6	478.3	4.02	09/20/2022
Molybdenum		1.5		613	500.0	6.196	121.3	611.7	0.14	09/20/2022
Selenium		1.0		555	500.0	0	111.0	565.7	1.88	09/20/2022
Thallium		2.0		297	250.0	0	118.9	293.1	1.38	09/20/2022

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)
Batch 196682 **SampType: MBLK** Units $\mu\text{g/L}$

SampleID: MBLK-196682

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		< 1.0	0.4500	0	0	-100	100	09/19/2022
Arsenic		1.0		< 1.0	0.3750	0	0	-100	100	09/19/2022
Barium		1.0		< 1.0	0.7000	0	0	-100	100	09/19/2022
Beryllium		1.0		< 1.0	0.2500	0	0	-100	100	09/19/2022
Boron		25.0		< 25.0	10.00	0	0	-100	100	09/20/2022
Cadmium		1.0		< 1.0	0.1340	0	0	-100	100	09/19/2022
Chromium		1.5		< 1.5	0.7000	0	0	-100	100	09/22/2022
Cobalt		1.0		< 1.0	0.1150	0	0	-100	100	09/20/2022
Lead		1.0		< 1.0	0.6000	0	0	-100	100	09/19/2022
Lithium	*	3.0		< 3.0	1.450	0	0	-100	100	09/19/2022
Molybdenum		1.5		< 1.5	0.6000	0	0	-100	100	09/19/2022
Selenium		1.0		< 1.0	0.6000	0	0	-100	100	09/19/2022
Thallium		2.0		< 2.0	0.9500	0	0	-100	100	09/19/2022

Batch 196682 **SampType: LCS** Units $\mu\text{g/L}$

SampleID: LCS-196682

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		531	500.0	0	106.2	80	120	09/19/2022
Arsenic		1.0		511	500.0	0	102.2	80	120	09/19/2022
Barium		1.0		2080	2000	0	103.9	80	120	09/19/2022
Beryllium		1.0		48.9	50.00	0	97.7	80	120	09/19/2022
Boron		25.0		538	500.0	0	107.7	80	120	09/20/2022
Cadmium		1.0		48.8	50.00	0	97.6	80	120	09/19/2022
Chromium		1.5		222	200.0	0	111.1	80	120	09/22/2022
Cobalt		1.0		526	500.0	0	105.2	80	120	09/20/2022
Lead		1.0		479	500.0	0	95.8	80	120	09/19/2022
Lithium	*	3.0		551	500.0	0	110.3	80	120	09/20/2022
Lithium	*	3.0		523	500.0	0	104.6	80	120	09/19/2022
Selenium		1.0		469	500.0	0	93.8	80	120	09/19/2022
Thallium		2.0		247	250.0	0	98.8	80	120	09/19/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 196682		SampType: MS		Units µg/L						
SampID: 22081261-030DMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		485	500.0	0	97.0	75	125	09/20/2022
Arsenic		1.0		489	500.0	0.4780	97.7	75	125	09/20/2022
Barium		1.0		1980	2000	62.91	95.6	75	125	09/20/2022
Beryllium		1.0		47.5	50.00	0	94.9	75	125	09/20/2022
Boron		25.0		756	500.0	256.3	100.0	75	125	09/20/2022
Cadmium		1.0		45.4	50.00	0.6360	89.6	75	125	09/20/2022
Chromium		1.5		203	200.0	1.710	100.8	75	125	09/23/2022
Cobalt		1.0		481	500.0	1.013	96.0	75	125	09/20/2022
Lead		1.0		460	500.0	1.053	91.9	75	125	09/20/2022
Lithium	*	3.0		531	500.0	10.20	104.2	75	125	09/20/2022
Molybdenum		1.5		499	500.0	45.30	90.7	75	125	09/20/2022
Selenium		1.0		443	500.0	0	88.6	75	125	09/20/2022
Thallium		2.0		240	250.0	0	95.8	75	125	09/20/2022

Batch	196682	SampType:	MSD	Units				µg/L		RPD Limit: 20	
SampID: 22081261-030DMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony			1.0		498	500.0	0	99.5	484.8	2.59	09/20/2022
Arsenic			1.0		491	500.0	0.4780	98.0	489.1	0.28	09/20/2022
Barium			1.0		2000	2000	62.91	96.7	1976	1.10	09/20/2022
Beryllium			1.0		47.4	50.00	0	94.8	47.47	0.10	09/20/2022
Boron			25.0		741	500.0	256.3	97.0	756.4	2.03	09/20/2022
Cadmium			1.0		47.3	50.00	0.6360	93.3	45.43	4.00	09/20/2022
Chromium			1.5		248	200.0	1.710	123.3	203.4	19.87	09/23/2022
Cobalt			1.0		474	500.0	1.013	94.5	481.0	1.56	09/20/2022
Lead			1.0		467	500.0	1.053	93.1	460.5	1.30	09/20/2022
Lithium		*	3.0		519	500.0	10.20	101.7	531.2	2.32	09/20/2022
Molybdenum			1.5		528	500.0	45.30	96.5	498.9	5.61	09/20/2022
Selenium			1.0		443	500.0	0	88.6	443.1	0.06	09/20/2022
Thallium			2.0		241	250.0	0	96.6	239.6	0.76	09/20/2022

Batch 197894		SampType: MBLK		Units µg/L							Date Analyzed
SampID: MBLK-197894											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Boron		25.0		< 25.0	9.250	0	0	-100	100	09/22/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 197894 SampType: LCS Units µg/L

SampID: LCS-197894

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		25.0		532	500.0	0	106.4	80	120	09/26/2022

Batch 197894 SampType: LCSD Units µg/L

SampID: LCSD-197894

RPD Limit: 20

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron		25.0		533	500.0	0	106.7	531.8	0.32	09/26/2022

Batch 198935 SampType: MBLK Units µg/L

SampID: MBLK-198935

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		< 1.0	0.4500	0	0	-100	100	10/20/2022
Arsenic		1.0		< 1.0	0.3750	0	0	-100	100	10/20/2022
Barium		1.0		< 1.0	0.7000	0	0	-100	100	10/20/2022
Beryllium		1.0		< 1.0	0.2500	0	0	-100	100	10/21/2022
Cadmium		1.0		< 1.0	0.1340	0	0	-100	100	10/20/2022
Chromium		1.5		< 1.5	0.7000	0	0	-100	100	10/20/2022
Cobalt		1.0		< 1.0	0.1150	0	0	-100	100	10/20/2022
Lead		1.0		< 1.0	0.6000	0	0	-100	100	10/20/2022
Molybdenum		1.5		< 1.5	0.6000	0	0	-100	100	10/21/2022
Selenium		1.0		< 1.0	0.6000	0	0	-100	100	10/20/2022
Thallium		2.0		< 2.0	0.9500	0	0	-100	100	10/20/2022

Batch 198935 SampType: LCS Units µg/L

SampID: LCS-198935

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		508	500.0	0	101.6	80	120	10/20/2022
Arsenic		1.0		484	500.0	0	96.8	80	120	10/20/2022
Barium		1.0		2020	2000	0	101.0	80	120	10/20/2022
Cadmium		1.0		48.8	50.00	0	97.5	80	120	10/20/2022
Chromium		1.5		189	200.0	0	94.6	80	120	10/20/2022
Cobalt		1.0		475	500.0	0	94.9	80	120	10/20/2022
Lead		1.0		464	500.0	0	92.8	80	120	10/20/2022
Molybdenum		1.5		521	500.0	0	104.2	80	120	10/21/2022
Selenium		1.0		453	500.0	0	90.6	80	120	10/20/2022
Thallium		2.0		241	250.0	0	96.5	80	120	10/20/2022

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 198935		SampType: LCSD		Units µg/L				RPD Limit: 20		
SampID: LCSD-198935										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		485	500.0	0	97.1	508.2	4.60	10/20/2022
Arsenic		1.0		483	500.0	0	96.7	484.0	0.13	10/20/2022
Barium		1.0		1950	2000	0	97.7	2019	3.32	10/20/2022
Cadmium		1.0		47.3	50.00	0	94.6	48.77	3.02	10/20/2022
Chromium		1.5		196	200.0	0	98.0	189.2	3.56	10/20/2022
Cobalt		1.0		474	500.0	0	94.7	474.6	0.17	10/20/2022
Lead		1.0		471	500.0	0	94.1	463.8	1.45	10/20/2022
Molybdenum		1.5		511	500.0	0	102.3	521.0	1.86	10/21/2022
Selenium		1.0		458	500.0	0	91.7	453.0	1.19	10/20/2022
Thallium		2.0		243	250.0	0	97.0	241.2	0.56	10/20/2022

SW-846 7470A (DISSOLVED)

Batch 197749		SampType: MS		Units µg/L							
SampID: 22081261-001DMS		Date Analyzed									
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.20		5.63	5.000	0	112.5	75	125	09/20/2022	

Batch 197749		SampType: MSD		Units µg/L				RPD Limit: 15			
SampID: 22081261-001DMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury			0.20		5.28	5.000	0	105.7	5.626	6.28	09/20/2022

Batch 197749		SampType: MS		Units µg/L							
SampID: 22081261-014EMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.20		3.77	5.000	0	75.3	75	125	09/20/2022	

Batch 197749		SampType: MSD		Units µg/L				RPD Limit: 15			Date Analyzed
SampID: 22081261-014EMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Mercury		0.20		4.01	5.000	0	80.1	3.766	6.19		

Batch 197750		SampType: MS		Units µg/L							
SampID: 22081261-030EMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.20		5.81	5.000	0	116.1	75	125	09/20/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 7470A (DISSOLVED)

Batch 197750		SampType: MSD		Units µg/L				RPD Limit: 15				Date Analyzed
SampID: 22081261-030EMSD												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD			
Mercury		0.20		5.52	5.000	0	110.5	5.807	4.99	09/20/2022		

Batch 197750		SampType: MS		Units µg/L							
SampID: 22081261-043CMS										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Mercury		0.20		5.83	5.000	0	116.5	75	125		
										09/20/2022	

Batch 197750		SampType: MSD		Units µg/L				RPD Limit: 15				Date Analyzed
SampID: 22081261-043CMSD												
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Mercury			0.20		5.63	5.000	0	112.7	5.827	3.38	09/20/2022	

Batch 197768		SampType: MS		Units µg/L							
SampID: 22081261-045CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.20		5.47	5.000	0	109.4	75	125	09/20/2022	

Batch 197768		SampType: MSD		Units µg/L				RPD Limit: 15			
SampID: 22081261-045CMSD											
Analyses		Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury			0.20		5.51	5.000	0	110.1	5.472	0.62	09/20/2022

SW-846 7470A (TOTAL)

Batch 197749		SampType: MBLK		Units µg/L							
SampID: MBLK-197749											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.20		< 0.20	0.0550	0	0	-100	100	09/20/2022	

Batch 197749		SampType: LCS		Units µg/L							
SampID: LCS-197749											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.20		5.12	5.000	0	102.3	85	115	09/20/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

SW-846 7470A (TOTAL)

Batch 197750 SampType: MBLK Units µg/L

SamplD: MBLK-197750

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		< 0.20	0.0550	0	0	-100	100	09/20/2022

Batch 197750 SampType: LCS Units µg/L

SamplD: LCS-197750

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		5.44	5.000	0	108.8	85	115	09/20/2022

Batch 197768 SampType: MBLK Units µg/L

SamplD: MBLK-197768

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		< 0.20	0.0550	0	0	-100	100	09/20/2022

Batch 197768 SampType: LCS Units µg/L

SamplD: LCS-197768

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		5.38	5.000	0	107.5	85	115	09/20/2022



Receiving Check List

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081261

Client Project: Hennepin Q3 Groundwater

Report Date: 31-Oct-22

Carrier: Joseph Riley

Received By: TWM

Completed by:

Reviewed by:

On:

On:

15-Sep-22

15-Sep-22

Timothy W. Mathis

Elizabeth A. Hurley

Pages to follow:

Chain of custody

3

Extra pages included

0

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C 4.4

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☒

Lab ☐

NA ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?

Yes ☒

No ☐

No VOA vials ☐

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☒

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

Additional sodium hydroxide (81662) was needed in 02, 05R, 07, 08, 08D, 10, 12, 16, 17, 40S, 45S, 08 Duplicate, 04R, and 06 upon arrival at the laboratory. - PWR/TMathis - 9/15/2022 4:14:49 PM

pH strip #82999/79929. - PWR/TMathis - 9/15/2022 4:17:47 PM

Samples were received with insufficient amount of time to meet hold time requirements for Nitrate analysis. Client was notified via work order summary. - ehurley - 9/15/2022 6:03:14 PM

22081261

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

Page: 1 of 3

Invoice information:

Company: Vistra Corp		Report To: Brian Voelker	Attention: Jason Stuckey			
Address: 13498 E. 900th St		Copy To: Jason Stuckey	Company Name: Vistra Corp	REGULATORY AGENCY		
			Address: see Section A	NPDES	GROUND WATER	DRINKING WATER
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.:	Quote Reference:	UST	RCRA	OTHER
Phone: (217) 753-8911	Fax:	Project Name:	Project Manager:	Site Location		
Requested Due Date/TAT: standard		Project Number: 2285	Profile #:	STATE:	IL	

[illegible]

PH ✓ 29929 / 82949

Add NaOH (81662) to

002, 05R, 07, 08, 08D, 10, 12, 16, 17, 40S, 45S, 08D, 04R, 006

DA ORK 171

CHAIN-OF-CUSTODY / Analytical Request Document

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

22081261

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 2 of 3	
Company: Vistra Corp		Report To: Brian Voelker		Attention: Jason Stuckey			
Address: 13498 E. 900th St		Copy To: Jason Stuckey		Company Name: Vistra Corp			
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.:		Address: see Section A		REGULATORY AGENCY	
Phone: (217) 753-8911 Fax:		Project Name:		Quote Reference:		NPDES GROUND WATER DRINKING WATER	
Requested Due Date/TAT: standard		Project Number: 2285		Project Manager:		UST RCRA OTHER	
				Profile #:		Site Location STATE: IL	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	MATRIX TYPE (see valid codes to left)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Project No./ Lab I.D.
				DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	HEN-257-801	HEN-257-802		HEN-257-803	HEN-257-804	HEN-811-801	HEN-CLOSURE-802-805	HEN-CLOSURE-804	HEN-WPCP-East	HEN-WPCP-West	Quarterly Group 1	Quarterly Group 2			
1	22D			09/13/22	1131		4	2	2																	22081261-017				
2	23			09/13/22	1027		4	2	2																	018				
3	25			09/13/22	1401		0																			019				
4	26			09/13/22	1402		0																			020				
5	27			09/13/22	1253		4	2	2																	021				
6	30			09/13/22	1228		0																			022				
7	31			09/13/22	1229		0																			023				
8	32			09/13/22	1337		4	2	2																	024				
9	33			09/13/22	1842		0																			025				
10	34			09/13/22	1842		4	2	2																	026				
11	35			09/13/22	0852		4	2	2																	027				
12	36			09/13/22	1215		0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	028				
13	40S			09/14/22	1451		7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	029				
14	45S			09/14/22	1234		9	3	2	2	3	1														030				
15	46			09/14/22	1044		2	1	1																	031				
16	47			09/14/22	1142		2	1	1																	032				

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS																	
HEN-Q3-2022		[Signature]		09/13/22		005		[Signature]		9-13-22		1005																			
<table border="1"> <tr> <td colspan="2">SAMPLER NAME AND SIGNATURE</td> <td rowspan="3">Temp in °C</td> <td rowspan="3">Received on Ice (Y/N)</td> <td rowspan="3">Custody Sealed Cooler (Y/N)</td> <td rowspan="3">Samples Intact (Y/N)</td> </tr> <tr> <td colspan="2">PRINT Name of SAMPLER: Joe E. [Signature]</td> </tr> <tr> <td colspan="2">SIGNATURE of SAMPLER: [Signature]</td> </tr> <tr> <td colspan="2">DATE Signed (MM/DD/YY): 09/13/22</td> <td colspan="4"></td> </tr> </table>																SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)	PRINT Name of SAMPLER: Joe E. [Signature]		SIGNATURE of SAMPLER: [Signature]		DATE Signed (MM/DD/YY): 09/13/22					
SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)																										
PRINT Name of SAMPLER: Joe E. [Signature]																															
SIGNATURE of SAMPLER: [Signature]																															
DATE Signed (MM/DD/YY): 09/13/22																															

CHAIN-OF-CUSTODY / Analytical Request Document

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

22081261

Section A
Required Client Information:

Company: **Vistra Corp**

Address: **13498 E. 900th St**

Email To: **Brian.Voelker@VistraCorp.com**

Phone: **(217) 753-8911** Fax:

Requested Due Date/TAT: **standard**

Section B
Required Project Information:

Report To: **Brian Voelker**

Copy To: **Jason Stuckey**

Purchase Order No.:

Project Name:

Project Number: **2285**

Section C
Invoice Information:

Attention: **Jason Stuckey**

Company Name: **Vistra Corp**

Address: **see Section A**

Quote Reference:

Project Manager:

Profile #:

Page: 3 of 3

Section D Required Client Information		Valid Matrix Codes MATRIX CODE		COLLECTED		PRESERVATIVES		ANALYSIS TEST		Requested Analysis Filtered (Y/N)										Project No. / Lab I.D.						
ITEM #	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX	CODE	DATE	TIME	UNPRESERVED	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₈	Methanol	Other	HEN-257-801	HEN-257-802	HEN-257-803	HEN-257-804	HEN-811-801	HEN-CLOSURE-802-805	HEN-CLOSURE-804	HEN-WPCP-East	HEN-WPCP-West	Quarterly Group 1	Quarterly Group 2	Residual Chlorine (Y/N)	
1	48			08/19/22	1530																					22081261-033
2	49			08/19/22	1040																					034
3	50			08/19/22	1203																					035
4	51			08/19/22	0956																					036
5	55			08/19/22	1511																					037
6	SG02			08/19/22	1757																					038
7	XSG01			08/19/22	1757																					039
8	08 Duplicate			08/19/22	0939																					040
9	Field Blank			08/19/22	1605																					041
10	04R			08/19/22	1547																					042
11	06			08/19/22	1253																					043
12	15			08/19/22	1006																					044
13	19D			08/19/22	1533																					045
14	19S			08/19/22	1514																					046
15																										
16																										

ADDITIONAL COMMENTS	RECEIVED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
HEN-Q3-2022	<i>[Signature]</i>	08/19/22	1005	<i>[Signature]</i>	08/19/22	1005	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Duplicate and Field Blank per project history. EAH 8/18/22										

SAMPLER NAME AND SIGNATURE		DATE Signed (MM/DD/YY)
PRINT Name of SAMPLER:	<i>[Signature]</i>	08/19/22
SIGNATURE of SAMPLER:	<i>[Signature]</i>	

October 28, 2022

Eric Bauer
Ramboll
234 W. Florida St.
5th Floor
Milwaukee, WI 61704
TEL: (414) 837-3607
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Hennepin Q3 Groundwater

WorkOrder: 22081260

Dear Eric Bauer:

TEKLAB, INC received 24 samples on 9/15/2022 10:05:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Ramboll

Work Order: 22081260

Client Project: Hennepin Q3 Groundwater

Report Date: 28-Oct-22

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	30
Dates Report	31
Receiving Check List	33
Chain of Custody	Appended

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Abbr Definition**

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Ramboll

Work Order: 22081260

Client Project: Hennepin Q3 Groundwater

Report Date: 28-Oct-22

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| C - RL shown is a Client Requested Quantitation Limit | E - Value above quantitation range |
| H - Holding times exceeded | I - Associated internal standard was outside method criteria |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | T - TIC(Tentatively identified compound) |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081260

Client Project: Hennepin Q3 Groundwater

Report Date: 28-Oct-22

Cooler Receipt Temp: NA °C

An employee of Teklab, Inc. collected the sample(s).

34 was not accessible for sample collection.

Radium-226 and Radium-228 analysis was performed by Pace Analytical Services, LLC. See attached report for results.

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2023	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2023	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2023	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2023	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville

Client: Ramboll
Client Project: Hennepin Q3 Groundwater
Lab ID: 22081260-001
Matrix: GROUNDWATER

Work Order: 22081260
Report Date: 28-Oct-22
Client Sample ID: 03R
Collection Date: 09/14/2022 13:09

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-002**Client Sample ID:** 07**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 17:21

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-003**Client Sample ID:** 08**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 9:37

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-004**Client Sample ID:** 08 Duplicate**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 9:37

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-005**Client Sample ID:** 08D**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 9:09

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081260

Client Project: Hennepin Q3 Groundwater

Report Date: 28-Oct-22

Lab ID: 22081260-006

Client Sample ID: 12

Matrix: GROUNDWATER

Collection Date: 09/14/2022 11:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-007**Client Sample ID:** 13**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 11:19

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-008**Client Sample ID:** 18S**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 13:28

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-009**Client Sample ID:** 18D**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 13:44

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-010**Client Sample ID:** 21R**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 9:22

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-011**Client Sample ID:** 22**Matrix:** GROUNDWATER**Collection Date:** 09/13/2022 11:12

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll
Client Project: Hennepin Q3 Groundwater
Lab ID: 22081260-012
Matrix: GROUNDWATER

Work Order: 22081260
Report Date: 28-Oct-22
Client Sample ID: 22D
Collection Date: 09/13/2022 11:31

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-013**Client Sample ID:** 23**Matrix:** GROUNDWATER**Collection Date:** 09/13/2022 10:27

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-014**Client Sample ID:** 27**Matrix:** GROUNDWATER**Collection Date:** 09/13/2022 12:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll
Client Project: Hennepin Q3 Groundwater
Lab ID: 22081260-015
Matrix: GROUNDWATER

Work Order: 22081260
Report Date: 28-Oct-22
Client Sample ID: 32
Collection Date: 09/13/2022 13:37

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-017**Client Sample ID:** 35**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 8:52

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pCi/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pCi/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-018**Client Sample ID:** 45S**Matrix:** GROUNDWATER**Collection Date:** 09/14/2022 12:34

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin Q3 Groundwater
Lab ID: 22081260-019
Matrix: GROUNDWATER

Work Order: 22081260
Report Date: 28-Oct-22
Client Sample ID: 46
Collection Date: 09/14/2022 10:44

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll
Client Project: Hennepin Q3 Groundwater
Lab ID: 22081260-020
Matrix: GROUNDWATER

Work Order: 22081260
Report Date: 28-Oct-22
Client Sample ID: 47
Collection Date: 09/14/2022 11:42

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114



Laboratory Results

<http://www.teklabinc.com/>

Client: Ramboll
Client Project: Hennepin Q3 Groundwater
Lab ID: 22081260-021
Matrix: GROUNDWATER

Work Order: 22081260
Report Date: 28-Oct-22
Client Sample ID: 49
Collection Date: 09/13/2022 10:48

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/14/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-022**Client Sample ID:** 50**Matrix:** GROUNDWATER**Collection Date:** 09/13/2022 12:03

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/07/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/07/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-023**Client Sample ID:** 51**Matrix:** GROUNDWATER**Collection Date:** 09/13/2022 9:56

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/07/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/07/2022 0:00	R320114

Client: Ramboll**Work Order:** 22081260**Client Project:** Hennepin Q3 Groundwater**Report Date:** 28-Oct-22**Lab ID:** 22081260-024**Client Sample ID:** Field Blank**Matrix:** AQUEOUS**Collection Date:** 09/14/2022 16:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/07/2022 0:00	R320114
Radium-228	*	0		See Attached	pci/L	1	10/07/2022 0:00	R320114

Client: Ramboll

Work Order: 22081260

Client Project: Hennepin Q3 Groundwater

Report Date: 28-Oct-22

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
22081260-001	03R	Groundwater	1	09/14/2022 13:09
22081260-002	07	Groundwater	1	09/14/2022 17:21
22081260-003	08	Groundwater	1	09/14/2022 9:37
22081260-004	08 Duplicate	Groundwater	1	09/14/2022 9:37
22081260-005	08D	Groundwater	1	09/14/2022 9:09
22081260-006	12	Groundwater	1	09/14/2022 11:05
22081260-007	13	Groundwater	1	09/14/2022 11:19
22081260-008	18S	Groundwater	1	09/14/2022 13:28
22081260-009	18D	Groundwater	1	09/14/2022 13:44
22081260-010	21R	Groundwater	1	09/14/2022 9:22
22081260-011	22	Groundwater	1	09/13/2022 11:12
22081260-012	22D	Groundwater	1	09/13/2022 11:31
22081260-013	23	Groundwater	1	09/13/2022 10:27
22081260-014	27	Groundwater	1	09/13/2022 12:53
22081260-015	32	Groundwater	1	09/13/2022 13:37
22081260-016	34	Groundwater	1	
22081260-017	35	Groundwater	1	09/14/2022 8:52
22081260-018	45S	Groundwater	1	09/14/2022 12:34
22081260-019	46	Groundwater	1	09/14/2022 10:44
22081260-020	47	Groundwater	1	09/14/2022 11:42
22081260-021	49	Groundwater	1	09/13/2022 10:48
22081260-022	50	Groundwater	1	09/13/2022 12:03
22081260-023	51	Groundwater	1	09/13/2022 9:56
22081260-024	Field Blank	Aqueous	1	09/14/2022 16:45



Dates Report

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081260

Client Project: Hennepin Q3 Groundwater

Report Date: 28-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
22081260-001A	03R	09/14/2022 13:09	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-002A	07	09/14/2022 17:21	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-003A	08	09/14/2022 9:37	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-004A	08 Duplicate	09/14/2022 9:37	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-005A	08D	09/14/2022 9:09	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-006A	12	09/14/2022 11:05	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-007A	13	09/14/2022 11:19	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-008A	18S	09/14/2022 13:28	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-009A	18D	09/14/2022 13:44	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-010A	21R	09/14/2022 9:22	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-011A	22	09/13/2022 11:12	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-012A	22D	09/13/2022 11:31	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-013A	23	09/13/2022 10:27	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-014A	27	09/13/2022 12:53	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-015A	32	09/13/2022 13:37	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-017A	35	09/14/2022 8:52	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-018A	45S	09/14/2022 12:34	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-019A	46	09/14/2022 10:44	09/15/2022 10:05		

Client: Ramboll

Work Order: 22081260

Client Project: Hennepin Q3 Groundwater

Report Date: 28-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-020A	47	09/14/2022 11:42	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-021A	49	09/13/2022 10:48	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/14/2022 0:00
22081260-022A	50	09/13/2022 12:03	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/07/2022 0:00
22081260-023A	51	09/13/2022 9:56	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/07/2022 0:00
22081260-024A	Field Blank	09/14/2022 16:45	09/15/2022 10:05		
	EPA 903.0/904.0, Radium 226/228				10/07/2022 0:00



Receiving Check List

<http://www.teklabinc.com/>

Client: Ramboll

Work Order: 22081260

Client Project: Hennepin Q3 Groundwater

Report Date: 28-Oct-22

Carrier: Joseph Riley

Received By: TWM

Completed by:

Reviewed by:

On:

On:

19-Sep-22

19-Sep-22

Timothy W. Mathis

Elizabeth A. Hurley

Pages to follow:

Chain of custody

2

Extra pages included

40

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C NA

Type of thermal preservation?

None ☒

Ice ☐

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☐

Lab ☐

NA ☒

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?

Yes ☐

No ☐

No VOA vials ☒

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☒

No ☐

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

pH strip #82999 - CET/TMathis - 9/19/2022 3:54:45 PM

CHAIN-OF-CUSTODY / Analytical Request Document

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

22081260

Section A

Required Client Information:

Section B

Required Project Information:

Section C

Invoice Information:

Page: 1 of 2

Company: Vistra Corp		Report To: Brian Voelker	Attention: Jason Stuckey
Address: 13498 E. 900th St		Copy To: Jason Stuckey	Company Name: Vistra Corp
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.:	Address: see Section A
Phone: (217) 753-8911	Fax:	Project Name:	Quote Reference:
Requested Due Date/TAT: standard		Project Number: 2285	Project Manager:
		Profile #:	

REGULATORY AGENCY		
NPDES	GROUND WATER	DRINKING WATER
UST	RCRA	OTHER
Site Location	IL	
STATE:		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
					DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other		HEN-257-802	HEN-257-803	HEN-257-804	HEN-CLOSURE-802-805	HEN-CLOSURE-804																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
HEN-Q3-2022	<i>[Signature]</i>	09/15/22	1005	<i>[Signature]</i>	09/15/22	1005	
Radium, only.							

Duplicate and Field Blank per project history. EAH 8/18/22

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:				
Joe Ripa	<i>[Signature]</i>				
		DATE Signed (MM/DD/YYYY):			
		09/15/22			

CET TA PH ✓
82999

22081260

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 2 of 2	
Company: <u>Vistra Corp</u>		Report To: <u>Brian Voelker</u>		Attention: <u>Jason Stuckey</u>		REGULATORY AGENCY NPDES GROUND WATER DRINKING WATER UST RCRA DTHR	
Address: <u>13498 E. 900th St</u>		Copy To: <u>Jason Stuckey</u>		Company Name: <u>Vistra Corp</u>			
				Address: <u>see Section A</u>			
Email To: <u>Brian.Voelker@VistraCorp.com</u>		Purchase Order No.:		Quote Reference:			
Phone: <u>(217) 753-8911</u> Fax:		Project Name:		Project Manager:		Site Location	
Requested Due Date/TAT: <u>standard</u>		Project Number: <u>2285</u>		Profile #		STATE: <u>IL</u>	

[illegible]

October 26, 2022

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc**TEKLAB, Inc.**

Sample Delivery Group: L1537975

Samples Received: 09/21/2022

Project Number: 22091260

Description:

Report To: Elizabeth Hurley
5445 Horseshoe Lake Road
Collinsville, IL 62234

Entire Report Reviewed By:



Mark W. Beasley
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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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

SAMPLE SUMMARY

22081260-001 L1537975-01 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 13:09

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

22081260-002 L1537975-02 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 17:21

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-003 L1537975-03 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 09:37

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-004 L1537975-04 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 09:37

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-005 L1537975-05 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 09:09

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-006 L1537975-06 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 11:05

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

22081260-007 L1537975-07 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 11:19

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 12:18	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

22081260-008 L1537975-08 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 13:28

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

09/14/22 13:44

09/21/22 09:15

22081260-009 L1537975-09 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

09/14/22 09:22

09/21/22 09:15

22081260-010 L1537975-10 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

09/13/22 11:12

09/21/22 09:15

22081260-011 L1537975-11 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

09/13/22 11:31

09/21/22 09:15

22081260-012 L1537975-12 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

22081260-013 L1537975-13 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/13/22 10:27

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

22081260-014 L1537975-14 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/13/22 12:53

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1941696	1	10/18/22 08:54	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/21/22 14:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-015 L1537975-15 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/13/22 13:37

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-017 L1537975-16 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 08:52

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-018 L1537975-17 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 12:34

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-019 L1537975-18 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 10:44

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

22081260-020 L1537975-19 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 11:42

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

22081260-021 L1537975-20 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/13/22 10:48

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933262	1	10/11/22 14:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933262	1	10/11/22 14:00	10/14/22 14:08	RGT	Mt. Juliet, TN

22081260-022 L1537975-21 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/13/22 12:03

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933261	1	10/06/22 15:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933261	1	10/06/22 15:00	10/07/22 12:15	RGT	Mt. Juliet, TN

22081260-023 L1537975-22 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/13/22 09:56

09/21/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933261	1	10/06/22 15:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933261	1	10/06/22 15:00	10/07/22 12:15	RGT	Mt. Juliet, TN

22081260-024 L1537975-23 Non-Potable Water

Collected by

Collected date/time

Received date/time

09/14/22 16:45

09/21/22 09:15

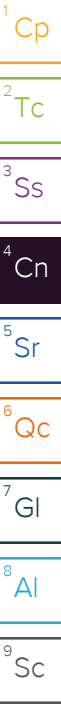
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1943849	1	10/18/22 14:01	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1933261	1	10/06/22 15:00	10/25/22 10:45	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1933261	1	10/06/22 15:00	10/07/22 12:15	RGT	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.



Mark W. Beasley
Project Manager



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.95		0.202	0.503	10/21/2022 12:18	WG1941696
(T) Barium	96.7			30.0-143	10/21/2022 12:18	WG1941696
(T) Yttrium	103			30.0-136	10/21/2022 12:18	WG1941696

¹Cp²Tc³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.95		0.244	0.598	10/21/2022 12:18	WG1933262

⁴Cn⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0331	U	0.136	0.324	10/14/2022 14:08	WG1933262
(T) Barium-133	76.6			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc⁷Gl⁸Al⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.06		0.229	0.639	10/21/2022 12:18	WG1941696
(T) Barium	97.0			30.0-143	10/21/2022 12:18	WG1941696
(T) Yttrium	101			30.0-136	10/21/2022 12:18	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.67		0.393	0.704	10/21/2022 12:18	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.608		0.320	0.296	10/14/2022 14:08	WG1933262
(T) Barium-133	93.0			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.29		0.231	0.632	10/21/2022 12:18	WG1941696
(T) Barium	108			30.0-143	10/21/2022 12:18	WG1941696
(T) Yttrium	93.3			30.0-136	10/21/2022 12:18	WG1941696

¹Cp²Tc³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.71		0.361	0.688	10/21/2022 12:18	WG1933262

⁴Cn⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.421		0.277	0.271	10/14/2022 14:08	WG1933262
(T) Barium-133	94.0			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc⁷Gl⁸Al⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.33		0.208	0.557	10/21/2022 12:18	WG1941696
(T) Barium	90.7			30.0-143	10/21/2022 12:18	WG1941696
(T) Yttrium	103			30.0-136	10/21/2022 12:18	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.59		0.335	0.656	10/21/2022 12:18	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.260	J	0.263	0.346	10/14/2022 14:08	WG1933262
(T) Barium-133	92.0			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.39		0.224	0.606	10/21/2022 12:18	WG1941696
(T) Barium	88.4			30.0-143	10/21/2022 12:18	WG1941696
(T) Yttrium	103			30.0-136	10/21/2022 12:18	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.59		0.299	0.657	10/21/2022 12:18	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.200	J	0.198	0.253	10/14/2022 14:08	WG1933262
(T) Barium-133	93.9			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.80		0.228	0.597	10/21/2022 12:18	WG1941696
(T) Barium	92.8			30.0-143	10/21/2022 12:18	WG1941696
(T) Yttrium	103			30.0-136	10/21/2022 12:18	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.82		0.244	0.630	10/21/2022 12:18	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0228	U	0.0880	0.200	10/14/2022 14:08	WG1933262
(T) Barium-133	88.2			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.994		0.214	0.596	10/21/2022 12:18	WG1941696
(T) Barium	92.8			30.0-143	10/21/2022 12:18	WG1941696
(T) Yttrium	104			30.0-136	10/21/2022 12:18	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.10		0.262	0.637	10/21/2022 12:18	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.102	J	0.151	0.226	10/14/2022 14:08	WG1933262
(T) Barium-133	92.0			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.421	U	0.267	0.775	10/21/2022 14:45	WG1941696
(T) Barium	91.8			30.0-143	10/21/2022 14:45	WG1941696
(T) Yttrium	92.5			30.0-136	10/21/2022 14:45	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.501	U	0.294	0.799	10/21/2022 14:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0798	J	0.124	0.193	10/14/2022 14:08	WG1933262
(T) Barium-133	89.7			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.42		0.232	0.623	10/21/2022 14:45	WG1941696
(T) Barium	91.4			30.0-143	10/21/2022 14:45	WG1941696
(T) Yttrium	102			30.0-136	10/21/2022 14:45	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.71		0.325	0.668	10/21/2022 14:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.293		0.227	0.242	10/14/2022 14:08	WG1933262
(T) Barium-133	90.3			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.68		0.213	0.551	10/21/2022 14:45	WG1941696
(T) Barium	97.3			30.0-143	10/21/2022 14:45	WG1941696
(T) Yttrium	102			30.0-136	10/21/2022 14:45	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.44		0.369	0.573	10/21/2022 14:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.765		0.301	0.158	10/14/2022 14:08	WG1933262
(T) Barium-133	91.5			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.684		0.201	0.569	10/21/2022 14:45	WG1941696
(T) Barium	97.3			30.0-143	10/21/2022 14:45	WG1941696
(T) Yttrium	97.6			30.0-136	10/21/2022 14:45	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.01		0.312	0.625	10/21/2022 14:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.322		0.238	0.259	10/14/2022 14:08	WG1933262
(T) Barium-133	89.4			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.42		0.217	0.579	10/21/2022 14:45	WG1941696
(T) Barium	105			30.0-143	10/21/2022 14:45	WG1941696
(T) Yttrium	105			30.0-136	10/21/2022 14:45	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.31		0.410	0.607	10/21/2022 14:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.884		0.348	0.182	10/14/2022 14:08	WG1933262
(T) Barium-133	91.5			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.01		0.226	0.627	10/21/2022 14:45	WG1941696
(T) Barium	99.5			30.0-143	10/21/2022 14:45	WG1941696
(T) Yttrium	100			30.0-136	10/21/2022 14:45	WG1941696

¹ Cp² Tc³ Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.01		0.272	0.701	10/21/2022 14:45	WG1933262

⁴ Cn⁵ Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.000	U	0.151	0.313	10/14/2022 14:08	WG1933262
(T) Barium-133	93.6			30.0-143	10/14/2022 14:08	WG1933262

⁶ Qc⁷ Gl⁸ Al⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	2.90		0.236	0.560	10/21/2022 14:45	WG1941696
(T) Barium	94.7			30.0-143	10/21/2022 14:45	WG1941696
(T) Yttrium	107			30.0-136	10/21/2022 14:45	WG1941696

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	3.06		0.321	0.641	10/21/2022 14:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.167	J	0.218	0.311	10/14/2022 14:08	WG1933262
(T) Barium-133	90.2			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.530	U	0.242	0.466	10/25/2022 10:45	WG1943849
(T) Barium	95.6			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	95.7			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.249	J	0.332	0.541	10/25/2022 10:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.249	J	0.227	0.274	10/14/2022 14:08	WG1933262
(T) Barium-133	94.2			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.301	J	0.214	0.390	10/25/2022 10:45	WG1943849
(T) Barium	96.2			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	102			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.474	J	0.293	0.475	10/25/2022 10:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.173	J	0.200	0.272	10/14/2022 14:08	WG1933262
(T) Barium-133	85.6			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.401		0.189	0.339	10/25/2022 10:45	WG1943849
(T) Barium	97.4			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	97.0			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.538		0.274	0.453	10/25/2022 10:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.136	J	0.199	0.300	10/14/2022 14:08	WG1933262
(T) Barium-133	77.6			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.314	J	0.199	0.362	10/25/2022 10:45	WG1943849
(T) Barium	92.3			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	102			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.505		0.310	0.492	10/25/2022 10:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.192	J	0.238	0.333	10/14/2022 14:08	WG1933262
(T) Barium-133	83.0			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.489		0.199	0.355	10/25/2022 10:45	WG1943849
(T) Barium	99.0			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	98.8			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.559		0.226	0.392	10/25/2022 10:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0694	J	0.108	0.167	10/14/2022 14:08	WG1933262
(T) Barium-133	95.9			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.388	U	0.225	0.432	10/25/2022 10:45	WG1943849
(T) Barium	103			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	94.0			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.124	U	0.276	0.488	10/25/2022 10:45	WG1933262

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.124	J	0.159	0.226	10/14/2022 14:08	WG1933262
(T) Barium-133	94.1			30.0-143	10/14/2022 14:08	WG1933262

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.451		0.195	0.349	10/25/2022 10:45	WG1943849
(T) Barium	99.3			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	112			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.880		0.309	0.403	10/25/2022 10:45	WG1933261

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.429		0.240	0.202	10/07/2022 12:15	WG1933261
(T) Barium-133	106			30.0-143	10/07/2022 12:15	WG1933261

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.745		0.205	0.358	10/25/2022 10:45	WG1943849
(T) Barium	96.6			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	104			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.68		0.410	0.431	10/25/2022 10:45	WG1933261

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.932		0.355	0.240	10/07/2022 12:15	WG1933261
(T) Barium-133	111			30.0-143	10/07/2022 12:15	WG1933261

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0296	U	0.195	0.366	10/25/2022 10:45	WG1943849
(T) Barium	102			30.0-143	10/25/2022 10:45	WG1943849
(T) Yttrium	104			30.0-136	10/25/2022 10:45	WG1943849

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0434	U	0.269	0.491	10/25/2022 10:45	WG1933261

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0434	U	0.185	0.327	10/07/2022 12:15	WG1933261
(T) Barium-133	106			30.0-143	10/07/2022 12:15	WG1933261

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3852876-5 10/25/22 10:45

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	-0.253	<u>U</u>	0.169	0.321
(T) Barium	103		103	
(T) Yttrium	104		104	

L1537975-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1537975-04 10/21/22 12:18 • (DUP) R3852876-4 10/21/22 12:18

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	1.33	0.208	0.557	2.00	0.302	0.557	1	40.3	1.83		20	3
(T) Barium	90.7			101	101							
(T) Yttrium	103			104	104							

Laboratory Control Sample (LCS)

(LCS) R3852876-1 10/21/22 12:18

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.80	116	80.0-120	
(T) Barium			112		
(T) Yttrium			103		

L1536453-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1536453-20 10/21/22 12:18 • (MS) R3852876-2 10/21/22 12:18 • (MSD) R3852876-3 10/21/22 12:18

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	1.31	10.6	11.6	92.5	103	1	70.0-130			9.39		20
(T) Barium		95.4			114	111							
(T) Yttrium		98.3			103	106							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3852878-1 10/25/22 10:45

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	-0.586	<u>U</u>	0.182	0.356
(T) Barium	89.2		89.2	
(T) Yttrium	96.3		96.3	

L1537975-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1537975-21 10/25/22 10:45 • (DUP) R3852878-5 10/25/22 10:45

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.451	0.195	0.349	0.188	0.302	0.349	1	82.2	0.731	<u>U</u>	20	3
(T) Barium	99.3			97.0	97.0							
(T) Yttrium	112			107	107							

Laboratory Control Sample (LCS)

(LCS) R3852878-2 10/25/22 10:45

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.73	94.5	80.0-120	
(T) Barium			101		
(T) Yttrium			102		

L1538411-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1538411-05 10/25/22 10:45 • (MS) R3852878-3 10/25/22 10:45 • (MSD) R3852878-4 10/25/22 10:45

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	-0.354	8.43	10.0	84.3	100	1	70.0-130			17.3		20
(T) Barium		91.6			101	90.7							
(T) Yttrium		103			100	98.6							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3846799-1 10/07/22 12:15

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-226	0.00347	<u>U</u>	0.0323	0.0656
(T) Barium-133	108		108	

L1534671-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1534671-13 10/07/22 12:15 • (DUP) R3846799-5 10/07/22 12:15

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.836	0.341	0.221	0.0365	0.160	0.221	1	183	2.12	<u>U</u>	20	3
(T) Barium-133	100			109	109							

Laboratory Control Sample (LCS)

(LCS) R3846799-2 10/07/22 12:15

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.67	93.1	80.0-120	
(T) Barium-133			107		

L1539734-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1539734-07 10/07/22 12:15 • (MS) R3846799-3 10/07/22 12:15 • (MSD) R3846799-4 10/07/22 12:15

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	0.00615	16.4	15.8	82.0	78.9	1	75.0-125			3.91		20
(T) Barium-133		108			105	98.4							

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3850352-1 10/14/22 14:08

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-226	0.0233	<u>U</u>	0.0499	0.0829
(T) Barium-133	77.2		77.2	

L1537975-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1537975-20 10/14/22 14:08 • (DUP) R3850352-5 10/14/22 14:08

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.124	0.159	0.226	0.316	0.208	0.226	1	87.5	0.735		20	3
(T) Barium-133	94.1			88.2	88.2							

Laboratory Control Sample (LCS)

(LCS) R3850352-2 10/14/22 14:08

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.93	98.2	80.0-120	
(T) Barium-133			88.4		

L1537975-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1537975-01 10/14/22 14:08 • (MS) R3850352-3 10/14/22 14:08 • (MSD) R3850352-4 10/14/22 14:08

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	-0.0331	22.4	21.8	112	109	1	75.0-125			2.49		20
(T) Barium-133		76.6			86.5	87.0							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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 Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

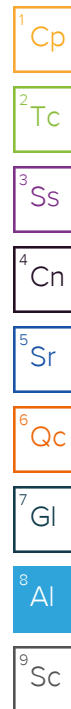
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



TEKLAB, INC. Chain of Custody

Pg ____ of ____

1033

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? ☐ YES ☒ NO With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☒ Field

Teklab Inc

5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp:

Sampler:

QC Level:

Project#

WO-#22082600 22091260

Contact: Liz Hurley

Email: ehurley@teklabinc.com

Requested Due Date: NTAT

Billing/PO: 33354

Phone: (618)344-1004

Comments: Please Issue reports and invoices via email only

Please analyze Radium (226, 228) by method EPA901.1 on your standard TAT.

Batch QC is required for all analyses requested. Sample collected in (state):

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately. Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Isotopic Radium															
1537975-01	22081260-001	9/14/22 1309	HNO3	Aqueous																
02	22081260-002	9/14/22 1721	HNO3	Aqueous																
03	22081260-003	9/14/22 0937	HNO3	Aqueous																
07	22081260-004	9/14/22 0937	HNO3	Aqueous																
05	22081260-005	9/14/22 0909	HNO3	Aqueous																
06	22081260-006	9/14/22 1105	HNO3	Aqueous																
07	22081260-007	9/14/22 1119	HNO3	Aqueous																
08	22081260-008	9/14/22 1325	HNO3	Aqueous																
09	22081260-009	9/14/22 1344	HNO3	Aqueous																
10	22081260-010	9/13/22 0922	HNO3	Aqueous																
11	22081260-011	9/13/22 1112	HNO3	Aqueous																

*Relinquished By	Date/Time	Received By	Date/Time
	9.19.22		9/22/22 0915

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☒ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☒ Field

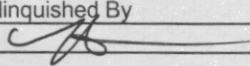
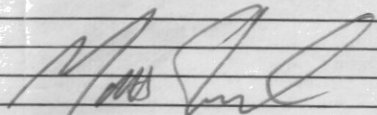
Teklab Inc

5445 Horseshoe Lake Road
Collinsville, IL 62234Cooler Temp: Sampler: QC Level: Project# Contact: Email: Requested Due Date: Billing/PO: Phone: Comments: **PLEASE NOTE:**

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Isotopic Radium															
1537975-12	22081260-012	9/13/22 1131	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
13	22081260-013	9/13/22 1027	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
14	22081260-014	9/13/22 1253	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
15	22081260-015	9/13/22 1337	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
16	22081260-017	9/14/22 0852	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
17	22081260-018	9/14/22 1234	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
18	22081260-019	9/14/22 1044	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
19	22081260-020	9/14/22 1142	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
20	22081260-021	9/13/22 1048	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
21	22081260-022	9/13/22 1203	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
22	22081260-023	9/13/22 0956	HNO3	Aqueous	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

*Relinquished By	Date/Time	Received By	Date/Time
	9-14-22		9/22/22 0915

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

7. The Sample(s) are: YES ☐ NO ☐ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☒ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: Client QC Level: 3

Project#	WO #22082660
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Contact:	Liz Hurley	Email:	ehurley@teklabinc.com
Requested Due Date:	NTAT	Billing/PO:	33354

Phone: (618)344-1004

Comments: Please Issue reports and invoices via email only

Please analyze Radium (226, 228) by method EPA901.1 on your standard TAT.

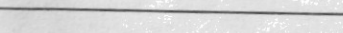
Batch QC is required for all analyses requested. Sample collected in (state):

PLEASE NOTE:

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Any changes to analysis/methods must be approved by Teklab, Inc.

[illegible]

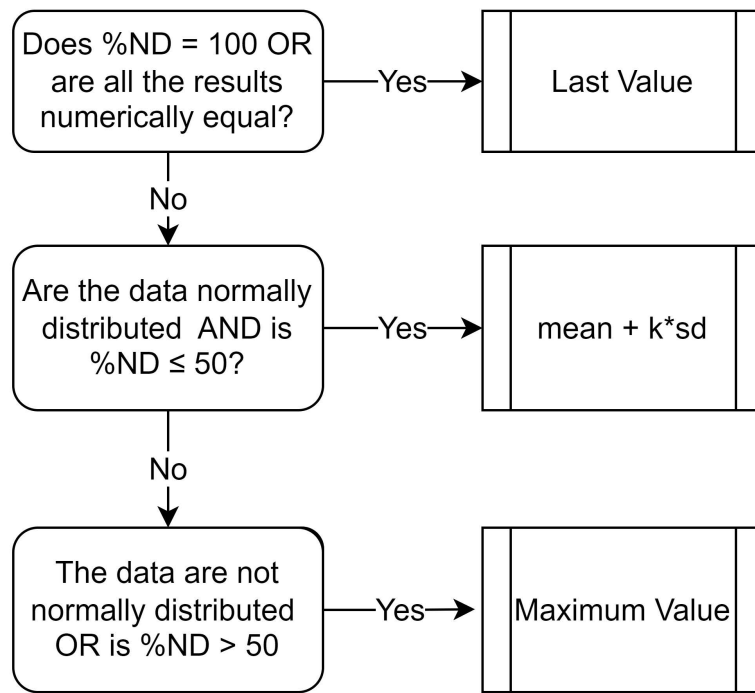
*Relinquished By	Date/Time	Received By	Date/Time
	4-19-22		09/22/22 0945

Tracking Numbers	Temperature
58215898 1180	SAAL 26.1 f0=26.1
1206	29.1 f0=28.1
1191	26.4 f0=26.4

APPENDIX B

STATISTICAL METHODOLOGY FOR DETERMINATION OF BACKGROUND VALUES

Notes
%ND = Percent non-detected samples
sd = standard deviation
k = kappa for tolerance limit (95% confidence/95% coverage)



APPENDIX C
STATISTICAL METHODOLOGY FOR DETERMINATION OF
STATISTICALLY SIGNIFICANT LEVELS

Notes
%ND = Percent non-detected samples
Future Median = Median of most recent 3 samples
MK = Mann-Kendall Trend Test
<u>Alpha Levels</u>
Normality = 0.01
MK Trend = 0.01
Residuals = 0.01
Confidence Interval = 0.01

