Prepared for
**Dynegy Midwest Generation, LLC**

Date
**January 31, 2023**

Project No.
**1940102203-011**

# 2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

## OLD WEST ASH POND

## HENNEPIN POWER PLANT

## HENNEPIN, ILLINOIS

## CCR UNIT 804

RAMBOLL Bright ideas. Sustainable change.

# 2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
# HENNEPIN POWER PLANT OLD WEST ASH POND

| | |
|---|---|
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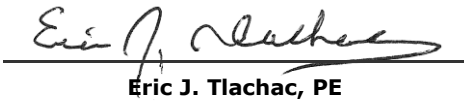

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| § | 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 |
| GWPS | groundwater protection standard |
| HPP | Hennepin Power Plant |
| IEPA | Illinois Environmental Protection Agency |
| NA | not applicable |
| NRT/OBG | Natural Resource Technology, an OBG Company |
| OBG | OBG, Part of Ramboll |
| OWAP | Old West Ash Pond |
| 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 Old West Ash Pond (OWAP) located at the Hennepin Power Plant (HPP) near Hennepin, Illinois.

Groundwater is being monitored at the OWAP in accordance with the Assessment Monitoring Program requirements specified in 40 C.F.R. § 257.95. Assessment monitoring was initiated at the OWAP 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.

The following Statistically Significant Levels (SSLs) of 40 C.F.R. § 257 Appendix IV parameters over groundwater protection standards (GWPSs) were determined:

- Arsenic at well 24/51
- Cadmium at well 22
- Lithium at well 22
- Molybdenum at well 22
- Thallium at well 22

As required by 40 C.F.R. § 257.95(g)(3)(i), a Corrective Measures Assessment (CMA) (OBG, Part of Ramboll [OBG], 2019) following the requirements of 40 C.F.R. § 257.96 was initiated on May 8, 2019 and completed on September 5, 2019.

A public meeting was held on December 17, 2019 at the the St. Margaret's Hospital Presentation Room in Spring Valley, Illinois to discuss the results of the CMA in accordance with 40 C.F.R. § 257.96(e).

Alternate Source Demonstrations (ASDs) were completed in 2022 for the thallium and cadmium SSLs referenced above.

Remedy selection is in progress and the associated semiannual reports required by 40 C.F.R. § 257.97(a) are being completed.

# 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 OWAP 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 OWAP for calendar year 2022.

# 2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

Groundwater is being monitored at the OWAP in accordance with the Assessment Monitoring Program requirements specified in 40 C.F.R. § 257.95. Assessment monitoring was initiated on April 9, 2018. SSLs were determined for the OWAP and alternate source evaluations were inconclusive for one or more SSLs. In accordance with 40 C.F.R. § 257.95(g)(5), a CMA following the requirements of 40 C.F.R. § 257.96 was initiated on May 8, 2019 and completed on September 5, 2019.

A public meeting was held on December 17, 2019 at the the St. Margaret's Hospital Presentation Room in Spring Valley, Illinois to discuss the results of the CMA in accordance with 40 C.F.R. § 257.96(e).

The OWAP remains in the Assessment Monitoring Program in accordance with 40 C.F.R. § 257.96(b).

# 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 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 in included in **Table 6**. A flow chart showing the statistical methodology for determination of SSLs is included as **Appendix C**.

Potential alternate sources were evaluated as outlined in the 40 C.F.R. § 257.94(e)(2). ASDs were completed in 2022 for cadmium and thallium SSLs and certified by a qualified professional engineer. The dates the ASDs were completed are provided in **Table A**. The ASDs are included in **Appendix D**.

Alternate source evaluations were inconclusive for one or more of the SSLs. Consequently, and in accordance with 40 C.F.R. § 257.95(g)(5), a CMA following the requirements of 40 C.F.R. § 257.96 was initiated on May 8, 2019 and the required notification completed. The CMA (OBG, 2019) was completed on September 5, 2019 and posted to the publicly accessible website, as required by 40 C.F.R. § 257.107(h)(8).

Remedy selection is in progress and the associated semiannual reports required by 40 C.F.R. § 257.97(a) were completed in March and September of 2022.

[1] Sampling was limited to well 22 during the December 2021 and June 2022 sampling events, to confirm SSLs of select Appendix IV parameters determined after the preceding sampling event, as allowed by the Statistical Analysis Plan.

**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 | CMA Initiated |
|---|---|---|---|---|---|---|
| September 8-9, 2021 | October 15, 2021 | Appendix III<br>Appendix IV Detected [1] | Arsenic at well 24/51; Lithium, Molybdenum, and Thallium at well 22 | January 13, 2022 | April 13, 2022 | NA |
| December 8, 2021 [2] | February 04, 2022 | Thallium at well 22 [3] | NA | NA | NA | NA |
| March 22, 2022 | June 01, 2022 | Appendix III<br>Appendix IV | Arsenic at well 24/51; Cadmium and Lithium at well 22 | August 30, 2022 | November 28, 2022 | NA |
| June 7, 2022 [2] | July 13, 2022 | Cadmium, Lithium, and Molybdenum at well 22 [4] | NA | NA | NA | NA |
| September 13-14, 2022 | October 31, 2022 | Appendix III<br>Appendix IV Detected [1] | Arsenic at well 24/51; Cadmium and Lithium at well 22 | January 31, 2023 | TBD | TBD |

**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).

[2] Groundwater sample analysis was limited to select Appendix IV parameters confirm SSLs determined after the preceding sampling event, as allowed by the Statistical Analysis Plan.

[3] Sampling was limited to well 22 during the December 2021 sampling event to confirm SSLs of select Appendix IV parameters determined after the preceding sampling event, as allowed by the Statistical Analysis Plan.

[4] Sampling was limited to well 22 during the June 2022 sampling event to confirm SSLs of select Appendix IV parameters determined after the preceding sampling event, as allowed by the Statistical Analysis Plan.

# 3. 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.

# 4. 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 using GWPSs has occurred.
- Remedy selection will continue; semiannual progress reports required by 40 C.F.R. § 257.97(a) will be completed and posted to the publicly accessible website as required by 40 C.F.R. § 257.107(h)(9).

# 5. REFERENCES

Natural Resource Technology, an OBG Company (NRT/OBG), 2017a. Sampling and Analysis Plan, Hennepin Old West Ash Pond (Pond No. 1 and Pond No. 3) and Hennepin Old West Polishing 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.

OBG, Part of Ramboll, 2019. Corrective Measures Assessment, Old West Ash Pond (Pond No. 1 and Pond No. 3) and Polishing Pond, Hennepin Power Station, 13498 East 800th Street, Hennepin, Illinois, Dynegy Midwest Generation, LLC, September 5, 2019.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021. Hydrogeological Site Characterization Report, the Old West 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 Old West 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
804 - OLD WEST 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) |
|---|---|---|---|---|---|---|---|---|
| 21R | UA | 37.6 - 47.6 | Compliance | 41.29987 | -89.32891 | 09/08/2021 | 5.82 | 446.23 |
| 21R | UA | 37.6 - 47.6 | Compliance | 41.29987 | -89.32891 | 03/21/2022 | 4.71 | 447.34 |
| 21R | UA | 37.6 - 47.6 | Compliance | 41.29987 | -89.32891 | 09/13/2022 | 6.08 | 445.97 |
| 22 | UA | 24.4 - 34.4 | Compliance | 41.30203 | -89.32151 | 09/08/2021 | 18.20 | 446.25 |
| 22 | UA | 24.4 - 34.4 | Compliance | 41.30203 | -89.32151 | 03/21/2022 | 17.67 | 446.78 |
| 22 | UA | 24.4 - 34.4 | Compliance | 41.30203 | -89.32151 | 09/13/2022 | 18.65 | 445.80 |
| 22D | UA | 49.7 - 59.7 | Compliance | 41.30202 | -89.32157 | 09/08/2021 | 18.84 | 446.59 |
| 22D | UA | 49.7 - 59.7 | Compliance | 41.30202 | -89.32157 | 03/21/2022 | 18.25 | 447.18 |
| 22D | UA | 49.7 - 59.7 | Compliance | 41.30202 | -89.32157 | 09/13/2022 | 19.22 | 446.21 |
| 23 | UA | 34 - 44 | Compliance | 41.30088 | -89.32538 | 09/08/2021 | 16.51 | 446.88 |
| 23 | UA | 34 - 44 | Compliance | 41.30088 | -89.32538 | 03/21/2022 | 15.73 | 447.66 |
| 23 | UA | 34 - 44 | Compliance | 41.30088 | -89.32538 | 09/13/2022 | 16.90 | 446.49 |
| 25 | UA | 24.4 - 34.4 | Water Level Only | 41.29763 | -89.32348 | 09/08/2021 | 15.69 | 446.92 |
| 25 | UA | 24.4 - 34.4 | Water Level Only | 41.29763 | -89.32348 | 03/21/2022 | 14.94 | 447.67 |
| 25 | UA | 24.4 - 34.4 | Water Level Only | 41.29763 | -89.32348 | 09/13/2022 | 16.31 | 446.30 |
| 26 | UA | 11 - 21 | Water Level Only | 41.29764 | -89.32351 | 09/08/2021 | 15.73 | 446.97 |
| 26 | UA | 11 - 21 | Water Level Only | 41.29764 | -89.32351 | 03/21/2022 | 15.00 | 447.70 |
| 26 | UA | 11 - 21 | Water Level Only | 41.29764 | -89.32351 | 09/13/2022 | 5.01 | 457.69 |
| 27 | UA | 30 - 35 | Water Level Only | 41.29691 | -89.32890 | 09/08/2021 | 3.98 | 446.60 |
| 27 | UA | 30 - 35 | Water Level Only | 41.29691 | -89.32890 | 03/21/2022 | 3.01 | 447.57 |
| 27 | UA | 30 - 35 | Water Level Only | 41.29691 | -89.32890 | 09/13/2022 | 4.25 | 446.33 |
| 30 | UA | 30 - 35 | Water Level Only | 41.29693 | -89.32600 | 09/08/2021 | 6.41 | 446.75 |
| 30 | UA | 30 - 35 | Water Level Only | 41.29693 | -89.32600 | 03/21/2022 | 5.56 | 447.60 |
| 30 | UA | 30 - 35 | Water Level Only | 41.29693 | -89.32600 | 09/13/2022 | 6.79 | 446.37 |
| 31 | UA | 5 - 15 | Water Level Only | 41.29691 | -89.32600 | 09/08/2021 | 6.32 | 446.81 |
| 31 | UA | 5 - 15 | Water Level Only | 41.29691 | -89.32600 | 03/21/2022 | 5.51 | 447.62 |
| 31 | UA | 5 - 15 | Water Level Only | 41.29691 | -89.32600 | 09/13/2022 | 6.70 | 446.43 |
| 32 | UA | 7 - 17 | Background | 41.29213 | -89.32856 | 09/08/2021 | 5.09 | 446.29 |
| 32 | UA | 7 - 17 | Background | 41.29213 | -89.32856 | 03/21/2022 | 2.88 | 448.50 |
| 32 | UA | 7 - 17 | Background | 41.29213 | -89.32856 | 09/13/2022 | 5.30 | 446.08 |
| 33 | UA | 37.5 - 42.5 | Water Level Only | 41.29570 | -89.33213 | 09/08/2021 | 4.24 | 445.47 |
| 33 | UA | 37.5 - 42.5 | Water Level Only | 41.29570 | -89.33213 | 03/21/2022 | 2.63 | 447.08 |
| 33 | UA | 37.5 - 42.5 | Water Level Only | 41.29570 | -89.33213 | 09/13/2022 | 4.97 | 444.74 |
| 34 | UA | 30 - 35 | Background | 41.29954 | -89.33249 | 09/08/2021 | 9.16 | 440.40 |
| 34 | UA | 30 - 35 | Background | 41.29954 | -89.33249 | 03/21/2022 | 5.41 | 444.15 |
| 35 | UA | 8 - 18 | Compliance | 41.29916 | -89.32415 | 09/08/2021 | 8.05 | 446.78 |

**TABLE 1**
**GROUNDWATER ELEVATIONS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST 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) |
|---|---|---|---|---|---|---|---|---|
| 35 | UA | 8 - 18 | Compliance | 41.29916 | -89.32415 | 03/21/2022 | 10.28 | 444.55 |
| 35 | UA | 8 - 18 | Compliance | 41.29916 | -89.32415 | 09/14/2022 | 8.37 | 446.46 |
| 36 | UA | 18 - 28 | Water Level Only | 41.29927 | -89.32059 | 09/08/2021 | 14.99 | 447.03 |
| 36 | UA | 18 - 28 | Water Level Only | 41.29927 | -89.32059 | 03/21/2022 | 14.38 | 447.64 |
| 36 | UA | 18 - 28 | Water Level Only | 41.29927 | -89.32059 | 09/13/2022 | 13.42 | 448.60 |
| 49 | UA | 35 - 45 | Compliance | 41.30118 | -89.32333 | 09/08/2021 | 21.31 | 446.86 |
| 49 | UA | 35 - 45 | Compliance | 41.30118 | -89.32333 | 03/21/2022 | 20.61 | 447.56 |
| 49 | UA | 35 - 45 | Compliance | 41.30118 | -89.32333 | 09/13/2022 | 21.70 | 446.47 |
| 50 | UA | 19.6 - 29.6 | Compliance | 41.30224 | -89.32065 | 09/08/2021 | 18.08 | 445.86 |
| 50 | UA | 19.6 - 29.6 | Compliance | 41.30224 | -89.32065 | 03/21/2022 | 7.45 | 456.49 |
| 50 | UA | 19.6 - 29.6 | Compliance | 41.30224 | -89.32065 | 09/13/2022 | 18.33 | 445.61 |
| 51 | UA | 56 - 66 | Compliance | 41.30064 | -89.32695 | 09/08/2021 | 18.37 | 446.43 |
| 51 | UA | 56 - 66 | Compliance | 41.30064 | -89.32695 | 03/21/2022 | 17.34 | 447.46 |
| 51 | UA | 56 - 66 | Compliance | 41.30064 | -89.32695 | 09/13/2022 | 18.68 | 446.12 |

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

**TABLE 2**
**ANALYTICAL RESULTS - APPENDIX III PARAMETERS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST 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)* | -- | -- | -- | *0.199* | *170* | *108* | *0.170* | *6.8/7.4* | *117* | *830* |
| 32 | Background | 09/09/2021 | A4D | 0.162 | 115 | 57.0 | 0.130 | 7.0 | 50.0 | 486 |
| 32 | Background | 03/22/2022 | A5 | 0.183 | 110 | 68.0 | 0.130 | 7.0 | 60.0 | 514 |
| 32 | Background | 09/13/2022 | A5D | 0.152 | 113 | 74.0 | 0.140 | 7.0 | 62.0 | 596 |
| 34 | Background | 09/09/2021 | A4D | 0.145 | 180 | 70.0 | 0.160 | 6.9 | 67.0 | 696 |
| 34 | Background | 03/22/2022 | A5 | 0.158 | 167 | 74.0 | 0.170 | 6.8 | 56.0 | 720 |
| 21R | Compliance | 09/09/2021 | A4D | 3.23 | 145 | 97.0 | 0.140 | 7.4 | 93.0 | 684 |
| 21R | Compliance | 03/22/2022 | A5 | 3.33 | 146 | 99.0 | 0.160 | 7.2 | 91.0 | 622 |
| 21R | Compliance | 09/13/2022 | A5D | 2.28 | 135 | 104 | 0.150 | 7.3 | 87.0 | 682 |
| 22 | Compliance | 09/08/2021 | A4D | 4.39 | 107 | 93.0 | 0.160 | 7.2 | 160 | 626 |
| 22 | Compliance | 12/08/2021 | A4DR | 3.81 | 97.4 | 23.0 | 0.170 | 7.6 | 146 | 588 |
| 22 | Compliance | 03/22/2022 | A5 | 4.84 | 108 | 90.0 | 0.160 | 7.6 | 145 | 608 |
| 22 | Compliance | 06/07/2022 | A5R | 3.95 | 104 | 92.0 | 0.160 | 7.6 | 134 | 664 |
| 22 | Compliance | 09/13/2022 | A5D | 3.42 | 97.0 | 97.0 | 0.160 | 7.5 | 142 | 662 |
| 22D | Compliance | 09/08/2021 | A4D | 2.05 | 129 | 100 | 0.120 | 7.2 | 107 | 582 |
| 22D | Compliance | 03/22/2022 | A5 | 2.10 | 132 | 104 | 0.120 | 7.3 | 103 | 616 |
| 22D | Compliance | 09/13/2022 | A5D | 1.67 | 124 | 103 | 0.120 | 7.2 | 96.0 | 686 |
| 23 | Compliance | 09/09/2021 | A4D | 9.05 | 121 | 57.0 | 0.160 | 7.4 | 455 | 868 |
| 23 | Compliance | 03/22/2022 | A5 | 9.61 | 116 | 58.0 | 0.170 | 7.4 | 421 | 826 |
| 23 | Compliance | 09/13/2022 | A5D | 8.20 | 115 | 50.0 | 0.160 | 7.4 | 471 | 1,020 |
| 27 | Compliance | 09/09/2021 | A4D | 2.57 | 141 | 107 | 0.130 | 7.0 | 129 | 712 |
| 27 | Compliance | 03/22/2022 | A5 | 2.41 | 140 | 101 | 0.140 | 7.1 | 123 | 648 |
| 35 | Compliance | 09/08/2021 | A4D | 12.0 | 259 | 56.0 | 0.170 | 7.0 | 568 | 1,140 |
| 35 | Compliance | 03/22/2022 | A5 | 11.3 | 264 | 29.0 | 0.200 | 7.0 | 549 | 1,020 |
| 35 | Compliance | 09/14/2022 | A5D | 16.2 | 426 | 30.0 | 0.160 | 6.8 | 1,190 | 1,940 |

**TABLE 2**
**ANALYTICAL RESULTS - APPENDIX III PARAMETERS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 49 | Compliance | 09/08/2021 | A4D | 0.796 | 113 | 100 | 0.150 | 7.0 | 79.0 | 596 |
| 49 | Compliance | 03/22/2022 | A5 | 0.858 | 114 | 103 | 0.160 | 7.1 | 82.0 | 594 |
| 49 | Compliance | 09/13/2022 | A5D | 0.701 | 113 | 103 | 0.160 | 7.0 | 75.0 | 658 |
| 50 | Compliance | 09/08/2021 | A4D | 0.696 | 119 | 95.0 | 0.120 | 7.0 | 85.0 | 588 |
| 50 | Compliance | 03/22/2022 | A5 | 1.24 | 114 | 102 | 0.120 | 7.4 | 90.0 | 598 |
| 50 | Compliance | 09/13/2022 | A5D | 0.618 | 110 | 96.0 | 0.120 | 7.3 | 81.0 | 668 |
| 51 | Compliance | 09/09/2021 | A4D | 1.96 | 132 | 101 | 0.130 | 7.4 | 101 | 628 |
| 51 | Compliance | 03/22/2022 | A5 | 2.55 | 121 | 103 | 0.140 | 7.4 | 94.0 | 622 |
| 51 | Compliance | 09/13/2022 | A5D | 1.57 | 124 | 112 | 0.140 | 7.2 | 105 | 615 |

**Notes:**
Exceedance of Background
mg/L = milligrams per liter
SU = Standard Units

**TABLE 3**
**ANALYTICAL RESULTS - APPENDIX IV PARAMETERS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | Background | 09/09/2021 | 0.001 U | 0.001 U | 0.0428 | 0.001 U | 0.001 U | 0.0015 U | 0.00140 | 0.130 | 0.001 U | 0.00370 | 0.0002 U | 0.0015 U | 0.755 | 0.001 U | 0.002 U |
| 32 | Background | 03/22/2022 | 0.001 U | 0.001 U | 0.0407 | 0.001 U | 0.001 U | 0.0015 U | 0.00150 | 0.130 | 0.001 U | 0.00400 | 0.0002 U | 0.0015 U | 0.0309 | 0.001 U | 0.002 U |
| 32 | Background | 09/13/2022 | 0.0004 U | 0.0004 U | 0.0380 | 0.0002 U | 0.0002 U | 0.0007 U | 0.00150 | 0.140 | 0.0006 U | 0.00320 | 0.00006 U | 0.0006 U | 0.249 | 0.0006 U | 0.001 U |
| 34 | Background | 09/09/2021 | 0.001 U | 0.001 U | 0.0933 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.160 | 0.001 U | 0.0132 | 0.0002 U | 0.00160 | 0.596 | 0.001 U | 0.002 U |
| 34 | Background | 03/22/2022 | 0.001 U | 0.001 U | 0.102 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.170 | 0.001 U | 0.0146 | 0.0002 U | 0.00170 | 0.360 | 0.001 U | 0.002 U |
| 21R | Compliance | 09/09/2021 | 0.001 U | 0.0259 | 0.304 | 0.001 U | 0.001 U | 0.00230 | 0.00110 | 0.140 | 0.00280 | 0.0229 | 0.0002 U | 0.00880 | 1.54 | 0.001 U | 0.002 U |
| 21R | Compliance | 03/22/2022 | 0.001 U | 0.0279 | 0.326 | 0.001 U | 0.001 U | 0.00310 | 0.00170 | 0.160 | 0.00320 | 0.0280 | 0.0002 U | 0.00990 | 1.58 J | 0.001 U | 0.002 U |
| 21R | Compliance | 09/13/2022 | 0.0004 U | 0.0332 | 0.378 | 0.0002 U | 0.0002 U | 0.0012 J | 0.0004 J | 0.150 | 0.00230 | 0.0178 | 0.00006 U | 0.00800 | 2.44 | 0.0006 U | 0.001 U |
| 22 | Compliance | 09/08/2021 | 0.001 U | 0.00110 | 0.0622 | 0.001 U | 0.00540 | 0.0015 U | 0.00260 | 0.160 | 0.001 U | 0.0542 | 0.0002 U | 0.114 | 0.431 | 0.0157 | 0.00360 |
| 22 | Compliance | 12/08/2021 | 0.00120 | 0.00100 | 0.0635 | 0.001 U | 0.00540 | 0.0015 U | 0.00200 | 0.170 | 0.001 U | 0.0477 | 0.0002 U | 0.106 | -- | 0.0160 | 0.002 U |
| 22 | Compliance | 03/22/2022 | 0.001 U | 0.001 U | 0.0616 | 0.001 U | 0.00570 | 0.0015 U | 0.00250 | 0.160 | 0.001 U | 0.0620 | 0.0002 U | 0.111 | 0.223 | 0.0195 | 0.002 U |
| 22 | Compliance | 06/07/2022 | 0.0008 J | 0.0009 J | 0.0678 | 0.0002 U | 0.00570 | 0.0007 U | 0.00190 | 0.160 | 0.0006 U | 0.0507 | 0.00006 U | 0.101 | -- | 0.0152 | 0.001 U |
| 22 | Compliance | 09/13/2022 | 0.0009 J | 0.00100 J | 0.0652 | 0.0002 U | 0.00570 | 0.0007 U | 0.00200 | 0.160 | 0.0008 J | 0.0439 | 0.00006 U | 0.101 | 1.01 | 0.0163 | 0.001 U |
| 22D | Compliance | 09/08/2021 | 0.001 U | 0.00120 | 0.0627 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.120 | 0.001 U | 0.0155 | 0.0002 U | 0.00700 | 1.15 | 0.001 U | 0.002 U |
| 22D | Compliance | 03/22/2022 | 0.001 U | 0.00130 | 0.0676 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.120 | 0.001 U | 0.0175 | 0.0002 U | 0.00740 | 0.765 J | 0.001 U | 0.002 U |
| 22D | Compliance | 09/13/2022 | 0.0004 U | 0.00110 | 0.0739 | -- | 0.0002 U | 0.0007 U | 0.0002 J | 0.120 | 0.0006 U | 0.0123 | 0.00006 U | 0.00730 | 2.31 | 0.0006 U | 0.001 U |
| 23 | Compliance | 09/09/2021 | 0.001 U | 0.001 U | 0.0363 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.160 | 0.001 U | 0.00500 | 0.0002 U | 0.0152 | 0.281 | 0.001 U | 0.002 U |
| 23 | Compliance | 03/22/2022 | 0.001 U | 0.001 U | 0.0412 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.170 | 0.001 U | 0.00560 | 0.0002 U | 0.0153 | 0.377 J | 0.001 U | 0.002 U |
| 23 | Compliance | 09/13/2022 | 0.0004 U | 0.0005 J | 0.0445 | 0.0002 U | 0.0002 U | 0.0007 U | 0.0002 J | 0.160 | 0.0006 U | 0.00390 | 0.00006 U | 0.0152 | 1.01 | 0.0006 U | 0.001 U |
| 27 | Compliance | 09/09/2021 | 0.001 U | 0.001 U | 0.0913 | 0.001 U | 0.001 U | 0.00170 | 0.00250 | 0.130 | 0.00150 | 0.0254 | 0.0002 U | 0.00440 | 0.582 | 0.001 U | 0.002 U |
| 27 | Compliance | 03/22/2022 | 0.001 U | 0.001 U | 0.0863 | 0.001 U | 0.001 U | 0.0015 U | 0.00260 | 0.140 | 0.00120 | 0.0231 | 0.0002 U | 0.00430 | 0.691 J | 0.001 U | 0.002 U |
| 35 | Compliance | 09/08/2021 | 0.001 U | 0.001 U | 0.0338 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.170 | 0.001 U | 0.0349 | 0.0002 U | 0.0732 | 0.360 | 0.001 U | 0.002 U |
| 35 | Compliance | 03/22/2022 | 0.001 U | 0.001 U | 0.0318 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.200 | 0.001 U | 0.0190 | 0.0002 U | 0.0586 | 0.0841 | 0.001 U | 0.002 U |
| 35 | Compliance | 09/14/2022 | 0.0004 U | 0.0008 J | 0.0666 | 0.0002 U | 0.0005 J | 0.0007 U | 0.00110 | 0.160 | 0.0006 U | 0.0240 | 0.00006 U | 0.0611 | 0.474 | 0.0006 U | 0.001 U |
| 49 | Compliance | 09/08/2021 | 0.001 U | 0.001 U | 0.0596 | 0.001 U | 0.00160 | 0.0015 U | 0.00540 | 0.150 | 0.001 U | 0.0229 | 0.0002 U | 0.0309 | 0.452 | 0.001 U | 0.002 U |
| 49 | Compliance | 03/22/2022 | 0.001 U | 0.001 U | 0.0638 | 0.001 U | 0.00160 | 0.0015 U | 0.00450 | 0.160 | 0.001 U | 0.0274 | 0.0002 U | 0.0289 | 0.113 | 0.001 U | 0.002 U |
| 49 | Compliance | 09/13/2022 | 0.0004 U | 0.0004 U | 0.0576 | 0.0002 U | 0.00120 | 0.0007 U | 0.00530 | 0.160 | 0.0006 U | 0.0245 | 0.00006 U | 0.0207 | 0.124 | 0.0006 U | 0.001 U |
| 50 | Compliance | 09/08/2021 | 0.001 U | 0.001 U | 0.0977 | 0.001 U | 0.00150 | 0.0015 U | 0.00680 | 0.120 | 0.001 U | 0.0197 | 0.0002 U | 0.0358 | 0.764 | 0.001 U | 0.002 U |
| 50 | Compliance | 03/22/2022 | 0.001 U | 0.001 U | 0.0925 | 0.001 U | 0.00100 | 0.0015 U | 0.00400 | 0.120 | 0.001 U | 0.0225 | 0.0002 U | 0.0423 | 0.919 | 0.001 U | 0.002 U |

**TABLE 3**
**ANALYTICAL RESULTS - APPENDIX IV PARAMETERS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | Compliance | 09/13/2022 | 0.0004 U | 0.0008 J | 0.105 | -- | 0.00140 | 0.0008 J | 0.00690 | 0.120 | 0.0007 J | 0.0201 | 0.00006 U | 0.0337 | 0.880 | 0.0006 U | 0.001 U |
| 51 | Compliance | 09/09/2021 | 0.001 U | 0.0174 | 0.115 | 0.001 U | 0.001 U | 0.00170 | 0.00150 | 0.130 | 0.00190 | 0.0248 | 0.0002 U | 0.0130 | 1.53 | 0.001 U | 0.002 U |
| 51 | Compliance | 03/22/2022 | 0.001 U | 0.0195 | 0.102 | 0.001 U | 0.001 U | 0.0015 U | 0.001 U | 0.140 | 0.00150 | 0.0250 | 0.0002 U | 0.00890 | 1.66 | 0.001 U | 0.002 U |
| 51 | Compliance | 09/13/2022 | 0.0004 U | 0.0206 | 0.0917 | 0.0002 U | 0.0002 U | 0.0007 U | 0.0005 J | 0.140 | 0.0006 J | 0.0213 | 0.00006 U | 0.00620 | 1.68 | 0.0006 U | 0.001 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.

**TABLE 4**
**STATISTICAL BACKGROUND VALUES**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Parameter | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Background Value (LPL/UPL) |
|---|---|---|---|---|---|
| Boron (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Parametric UPL | 0.199 |
| Calcium (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Non-parametric UPL | 170 |
| Chloride (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Non-parametric UPL | 108 |
| Fluoride (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Parametric UPL | 0.170 |
| pH (field) (SU) | 12/09/2015 - 06/08/2017 | 16 | 0 | Parametric LPL/UPL | 6.8/7.4 |
| Sulfate (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Non-parametric UPL | 117 |
| Total Dissolved Solids (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Non-parametric UPL | 830 |

**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
804 - OLD WEST 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) | 12/09/2015 - 06/08/2017 | 16 | 100 | All ND - Last Reporting Limit | 0.001 | 0.006 | 0.006 | MCL/HBL |
| Arsenic (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 100 | All ND - Last Reporting Limit | 0.001 | 0.010 | 0.010 | MCL/HBL |
| Barium (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Non-parametric UTL | 0.156 | 2 | 2 | MCL/HBL |
| Beryllium (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 100 | All ND - Last Reporting Limit | 0.001 | 0.004 | 0.004 | MCL/HBL |
| Cadmium (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 100 | All ND - Last Reporting Limit | 0.001 | 0.005 | 0.005 | MCL/HBL |
| Chromium (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 94 | Non-parametric UTL | 0.00130 | 0.1 | 0.1 | MCL/HBL |
| Cobalt (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 75 | Non-parametric UTL | 0.00170 | 0.006 | 0.006 | MCL/HBL |
| Fluoride (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Parametric UTL | 0.172 | 4.0 | 4.0 | MCL/HBL |
| Lead (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 100 | All ND - Last Reporting Limit | 0.001 | 0.015 | 0.015 | MCL/HBL |
| Lithium (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Non-parametric UTL | 0.0135 | 0.04 | 0.04 | MCL/HBL |
| Mercury (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 100 | All ND - Last Reporting Limit | 0.0002 | 0.002 | 0.002 | MCL/HBL |
| Molybdenum (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 50 | Non-parametric UTL | 0.00200 | 0.1 | 0.1 | MCL/HBL |
| Radium 226 + Radium 228 (pCi/L) | 12/09/2015 - 06/08/2017 | 16 | 0 | Parametric UTL | 2.64 | 5 | 5 | MCL/HBL |
| Selenium (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 81 | Non-parametric UTL | 0.00110 | 0.05 | 0.05 | MCL/HBL |
| Thallium (mg/L) | 12/09/2015 - 06/08/2017 | 16 | 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
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 21/21R | Antimony, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 21/21R | Antimony, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 21/21R | Antimony, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0004 | 0.006 | MCL/HBL |
| 21/21R | Arsenic, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CB around T-S line | 0.00773 | 0.010 | MCL/HBL |
| 21/21R | Arsenic, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CB around T-S line | 0.00962 | 0.010 | MCL/HBL |
| 21/21R | Arsenic, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CB around T-S line | 0.00817 | 0.010 | MCL/HBL |
| 21/21R | Barium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around geomean | 0.175 | 2 | MCL/HBL |
| 21/21R | Barium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around geomean | 0.180 | 2 | MCL/HBL |
| 21/21R | Barium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CB around T-S line | 0.162 | 2 | MCL/HBL |
| 21/21R | Beryllium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 21/21R | Beryllium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 21/21R | Beryllium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0002 | 0.004 | MCL/HBL |
| 21/21R | Cadmium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 21/21R | Cadmium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 21/21R | Cadmium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0002 | 0.005 | MCL/HBL |
| 21/21R | Chromium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 69 | CB around T-S line | 0.00100 | 0.1 | MCL/HBL |
| 21/21R | Chromium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 65 | CB around T-S line | 0.00100 | 0.1 | MCL/HBL |
| 21/21R | Chromium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 67 | CB around T-S line | 0.00100 | 0.1 | MCL/HBL |
| 21/21R | Cobalt, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 81 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 21/21R | Cobalt, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 76 | CB around T-S line | 0.00100 | 0.006 | MCL/HBL |
| 21/21R | Cobalt, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 78 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 21/21R | Fluoride, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 17 | 12 | CI around median | 0.140 | 4.0 | MCL/HBL |
| 21/21R | Fluoride, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 11 | CI around median | 0.140 | 4.0 | MCL/HBL |
| 21/21R | Fluoride, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 11 | CI around median | 0.140 | 4.0 | MCL/HBL |
| 21/21R | Lead, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 69 | CB around T-S line | 0.00100 | 0.015 | MCL/HBL |
| 21/21R | Lead, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 65 | CB around T-S line | 0.00100 | 0.015 | MCL/HBL |
| 21/21R | Lead, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 61 | CB around T-S line | 0.00100 | 0.015 | MCL/HBL |
| 21/21R | Lithium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CB around T-S line | 0.0138 | 0.04 | MCL/HBL |
| 21/21R | Lithium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CB around T-S line | 0.0149 | 0.04 | MCL/HBL |
| 21/21R | Lithium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CB around linear reg | 0.0177 | 0.04 | MCL/HBL |

**TABLE 6**
**DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 21/21R | Mercury, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 21/21R | Mercury, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 21/21R | Mercury, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.00006 | 0.002 | MCL/HBL |
| 21/21R | Molybdenum, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around mean | 0.00642 | 0.1 | MCL/HBL |
| 21/21R | Molybdenum, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.00657 | 0.1 | MCL/HBL |
| 21/21R | Molybdenum, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.00665 | 0.1 | MCL/HBL |
| 21/21R | Radium 226 + Radium 228, total | pCi/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 0 | CI around mean | 0.582 | 5 | MCL/HBL |
| 21/21R | Radium 226 + Radium 228, total | pCi/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 0 | CI around mean | 0.639 | 5 | MCL/HBL |
| 21/21R | Radium 226 + Radium 228, total | pCi/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 0 | CI around mean | 0.793 | 5 | MCL/HBL |
| 21/21R | Selenium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 21/21R | Selenium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 21/21R | Selenium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0006 | 0.05 | MCL/HBL |
| 21/21R | Thallium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 21/21R | Thallium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 21/21R | Thallium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.001 | 0.002 | MCL/HBL |
| 22 | Antimony, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 22 | Antimony, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 94 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 22 | Antimony, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 95 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 22 | Arsenic, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 87 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 22 | Arsenic, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 82 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 22 | Arsenic, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 79 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 22 | Barium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.0635 | 2 | MCL/HBL |
| 22 | Barium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 0 | CI around mean | 0.0634 | 2 | MCL/HBL |
| 22 | Barium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 20 | 0 | CI around mean | 0.0637 | 2 | MCL/HBL |
| 22 | Beryllium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 22 | Beryllium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 22 | Beryllium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 100 | All ND - Last | 0.0002 | 0.004 | MCL/HBL |
| 22 | Cadmium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CB around linear reg | 0.00507 | 0.005 | MCL/HBL |
| 22 | Cadmium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 0 | CB around linear reg | 0.00519 | 0.005 | MCL/HBL |

**TABLE 6**
**DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 | Cadmium, total | mg/L | A5R | 12/10/2015 - 06/07/2022 | 19 | 0 | CB around linear reg | 0.00527 | 0.005 | MCL/HBL |
| 22 | Cadmium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 20 | 0 | CB around linear reg | 0.00536 | 0.005 | MCL/HBL |
| 22 | Chromium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.0015 | 0.1 | MCL/HBL |
| 22 | Chromium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 100 | All ND - Last | 0.0015 | 0.1 | MCL/HBL |
| 22 | Chromium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 100 | All ND - Last | 0.0007 | 0.1 | MCL/HBL |
| 22 | Cobalt, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CB around T-S line | 0.00236 | 0.006 | MCL/HBL |
| 22 | Cobalt, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 0 | CB around linear reg | 0.00206 | 0.006 | MCL/HBL |
| 22 | Cobalt, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 20 | 0 | CI around mean | 0.00177 | 0.006 | MCL/HBL |
| 22 | Fluoride, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 17 | 0 | CI around mean | 0.145 | 4.0 | MCL/HBL |
| 22 | Fluoride, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 19 | 0 | CI around mean | 0.147 | 4.0 | MCL/HBL |
| 22 | Fluoride, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 21 | 0 | CI around mean | 0.148 | 4.0 | MCL/HBL |
| 22 | Lead, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 22 | Lead, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 22 | Lead, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 100 | All ND - Last | 0.0008 | 0.015 | MCL/HBL |
| 22 | Lithium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.0555 | 0.04 | MCL/HBL |
| 22 | Lithium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 0 | CI around mean | 0.0551 | 0.04 | MCL/HBL |
| 22 | Lithium, total | mg/L | A5R | 12/10/2015 - 06/07/2022 | 19 | 0 | CI around mean | 0.0547 | 0.04 | MCL/HBL |
| 22 | Lithium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 20 | 0 | CI around mean | 0.0538 | 0.04 | MCL/HBL |
| 22 | Mercury, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 14 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 22 | Mercury, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 22 | Mercury, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 100 | All ND - Last | 0.00006 | 0.002 | MCL/HBL |
| 22 | Molybdenum, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CB around T-S line | 0.110 | 0.1 | MCL/HBL |
| 22 | Molybdenum, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 0 | CB around linear reg | 0.0992 | 0.1 | MCL/HBL |
| 22 | Molybdenum, total | mg/L | A5R | 12/10/2015 - 06/07/2022 | 19 | 0 | CB around linear reg | 0.0957 | 0.1 | MCL/HBL |
| 22 | Molybdenum, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 20 | 0 | CB around linear reg | 0.0923 | 0.1 | MCL/HBL |
| 22 | Radium 226 + Radium 228, total | pCi/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.320 | 5 | MCL/HBL |
| 22 | Radium 226 + Radium 228, total | pCi/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.310 | 5 | MCL/HBL |
| 22 | Radium 226 + Radium 228, total | pCi/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.259 | 5 | MCL/HBL |
| 22 | Selenium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.0110 | 0.05 | MCL/HBL |

**TABLE 6**
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2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 | Selenium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 0 | CI around mean | 0.0116 | 0.05 | MCL/HBL |
| 22 | Selenium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 20 | 0 | CI around mean | 0.0120 | 0.05 | MCL/HBL |
| 22 | Thallium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 87 | CB around T-S line | 0.00100 | 0.002 | MCL/HBL |
| 22 | Thallium, total | mg/L | A4DR | 12/10/2015 - 12/08/2021 | 16 | 88 | CB around linear reg | 0.00204 | 0.002 | MCL/HBL |
| 22 | Thallium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 88 | CB around T-S line | 0.00100 | 0.002 | MCL/HBL |
| 22 | Thallium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 89 | CB around T-S line | 0.00100 | 0.002 | MCL/HBL |
| 22D | Antimony, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 22D | Antimony, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 22D | Antimony, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0004 | 0.006 | MCL/HBL |
| 22D | Arsenic, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around median | 0.00120 | 0.010 | MCL/HBL |
| 22D | Arsenic, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around median | 0.00130 | 0.010 | MCL/HBL |
| 22D | Arsenic, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.00112 | 0.010 | MCL/HBL |
| 22D | Barium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.0558 | 2 | MCL/HBL |
| 22D | Barium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.0572 | 2 | MCL/HBL |
| 22D | Barium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.0575 | 2 | MCL/HBL |
| 22D | Beryllium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 22D | Beryllium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 22D | Cadmium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 22D | Cadmium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 22D | Cadmium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0002 | 0.005 | MCL/HBL |
| 22D | Chromium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 75 | CI around median | 0.00150 | 0.1 | MCL/HBL |
| 22D | Chromium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 80 | CI around median | 0.00150 | 0.1 | MCL/HBL |
| 22D | Chromium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 83 | CI around median | 0.000700 | 0.1 | MCL/HBL |
| 22D | Cobalt, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 22D | Cobalt, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 22D | Cobalt, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0002 | 0.006 | MCL/HBL |
| 22D | Fluoride, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.111 | 4.0 | MCL/HBL |
| 22D | Fluoride, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around median | 0.120 | 4.0 | MCL/HBL |
| 22D | Fluoride, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around median | 0.120 | 4.0 | MCL/HBL |
| 22D | Lead, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |

**TABLE 6**
**DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 22D | Lead, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 22D | Lead, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0006 | 0.015 | MCL/HBL |
| 22D | Lithium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.0142 | 0.04 | MCL/HBL |
| 22D | Lithium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.0144 | 0.04 | MCL/HBL |
| 22D | Lithium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.0134 | 0.04 | MCL/HBL |
| 22D | Mercury, total | mg/L | A4D | 03/11/2020 - 09/08/2021 | 3 | 100 | Most recent sample | 0.0002 | 0.002 | MCL/HBL |
| 22D | Mercury, total | mg/L | A5 | 03/11/2020 - 03/22/2022 | 4 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 22D | Mercury, total | mg/L | A5D | 03/11/2020 - 09/13/2022 | 5 | 100 | All ND - Last | 0.00006 | 0.002 | MCL/HBL |
| 22D | Molybdenum, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.00659 | 0.1 | MCL/HBL |
| 22D | Molybdenum, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.00669 | 0.1 | MCL/HBL |
| 22D | Molybdenum, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.00679 | 0.1 | MCL/HBL |
| 22D | Radium 226 + Radium 228, total | pCi/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.484 | 5 | MCL/HBL |
| 22D | Radium 226 + Radium 228, total | pCi/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.542 | 5 | MCL/HBL |
| 22D | Radium 226 + Radium 228, total | pCi/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.643 | 5 | MCL/HBL |
| 22D | Selenium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 22D | Selenium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 22D | Selenium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0006 | 0.05 | MCL/HBL |
| 22D | Thallium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 22D | Thallium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 22D | Thallium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.001 | 0.002 | MCL/HBL |
| 23 | Antimony, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 23 | Antimony, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 23 | Antimony, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0004 | 0.006 | MCL/HBL |
| 23 | Arsenic, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.010 | MCL/HBL |
| 23 | Arsenic, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.010 | MCL/HBL |
| 23 | Arsenic, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0005 | 0.010 | MCL/HBL |
| 23 | Barium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around median | 0.0291 | 2 | MCL/HBL |
| 23 | Barium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around geomean | 0.0310 | 2 | MCL/HBL |
| 23 | Barium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around geomean | 0.0316 | 2 | MCL/HBL |

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2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 | Beryllium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 23 | Beryllium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 23 | Beryllium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0002 | 0.004 | MCL/HBL |
| 23 | Cadmium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 23 | Cadmium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 23 | Cadmium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0002 | 0.005 | MCL/HBL |
| 23 | Chromium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.0015 | 0.1 | MCL/HBL |
| 23 | Chromium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.0015 | 0.1 | MCL/HBL |
| 23 | Chromium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0007 | 0.1 | MCL/HBL |
| 23 | Cobalt, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 23 | Cobalt, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 23 | Cobalt, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0002 | 0.006 | MCL/HBL |
| 23 | Fluoride, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 17 | 0 | CI around mean | 0.153 | 4.0 | MCL/HBL |
| 23 | Fluoride, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 0 | CI around mean | 0.154 | 4.0 | MCL/HBL |
| 23 | Fluoride, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 0 | CI around mean | 0.154 | 4.0 | MCL/HBL |
| 23 | Lead, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 23 | Lead, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 23 | Lead, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0006 | 0.015 | MCL/HBL |
| 23 | Lithium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around mean | 0.00460 | 0.04 | MCL/HBL |
| 23 | Lithium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.00466 | 0.04 | MCL/HBL |
| 23 | Lithium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.00458 | 0.04 | MCL/HBL |
| 23 | Mercury, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 14 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 23 | Mercury, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 15 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 23 | Mercury, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 16 | 100 | All ND - Last | 0.00006 | 0.002 | MCL/HBL |
| 23 | Molybdenum, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around median | 0.0130 | 0.1 | MCL/HBL |
| 23 | Molybdenum, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around median | 0.0130 | 0.1 | MCL/HBL |
| 23 | Molybdenum, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around median | 0.0139 | 0.1 | MCL/HBL |
| 23 | Radium 226 + Radium 228, total | pCi/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around mean | 0.197 | 5 | MCL/HBL |
| 23 | Radium 226 + Radium 228, total | pCi/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.209 | 5 | MCL/HBL |

**TABLE 6**
**DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 | Radium 226 + Radium 228, total | pCi/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.103 | 5 | MCL/HBL |
| 23 | Selenium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 23 | Selenium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 23 | Selenium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0006 | 0.05 | MCL/HBL |
| 23 | Thallium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 23 | Thallium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 23 | Thallium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.001 | 0.002 | MCL/HBL |
| 24/51 | Antimony, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 24/51 | Antimony, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 24/51 | Antimony, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0004 | 0.006 | MCL/HBL |
| 24/51 | Arsenic, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around mean | 0.0200 | 0.010 | MCL/HBL |
| 24/51 | Arsenic, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.0200 | 0.010 | MCL/HBL |
| 24/51 | Arsenic, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.0200 | 0.010 | MCL/HBL |
| 24/51 | Barium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CB around linear reg | 0.104 | 2 | MCL/HBL |
| 24/51 | Barium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CB around linear reg | 0.103 | 2 | MCL/HBL |
| 24/51 | Barium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CB around linear reg | 0.0985 | 2 | MCL/HBL |
| 24/51 | Beryllium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 24/51 | Beryllium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 24/51 | Beryllium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0002 | 0.004 | MCL/HBL |
| 24/51 | Cadmium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 24/51 | Cadmium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 24/51 | Cadmium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 100 | All ND - Last | 0.0002 | 0.005 | MCL/HBL |
| 24/51 | Chromium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 81 | CB around T-S line | 0.00100 | 0.1 | MCL/HBL |
| 24/51 | Chromium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 82 | CB around T-S line | 0.00100 | 0.1 | MCL/HBL |
| 24/51 | Chromium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 83 | CB around T-S line | 0.00100 | 0.1 | MCL/HBL |
| 24/51 | Cobalt, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 81 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 24/51 | Cobalt, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 82 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 24/51 | Cobalt, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 83 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 24/51 | Fluoride, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 17 | 6 | CB around T-S line | 0.0678 | 4.0 | MCL/HBL |
| 24/51 | Fluoride, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 6 | CB around T-S line | 0.0661 | 4.0 | MCL/HBL |

**TABLE 6**
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2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 24/51 | Fluoride, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 5 | CB around T-S line | 0.0881 | 4.0 | MCL/HBL |
| 24/51 | Lead, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 81 | CI around median | 0.00100 | 0.015 | MCL/HBL |
| 24/51 | Lead, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 76 | CI around median | 0.00100 | 0.015 | MCL/HBL |
| 24/51 | Lead, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 78 | CI around median | 0.00100 | 0.015 | MCL/HBL |
| 24/51 | Lithium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around mean | 0.0213 | 0.04 | MCL/HBL |
| 24/51 | Lithium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.0214 | 0.04 | MCL/HBL |
| 24/51 | Lithium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.0214 | 0.04 | MCL/HBL |
| 24/51 | Mercury, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 24/51 | Mercury, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 24/51 | Mercury, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.00006 | 0.002 | MCL/HBL |
| 24/51 | Molybdenum, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 0 | CI around mean | 0.0102 | 0.1 | MCL/HBL |
| 24/51 | Molybdenum, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.0100 | 0.1 | MCL/HBL |
| 24/51 | Molybdenum, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.00961 | 0.1 | MCL/HBL |
| 24/51 | Radium 226 + Radium 228, total | pCi/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 0 | CI around mean | 0.524 | 5 | MCL/HBL |
| 24/51 | Radium 226 + Radium 228, total | pCi/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 0 | CI around mean | 0.566 | 5 | MCL/HBL |
| 24/51 | Radium 226 + Radium 228, total | pCi/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 0 | CI around mean | 0.560 | 5 | MCL/HBL |
| 24/51 | Selenium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 16 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 24/51 | Selenium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 24/51 | Selenium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 100 | All ND - Last | 0.0006 | 0.05 | MCL/HBL |
| 24/51 | Thallium, total | mg/L | A4D | 12/10/2015 - 09/09/2021 | 15 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 24/51 | Thallium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 24/51 | Thallium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.001 | 0.002 | MCL/HBL |
| 35 | Antimony, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 35 | Antimony, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 35 | Antimony, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 17 | 100 | All ND - Last | 0.0004 | 0.006 | MCL/HBL |
| 35 | Arsenic, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 15 | 87 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 35 | Arsenic, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 16 | 88 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 35 | Arsenic, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 17 | 88 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 35 | Barium, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.0354 | 2 | MCL/HBL |

**TABLE 6**
**DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 35 | Barium, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 17 | 0 | CI around geomean | 0.0351 | 2 | MCL/HBL |
| 35 | Barium, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 18 | 0 | CI around geomean | 0.0359 | 2 | MCL/HBL |
| 35 | Beryllium, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 35 | Beryllium, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 35 | Beryllium, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 17 | 100 | All ND - Last | 0.0002 | 0.004 | MCL/HBL |
| 35 | Cadmium, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 35 | Cadmium, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.005 | MCL/HBL |
| 35 | Cadmium, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 17 | 100 | All ND - Last | 0.0005 | 0.005 | MCL/HBL |
| 35 | Chromium, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.0015 | 0.1 | MCL/HBL |
| 35 | Chromium, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.0015 | 0.1 | MCL/HBL |
| 35 | Chromium, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 17 | 100 | All ND - Last | 0.0007 | 0.1 | MCL/HBL |
| 35 | Cobalt, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 16 | 75 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 35 | Cobalt, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 17 | 76 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 35 | Cobalt, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 18 | 72 | CI around median | 0.00100 | 0.006 | MCL/HBL |
| 35 | Fluoride, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 17 | 0 | CI around mean | 0.180 | 4.0 | MCL/HBL |
| 35 | Fluoride, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 18 | 0 | CI around mean | 0.181 | 4.0 | MCL/HBL |
| 35 | Fluoride, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 19 | 0 | CI around mean | 0.179 | 4.0 | MCL/HBL |
| 35 | Lead, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 15 | 93 | CI around median | 0.00100 | 0.015 | MCL/HBL |
| 35 | Lead, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 16 | 94 | CI around median | 0.00100 | 0.015 | MCL/HBL |
| 35 | Lead, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 17 | 94 | CI around median | 0.00100 | 0.015 | MCL/HBL |
| 35 | Lithium, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.0233 | 0.04 | MCL/HBL |
| 35 | Lithium, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.0229 | 0.04 | MCL/HBL |
| 35 | Lithium, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 18 | 0 | CI around mean | 0.0229 | 0.04 | MCL/HBL |
| 35 | Mercury, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 14 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 35 | Mercury, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 15 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 35 | Mercury, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 16 | 100 | All ND - Last | 0.00006 | 0.002 | MCL/HBL |
| 35 | Molybdenum, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.0611 | 0.1 | MCL/HBL |
| 35 | Molybdenum, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 17 | 0 | CB around linear reg | 0.0323 | 0.1 | MCL/HBL |
| 35 | Molybdenum, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 18 | 0 | CB around linear reg | 0.0336 | 0.1 | MCL/HBL |
| 35 | Radium 226 + Radium 228, total | pCi/L | A4D | 12/09/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.305 | 5 | MCL/HBL |

**TABLE 6**
**DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 35 | Radium 226 + Radium 228, total | pCi/L | A5 | 12/09/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.283 | 5 | MCL/HBL |
| 35 | Radium 226 + Radium 228, total | pCi/L | A5D | 12/09/2015 - 09/14/2022 | 18 | 0 | CI around mean | 0.239 | 5 | MCL/HBL |
| 35 | Selenium, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 35 | Selenium, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 35 | Selenium, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 17 | 100 | All ND - Last | 0.0006 | 0.05 | MCL/HBL |
| 35 | Thallium, total | mg/L | A4D | 12/09/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 35 | Thallium, total | mg/L | A5 | 12/09/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 35 | Thallium, total | mg/L | A5D | 12/09/2015 - 09/14/2022 | 17 | 100 | All ND - Last | 0.001 | 0.002 | MCL/HBL |
| 49 | Antimony, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 49 | Antimony, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 49 | Antimony, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0004 | 0.006 | MCL/HBL |
| 49 | Arsenic, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 93 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 49 | Arsenic, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 94 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 49 | Arsenic, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 94 | CI around median | 0.00100 | 0.010 | MCL/HBL |
| 49 | Barium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.0516 | 2 | MCL/HBL |
| 49 | Barium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CB around linear reg | 0.0565 | 2 | MCL/HBL |
| 49 | Barium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CB around linear reg | 0.0564 | 2 | MCL/HBL |
| 49 | Beryllium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 49 | Beryllium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 49 | Beryllium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0002 | 0.004 | MCL/HBL |
| 49 | Cadmium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 50 | CB around linear reg | 0.00156 | 0.005 | MCL/HBL |
| 49 | Cadmium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 47 | CB around linear reg | 0.00159 | 0.005 | MCL/HBL |
| 49 | Cadmium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 44 | CB around linear reg | 0.00143 | 0.005 | MCL/HBL |
| 49 | Chromium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 94 | CI around median | 0.00100 | 0.1 | MCL/HBL |
| 49 | Chromium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 94 | CI around median | 0.00100 | 0.1 | MCL/HBL |
| 49 | Chromium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 94 | CI around median | 0.00100 | 0.1 | MCL/HBL |
| 49 | Cobalt, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CB around linear reg | 0.00472 | 0.006 | MCL/HBL |
| 49 | Cobalt, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CB around linear reg | 0.00445 | 0.006 | MCL/HBL |
| 49 | Cobalt, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CB around linear reg | 0.00452 | 0.006 | MCL/HBL |

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2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 49 | Fluoride, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 17 | 0 | CI around mean | 0.144 | 4.0 | MCL/HBL |
| 49 | Fluoride, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 18 | 0 | CI around mean | 0.145 | 4.0 | MCL/HBL |
| 49 | Fluoride, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 19 | 0 | CI around mean | 0.146 | 4.0 | MCL/HBL |
| 49 | Lead, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 49 | Lead, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 49 | Lead, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0006 | 0.015 | MCL/HBL |
| 49 | Lithium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.0242 | 0.04 | MCL/HBL |
| 49 | Lithium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.0244 | 0.04 | MCL/HBL |
| 49 | Lithium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.0244 | 0.04 | MCL/HBL |
| 49 | Mercury, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 14 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 49 | Mercury, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 15 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 49 | Mercury, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 16 | 100 | All ND - Last | 0.00006 | 0.002 | MCL/HBL |
| 49 | Molybdenum, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CB around linear reg | 0.0284 | 0.1 | MCL/HBL |
| 49 | Molybdenum, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CB around linear reg | 0.0268 | 0.1 | MCL/HBL |
| 49 | Molybdenum, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CB around linear reg | 0.0229 | 0.1 | MCL/HBL |
| 49 | Radium 226 + Radium 228, total | pCi/L | A4D | 12/10/2015 - 09/08/2021 | 16 | 0 | CI around mean | 0.263 | 5 | MCL/HBL |
| 49 | Radium 226 + Radium 228, total | pCi/L | A5 | 12/10/2015 - 03/22/2022 | 17 | 0 | CI around mean | 0.249 | 5 | MCL/HBL |
| 49 | Radium 226 + Radium 228, total | pCi/L | A5D | 12/10/2015 - 09/13/2022 | 18 | 0 | CI around mean | 0.203 | 5 | MCL/HBL |
| 49 | Selenium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 49 | Selenium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 49 | Selenium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.0006 | 0.05 | MCL/HBL |
| 49 | Thallium, total | mg/L | A4D | 12/10/2015 - 09/08/2021 | 15 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 49 | Thallium, total | mg/L | A5 | 12/10/2015 - 03/22/2022 | 16 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 49 | Thallium, total | mg/L | A5D | 12/10/2015 - 09/13/2022 | 17 | 100 | All ND - Last | 0.001 | 0.002 | MCL/HBL |
| 50 | Antimony, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 50 | Antimony, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.006 | MCL/HBL |
| 50 | Antimony, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0004 | 0.006 | MCL/HBL |
| 50 | Arsenic, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.010 | MCL/HBL |
| 50 | Arsenic, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.010 | MCL/HBL |

**TABLE 6**
**DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 50 | Arsenic, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0008 | 0.010 | MCL/HBL |
| 50 | Barium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.0865 | 2 | MCL/HBL |
| 50 | Barium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.0882 | 2 | MCL/HBL |
| 50 | Barium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.0892 | 2 | MCL/HBL |
| 50 | Beryllium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 50 | Beryllium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.004 | MCL/HBL |
| 50 | Cadmium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.00117 | 0.005 | MCL/HBL |
| 50 | Cadmium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.00105 | 0.005 | MCL/HBL |
| 50 | Cadmium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.00112 | 0.005 | MCL/HBL |
| 50 | Chromium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 100 | All ND - Last | 0.0015 | 0.1 | MCL/HBL |
| 50 | Chromium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 100 | All ND - Last | 0.0015 | 0.1 | MCL/HBL |
| 50 | Chromium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 100 | All ND - Last | 0.0008 | 0.1 | MCL/HBL |
| 50 | Cobalt, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.00273 | 0.006 | MCL/HBL |
| 50 | Cobalt, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.00306 | 0.006 | MCL/HBL |
| 50 | Cobalt, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.00356 | 0.006 | MCL/HBL |
| 50 | Fluoride, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 20 | CI around mean | 0.0949 | 4.0 | MCL/HBL |
| 50 | Fluoride, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 17 | CI around mean | 0.101 | 4.0 | MCL/HBL |
| 50 | Fluoride, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 14 | CI around median | 0.0500 | 4.0 | MCL/HBL |
| 50 | Lead, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 50 | Lead, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.015 | MCL/HBL |
| 50 | Lead, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0007 | 0.015 | MCL/HBL |
| 50 | Lithium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.0173 | 0.04 | MCL/HBL |
| 50 | Lithium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.0185 | 0.04 | MCL/HBL |
| 50 | Lithium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.0188 | 0.04 | MCL/HBL |
| 50 | Mercury, total | mg/L | A4D | 03/11/2020 - 09/08/2021 | 3 | 100 | Most recent sample | 0.0002 | 0.002 | MCL/HBL |
| 50 | Mercury, total | mg/L | A5 | 03/11/2020 - 03/22/2022 | 4 | 100 | All ND - Last | 0.0002 | 0.002 | MCL/HBL |
| 50 | Mercury, total | mg/L | A5D | 03/11/2020 - 09/13/2022 | 5 | 100 | All ND - Last | 0.00006 | 0.002 | MCL/HBL |
| 50 | Molybdenum, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.0175 | 0.1 | MCL/HBL |
| 50 | Molybdenum, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.0220 | 0.1 | MCL/HBL |
| 50 | Molybdenum, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.0245 | 0.1 | MCL/HBL |

**TABLE 6**
**DETERMINATION OF STATISTICALLY SIGNIFICANT LEVELS**
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
804 - OLD WEST ASH POND
HENNEPIN, IL

| Sample Location | Constituent | Result Unit | Event | Date Range | Sample Count | Percent Non-Detects | Statistical Calculation | Statistical Result | GWPS | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 50 | Radium 226 + Radium 228, total | pCi/L | A4D | 09/17/2019 - 09/08/2021 | 5 | 0 | CI around mean | 0.0906 | 5 | MCL/HBL |
| 50 | Radium 226 + Radium 228, total | pCi/L | A5 | 09/17/2019 - 03/22/2022 | 6 | 0 | CI around mean | 0.290 | 5 | MCL/HBL |
| 50 | Radium 226 + Radium 228, total | pCi/L | A5D | 09/17/2019 - 09/13/2022 | 7 | 0 | CI around mean | 0.407 | 5 | MCL/HBL |
| 50 | Selenium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 50 | Selenium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.001 | 0.05 | MCL/HBL |
| 50 | Selenium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.0006 | 0.05 | MCL/HBL |
| 50 | Thallium, total | mg/L | A4D | 09/17/2019 - 09/08/2021 | 4 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 50 | Thallium, total | mg/L | A5 | 09/17/2019 - 03/22/2022 | 5 | 100 | All ND - Last | 0.002 | 0.002 | MCL/HBL |
| 50 | Thallium, total | mg/L | A5D | 09/17/2019 - 09/13/2022 | 6 | 100 | All ND - Last | 0.001 | 0.002 | MCL/HBL |

**Notes:**
Exceedance of GWPS
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

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)
LIMITS OF FINAL COVER
SITE FEATURE
PROPERTY BOUNDARY

0 200 400
Feet

# MONITORING WELL LOCATION MAP

**2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT**
**OLD WEST ASH POND**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

## FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22851\MXD\2021_Annual\GWM_CAR\Hennepin\OWAP_804\Figure 1 HEN OWAP MW Location Map.mxd

PROJECT: 169000XXXX | DATED: 1/5/2022 | DESIGNER: galarmmc

- BACKGROUND WELL
- COMPLIANCE WELL
- MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW ARROW
- 40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)
- 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)

0 200 400 Feet

# POTENTIOMETRIC SURFACE MAP SEPTEMBER 8, 2021

**2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT**
**OLD WEST ASH POND**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

## FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22885\MXD\GW_Contours\Round_2021\Hennepin\OWAP_804\HEN OWAP GWE Contours D9A4D 20210908.mxd
PROJECT: 169000XXXX | DATED: 3/25/2022 | DESIGNER: galammc

BACKGROUND WELL

COMPLIANCE WELL

MONITORING WELL

GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)

INFERRED GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW ARROW

40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)

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

0 200 400 Feet

# POTENTIOMETRIC SURFACE MAP MARCH 21, 2022

**2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT**
**OLD WEST ASH POND**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

## FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\2285\MXD\GW_Contours\Round_2022\Hennepin\OWAP_804\HEN OWAP 804 Pot Surface 20220321.mxd

PROJECT: 169000XXXX | DATED: 12/8/2022 | DESIGNER: galammc

COMPLIANCE MONITORING WELL

BACKGROUND MONITORING WELL

MONITORING WELL

GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)

INFERRED GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW ARROW

40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)

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

0 200 400 Feet

# POTENTIOMETRIC SURFACE MAP SEPTEMBER 13 AND 14, 2022

**2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT**
**OLD WEST ASH POND**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

## FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\2285\MXD\GW_Contours\Round_2022\Hennepin\OWAP_804\HEN OWAP 804 Pot Surface 20220913.mxd

PROJECT: 169000XXXX | DATED: 1/3/2023 | DESIGNER: galarnmc

# 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

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

# Report Contents



**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 | 25 |
| Dates Report | 26 |
| Quality Control Results | 33 |
| Receiving Check List | 77 |
| 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
**Client Project:** Hennepin GW Q3 2021

**Work Order:** 21081266
**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 804 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

### Springfield

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

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**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

### Chicago

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

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-021
**Client Sample ID:** 21R
**Matrix:** GROUNDWATER
**Collection Date:** 09/09/2021 10:13

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.82** | ft | 1 | 09/09/2021 10:13 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **40** | NTU | 1 | 09/09/2021 10:13 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-178** | mV | 1 | 09/09/2021 10:13 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **15.8** | °C | 1 | 09/09/2021 10:13 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.35** | mg/L | 1 | 09/09/2021 10:13 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.43** | | 1 | 09/09/2021 10:13 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1010** | µS/cm | 1 | 09/09/2021 10:13 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **370** | mg/L | 1 | 09/13/2021 13:26 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 13:26 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **684** | mg/L | 1 | 09/15/2021 16:40 | R299042 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **93** | mg/L | 5 | 09/16/2021 2:53 | R299021 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 09/13/2021 12:11 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **97** | mg/L | 5 | 09/16/2021 2:53 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **145** | mg/L | 1 | 09/17/2021 22:31 | 181934 |
| Magnesium | NELAP | 0.0500 | | **47.4** | mg/L | 1 | 09/17/2021 22:31 | 181934 |
| Potassium | NELAP | 0.100 | | **3.16** | mg/L | 1 | 09/20/2021 12:23 | 181934 |
| Sodium | NELAP | 0.0500 | | **37.8** | mg/L | 1 | 09/17/2021 22:31 | 181934 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0259** | mg/L | 5 | 09/23/2021 1:10 | 181937 |
| Barium | NELAP | 0.0010 | | **0.304** | mg/L | 5 | 09/23/2021 1:10 | 181937 |
| Boron | NELAP | 0.0250 | | **3.23** | mg/L | 5 | 09/27/2021 14:41 | 181937 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 1:10 | 181937 |
| Chromium | NELAP | 0.0015 | | **0.0023** | mg/L | 5 | 09/23/2021 1:10 | 181937 |
| Cobalt | NELAP | 0.0010 | | **0.0011** | mg/L | 5 | 09/23/2021 1:10 | 181937 |
| Lead | NELAP | 0.0010 | | **0.0028** | mg/L | 5 | 09/23/2021 1:10 | 181937 |
| Lithium | * | 0.0030 | | **0.0229** | mg/L | 5 | 09/23/2021 1:10 | 181937 |
| Molybdenum | NELAP | 0.0015 | | **0.0088** | mg/L | 5 | 09/23/2021 1:10 | 181937 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 1:10 | 181937 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-022
**Client Sample ID:** 22
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 13:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.20** | ft | 1 | 09/08/2021 13:45 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.1** | NTU | 1 | 09/08/2021 13:45 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **64** | mV | 1 | 09/08/2021 13:45 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **16.5** | °C | 1 | 09/08/2021 13:45 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.54** | mg/L | 1 | 09/08/2021 13:45 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.17** | | 1 | 09/08/2021 13:45 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1040** | µS/cm | 1 | 09/08/2021 13:45 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **249** | mg/L | 1 | 09/13/2021 13:33 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 13:33 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **626** | mg/L | 1 | 09/14/2021 15:45 | R298970 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **160** | mg/L | 5 | 09/16/2021 2:58 | R299021 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 09/13/2021 12:21 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **93** | mg/L | 5 | 09/16/2021 2:58 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **107** | mg/L | 1 | 09/17/2021 13:49 | 181936 |
| Magnesium | NELAP | 0.0500 | | **30.8** | mg/L | 1 | 09/17/2021 13:49 | 181936 |
| Potassium | NELAP | 0.500 | | **12.2** | mg/L | 5 | 09/17/2021 15:03 | 181936 |
| Sodium | NELAP | 0.0500 | | **56.3** | mg/L | 1 | 09/17/2021 13:49 | 181936 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0011** | mg/L | 5 | 09/16/2021 1:04 | 181826 |
| Barium | NELAP | 0.0010 | | **0.0622** | mg/L | 5 | 09/16/2021 1:04 | 181826 |
| Boron | NELAP | 0.0250 | | **4.39** | mg/L | 5 | 09/20/2021 17:27 | 181826 |
| Cadmium | NELAP | 0.0010 | | **0.0054** | mg/L | 5 | 09/16/2021 1:04 | 181826 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 09/16/2021 1:04 | 181826 |
| Cobalt | NELAP | 0.0010 | | **0.0026** | mg/L | 5 | 09/16/2021 1:04 | 181826 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 1:04 | 181826 |
| Lithium | * | 0.0030 | | **0.0542** | mg/L | 5 | 09/16/2021 1:04 | 181826 |
| Molybdenum | NELAP | 0.0015 | | **0.114** | mg/L | 5 | 09/16/2021 1:04 | 181826 |
| Selenium | NELAP | 0.0010 | | **0.0157** | mg/L | 5 | 09/16/2021 1:04 | 181826 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-023
**Client Sample ID:** 22D
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 14:01

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.84** | ft | 1 | 09/08/2021 14:01 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.7** | NTU | 1 | 09/08/2021 14:01 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **68** | mV | 1 | 09/08/2021 14:01 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **16.3** | °C | 1 | 09/08/2021 14:01 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.51** | mg/L | 1 | 09/08/2021 14:01 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.24** | | 1 | 09/08/2021 14:01 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1080** | µS/cm | 1 | 09/08/2021 14:01 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **316** | mg/L | 1 | 09/13/2021 13:38 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 13:38 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **582** | mg/L | 1 | 09/14/2021 15:45 | R298970 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **107** | mg/L | 5 | 09/16/2021 3:01 | R299021 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 09/13/2021 12:23 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **100** | mg/L | 5 | 09/16/2021 3:01 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **129** | mg/L | 1 | 09/17/2021 13:56 | 181936 |
| Magnesium | NELAP | 0.0500 | | **41.9** | mg/L | 1 | 09/17/2021 13:56 | 181936 |
| Potassium | NELAP | 0.100 | | **3.30** | mg/L | 1 | 09/17/2021 13:56 | 181936 |
| Sodium | NELAP | 0.0500 | | **41.8** | mg/L | 1 | 09/17/2021 13:56 | 181936 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0012** | mg/L | 5 | 09/16/2021 1:13 | 181826 |
| Barium | NELAP | 0.0010 | | **0.0627** | mg/L | 5 | 09/16/2021 1:13 | 181826 |
| Boron | NELAP | 0.0250 | | **2.05** | mg/L | 5 | 09/20/2021 17:34 | 181826 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 1:13 | 181826 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 09/16/2021 1:13 | 181826 |
| Cobalt | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 09/16/2021 1:13 | 181826 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 1:13 | 181826 |
| Lithium | * | 0.0030 | | **0.0155** | mg/L | 5 | 09/16/2021 1:13 | 181826 |
| Molybdenum | NELAP | 0.0015 | | **0.0070** | mg/L | 5 | 09/16/2021 1:13 | 181826 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 1:13 | 181826 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-024
**Client Sample ID:** 23
**Matrix:** GROUNDWATER
**Collection Date:** 09/09/2021 11:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **16.51** | ft | 1 | 09/09/2021 11:12 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.3** | NTU | 1 | 09/09/2021 11:12 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-58** | mV | 1 | 09/09/2021 11:12 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.7** | °C | 1 | 09/09/2021 11:12 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.27** | mg/L | 1 | 09/09/2021 11:12 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.40** | | 1 | 09/09/2021 11:12 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1050** | µS/cm | 1 | 09/09/2021 11:12 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **160** | mg/L | 1 | 09/13/2021 13:44 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 13:44 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **868** | mg/L | 1 | 09/15/2021 16:40 | R299042 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **455** | mg/L | 10 | 09/16/2021 21:08 | R299089 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 09/13/2021 12:25 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **57** | mg/L | 2 | 09/16/2021 3:07 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **121** | mg/L | 1 | 09/17/2021 22:33 | 181934 |
| Magnesium | NELAP | 0.0500 | | **86.5** | mg/L | 1 | 09/17/2021 22:33 | 181934 |
| Potassium | NELAP | 0.100 | | **3.35** | mg/L | 1 | 09/20/2021 12:35 | 181934 |
| Sodium | NELAP | 0.0500 | | **40.5** | mg/L | 1 | 09/17/2021 22:33 | 181934 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | J | **0.0005** | mg/L | 5 | 09/23/2021 1:19 | 181937 |
| Barium | NELAP | 0.0010 | | **0.0363** | mg/L | 5 | 09/23/2021 1:19 | 181937 |
| Boron | NELAP | 0.0250 | | **9.05** | mg/L | 5 | 09/27/2021 14:47 | 181937 |
| Cadmium | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 09/23/2021 1:19 | 181937 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 09/23/2021 1:19 | 181937 |
| Cobalt | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 09/23/2021 1:19 | 181937 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 1:19 | 181937 |
| Lithium | * | 0.0030 | | **0.0050** | mg/L | 5 | 09/23/2021 1:19 | 181937 |
| Molybdenum | NELAP | 0.0015 | | **0.0152** | mg/L | 5 | 09/23/2021 1:19 | 181937 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 1:19 | 181937 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-025
**Client Sample ID:** 25
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 16:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **15.69** | ft | 1 | 09/08/2021 16:15 | R299257 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-026
**Client Sample ID:** 26
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 16:16

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **15.73** | ft | 1 | 09/08/2021 16:16 | R299257 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-027
**Client Sample ID:** 27
**Matrix:** GROUNDWATER
**Collection Date:** 09/09/2021 8:24

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **3.98** | ft | 1 | 09/09/2021 8:29 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.9** | NTU | 1 | 09/09/2021 8:29 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-14** | mV | 1 | 09/09/2021 8:29 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.6** | °C | 1 | 09/09/2021 8:29 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.23** | mg/L | 1 | 09/09/2021 8:29 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.01** | | 1 | 09/09/2021 8:29 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **942** | µS/cm | 1 | 09/09/2021 8:29 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **342** | mg/L | 1 | 09/13/2021 13:50 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 13:50 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **712** | mg/L | 1 | 09/15/2021 16:41 | R299042 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **129** | mg/L | 5 | 09/16/2021 21:13 | R299089 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 09/13/2021 12:27 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **107** | mg/L | 5 | 09/16/2021 3:09 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **141** | mg/L | 1 | 09/17/2021 22:35 | 181934 |
| Magnesium | NELAP | 0.0500 | | **39.8** | mg/L | 1 | 09/17/2021 22:35 | 181934 |
| Potassium | NELAP | 0.100 | | **4.12** | mg/L | 1 | 09/20/2021 12:37 | 181934 |
| Sodium | NELAP | 0.0500 | | **50.5** | mg/L | 1 | 09/17/2021 22:35 | 181934 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | J | **0.0006** | mg/L | 5 | 09/23/2021 2:02 | 181937 |
| Barium | NELAP | 0.0010 | | **0.0913** | mg/L | 5 | 09/23/2021 2:02 | 181937 |
| Boron | NELAP | 0.0250 | | **2.57** | mg/L | 5 | 09/27/2021 14:53 | 181937 |
| Cadmium | NELAP | 0.0010 | J | **0.0006** | mg/L | 5 | 09/23/2021 2:02 | 181937 |
| Chromium | NELAP | 0.0015 | | **0.0017** | mg/L | 5 | 09/23/2021 2:02 | 181937 |
| Cobalt | NELAP | 0.0010 | | **0.0025** | mg/L | 5 | 09/23/2021 2:02 | 181937 |
| Lead | NELAP | 0.0010 | | **0.0015** | mg/L | 5 | 09/23/2021 2:02 | 181937 |
| Lithium | * | 0.0030 | | **0.0254** | mg/L | 5 | 09/23/2021 2:02 | 181937 |
| Molybdenum | NELAP | 0.0015 | | **0.0044** | mg/L | 5 | 09/23/2021 2:02 | 181937 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 2:02 | 181937 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-028
**Client Sample ID:** 30
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 14:55

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **6.41** | ft | 1 | 09/08/2021 14:55 | R299257 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-029
**Client Sample ID:** 31
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 14:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **6.32** | ft | 1 | 09/08/2021 14:56 | R299257 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-030
**Client Sample ID:** 32
**Matrix:** GROUNDWATER
**Collection Date:** 09/09/2021 8:48

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.09** | ft | 1 | 09/09/2021 8:48 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.0** | NTU | 1 | 09/09/2021 8:48 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **71** | mV | 1 | 09/09/2021 8:48 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **13.9** | °C | 1 | 09/09/2021 8:48 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.25** | mg/L | 1 | 09/09/2021 8:48 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.98** | | 1 | 09/09/2021 8:48 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **779** | µS/cm | 1 | 09/09/2021 8:48 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **335** | mg/L | 1 | 09/13/2021 14:04 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 14:04 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **486** | mg/L | 1 | 09/15/2021 16:41 | R299042 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 20 | | **50** | mg/L | 2 | 09/16/2021 3:14 | R299021 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 09/13/2021 12:28 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **57** | mg/L | 2 | 09/16/2021 3:14 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **115** | mg/L | 1 | 09/17/2021 22:45 | 181934 |
| Magnesium | NELAP | 0.0500 | | **42.0** | mg/L | 1 | 09/17/2021 22:45 | 181934 |
| Potassium | NELAP | 0.100 | | **2.37** | mg/L | 1 | 09/20/2021 12:39 | 181934 |
| Sodium | NELAP | 0.0500 | | **33.4** | mg/L | 1 | 09/17/2021 22:45 | 181934 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 2:11 | 181937 |
| Barium | NELAP | 0.0010 | | **0.0428** | mg/L | 5 | 09/23/2021 2:11 | 181937 |
| Boron | NELAP | 0.0250 | | **0.162** | mg/L | 5 | 09/27/2021 14:59 | 181937 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 2:11 | 181937 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 09/23/2021 2:11 | 181937 |
| Cobalt | NELAP | 0.0010 | | **0.0014** | mg/L | 5 | 09/23/2021 2:11 | 181937 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 2:11 | 181937 |
| Lithium | * | 0.0030 | | **0.0037** | mg/L | 5 | 09/23/2021 2:11 | 181937 |
| Molybdenum | NELAP | 0.0015 | J | **0.0006** | mg/L | 5 | 09/23/2021 2:11 | 181937 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 2:11 | 181937 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-031
**Client Sample ID:** 33
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 15:08

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **4.24** | ft | 1 | 09/08/2021 15:08 | R299257 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-032
**Client Sample ID:** 34
**Matrix:** GROUNDWATER
**Collection Date:** 09/09/2021 9:35

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **9.16** | ft | 1 | 09/09/2021 9:35 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.4** | NTU | 1 | 09/09/2021 9:35 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-30** | mV | 1 | 09/09/2021 9:35 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.8** | °C | 1 | 09/09/2021 9:35 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.28** | mg/L | 1 | 09/09/2021 9:35 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.92** | | 1 | 09/09/2021 9:35 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1340** | µS/cm | 1 | 09/09/2021 9:35 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **516** | mg/L | 1 | 09/13/2021 14:10 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 14:10 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **696** | mg/L | 1 | 09/15/2021 16:42 | R299042 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 20 | | **67** | mg/L | 2 | 09/16/2021 3:19 | R299021 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 09/13/2021 12:30 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **70** | mg/L | 2 | 09/16/2021 3:20 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **180** | mg/L | 1 | 09/17/2021 22:46 | 181934 |
| Magnesium | NELAP | 0.0500 | | **48.6** | mg/L | 1 | 09/17/2021 22:46 | 181934 |
| Potassium | NELAP | 0.100 | | **0.788** | mg/L | 1 | 09/20/2021 12:40 | 181934 |
| Sodium | NELAP | 0.0500 | | **49.5** | mg/L | 1 | 09/17/2021 22:46 | 181934 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | J | **0.0005** | mg/L | 5 | 09/23/2021 2:20 | 181937 |
| Barium | NELAP | 0.0010 | | **0.0933** | mg/L | 5 | 09/23/2021 2:20 | 181937 |
| Boron | NELAP | 0.0250 | | **0.145** | mg/L | 5 | 09/27/2021 15:06 | 181937 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 2:20 | 181937 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 09/23/2021 2:20 | 181937 |
| Cobalt | NELAP | 0.0010 | J | **0.0003** | mg/L | 5 | 09/23/2021 2:20 | 181937 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 2:20 | 181937 |
| Lithium | * | 0.0030 | | **0.0132** | mg/L | 5 | 09/23/2021 2:20 | 181937 |
| Molybdenum | NELAP | 0.0015 | | **0.0016** | mg/L | 5 | 09/23/2021 2:20 | 181937 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/23/2021 2:20 | 181937 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-033
**Client Sample ID:** 35
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 16:02

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **8.05** | ft | 1 | 09/08/2021 16:02 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.6** | NTU | 1 | 09/08/2021 16:02 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **63** | mV | 1 | 09/08/2021 16:02 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **15.9** | °C | 1 | 09/08/2021 16:02 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.35** | mg/L | 1 | 09/08/2021 16:02 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.96** | | 1 | 09/08/2021 16:02 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1310** | µS/cm | 1 | 09/08/2021 16:02 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **208** | mg/L | 1 | 09/13/2021 14:18 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 14:18 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1140** | mg/L | 1 | 09/14/2021 15:45 | R298970 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **568** | mg/L | 20 | 09/20/2021 16:36 | R299276 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 09/13/2021 12:31 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **56** | mg/L | 2 | 09/16/2021 3:22 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **259** | mg/L | 1 | 09/17/2021 14:00 | 181936 |
| Magnesium | NELAP | 0.0500 | | **36.7** | mg/L | 1 | 09/17/2021 14:00 | 181936 |
| Potassium | NELAP | 0.500 | | **15.8** | mg/L | 5 | 09/17/2021 15:07 | 181936 |
| Sodium | NELAP | 0.0500 | | **42.0** | mg/L | 1 | 09/17/2021 14:00 | 181936 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 1:21 | 181826 |
| Barium | NELAP | 0.0010 | | **0.0338** | mg/L | 5 | 09/16/2021 1:21 | 181826 |
| Boron | NELAP | 0.0250 | | **12.0** | mg/L | 5 | 09/20/2021 18:43 | 181826 |
| Cadmium | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 09/16/2021 1:21 | 181826 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 09/16/2021 1:21 | 181826 |
| Cobalt | NELAP | 0.0010 | J | **0.0009** | mg/L | 5 | 09/16/2021 1:21 | 181826 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 1:21 | 181826 |
| Lithium | * | 0.0030 | | **0.0349** | mg/L | 5 | 09/16/2021 1:21 | 181826 |
| Molybdenum | NELAP | 0.0015 | | **0.0732** | mg/L | 5 | 09/16/2021 1:21 | 181826 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 1:21 | 181826 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-034
**Client Sample ID:** 36
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 16:19

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **14.99** | ft | 1 | 09/08/2021 16:19 | R299257 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-040
**Client Sample ID:** 49
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 16:35

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **21.31** | ft | 1 | 09/08/2021 16:35 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.2** | NTU | 1 | 09/08/2021 16:35 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **20** | mV | 1 | 09/08/2021 16:35 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.4** | °C | 1 | 09/08/2021 16:35 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **1.06** | mg/L | 1 | 09/08/2021 16:35 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.01** | | 1 | 09/08/2021 16:35 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **883** | µS/cm | 1 | 09/08/2021 16:35 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **332** | mg/L | 1 | 09/13/2021 15:08 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 15:08 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **596** | mg/L | 1 | 09/14/2021 15:46 | R298970 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **79** | mg/L | 5 | 09/16/2021 4:07 | R299021 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.15** | mg/L | 1 | 09/13/2021 12:51 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **100** | mg/L | 5 | 09/16/2021 4:08 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **113** | mg/L | 1 | 09/17/2021 14:03 | 181936 |
| Magnesium | NELAP | 0.0500 | | **33.6** | mg/L | 1 | 09/17/2021 14:03 | 181936 |
| Potassium | NELAP | 0.500 | | **12.3** | mg/L | 5 | 09/17/2021 15:11 | 181936 |
| Sodium | NELAP | 0.0500 | | **60.2** | mg/L | 1 | 09/17/2021 14:03 | 181936 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 2:05 | 181826 |
| Barium | NELAP | 0.0010 | | **0.0596** | mg/L | 5 | 09/16/2021 2:05 | 181826 |
| Boron | NELAP | 0.0250 | | **0.796** | mg/L | 5 | 09/20/2021 18:51 | 181826 |
| Cadmium | NELAP | 0.0010 | | **0.0016** | mg/L | 5 | 09/16/2021 2:05 | 181826 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 09/16/2021 2:05 | 181826 |
| Cobalt | NELAP | 0.0010 | | **0.0054** | mg/L | 5 | 09/16/2021 2:05 | 181826 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 2:05 | 181826 |
| Lithium | * | 0.0030 | | **0.0229** | mg/L | 5 | 09/21/2021 12:48 | 181826 |
| Molybdenum | NELAP | 0.0015 | | **0.0309** | mg/L | 5 | 09/16/2021 2:05 | 181826 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 2:05 | 181826 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-041
**Client Sample ID:** 50
**Matrix:** GROUNDWATER
**Collection Date:** 09/08/2021 13:13

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.08** | ft | 1 | 09/08/2021 13:13 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.7** | NTU | 1 | 09/08/2021 13:13 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **64** | mV | 1 | 09/08/2021 13:13 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **15.9** | °C | 1 | 09/08/2021 13:13 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.40** | mg/L | 1 | 09/08/2021 13:13 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.98** | | 1 | 09/08/2021 13:13 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1150** | µS/cm | 1 | 09/08/2021 13:13 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **335** | mg/L | 1 | 09/13/2021 15:15 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 15:15 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **588** | mg/L | 1 | 09/14/2021 15:46 | R298970 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **85** | mg/L | 5 | 09/16/2021 4:10 | R299021 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 09/13/2021 12:53 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **95** | mg/L | 5 | 09/16/2021 4:10 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | S | **119** | mg/L | 1 | 09/17/2021 14:40 | 181936 |
| Magnesium | NELAP | 0.0500 | S | **33.4** | mg/L | 1 | 09/17/2021 14:40 | 181936 |
| Potassium | NELAP | 0.100 | | **9.69** | mg/L | 1 | 09/17/2021 14:40 | 181936 |
| Sodium | NELAP | 0.0500 | S | **58.6** | mg/L | 1 | 09/17/2021 14:40 | 181936 |
| *Matrix spike control limits for Ca, Mg, and Na are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | J | **0.0006** | mg/L | 5 | 09/16/2021 2:14 | 181826 |
| Barium | NELAP | 0.0010 | | **0.0977** | mg/L | 5 | 09/16/2021 2:14 | 181826 |
| Boron | NELAP | 0.0250 | | **0.696** | mg/L | 5 | 09/20/2021 18:58 | 181826 |
| Cadmium | NELAP | 0.0010 | | **0.0015** | mg/L | 5 | 09/16/2021 2:14 | 181826 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 09/16/2021 2:14 | 181826 |
| Cobalt | NELAP | 0.0010 | | **0.0068** | mg/L | 5 | 09/16/2021 2:14 | 181826 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 2:14 | 181826 |
| Lithium | * | 0.0030 | | **0.0197** | mg/L | 5 | 09/21/2021 12:56 | 181826 |
| Molybdenum | NELAP | 0.0015 | | **0.0358** | mg/L | 5 | 09/16/2021 2:14 | 181826 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/16/2021 2:14 | 181826 |

**Client:** Vistra Energy **Work Order:** 21081266

**Client Project:** Hennepin GW Q3 2021 **Report Date:** 15-Oct-21

**Lab ID:** 21081266-042 **Client Sample ID:** 51

**Matrix:** GROUNDWATER **Collection Date:** 09/09/2021 10:44

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.37** | ft | 1 | 09/09/2021 10:44 | R299257 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **27** | NTU | 1 | 09/09/2021 10:44 | R299257 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-152** | mV | 1 | 09/09/2021 10:44 | R299257 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.6** | °C | 1 | 09/09/2021 10:44 | R299257 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.56** | mg/L | 1 | 09/09/2021 10:44 | R299257 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.37** | | 1 | 09/09/2021 10:44 | R299257 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **934** | µS/cm | 1 | 09/09/2021 10:44 | R299257 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **356** | mg/L | 1 | 09/13/2021 15:27 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/13/2021 15:27 | R298870 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **628** | mg/L | 1 | 09/15/2021 16:57 | R299042 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **101** | mg/L | 5 | 09/16/2021 4:15 | R299021 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 09/13/2021 12:55 | R298849 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **101** | mg/L | 5 | 09/16/2021 4:16 | R299022 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **132** | mg/L | 1 | 09/20/2021 13:38 | 181946 |
| Magnesium | NELAP | 0.0500 | | **42.9** | mg/L | 1 | 09/20/2021 13:38 | 181946 |
| Potassium | NELAP | 0.100 | | **4.98** | mg/L | 1 | 09/20/2021 13:38 | 181946 |
| Sodium | NELAP | 0.0500 | | **57.2** | mg/L | 1 | 09/20/2021 13:38 | 181946 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0174** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Barium | NELAP | 0.0010 | | **0.115** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Boron | NELAP | 0.0250 | | **1.96** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Chromium | NELAP | 0.0015 | | **0.0017** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Cobalt | NELAP | 0.0010 | | **0.0015** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Lead | NELAP | 0.0010 | | **0.0019** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Lithium | * | 0.0030 | | **0.0248** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Molybdenum | NELAP | 0.0015 | | **0.0130** | mg/L | 5 | 09/21/2021 21:42 | 181947 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/21/2021 21:42 | 181947 |

**Client:** Vistra Energy
**Work Order:** 21081266
**Client Project:** Hennepin GW Q3 2021
**Report Date:** 15-Oct-21
**Lab ID:** 21081266-043
**Client Sample ID:** Field Blank
**Matrix:** GROUNDWATER
**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 CaCO3) | NELAP | 0 | | **1** | mg/L | 1 | 09/13/2021 15:34 | R298870 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | 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 |

**Client:** Vistra Energy
**Client Project:** Hennepin GW Q3 2021

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

| Lab Sample ID | Client Sample ID | Matrix | Fractions | Collection Date |
|---|---|---|---|---|
| 21081266-021 | 21R | Groundwater | 2 | 09/09/2021 10:13 |
| 21081266-022 | 22 | Groundwater | 2 | 09/08/2021 13:45 |
| 21081266-023 | 22D | Groundwater | 2 | 09/08/2021 14:01 |
| 21081266-024 | 23 | Groundwater | 2 | 09/09/2021 11:12 |
| 21081266-025 | 25 | Groundwater | 1 | 09/08/2021 16:15 |
| 21081266-026 | 26 | Groundwater | 1 | 09/08/2021 16:16 |
| 21081266-027 | 27 | Groundwater | 2 | 09/09/2021 8:24 |
| 21081266-028 | 30 | Groundwater | 1 | 09/08/2021 14:55 |
| 21081266-029 | 31 | Groundwater | 1 | 09/08/2021 14:56 |
| 21081266-030 | 32 | Groundwater | 2 | 09/09/2021 8:48 |
| 21081266-031 | 33 | Groundwater | 1 | 09/08/2021 15:08 |
| 21081266-032 | 34 | Groundwater | 2 | 09/09/2021 9:35 |
| 21081266-033 | 35 | Groundwater | 2 | 09/08/2021 16:02 |
| 21081266-034 | 36 | Groundwater | 1 | 09/08/2021 16:19 |
| 21081266-040 | 49 | Groundwater | 2 | 09/08/2021 16:35 |
| 21081266-041 | 50 | Groundwater | 2 | 09/08/2021 13:13 |
| 21081266-042 | 51 | Groundwater | 2 | 09/09/2021 10:44 |
| 21081266-043 | Field Blank | Groundwater | 2 | 09/10/2021 10:45 |

**Client:** Vistra Energy
**Client Project:** Hennepin GW Q3 2021

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

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| 21081266-021A | 21R | 09/09/2021 10:13 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/09/2021 10:13 |
| | Standard Methods 2130 B Field | | | | 09/09/2021 10:13 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/09/2021 10:13 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 13:26 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 13:26 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/15/2021 16:40 |
| | Standard Methods 2550 B Field | | | | 09/09/2021 10:13 |
| | Standard Methods 4500-O G Field | | | | 09/09/2021 10:13 |
| | SW-846 9036 (Total) | | | | 09/16/2021 2:53 |
| | SW-846 9040B | | | | 09/09/2021 10:13 |
| | SW-846 9050A | | | | 09/09/2021 10:13 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:11 |
| | SW-846 9251 (Total) | | | | 09/16/2021 2:53 |
| 21081266-021C | 21R | 09/09/2021 10:13 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/17/2021 22:31 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/20/2021 12:23 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/23/2021 1:10 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/27/2021 14:41 |
| | SW-846 7470A (Total) | | | 09/17/2021 10:53 | 09/17/2021 21:15 |
| 21081266-022A | 22 | 09/08/2021 13:45 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 13:45 |
| | Standard Methods 2130 B Field | | | | 09/08/2021 13:45 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/08/2021 13:45 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 13:33 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 13:33 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/14/2021 15:45 |
| | Standard Methods 2550 B Field | | | | 09/08/2021 13:45 |
| | Standard Methods 4500-O G Field | | | | 09/08/2021 13:45 |
| | SW-846 9036 (Total) | | | | 09/16/2021 2:58 |
| | SW-846 9040B | | | | 09/08/2021 13:45 |
| | SW-846 9050A | | | | 09/08/2021 13:45 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:21 |
| | SW-846 9251 (Total) | | | | 09/16/2021 2:58 |
| 21081266-022C | 22 | 09/08/2021 13:45 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:11 | 09/17/2021 13:49 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:11 | 09/17/2021 15:03 |

**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 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/16/2021 1:04 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/20/2021 17:27 |
| | SW-846 7470A (Total) | | | 09/16/2021 7:00 | 09/16/2021 18:11 |
| 21081266-023A | 22D | 09/08/2021 14:01 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 14:01 |
| | Standard Methods 2130 B Field | | | | 09/08/2021 14:01 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/08/2021 14:01 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 13:38 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 13:38 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/14/2021 15:45 |
| | Standard Methods 2550 B Field | | | | 09/08/2021 14:01 |
| | Standard Methods 4500-O G Field | | | | 09/08/2021 14:01 |
| | SW-846 9036 (Total) | | | | 09/16/2021 3:01 |
| | SW-846 9040B | | | | 09/08/2021 14:01 |
| | SW-846 9050A | | | | 09/08/2021 14:01 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:23 |
| | SW-846 9251 (Total) | | | | 09/16/2021 3:01 |
| 21081266-023C | 22D | 09/08/2021 14:01 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:11 | 09/17/2021 13:56 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/16/2021 1:13 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/20/2021 17:34 |
| | SW-846 7470A (Total) | | | 09/16/2021 7:00 | 09/16/2021 18:13 |
| 21081266-024A | 23 | 09/09/2021 11:12 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/09/2021 11:12 |
| | Standard Methods 2130 B Field | | | | 09/09/2021 11:12 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/09/2021 11:12 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 13:44 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 13:44 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/15/2021 16:40 |
| | Standard Methods 2550 B Field | | | | 09/09/2021 11:12 |
| | Standard Methods 4500-O G Field | | | | 09/09/2021 11:12 |
| | SW-846 9036 (Total) | | | | 09/16/2021 21:08 |
| | SW-846 9040B | | | | 09/09/2021 11:12 |
| | SW-846 9050A | | | | 09/09/2021 11:12 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:25 |
| | SW-846 9251 (Total) | | | | 09/16/2021 3:07 |
| 21081266-024C | 23 | 09/09/2021 11:12 | 09/10/2021 14:25 | | |

**Client:** Vistra Energy
**Client Project:** Hennepin GW Q3 2021

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

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/17/2021 22:33 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/20/2021 12:35 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/23/2021 1:19 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/27/2021 14:47 |
| | SW-846 7470A (Total) | | | 09/17/2021 10:53 | 09/17/2021 21:22 |
| 21081266-025A | 25 | 09/08/2021 16:15 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 16:15 |
| 21081266-026A | 26 | 09/08/2021 16:16 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 16:16 |
| 21081266-027A | 27 | 09/09/2021 8:24 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/09/2021 8:29 |
| | Standard Methods 2130 B Field | | | | 09/09/2021 8:29 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/09/2021 8:29 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 13:50 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 13:50 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/15/2021 16:41 |
| | Standard Methods 2550 B Field | | | | 09/09/2021 8:29 |
| | Standard Methods 4500-O G Field | | | | 09/09/2021 8:29 |
| | SW-846 9036 (Total) | | | | 09/16/2021 21:13 |
| | SW-846 9040B | | | | 09/09/2021 8:29 |
| | SW-846 9050A | | | | 09/09/2021 8:29 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:27 |
| | SW-846 9251 (Total) | | | | 09/16/2021 3:09 |
| 21081266-027C | 27 | 09/09/2021 8:24 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/17/2021 22:35 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/20/2021 12:37 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/23/2021 2:02 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/27/2021 14:53 |
| | SW-846 7470A (Total) | | | 09/17/2021 10:53 | 09/17/2021 21:25 |
| 21081266-028A | 30 | 09/08/2021 14:55 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 14:55 |
| 21081266-029A | 31 | 09/08/2021 14:56 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 14:56 |
| 21081266-030A | 32 | 09/09/2021 8:48 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/09/2021 8:48 |
| | Standard Methods 2130 B Field | | | | 09/09/2021 8:48 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/09/2021 8:48 |

**Client:** Vistra Energy
**Client Project:** Hennepin GW Q3 2021

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

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 14:04 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 14:04 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/15/2021 16:41 |
| | Standard Methods 2550 B Field | | | | 09/09/2021 8:48 |
| | Standard Methods 4500-O G Field | | | | 09/09/2021 8:48 |
| | SW-846 9036 (Total) | | | | 09/16/2021 3:14 |
| | SW-846 9040B | | | | 09/09/2021 8:48 |
| | SW-846 9050A | | | | 09/09/2021 8:48 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:28 |
| | SW-846 9251 (Total) | | | | 09/16/2021 3:14 |
| 21081266-030C | 32 | 09/09/2021 8:48 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/17/2021 22:45 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/20/2021 12:39 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/23/2021 2:11 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/27/2021 14:59 |
| | SW-846 7470A (Total) | | | 09/17/2021 10:53 | 09/17/2021 21:27 |
| 21081266-031A | 33 | 09/08/2021 15:08 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 15:08 |
| 21081266-032A | 34 | 09/09/2021 9:35 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/09/2021 9:35 |
| | Standard Methods 2130 B Field | | | | 09/09/2021 9:35 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/09/2021 9:35 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 14:10 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 14:10 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/15/2021 16:42 |
| | Standard Methods 2550 B Field | | | | 09/09/2021 9:35 |
| | Standard Methods 4500-O G Field | | | | 09/09/2021 9:35 |
| | SW-846 9036 (Total) | | | | 09/16/2021 3:19 |
| | SW-846 9040B | | | | 09/09/2021 9:35 |
| | SW-846 9050A | | | | 09/09/2021 9:35 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:30 |
| | SW-846 9251 (Total) | | | | 09/16/2021 3:20 |
| 21081266-032C | 34 | 09/09/2021 9:35 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/17/2021 22:46 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:04 | 09/20/2021 12:40 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/23/2021 2:20 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 8:19 | 09/27/2021 15:06 |

**Client:** Vistra Energy
**Client Project:** Hennepin GW Q3 2021

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

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 7470A (Total) | | | 09/17/2021 10:53 | 09/17/2021 21:29 |
| 21081266-033A | 35 | 09/08/2021 16:02 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 16:02 |
| | Standard Methods 2130 B Field | | | | 09/08/2021 16:02 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/08/2021 16:02 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 14:18 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 14:18 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/14/2021 15:45 |
| | Standard Methods 2550 B Field | | | | 09/08/2021 16:02 |
| | Standard Methods 4500-O G Field | | | | 09/08/2021 16:02 |
| | SW-846 9036 (Total) | | | | 09/20/2021 16:36 |
| | SW-846 9040B | | | | 09/08/2021 16:02 |
| | SW-846 9050A | | | | 09/08/2021 16:02 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:31 |
| | SW-846 9251 (Total) | | | | 09/16/2021 3:22 |
| 21081266-033C | 35 | 09/08/2021 16:02 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:11 | 09/17/2021 14:00 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:11 | 09/17/2021 15:07 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/16/2021 1:21 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/20/2021 18:43 |
| | SW-846 7470A (Total) | | | 09/16/2021 7:00 | 09/16/2021 18:15 |
| 21081266-034A | 36 | 09/08/2021 16:19 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 16:19 |
| 21081266-040A | 49 | 09/08/2021 16:35 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 16:35 |
| | Standard Methods 2130 B Field | | | | 09/08/2021 16:35 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/08/2021 16:35 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 15:08 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 15:08 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/14/2021 15:46 |
| | Standard Methods 2550 B Field | | | | 09/08/2021 16:35 |
| | Standard Methods 4500-O G Field | | | | 09/08/2021 16:35 |
| | SW-846 9036 (Total) | | | | 09/16/2021 4:07 |
| | SW-846 9040B | | | | 09/08/2021 16:35 |
| | SW-846 9050A | | | | 09/08/2021 16:35 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:51 |
| | SW-846 9251 (Total) | | | | 09/16/2021 4:08 |

**Client:** Vistra Energy
**Client Project:** Hennepin GW Q3 2021

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

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| 21081266-040C | 49 | 09/08/2021 16:35 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:11 | 09/17/2021 14:03 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:11 | 09/17/2021 15:11 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/16/2021 2:05 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/20/2021 18:51 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/21/2021 12:48 |
| | SW-846 7470A (Total) | | | 09/16/2021 7:00 | 09/16/2021 18:22 |
| 21081266-041A | 50 | 09/08/2021 13:13 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/08/2021 13:13 |
| | Standard Methods 2130 B Field | | | | 09/08/2021 13:13 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/08/2021 13:13 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 15:15 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 15:15 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/14/2021 15:46 |
| | Standard Methods 2550 B Field | | | | 09/08/2021 13:13 |
| | Standard Methods 4500-O G Field | | | | 09/08/2021 13:13 |
| | SW-846 9036 (Total) | | | | 09/16/2021 4:10 |
| | SW-846 9040B | | | | 09/08/2021 13:13 |
| | SW-846 9050A | | | | 09/08/2021 13:13 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:53 |
| | SW-846 9251 (Total) | | | | 09/16/2021 4:10 |
| 21081266-041C | 50 | 09/08/2021 13:13 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 8:11 | 09/17/2021 14:40 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/16/2021 2:14 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/20/2021 18:58 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/15/2021 7:55 | 09/21/2021 12:56 |
| | SW-846 7470A (Total) | | | 09/16/2021 7:00 | 09/16/2021 18:24 |
| 21081266-042A | 51 | 09/09/2021 10:44 | 09/10/2021 14:25 | | |
| | Field Elevation Measurements | | | | 09/09/2021 10:44 |
| | Standard Methods 2130 B Field | | | | 09/09/2021 10:44 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/09/2021 10:44 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/13/2021 15:27 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/13/2021 15:27 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/15/2021 16:57 |
| | Standard Methods 2550 B Field | | | | 09/09/2021 10:44 |
| | Standard Methods 4500-O G Field | | | | 09/09/2021 10:44 |
| | SW-846 9036 (Total) | | | | 09/16/2021 4:15 |

**Client:** Vistra Energy
**Client Project:** Hennepin GW Q3 2021

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

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 9040B | | | | 09/09/2021 10:44 |
| | SW-846 9050A | | | | 09/09/2021 10:44 |
| | SW-846 9214 (Total) | | | | 09/13/2021 12:55 |
| | SW-846 9251 (Total) | | | | 09/16/2021 4:16 |
| 21081266-042C | 51 | 09/09/2021 10:44 | 09/10/2021 14:25 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/17/2021 11:37 | 09/20/2021 13:38 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 11:57 | 09/21/2021 21:42 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/17/2021 11:57 | 09/24/2021 0:45 |
| | SW-846 7470A (Total) | | | 09/17/2021 10:53 | 09/17/2021 21:43 |
| 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 |
| 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 |

**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 **µS/cm**

SampID: LCS-R299257

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (as CaCO3) | | 0 | | **0** | | | | | | 09/13/2021 |

**Batch** R298870 **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** | 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** RPD Limit: **5**

SampID: 21081266-019BDUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | | 20 | | **386** | | | | 374.0 | 3.16 | 09/15/2021 |

**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**

SampID: 21081266-004BDUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date 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 |

**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**

SampID: 21081266-033ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | | 20 | | **1130** | | | | 1136 | 0.88 | 09/14/2021 |

**Batch** R299042 **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 | 09/15/2021 |
| 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**

SampID: 21081266-030ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | | 20 | | **488** | | | | 486.0 | 0.41 | 09/15/2021 |

**Batch** R299042 **SampType:** DUP Units **mg/L** RPD Limit: **5**

SampID: 21081266-037ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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** 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**

SampID: 21081266-035GMSD

| 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 | 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

| 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 | 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**

SampID: 21081266-011AMSD

| 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 | 99.2 | 0.4670 | 6.02 | 09/10/2021 |

**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: 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 | | **0.496** | 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 |

**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**

SampID: 21081266-011AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 21081266-019AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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: 21081266-011FMSD

| 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 |

**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**

SampID: 21081266-012BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **178** | 100.0 | 71.63 | 106.5 | 85 | 115 | 09/15/2021 |

**Batch** R299021 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21081266-001CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: MB-R299276

| 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 | 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 |

**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 |

**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

| 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 | 09/20/2021 |

**Batch** R299276 **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 | 09/20/2021 |

## 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 |

**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** RPD Limit: **15**
SampID: 21081266-011GMSD

| 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** RPD Limit: **15**
SampID: 21081266-008CMSD

| 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** RPD Limit: **15**
SampID: 21081266-016BMSD

| 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 |

**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

| 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**
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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **< 0.10** | 0.0370 | 0 | 0 | -100 | 100 | 09/13/2021 |

**Batch** R298849 **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 | | **0.94** | 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 |

**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**

SampID: 21081266-021AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 21081266-035AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 21081266-043AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.11** | 2.000 | 0 | 105.6 | 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 |

**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 |

**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 |

**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: ICV/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** RPD Limit: **15**
SampID: 21081266-004AMSD

| 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: ICV/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 |

**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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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 |

**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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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 |

**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**

SampID: 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**

SampID: 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**

SampID: 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 |

**Client:** Vistra Energy

**Client Project:** Hennepin GW Q3 2021

**Work Order:** 21081266

**Report Date:** 15-Oct-21

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

**Batch** 181825 **SampType:** MBLK Units **mg/L**

SampID: MBLK-181825

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**

SampID: 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 |

**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**

SampID: 21081266-043EMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**

SampID: 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 |

**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**

SampID: MBLK-181873

| 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 | 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 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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 |

**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 |

**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 |

**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 |

**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**

SampID: MBLK-181874

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**

SampID: 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 |

**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**

SampID: 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 |

**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**

SampID: 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**

SampID: MBLK-181826

| 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 | 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 |

**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 **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:** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: MBLK-181937

| 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 | 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 |

**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**

SampID: 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**

SampID: 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 |

**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: 21081266-009DMSD

| 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 |

**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

| 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 | 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 |

**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 |

**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**

SampID: 21081266-006CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00469** | 0.0050 | 0 | 93.7 | 0.004901 | 4.46 | 09/17/2021 |

**Batch** 181944 **SampType:** MS Units **mg/L**

SampID: 21081266-009EMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00511** | 0.0050 | 0 | 102.2 | 75 | 125 | 09/17/2021 |

**Batch** 181944 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 21081266-009EMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00499** | 0.0050 | 0 | 99.7 | 0.005112 | 2.50 | 09/17/2021 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| 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 | 09/17/2021 |

**Batch** 181945 **SampType:** LCS Units **mg/L**

SampID: LCS-181945

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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
**Client Project:** Hennepin GW Q3 2021

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

**Carrier:** Joe Riley

**Received By:** MEK

**Completed by:** Mary E. Kemp
**On:** 10-Sep-21
Mary E. Kemp

**Reviewed by:** Elizabeth A. Hurley
**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 0K 1 vial ID

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: [X] ICE [ ] BLUE ICE [ ] NO ICE 2.8 °C LTG# 5
Preserved in: [X] LAB [ ] FIELD
FOR LAB USE ONLY
LAB NOTES: HNO3 (78237) to 02, 08, 08D, 32, 51
NaOH (78380) to all but FB 77300 / 75840

EH 9/10/21

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
Metals determined by program requirements.

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

**SAMPLE COLLECTOR'S NAME**
J. RILEY J. WILSON

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 0924 | Groundwater | 2 | 2 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 005 | 05R | 9/10/21 0820 | 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 1483 | 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 |
|---|---|---|---|
| | 9/10/21 1425 | Mary Camp | 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

EH 9/10/21

# CHAIN OF CUSTODY

Pg 1 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
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 ____ ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS: Vistra PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: (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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21081266-012 | 12 | 9/9/21 1341 | Groundwater | 2 | 2 | 1 | 2 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | |
| 013 | 13 | 9/9/21 1224 | Groundwater | 2 | 2 | 1 | 2 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | |
| 014 | 15 | 9/9/21 1321 | Groundwater | 2 | 1 | 1 | | | | | | | | | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | | | | |
| 015 | 16 | 9/9/21 1353 | Groundwater | 2 | 2 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | | | | |
| 016 | 17 | 9/9/21 1336 | Groundwater | 2 | 2 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | | | | |
| 017 | 18D | 9/10/21 0909 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ |
| 018 | 18S | 9/10/21 0854 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ |
| 019 | 19D | 9/9/21 1608 | Groundwater | 2 | 2 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | | | | |
| 020 | 19S | 9/9/21 1551 | Groundwater | 2 | 2 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | | | | |
| 021 | 21R | 9/9/21 1013 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | ✔ | | ✔ | | ✔ | | | | | |
| 022 | 22 | 9/9/21 1345 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | ✔ | | ✔ | | ✔ | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 9/10/21 1425 | Mary Camp | 9/10/21 1425 |

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# 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: 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:

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

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

**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**
Hennepin GW Q3 2021

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: (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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 0819 | 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 | Received By | Date/Time |
|---|---|---|---|
| | 9/10/21 1425 | Mary Hug | 9/10/21 1425 |

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# 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:

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

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

**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 ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: (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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21081266-034 | 36 | 9/9/21 1619 | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| 035 | 40S | 9/9/21 1626 | Groundwater | 2 | 2 | 1 | 2 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | |
| 036 | 45S | 9/10/21 1024 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ |
| 037 | 46 | 9/9/21 1301 | Groundwater | 1 | 1 | | | | | | | | ✔ | ✔ | | | | | ✔ | | ✔ | | | | | |
| 038 | 47 | 9/9/21 1203 | Groundwater | 1 | 1 | | | | | | | | ✔ | ✔ | | | | | ✔ | | ✔ | | | | | |
| 039 | 48 | 9/10/21 0935 | Groundwater | 1 | 1 | | | | | | | | ✔ | ✔ | | | | | ✔ | | ✔ | | | | | |
| 040 | 49 | 9/8/21 1635 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | | | ✔ | | ✔ | | | | | |
| 041 | 50 | 9/9/21 1313 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | | | ✔ | | ✔ | | | | | |
| 042 | 51 | 9/9/21 1044 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | | | ✔ | | ✔ | | | | | |
| 043 | Field Blank | 9/10/21 1045 | Groundwater | 3 | 2 | 1 | 2 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 9/10/21 1425 | Mary Kemp | 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

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

# Report Contents



**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 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Sample Summary | 19 |
| Dates Report | 20 |
| Receiving Check List | 21 |
| 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 804 data. EAH 10/12/21

## Locations


**Collinsville**

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

**Springfield**

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

**Kansas City**

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

**Collinsville Air**

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

**Chicago**

| | |
|---|---|
| Address | 1319 Butterfield Rd.<br>Downers Grove, IL 60515 |
| Phone | (630) 324-6855 |
| Fax | |
| Email | arenner@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 |

**Client:** Ramboll **Work Order:** 21081267

**Client Project:** Hennepin CCR Q3 2021 **Report Date:** 12-Oct-21

**Lab ID:** 21081267-016 **Client Sample ID:** 21R

**Matrix:** GROUNDWATER **Collection Date:** 09/09/2021 10:13

| 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 **Work Order:** 21081267

**Client Project:** Hennepin CCR Q3 2021 **Report Date:** 12-Oct-21

**Lab ID:** 21081267-017 **Client Sample ID:** 22

**Matrix:** GROUNDWATER **Collection Date:** 09/08/2021 13:45

| 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 | 09/22/2021 0:00 | R299679 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/22/2021 0:00 | R299679 |

**Client:** Ramboll **Work Order:** 21081267

**Client Project:** Hennepin CCR Q3 2021 **Report Date:** 12-Oct-21

**Lab ID:** 21081267-018 **Client Sample ID:** 22D

**Matrix:** GROUNDWATER **Collection Date:** 09/08/2021 14:01

| 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 | 09/22/2021 0:00 | R299679 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/22/2021 0:00 | R299679 |

**Client:** Ramboll **Work Order:** 21081267

**Client Project:** Hennepin CCR Q3 2021 **Report Date:** 12-Oct-21

**Lab ID:** 21081267-019 **Client Sample ID:** 23

**Matrix:** GROUNDWATER **Collection Date:** 09/09/2021 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 | 09/22/2021 0:00 | R299679 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/22/2021 0:00 | R299679 |

**Client:** Ramboll **Work Order:** 21081267

**Client Project:** Hennepin CCR Q3 2021 **Report Date:** 12-Oct-21

**Lab ID:** 21081267-020 **Client Sample ID:** 27

**Matrix:** GROUNDWATER **Collection Date:** 09/09/2021 8:29

| 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 **Work Order:** 21081267

**Client Project:** Hennepin CCR Q3 2021 **Report Date:** 12-Oct-21

**Lab ID:** 21081267-021 **Client Sample ID:** 32

**Matrix:** GROUNDWATER **Collection Date:** 09/09/2021 8:48

| 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 | 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:** 21081267-022 **Client Sample ID:** 34

**Matrix:** GROUNDWATER **Collection Date:** 09/09/2021 9:35

| 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:** 21081267-023 **Client Sample ID:** 35

**Matrix:** GROUNDWATER **Collection Date:** 09/08/2021 16:02

| 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:** 21081267-027 **Client Sample ID:** 49

**Matrix:** GROUNDWATER **Collection Date:** 09/08/2021 16:35

| 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:** 21081267-028 **Client Sample ID:** 50

**Matrix:** GROUNDWATER **Collection Date:** 09/08/2021 13:13

| 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:** 21081267-029 **Client Sample ID:** 51

**Matrix:** GROUNDWATER **Collection Date:** 09/09/2021 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 | 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:** 21081267-030 **Client Sample ID:** Field Blank

**Matrix:** GROUNDWATER **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 |

**Client:** Ramboll
**Client Project:** Hennepin CCR Q3 2021

**Work Order:** 21081267
**Report Date:** 12-Oct-21

| Lab Sample ID | Client Sample ID | Matrix | Fractions | Collection Date |
|---|---|---|---|---|
| 21081267-016 | 21R | Groundwater | 1 | 09/09/2021 10:13 |
| 21081267-017 | 22 | Groundwater | 1 | 09/08/2021 13:45 |
| 21081267-018 | 22D | Groundwater | 1 | 09/08/2021 14:01 |
| 21081267-019 | 23 | Groundwater | 1 | 09/09/2021 11:12 |
| 21081267-020 | 27 | Groundwater | 1 | 09/09/2021 8:29 |
| 21081267-021 | 32 | Groundwater | 1 | 09/09/2021 8:48 |
| 21081267-022 | 34 | Groundwater | 1 | 09/09/2021 9:35 |
| 21081267-023 | 35 | Groundwater | 1 | 09/08/2021 16:02 |
| 21081267-027 | 49 | Groundwater | 1 | 09/08/2021 16:35 |
| 21081267-028 | 50 | Groundwater | 1 | 09/08/2021 13:13 |
| 21081267-029 | 51 | Groundwater | 1 | 09/09/2021 10:44 |
| 21081267-030 | Field Blank | Groundwater | 1 | 09/10/2021 10:45 |

**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 | | |
|---|---|---|---|---|---|
| | Test Name | | | Prep Date/Time | Analysis Date/Time |
| 21081267-016A | 21R | 09/09/2021 10:13 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/22/2021 0:00 |
| 21081267-017A | 22 | 09/08/2021 13:45 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/22/2021 0:00 |
| 21081267-018A | 22D | 09/08/2021 14:01 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/22/2021 0:00 |
| 21081267-019A | 23 | 09/09/2021 11:12 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/22/2021 0:00 |
| 21081267-020A | 27 | 09/09/2021 8:29 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/22/2021 0:00 |
| 21081267-021A | 32 | 09/09/2021 8:48 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/23/2021 0:00 |
| 21081267-022A | 34 | 09/09/2021 9:35 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/23/2021 0:00 |
| 21081267-023A | 35 | 09/08/2021 16:02 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/23/2021 0:00 |
| 21081267-027A | 49 | 09/08/2021 16:35 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/23/2021 0:00 |
| 21081267-028A | 50 | 09/08/2021 13:13 | 09/10/2021 14:25 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 09/23/2021 0:00 |
| 21081267-029A | 51 | 09/09/2021 10:44 | 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:** Mary E. Kemp
**On:** 13-Sep-21
Mary E. Kemp

**Reviewed by:** Elizabeth A. Hurley
**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

# CHAIN OF CUSTODY

Pg 1 of 3 Workorder # 21081267

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

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: [X] ICE [ ] BLUE ICE [ ] NO ICE 2-8 °C LTG# 1
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Add HNO3 (78237) to 1of2 34 ;2of2 08DUP and 51. MeOH 9/10/21

Client Comments: Bottles for 455 empty upon arrival MEK 9/10/21
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: Hennepin CCR Q3 2021
SAMPLE COLLECTOR'S NAME: J. RILEY J. WILSON

RESULTS REQUESTED: [✓] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS: Vistra PO# 1054896

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Radium 226 | Radium 228 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21081267-001 | 03R | 9/10/21 0934 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 002 | 05DR | 9/10/21 0834 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 003 | 05R | 9/10/21 0820 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 004 | 07 | 9/9/21 1708 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 005 | 08 | 9/9/21 1433 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 006 | 08 Duplicate | 9/9/21 1433 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 007 | 08D | 9/9/21 1411 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 008 | 12 | 9/9/21 1241 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 009 | 13 | 9/9/21 1224 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 010 | 16 | 9/9/21 1353 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 011 | 17 | 9/9/21 1336 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 9/10/21 1425 | Mary Kemp | 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

# CHAIN OF CUSTODY

Pg 2 of 3 Workorder # 21081267

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

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:

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

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

Client Comments:
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 |
|---|---|
| Hennepin CCR Q3 2021 | |

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO# 1054896

| 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 | | | | | | | | | | | | | | | | | |
| 21081267-012 | 18D | 9/10/21 0909 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 013 | 18S | 9/10/21 0854 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 014 | 19D | 9/9/21 1608 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 015 | 19S | 9/9/21 1551 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 016 | 21R | 9/9/21 1013 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 017 | 22 | 9/9/21 1345 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 018 | 22D | 9/9/21 1401 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 019 | 23 | 9/9/21 1112 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 020 | 27 | 9/9/21 0829 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 021 | 32 | 9/9/21 0849 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |
| 022 | 34 | 9/9/21 0935 | Groundwater | | 2 | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 9/10/21 1425 | Mary Kemp | 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 3 Workorder # 21081267

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

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
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: Hennepin CCR Q3 2021
SAMPLE COLLECTOR'S NAME:

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ____ ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS: Vistra PO# 1054896

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Radium 226 | Radium 228 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21081267-023 | 35 | 9/8/21 1602 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 024 | 45S | 9/10/21 1024 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 025 | 46 | 9/9/21 1301 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 026 | 47 | 9/9/21 1203 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 027 | 49 | 9/8/21 1639 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 028 | 50 | 9/8/21 1313 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 029 | 51 | 9/9/21 1044 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| 030 | Field Blank | 9/10/21 1045 | Groundwater | | 2 | | | | | | | | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 9/10/21 1425 | Mary Kemp | 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

# ANALYTICAL REPORT

October 02, 2021

Revised Report

## TEKLAB, Inc.

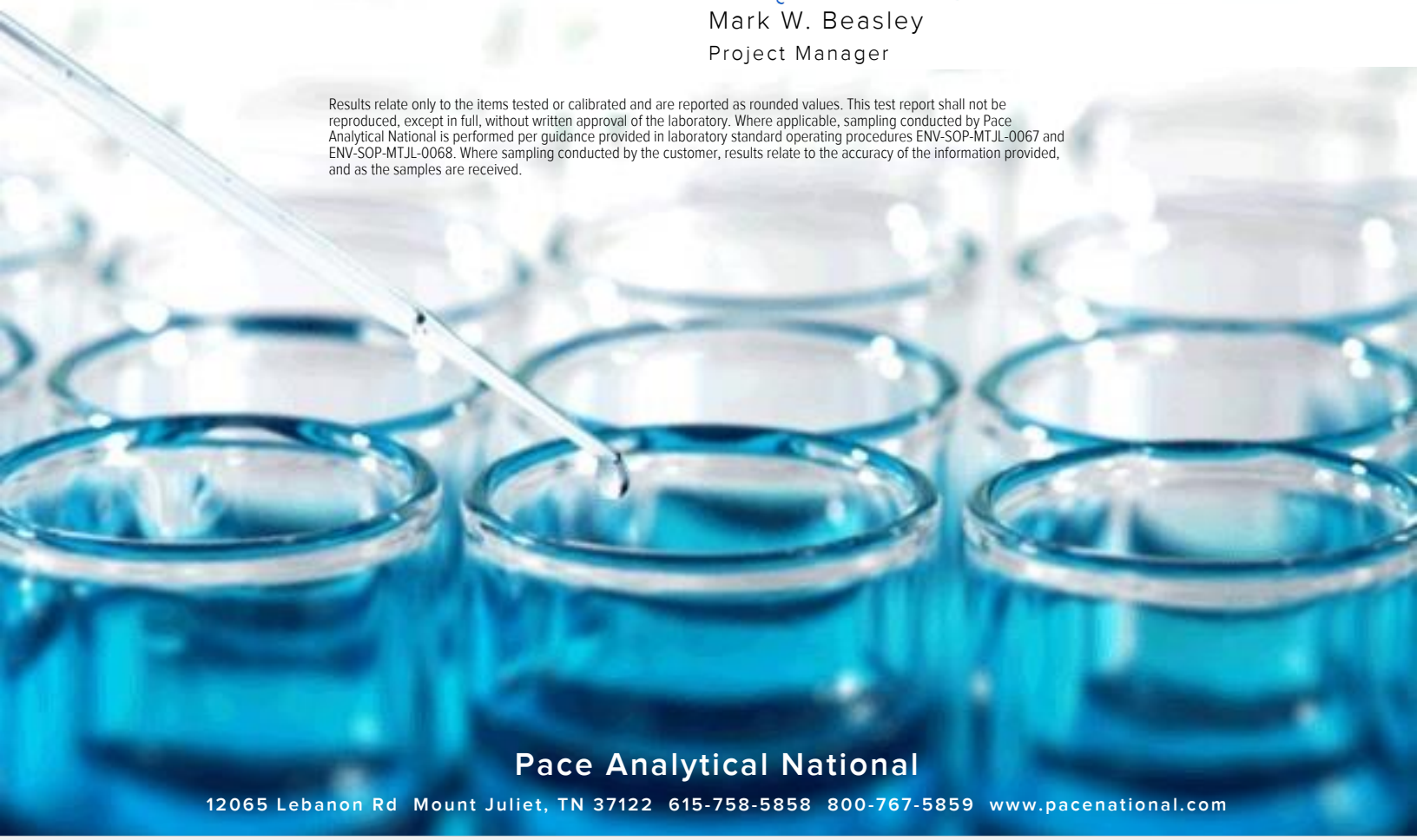
| | |
|---|---|
| Sample Delivery Group: | L1403564 |
| Samples Received: | 09/15/2021 |
| Project Number: | 21081267 |
| Description: | |

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 National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## 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 |

## 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 |

## 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 |

## 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 |

## 21081267-011 L1403564-08 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 09/09/21 13:36 | 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 |

## 21081267-012 L1403564-09 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 09/10/21 09:09 | 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 | Received date/time |
|---|---|---|
| | 09/10/21 08:54 | 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 | Received date/time |
|---|---|---|
| | 09/09/21 16:08 | 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 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 | Received date/time |
|---|---|---|
| | 09/09/21 17:51 | 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 | Received date/time |
|---|---|---|
| | 09/09/21 10:13 | 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 | Received date/time |
|---|---|---|
| | 09/08/21 13:45 | 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 |

## 21081267-018 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 |

## 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 |

## 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 |

## 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 |

## 21081267-026 L1403564-22 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 09/09/21 12:03 | 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 |

## 21081267-027 L1403564-23 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 09/08/21 16:35 | 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 | Received date/time |
|---|---|---|
| | 09/08/21 13:13 | 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 | Received date/time |
|---|---|---|
| | 09/09/21 10:44 | 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 | Received date/time |
|---|---|---|
| | 09/10/21 10:45 | 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 | 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 |

## Radiochemistry by Method Calculation

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| Combined Radium | 0.000 | U | 0.526 | 1.1 | 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 | -0.0758 | 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| RADIUM-228 | -0.298 | 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 |

## Radiochemistry by Method Calculation

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| Combined Radium | 0.322 | J | 0.564 | 0.839 | 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 | 0.322 | | 0.230 | 0.179 | 09/28/2021 10:48 | WG1743106 |
| *(T) Barium-133* | *95.7* | | | *30.0-143* | *09/28/2021 10:48* | WG1743106 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

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

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 | 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 | 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* | | | | | | | |

## 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 | 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 | 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 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 | | 20.5 | 20.3 | 117 | 116 | 1 | 70.0-130 | | | 0.933 | | 20 |
| *(T) Barium* | | | | | *106* | *106* | | | | | | | |
| *(T) Yttrium* | | | | | *98.1* | *94.9* | | | | | | | |

## 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* | | | | | | | |

## Method Blank (MB)

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

| Analyte | MB Result | MB Qualifier | MB MDA |
|---|---|---|---|
| | pCi/l | | pCi/l |
| Radium-226 | 0.00952 | 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 | DUP Result | Dilution | DUP RPD | DUP RER | DUP Qualifier | DUP RPD Limits | DUP RER Limit |
|---|---|---|---|---|---|---|---|---|
| | pCi/l | pCi/l | | % | | | % | |
| Radium-226 | 0.360 | 0.0854 | 1 | 123 | 0.881 | U | 20 | 3 |
| *(T) Barium-133* | *99.5* | *100* | | | | | | |

## Laboratory Control Sample (LCS)

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

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | pCi/l | pCi/l | % | % | |
| 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 | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | MS RER | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | pCi/l | pCi/l | pCi/l | % | % | | % | | | % | | % |
| 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* | | | | | | | |

## 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. |

## 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 62234**

Cooler Temp: | Sampler: J. RIley J.Wilson | QC Level: 3

Project# 21081267

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.

Contact: Elizabeth A. Hurley | Email: ehurley@teklabinc.com
Requested Due Date: 10-15 day TAT | Billing/PO: 31803

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

Phone: (618) 3441004 ext 33

A205

L1403564

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 Kuhp | 9/13/21 1600 | Wally M | 9/15/21 1100 |
| | | | |
| | | | |
| | | | |
| | | | |

5300 5201 4673
5300 5201 4651
5300 5201 4662

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)

# 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

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.

Contact: Elizabeth A. Hurley | Email: ehurley@teklabinc.com
Requested Due Date: 10-15 day TAT | Billing/PO: 31803

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

Phone: (618) 3441004 ext 33

L1403564

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 Lamp | 9/13/21 1600 | Marley M | 09/15/21 1100 |
| | | | |
| | | | |
| | | | |
| | | | |

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# 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

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.

Contact: Elizabeth A. Hurley | Email: ehurley@teklabinc.com
Requested Due Date: 10-15 day TAT | Billing/PO: 31803

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

Phone: (618) 3441004 ext 33

L1403564

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 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -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 | ☑ | | | | | | | | | | | |
| | | | IO3 | Groundwater | ☐ | | | | | | | | | | | |
| | | | IO3 | Groundwater | ☐ | | | | | | | | | | | |
| | | | O3 | Groundwater | ☐ | | | | | | | | | | | |
| | | | O3 | Groundwater | ☐ | | | | | | | | | | | |

Sample Receipt Checklist

| | | If Applicable | |
|---|---|---|---|
| COC Seal Present/Intact: | Y N | | |
| 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 Kay | 9/13/21 1600 | Hurley | 9/15/21 1100 |
| | | | |
| | | | |
| | | | |
| | | | |

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## 9/15-NCF-L1403564 TEKLABIL

R5

**Time estimate:** oh **Time spent:** oh

**Members**

HM Hailey Melson (responsible) MB Mark Beasley

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

- [x] 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

February 04, 2022

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 Q4 Groundwater **WorkOrder:** 21110558

Dear Brian Voelker:

TEKLAB, INC received 40 samples on 12/10/2021 8:23:00 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

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

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-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 | 25 |
| Dates Report | 26 |
| Quality Control Results | 34 |
| Receiving Check List | 74 |
| Chain of Custody | Appended |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-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:** Vistra Energy

**Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater

**Report Date:** 04-Feb-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:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-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.

Sample disposal preceded project manager's request for recheck of 22 total/dissolved Chloride; no sample volume remaining. EAH 1/5/22 1535

Closure 804 program data is included in this report. EAH 1/6/22

This report was revised on February 4, 2022 per Ramboll/Eric Bauer's request for Thallium rechecks. The reason for the revision is to include the Thallium, Total re-analysis for 07, 08, 22, 22D, 34, 35, 49, and 50. Re-analysis confirmed that greater instrument rinse time is required after spiked samples. Please replace report dated January 6, 2022 with this report. EAH 2/4/22

## Locations


### Collinsville

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

### Springfield

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

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**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

### Chicago

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

**Client:** Vistra Energy
**Work Order:** 21110558
**Client Project:** Hennepin Q4 Groundwater
**Report Date:** 04-Feb-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 | | 3/14/2022 | 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:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-021 **Client Sample ID:** 21R

**Matrix:** GROUNDWATER **Collection Date:** 12/09/2021 8:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.89** | ft | 1 | 12/09/2021 8:20 | R303930 |
| Elevation of groundwater surface | * | 0 | | **446.16** | ft | 1 | 12/09/2021 8:20 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **130** | NTU | 1 | 12/09/2021 8:20 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-130** | mV | 1 | 12/09/2021 8:20 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.4** | °C | 1 | 12/09/2021 8:20 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.92** | mg/L | 1 | 12/09/2021 8:20 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.15** | | 1 | 12/09/2021 8:20 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1400** | µS/cm | 1 | 12/09/2021 8:20 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **590** | mg/L | 1 | 12/10/2021 11:16 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **83** | mg/L | 5 | 12/20/2021 20:25 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 12/10/2021 13:51 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **107** | mg/L | 5 | 12/14/2021 2:16 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | S | **154** | mg/L | 1 | 12/13/2021 16:51 | 185850 |
| *Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Arsenic | NELAP | 0.0010 | | **0.0267** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Barium | NELAP | 0.0010 | | **0.316** | mg/L | 5 | 12/15/2021 18:03 | 185850 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Boron | NELAP | 0.0250 | S | **2.91** | mg/L | 5 | 12/15/2021 18:03 | 185850 |
| Cadmium | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Chromium | NELAP | 0.0015 | | **0.0052** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Cobalt | NELAP | 0.0010 | | **0.0027** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Lead | NELAP | 0.0010 | | **0.0056** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Lithium | * | 0.0030 | | **0.0242** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Molybdenum | NELAP | 0.0015 | | **0.0087** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 12/14/2021 11:52 | 185850 |
| *Matrix spike control limits for B are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **0.00059** | mg/L | 1 | 12/14/2021 16:01 | 185913 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-022 **Client Sample ID:** 22

**Matrix:** GROUNDWATER **Collection Date:** 12/08/2021 8:51

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.06** | ft | 1 | 12/08/2021 8:51 | R303930 |
| Elevation of groundwater surface | * | 0 | | **446.39** | ft | 1 | 12/08/2021 8:51 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **1.5** | NTU | 1 | 12/08/2021 8:51 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **55** | mV | 1 | 12/08/2021 8:51 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **15.1** | °C | 1 | 12/08/2021 8:51 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.08** | mg/L | 1 | 12/08/2021 8:51 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.56** | | 1 | 12/08/2021 8:51 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1280** | µS/cm | 1 | 12/08/2021 8:51 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **588** | mg/L | 1 | 12/10/2021 10:58 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **146** | mg/L | 5 | 12/20/2021 20:33 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 12/10/2021 13:53 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **23** | mg/L | 5 | 12/14/2021 2:27 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **97.4** | mg/L | 1 | 12/15/2021 5:06 | 185107 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0012** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Arsenic | NELAP | 0.0010 | | **0.0010** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Barium | NELAP | 0.0010 | | **0.0635** | mg/L | 5 | 12/15/2021 1:03 | 185107 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Boron | NELAP | 0.0250 | | **3.81** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Cadmium | NELAP | 0.0010 | | **0.0054** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Cobalt | NELAP | 0.0010 | | **0.0020** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Lead | NELAP | 0.0010 | J | **0.0007** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Lithium | * | 0.0030 | | **0.0477** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Molybdenum | NELAP | 0.0015 | | **0.106** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Selenium | NELAP | 0.0010 | | **0.0160** | mg/L | 5 | 12/13/2021 22:22 | 185107 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 01/31/2022 16:57 | 187268 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/10/2021 19:42 | 184187 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-023 **Client Sample ID:** 22D

**Matrix:** GROUNDWATER **Collection Date:** 12/08/2021 9:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **19.55** | ft | 1 | 12/08/2021 9:29 | R303930 |
| Elevation of groundwater surface | * | 0 | | **445.88** | ft | 1 | 12/08/2021 9:29 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **34** | NTU | 1 | 12/08/2021 9:29 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-122** | mV | 1 | 12/08/2021 9:29 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.6** | °C | 1 | 12/08/2021 9:29 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.13** | mg/L | 1 | 12/08/2021 9:29 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.25** | | 1 | 12/08/2021 9:29 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1370** | µS/cm | 1 | 12/08/2021 9:29 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **578** | mg/L | 1 | 12/10/2021 10:58 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **103** | mg/L | 5 | 12/20/2021 20:39 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 12/10/2021 14:14 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **112** | mg/L | 5 | 12/14/2021 2:30 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **119** | mg/L | 1 | 12/15/2021 5:10 | 185107 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Arsenic | NELAP | 0.0010 | | **0.0017** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Barium | NELAP | 0.0010 | | **0.0609** | mg/L | 5 | 12/15/2021 1:09 | 185107 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Boron | NELAP | 0.0250 | | **2.02** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Chromium | NELAP | 0.0015 | | **0.0016** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Cobalt | NELAP | 0.0010 | | **0.0012** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Lead | NELAP | 0.0010 | | **0.0017** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Lithium | * | 0.0030 | | **0.0156** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Molybdenum | NELAP | 0.0015 | | **0.0086** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:01 | 185107 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 01/31/2022 17:04 | 187268 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/10/2021 19:44 | 184187 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-024 **Client Sample ID:** 23

**Matrix:** GROUNDWATER **Collection Date:** 12/08/2021 15:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **16.32** | ft | 1 | 12/08/2021 15:12 | R303930 |
| Elevation of groundwater surface | * | 0 | | **447.07** | ft | 1 | 12/08/2021 15:12 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 12/08/2021 15:12 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **5** | mV | 1 | 12/08/2021 15:12 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.5** | °C | 1 | 12/08/2021 15:12 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.10** | mg/L | 1 | 12/08/2021 15:12 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.32** | | 1 | 12/08/2021 15:12 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1580** | µS/cm | 1 | 12/08/2021 15:12 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **828** | mg/L | 1 | 12/10/2021 10:59 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **413** | mg/L | 20 | 12/20/2021 20:46 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 12/10/2021 14:16 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **58** | mg/L | 2 | 12/14/2021 2:35 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **106** | mg/L | 1 | 12/15/2021 5:14 | 185107 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Arsenic | NELAP | 0.0010 | J | **0.0006** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Barium | NELAP | 0.0010 | | **0.0367** | mg/L | 5 | 12/15/2021 1:15 | 185107 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Boron | NELAP | 0.0250 | | **8.05** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Cobalt | NELAP | 0.0010 | J | **0.0003** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Lithium | * | 0.0030 | | **0.0047** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Molybdenum | NELAP | 0.0015 | | **0.0154** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 12/13/2021 23:08 | 185107 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/10/2021 19:47 | 184187 |

**Client:** Vistra Energy
**Work Order:** 21110558
**Client Project:** Hennepin Q4 Groundwater
**Report Date:** 04-Feb-22
**Lab ID:** 21110558-025
**Client Sample ID:** 25
**Matrix:** GROUNDWATER
**Collection Date:** 12/07/2021 15:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **16.11** | ft | 1 | 12/07/2021 15:32 | R303930 |
| Elevation of groundwater surface | * | 0 | | **446.50** | ft | 1 | 12/07/2021 15:32 | R303930 |

**Client:** Vistra Energy
**Work Order:** 21110558
**Client Project:** Hennepin Q4 Groundwater
**Report Date:** 04-Feb-22
**Lab ID:** 21110558-026
**Client Sample ID:** 26
**Matrix:** GROUNDWATER
**Collection Date:** 12/07/2021 15:33

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **16.09** | ft | 1 | 12/07/2021 15:33 | R303930 |
| Elevation of groundwater surface | * | 0 | | **446.61** | ft | 1 | 12/07/2021 15:33 | R303930 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-027 **Client Sample ID:** 27

**Matrix:** GROUNDWATER **Collection Date:** 12/08/2021 11:41

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **3.49** | ft | 1 | 12/08/2021 11:41 | R303930 |
| Elevation of groundwater surface | * | 0 | | **447.31** | ft | 1 | 12/08/2021 11:41 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **25** | NTU | 1 | 12/08/2021 11:41 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-21** | mV | 1 | 12/08/2021 11:41 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **11.9** | °C | 1 | 12/08/2021 11:41 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **< 0** | mg/L | 1 | 12/08/2021 11:41 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.11** | | 1 | 12/08/2021 11:41 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1430** | µS/cm | 1 | 12/08/2021 11:41 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **634** | mg/L | 1 | 12/10/2021 10:59 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **115** | mg/L | 5 | 12/20/2021 20:49 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 12/10/2021 14:18 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **109** | mg/L | 5 | 12/14/2021 2:43 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **129** | mg/L | 1 | 12/15/2021 5:17 | 185107 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Arsenic | NELAP | 0.0010 | J | **0.0008** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Barium | NELAP | 0.0010 | | **0.0885** | mg/L | 5 | 12/15/2021 1:21 | 185107 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Boron | NELAP | 0.0250 | | **2.22** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Cadmium | NELAP | 0.0010 | J | **0.0009** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Chromium | NELAP | 0.0015 | J | **0.0014** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Cobalt | NELAP | 0.0010 | | **0.0031** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Lead | NELAP | 0.0010 | | **0.0021** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Lithium | * | 0.0030 | | **0.0226** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Molybdenum | NELAP | 0.0015 | | **0.0046** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 12/13/2021 23:16 | 185107 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/10/2021 19:49 | 184187 |

**Client:** Vistra Energy
**Work Order:** 21110558
**Client Project:** Hennepin Q4 Groundwater
**Report Date:** 04-Feb-22
**Lab ID:** 21110558-028
**Client Sample ID:** 30
**Matrix:** GROUNDWATER
**Collection Date:** 12/07/2021 13:48

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **6.00** | ft | 1 | 12/07/2021 13:48 | R303930 |
| Elevation of groundwater surface | * | 0 | | **447.16** | ft | 1 | 12/07/2021 13:48 | R303930 |

**Client:** Vistra Energy
**Work Order:** 21110558
**Client Project:** Hennepin Q4 Groundwater
**Report Date:** 04-Feb-22
**Lab ID:** 21110558-029
**Client Sample ID:** 31
**Matrix:** GROUNDWATER
**Collection Date:** 12/07/2021 13:47

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.96** | ft | 1 | 12/07/2021 13:47 | R303930 |
| Elevation of groundwater surface | * | 0 | | **447.17** | ft | 1 | 12/07/2021 13:47 | R303930 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-030 **Client Sample ID:** 32

**Matrix:** GROUNDWATER **Collection Date:** 12/08/2021 10:46

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **4.34** | ft | 1 | 12/08/2021 10:46 | R303930 |
| Elevation of groundwater surface | * | 0 | | **447.04** | ft | 1 | 12/08/2021 10:46 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.8** | NTU | 1 | 12/08/2021 10:46 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **27** | mV | 1 | 12/08/2021 10:46 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **13.6** | °C | 1 | 12/08/2021 10:46 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.10** | mg/L | 1 | 12/08/2021 10:46 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.98** | | 1 | 12/08/2021 10:46 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1210** | µS/cm | 1 | 12/08/2021 10:46 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **514** | mg/L | 1 | 12/10/2021 10:59 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 20 | | **64** | mg/L | 2 | 12/20/2021 21:10 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 12/10/2021 14:20 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **68** | mg/L | 2 | 12/14/2021 2:51 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | S | **101** | mg/L | 1 | 12/15/2021 5:21 | 185107 |
| *Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/15/2021 1:27 | 185107 |
| Barium | NELAP | 0.0010 | | **0.0429** | mg/L | 5 | 12/15/2021 1:27 | 185107 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Boron | NELAP | 0.0250 | | **0.154** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Cobalt | NELAP | 0.0010 | | **0.0019** | mg/L | 5 | 12/15/2021 1:27 | 185107 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Lithium | * | 0.0030 | | **0.0040** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Molybdenum | NELAP | 0.0015 | J | **0.0010** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 12/13/2021 23:24 | 185107 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/10/2021 19:51 | 184187 |

**Client:** Vistra Energy
**Work Order:** 21110558
**Client Project:** Hennepin Q4 Groundwater
**Report Date:** 04-Feb-22
**Lab ID:** 21110558-031
**Client Sample ID:** 33
**Matrix:** GROUNDWATER
**Collection Date:** 12/07/2021 14:05

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **3.11** | ft | 1 | 12/07/2021 14:05 | R303930 |
| Elevation of groundwater surface | * | 0 | | **446.60** | ft | 1 | 12/07/2021 14:05 | R303930 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-032 **Client Sample ID:** 34

**Matrix:** GROUNDWATER **Collection Date:** 12/09/2021 8:47

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **8.11** | ft | 1 | 12/09/2021 8:47 | R303930 |
| Elevation of groundwater surface | * | 0 | | **441.45** | ft | 1 | 12/09/2021 8:47 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.9** | NTU | 1 | 12/09/2021 8:47 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-86** | mV | 1 | 12/09/2021 8:47 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.3** | °C | 1 | 12/09/2021 8:47 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.04** | mg/L | 1 | 12/09/2021 8:47 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.99** | | 1 | 12/09/2021 8:47 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1540** | µS/cm | 1 | 12/09/2021 8:47 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **658** | mg/L | 1 | 12/10/2021 11:16 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 20 | | **60** | mg/L | 2 | 12/20/2021 21:16 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 12/10/2021 14:23 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **74** | mg/L | 2 | 12/14/2021 3:10 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **175** | mg/L | 1 | 12/13/2021 17:06 | 185850 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Arsenic | NELAP | 0.0010 | J | **0.0004** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Barium | NELAP | 0.0010 | | **0.0957** | mg/L | 5 | 12/15/2021 18:25 | 185850 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Boron | NELAP | 0.0250 | | **0.147** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Cobalt | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Lithium | * | 0.0030 | | **0.0137** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Molybdenum | NELAP | 0.0015 | | **0.0016** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:18 | 185850 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 01/31/2022 17:12 | 187268 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/15/2021 10:39 | 185913 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-033 **Client Sample ID:** 35

**Matrix:** GROUNDWATER **Collection Date:** 12/08/2021 10:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **7.73** | ft | 1 | 12/08/2021 10:18 | R303930 |
| Elevation of groundwater surface | * | 0 | | **447.10** | ft | 1 | 12/08/2021 10:18 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **0.04** | NTU | 1 | 12/08/2021 10:18 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **17** | mV | 1 | 12/08/2021 10:18 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.5** | °C | 1 | 12/08/2021 10:18 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.43** | mg/L | 1 | 12/08/2021 10:18 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.91** | | 1 | 12/08/2021 10:18 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2210** | µS/cm | 1 | 12/08/2021 10:18 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **1330** | mg/L | 1 | 12/10/2021 11:00 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **818** | mg/L | 20 | 12/20/2021 21:24 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.18** | mg/L | 1 | 12/10/2021 14:25 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **46** | mg/L | 2 | 12/14/2021 3:12 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **305** | mg/L | 1 | 12/15/2021 5:32 | 185107 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | J | **0.0008** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Arsenic | NELAP | 0.0010 | J | **0.0007** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Barium | NELAP | 0.0010 | | **0.0556** | mg/L | 5 | 12/15/2021 2:29 | 185107 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Boron | NELAP | 0.0250 | | **12.2** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Cadmium | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Cobalt | NELAP | 0.0010 | | **0.0014** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Lithium | * | 0.0030 | | **0.0260** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Molybdenum | NELAP | 0.0015 | | **0.0608** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:47 | 185107 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 01/31/2022 17:19 | 187268 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/10/2021 20:07 | 185834 |

**Client:** Vistra Energy
**Work Order:** 21110558
**Client Project:** Hennepin Q4 Groundwater
**Report Date:** 04-Feb-22
**Lab ID:** 21110558-034
**Client Sample ID:** 36
**Matrix:** GROUNDWATER
**Collection Date:** 12/07/2021 13:37

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **14.83** | ft | 1 | 12/07/2021 13:37 | R303930 |
| Elevation of groundwater surface | * | 0 | | **447.19** | ft | 1 | 12/07/2021 13:37 | R303930 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-037 **Client Sample ID:** 49

**Matrix:** GROUNDWATER **Collection Date:** 12/08/2021 8:28

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **21.03** | ft | 1 | 12/08/2021 8:28 | R303930 |
| Elevation of groundwater surface | * | 0 | | **447.14** | ft | 1 | 12/08/2021 8:28 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.8** | NTU | 1 | 12/08/2021 8:28 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **83** | mV | 1 | 12/08/2021 8:28 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **13.6** | °C | 1 | 12/08/2021 8:28 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.28** | mg/L | 1 | 12/08/2021 8:28 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.88** | | 1 | 12/08/2021 8:28 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1360** | µS/cm | 1 | 12/08/2021 8:28 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **566** | mg/L | 1 | 12/10/2021 11:15 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **95** | mg/L | 5 | 12/20/2021 21:32 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 12/10/2021 14:30 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **106** | mg/L | 5 | 12/14/2021 3:26 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **110** | mg/L | 1 | 12/15/2021 5:36 | 185107 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Arsenic | NELAP | 0.0010 | J | **0.0008** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Barium | NELAP | 0.0010 | | **0.0639** | mg/L | 5 | 12/15/2021 2:36 | 185107 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Boron | NELAP | 0.0250 | | **0.844** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Cadmium | NELAP | 0.0010 | | **0.0018** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Chromium | NELAP | 0.0015 | J | **0.0012** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Cobalt | NELAP | 0.0010 | | **0.0072** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Lead | NELAP | 0.0010 | | **0.0012** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Lithium | * | 0.0030 | | **0.0250** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Molybdenum | NELAP | 0.0015 | | **0.0352** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/13/2021 23:54 | 185107 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 01/31/2022 17:27 | 187268 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/10/2021 20:10 | 185834 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-038 **Client Sample ID:** 50

**Matrix:** GROUNDWATER **Collection Date:** 12/08/2021 9:59

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **17.96** | ft | 1 | 12/08/2021 9:59 | R303930 |
| Elevation of groundwater surface | * | 0 | | **445.98** | ft | 1 | 12/08/2021 9:59 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.4** | NTU | 1 | 12/08/2021 9:59 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-65** | mV | 1 | 12/08/2021 9:59 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **16.7** | °C | 1 | 12/08/2021 9:59 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.17** | mg/L | 1 | 12/08/2021 9:59 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.33** | | 1 | 12/08/2021 9:59 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1360** | µS/cm | 1 | 12/08/2021 9:59 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **598** | mg/L | 1 | 12/10/2021 11:15 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **104** | mg/L | 5 | 12/20/2021 21:35 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 12/10/2021 14:40 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **97** | mg/L | 5 | 12/14/2021 3:29 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **111** | mg/L | 1 | 12/15/2021 5:54 | 185107 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Arsenic | NELAP | 0.0010 | J | **0.0007** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Barium | NELAP | 0.0010 | | **0.0912** | mg/L | 5 | 12/15/2021 2:42 | 185107 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Boron | NELAP | 0.0250 | | **0.690** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Cadmium | NELAP | 0.0010 | | **0.0013** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Cobalt | NELAP | 0.0010 | | **0.0062** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Lead | NELAP | 0.0010 | J | **0.0006** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Lithium | * | 0.0030 | | **0.0206** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Molybdenum | NELAP | 0.0015 | | **0.0295** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 0:02 | 185107 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/01/2022 11:05 | 187268 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/10/2021 20:12 | 185834 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

**Lab ID:** 21110558-039 **Client Sample ID:** 51

**Matrix:** GROUNDWATER **Collection Date:** 12/09/2021 9:30

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.01** | ft | 1 | 12/09/2021 9:30 | R303930 |
| Elevation of groundwater surface | * | 0 | | **446.79** | ft | 1 | 12/09/2021 9:30 | R303930 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **33** | NTU | 1 | 12/09/2021 9:30 | R303930 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-142** | mV | 1 | 12/09/2021 9:30 | R303930 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **11.9** | °C | 1 | 12/09/2021 9:30 | R303930 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.06** | mg/L | 1 | 12/09/2021 9:30 | R303930 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.35** | | 1 | 12/09/2021 9:30 | R303930 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1390** | µS/cm | 1 | 12/09/2021 9:30 | R303930 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **584** | mg/L | 1 | 12/10/2021 11:16 | R303748 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **108** | mg/L | 5 | 12/20/2021 21:40 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.15** | mg/L | 1 | 12/10/2021 14:43 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **107** | mg/L | 5 | 12/14/2021 3:34 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **132** | mg/L | 1 | 12/13/2021 17:09 | 185850 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Arsenic | NELAP | 0.0010 | | **0.0197** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Barium | NELAP | 0.0010 | | **0.112** | mg/L | 5 | 12/15/2021 18:39 | 185850 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Boron | NELAP | 0.0250 | | **1.90** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Chromium | NELAP | 0.0015 | | **0.0016** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Cobalt | NELAP | 0.0010 | | **0.0011** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Lead | NELAP | 0.0010 | | **0.0018** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Lithium | * | 0.0030 | | **0.0251** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Molybdenum | NELAP | 0.0015 | | **0.0101** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 12/14/2021 12:36 | 185850 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/14/2021 16:21 | 185913 |

**Client:** Vistra Energy
**Work Order:** 21110558
**Client Project:** Hennepin Q4 Groundwater
**Report Date:** 04-Feb-22
**Lab ID:** 21110558-040
**Client Sample ID:** Field Blank
**Matrix:** GROUNDWATER
**Collection Date:** 12/09/2021 13:01

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | J | **16** | mg/L | 1 | 12/13/2021 15:25 | R303817 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 12/20/2021 21:42 | R304146 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 12/10/2021 14:45 | R303701 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **< 1** | mg/L | 1 | 12/14/2021 3:39 | R303819 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **< 0.100** | mg/L | 1 | 12/13/2021 17:11 | 185850 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Barium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/15/2021 18:47 | 185850 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Boron | NELAP | 0.025 | J | **0.011** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Cobalt | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Lithium | * | 0.0030 | | **< 0.0030** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Molybdenum | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 12/14/2021 12:45 | 185850 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 12/14/2021 16:24 | 185913 |

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

| Lab Sample ID | Client Sample ID | Matrix | Fractions | Collection Date |
|---|---|---|---|---|
| 21110558-021 | 21R | Groundwater | 4 | 12/09/2021 8:20 |
| 21110558-022 | 22 | Groundwater | 4 | 12/08/2021 8:51 |
| 21110558-023 | 22D | Groundwater | 4 | 12/08/2021 9:29 |
| 21110558-024 | 23 | Groundwater | 4 | 12/08/2021 15:12 |
| 21110558-025 | 25 | Groundwater | 1 | 12/07/2021 15:32 |
| 21110558-026 | 26 | Groundwater | 1 | 12/07/2021 15:33 |
| 21110558-027 | 27 | Groundwater | 4 | 12/08/2021 11:41 |
| 21110558-028 | 30 | Groundwater | 1 | 12/07/2021 13:48 |
| 21110558-029 | 31 | Groundwater | 1 | 12/07/2021 13:47 |
| 21110558-030 | 32 | Groundwater | 4 | 12/08/2021 10:46 |
| 21110558-031 | 33 | Groundwater | 1 | 12/07/2021 14:05 |
| 21110558-032 | 34 | Groundwater | 4 | 12/09/2021 8:47 |
| 21110558-033 | 35 | Groundwater | 4 | 12/08/2021 10:18 |
| 21110558-034 | 36 | Groundwater | 1 | 12/07/2021 13:37 |
| 21110558-037 | 49 | Groundwater | 4 | 12/08/2021 8:28 |
| 21110558-038 | 50 | Groundwater | 4 | 12/08/2021 9:59 |
| 21110558-039 | 51 | Groundwater | 4 | 12/09/2021 9:30 |
| 21110558-040 | Field Blank | Groundwater | 9 | 12/09/2021 13:01 |

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| 21110558-021A | 21R | 12/09/2021 8:20 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/09/2021 8:20 |
| | Standard Methods 2130 B Field | | | | 12/09/2021 8:20 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/09/2021 8:20 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 11:16 |
| | Standard Methods 2550 B Field | | | | 12/09/2021 8:20 |
| | Standard Methods 4500-O G Field | | | | 12/09/2021 8:20 |
| | SW-846 9036 (Total) | | | | 12/20/2021 20:25 |
| | SW-846 9040B | | | | 12/09/2021 8:20 |
| | SW-846 9050A | | | | 12/09/2021 8:20 |
| | SW-846 9214 (Total) | | | | 12/10/2021 13:51 |
| | SW-846 9251 (Total) | | | | 12/14/2021 2:16 |
| 21110558-021B | 21R | 12/09/2021 8:20 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/13/2021 23:45 |
| 21110558-021C | 21R | 12/09/2021 8:20 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 11:07 | 12/13/2021 16:51 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 11:07 | 12/14/2021 11:52 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 11:07 | 12/15/2021 18:03 |
| | SW-846 7470A (Total) | | | 12/13/2021 13:00 | 12/14/2021 16:01 |
| 21110558-021D | 21R | 12/09/2021 8:20 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 12:17 | 12/14/2021 17:41 |
| 21110558-022A | 22 | 12/08/2021 8:51 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/08/2021 8:51 |
| | Standard Methods 2130 B Field | | | | 12/08/2021 8:51 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/08/2021 8:51 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 10:58 |
| | Standard Methods 2550 B Field | | | | 12/08/2021 8:51 |
| | Standard Methods 4500-O G Field | | | | 12/08/2021 8:51 |
| | SW-846 9036 (Total) | | | | 12/20/2021 20:33 |
| | SW-846 9040B | | | | 12/08/2021 8:51 |
| | SW-846 9050A | | | | 12/08/2021 8:51 |
| | SW-846 9214 (Total) | | | | 12/10/2021 13:53 |
| | SW-846 9251 (Total) | | | | 12/14/2021 2:27 |
| 21110558-022B | 22 | 12/08/2021 8:51 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/20/2021 18:55 |
| 21110558-022C | 22 | 12/08/2021 8:51 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 7:22 | 12/15/2021 5:06 |

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/13/2021 22:22 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/15/2021 1:03 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 01/28/2022 13:15 | 01/31/2022 16:57 |
| | SW-846 7470A (Total) | | | 12/10/2021 7:39 | 12/10/2021 19:42 |
| 21110558-022D | 22 | 12/08/2021 8:51 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 7:11 | 12/16/2021 22:30 |
| 21110558-023A | 22D | 12/08/2021 9:29 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/08/2021 9:29 |
| | Standard Methods 2130 B Field | | | | 12/08/2021 9:29 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/08/2021 9:29 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 10:58 |
| | Standard Methods 2550 B Field | | | | 12/08/2021 9:29 |
| | Standard Methods 4500-O G Field | | | | 12/08/2021 9:29 |
| | SW-846 9036 (Total) | | | | 12/20/2021 20:39 |
| | SW-846 9040B | | | | 12/08/2021 9:29 |
| | SW-846 9050A | | | | 12/08/2021 9:29 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:14 |
| | SW-846 9251 (Total) | | | | 12/14/2021 2:30 |
| 21110558-023B | 22D | 12/08/2021 9:29 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 0:01 |
| 21110558-023C | 22D | 12/08/2021 9:29 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 7:22 | 12/15/2021 5:10 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/13/2021 23:01 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/15/2021 1:09 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 01/28/2022 13:15 | 01/31/2022 17:04 |
| | SW-846 7470A (Total) | | | 12/10/2021 7:39 | 12/10/2021 19:44 |
| 21110558-023D | 22D | 12/08/2021 9:29 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 7:11 | 12/16/2021 22:39 |
| 21110558-024A | 23 | 12/08/2021 15:12 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/08/2021 15:12 |
| | Standard Methods 2130 B Field | | | | 12/08/2021 15:12 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/08/2021 15:12 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 10:59 |
| | Standard Methods 2550 B Field | | | | 12/08/2021 15:12 |
| | Standard Methods 4500-O G Field | | | | 12/08/2021 15:12 |
| | SW-846 9036 (Total) | | | | 12/20/2021 20:46 |
| | SW-846 9040B | | | | 12/08/2021 15:12 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 9050A | | | | 12/08/2021 15:12 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:16 |
| | SW-846 9251 (Total) | | | | 12/14/2021 2:35 |
| 21110558-024B | 23 | 12/08/2021 15:12 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 0:03 |
| 21110558-024C | 23 | 12/08/2021 15:12 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 7:22 | 12/15/2021 5:14 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/13/2021 23:08 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/15/2021 1:15 |
| | SW-846 7470A (Total) | | | 12/10/2021 7:39 | 12/10/2021 19:47 |
| 21110558-024D | 23 | 12/08/2021 15:12 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 7:11 | 12/16/2021 23:05 |
| 21110558-025A | 25 | 12/07/2021 15:32 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/07/2021 15:32 |
| 21110558-026A | 26 | 12/07/2021 15:33 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/07/2021 15:33 |
| 21110558-027A | 27 | 12/08/2021 11:41 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/08/2021 11:41 |
| | Standard Methods 2130 B Field | | | | 12/08/2021 11:41 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/08/2021 11:41 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 10:59 |
| | Standard Methods 2550 B Field | | | | 12/08/2021 11:41 |
| | Standard Methods 4500-O G Field | | | | 12/08/2021 11:41 |
| | SW-846 9036 (Total) | | | | 12/20/2021 20:49 |
| | SW-846 9040B | | | | 12/08/2021 11:41 |
| | SW-846 9050A | | | | 12/08/2021 11:41 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:18 |
| | SW-846 9251 (Total) | | | | 12/14/2021 2:43 |
| 21110558-027B | 27 | 12/08/2021 11:41 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 0:09 |
| 21110558-027C | 27 | 12/08/2021 11:41 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 7:22 | 12/15/2021 5:17 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/13/2021 23:16 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/15/2021 1:21 |
| | SW-846 7470A (Total) | | | 12/10/2021 7:39 | 12/10/2021 19:49 |
| 21110558-027D | 27 | 12/08/2021 11:41 | 12/10/2021 8:23 | | |

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | Test Name | | | Prep Date/Time | Analysis Date/Time |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 7:11 | 12/16/2021 23:14 |
| 21110558-028A | 30 | 12/07/2021 13:48 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/07/2021 13:48 |
| 21110558-029A | 31 | 12/07/2021 13:47 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/07/2021 13:47 |
| 21110558-030A | 32 | 12/08/2021 10:46 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/08/2021 10:46 |
| | Standard Methods 2130 B Field | | | | 12/08/2021 10:46 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/08/2021 10:46 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 10:59 |
| | Standard Methods 2550 B Field | | | | 12/08/2021 10:46 |
| | Standard Methods 4500-O G Field | | | | 12/08/2021 10:46 |
| | SW-846 9036 (Total) | | | | 12/20/2021 21:10 |
| | SW-846 9040B | | | | 12/08/2021 10:46 |
| | SW-846 9050A | | | | 12/08/2021 10:46 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:20 |
| | SW-846 9251 (Total) | | | | 12/14/2021 2:51 |
| 21110558-030B | 32 | 12/08/2021 10:46 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 0:35 |
| 21110558-030C | 32 | 12/08/2021 10:46 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 7:22 | 12/15/2021 5:21 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/13/2021 23:24 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/15/2021 1:27 |
| | SW-846 7470A (Total) | | | 12/10/2021 7:39 | 12/10/2021 19:51 |
| 21110558-030D | 32 | 12/08/2021 10:46 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 7:11 | 12/17/2021 0:32 |
| 21110558-031A | 33 | 12/07/2021 14:05 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/07/2021 14:05 |
| 21110558-032A | 34 | 12/09/2021 8:47 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/09/2021 8:47 |
| | Standard Methods 2130 B Field | | | | 12/09/2021 8:47 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/09/2021 8:47 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 11:16 |
| | Standard Methods 2550 B Field | | | | 12/09/2021 8:47 |
| | Standard Methods 4500-O G Field | | | | 12/09/2021 8:47 |
| | SW-846 9036 (Total) | | | | 12/20/2021 21:16 |
| | SW-846 9040B | | | | 12/09/2021 8:47 |

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 9050A | | | | 12/09/2021 8:47 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:23 |
| | SW-846 9251 (Total) | | | | 12/14/2021 3:10 |
| 21110558-032B | 34 | 12/09/2021 8:47 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 0:38 |
| 21110558-032C | 34 | 12/09/2021 8:47 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 11:07 | 12/13/2021 17:06 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 11:07 | 12/14/2021 12:18 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 11:07 | 12/15/2021 18:25 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 01/28/2022 13:15 | 01/31/2022 17:12 |
| | SW-846 7470A (Total) | | | 12/13/2021 13:00 | 12/15/2021 10:39 |
| 21110558-032D | 34 | 12/09/2021 8:47 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 12:17 | 12/14/2021 17:48 |
| 21110558-033A | 35 | 12/08/2021 10:18 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/08/2021 10:18 |
| | Standard Methods 2130 B Field | | | | 12/08/2021 10:18 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/08/2021 10:18 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 11:00 |
| | Standard Methods 2550 B Field | | | | 12/08/2021 10:18 |
| | Standard Methods 4500-O G Field | | | | 12/08/2021 10:18 |
| | SW-846 9036 (Total) | | | | 12/20/2021 21:24 |
| | SW-846 9040B | | | | 12/08/2021 10:18 |
| | SW-846 9050A | | | | 12/08/2021 10:18 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:25 |
| | SW-846 9251 (Total) | | | | 12/14/2021 3:12 |
| 21110558-033B | 35 | 12/08/2021 10:18 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 0:43 |
| 21110558-033C | 35 | 12/08/2021 10:18 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 7:22 | 12/15/2021 5:32 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/13/2021 23:47 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/15/2021 2:29 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 01/28/2022 13:15 | 01/31/2022 17:19 |
| | SW-846 7470A (Total) | | | 12/10/2021 7:42 | 12/10/2021 20:07 |
| 21110558-033D | 35 | 12/08/2021 10:18 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 7:17 | 12/14/2021 23:30 |
| 21110558-034A | 36 | 12/07/2021 13:37 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/07/2021 13:37 |

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| 21110558-037A | 49 | 12/08/2021 8:28 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/08/2021 8:28 |
| | Standard Methods 2130 B Field | | | | 12/08/2021 8:28 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/08/2021 8:28 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 11:15 |
| | Standard Methods 2550 B Field | | | | 12/08/2021 8:28 |
| | Standard Methods 4500-O G Field | | | | 12/08/2021 8:28 |
| | SW-846 9036 (Total) | | | | 12/20/2021 21:32 |
| | SW-846 9040B | | | | 12/08/2021 8:28 |
| | SW-846 9050A | | | | 12/08/2021 8:28 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:30 |
| | SW-846 9251 (Total) | | | | 12/14/2021 3:26 |
| 21110558-037B | 49 | 12/08/2021 8:28 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 1:02 |
| 21110558-037C | 49 | 12/08/2021 8:28 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 7:22 | 12/15/2021 5:36 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/13/2021 23:54 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/15/2021 2:36 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 01/28/2022 13:17 | 01/31/2022 17:27 |
| | SW-846 7470A (Total) | | | 12/10/2021 7:42 | 12/10/2021 20:10 |
| 21110558-037D | 49 | 12/08/2021 8:28 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 7:17 | 12/14/2021 23:36 |
| 21110558-038A | 50 | 12/08/2021 9:59 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/08/2021 9:59 |
| | Standard Methods 2130 B Field | | | | 12/08/2021 9:59 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/08/2021 9:59 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 11:15 |
| | Standard Methods 2550 B Field | | | | 12/08/2021 9:59 |
| | Standard Methods 4500-O G Field | | | | 12/08/2021 9:59 |
| | SW-846 9036 (Total) | | | | 12/20/2021 21:35 |
| | SW-846 9040B | | | | 12/08/2021 9:59 |
| | SW-846 9050A | | | | 12/08/2021 9:59 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:40 |
| | SW-846 9251 (Total) | | | | 12/14/2021 3:29 |
| 21110558-038B | 50 | 12/08/2021 9:59 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 1:21 |
| 21110558-038C | 50 | 12/08/2021 9:59 | 12/10/2021 8:23 | | |

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 7:22 | 12/15/2021 5:54 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/14/2021 0:02 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 7:22 | 12/15/2021 2:42 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 01/28/2022 13:15 | 02/01/2022 11:05 |
| | SW-846 7470A (Total) | | | 12/10/2021 7:42 | 12/10/2021 20:12 |
| 21110558-038D | 50 | 12/08/2021 9:59 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 7:17 | 12/14/2021 23:43 |
| 21110558-039A | 51 | 12/09/2021 9:30 | 12/10/2021 8:23 | | |
| | Field Elevation Measurements | | | | 12/09/2021 9:30 |
| | Standard Methods 2130 B Field | | | | 12/09/2021 9:30 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 12/09/2021 9:30 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/10/2021 11:16 |
| | Standard Methods 2550 B Field | | | | 12/09/2021 9:30 |
| | Standard Methods 4500-O G Field | | | | 12/09/2021 9:30 |
| | SW-846 9036 (Total) | | | | 12/20/2021 21:40 |
| | SW-846 9040B | | | | 12/09/2021 9:30 |
| | SW-846 9050A | | | | 12/09/2021 9:30 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:43 |
| | SW-846 9251 (Total) | | | | 12/14/2021 3:34 |
| 21110558-039B | 51 | 12/09/2021 9:30 | 12/10/2021 8:23 | | |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 1:23 |
| 21110558-039C | 51 | 12/09/2021 9:30 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 11:07 | 12/13/2021 17:09 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 11:07 | 12/14/2021 12:36 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 11:07 | 12/15/2021 18:39 |
| | SW-846 7470A (Total) | | | 12/13/2021 13:00 | 12/14/2021 16:21 |
| 21110558-039D | 51 | 12/09/2021 9:30 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 12:17 | 12/14/2021 17:56 |
| 21110558-040A | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | Standard Methods 2320 B 1997, 2011 | | | | 12/10/2021 12:05 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 12/10/2021 12:05 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 12/13/2021 15:25 |
| | Standard Methods 4500-NO2 B (Total) 2000, 2011 | | | | 12/10/2021 19:54 |
| | Standard Methods 4500-NO3 F (Total) 2000, 2011 | | | | 12/14/2021 15:23 |
| | SW-846 9036 (Total) | | | | 12/20/2021 21:42 |
| | SW-846 9214 (Total) | | | | 12/10/2021 14:45 |
| | SW-846 9251 (Total) | | | | 12/14/2021 3:39 |

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| 21110558-040B | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | EPA 314.0 | | | | 12/16/2021 0:00 |
| 21110558-040C | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | SW-846 9036 (Dissolved) | | | | 12/20/2021 19:32 |
| | SW-846 9214 (Dissolved) | | | | 12/10/2021 13:24 |
| | SW-846 9251 (Dissolved) | | | | 12/14/2021 1:29 |
| 21110558-040D | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 12/10/2021 11:07 | 12/13/2021 17:11 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 11:07 | 12/14/2021 12:45 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 12/10/2021 11:07 | 12/15/2021 18:47 |
| | SW-846 7470A (Total) | | | 12/13/2021 13:00 | 12/14/2021 16:24 |
| 21110558-040E | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Dissolved) | | | 12/10/2021 12:17 | 12/10/2021 17:24 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/10/2021 12:17 | 12/16/2021 19:19 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/28/2021 7:38 | 12/29/2021 22:44 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 12/30/2021 9:36 | 12/30/2021 18:44 |
| | SW-846 7470A (Dissolved) | | | 12/13/2021 13:00 | 12/14/2021 16:26 |
| 21110558-040F | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | SW-846 9012A (Total) | | | 12/13/2021 16:17 | 12/15/2021 8:48 |
| 21110558-040G | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | SW-846 9066 (Total) | | | | 12/15/2021 8:24 |
| 21110558-040H | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | Standard Methods 4500-NH3 G (Total) 1997, 2011 | | | | 12/14/2021 17:37 |
| 21110558-040I | Field Blank | 12/09/2021 13:01 | 12/10/2021 8:23 | | |
| | SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS | | | | 12/11/2021 4:56 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9040B

**Batch** R303930 **SampType:** LCS Units

SampID: LCS-R303930

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| pH, Field | * | 1.00 | | **7.07** | 7.000 | 0 | 101.0 | 98.57 | 101.4 | 12/08/2021 |
| pH, Field | * | 1.00 | | **7.07** | 7.000 | 0 | 101.0 | 98.57 | 101.4 | 12/09/2021 |

## SW-846 9050A

**Batch** R303930 **SampType:** LCS Units **µS/cm**

SampID: LCS-R303930

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Spec. Conductance, Field | * | 1.00 | | **1430** | 1412 | 0 | 101.3 | 90 | 110 | 12/09/2021 |
| Spec. Conductance, Field | * | 1.00 | | **1480** | 1412 | 0 | 104.9 | 90 | 110 | 12/08/2021 |

## STANDARD METHODS 2320 B 1997, 2011

**Batch** R303691 **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** | | | | | | 12/10/2021 |

**Batch** R303691 **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 | | **234** | 231.0 | 0 | 101.3 | 90 | 110 | 12/10/2021 |

**Batch** R303691 **SampType:** DUP Units **mg/L** RPD Limit: **10**

SampID: 21110558-040ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (as CaCO3) | | 0 | | **1** | | | | 1.000 | 0.00 | 12/10/2021 |

## STANDARD METHODS 2540 C (TOTAL) 1997, 2011

**Batch** R303748 **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 | 12/10/2021 |
| Total Dissolved Solids | * | 20 | | **< 20** | 16.00 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Total Dissolved Solids | * | 20 | | **< 20** | 16.00 | 0 | 0 | -100 | 100 | 12/10/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## STANDARD METHODS 2540 C (TOTAL) 1997, 2011

**Batch** R303748 **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 | | **970** | 1000 | 0 | 97.0 | 90 | 110 | 12/10/2021 |
| Total Dissolved Solids | * | 20 | | **960** | 1000 | 0 | 96.0 | 90 | 110 | 12/10/2021 |
| Total Dissolved Solids | * | 20 | | **910** | 1000 | 0 | 91.0 | 90 | 110 | 12/10/2021 |

**Batch** R303748 **SampType:** DUP Units **mg/L** RPD Limit: **5**
SampID: 21110558-010ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | * | 20 | | **1100** | | | | 1092 | 0.55 | 12/10/2021 |

**Batch** R303748 **SampType:** DUP Units **mg/L** RPD Limit: **5**
SampID: 21110558-013ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | * | 20 | | **482** | | | | 468.0 | 2.95 | 12/10/2021 |

**Batch** R303748 **SampType:** DUP Units **mg/L** RPD Limit: **5**
SampID: 21110558-038ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | * | 20 | | **594** | | | | 598.0 | 0.67 | 12/10/2021 |

**Batch** R303817 **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 | J | **16** | 16.00 | 0 | 100.0 | -100 | 100 | 12/13/2021 |
| Total Dissolved Solids | * | 20 | | **< 20** | 16.00 | 0 | 0 | -100 | 100 | 12/13/2021 |

**Batch** R303817 **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 | | **960** | 1000 | 0 | 96.0 | 90 | 110 | 12/13/2021 |
| Total Dissolved Solids | * | 20 | | **936** | 1000 | 0 | 93.6 | 90 | 110 | 12/13/2021 |

**Batch** R303817 **SampType:** DUP Units **mg/L** RPD Limit: **5**
SampID: 21110558-005ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | * | 20 | | **502** | | | | 508.0 | 1.19 | 12/13/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** R303798 **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 | 12/14/2021 |

**Batch** R303798 **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 | | **1.00** | 1.000 | 0 | 100.3 | 90 | 110 | 12/14/2021 |

**Batch** R303798 **SampType:** MS Units **mg/L**
SampID: 21110558-010HMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (as N) | | 0.10 | | **4.56** | 2.000 | 2.613 | 97.4 | 90 | 110 | 12/14/2021 |

**Batch** R303798 **SampType:** MSD Units **mg/L** RPD Limit: **10**
SampID: 21110558-010HMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (as N) | | 0.10 | | **4.55** | 2.000 | 2.613 | 97.0 | 4.560 | 0.18 | 12/14/2021 |

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

**Batch** R303584 **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 | 12/08/2021 |

**Batch** R303584 **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 | | **1.50** | 1.460 | 0 | 103.1 | 90 | 110 | 12/08/2021 |

**Batch** R303584 **SampType:** MS Units **mg/L**
SampID: 21110558-001AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite (as N) | | 0.05 | | **0.55** | 0.5000 | 0.01500 | 107.4 | 85 | 115 | 12/09/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** R303584 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21110558-001AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite (as N) | | 0.05 | | **0.58** | 0.5000 | 0.01500 | 112.2 | 0.5520 | 4.26 | 12/09/2021 |

**Batch** R303584 **SampType:** MS Units **mg/L**

SampID: 21110558-007AMS

| 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 | 107.6 | 85 | 115 | 12/09/2021 |

**Batch** R303584 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21110558-007AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite (as N) | | 0.05 | SR | **0.64** | 0.5000 | 0 | 128.0 | 0.5380 | 17.32 | 12/09/2021 |

**Batch** R303709 **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 | 12/10/2021 |

**Batch** R303709 **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 | | **1.60** | 1.460 | 0 | 109.9 | 90 | 110 | 12/10/2021 |

**Batch** R303709 **SampType:** MS Units **mg/L**

SampID: 21110558-002AMS

| 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 | 107.6 | 85 | 115 | 12/10/2021 |

**Batch** R303709 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21110558-002AMSD

| 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 | 109.8 | 0.5380 | 2.02 | 12/10/2021 |

**Batch** R303709 **SampType:** MS Units **mg/L**

SampID: 21110558-003AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite (as N) | | 0.05 | | **0.55** | 0.5000 | 0 | 109.4 | 85 | 115 | 12/10/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** R303709 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21110558-003AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite (as N) | | 0.05 | | **0.54** | 0.5000 | 0 | 108.4 | 0.5470 | 0.92 | 12/10/2021 |

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

**Batch** R303666 **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 | 12/09/2021 |

**Batch** R303666 **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 | | **0.485** | 0.5000 | 0 | 97.1 | 90 | 110 | 12/09/2021 |

**Batch** R303666 **SampType:** MS Units **mg/L**

SampID: 21110558-001AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate-Nitrite (as N) | | 0.500 | E | **10.8** | 2.500 | 8.311 | 100.1 | 85 | 115 | 12/09/2021 |

**Batch** R303666 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21110558-001AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate-Nitrite (as N) | | 0.500 | E | **10.8** | 2.500 | 8.311 | 99.5 | 10.81 | 0.14 | 12/09/2021 |

**Batch** R303666 **SampType:** MS Units **mg/L**

SampID: 21110558-008AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate-Nitrite (as N) | | 0.500 | | **8.13** | 2.500 | 5.997 | 85.4 | 85 | 115 | 12/09/2021 |

**Batch** R303666 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21110558-008AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate-Nitrite (as N) | | 0.500 | | **8.39** | 2.500 | 5.997 | 95.7 | 8.131 | 3.13 | 12/09/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** R303839 **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 | 12/14/2021 |

**Batch** R303839 **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 | | **0.505** | 0.5000 | 0 | 100.9 | 90 | 110 | 12/14/2021 |

**Batch** R303888 **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 | 12/10/2021 |

**Batch** R303888 **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 | | **0.483** | 0.5000 | 0 | 96.6 | 90 | 110 | 12/10/2021 |

**Batch** R303977 **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 | 12/16/2021 |

**Batch** R303977 **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 | | **0.544** | 0.5000 | 0 | 108.8 | 90 | 110 | 12/16/2021 |

**Batch** R303977 **SampType:** MS Units **mg/L**
SampID: 21110558-004AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate-Nitrite (as N) | | 0.500 | H | **6.78** | 2.500 | 4.098 | 107.2 | 85 | 115 | 12/16/2021 |

**Batch** R303977 **SampType:** MSD Units **mg/L** RPD Limit: **10**
SampID: 21110558-004AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate-Nitrite (as N) | | 0.500 | H | **6.69** | 2.500 | 4.098 | 103.6 | 6.779 | 1.34 | 12/16/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** R304101 **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 | 12/17/2021 |

**Batch** R304101 **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 | | **0.503** | 0.5000 | 0 | 100.7 | 90 | 110 | 12/17/2021 |

**Batch** R304101 **SampType:** MS Units **mg/L**
SampID: 21110558-002AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate-Nitrite (as N) | | 0.500 | SH | **5.03** | 2.500 | 2.108 | 116.9 | 85 | 115 | 12/17/2021 |

**Batch** R304101 **SampType:** MSD Units **mg/L** RPD Limit: **10**
SampID: 21110558-002AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate-Nitrite (as N) | | 0.500 | SH | **5.06** | 2.500 | 2.108 | 118.1 | 5.029 | 0.62 | 12/17/2021 |

## SW-846 9012A (TOTAL)

**Batch** 185864 **SampType:** MBLK Units **mg/L**
SampID: MBLK 211210 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 | 12/13/2021 |

**Batch** 185864 **SampType:** LCS Units **mg/L**
SampID: LCS 211210 TCN1

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | | **0.025** | 0.0250 | 0 | 100.0 | 90 | 110 | 12/13/2021 |

**Batch** 185864 **SampType:** MS Units **mg/L**
SampID: 21110558-001EMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | | **0.033** | 0.0250 | 0.007410 | 101.0 | 75 | 125 | 12/13/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9012A (TOTAL)

**Batch** 185864 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 21110558-001EMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | | **0.031** | 0.0250 | 0.007410 | 94.8 | 0.03266 | 4.86 | 12/13/2021 |

**Batch** 185865 **SampType:** MBLK Units **mg/L**

SampID: MBLK 211210 TCN2

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | JS | **0.005** | 0.0015 | 0 | 315.3 | -100 | 100 | 12/13/2021 |

**Batch** 185865 **SampType:** LCS Units **mg/L**

SampID: LCS 211210 TCN2

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | B | **0.025** | 0.0250 | 0 | 101.5 | 85 | 115 | 12/13/2021 |

**Batch** 185865 **SampType:** MS Units **mg/L**

SampID: 21110558-013DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | B | **0.025** | 0.0250 | 0 | 99.3 | 75 | 125 | 12/13/2021 |

**Batch** 185865 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 21110558-013DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | B | **0.025** | 0.0250 | 0 | 100.9 | 0.02482 | 1.68 | 12/13/2021 |

**Batch** 185915 **SampType:** MBLK Units **mg/L**

SampID: MBLK 211213 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 | 12/14/2021 |

**Batch** 185915 **SampType:** LCS Units **mg/L**

SampID: LCS 211213 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 | 108.2 | 90 | 110 | 12/14/2021 |

**Batch** 185915 **SampType:** MS Units **mg/L**

SampID: 21110558-018FMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | | **0.029** | 0.0250 | 0 | 114.5 | 75 | 125 | 12/14/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9012A (TOTAL)

**Batch** 185915 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 21110558-018FMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide | | 0.005 | | **0.028** | 0.0250 | 0 | 111.0 | 0.02862 | 3.09 | 12/14/2021 |

## SW-846 9036 (DISSOLVED)

**Batch** R304146 **SampType:** MBLK Units **mg/L**

SampID: MB-R304146

| 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 | 12/20/2021 |

**Batch** R304146 **SampType:** LCS Units **mg/L**

SampID: LCS-R304146

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 10 | | **20** | 20.00 | 0 | 101.2 | 90 | 110 | 12/20/2021 |

**Batch** R304146 **SampType:** MS Units **mg/L**

SampID: 21110558-003BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **181** | 100.0 | 78.86 | 101.9 | 85 | 115 | 12/20/2021 |

**Batch** R304146 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21110558-003BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **176** | 100.0 | 78.86 | 97.6 | 180.8 | 2.38 | 12/20/2021 |

**Batch** R304146 **SampType:** MS Units **mg/L**

SampID: 21110558-005BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **181** | 100.0 | 78.41 | 103.0 | 85 | 115 | 12/20/2021 |

**Batch** R304146 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 21110558-005BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **176** | 100.0 | 78.41 | 97.1 | 181.4 | 3.29 | 12/20/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9036 (DISSOLVED)

**Batch** R304146 **SampType:** MS Units **mg/L**
SampID: 21110558-013BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **201** | 100.0 | 93.33 | 107.3 | 85 | 115 | 12/20/2021 |

**Batch** R304146 **SampType:** MSD Units **mg/L** RPD Limit: **10**
SampID: 21110558-013BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **190** | 100.0 | 93.33 | 97.0 | 200.7 | 5.28 | 12/20/2021 |

**Batch** R304146 **SampType:** MS Units **mg/L**
SampID: 21110558-017CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **195** | 100.0 | 94.24 | 101.2 | 85 | 115 | 12/20/2021 |

**Batch** R304146 **SampType:** MSD Units **mg/L** RPD Limit: **10**
SampID: 21110558-017CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **200** | 100.0 | 94.24 | 106.1 | 195.4 | 2.50 | 12/20/2021 |

**Batch** R304146 **SampType:** MS Units **mg/L**
SampID: 21110558-022BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **227** | 100.0 | 134.5 | 92.6 | 85 | 115 | 12/20/2021 |

**Batch** R304146 **SampType:** MSD Units **mg/L** RPD Limit: **10**
SampID: 21110558-022BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **246** | 100.0 | 134.5 | 111.2 | 227.1 | 7.89 | 12/20/2021 |

**Batch** R304146 **SampType:** MS Units **mg/L**
SampID: 21110558-035BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **186** | 100.0 | 84.97 | 101.4 | 85 | 115 | 12/20/2021 |

**Batch** R304146 **SampType:** MSD Units **mg/L** RPD Limit: **10**
SampID: 21110558-035BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **190** | 100.0 | 84.97 | 105.4 | 186.3 | 2.17 | 12/20/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9036 (TOTAL)

**Batch** R304146 **SampType:** MBLK Units **mg/L**
SampID: MBLK/CCB

| 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 | 12/20/2021 |

**Batch** R304146 **SampType:** LCS Units **mg/L**
SampID: LCS/CCV

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 10 | | **20** | 20.00 | 0 | 101.2 | 90 | 110 | 12/20/2021 |

**Batch** R304396 **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 | 12/29/2021 |

**Batch** R304396 **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 | 103.4 | 90 | 110 | 12/29/2021 |

## SW-846 9066 (TOTAL)

**Batch** R303794 **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 | 12/14/2021 |

**Batch** R303794 **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 | | **0.051** | 0.0500 | 0 | 101.3 | 90 | 110 | 12/14/2021 |

**Batch** R303898 **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 | 12/15/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9066 (TOTAL)

**Batch** R303898 **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 | | **0.047** | 0.0500 | 0 | 94.1 | 90 | 110 | 12/15/2021 |

**Batch** R303898 **SampType:** MS Units **µg/L**
SampID: 21110558-012EMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Phenols | | 5 | | **54** | 50.00 | 3.690 | 101.4 | 85 | 115 | 12/15/2021 |

**Batch** R303898 **SampType:** MSD Units **µg/L** RPD Limit: **15**
SampID: 21110558-012EMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Phenols | | 5 | | **55** | 50.00 | 3.690 | 102.5 | 54.40 | 0.99 | 12/15/2021 |

## SW-846 9214 (DISSOLVED)

**Batch** R303701 **SampType:** MS Units **mg/L**
SampID: 21110558-008CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.25** | 2.000 | 0.1060 | 107.4 | 75 | 125 | 12/10/2021 |

**Batch** R303701 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-008CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.26** | 2.000 | 0.1060 | 107.7 | 2.254 | 0.27 | 12/10/2021 |

**Batch** R303701 **SampType:** MS Units **mg/L**
SampID: 21110558-016BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.51** | 2.000 | 0.3060 | 110.4 | 75 | 125 | 12/10/2021 |

**Batch** R303701 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-016BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.42** | 2.000 | 0.3060 | 105.5 | 2.513 | 3.94 | 12/10/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9214 (TOTAL)

**Batch** R303701 **SampType:** MBLK Units **mg/L**
SampID: MBLK

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **< 0.10** | 0.0370 | 0 | 0 | -100 | 100 | 12/10/2021 |

**Batch** R303701 **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 | | **1.08** | 1.000 | 0 | 108.1 | 90 | 110 | 12/10/2021 |

**Batch** R303701 **SampType:** MS Units **mg/L**
SampID: 21110558-002AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.42** | 2.000 | 0.2900 | 106.5 | 75 | 125 | 12/10/2021 |

**Batch** R303701 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-002AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.43** | 2.000 | 0.2900 | 107.0 | 2.420 | 0.45 | 12/10/2021 |

**Batch** R303701 **SampType:** MS Units **mg/L**
SampID: 21110558-022AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.27** | 2.000 | 0.1660 | 105.3 | 75 | 125 | 12/10/2021 |

**Batch** R303701 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-022AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.28** | 2.000 | 0.1660 | 105.7 | 2.272 | 0.35 | 12/10/2021 |

**Batch** R303701 **SampType:** MS Units **mg/L**
SampID: 21110558-037AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.28** | 2.000 | 0.1680 | 105.5 | 75 | 125 | 12/10/2021 |

**Batch** R303701 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-037AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.28** | 2.000 | 0.1680 | 105.6 | 2.278 | 0.04 | 12/10/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9251 (DISSOLVED)

**Batch** R303819 **SampType:** MS Units **mg/L**
SampID: 21110558-003BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **168** | 100.0 | 71.06 | 96.6 | 85 | 115 | 12/13/2021 |

**Batch** R303819 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-003BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **169** | 100.0 | 71.06 | 98.2 | 167.6 | 0.97 | 12/13/2021 |

**Batch** R303819 **SampType:** MS Units **mg/L**
SampID: 21110558-005BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **177** | 100.0 | 81.17 | 95.8 | 85 | 115 | 12/13/2021 |

**Batch** R303819 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-005BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **178** | 100.0 | 81.17 | 97.1 | 177.0 | 0.72 | 12/13/2021 |

**Batch** R303819 **SampType:** MS Units **mg/L**
SampID: 21110558-013BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **187** | 100.0 | 84.95 | 102.4 | 85 | 115 | 12/13/2021 |

**Batch** R303819 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-013BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **184** | 100.0 | 84.95 | 99.2 | 187.3 | 1.70 | 12/13/2021 |

**Batch** R303819 **SampType:** MS Units **mg/L**
SampID: 21110558-017CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **180** | 100.0 | 81.02 | 99.4 | 85 | 115 | 12/13/2021 |

**Batch** R303819 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-017CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **183** | 100.0 | 81.02 | 102.3 | 180.4 | 1.60 | 12/13/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9251 (DISSOLVED)

**Batch** R303819 **SampType:** MS Units **mg/L**
SampID: 21110558-027BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **200** | 100.0 | 110.6 | 89.5 | 85 | 115 | 12/14/2021 |

**Batch** R303819 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-027BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **203** | 100.0 | 110.6 | 92.0 | 200.2 | 1.22 | 12/14/2021 |

**Batch** R303819 **SampType:** MS Units **mg/L**
SampID: 21110558-035BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **177** | 100.0 | 77.26 | 99.4 | 85 | 115 | 12/14/2021 |

**Batch** R303819 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-035BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **177** | 100.0 | 77.26 | 99.3 | 176.7 | 0.09 | 12/14/2021 |

**Batch** R304147 **SampType:** MS Units **mg/L**
SampID: 21110558-022BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **189** | 100.0 | 97.74 | 91.6 | 85 | 115 | 12/20/2021 |

**Batch** R304147 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-022BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 5 | | **195** | 100.0 | 97.74 | 97.4 | 189.3 | 3.04 | 12/20/2021 |

## SW-846 9251 (TOTAL)

**Batch** R303819 **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 | 12/13/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 9251 (TOTAL)

**Batch** R303819 **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 | 103.3 | 90 | 110 | 12/13/2021 |

**Batch** R304147 **SampType:** MBLK Units **mg/L**
SampID: MBLK/CCB

| 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 | 12/20/2021 |

**Batch** R304147 **SampType:** LCS Units **mg/L**
SampID: LCS/CCV

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | * | 1 | | **21** | 20.00 | 0 | 103.3 | 90 | 110 | 12/20/2021 |

**Batch** R304397 **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 | 12/29/2021 |

**Batch** R304397 **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 | 102.2 | 90 | 110 | 12/29/2021 |

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

**Batch** 185829 **SampType:** MBLK Units **mg/L**
SampID: MBLK-185829

| 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 | 12/10/2021 |
| Magnesium | | 0.0500 | | **< 0.0500** | 0.0055 | 0 | 0 | -100 | 100 | 12/10/2021 |

**Batch** 185829 **SampType:** LCS Units **mg/L**
SampID: LCS-185829

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **2.30** | 2.500 | 0 | 92.0 | 85 | 115 | 12/10/2021 |
| Magnesium | | 0.0500 | | **2.43** | 2.500 | 0 | 97.2 | 85 | 115 | 12/10/2021 |

**Client:** Vistra Energy

**Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater

**Report Date:** 04-Feb-22

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

**Batch** 185858 **SampType:** MBLK Units **mg/L**

SampID: MBLK-185858

| 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 | 12/10/2021 |
| Antimony | | 0.0500 | | **< 0.0500** | 0.0068 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Arsenic | | 0.0250 | | **< 0.0250** | 0.0087 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Barium | | 0.0025 | | **< 0.0025** | 0.0007 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Beryllium | | 0.0005 | | **< 0.0005** | 0.0002 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Boron | | 0.0200 | | **< 0.0200** | 0.0090 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Cadmium | | 0.0020 | | **< 0.0020** | 0.0005 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Calcium | | 0.100 | | **< 0.100** | 0.0350 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Chromium | | 0.0050 | | **< 0.0050** | 0.0028 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Cobalt | | 0.0050 | | **< 0.0050** | 0.0020 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Iron | | 0.0400 | | **< 0.0400** | 0.0200 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Lead | | 0.0150 | | **< 0.0150** | 0.0014 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Magnesium | | 0.0500 | | **< 0.0500** | 0.0055 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Manganese | | 0.0070 | | **< 0.0070** | 0.0025 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Molybdenum | | 0.0100 | | **< 0.0100** | 0.0037 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Nickel | | 0.0050 | | **< 0.0050** | 0.0016 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Selenium | | 0.0400 | | **< 0.0400** | 0.0170 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Silver | | 0.0070 | | **< 0.0070** | 0.0027 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Thallium | | 0.0500 | | **< 0.0500** | 0.0111 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Vanadium | | 0.0100 | | **< 0.0100** | 0.0009 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Zinc | | 0.0100 | | **< 0.0100** | 0.0050 | 0 | 0 | -100 | 100 | 12/10/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185858 **SampType:** LCS Units **mg/L**

SampID: LCS-185858

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **1.79** | 2.000 | 0 | 89.4 | 85 | 115 | 12/10/2021 |
| Antimony | | 0.0500 | S | **0.419** | 0.5000 | 0 | 83.9 | 85 | 115 | 12/10/2021 |
| Arsenic | | 0.0250 | | **0.465** | 0.5000 | 0 | 93.0 | 85 | 115 | 12/10/2021 |
| Barium | | 0.0025 | | **1.80** | 2.000 | 0 | 90.0 | 85 | 115 | 12/10/2021 |
| Beryllium | | 0.0005 | | **0.0444** | 0.0500 | 0 | 88.8 | 85 | 115 | 12/10/2021 |
| Boron | | 0.0200 | | **0.451** | 0.5000 | 0 | 90.1 | 85 | 115 | 12/10/2021 |
| Cadmium | | 0.0020 | | **0.0435** | 0.0500 | 0 | 87.0 | 85 | 115 | 12/10/2021 |
| Calcium | | 0.100 | | **2.22** | 2.500 | 0 | 88.6 | 85 | 115 | 12/10/2021 |
| Chromium | | 0.0050 | | **0.173** | 0.2000 | 0 | 86.5 | 85 | 115 | 12/10/2021 |
| Cobalt | | 0.0050 | | **0.444** | 0.5000 | 0 | 88.8 | 85 | 115 | 12/10/2021 |
| Iron | | 0.0400 | | **1.70** | 2.000 | 0 | 85.2 | 85 | 115 | 12/10/2021 |
| Lead | | 0.0150 | | **0.432** | 0.5000 | 0 | 86.5 | 85 | 115 | 12/10/2021 |
| Magnesium | | 0.0500 | | **2.33** | 2.500 | 0 | 93.3 | 85 | 115 | 12/10/2021 |
| Manganese | | 0.0070 | | **0.434** | 0.5000 | 0 | 86.8 | 85 | 115 | 12/10/2021 |
| Molybdenum | | 0.0100 | | **0.440** | 0.5000 | 0 | 88.0 | 85 | 115 | 12/10/2021 |
| Nickel | | 0.0050 | | **0.437** | 0.5000 | 0 | 87.4 | 85 | 115 | 12/10/2021 |
| Selenium | | 0.0400 | | **0.446** | 0.5000 | 0 | 89.1 | 85 | 115 | 12/10/2021 |
| Silver | | 0.0070 | | **0.0455** | 0.0500 | 0 | 91.0 | 85 | 115 | 12/10/2021 |
| Thallium | | 0.0500 | | **0.234** | 0.2500 | 0 | 93.5 | 85 | 115 | 12/10/2021 |
| Vanadium | | 0.0100 | | **0.436** | 0.5000 | 0 | 87.2 | 85 | 115 | 12/10/2021 |
| Zinc | | 0.0100 | | **0.436** | 0.5000 | 0 | 87.2 | 85 | 115 | 12/10/2021 |

**Batch** 185858 **SampType:** MS Units **mg/L**

SampID: 21110558-005CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **77.9** | 2.500 | 77.71 | 6.0 | 75 | 125 | 12/10/2021 |
| Magnesium | | 0.0500 | S | **29.3** | 2.500 | 27.70 | 64.0 | 75 | 125 | 12/10/2021 |

**Batch** 185858 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-005CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **79.6** | 2.500 | 77.71 | 74.4 | 77.86 | 2.17 | 12/10/2021 |
| Magnesium | | 0.0500 | | **29.8** | 2.500 | 27.70 | 82.0 | 29.30 | 1.52 | 12/10/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185107 **SampType:** MBLK Units **mg/L**

SampID: MBLK-185107

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0500 | | **< 0.0500** | 0.0068 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Arsenic | | 0.0250 | | **< 0.0250** | 0.0087 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Barium | | 0.0025 | | **< 0.0025** | 0.0007 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Beryllium | | 0.0005 | | **< 0.0005** | 0.0002 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Boron | | 0.0200 | | **< 0.0200** | 0.0090 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Cadmium | | 0.0020 | | **< 0.0020** | 0.0005 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Calcium | | 0.100 | | **< 0.100** | 0.0350 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Chromium | | 0.0050 | | **< 0.0050** | 0.0028 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Cobalt | | 0.0050 | | **< 0.0050** | 0.0020 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Lead | | 0.0150 | | **< 0.0150** | 0.0040 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Molybdenum | | 0.0100 | | **< 0.0100** | 0.0037 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Selenium | | 0.0400 | | **< 0.0400** | 0.0170 | 0 | 0 | -100 | 100 | 12/10/2021 |
| Thallium | | 0.0500 | | **< 0.0500** | 0.0111 | 0 | 0 | -100 | 100 | 12/10/2021 |

**Batch** 185107 **SampType:** LCS Units **mg/L**

SampID: LCS-185107

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0500 | | **0.473** | 0.5000 | 0 | 94.6 | 85 | 115 | 12/10/2021 |
| Arsenic | | 0.0250 | | **0.511** | 0.5000 | 0 | 102.1 | 85 | 115 | 12/10/2021 |
| Barium | | 0.0025 | | **1.97** | 2.000 | 0 | 98.7 | 85 | 115 | 12/10/2021 |
| Beryllium | | 0.0005 | | **0.0481** | 0.0500 | 0 | 96.2 | 85 | 115 | 12/10/2021 |
| Boron | | 0.0200 | | **0.491** | 0.5000 | 0 | 98.2 | 85 | 115 | 12/10/2021 |
| Cadmium | | 0.0020 | | **0.0470** | 0.0500 | 0 | 94.0 | 85 | 115 | 12/10/2021 |
| Calcium | | 0.100 | | **2.39** | 2.500 | 0 | 95.8 | 85 | 115 | 12/10/2021 |
| Chromium | | 0.0050 | | **0.187** | 0.2000 | 0 | 93.4 | 85 | 115 | 12/10/2021 |
| Cobalt | | 0.0050 | | **0.484** | 0.5000 | 0 | 96.8 | 85 | 115 | 12/10/2021 |
| Lead | | 0.0150 | | **0.461** | 0.5000 | 0 | 92.2 | 85 | 115 | 12/10/2021 |
| Molybdenum | | 0.0100 | | **0.483** | 0.5000 | 0 | 96.5 | 85 | 115 | 12/10/2021 |
| Selenium | | 0.0400 | | **0.488** | 0.5000 | 0 | 97.7 | 85 | 115 | 12/10/2021 |
| Thallium | | 0.0500 | | **0.261** | 0.2500 | 0 | 104.4 | 85 | 115 | 12/10/2021 |

**Batch** 185107 **SampType:** MS Units **mg/L**

SampID: 21110558-010DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **208** | 2.500 | 211.8 | -172.0 | 75 | 125 | 12/16/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185107 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-010DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **208** | 2.500 | 211.8 | -132.0 | 207.5 | 0.48 | 12/16/2021 |

**Batch** 185107 **SampType:** MS Units **mg/L**

SampID: 21110558-030CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **105** | 2.500 | 100.6 | 160.0 | 75 | 125 | 12/15/2021 |

**Batch** 185107 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-030CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **108** | 2.500 | 100.6 | 280.0 | 104.6 | 2.83 | 12/15/2021 |

**Batch** 185850 **SampType:** MBLK Units **mg/L**

SampID: MBLK-185850

| 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 | 12/13/2021 |
| Calcium | | 0.100 | | **< 0.100** | 0.0350 | 0 | 0 | -100 | 100 | 12/15/2021 |

**Batch** 185850 **SampType:** LCS Units **mg/L**

SampID: LCS-185850

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **2.71** | 2.500 | 0 | 108.3 | 85 | 115 | 12/13/2021 |
| Calcium | | 0.100 | | **2.50** | 2.500 | 0 | 100.0 | 85 | 115 | 12/15/2021 |

**Batch** 185850 **SampType:** MS Units **mg/L**

SampID: 21110558-021CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **157** | 2.500 | 154.1 | 120.0 | 75 | 125 | 12/13/2021 |

**Batch** 185850 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-021CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **160** | 2.500 | 154.1 | 251.6 | 157.1 | 2.07 | 12/13/2021 |

**Client:** Vistra Energy

**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558

**Report Date:** 04-Feb-22

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

**Batch** 185829 **SampType:** MBLK Units **mg/L**

SampID: MBLK-185829

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **< 0.0250** | 0.0125 | 0 | 0 | -100 | 100 | 12/21/2021 |
| Antimony | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Arsenic | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Barium | | 0.0010 | | **< 0.0010** | 0.0007 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Beryllium | | 0.0010 | | **< 0.0010** | 0.0002 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Boron | | 0.0250 | | **< 0.0250** | 0.0093 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Cadmium | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Chromium | | 0.0015 | | **< 0.0015** | 0.0007 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Cobalt | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Copper | | 0.0010 | | **< 0.0010** | 0.0003 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Iron | | 0.0250 | | **< 0.0250** | 0.0115 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Lead | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Manganese | | 0.0020 | | **< 0.0020** | 0.0008 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Molybdenum | | 0.0015 | | **< 0.0015** | 0.0006 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Nickel | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Selenium | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Selenium | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Silver | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Thallium | | 0.0020 | | **< 0.0020** | 0.0010 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Zinc | | 0.0150 | | **< 0.0150** | 0.0059 | 0 | 0 | -100 | 100 | 12/16/2021 |

**Client:** Vistra Energy

**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558

**Report Date:** 04-Feb-22

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

**Batch** 185829 **SampType:** LCS Units **mg/L**

SampID: LCS-185829

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **2.25** | 2.000 | 0 | 112.4 | 80 | 120 | 12/16/2021 |
| Antimony | | 0.0010 | | **0.552** | 0.5000 | 0 | 110.4 | 80 | 120 | 12/16/2021 |
| Arsenic | | 0.0010 | | **0.558** | 0.5000 | 0 | 111.6 | 80 | 120 | 12/16/2021 |
| Barium | | 0.0010 | | **2.22** | 2.000 | 0 | 110.9 | 80 | 120 | 12/16/2021 |
| Beryllium | | 0.0010 | | **0.0529** | 0.0500 | 0 | 105.9 | 80 | 120 | 12/16/2021 |
| Boron | | 0.0250 | | **0.534** | 0.5000 | 0 | 106.8 | 80 | 120 | 12/16/2021 |
| Cadmium | | 0.0010 | | **0.0541** | 0.0500 | 0 | 108.3 | 80 | 120 | 12/16/2021 |
| Chromium | | 0.0015 | | **0.213** | 0.2000 | 0 | 106.6 | 80 | 120 | 12/16/2021 |
| Cobalt | | 0.0010 | | **0.530** | 0.5000 | 0 | 106.1 | 80 | 120 | 12/16/2021 |
| Copper | | 0.0010 | | **0.276** | 0.2500 | 0 | 110.5 | 80 | 120 | 12/16/2021 |
| Iron | | 0.0250 | | **2.20** | 2.000 | 0 | 109.9 | 80 | 120 | 12/16/2021 |
| Lead | | 0.0010 | | **0.541** | 0.5000 | 0 | 108.2 | 80 | 120 | 12/16/2021 |
| Manganese | | 0.0020 | | **0.537** | 0.5000 | 0 | 107.4 | 80 | 120 | 12/16/2021 |
| Molybdenum | | 0.0015 | | **0.529** | 0.5000 | 0 | 105.7 | 80 | 120 | 12/16/2021 |
| Nickel | | 0.0010 | | **0.535** | 0.5000 | 0 | 107.0 | 80 | 120 | 12/16/2021 |
| Selenium | | 0.0010 | | **0.539** | 0.5000 | 0 | 107.9 | 80 | 120 | 12/16/2021 |
| Selenium | | 0.0010 | | **0.505** | 0.5000 | 0 | 101.1 | 80 | 120 | 12/14/2021 |
| Silver | | 0.0010 | | **0.0547** | 0.0500 | 0 | 109.4 | 80 | 120 | 12/16/2021 |
| Thallium | | 0.0020 | | **0.265** | 0.2500 | 0 | 106.2 | 80 | 120 | 12/16/2021 |
| Zinc | | 0.0150 | | **0.529** | 0.5000 | 0 | 105.8 | 80 | 120 | 12/16/2021 |

**Client:** Vistra Energy

**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558

**Report Date:** 04-Feb-22

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

**Batch** 185829 **SampType:** MS Units **mg/L**

SampID: 21110558-007EMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.476** | 0.5000 | 0 | 95.2 | 75 | 125 | 12/16/2021 |
| Arsenic | | 0.0010 | | **0.495** | 0.5000 | 0 | 99.0 | 75 | 125 | 12/16/2021 |
| Barium | | 0.0010 | | **2.03** | 2.000 | 0.1030 | 96.4 | 75 | 125 | 12/16/2021 |
| Beryllium | | 0.0010 | | **0.0483** | 0.0500 | 0 | 96.7 | 75 | 125 | 12/16/2021 |
| Boron | | 0.0250 | | **0.538** | 0.5000 | 0.06177 | 95.2 | 75 | 125 | 12/16/2021 |
| Cadmium | | 0.0010 | | **0.0470** | 0.0500 | 0 | 94.1 | 75 | 125 | 12/16/2021 |
| Chromium | | 0.0015 | | **0.185** | 0.2000 | 0 | 92.4 | 75 | 125 | 12/16/2021 |
| Cobalt | | 0.0010 | | **0.461** | 0.5000 | 0.004384 | 91.3 | 75 | 125 | 12/16/2021 |
| Copper | | 0.0010 | | **0.242** | 0.2500 | 0.007731 | 93.8 | 75 | 125 | 12/16/2021 |
| Iron | | 0.0250 | | **1.94** | 2.000 | 0 | 96.8 | 75 | 125 | 12/16/2021 |
| Lead | | 0.0010 | | **0.480** | 0.5000 | 0 | 95.9 | 75 | 125 | 12/16/2021 |
| Manganese | | 0.0020 | | **0.464** | 0.5000 | 0 | 92.9 | 75 | 125 | 12/16/2021 |
| Nickel | | 0.0010 | | **0.459** | 0.5000 | 0.005657 | 90.7 | 75 | 125 | 12/16/2021 |
| Selenium | | 0.0010 | | **0.478** | 0.5000 | 0.001013 | 95.4 | 75 | 125 | 12/16/2021 |
| Silver | | 0.0010 | | **0.0460** | 0.0500 | 0 | 92.0 | 75 | 125 | 12/16/2021 |
| Thallium | | 0.0020 | | **0.240** | 0.2500 | 0 | 96.0 | 75 | 125 | 12/16/2021 |
| Zinc | | 0.0150 | | **0.461** | 0.5000 | 0 | 92.2 | 75 | 125 | 12/16/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185829 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-007EMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.476** | 0.5000 | 0 | 95.3 | 0.4759 | 0.08 | 12/16/2021 |
| Arsenic | | 0.0010 | | **0.495** | 0.5000 | 0 | 98.9 | 0.4949 | 0.08 | 12/16/2021 |
| Barium | | 0.0010 | | **2.01** | 2.000 | 0.1030 | 95.4 | 2.032 | 1.06 | 12/16/2021 |
| Beryllium | | 0.0010 | | **0.0474** | 0.0500 | 0 | 94.8 | 0.04835 | 1.94 | 12/16/2021 |
| Boron | | 0.0250 | | **0.529** | 0.5000 | 0.06177 | 93.5 | 0.5375 | 1.51 | 12/16/2021 |
| Cadmium | | 0.0010 | | **0.0466** | 0.0500 | 0 | 93.3 | 0.04705 | 0.89 | 12/16/2021 |
| Chromium | | 0.0015 | | **0.182** | 0.2000 | 0 | 91.0 | 0.1849 | 1.57 | 12/16/2021 |
| Cobalt | | 0.0010 | | **0.453** | 0.5000 | 0.004384 | 89.8 | 0.4609 | 1.67 | 12/16/2021 |
| Copper | | 0.0010 | | **0.239** | 0.2500 | 0.007731 | 92.6 | 0.2421 | 1.25 | 12/16/2021 |
| Iron | | 0.0250 | | **1.92** | 2.000 | 0 | 96.0 | 1.936 | 0.86 | 12/16/2021 |
| Lead | | 0.0010 | | **0.477** | 0.5000 | 0 | 95.4 | 0.4796 | 0.51 | 12/16/2021 |
| Manganese | | 0.0020 | | **0.461** | 0.5000 | 0 | 92.2 | 0.4645 | 0.76 | 12/16/2021 |
| Nickel | | 0.0010 | | **0.452** | 0.5000 | 0.005657 | 89.4 | 0.4594 | 1.51 | 12/16/2021 |
| Selenium | | 0.0010 | | **0.478** | 0.5000 | 0.001013 | 95.4 | 0.4781 | 0.02 | 12/16/2021 |
| Silver | | 0.0010 | | **0.0461** | 0.0500 | 0 | 92.2 | 0.04599 | 0.23 | 12/16/2021 |
| Thallium | | 0.0020 | | **0.240** | 0.2500 | 0 | 95.9 | 0.2401 | 0.18 | 12/16/2021 |
| Zinc | | 0.0150 | | **0.450** | 0.5000 | 0 | 90.1 | 0.4609 | 2.31 | 12/16/2021 |

**Batch** 185829 **SampType:** MS Units **mg/L**

SampID: 21110558-023DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 0.0250 | | **2.26** | 0.5000 | 1.846 | 82.9 | 75 | 125 | 12/16/2021 |

**Batch** 185829 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-023DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 0.0250 | | **2.25** | 0.5000 | 1.846 | 80.4 | 2.260 | 0.55 | 12/16/2021 |

**Batch** 185832 **SampType:** MBLK Units **mg/L**

SampID: MBLK-185832

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 0.0250 | | **< 0.0250** | 0.0093 | 0 | 0 | -100 | 100 | 12/14/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185832 **SampType:** LCS Units **mg/L**

SampID: LCS-185832

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 0.0250 | | **0.482** | 0.5000 | 0 | 96.4 | 80 | 120 | 12/14/2021 |

**Batch** 185832 **SampType:** MS Units **mg/L**

SampID: 21110558-038DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 0.0250 | | **1.17** | 0.5000 | 0.6989 | 93.3 | 75 | 125 | 12/14/2021 |

**Batch** 185832 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-038DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 0.0250 | | **1.17** | 0.5000 | 0.6989 | 95.1 | 1.165 | 0.78 | 12/14/2021 |

**Batch** 185858 **SampType:** MBLK Units **mg/L**

SampID: MBLK-185858

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **< 0.0250** | 0.0125 | 0 | 0 | -100 | 100 | 12/21/2021 |
| Antimony | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Arsenic | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Barium | | 0.0010 | | **< 0.0010** | 0.0007 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Beryllium | | 0.0010 | | **< 0.0010** | 0.0002 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Boron | | 0.0250 | | **< 0.0250** | 0.0093 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Cadmium | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Chromium | | 0.0015 | | **< 0.0015** | 0.0007 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Cobalt | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Copper | | 0.0010 | | **< 0.0010** | 0.0003 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Iron | | 0.0250 | | **< 0.0250** | 0.0115 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Lead | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Manganese | | 0.0020 | | **< 0.0020** | 0.0008 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Molybdenum | | 0.0015 | | **< 0.0015** | 0.0006 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Nickel | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Selenium | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Silver | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/16/2021 |
| Thallium | | 0.0020 | | **< 0.0020** | 0.0010 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Vanadium | | 0.0050 | | **< 0.0050** | 0.0028 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Zinc | | 0.0150 | | **< 0.0150** | 0.0059 | 0 | 0 | -100 | 100 | 12/14/2021 |

**Client:** Vistra Energy

**Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater

**Report Date:** 04-Feb-22

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

**Batch** 185858 **SampType:** LCS Units **mg/L**

SampID: LCS-185858

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **1.88** | 2.000 | 0 | 94.2 | 80 | 120 | 12/16/2021 |
| Antimony | | 0.0010 | | **0.463** | 0.5000 | 0 | 92.6 | 80 | 120 | 12/16/2021 |
| Arsenic | | 0.0010 | | **0.443** | 0.5000 | 0 | 88.6 | 80 | 120 | 12/14/2021 |
| Barium | | 0.0010 | | **1.78** | 2.000 | 0 | 89.1 | 80 | 120 | 12/14/2021 |
| Beryllium | | 0.0010 | | **0.0423** | 0.0500 | 0 | 84.5 | 80 | 120 | 12/14/2021 |
| Boron | | 0.0250 | | **0.440** | 0.5000 | 0 | 88.1 | 80 | 120 | 12/14/2021 |
| Cadmium | | 0.0010 | | **0.0459** | 0.0500 | 0 | 91.9 | 80 | 120 | 12/16/2021 |
| Chromium | | 0.0015 | | **0.168** | 0.2000 | 0 | 84.1 | 80 | 120 | 12/14/2021 |
| Cobalt | | 0.0010 | | **0.431** | 0.5000 | 0 | 86.2 | 80 | 120 | 12/14/2021 |
| Copper | | 0.0010 | | **0.226** | 0.2500 | 0 | 90.2 | 80 | 120 | 12/14/2021 |
| Iron | | 0.0250 | | **1.90** | 2.000 | 0 | 95.2 | 80 | 120 | 12/16/2021 |
| Lead | | 0.0010 | | **0.434** | 0.5000 | 0 | 86.7 | 80 | 120 | 12/14/2021 |
| Manganese | | 0.0020 | | **0.439** | 0.5000 | 0 | 87.7 | 80 | 120 | 12/14/2021 |
| Molybdenum | | 0.0015 | | **0.410** | 0.5000 | 0 | 82.0 | 80 | 120 | 12/14/2021 |
| Nickel | | 0.0010 | | **0.435** | 0.5000 | 0 | 87.0 | 80 | 120 | 12/14/2021 |
| Selenium | | 0.0010 | | **0.448** | 0.5000 | 0 | 89.7 | 80 | 120 | 12/14/2021 |
| Silver | | 0.0010 | | **0.0469** | 0.0500 | 0 | 93.7 | 80 | 120 | 12/16/2021 |
| Thallium | | 0.0020 | | **0.216** | 0.2500 | 0 | 86.4 | 80 | 120 | 12/14/2021 |
| Thallium | | 0.0020 | | **0.226** | 0.2500 | 0 | 90.5 | 80 | 120 | 12/14/2021 |
| Vanadium | | 0.0050 | | **0.424** | 0.5000 | 0 | 84.8 | 80 | 120 | 12/14/2021 |
| Zinc | | 0.0150 | | **0.465** | 0.5000 | 0 | 93.0 | 80 | 120 | 12/14/2021 |

**Client:** Vistra Energy

**Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater

**Report Date:** 04-Feb-22

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

**Batch** 185858 **SampType:** MS Units **mg/L**

SampID: 21110558-005CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **1.85** | 2.000 | 0.07335 | 89.0 | 75 | 125 | 12/16/2021 |
| Antimony | | 0.0010 | | **0.474** | 0.5000 | 0 | 94.9 | 75 | 125 | 12/16/2021 |
| Arsenic | | 0.0010 | | **0.487** | 0.5000 | 0.001205 | 97.2 | 75 | 125 | 12/16/2021 |
| Barium | | 0.0010 | | **1.92** | 2.000 | 0.04832 | 93.8 | 75 | 125 | 12/16/2021 |
| Beryllium | | 0.0010 | | **0.0473** | 0.0500 | 0 | 94.5 | 75 | 125 | 12/16/2021 |
| Boron | | 0.0250 | | **1.39** | 0.5000 | 0.9317 | 91.1 | 75 | 125 | 12/16/2021 |
| Cadmium | | 0.0010 | | **0.0466** | 0.0500 | 0.0002052 | 92.7 | 75 | 125 | 12/16/2021 |
| Chromium | | 0.0015 | | **0.179** | 0.2000 | 0.0009406 | 89.2 | 75 | 125 | 12/16/2021 |
| Cobalt | | 0.0010 | | **0.450** | 0.5000 | 0.0001740 | 89.9 | 75 | 125 | 12/16/2021 |
| Copper | | 0.0010 | | **0.233** | 0.2500 | 0.001118 | 92.6 | 75 | 125 | 12/16/2021 |
| Iron | | 0.0250 | | **1.86** | 2.000 | 0 | 93.2 | 75 | 125 | 12/16/2021 |
| Lead | | 0.0010 | | **0.465** | 0.5000 | 0 | 93.0 | 75 | 125 | 12/16/2021 |
| Manganese | | 0.0020 | | **0.518** | 0.5000 | 0.06661 | 90.3 | 75 | 125 | 12/16/2021 |
| Molybdenum | | 0.0015 | | **0.485** | 0.5000 | 0.02098 | 92.9 | 75 | 125 | 12/16/2021 |
| Nickel | | 0.0010 | | **0.449** | 0.5000 | 0.001721 | 89.4 | 75 | 125 | 12/16/2021 |
| Selenium | | 0.0010 | | **0.475** | 0.5000 | 0.004971 | 94.1 | 75 | 125 | 12/16/2021 |
| Silver | | 0.0010 | | **0.0456** | 0.0500 | 0 | 91.3 | 75 | 125 | 12/16/2021 |
| Thallium | | 0.0020 | | **0.233** | 0.2500 | 0 | 93.2 | 75 | 125 | 12/16/2021 |
| Zinc | | 0.0150 | | **0.454** | 0.5000 | 0 | 90.7 | 75 | 125 | 12/16/2021 |

**Client:** Vistra Energy

**Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater

**Report Date:** 04-Feb-22

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

**Batch** 185858 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-005CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **1.89** | 2.000 | 0.07335 | 90.6 | 1.853 | 1.74 | 12/16/2021 |
| Antimony | | 0.0010 | | **0.469** | 0.5000 | 0 | 93.8 | 0.4743 | 1.09 | 12/16/2021 |
| Arsenic | | 0.0010 | | **0.491** | 0.5000 | 0.001205 | 98.0 | 0.4870 | 0.86 | 12/16/2021 |
| Barium | | 0.0010 | | **1.91** | 2.000 | 0.04832 | 92.9 | 1.925 | 0.95 | 12/16/2021 |
| Beryllium | | 0.0010 | | **0.0475** | 0.0500 | 0 | 95.0 | 0.04727 | 0.48 | 12/16/2021 |
| Boron | | 0.0250 | | **1.38** | 0.5000 | 0.9317 | 89.9 | 1.387 | 0.42 | 12/16/2021 |
| Cadmium | | 0.0010 | | **0.0466** | 0.0500 | 0.0002052 | 92.9 | 0.04657 | 0.17 | 12/16/2021 |
| Chromium | | 0.0015 | | **0.182** | 0.2000 | 0.0009406 | 90.6 | 0.1793 | 1.54 | 12/16/2021 |
| Cobalt | | 0.0010 | | **0.451** | 0.5000 | 0.0001740 | 90.2 | 0.4499 | 0.31 | 12/16/2021 |
| Copper | | 0.0010 | | **0.233** | 0.2500 | 0.001118 | 92.8 | 0.2327 | 0.18 | 12/16/2021 |
| Iron | | 0.0250 | | **1.87** | 2.000 | 0 | 93.3 | 1.863 | 0.16 | 12/16/2021 |
| Lead | | 0.0010 | | **0.469** | 0.5000 | 0 | 93.8 | 0.4651 | 0.84 | 12/16/2021 |
| Manganese | | 0.0020 | | **0.522** | 0.5000 | 0.06661 | 91.1 | 0.5179 | 0.78 | 12/16/2021 |
| Molybdenum | | 0.0015 | | **0.480** | 0.5000 | 0.02098 | 91.8 | 0.4853 | 1.07 | 12/16/2021 |
| Nickel | | 0.0010 | | **0.451** | 0.5000 | 0.001721 | 89.9 | 0.4489 | 0.52 | 12/16/2021 |
| Selenium | | 0.0010 | | **0.475** | 0.5000 | 0.004971 | 94.0 | 0.4754 | 0.13 | 12/16/2021 |
| Silver | | 0.0010 | | **0.0455** | 0.0500 | 0 | 90.9 | 0.04564 | 0.39 | 12/16/2021 |
| Thallium | | 0.0020 | | **0.234** | 0.2500 | 0 | 93.5 | 0.2330 | 0.34 | 12/16/2021 |
| Zinc | | 0.0150 | | **0.456** | 0.5000 | 0 | 91.3 | 0.4537 | 0.59 | 12/16/2021 |

**Client:** Vistra Energy

**Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater

**Report Date:** 04-Feb-22

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

**Batch** 186300 **SampType:** MBLK Units **mg/L**

SampID: MBLK-186300

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **< 0.0250** | 0.0125 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Antimony | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Arsenic | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Barium | | 0.0010 | | **< 0.0010** | 0.0007 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Beryllium | | 0.0010 | | **< 0.0010** | 0.0002 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Boron | | 0.0250 | | **< 0.0250** | 0.0093 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Cadmium | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Cobalt | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Copper | | 0.0010 | | **< 0.0010** | 0.0003 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Iron | | 0.0250 | | **< 0.0250** | 0.0115 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Lead | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Manganese | | 0.0020 | | **< 0.0020** | 0.0008 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Molybdenum | | 0.0015 | | **< 0.0015** | 0.0006 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Nickel | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Selenium | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Silver | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Thallium | | 0.0020 | | **< 0.0020** | 0.0010 | 0 | 0 | -100 | 100 | 12/29/2021 |
| Zinc | | 0.0150 | | **< 0.0150** | 0.0059 | 0 | 0 | -100 | 100 | 12/29/2021 |

**Client:** Vistra Energy

**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558

**Report Date:** 04-Feb-22

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

**Batch** 186300 **SampType:** LCS Units **mg/L**

SampID: LCS-186300

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **1.68** | 2.000 | 0 | 84.1 | 80 | 120 | 12/29/2021 |
| Antimony | | 0.0010 | | **0.401** | 0.5000 | 0 | 80.1 | 80 | 120 | 12/29/2021 |
| Arsenic | | 0.0010 | | **0.425** | 0.5000 | 0 | 85.0 | 80 | 120 | 12/29/2021 |
| Barium | | 0.0010 | | **1.67** | 2.000 | 0 | 83.5 | 80 | 120 | 12/29/2021 |
| Beryllium | | 0.0010 | | **0.0416** | 0.0500 | 0 | 83.1 | 80 | 120 | 12/29/2021 |
| Boron | | 0.0250 | | **0.417** | 0.5000 | 0 | 83.3 | 80 | 120 | 12/29/2021 |
| Cadmium | | 0.0010 | | **0.0415** | 0.0500 | 0 | 83.1 | 80 | 120 | 12/29/2021 |
| Cobalt | | 0.0010 | | **0.437** | 0.5000 | 0 | 87.4 | 80 | 120 | 12/29/2021 |
| Copper | | 0.0010 | | **0.225** | 0.2500 | 0 | 89.9 | 80 | 120 | 12/29/2021 |
| Iron | | 0.0250 | | **1.72** | 2.000 | 0 | 85.8 | 80 | 120 | 12/29/2021 |
| Lead | | 0.0010 | | **0.415** | 0.5000 | 0 | 82.9 | 80 | 120 | 12/29/2021 |
| Manganese | | 0.0020 | | **0.418** | 0.5000 | 0 | 83.6 | 80 | 120 | 12/29/2021 |
| Molybdenum | | 0.0015 | | **0.405** | 0.5000 | 0 | 81.1 | 80 | 120 | 12/29/2021 |
| Nickel | | 0.0010 | | **0.423** | 0.5000 | 0 | 84.6 | 80 | 120 | 12/29/2021 |
| Selenium | | 0.0010 | | **0.418** | 0.5000 | 0 | 83.6 | 80 | 120 | 12/29/2021 |
| Silver | | 0.0010 | | **0.0428** | 0.0500 | 0 | 85.6 | 80 | 120 | 12/29/2021 |
| Thallium | | 0.0020 | | **0.209** | 0.2500 | 0 | 83.6 | 80 | 120 | 12/29/2021 |
| Zinc | | 0.0150 | | **0.428** | 0.5000 | 0 | 85.6 | 80 | 120 | 12/29/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 186300 **SampType:** DUP Units **mg/L** RPD Limit: **20**

SampID: 21110558-040EDUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **< 0.0250** | | | | 0 | 0.00 | 12/29/2021 |
| Arsenic | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Barium | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Beryllium | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Boron | | 0.0250 | | **< 0.0250** | | | | 0 | 0.00 | 12/29/2021 |
| Cadmium | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Cobalt | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Copper | | 0.0010 | | **0.0027** | | | | 0.002654 | 3.45 | 12/29/2021 |
| Iron | | 0.0250 | | **< 0.0250** | | | | 0 | 0.00 | 12/29/2021 |
| Lead | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Manganese | | 0.0020 | | **< 0.0020** | | | | 0 | 0.00 | 12/29/2021 |
| Molybdenum | | 0.0015 | | **< 0.0015** | | | | 0 | 0.00 | 12/29/2021 |
| Nickel | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Selenium | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Silver | | 0.0010 | | **< 0.0010** | | | | 0 | 0.00 | 12/29/2021 |
| Thallium | | 0.0020 | | **< 0.0020** | | | | 0 | 0.00 | 12/29/2021 |
| Zinc | | 0.0150 | | **< 0.0150** | | | | 0.006739 | 0.00 | 12/29/2021 |

**Batch** 186378 **SampType:** MBLK Units **mg/L**

SampID: MBLK-186378

| 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 | 12/30/2021 |
| Chromium | | 0.0015 | | **< 0.0015** | 0.0007 | 0 | 0 | -100 | 100 | 12/30/2021 |
| Vanadium | | 0.0050 | | **< 0.0050** | 0.0028 | 0 | 0 | -100 | 100 | 12/30/2021 |

**Batch** 186378 **SampType:** LCS Units **mg/L**

SampID: LCS-186378

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.405** | 0.5000 | 0 | 81.1 | 80 | 120 | 12/30/2021 |
| Chromium | | 0.0015 | | **0.165** | 0.2000 | 0 | 82.4 | 80 | 120 | 12/30/2021 |
| Vanadium | | 0.0050 | | **0.417** | 0.5000 | 0 | 83.4 | 80 | 120 | 12/30/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 186378 **SampType:** LCSD Units **mg/L** RPD Limit: **20**

SampID: LCSD-186378

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.415** | 0.5000 | 0 | 83.0 | 0.4053 | 2.40 | 12/30/2021 |
| Chromium | | 0.0015 | | **0.166** | 0.2000 | 0 | 82.8 | 0.1647 | 0.53 | 12/30/2021 |
| Vanadium | | 0.0050 | | **0.417** | 0.5000 | 0 | 83.3 | 0.4170 | 0.08 | 12/30/2021 |

**Batch** 186378 **SampType:** DUP Units **mg/L** RPD Limit: **20**

SampID: 21110558-040EDUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium | | 0.0015 | | **< 0.0015** | | | | 0 | 0.00 | 12/30/2021 |
| Vanadium | | 0.0050 | | **< 0.0050** | | | | 0 | 0.00 | 12/30/2021 |

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

**Batch** 185107 **SampType:** MBLK Units **mg/L**

SampID: MBLK-185107

| 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 | 12/13/2021 |
| Arsenic | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Barium | | 0.0010 | | **< 0.0010** | 0.0007 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Beryllium | | 0.0010 | | **< 0.0010** | 0.0002 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Boron | | 0.0250 | | **< 0.0250** | 0.0093 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Cadmium | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Chromium | | 0.0015 | | **< 0.0015** | 0.0007 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Cobalt | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Lead | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Lithium | * | 0.0030 | | **< 0.0030** | 0.0015 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Molybdenum | | 0.0015 | | **< 0.0015** | 0.0006 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Selenium | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/13/2021 |
| Thallium | | 0.0020 | | **< 0.0020** | 0.0010 | 0 | 0 | -100 | 100 | 12/13/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185107 **SampType:** LCS Units **mg/L**

SampID: LCS-185107

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.571** | 0.5000 | 0 | 114.3 | 80 | 120 | 12/13/2021 |
| Arsenic | | 0.0010 | | **0.593** | 0.5000 | 0 | 118.7 | 80 | 120 | 12/13/2021 |
| Barium | | 0.0010 | | **2.05** | 2.000 | 0 | 102.7 | 80 | 120 | 12/14/2021 |
| Beryllium | | 0.0010 | | **0.0520** | 0.0500 | 0 | 104.0 | 80 | 120 | 12/13/2021 |
| Boron | | 0.0250 | | **0.524** | 0.5000 | 0 | 104.8 | 80 | 120 | 12/13/2021 |
| Cadmium | | 0.0010 | | **0.0562** | 0.0500 | 0 | 112.5 | 80 | 120 | 12/13/2021 |
| Chromium | | 0.0015 | | **0.227** | 0.2000 | 0 | 113.6 | 80 | 120 | 12/13/2021 |
| Cobalt | | 0.0010 | | **0.592** | 0.5000 | 0 | 118.4 | 80 | 120 | 12/13/2021 |
| Lead | | 0.0010 | | **0.547** | 0.5000 | 0 | 109.5 | 80 | 120 | 12/13/2021 |
| Lithium | * | 0.0030 | | **0.549** | 0.5000 | 0 | 109.8 | 80 | 120 | 12/13/2021 |
| Molybdenum | | 0.0015 | | **0.533** | 0.5000 | 0 | 106.6 | 80 | 120 | 12/13/2021 |
| Selenium | | 0.0010 | | **0.577** | 0.5000 | 0 | 115.4 | 80 | 120 | 12/13/2021 |
| Thallium | | 0.0020 | | **0.280** | 0.2500 | 0 | 111.8 | 80 | 120 | 12/13/2021 |

**Batch** 185107 **SampType:** MS Units **mg/L**

SampID: 21110558-010DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.576** | 0.5000 | 0 | 115.2 | 75 | 125 | 12/13/2021 |
| Arsenic | | 0.0010 | | **0.621** | 0.5000 | 0 | 124.2 | 75 | 125 | 12/13/2021 |
| Barium | | 0.0010 | | **2.05** | 2.000 | 0.1287 | 95.9 | 75 | 125 | 12/15/2021 |
| Beryllium | | 0.0010 | | **0.0512** | 0.0500 | 0 | 102.4 | 75 | 125 | 12/13/2021 |
| Boron | | 0.0250 | | **0.641** | 0.5000 | 0.1019 | 107.9 | 75 | 125 | 12/13/2021 |
| Cadmium | | 0.0010 | | **0.0555** | 0.0500 | 0.0006787 | 109.7 | 75 | 125 | 12/13/2021 |
| Chromium | | 0.0015 | | **0.218** | 0.2000 | 0.001620 | 108.4 | 75 | 125 | 12/13/2021 |
| Cobalt | | 0.0010 | | **0.467** | 0.5000 | 0.003069 | 92.8 | 75 | 125 | 12/15/2021 |
| Lead | | 0.0010 | | **0.559** | 0.5000 | 0.001041 | 111.6 | 75 | 125 | 12/13/2021 |
| Lithium | * | 0.0030 | | **0.550** | 0.5000 | 0.01663 | 106.7 | 75 | 125 | 12/13/2021 |
| Molybdenum | | 0.0015 | | **0.553** | 0.5000 | 0.001490 | 110.3 | 75 | 125 | 12/13/2021 |
| Selenium | | 0.0010 | | **0.587** | 0.5000 | 0 | 117.4 | 75 | 125 | 12/13/2021 |
| Thallium | | 0.0020 | | **0.285** | 0.2500 | 0 | 114.0 | 75 | 125 | 12/13/2021 |

**Client:** Vistra Energy

**Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater

**Report Date:** 04-Feb-22

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

**Batch** 185107 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-010DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.560** | 0.5000 | 0 | 112.0 | 0.5759 | 2.79 | 12/13/2021 |
| Arsenic | | 0.0010 | | **0.588** | 0.5000 | 0 | 117.7 | 0.6209 | 5.37 | 12/13/2021 |
| Barium | | 0.0010 | | **2.05** | 2.000 | 0.1287 | 96.0 | 2.046 | 0.15 | 12/15/2021 |
| Beryllium | | 0.0010 | | **0.0490** | 0.0500 | 0 | 98.1 | 0.05122 | 4.35 | 12/13/2021 |
| Boron | | 0.0250 | | **0.605** | 0.5000 | 0.1019 | 100.5 | 0.6413 | 5.89 | 12/13/2021 |
| Cadmium | | 0.0010 | | **0.0539** | 0.0500 | 0.0006787 | 106.5 | 0.05553 | 2.93 | 12/13/2021 |
| Chromium | | 0.0015 | | **0.213** | 0.2000 | 0.001620 | 105.5 | 0.2184 | 2.72 | 12/13/2021 |
| Cobalt | | 0.0010 | | **0.481** | 0.5000 | 0.003069 | 95.7 | 0.4669 | 3.06 | 12/15/2021 |
| Lead | | 0.0010 | | **0.547** | 0.5000 | 0.001041 | 109.3 | 0.5588 | 2.08 | 12/13/2021 |
| Lithium | * | 0.0030 | | **0.528** | 0.5000 | 0.01663 | 102.4 | 0.5500 | 4.00 | 12/13/2021 |
| Molybdenum | | 0.0015 | | **0.532** | 0.5000 | 0.001490 | 106.2 | 0.5528 | 3.76 | 12/13/2021 |
| Selenium | | 0.0010 | | **0.556** | 0.5000 | 0 | 111.2 | 0.5868 | 5.37 | 12/13/2021 |
| Thallium | | 0.0020 | | **0.282** | 0.2500 | 0 | 112.7 | 0.2850 | 1.13 | 12/13/2021 |

**Batch** 185107 **SampType:** MS Units **mg/L**

SampID: 21110558-030CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.593** | 0.5000 | 0 | 118.5 | 75 | 125 | 12/13/2021 |
| Arsenic | | 0.0010 | | **0.515** | 0.5000 | 0 | 103.0 | 75 | 125 | 12/15/2021 |
| Barium | | 0.0010 | | **1.97** | 2.000 | 0.04288 | 96.5 | 75 | 125 | 12/15/2021 |
| Beryllium | | 0.0010 | | **0.0529** | 0.0500 | 0 | 105.7 | 75 | 125 | 12/13/2021 |
| Boron | | 0.0250 | | **0.744** | 0.5000 | 0.1538 | 118.0 | 75 | 125 | 12/13/2021 |
| Cadmium | | 0.0010 | | **0.0576** | 0.0500 | 0 | 115.3 | 75 | 125 | 12/13/2021 |
| Chromium | | 0.0015 | | **0.230** | 0.2000 | 0 | 114.9 | 75 | 125 | 12/13/2021 |
| Cobalt | | 0.0010 | | **0.481** | 0.5000 | 0.001894 | 95.7 | 75 | 125 | 12/15/2021 |
| Lead | | 0.0010 | | **0.569** | 0.5000 | 0 | 113.8 | 75 | 125 | 12/13/2021 |
| Lithium | * | 0.0030 | | **0.560** | 0.5000 | 0.004002 | 111.3 | 75 | 125 | 12/13/2021 |
| Molybdenum | | 0.0015 | | **0.556** | 0.5000 | 0.001020 | 110.9 | 75 | 125 | 12/13/2021 |
| Selenium | | 0.0010 | | **0.591** | 0.5000 | 0 | 118.2 | 75 | 125 | 12/13/2021 |
| Thallium | | 0.0020 | | **0.279** | 0.2500 | 0 | 111.5 | 75 | 125 | 12/13/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185107 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-030CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.623** | 0.5000 | 0 | 124.6 | 0.5926 | 4.99 | 12/13/2021 |
| Arsenic | | 0.0010 | | **0.502** | 0.5000 | 0 | 100.3 | 0.5149 | 2.61 | 12/15/2021 |
| Barium | | 0.0010 | | **1.94** | 2.000 | 0.04288 | 95.1 | 1.973 | 1.43 | 12/15/2021 |
| Beryllium | | 0.0010 | | **0.0560** | 0.0500 | 0 | 111.9 | 0.05287 | 5.69 | 12/13/2021 |
| Boron | | 0.0250 | | **0.750** | 0.5000 | 0.1538 | 119.2 | 0.7438 | 0.77 | 12/13/2021 |
| Cadmium | | 0.0010 | | **0.0603** | 0.0500 | 0 | 120.6 | 0.05764 | 4.47 | 12/13/2021 |
| Chromium | | 0.0015 | | **0.238** | 0.2000 | 0 | 119.1 | 0.2298 | 3.63 | 12/13/2021 |
| Cobalt | | 0.0010 | | **0.472** | 0.5000 | 0.001894 | 93.9 | 0.4806 | 1.91 | 12/15/2021 |
| Lead | | 0.0010 | | **0.590** | 0.5000 | 0 | 118.0 | 0.5692 | 3.56 | 12/13/2021 |
| Lithium | * | 0.0030 | | **0.584** | 0.5000 | 0.004002 | 116.0 | 0.5603 | 4.18 | 12/13/2021 |
| Molybdenum | | 0.0015 | | **0.575** | 0.5000 | 0.001020 | 114.8 | 0.5555 | 3.40 | 12/13/2021 |
| Selenium | | 0.0010 | | **0.614** | 0.5000 | 0 | 122.8 | 0.5912 | 3.74 | 12/13/2021 |
| Thallium | | 0.0020 | | **0.301** | 0.2500 | 0 | 120.5 | 0.2786 | 7.78 | 12/13/2021 |

**Batch** 185850 **SampType:** MBLK Units **mg/L**

SampID: MBLK-185850

| 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 | 12/13/2021 |
| Antimony | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Arsenic | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Barium | | 0.0010 | | **< 0.0010** | 0.0007 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Beryllium | | 0.0010 | | **< 0.0010** | 0.0002 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Boron | | 0.0250 | | **< 0.0250** | 0.0093 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Cadmium | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Chromium | | 0.0015 | | **< 0.0015** | 0.0007 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Cobalt | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Lead | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Lithium | * | 0.0030 | | **< 0.0030** | 0.0015 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Molybdenum | | 0.0015 | | **< 0.0015** | 0.0006 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Selenium | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Thallium | | 0.0020 | | **< 0.0020** | 0.0010 | 0 | 0 | -100 | 100 | 12/14/2021 |
| Thallium | | 0.0020 | | **< 0.0020** | 0.0010 | 0 | 0 | -100 | 100 | 12/13/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185850 **SampType:** LCS Units **mg/L**

SampID: LCS-185850

| 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 | 85 | 115 | 12/14/2021 |
| Arsenic | | 0.0010 | | **0.517** | 0.5000 | 0 | 103.4 | 85 | 115 | 12/14/2021 |
| Barium | | 0.0010 | | **2.02** | 2.000 | 0 | 101.2 | 85 | 115 | 12/15/2021 |
| Beryllium | | 0.0010 | | **0.0512** | 0.0500 | 0 | 102.4 | 85 | 115 | 12/14/2021 |
| Boron | | 0.0250 | | **0.512** | 0.5000 | 0 | 102.4 | 85 | 115 | 12/14/2021 |
| Cadmium | | 0.0010 | | **0.0504** | 0.0500 | 0 | 100.9 | 85 | 115 | 12/14/2021 |
| Chromium | | 0.0015 | | **0.200** | 0.2000 | 0 | 99.8 | 85 | 115 | 12/14/2021 |
| Cobalt | | 0.0010 | | **0.510** | 0.5000 | 0 | 102.0 | 85 | 115 | 12/14/2021 |
| Lead | | 0.0010 | | **0.498** | 0.5000 | 0 | 99.7 | 85 | 115 | 12/14/2021 |
| Lithium | * | 0.0030 | | **0.545** | 0.5000 | 0 | 109.1 | 85 | 115 | 12/14/2021 |
| Molybdenum | | 0.0015 | | **0.501** | 0.5000 | 0 | 100.1 | 85 | 115 | 12/14/2021 |
| Selenium | | 0.0010 | | **0.497** | 0.5000 | 0 | 99.4 | 85 | 115 | 12/14/2021 |
| Thallium | | 0.0020 | | **0.242** | 0.2500 | 0 | 96.9 | 85 | 115 | 12/14/2021 |
| Thallium | | 0.0020 | | **0.246** | 0.2500 | 0 | 98.5 | 85 | 115 | 12/13/2021 |

**Batch** 185850 **SampType:** MS Units **mg/L**

SampID: 21110558-021CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.479** | 0.5000 | 0 | 95.9 | 75 | 125 | 12/14/2021 |
| Arsenic | | 0.0010 | | **0.559** | 0.5000 | 0.02671 | 106.4 | 75 | 125 | 12/14/2021 |
| Barium | | 0.0010 | | **2.37** | 2.000 | 0.3158 | 102.7 | 75 | 125 | 12/15/2021 |
| Beryllium | | 0.0010 | | **0.0519** | 0.0500 | 0 | 103.9 | 75 | 125 | 12/14/2021 |
| Boron | | 0.0250 | | **3.51** | 0.5000 | 2.914 | 119.2 | 75 | 125 | 12/15/2021 |
| Cadmium | | 0.0010 | | **0.0512** | 0.0500 | 0.0002157 | 102.0 | 75 | 125 | 12/14/2021 |
| Chromium | | 0.0015 | | **0.207** | 0.2000 | 0.005176 | 101.0 | 75 | 125 | 12/14/2021 |
| Cobalt | | 0.0010 | | **0.508** | 0.5000 | 0.002688 | 101.1 | 75 | 125 | 12/14/2021 |
| Lead | | 0.0010 | | **0.512** | 0.5000 | 0.005610 | 101.3 | 75 | 125 | 12/14/2021 |
| Lithium | * | 0.0030 | | **0.586** | 0.5000 | 0.02421 | 112.4 | 75 | 125 | 12/14/2021 |
| Molybdenum | | 0.0015 | | **0.522** | 0.5000 | 0.008666 | 102.7 | 75 | 125 | 12/14/2021 |
| Selenium | | 0.0010 | | **0.499** | 0.5000 | 0 | 99.9 | 75 | 125 | 12/14/2021 |
| Thallium | | 0.0020 | | **0.249** | 0.2500 | 0 | 99.8 | 75 | 125 | 12/14/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

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

**Batch** 185850 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-021CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 0.0010 | | **0.476** | 0.5000 | 0 | 95.2 | 0.4794 | 0.76 | 12/14/2021 |
| Arsenic | | 0.0010 | | **0.559** | 0.5000 | 0.02671 | 106.4 | 0.5586 | 0.02 | 12/14/2021 |
| Barium | | 0.0010 | | **2.34** | 2.000 | 0.3158 | 101.3 | 2.369 | 1.21 | 12/15/2021 |
| Beryllium | | 0.0010 | | **0.0525** | 0.0500 | 0 | 104.9 | 0.05193 | 1.02 | 12/14/2021 |
| Boron | | 0.0250 | S | **3.55** | 0.5000 | 2.914 | 127.8 | 3.510 | 1.22 | 12/15/2021 |
| Cadmium | | 0.0010 | | **0.0502** | 0.0500 | 0.0002157 | 100.0 | 0.05123 | 2.03 | 12/14/2021 |
| Chromium | | 0.0015 | | **0.207** | 0.2000 | 0.005176 | 101.0 | 0.2071 | 0.06 | 12/14/2021 |
| Cobalt | | 0.0010 | | **0.504** | 0.5000 | 0.002688 | 100.3 | 0.5082 | 0.75 | 12/14/2021 |
| Lead | | 0.0010 | | **0.514** | 0.5000 | 0.005610 | 101.6 | 0.5122 | 0.31 | 12/14/2021 |
| Lithium | * | 0.0030 | | **0.588** | 0.5000 | 0.02421 | 112.9 | 0.5860 | 0.43 | 12/14/2021 |
| Molybdenum | | 0.0015 | | **0.517** | 0.5000 | 0.008666 | 101.7 | 0.5222 | 0.92 | 12/14/2021 |
| Selenium | | 0.0010 | | **0.494** | 0.5000 | 0 | 98.8 | 0.4993 | 1.04 | 12/14/2021 |
| Thallium | | 0.0020 | | **0.250** | 0.2500 | 0 | 100.0 | 0.2495 | 0.25 | 12/14/2021 |

**Batch** 187268 **SampType:** MBLK Units **mg/L**

SampID: MBLK-187268

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Thallium | | 0.0020 | | **< 0.0020** | 0.0010 | 0 | 0 | -100 | 100 | 01/31/2022 |

**Batch** 187268 **SampType:** LCS Units **mg/L**

SampID: LCS-187268

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Thallium | | 0.0020 | | **0.240** | 0.2500 | 0 | 96.0 | 85 | 115 | 01/31/2022 |

**Batch** 187268 **SampType:** MS Units **mg/L**

SampID: 21110558-037CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Thallium | | 0.0020 | | **0.258** | 0.2500 | 0 | 103.1 | 75 | 125 | 01/31/2022 |

**Batch** 187268 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 21110558-037CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Thallium | | 0.0020 | | **0.257** | 0.2500 | 0 | 103.0 | 0.2578 | 0.12 | 01/31/2022 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 7470A (DISSOLVED)

**Batch** 184187 **SampType:** MS Units **mg/L**
SampID: 21110558-007EMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00501** | 0.0050 | 0 | 100.3 | 75 | 125 | 12/10/2021 |

**Batch** 184187 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-007EMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00500** | 0.0050 | 0 | 100.0 | 0.005014 | 0.23 | 12/10/2021 |

## SW-846 7470A (TOTAL)

**Batch** 184187 **SampType:** MBLK Units **mg/L**
SampID: MBLK-184187

| 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 | 12/10/2021 |

**Batch** 184187 **SampType:** LCS Units **mg/L**
SampID: LCS-184187

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00524** | 0.0050 | 0 | 104.8 | 85 | 115 | 12/10/2021 |

**Batch** 184187 **SampType:** MS Units **mg/L**
SampID: 21110558-030CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00492** | 0.0050 | 0 | 98.3 | 75 | 125 | 12/10/2021 |

**Batch** 184187 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-030CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00490** | 0.0050 | 0 | 98.1 | 0.004916 | 0.24 | 12/10/2021 |

**Batch** 185834 **SampType:** MBLK Units **mg/L**
SampID: MBLK-185834

| 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 | 12/10/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 7470A (TOTAL)

**Batch** 185834 **SampType:** LCS Units **mg/L**
SampID: LCS-185834

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00468** | 0.0050 | 0 | 93.6 | 85 | 115 | 12/10/2021 |

**Batch** 185834 **SampType:** MS Units **mg/L**
SampID: 21110558-038CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00508** | 0.0050 | 0 | 101.5 | 75 | 125 | 12/10/2021 |

**Batch** 185834 **SampType:** MSD Units **mg/L** RPD Limit: **15**
SampID: 21110558-038CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00508** | 0.0050 | 0 | 101.6 | 0.005077 | 0.08 | 12/10/2021 |

**Batch** 185853 **SampType:** MBLK Units **mg/L**
SampID: MBLK-185853

| 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 | 12/10/2021 |

**Batch** 185853 **SampType:** LCS Units **mg/L**
SampID: LCS-185853

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00489** | 0.0050 | 0 | 97.7 | 85 | 115 | 12/10/2021 |

**Batch** 185913 **SampType:** MBLK Units **mg/L**
SampID: MBLK-185913

| 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 | 12/14/2021 |

**Batch** 185913 **SampType:** LCS Units **mg/L**
SampID: LCS-185913

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00485** | 0.0050 | 0 | 97.0 | 85 | 115 | 12/14/2021 |

**Batch** 185913 **SampType:** MS Units **mg/L**
SampID: 21110558-017DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00483** | 0.0050 | 0 | 96.5 | 75 | 125 | 12/14/2021 |

**Client:** Vistra Energy **Work Order:** 21110558

**Client Project:** Hennepin Q4 Groundwater **Report Date:** 04-Feb-22

## SW-846 7470A (TOTAL)

**Batch** 185913 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 21110558-017DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00481** | 0.0050 | 0 | 96.3 | 0.004826 | 0.25 | 12/14/2021 |

**Batch** 185913 **SampType:** MS Units **mg/L**

SampID: 21110558-036DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00480** | 0.0050 | 0 | 96.0 | 75 | 125 | 12/14/2021 |

**Batch** 185913 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 21110558-036DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.00020 | | **0.00482** | 0.0050 | 0 | 96.5 | 0.004800 | 0.51 | 12/14/2021 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** Vistra Energy
**Client Project:** Hennepin Q4 Groundwater

**Work Order:** 21110558
**Report Date:** 04-Feb-22

**Carrier:** Joseph Riley

**Completed by:** Marvin L. Darling II
**On:** 09-Dec-21
Marvin L. Darling

**Received By:** EAH

**Reviewed by:** Elizabeth A. Hurley
**On:** 10-Dec-21
Elizabeth A. Hurley

**Pages to follow:** Chain of custody 8 Extra pages included 5

| | | | | |
|---|---|---|---|---|
| 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# 77625/75846. PR 12/9/21

Additional sodium hydroxide (78408) was needed in all samples for cyanide analysis except 19D and Field Blank. Additional nitric acid (79626) was needed in samples 08D, 10, 12, 49, 34, 51 upon arrival at the laboratory. PR 12/9/21

Field Blank was filtered and preserved with Nitric Acid (79626) for the dissolved parameters upon arrival at the laboratory. - patrickriley - 12/10/2021 9:39:44 AM

02, 07, 08, 08 Duplicate, 08D, 10, 12, 13, 15, 16, 17, 22, 22D, 23, 25, 26, 27, 30, 31, 32, 33, 35, 36, 49, and 50 were received on 12/9/21 at 1520 (on ice - 0.4C - LTG 3). - PR/ehurley - 12/10/2021 11:12:07 AM

# CHAIN OF CUSTODY

Pg 1 of 4 Workorder # 21110558

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: [X] ICE [ ] BLUE ICE [ ] NO ICE 4.8 °C LTG# 3
Preserved in: [X] LAB [ ] FIELD 75846 FOR LAB USE ONLY
LAB NOTES: Per JR FB was rinsed and needs two filtered PK 12/10/21 77625 PK 12/10/21 PL
DHS, Add NaOH (7840B) to all except 19D+FR, Add HNO3 (7470A) to 105, 34, 51 PL 12/10/21

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: pH, Temp., Cond., Turb., ORP, DO, and/or Elevations
Metals selection based on program requirements.

**PROJECT NAME/NUMBER**
Hennepin Q4 Groundwater

**SAMPLE COLLECTOR'S NAME**
D. RILEY A. BRECKS

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO# 1054287

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field, TDS | Nitrate | Alk, Alk-B | Diss. Cl/SO4 | Diss. Fluoride | Total Cl/SO4 | Total Fluoride | Metals | Total Cyanide | Phenol | Ammonia | BTEX | Perchlorate | Alkalinity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21110558-001 | 02 | 12/5/21 1454 | Groundwater | 3 | 1 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | |
| 002 | 03R | 12/9/21 1218 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| 003 | 04R | 12/9/21 0954 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 004 | 05DR | 12/9/21 1121 | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | |
| 005 | 05R | 12/9/21 1109 | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | |
| 006 | 06 | 12/9/21 1252 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 007 | 07 | 12/8/21 1535 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| 008 | 08 | 12/8/21 1249 | Groundwater | 3 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 009 | 08 Duplicate | 12/8/21 1249 | Groundwater | 3 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 010 | 08D | 12/8/21 1218 | Groundwater | 3 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 011 | 10 | 12/8/21 1434 | Groundwater | 3 | 1 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 12/10/21 1230 | | |
| 12/10/21 | 12/9/21 0823 | | 12/10/21 0823 |
| | TE EAR | | |

*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 DR

# CHAIN OF CUSTODY

Pg 2 of 4 Workorder # 21110558

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: pH, Temp., Cond., Turb., ORP, DO, and/or Elevations
Metals selection based on program requirements.
*Some wells do not require dissolved SO4.

PROJECT NAME/NUMBER: Hennepin Q4 Groundwater
SAMPLE COLLECTOR'S NAME:

RESULTS REQUESTED
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS
Vistra PO# 1054287

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field, TDS | Nitrate | Alk, Alk-B | Diss. Cl/SO4* | Diss. Fluoride | Total Cl/SO4 | Total Fluoride | Metals | Total Cyanide | Phenol | Ammonia | BTEX | Perchlorate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21110558-012 | 12 | 12/8/21 1406 | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | |
| 013 | 13 | 12/8/21 1419 | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | |
| 014 | 15 | 12/8/21 1351 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 015 | 16 | 12/8/21 1310 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 016 | 17 | 12/8/21 1326 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 017 | 18D | 12/9/21 1153 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| 018 | 18S | 12/9/21 1137 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| 019 | 19D | 12/9/21 1030 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 020 | 19S | 12/9/21 1016 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 021 | 21R | 12/9/21 0820 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 022 | 22 | 12/9/21 0857 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 12/9/21 1630 | | |
| 12/10/21 | 12/9/21 0823 | | 12/10/21 0823 |
| | TE Eddy | | |

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CoC Rev C Aug 2020

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Pg 3 of 4 Workorder # 21110558

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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:

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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: pH, Temp., Cond., Turb., ORP, DO, and/or Elevations
Metals selection based on program requirements.
*Some wells do not require dissolved SO4.

PROJECT NAME/NUMBER: Hennepin Q4 Groundwater
SAMPLE COLLECTOR'S NAME: J. RATLEY A. BRINGS

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ____ ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS: Vistra PO# 1054287

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field, TDS | Nitrate | Alk, Alk-B | Diss. Cl/SO4* | Diss. Fluoride | Total Cl/SO4 | Total Fluoride | Metals | Total Cyanide | Phenol | Ammonia | BTEX | Perchlorate | Elevations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21110558-023 | 22D | 12/8/21 0929 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 024 | 23 | 12/8/21 1512 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 025 | 25 | 12/7/21 1532 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 026 | 26 | 12/7/21 1532 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 027 | 27 | 12/8/21 1141 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 028 | 30 | 12/7/21 1348 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 029 | 31 | 12/7/21 1347 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 030 | 32 | 12/8/21 1046 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 031 | 33 | 12/7/21 1405 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 032 | 34 12/9/21 0845 | ~~12/7/21 1427~~ | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 033 | 35 | 12/8/21 1018 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| 12/10/21 | 12/9/21 1630<br>12/9/21 0823 | | 12/10/21 0823 |

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Contact: Brian Voelker Phone: (217) 412-6605
Email: brian.voelker@vistraenergy.com Fax:

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Are these samples known to be hazardous? ☐ Yes ☑ No
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Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE ____ °C LTG# ____
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
Field: pH, Temp., Cond., Turb., ORP, DO, and/or Elevations
Metals selection based on program requirements.
*Some wells do not require dissolved SO4.

**PROJECT NAME/NUMBER**
Hennepin Q4 Groundwater

**SAMPLE COLLECTOR'S NAME**
D. WILEY A. BATTLE

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO# 1054287

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field, TDS | Nitrate | Alk, Alk-B | Diss. Cl/SO4* | Diss. Fluoride | Total Cl/SO4 | Total Fluoride | Metals | Total Cyanide | Phenol | Ammonia | BTEX | Perchlorate | Elevations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21110558-034 | 36 | 12/7/21 1337 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 035 | 40S | 12/9/21 1042 | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| 036 | 45S | 12/9/21 1237 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| 037 | 49 | 12/8/21 0928 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 038 | 50 | 12/8/21 0959 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 039 | 51 12/9/21 0930 | ~~12/9/21 1251~~ | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 040 | Field Blank | 12/9/21 1301 | Aqueous | 3 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| 12/10/21 | ~~12/9/21 1611~~ 12/10/21 0823 TE Shaf 12/10/21 | | 12/10/21 0823 |

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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: [X] ICE [ ] BLUE ICE [ ] NO ICE 0.4 °C LTG# 5
Preserved in: [ ] LAB [ ] FIELD 79625 FOR LAB USE ONLY
75846 PR 12/9/21
LAB NOTES:
Add NaOH (78408) to all applicable. Add HNO3 (79626) to 08D

MD 12/9/21
10, 12, 49
HS 1/3
08 Dup
PR
12/9/21

Client Comments:
Field: pH, Temp., Cond., Turb., ORP, DO, and/or Elevations
Metals selection based on 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 Q4 Groundwater
SAMPLE COLLECTOR'S NAME: D. KILEY A. BROCKS

RESULTS REQUESTED
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS
Vistra PO# 1054287

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field, TDS | Nitrate | Alk, Alk-B | Diss. Cl/SO4 | Diss. Fluoride | Total Cl/SO4 | Total Fluoride | Metals | Total Cyanide | Phenol | Ammonia | BTEX | Perchlorate | Alkalinity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21110558-001 | 02 | 12/8/21 1454 | Groundwater | 3 | 1 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | |
| 002 | 03R | | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| 003 | 04R | | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 004 | 05DR | | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | |
| 005 | 05R | | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | |
| 006 | 06 | | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| 007 | 07 | 12/8/21 1535 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| 008 | 08 | 12/8/21 1244 | Groundwater | 3 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 009 | 08 Duplicate | 12/8/21 1244 | Groundwater | 3 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 010 | 08D | 12/8/21 1218 | Groundwater | 3 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 011 | 10 | 12/8/21 1434 | Groundwater | 3 | 1 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 12/8/21 1630 | | 12-8-21 1630 |
| | 12-9-21 1520 | | 12/9/21 1520 |

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12/9/21

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PROJECT NAME/NUMBER: Hennepin Q4 Groundwater
SAMPLE COLLECTOR'S NAME:

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BILLING INSTRUCTIONS: Vistra PO# 1054287

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21110558-D12 | 12 | 12/8/21 1406 | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | ✔ | | |
| D13 | 13 | 12/8/21 1419 | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | ✔ | | |
| D14 | 15 | 12/8/21 1351 | Groundwater | 2 | 1 | 1 | | | | | | | ✔ | ✔ | | ✔ | ✔ | | | ✔ | ✔ | | | | |
| D15 | 16 | 12/8/21 1310 | Groundwater | 2 | 1 | 1 | | | | | | | ✔ | ✔ | | ✔ | ✔ | | | ✔ | ✔ | | | | |
| D16 | 17 | 12/8/21 1326 | Groundwater | 2 | 1 | 1 | | | | | | | ✔ | ✔ | | ✔ | ✔ | | | ✔ | ✔ | | | | |
| D17 | 18D | | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ |
| D18 | 18S | | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ |
| D19 | 19D | | Groundwater | 2 | 1 | 1 | | | | | | | ✔ | ✔ | | ✔ | ✔ | | | ✔ | ✔ | | | | |
| D20 | 19S | | Groundwater | 2 | 1 | 1 | | | | | | | ✔ | ✔ | | ✔ | ✔ | | | ✔ | ✔ | | | | |
| D21 | 21R | | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | |
| D22 | 22 | 12/9/21 0857 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 12/8/21 1630 | | 12-8-21 1630 |
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| | | | |
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Hennepin Q4 Groundwater

**SAMPLE COLLECTOR'S NAME**
T. RILEY A. BRINGS

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO# 1054287

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21110558-023 | 22D | 12/8/21 0929 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 024 | 23 | 12/8/21 1512 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 025 | 25 | 12/7/21 1532 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
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| 029 | 31 | 12/7/21 1347 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 030 | 32 | 12/8/21 1046 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 031 | 33 | 12/7/21 1405 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 032 | 34 | ~~12/7/21 1427~~ | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 033 | 35 | 12/8/21 1018 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |

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|---|---|---|---|
| | 12/9/21 1630 | | 12-9-21 1630 |
| | 12-9-21 1520 | | 12/9/21 1520 |
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*Some wells do not require dissolved SO4.

**PROJECT NAME/NUMBER**
Hennepin Q4 Groundwater

**SAMPLE COLLECTOR'S NAME**
D. RILEY A. BRILOF

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO# 1054287

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field, TDS | Nitrate | Alk, Alk-B | Diss. Cl/SO4* | Diss. Fluoride | Total Cl/SO4 | Total Fluoride | Metals | Total Cyanide | Phenol | Ammonia | BTEX | Perchlorate | Elevations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21110558-034 | 36 | 12/7/21 1337 | Groundwater | 0 | | | | | | | | | | | | | | | | | | | | | | ✓ |
| 035 | 40S | | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| 036 | 45S | | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | |
| 037 | 49 | 12/6/21 0526 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 038 | 50 SR | 12/6/21 0659 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 039 | 51 12/9/21 | 12/7/21 1251 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 040 | Field Blank 0930 | | Aqueous | 3 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 12/8/21 1630 | | 12-8-21 1630 |
| | 12-9-21 1520 | | 12/9/21 1520 |

*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

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

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

# Report Contents

http://www.teklabinc.com/

**Client:** Ramboll
**Work Order:** 22030530
**Client Project:** Hennepin Q1 Groundwater
**Report Date:** 01-Jun-22

**This reporting package includes the following:**


| | |
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| Accreditations | 6 |
| Laboratory Results | 7 |
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| Quality Control Results | 45 |
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| 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 West Ash Pond System CCR 804 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

### Springfield

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

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
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### Collinsville Air

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

### Chicago

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

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-021 **Client Sample ID:** 21R

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 8:44

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **4.71** | ft | 1 | 03/21/2022 13:31 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.25** | | 1 | 03/22/2022 8:44 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **51** | NTU | 1 | 03/22/2022 8:44 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-164** | mV | 1 | 03/22/2022 8:44 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1460** | µS/cm | 1 | 03/22/2022 8:44 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **11.8** | °C | 1 | 03/22/2022 8:44 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **1.52** | mg/L | 1 | 03/22/2022 8:44 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **372** | mg/L | 1 | 03/29/2022 8:48 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 8:48 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **622** | mg/L | 1 | 03/28/2022 16:48 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 20 | | **91** | mg/L | 2 | 03/25/2022 21:56 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 03/31/2022 11:42 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **99** | mg/L | 2 | 03/25/2022 21:56 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **146** | mg/L | 1 | 03/30/2022 10:58 | 188963 |
| Magnesium | NELAP | 0.0500 | | **46.6** | mg/L | 1 | 03/30/2022 10:58 | 188963 |
| Potassium | NELAP | 0.100 | | **3.10** | mg/L | 1 | 03/30/2022 10:58 | 188963 |
| Sodium | NELAP | 0.0500 | | **47.5** | mg/L | 1 | 03/30/2022 10:58 | 188963 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 22:18 | 188963 |
| Arsenic | NELAP | 0.0010 | | **0.0279** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Barium | NELAP | 0.0010 | | **0.326** | mg/L | 5 | 03/29/2022 22:18 | 188963 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Boron | NELAP | 0.0250 | | **3.33** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Chromium | NELAP | 0.0015 | | **0.0031** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Cobalt | NELAP | 0.0010 | | **0.0017** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Lead | NELAP | 0.0010 | | **0.0032** | mg/L | 5 | 03/29/2022 22:18 | 188963 |
| Lithium | * | 0.0030 | | **0.0280** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Molybdenum | NELAP | 0.0015 | | **0.0099** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:10 | 188963 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/29/2022 22:18 | 188963 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-021 **Client Sample ID:** 21R

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 8:44

| 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 17:27 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-022 **Client Sample ID:** 22

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:50

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **17.67** | ft | 1 | 03/21/2022 13:27 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.64** | | 1 | 03/22/2022 11:50 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.2** | NTU | 1 | 03/22/2022 11:50 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-67** | mV | 1 | 03/22/2022 11:50 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1290** | µS/cm | 1 | 03/22/2022 11:50 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.6** | °C | 1 | 03/22/2022 11:50 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **1.55** | mg/L | 1 | 03/22/2022 11:50 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **236** | mg/L | 1 | 03/29/2022 8:53 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 8:53 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **608** | mg/L | 1 | 03/28/2022 16:49 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **145** | mg/L | 5 | 03/25/2022 21:59 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 03/31/2022 11:44 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **90** | mg/L | 5 | 03/25/2022 21:59 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **108** | mg/L | 1 | 03/30/2022 11:01 | 188963 |
| Magnesium | NELAP | 0.0500 | | **33.4** | mg/L | 1 | 03/30/2022 11:01 | 188963 |
| Potassium | NELAP | 0.500 | | **12.3** | mg/L | 5 | 03/31/2022 11:35 | 188963 |
| Sodium | NELAP | 0.0500 | | **59.3** | mg/L | 1 | 03/30/2022 11:01 | 188963 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | J | **0.0007** | mg/L | 5 | 03/29/2022 22:24 | 188963 |
| Arsenic | NELAP | 0.0010 | J | **0.0010** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Barium | NELAP | 0.0010 | | **0.0616** | mg/L | 5 | 03/29/2022 22:24 | 188963 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Boron | NELAP | 0.0250 | | **4.84** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Cadmium | NELAP | 0.0010 | | **0.0057** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Cobalt | NELAP | 0.0010 | | **0.0025** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 22:24 | 188963 |
| Lithium | * | 0.0030 | | **0.0620** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Molybdenum | NELAP | 0.0015 | | **0.111** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Selenium | NELAP | 0.0010 | | **0.0195** | mg/L | 5 | 03/31/2022 16:16 | 188963 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/29/2022 22:24 | 188963 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-022 **Client Sample ID:** 22

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:50

| 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 17:29 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-023 **Client Sample ID:** 22D

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 12:16

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.25** | ft | 1 | 03/21/2022 13:26 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.29** | | 1 | 03/22/2022 12:16 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.3** | NTU | 1 | 03/22/2022 12:16 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-155** | mV | 1 | 03/22/2022 12:16 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1420** | µS/cm | 1 | 03/22/2022 12:16 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.8** | °C | 1 | 03/22/2022 12:16 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.18** | mg/L | 1 | 03/22/2022 12:16 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **333** | mg/L | 1 | 03/29/2022 8:59 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 8:59 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **616** | mg/L | 1 | 03/28/2022 16:49 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **103** | mg/L | 5 | 03/25/2022 22:18 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 03/31/2022 12:05 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **104** | mg/L | 5 | 03/25/2022 22:17 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **132** | mg/L | 1 | 03/30/2022 11:05 | 188963 |
| Magnesium | NELAP | 0.0500 | | **43.3** | mg/L | 1 | 03/30/2022 11:05 | 188963 |
| Potassium | NELAP | 0.100 | | **3.39** | mg/L | 1 | 03/30/2022 11:05 | 188963 |
| Sodium | NELAP | 0.0500 | | **45.4** | mg/L | 1 | 03/30/2022 11:05 | 188963 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:26 | 188963 |
| Arsenic | NELAP | 0.0010 | | **0.0013** | mg/L | 5 | 04/01/2022 14:21 | 188963 |
| Barium | NELAP | 0.0010 | | **0.0676** | mg/L | 5 | 03/29/2022 23:26 | 188963 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:22 | 188963 |
| Boron | NELAP | 0.0250 | | **2.10** | mg/L | 5 | 03/31/2022 16:22 | 188963 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:22 | 188963 |
| Chromium | NELAP | 0.0015 | J | **0.0008** | mg/L | 5 | 03/31/2022 16:22 | 188963 |
| Cobalt | NELAP | 0.0010 | J | **0.0004** | mg/L | 5 | 03/31/2022 16:22 | 188963 |
| Lead | NELAP | 0.0010 | J | **0.0006** | mg/L | 5 | 03/29/2022 23:26 | 188963 |
| Lithium | * | 0.0030 | | **0.0175** | mg/L | 5 | 03/31/2022 16:22 | 188963 |
| Molybdenum | NELAP | 0.0015 | | **0.0074** | mg/L | 5 | 03/31/2022 16:22 | 188963 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:22 | 188963 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/26/2022 13:57 | 188963 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-023 **Client Sample ID:** 22D

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 12:16

| 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 17:32 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-024 **Client Sample ID:** 23

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **15.73** | ft | 1 | 03/21/2022 13:29 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.43** | | 1 | 03/22/2022 11:15 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **0.81** | NTU | 1 | 03/22/2022 11:15 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-115** | mV | 1 | 03/22/2022 11:15 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1590** | µS/cm | 1 | 03/22/2022 11:15 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.5** | °C | 1 | 03/22/2022 11:15 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.19** | mg/L | 1 | 03/22/2022 11:15 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **158** | mg/L | 1 | 03/29/2022 9:04 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 9:04 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **826** | mg/L | 1 | 03/28/2022 16:50 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **421** | mg/L | 20 | 03/25/2022 22:25 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 03/31/2022 12:18 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **58** | mg/L | 2 | 03/25/2022 22:20 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **116** | mg/L | 1 | 03/30/2022 11:09 | 188963 |
| Magnesium | NELAP | 0.0500 | | **79.0** | mg/L | 1 | 03/30/2022 11:09 | 188963 |
| Potassium | NELAP | 0.100 | | **3.08** | mg/L | 1 | 03/30/2022 11:09 | 188963 |
| Sodium | NELAP | 0.0500 | | **45.0** | mg/L | 1 | 03/30/2022 11:09 | 188963 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:32 | 188963 |
| Arsenic | NELAP | 0.0010 | J | **0.0008** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Barium | NELAP | 0.0010 | | **0.0412** | mg/L | 5 | 03/29/2022 23:32 | 188963 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Boron | NELAP | 0.0250 | | **9.61** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Cobalt | NELAP | 0.0010 | J | **0.0003** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:32 | 188963 |
| Lithium | * | 0.0030 | | **0.0056** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Molybdenum | NELAP | 0.0015 | | **0.0153** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 16:53 | 188963 |
| Thallium | NELAP | 0.0020 | J | **0.0011** | mg/L | 5 | 03/29/2022 23:32 | 188963 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-024 **Client Sample ID:** 23

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:15

| 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 17:34 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-025 **Client Sample ID:** 25

**Matrix:** GROUNDWATER **Collection Date:** 03/21/2022 13:51

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **14.94** | ft | 1 | 03/21/2022 13:51 | R308977 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-026 **Client Sample ID:** 26

**Matrix:** GROUNDWATER **Collection Date:** 03/21/2022 13:52

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **15.00** | ft | 1 | 03/21/2022 13:52 | R308977 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-028 **Client Sample ID:** 30

**Matrix:** GROUNDWATER **Collection Date:** 03/21/2022 13:40

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.56** | ft | 1 | 03/21/2022 13:40 | R308977 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-029 **Client Sample ID:** 31

**Matrix:** GROUNDWATER **Collection Date:** 03/21/2022 13:39

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.51** | ft | 1 | 03/21/2022 13:39 | R308977 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-030 **Client Sample ID:** 32

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 10:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **2.88** | ft | 1 | 03/21/2022 13:44 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.00** | | 1 | 03/22/2022 10:18 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **0.45** | NTU | 1 | 03/22/2022 10:18 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **13** | mV | 1 | 03/22/2022 10:18 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1240** | µS/cm | 1 | 03/22/2022 10:18 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **10.1** | °C | 1 | 03/22/2022 10:18 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.21** | mg/L | 1 | 03/22/2022 10:18 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **317** | mg/L | 1 | 03/29/2022 9:25 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 9:25 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **514** | mg/L | 1 | 03/28/2022 16:51 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 20 | | **60** | mg/L | 2 | 03/25/2022 22:31 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 03/31/2022 12:23 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **68** | mg/L | 2 | 03/25/2022 22:31 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **110** | mg/L | 1 | 03/29/2022 22:31 | 188980 |
| Magnesium | NELAP | 0.0500 | | **39.0** | mg/L | 1 | 03/29/2022 22:31 | 188980 |
| Potassium | NELAP | 0.100 | | **2.08** | mg/L | 1 | 03/31/2022 12:20 | 188980 |
| Sodium | NELAP | 0.0500 | | **38.0** | mg/L | 1 | 03/29/2022 22:31 | 188980 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:38 | 188980 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:38 | 188980 |
| Barium | NELAP | 0.0010 | | **0.0407** | mg/L | 5 | 03/29/2022 23:38 | 188980 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 17:00 | 188980 |
| Boron | NELAP | 0.0250 | | **0.183** | mg/L | 5 | 03/31/2022 17:00 | 188980 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:38 | 188980 |
| Chromium | NELAP | 0.0015 | J | **0.0009** | mg/L | 5 | 03/31/2022 17:00 | 188980 |
| Cobalt | NELAP | 0.0010 | | **0.0015** | mg/L | 5 | 03/31/2022 17:00 | 188980 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:38 | 188980 |
| Lithium | * | 0.0030 | | **0.0040** | mg/L | 5 | 03/31/2022 17:00 | 188980 |
| Molybdenum | NELAP | 0.0015 | J | **0.0007** | mg/L | 5 | 03/29/2022 23:38 | 188980 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:38 | 188980 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/29/2022 23:38 | 188980 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-030 **Client Sample ID:** 32

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 10:18

| 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 17:48 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-031 **Client Sample ID:** 33

**Matrix:** GROUNDWATER **Collection Date:** 03/21/2022 13:46

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **2.63** | ft | 1 | 03/21/2022 13:46 | R308977 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-032 **Client Sample ID:** 34

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 8:09

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.41** | ft | 1 | 03/21/2022 13:34 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **6.80** | | 1 | 03/22/2022 8:04 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.5** | NTU | 1 | 03/22/2022 8:04 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-86** | mV | 1 | 03/22/2022 8:04 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1620** | µS/cm | 1 | 03/22/2022 8:04 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.1** | °C | 1 | 03/22/2022 8:04 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.23** | mg/L | 1 | 03/22/2022 8:04 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **527** | mg/L | 1 | 03/29/2022 9:31 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 9:31 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **720** | mg/L | 1 | 03/28/2022 17:32 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 20 | | **56** | mg/L | 2 | 03/25/2022 22:36 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 03/31/2022 12:26 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **74** | mg/L | 2 | 03/25/2022 22:36 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **167** | mg/L | 1 | 03/29/2022 22:34 | 188980 |
| Magnesium | NELAP | 0.0500 | | **43.0** | mg/L | 1 | 03/29/2022 22:34 | 188980 |
| Potassium | NELAP | 0.100 | | **0.414** | mg/L | 1 | 03/31/2022 12:16 | 188980 |
| Sodium | NELAP | 0.0500 | | **53.7** | mg/L | 1 | 03/29/2022 22:34 | 188980 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:45 | 188980 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Barium | NELAP | 0.0010 | | **0.102** | mg/L | 5 | 03/29/2022 23:45 | 188980 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Boron | NELAP | 0.0250 | | **0.158** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Cobalt | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:45 | 188980 |
| Lithium | * | 0.0030 | | **0.0146** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Molybdenum | NELAP | 0.0015 | | **0.0017** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 17:43 | 188980 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/29/2022 23:45 | 188980 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-032 **Client Sample ID:** 34

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 8:09

| 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 17:54 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-033 **Client Sample ID:** 35

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 9:10

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **10.28** | ft | 1 | 03/21/2022 13:38 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **6.95** | | 1 | 03/22/2022 9:10 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.1** | NTU | 1 | 03/22/2022 9:10 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **10** | mV | 1 | 03/22/2022 9:10 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1790** | µS/cm | 1 | 03/22/2022 9:10 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **10.5** | °C | 1 | 03/22/2022 9:10 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.41** | mg/L | 1 | 03/22/2022 9:10 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **209** | mg/L | 1 | 03/29/2022 9:38 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 9:38 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1020** | mg/L | 1 | 03/28/2022 17:33 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **549** | mg/L | 20 | 03/25/2022 22:44 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.20** | mg/L | 1 | 03/31/2022 12:28 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **29** | mg/L | 1 | 03/25/2022 22:39 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **264** | mg/L | 1 | 03/29/2022 22:38 | 188980 |
| Magnesium | NELAP | 0.0500 | | **29.0** | mg/L | 1 | 03/29/2022 22:38 | 188980 |
| Potassium | NELAP | 0.500 | | **11.2** | mg/L | 5 | 03/31/2022 12:24 | 188980 |
| Sodium | NELAP | 0.0500 | | **27.2** | mg/L | 1 | 03/29/2022 22:38 | 188980 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:51 | 188980 |
| Arsenic | NELAP | 0.0010 | J | **0.0004** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Barium | NELAP | 0.0010 | | **0.0318** | mg/L | 5 | 03/29/2022 23:51 | 188980 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Boron | NELAP | 0.0250 | | **11.3** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Cadmium | NELAP | 0.0010 | J | **0.0002** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Cobalt | NELAP | 0.0010 | J | **0.0008** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 23:51 | 188980 |
| Lithium | * | 0.0030 | | **0.0190** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Molybdenum | NELAP | 0.0015 | | **0.0586** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 17:49 | 188980 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/29/2022 23:51 | 188980 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-033 **Client Sample ID:** 35

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 9:10

| 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 17:57 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-034 **Client Sample ID:** 36

**Matrix:** GROUNDWATER **Collection Date:** 03/21/2022 13:54

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **14.38** | ft | 1 | 03/21/2022 13:54 | R308977 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-040 **Client Sample ID:** 49

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **20.61** | ft | 1 | 03/21/2022 13:28 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.12** | | 1 | 03/22/2022 11:32 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.0** | NTU | 1 | 03/22/2022 11:32 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-50** | mV | 1 | 03/22/2022 11:32 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1400** | µS/cm | 1 | 03/22/2022 11:32 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.1** | °C | 1 | 03/22/2022 11:32 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.19** | mg/L | 1 | 03/22/2022 11:32 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **322** | mg/L | 1 | 03/29/2022 10:07 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 10:07 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **594** | mg/L | 1 | 03/28/2022 17:33 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **82** | mg/L | 5 | 03/26/2022 0:12 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 03/31/2022 13:52 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **103** | mg/L | 5 | 03/26/2022 0:12 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **114** | mg/L | 1 | 03/29/2022 23:22 | 188980 |
| Magnesium | NELAP | 0.0500 | | **33.5** | mg/L | 1 | 03/29/2022 23:22 | 188980 |
| Potassium | NELAP | 0.500 | | **13.0** | mg/L | 5 | 03/31/2022 12:27 | 188980 |
| Sodium | NELAP | 0.0500 | | **60.1** | mg/L | 1 | 03/29/2022 23:22 | 188980 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/30/2022 1:24 | 188980 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Barium | NELAP | 0.0010 | | **0.0638** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Boron | NELAP | 0.0250 | | **0.858** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Cadmium | NELAP | 0.0010 | | **0.0016** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Cobalt | NELAP | 0.0010 | | **0.0045** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/30/2022 1:24 | 188980 |
| Lithium | * | 0.0030 | | **0.0274** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Molybdenum | NELAP | 0.0015 | | **0.0289** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 18:20 | 188980 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/30/2022 1:24 | 188980 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-040 **Client Sample ID:** 49

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:32

| 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 18:17 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-041 **Client Sample ID:** 50

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 12:35

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **7.45** | ft | 1 | 03/21/2022 13:24 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.38** | | 1 | 03/22/2022 12:35 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.0** | NTU | 1 | 03/22/2022 12:35 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-71** | mV | 1 | 03/22/2022 12:35 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1350** | µS/cm | 1 | 03/22/2022 12:35 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **15.2** | °C | 1 | 03/22/2022 12:35 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.20** | mg/L | 1 | 03/22/2022 12:35 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **281** | mg/L | 1 | 03/29/2022 10:18 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 10:18 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **598** | mg/L | 1 | 03/28/2022 17:33 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **90** | mg/L | 5 | 03/26/2022 0:15 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 03/31/2022 13:55 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **102** | mg/L | 5 | 03/26/2022 0:15 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **114** | mg/L | 1 | 03/28/2022 23:35 | 189006 |
| Magnesium | NELAP | 0.0500 | | **29.4** | mg/L | 1 | 03/28/2022 23:35 | 189006 |
| Potassium | NELAP | 0.100 | B | **9.08** | mg/L | 1 | 03/28/2022 23:35 | 189006 |
| Sodium | NELAP | 0.0500 | | **59.5** | mg/L | 1 | 03/28/2022 23:35 | 189006 |
| *Sample result(s) for K exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Arsenic | NELAP | 0.0010 | J | **0.0006** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Barium | NELAP | 0.0010 | | **0.0925** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Boron | NELAP | 0.0250 | | **1.24** | mg/L | 5 | 04/22/2022 20:13 | 190743 |
| Cadmium | NELAP | 0.0010 | | **0.0010** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Chromium | NELAP | 0.0015 | | **< 0.0015** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Cobalt | NELAP | 0.0010 | | **0.0040** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Lead | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Lithium | * | 0.0030 | | **0.0225** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Molybdenum | NELAP | 0.0015 | | **0.0423** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 19:05 | 189006 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/29/2022 19:05 | 189006 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-041 **Client Sample ID:** 50

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 12:35

| 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 18:19 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-042 **Client Sample ID:** 51

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 10:46

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **17.34** | ft | 1 | 03/21/2022 13:30 | R308977 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.37** | | 1 | 03/22/2022 10:46 | R308977 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **23** | NTU | 1 | 03/22/2022 10:46 | R308977 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-163** | mV | 1 | 03/22/2022 10:46 | R308977 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1450** | µS/cm | 1 | 03/22/2022 10:46 | R308977 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **11.8** | °C | 1 | 03/22/2022 10:46 | R308977 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.72** | mg/L | 1 | 03/22/2022 10:46 | R308977 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **346** | mg/L | 1 | 03/29/2022 10:23 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 03/29/2022 10:23 | R308865 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **622** | mg/L | 1 | 03/28/2022 17:34 | R309037 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **94** | mg/L | 5 | 03/26/2022 0:20 | R308817 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 03/31/2022 13:57 | R308988 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **103** | mg/L | 5 | 03/26/2022 0:20 | R308818 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **121** | mg/L | 1 | 03/28/2022 23:38 | 189006 |
| Magnesium | NELAP | 0.0500 | | **37.3** | mg/L | 1 | 03/28/2022 23:38 | 189006 |
| Potassium | NELAP | 0.100 | B | **5.36** | mg/L | 1 | 03/28/2022 23:38 | 189006 |
| Sodium | NELAP | 0.0500 | | **57.6** | mg/L | 1 | 03/28/2022 23:38 | 189006 |
| *Sample result(s) for K exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 19:11 | 189006 |
| Arsenic | NELAP | 0.0010 | | **0.0195** | mg/L | 5 | 03/29/2022 19:11 | 189006 |
| Barium | NELAP | 0.0010 | | **0.102** | mg/L | 5 | 03/29/2022 19:11 | 189006 |
| Beryllium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/31/2022 18:27 | 189006 |
| Boron | NELAP | 0.0250 | | **2.55** | mg/L | 5 | 04/22/2022 20:22 | 190743 |
| Cadmium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 19:11 | 189006 |
| Chromium | NELAP | 0.0015 | J | **0.0014** | mg/L | 5 | 03/31/2022 18:27 | 189006 |
| Cobalt | NELAP | 0.0010 | J | **0.0009** | mg/L | 5 | 03/31/2022 18:27 | 189006 |
| Lead | NELAP | 0.0010 | | **0.0015** | mg/L | 5 | 03/29/2022 19:11 | 189006 |
| Lithium | * | 0.0030 | | **0.0250** | mg/L | 5 | 03/31/2022 18:27 | 189006 |
| Molybdenum | NELAP | 0.0015 | | **0.0089** | mg/L | 5 | 03/29/2022 19:11 | 189006 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/29/2022 19:11 | 189006 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/29/2022 19:11 | 189006 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-042 **Client Sample ID:** 51

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 10:46

| 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 18:22 | 189039 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-044 **Client Sample ID:** SG02

**Matrix:** GROUNDWATER **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 **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

**Lab ID:** 22030530-049 **Client Sample ID:** Field Blank

**Matrix:** GROUNDWATER **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 CaCO3) | NELAP | 0 | | **2** | mg/L | 1 | 03/29/2022 10:56 | R308865 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | 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 |
| *Contamination present in the MBLK for K. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **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
**Client Project:** Hennepin Q1 Groundwater

**Work Order:** 22030530
**Report Date:** 01-Jun-22

| Lab Sample ID | Client Sample ID | Matrix | Fractions | Collection Date |
|---|---|---|---|---|
| 22030530-021 | 21R | Groundwater | 4 | 03/22/2022 8:44 |
| 22030530-022 | 22 | Groundwater | 4 | 03/22/2022 11:50 |
| 22030530-023 | 22D | Groundwater | 4 | 03/22/2022 12:16 |
| 22030530-024 | 23 | Groundwater | 4 | 03/22/2022 11:15 |
| 22030530-025 | 25 | Groundwater | 1 | 03/21/2022 13:51 |
| 22030530-026 | 26 | Groundwater | 1 | 03/21/2022 13:52 |
| 22030530-028 | 30 | Groundwater | 1 | 03/21/2022 13:40 |
| 22030530-029 | 31 | Groundwater | 1 | 03/21/2022 13:39 |
| 22030530-030 | 32 | Groundwater | 4 | 03/22/2022 10:18 |
| 22030530-031 | 33 | Groundwater | 1 | 03/21/2022 13:46 |
| 22030530-032 | 34 | Groundwater | 4 | 03/22/2022 8:09 |
| 22030530-033 | 35 | Groundwater | 4 | 03/22/2022 9:10 |
| 22030530-034 | 36 | Groundwater | 1 | 03/21/2022 13:54 |
| 22030530-040 | 49 | Groundwater | 4 | 03/22/2022 11:32 |
| 22030530-041 | 50 | Groundwater | 4 | 03/22/2022 12:35 |
| 22030530-042 | 51 | Groundwater | 4 | 03/22/2022 10:46 |
| 22030530-044 | SG02 | Groundwater | 1 | 03/21/2022 14:01 |
| 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** |
| 22030530-021A | 21R | 03/22/2022 8:44 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:31 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 8:44 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 8:44 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 8:44 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 8:48 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 8:48 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 8:44 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 16:48 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 8:44 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 8:44 |
| | SW-846 9036 (Total) | | | | 03/25/2022 21:56 |
| | SW-846 9214 (Total) | | | | 03/31/2022 11:42 |
| | SW-846 9251 (Total) | | | | 03/25/2022 21:56 |
| 22030530-021B | 21R | 03/22/2022 8:44 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 18:34 |
| 22030530-021C | 21R | 03/22/2022 8:44 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 11:27 | 03/30/2022 10:58 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/29/2022 22:18 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/31/2022 16:10 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:16 | 03/28/2022 17:27 |
| 22030530-021D | 21R | 03/22/2022 8:44 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 21:24 |
| 22030530-022A | 22 | 03/22/2022 11:50 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:27 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 11:50 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 11:50 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 11:50 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 8:53 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 8:53 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 11:50 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 16:49 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 11:50 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 11:50 |
| | SW-846 9036 (Total) | | | | 03/25/2022 21:59 |
| | SW-846 9214 (Total) | | | | 03/31/2022 11:44 |
| | SW-846 9251 (Total) | | | | 03/25/2022 21:59 |

**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 |
| 22030530-022B | 22 | 03/22/2022 11:50 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 18:36 |
| 22030530-022C | 22 | 03/22/2022 11:50 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 11:27 | 03/30/2022 11:01 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 11:27 | 03/31/2022 11:35 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/29/2022 22:24 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/31/2022 16:16 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:16 | 03/28/2022 17:29 |
| 22030530-022D | 22 | 03/22/2022 11:50 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 21:27 |
| 22030530-023A | 22D | 03/22/2022 12:16 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:26 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 12:16 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 12:16 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 12:16 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 8:59 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 8:59 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 12:16 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 16:49 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 12:16 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 12:16 |
| | SW-846 9036 (Total) | | | | 03/25/2022 22:18 |
| | SW-846 9214 (Total) | | | | 03/31/2022 12:05 |
| | SW-846 9251 (Total) | | | | 03/25/2022 22:17 |
| 22030530-023B | 22D | 03/22/2022 12:16 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 18:39 |
| 22030530-023C | 22D | 03/22/2022 12:16 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 11:27 | 03/30/2022 11:05 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/26/2022 13:57 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/29/2022 23:26 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/31/2022 16:22 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 04/01/2022 14:21 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:16 | 03/28/2022 17:32 |
| 22030530-023D | 22D | 03/22/2022 12:16 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 21:31 |
| 22030530-024A | 23 | 03/22/2022 11:15 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:29 |

**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** |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 11:15 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 11:15 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 11:15 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 9:04 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 9:04 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 11:15 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 16:50 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 11:15 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 11:15 |
| | SW-846 9036 (Total) | | | | 03/25/2022 22:25 |
| | SW-846 9214 (Total) | | | | 03/31/2022 12:18 |
| | SW-846 9251 (Total) | | | | 03/25/2022 22:20 |
| 22030530-024B | 23 | 03/22/2022 11:15 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 18:57 |
| 22030530-024C | 23 | 03/22/2022 11:15 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 11:27 | 03/30/2022 11:09 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/29/2022 23:32 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 11:27 | 03/31/2022 16:53 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:16 | 03/28/2022 17:34 |
| 22030530-024D | 23 | 03/22/2022 11:15 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 21:35 |
| 22030530-025A | 25 | 03/21/2022 13:51 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:51 |
| 22030530-026A | 26 | 03/21/2022 13:52 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:52 |
| 22030530-028A | 30 | 03/21/2022 13:40 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:40 |
| 22030530-029A | 31 | 03/21/2022 13:39 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:39 |
| 22030530-030A | 32 | 03/22/2022 10:18 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:44 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 10:18 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 10:18 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 10:18 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 9:25 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 9:25 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 10:18 |

**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** |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 16:51 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 10:18 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 10:18 |
| | SW-846 9036 (Total) | | | | 03/25/2022 22:31 |
| | SW-846 9214 (Total) | | | | 03/31/2022 12:23 |
| | SW-846 9251 (Total) | | | | 03/25/2022 22:31 |
| 22030530-030B | 32 | 03/22/2022 10:18 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 19:03 |
| 22030530-030C | 32 | 03/22/2022 10:18 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 15:30 | 03/29/2022 22:31 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 15:30 | 03/31/2022 12:20 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 15:30 | 03/29/2022 23:38 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 15:30 | 03/31/2022 17:00 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:16 | 03/28/2022 17:48 |
| 22030530-030D | 32 | 03/22/2022 10:18 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 21:42 |
| 22030530-031A | 33 | 03/21/2022 13:46 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:46 |
| 22030530-032A | 34 | 03/22/2022 8:09 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:34 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 8:04 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 8:04 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 8:04 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 9:31 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 9:31 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 8:04 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 17:32 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 8:04 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 8:04 |
| | SW-846 9036 (Total) | | | | 03/25/2022 22:36 |
| | SW-846 9214 (Total) | | | | 03/31/2022 12:26 |
| | SW-846 9251 (Total) | | | | 03/25/2022 22:36 |
| 22030530-032B | 34 | 03/22/2022 8:09 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 19:08 |
| 22030530-032C | 34 | 03/22/2022 8:09 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 15:30 | 03/29/2022 22:34 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 15:30 | 03/31/2022 12:16 |

**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** |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 15:30 | 03/29/2022 23:45 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 15:30 | 03/31/2022 17:43 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:16 | 03/28/2022 17:54 |
| 22030530-032D | 34 | 03/22/2022 8:09 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 21:46 |
| 22030530-033A | 35 | 03/22/2022 9:10 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:38 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 9:10 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 9:10 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 9:10 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 9:38 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 9:38 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 9:10 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 17:33 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 9:10 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 9:10 |
| | SW-846 9036 (Total) | | | | 03/25/2022 22:44 |
| | SW-846 9214 (Total) | | | | 03/31/2022 12:28 |
| | SW-846 9251 (Total) | | | | 03/25/2022 22:39 |
| 22030530-033B | 35 | 03/22/2022 9:10 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 19:11 |
| 22030530-033C | 35 | 03/22/2022 9:10 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 15:30 | 03/29/2022 22:38 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 15:30 | 03/31/2022 12:24 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 15:30 | 03/29/2022 23:51 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 15:30 | 03/31/2022 17:49 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:16 | 03/28/2022 17:57 |
| 22030530-033D | 35 | 03/22/2022 9:10 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 21:50 |
| 22030530-034A | 36 | 03/21/2022 13:54 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:54 |
| 22030530-040A | 49 | 03/22/2022 11:32 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:28 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 11:32 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 11:32 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 11:32 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 10:07 |

**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** |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 10:07 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 11:32 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 17:33 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 11:32 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 11:32 |
| | SW-846 9036 (Total) | | | | 03/26/2022 0:12 |
| | SW-846 9214 (Total) | | | | 03/31/2022 13:52 |
| | SW-846 9251 (Total) | | | | 03/26/2022 0:12 |
| 22030530-040B | 49 | 03/22/2022 11:32 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 19:56 |
| 22030530-040C | 49 | 03/22/2022 11:32 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 15:30 | 03/29/2022 23:22 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/24/2022 15:30 | 03/31/2022 12:27 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 15:30 | 03/30/2022 1:24 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/24/2022 15:30 | 03/31/2022 18:20 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:17 | 03/28/2022 18:17 |
| 22030530-040D | 49 | 03/22/2022 11:32 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 22:12 |
| 22030530-041A | 50 | 03/22/2022 12:35 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:24 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 12:35 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 12:35 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 12:35 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 10:18 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 10:18 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 12:35 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 17:33 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 12:35 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 12:35 |
| | SW-846 9036 (Total) | | | | 03/26/2022 0:15 |
| | SW-846 9214 (Total) | | | | 03/31/2022 13:55 |
| | SW-846 9251 (Total) | | | | 03/26/2022 0:15 |
| 22030530-041B | 50 | 03/22/2022 12:35 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 19:59 |
| 22030530-041C | 50 | 03/22/2022 12:35 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/25/2022 11:06 | 03/28/2022 23:35 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/25/2022 11:06 | 03/29/2022 19:05 |

**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** |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/25/2022 11:06 | 04/12/2022 18:39 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/25/2022 11:06 | 04/12/2022 20:09 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | | 04/22/2022 2:09 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 04/18/2022 13:35 | 04/22/2022 20:13 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:17 | 03/28/2022 18:19 |
| 22030530-041D | 50 | 03/22/2022 12:35 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 22:16 |
| 22030530-042A | 51 | 03/22/2022 10:46 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 13:30 |
| | Standard Method 4500-H B 2001 Field | | | | 03/22/2022 10:46 |
| | Standard Methods 2130 B Field | | | | 03/22/2022 10:46 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 03/22/2022 10:46 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 03/29/2022 10:23 |
| | Standard Methods 2320 B 1997, 2011 | | | | 03/29/2022 10:23 |
| | Standard Methods 2510 B Field | | | | 03/22/2022 10:46 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 03/28/2022 17:34 |
| | Standard Methods 2550 B Field | | | | 03/22/2022 10:46 |
| | Standard Methods 4500-O G Field | | | | 03/22/2022 10:46 |
| | SW-846 9036 (Total) | | | | 03/26/2022 0:20 |
| | SW-846 9214 (Total) | | | | 03/31/2022 13:57 |
| | SW-846 9251 (Total) | | | | 03/26/2022 0:20 |
| 22030530-042B | 51 | 03/22/2022 10:46 | 03/24/2022 7:50 | | |
| | SW-846 9251 (Dissolved) | | | | 03/25/2022 20:01 |
| 22030530-042C | 51 | 03/22/2022 10:46 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 03/25/2022 11:06 | 03/28/2022 23:38 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/25/2022 11:06 | 03/29/2022 19:11 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/25/2022 11:06 | 03/31/2022 18:27 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/25/2022 11:06 | 04/12/2022 18:55 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 03/25/2022 11:06 | 04/12/2022 20:25 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | | 04/22/2022 2:19 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 04/18/2022 13:35 | 04/22/2022 20:22 |
| | SW-846 7470A (Total) | | | 03/27/2022 10:17 | 03/28/2022 18:22 |
| 22030530-042D | 51 | 03/22/2022 10:46 | 03/24/2022 7:50 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 03/25/2022 13:22 | 03/30/2022 22:20 |
| 22030530-044A | SG02 | 03/21/2022 14:01 | 03/24/2022 7:50 | | |
| | Field Elevation Measurements | | | | 03/21/2022 14:01 |
| 22030530-049A | Field Blank | 03/23/2022 13:30 | 03/24/2022 7:50 | | |

**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** |
| | 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 |
| 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 | | |

**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** |
| | 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 **µS/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**

SampID: 22030530-013ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (as CaCO3) | | 0 | | **239** | | | | 232.0 | 2.97 | 03/29/2022 |

**Batch** R308865 **SampType:** DUP Units **mg/L** RPD Limit: **10**

SampID: 22030530-049ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (as CaCO3) | | 0 | | **2** | | | | 2.000 | 0.00 | 03/29/2022 |

**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**
SampID: 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**
SampID: 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** RPD Limit: **5**
SampID: 22030530-011ADUP

| 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** RPD Limit: **5**
SampID: 22030530-030ADUP

| 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**
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 | 03/29/2022 |

**Batch** R309039 **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 | | **944** | 1000 | 0 | 94.4 | 90 | 110 | 03/29/2022 |

**Batch** R309039 **SampType:** DUP Units **mg/L** RPD Limit: **5**
SampID: 22030530-003ADUP

| 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 |

**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**
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 | 03/30/2022 |
| Total Dissolved Solids | | 20 | | **< 20** | 16.00 | 0 | 0 | -100 | 100 | 03/30/2022 |

**Batch** R309043 **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 | | **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** RPD Limit: **5**
SampID: 22030530-002ADUP

| 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**
SampID: 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** RPD Limit: **10**
SampID: 22030530-004JMSD

| 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**
SampID: 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** RPD Limit: **10**
SampID: 22030530-011IMSD

| 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 |

**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: ICV/LCS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (as N) | | 0.10 | | **1.01** | 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: ICV/LCS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (as N) | | 0.10 | | **1.07** | 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: ICV/LCS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (as N) | | 0.10 | | **1.03** | 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

| 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 | 87.4 | 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 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 |

**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**

SampID: 22030530-006AMSD

| 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 | 98.0 | 0.4880 | 0.41 | 03/24/2022 |

**Batch** R308687 **SampType:** MS Units **mg/L**

SampID: 22030530-017AMS

| 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 | 98.4 | 85 | 115 | 03/24/2022 |

**Batch** R308687 **SampType:** MSD Units **mg/L** RPD Limit: **10**

SampID: 22030530-017AMSD

| 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 | 98.0 | 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

| 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 | 03/24/2022 |

**Batch** R308736 **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 | | **0.499** | 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 |

**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: 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 | | **0.504** | 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 |

**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**

SampID: 22030530-005FMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 22030530-004EMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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 |

**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**
SampID: 22030530-001BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**
SampID: 22030530-020BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**
SampID: 22030530-011FMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Phenols | | 0.005 | | **0.059** | 0.0500 | 0.01118 | 96.6 | 0.05468 | 8.43 | 03/28/2022 |

## SW-846 9214 (DISSOLVED)

**Batch** R308988 **SampType:** MS Units **mg/L**
SampID: 22030530-007BMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**
SampID: 22030530-007BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.25** | 2.000 | 0.1210 | 106.2 | 2.149 | 4.41 | 03/31/2022 |

**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 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **< 0.10** | 0.0370 | 0 | 0 | -100 | 100 | 03/31/2022 |

**Batch** R308988 **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 | | **0.99** | 1.000 | 0 | 99.0 | 90 | 110 | 03/31/2022 |

**Batch** R308988 **SampType:** MS Units **mg/L**

SampID: 22030530-012AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 22030530-023AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | | 0.10 | | **2.09** | 2.000 | 0.1230 | 98.5 | 2.119 | 1.23 | 03/31/2022 |

**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 |

**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**

SampID: 22030530-015BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 2 | | **100** | 40.00 | 63.24 | 90.8 | 85 | 115 | 03/25/2022 |

**Batch** R308818 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 22030530-020BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 22030530-036BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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 |

**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**

SampID: 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 |

**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**

SampID: 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 |

**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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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 |

**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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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 |

**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**

SampID: MBLK-189014

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**

SampID: 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 |

**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 |

**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**

SampID: 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 |

**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: 22030530-016DMS

| 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**

SampID: 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 |

**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**

SampID: MBLK-189015

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.0250 | | **< 0.0250** | 0.0125 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Antimony | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Arsenic | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Barium | | 0.0010 | | **< 0.0010** | 0.0007 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Beryllium | | 0.0010 | | **< 0.0010** | 0.0002 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Boron | | 0.0250 | | **< 0.0250** | 0.0093 | 0 | 0 | -100 | 100 | 03/30/2022 |
| Boron | | 0.0250 | | **< 0.0250** | 0.0093 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Cadmium | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Chromium | | 0.0015 | | **< 0.0015** | 0.0007 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Cobalt | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Copper | | 0.0010 | | **< 0.0010** | 0.0003 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Iron | | 0.0250 | | **< 0.0250** | 0.0115 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Lead | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Manganese | | 0.0020 | | **< 0.0020** | 0.0008 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Molybdenum | | 0.0015 | | **< 0.0015** | 0.0006 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Nickel | | 0.0010 | | **< 0.0010** | 0.0004 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Selenium | | 0.0010 | | **< 0.0010** | 0.0006 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Silver | | 0.0010 | | **< 0.0010** | 0.0001 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Thallium | | 0.0020 | | **< 0.0020** | 0.0010 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Vanadium | | 0.0050 | | **< 0.0050** | 0.0028 | 0 | 0 | -100 | 100 | 04/01/2022 |
| Zinc | | 0.0150 | | **< 0.0150** | 0.0059 | 0 | 0 | -100 | 100 | 04/01/2022 |

**Client:** Ramboll **Work Order:** 22030530

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 01-Jun-22

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

**Batch** 189015 **SampType:** LCS Units **mg/L**

SampID: LCS-189015

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**

SampID: MBLK-188963

| 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 |

**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**

SampID: 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**

SampID: 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 |

**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**

SampID: 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**

SampID: 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 |

**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**

SampID: 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** RPD Limit: **20**

SampID: LCSD-188980

| 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**

SampID: 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 |

**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**

SampID: 22030530-035CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: MBLK-189006

| 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 | 03/29/2022 |
| 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 |

**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**

SampID: 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**

SampID: 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 |

**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 |

**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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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 |

**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**

SampID: 22030530-007CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: MBLK-189039

| 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 |

**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 |

**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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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:** Mary E. Kemp
**On:** 24-Mar-22
Mary E. Kemp

**Reviewed by:** Elizabeth A. Hurley
**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: Ramboll / Vistra
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 53204
Contact: Eric Bauer Phone: (414) 837-3607
Email: eric.bauer@ramboll.com Fax:

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

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 1.8 °C LTG# 5
Preserved in: ☑ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH✓ 78011/75146, Added NaOH 78408 to 8/8DUP/8D/19D. HNO3 80810 to 8. H2SO4 80586 to 10. PNT 3/24/22

Client Comments: ② Filter in Lab OHS. PNT 3/24/22

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.

PROJECT NAME/NUMBER: Hennepin Q1 Groundwater
SAMPLE COLLECTOR'S NAME: J. RILEY A. BRIDGES

RESULTS REQUESTED
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS: Vistra PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field Tests | Total Cl/SO4 | TDS, Total F- | Bicarb./Carb. | Total Alkalinity | Total Nitrate | D - Cl/SO4/F- | Total Metals | D - Metals | T - Cyanide | D - Cyanide | T - NH3/OOH | D - NH3/OOH | BTEX/Perc* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22030530-001 | 02 | 03/22/22 1343 | Groundwater | | | | | | | | | | ✓ | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | ✓ |
| 002 | 03R | 03/23/22 1208 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 003 | 04R | 03/22/22 0958 | Groundwater | | | | | | | | | | ✓ | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | |
| 004 | 05DR | 03/23/22 1121 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 005 | 05R | 03/23/22 1054 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 006 | 06 | 03/23/22 1223 | Groundwater | | | | | | | | | | ✓ | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | |
| 007 | 07 03/22 | 03/22/22 1531 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 008 | 08 | 03/22/22 1424 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | 08 Duplicate | 03/22/22 1424 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | 08D | 03/22/22 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

CoC Rev C Aug 2020

# 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: Ramboll / Vistra
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 53204
Contact: Eric Bauer Phone: (414) 837-3607
Email: eric.bauer@ramboll.com Fax:

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

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

**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**
Hennepin Q1 Groundwater

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO#s

| 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 | Field Tests | Total Cl/SO4 | TDS, Total F- | Bicarb./Carb. | Total Alkalinity | Total Nitrate | D - Cl/SO4/F- | Total Metals | D - Metals | T - Cyanide | D - Cyanide | T - NH3/OOH | D - NH3/OOH | BTEX/Perc* |
| 22030530-012 | 12 | 03/23/22 0850 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 013 | 13 | 03/23/22 0907 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 014 | 15 | 03/23/22 0944 | Groundwater | | | | | | | | | | ✓ | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | |
| 015 | 16 | 03/23/22 1450 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| 016 | 17 | 03/23/22 1504 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| 017 | 18D | 03/23/22 1151 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 018 | 18S | 03/23/22 1157 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 019 | 19D | 03/23/22 1028 | Groundwater | | | | | | | | | | ✓ | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | |
| 020 | 19S | 3/23/22 1014 | Groundwater | | | | | | | | | | ✓ | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | |
| 021 | 21R | 3/22/22 0842 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 022 | 22 | 03/22/22 1150 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 3-24-22 0750 | | 3/24/22 0850 |

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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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Address: 234 W. Florida St.
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Email: eric.bauer@ramboll.com Fax:

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

**Client Comments:**

Field Tests = pH, DO, ORP, Conductivity, Temperature, Turbidity, and DTW
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**PROJECT NAME/NUMBER**
Hennepin Q1 Groundwater

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field Tests | Total Cl/SO4 | TDS, Total F- | Bicarb./Carb. | Total Alkalinity | Total Nitrate | D - Cl/SO4/F- | Total Metals | D - Metals | T - Cyanide | D - Cyanide | T - NH3/OOH | D - NH3/OOH | BTEX/Perc* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22030530-023 | 22D | 03/22/22 1216 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 024 | 23 | 03/21/22 1115 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 025 | 25 | 03/21/22 1351 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 026 | 26 | 03/21/22 1352 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 027 | 27 | 03/23/22 0956 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 028 | 30 | 03/21/22 1540 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 029 | 31 | 03/21/22 1354 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 030 | 32 | 03/22/22 1018 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 031 | 33 | 03/21/22 1346 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 032 | 34 | 03/22/22 0809 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 033 | 35 | 03/22/22 0910 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 3-24-22 0750 | | 3/24/22 0750 |

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# CHAIN OF CUSTODY

Pg 4 of 5 Workorder # 22030530

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Address: 234 W. Florida St.
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Email: eric.bauer@ramboll.com Fax:

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

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

**Client Comments:**

Field Tests = pH, DO, ORP, Conductivity, Temperature, Turbidity, and DTW
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**PROJECT NAME/NUMBER**
Hennepin Q1 Groundwater

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field Tests | Total Cl/SO4 | TDS, Total F- | Bicarb./Carb. | Total Alkalinity | Total Nitrate | D - Cl/SO4/F- | Total Metals | D - Metals | T - Cyanide | D - Cyanide | T - NH3/OOH | D - NH3/OOH | BTEX/Perc* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22030530-034 | 36 | 03/21/22 1354 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 035 | 40S | 03/23/22 1041 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 036 | 45S | 03/23/22 1236 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | ✓ |
| 037 | 46 | 03/23/22 0925 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | | | |
| 038 | 47 | 03/23/22 0827 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | | | |
| 039 | 48 | 03/23/22 1056 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | | | |
| 040 | 49 | 03/22/22 1132 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 041 | 50 | 03/22/22 1235 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 042 | 51 | 03/22/22 1046 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | |
| 043 | 55 1302 | 03/21/22 50.3 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 044 | SG02 | 03/21/22 1401 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 3-24-22 0750 | | 3/24/22 0750 |

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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: Ramboll / Vistra
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 53204
Contact: Eric Bauer Phone: (414) 837-3607
Email: eric.bauer@ramboll.com Fax:

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

**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**
Hennepin Q1 Groundwater

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field Tests | Total Cl/SO4 | TDS, Total F- | Bicarb./Carb. | Total Alkalinity | Total Nitrate | D - Cl/SO4/F- | Total Metals | D - Metals | T - Cyanide | D - Cyanide | T - NH3/OOH | D - NH3/OOH | BTEX/Perc* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22030530-045 | XPW01 | 03/23/22 1301 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | | | |
| 046 | XPW02 | 03/23/22 0801 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | | | |
| 047 | XPW03 | 03/23/22 1312 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | | | |
| 048 | XSG01 | 03/21/22 1253 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 049 | Field Blank (X) | 03/23/22 1330 | Groundwater | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 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

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

# Report Contents



**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 | 18 |
| Dates Report | 19 |
| Receiving Check List | 20 |
| 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.

West Ash Pond System CCR 804 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

### Springfield

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

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**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

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@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 **Work Order:** 22030531

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 21-Apr-22

**Lab ID:** 22030531-010 **Client Sample ID:** 21R

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 8:44

| 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 | 04/04/2022 0:00 | R309630 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 04/04/2022 0:00 | R309630 |

**Client:** Ramboll **Work Order:** 22030531

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 21-Apr-22

**Lab ID:** 22030531-011 **Client Sample ID:** 22

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:50

| 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:** 22030531-012 **Client Sample ID:** 22D

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 12:16

| 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:** 22030531-013 **Client Sample ID:** 23

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:15

| 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:** 22030531-015 **Client Sample ID:** 32

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 10:18

| 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:** 22030531-016 **Client Sample ID:** 34

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 8:09

| 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 | 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:** 22030531-017 **Client Sample ID:** 35

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 9:10

| 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:** 22030531-021 **Client Sample ID:** 49

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 11:32

| 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:** 22030531-022 **Client Sample ID:** 50

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 12:35

| 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 |

**Client:** Ramboll **Work Order:** 22030531

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 21-Apr-22

**Lab ID:** 22030531-023 **Client Sample ID:** 51

**Matrix:** GROUNDWATER **Collection Date:** 03/22/2022 10:46

| 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 |

**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 |

**Client:** Ramboll
**Client Project:** Hennepin Q1 Groundwater

**Work Order:** 22030531
**Report Date:** 21-Apr-22

| Lab Sample ID | Client Sample ID | Matrix | Fractions | Collection Date |
|---|---|---|---|---|
| 22030531-010 | 21R | Groundwater | 1 | 03/22/2022 8:44 |
| 22030531-011 | 22 | Groundwater | 1 | 03/22/2022 11:50 |
| 22030531-012 | 22D | Groundwater | 1 | 03/22/2022 12:16 |
| 22030531-013 | 23 | Groundwater | 1 | 03/22/2022 11:15 |
| 22030531-015 | 32 | Groundwater | 1 | 03/22/2022 10:18 |
| 22030531-016 | 34 | Groundwater | 1 | 03/22/2022 8:09 |
| 22030531-017 | 35 | Groundwater | 1 | 03/22/2022 9:10 |
| 22030531-021 | 49 | Groundwater | 1 | 03/22/2022 11:32 |
| 22030531-022 | 50 | Groundwater | 1 | 03/22/2022 12:35 |
| 22030531-023 | 51 | Groundwater | 1 | 03/22/2022 10:46 |
| 22030531-024 | Field Blank | Aqueous | 1 | 03/23/2022 13:30 |

**Client:** Ramboll **Work Order:** 22030531

**Client Project:** Hennepin Q1 Groundwater **Report Date:** 21-Apr-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | Test Name | | | Prep Date/Time | Analysis Date/Time |
| 22030531-010A | 21R | 03/22/2022 8:44 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/04/2022 0:00 |
| 22030531-011A | 22 | 03/22/2022 11:50 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/05/2022 0:00 |
| 22030531-012A | 22D | 03/22/2022 12:16 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/05/2022 0:00 |
| 22030531-013A | 23 | 03/22/2022 11:15 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/05/2022 0:00 |
| 22030531-015A | 32 | 03/22/2022 10:18 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/08/2022 0:00 |
| 22030531-016A | 34 | 03/22/2022 8:09 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/08/2022 0:00 |
| 22030531-017A | 35 | 03/22/2022 9:10 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/08/2022 0:00 |
| 22030531-021A | 49 | 03/22/2022 11:32 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/08/2022 0:00 |
| 22030531-022A | 50 | 03/22/2022 12:35 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/09/2022 0:00 |
| 22030531-023A | 51 | 03/22/2022 10:46 | 03/24/2022 7:50 | | |
| | EPA 903.0/904.0, Radium 226/228 | | | | 04/09/2022 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:** Mary E. Kemp
**On:** 24-Mar-22
Mary E. Kemp

**Reviewed by:** Elizabeth A. Hurley
**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: Ramboll / Vistra
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 53204
Contact: Eric Bauer Phone: (414) 837-3607
Email: eric.bauer@ramboll.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 1.8 °C LTG# 5
Preserved in: [ ] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: 78011, additional HNO3 (8010) to 08+34 MEK 3/24/22

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: Hennepin Q1 Groundwater
SAMPLE COLLECTOR'S NAME: J. KILEY A. BRIDGES

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra PO#

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Ra226/228 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22030531-001 | 03R | 03/23/22 1209 | Groundwater | | 2 | | | | | | | | ✓ |
| 002 | 07 | 03/22/22 1531 | Groundwater | | 2 | | | | | | | | ✓ |
| 003 | 08 | 03/22/22 1424 | Groundwater | | 2 | | | | | | | | ✓ |
| 004 | 08 Duplicate | 03/22/22 1424 | Groundwater | | 2 | | | | | | | | ✓ |
| 005 | 08D | 03/22/22 1404 | Groundwater | | 2 | | | | | | | | ✓ |
| 006 | 12 | 03/23/22 0850 | Groundwater | | 2 | | | | | | | | ✓ |
| 007 | 13 | 03/23/22 0907 | Groundwater | | 2 | | | | | | | | ✓ |
| 008 | 18S | 03/23/22 1137 | Groundwater | | 2 | | | | | | | | ✓ |
| 009 | 18D | 03/23/22 1151 | Groundwater | | 2 | | | | | | | | ✓ |
| 010 | 21R | 3/30/22 0844 | Groundwater | | 2 | | | | | | | | ✓ |
| 011 | 22 | 03/22/22 1150 | Groundwater | | 2 | | | | | | | | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 3-24-22 0750 | | 3/24/22 0850 |

*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

 MEK 3/24/22

# CHAIN OF CUSTODY

Pg 2 of 3 Workorder # 22030531

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

Client: Ramboll / Vistra
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 53204
Contact: Eric Bauer Phone: (414) 837-3607
Email: eric.bauer@ramboll.com Fax:

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

Client Comments:
Subcontracted to Pace-National
Multiple program reports will be generated

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 Q1 Groundwater
SAMPLE COLLECTOR'S NAME:

RESULTS REQUESTED
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Ra226/228 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22030531-012 | 22D | 03/22/22 1216 | Groundwater | | 2 | | | | | | | | ✔ |
| 013 | 23 | 03/22/22 1115 | Groundwater | | 2 | | | | | | | | ✔ |
| 014 | 27 | 03/23/22 0956 | Groundwater | | 2 | | | | | | | | ✔ |
| 015 | 32 | 03/23/22 1018 | Groundwater | | 2 | | | | | | | | ✔ |
| 016 | 34 | 03/23/22 0809 | Groundwater | | 2 | | | | | | | | ✔ |
| 017 | 35 | 03/23/22 0919 | Groundwater | | 2 | | | | | | | | ✔ |
| 018 | 45S | 03/23/22 1236 | Groundwater | | 2 | | | | | | | | ✔ |
| 019 | 46 | 03/23/22 0925 | Groundwater | | 2 | | | | | | | | ✔ |
| 020 | 47 | 03/23/22 0827 | Groundwater | | 2 | | | | | | | | ✔ |
| 021 | 49 | 03/22/22 1132 | Groundwater | | 2 | | | | | | | | ✔ |
| 022 | 50 | 03/22/22 1235 | Groundwater | | 2 | | | | | | | | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 3-24-22 0750 | | 3/24/22 0750 |
| | | | |
| | | | |
| | | | |
| | | | |

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PRINT PDF

# 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

Client: Ramboll / Vistra
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 53204
Contact: Eric Bauer Phone: (414) 837-3607
Email: eric.bauer@ramboll.com Fax:

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

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

Client Comments:
Subcontracted to Pace-National
Multiple program reports will be generated

PROJECT NAME/NUMBER: Hennepin Q1 Groundwater
SAMPLE COLLECTOR'S NAME:

RESULTS REQUESTED
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Ra226/228 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22030531-023 | 51 | 03/22/22 1046 | Groundwater | | 2 | | | | | | | | ✓ |
| 024 | Field Blank | 03/23/22 1330 | ~~Groundwater~~ Aqu | | 2 | | | | | | | | ✓ |
| | | | Groundwater SW 3/24/22 | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | |
| | | | 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

CoC Rev C Aug 2020

# ANALYTICAL REPORT

April 12, 2022

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

## TEKLAB, Inc.

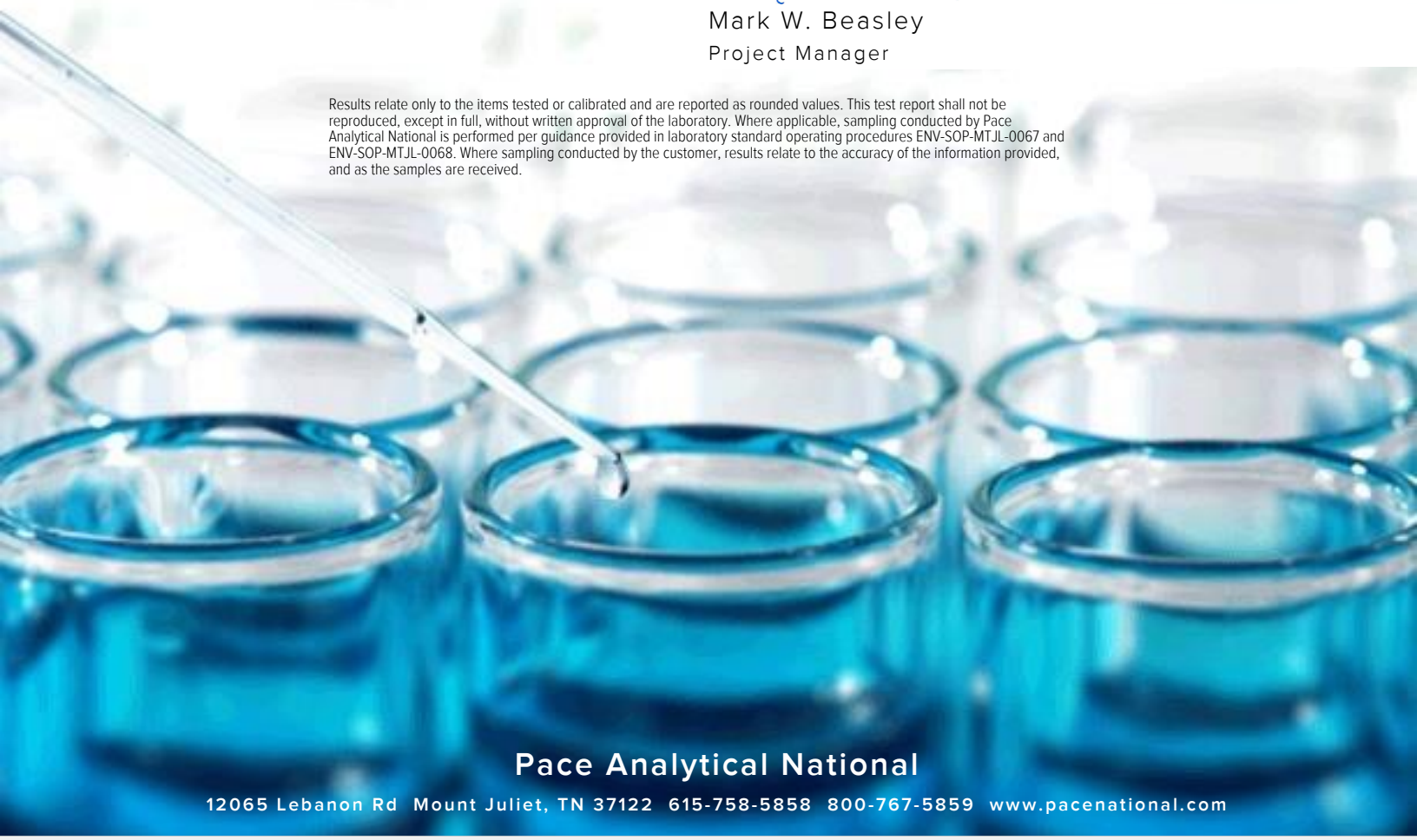
| | |
|---|---|
| Sample Delivery Group: | L1476141 |
| Samples Received: | 03/28/2022 |
| Project Number: | 22030531 |
| Description: | |

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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## 22030531-001A L1476141-01 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 03/23/22 12:08 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 15:31 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 14:24 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 14:24 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 14:04 | 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 | Received date/time |
|---|---|---|
| | 03/23/22 08:50 | 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 |

## 22030531-007A L1476141-07 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 03/23/22 09:07 | 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 |

## 22030531-008A L1476141-08 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 03/23/22 11:37 | 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 | Received date/time |
|---|---|---|
| | 03/23/22 11:51 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 08:44 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 11:50 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 12:16 | 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 |

## 22030531-013A L1476141-13 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 03/22/22 11:15 | 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 |

## 22030531-014A L1476141-14 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 03/22/22 09:56 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 10:18 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 08:09 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 09:10 | 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 | Received date/time |
|---|---|---|
| | 03/23/22 12:36 | 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 |

## 22030531-019A L1476141-19 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 03/23/22 09:25 | 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 |

## 22030531-020A L1476141-20 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 03/23/22 08:27 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 11:32 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 12:35 | 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 | Received date/time |
|---|---|---|
| | 03/22/22 10:46 | 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 | Received date/time |
|---|---|---|
| | 03/23/22 13:30 | 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

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.480 | J | 0.337 | 0.615 | 04/06/2022 12:30 | WG1840707 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.223 | U | 0.385 | 0.675 | 04/08/2022 13:35 | WG1840707 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.377 | J | 0.289 | 0.526 | 04/08/2022 13:35 | WG1840707 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.0309 | U | 0.301 | 0.566 | 04/09/2022 10:57 | WG1841143 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.459 | J | 0.372 | 0.602 | 04/09/2022 10:58 | WG1841143 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.335 | J | 0.359 | 0.616 | 04/09/2022 10:58 | WG1841143 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.137 | U | 0.333 | 0.582 | 04/09/2022 10:58 | WG1841143 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

# QUALITY CONTROL SUMMARY

L1476141-01,02,03,04,05,06,07,08,09,10

## Method Blank (MB)

(MB) R3778692-1 04/06/22 12:30

| Analyte | MB Result pCi/l | MB Qualifier | MB Uncertainty + / - pCi/l | 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* | | | | | | | |

## Method Blank (MB)

(MB) R3780286-1 04/08/22 13:35

| Analyte | MB Result pCi/l | MB Qualifier | MB Uncertainty + / - pCi/l | MB MDA pCi/l |
|---|---|---|---|---|
| Radium-228 | 0.0402 | U | 0.232 | 0.423 |
| *(T) Barium* | *97.7* | | *97.7* | |
| *(T) Yttrium* | *111* | C1 | *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 | 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* | | | C1 | C1 | | | |

## Method Blank (MB)

(MB) R3778684-1 04/05/22 13:10

| Analyte | MB Result | MB Qualifier | MB Uncertainty | MB MDA |
|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l |
| Radium-226 | -0.0197 | 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 | Original Uncertainty | Original MDA | DUP Result | DUP Uncertainty | DUP MDA | Dilution | DUP RPD | DUP RER | DUP Qualifier | DUP RPD Limits | DUP RER Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | + / - | pCi/l | pCi/l | + / - | pCi/l | | % | | | % | |
| Radium-226 | 0.445 | 0.304 | 0.296 | 0.211 | 0.232 | 0.296 | 1 | 71.2 | 0.611 | J | 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 | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | pCi/l | pCi/l | % | % | |
| 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 | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | MS RER | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | pCi/l | pCi/l | pCi/l | % | % | | % | | | % | | % |
| 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* | | | | | | | |

## Method Blank (MB)

(MB) R3779719-1 04/09/22 10:57

| Analyte | MB Result | MB Qualifier | MB Uncertainty | MB MDA |
|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l |
| Radium-226 | 0.00477 | 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 | Original Uncertainty | Original MDA | DUP Result | DUP Uncertainty | DUP MDA | Dilution | DUP RPD | DUP RER | DUP Qualifier | DUP RPD Limits | DUP RER Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | + / - | pCi/l | pCi/l | + / - | pCi/l | | % | | | % | |
| Radium-226 | 0.0292 | 0.163 | 0.305 | 0.0202 | 0.121 | 0.305 | 1 | 36.7 | 0.0446 | 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 | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | pCi/l | pCi/l | % | % | |
| 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 | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | MS RER | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | pCi/l | pCi/l | pCi/l | % | % | | % | | | % | | % |
| 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* | | | | | | | |

## 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. |

# 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 | LAO000356 |
| 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.

A152



# 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: Joseph Riley/Adam Bridges | QC 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 |
|---|---|---|---|---|---|
| -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 | | 3/28/22 0901 |

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)

# 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: Joseph Riley/Adam Bridges | QC 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

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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 | | 3/28/22 0730 |
| | | | |
| | | | |
| | | | |
| | | | |

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# 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**
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Cooler Temp: Sampler: Joseph Riley/Adam Bridges QC Level: 3

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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

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

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 |
|---|---|---|---|---|---|
| -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 | ☐ |

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 | | 3/28/22 0920 |

12.4+2.7 A28

11.66±1.16 A28

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12.4+2.7 A28

SubCocRevA
3/2/2016

July 13, 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 Q2 Groundwater **WorkOrder:** 22051803

Dear Eric Bauer:

TEKLAB, INC received 41 samples on 6/9/2022 8:28:00 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

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com

# Report Contents



**Client:** Ramboll
**Work Order:** 22051803
**Client Project:** Hennepin Q2 Groundwater
**Report Date:** 13-Jul-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 | 8 |
| Dates Report | 9 |
| Quality Control Results | 10 |
| Receiving Check List | 32 |
| Chain of Custody | Appended |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-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:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-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

**Client:** Ramboll
**Work Order:** 22051803
**Client Project:** Hennepin Q2 Groundwater
**Report Date:** 13-Jul-22

**Cooler Receipt Temp:** 4.4 °C

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

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

Hennepin 257_804 data is included in this report. EAH 7/13/22

## Locations

### Collinsville

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

### Springfield

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

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**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

### Chicago

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

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-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 |
| 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 **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

**Lab ID:** 22051803-022 **Client Sample ID:** 22

**Matrix:** GROUNDWATER **Collection Date:** 06/07/2022 12:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Cadmium | NELAP | 1.0 | | **5.7** | µg/L | 5 | 06/11/2022 4:41 | 193511 |
| Lithium | * | 3.0 | | **50.7** | µg/L | 5 | 06/11/2022 4:41 | 193511 |
| Molybdenum | NELAP | 1.5 | | **101** | µg/L | 5 | 06/11/2022 4:41 | 193511 |

**Client:** Ramboll
**Client Project:** Hennepin Q2 Groundwater

**Work Order:** 22051803
**Report Date:** 13-Jul-22

| Lab Sample ID | Client Sample ID | Matrix | Fractions | Collection Date |
|---|---|---|---|---|
| 22051803-022 | 22 | Groundwater | 1 | 06/07/2022 12:45 |

# Dates Report

http://www.teklabinc.com/

**Client:** Ramboll
**Client Project:** Hennepin Q2 Groundwater

**Work Order:** 22051803
**Report Date:** 13-Jul-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| 22051803-022C | 22 | 06/07/2022 12:45 | 06/09/2022 8:28 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 06/09/2022 14:05 | 06/14/2022 20:10 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 06/09/2022 14:05 | 06/11/2022 4:41 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 06/09/2022 14:05 | 06/21/2022 18:13 |
| | SW-846 7470A (Total) | | | 06/15/2022 12:54 | 06/16/2022 13:04 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193517 **SampType:** MBLK Units **mg/L**
SampID: MBLK-193517

| 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 | 06/13/2022 |
| Magnesium | | 0.050 | | **< 0.050** | 0.0055 | 0 | 0 | -100 | 100 | 06/13/2022 |
| Potassium | | 0.100 | | **< 0.100** | 0.0400 | 0 | 0 | -100 | 100 | 06/13/2022 |
| Sodium | | 0.050 | | **< 0.050** | 0.0180 | 0 | 0 | -100 | 100 | 06/13/2022 |

**Batch** 193517 **SampType:** LCS Units **mg/L**
SampID: LCS-193517

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **2.38** | 2.500 | 0 | 95.0 | 85 | 115 | 06/13/2022 |
| Magnesium | | 0.050 | | **2.53** | 2.500 | 0 | 101.3 | 85 | 115 | 06/13/2022 |
| Potassium | | 0.100 | | **2.25** | 2.500 | 0 | 90.0 | 85 | 115 | 06/13/2022 |
| Sodium | | 0.050 | | **2.17** | 2.500 | 0 | 86.6 | 85 | 115 | 06/13/2022 |

**Batch** 193557 **SampType:** MBLK Units **mg/L**
SampID: MBLK-193557

| 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 | 06/13/2022 |
| Magnesium | | 0.0500 | | **< 0.0500** | 0.0055 | 0 | 0 | -100 | 100 | 06/13/2022 |
| Potassium | | 0.100 | | **< 0.100** | 0.0500 | 0 | 0 | -100 | 100 | 06/13/2022 |
| Sodium | | 0.0500 | | **< 0.0500** | 0.0180 | 0 | 0 | -100 | 100 | 06/13/2022 |

**Batch** 193557 **SampType:** LCS Units **mg/L**
SampID: LCS-193557

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **2.34** | 2.500 | 0 | 93.7 | 85 | 115 | 06/13/2022 |
| Magnesium | | 0.0500 | | **2.46** | 2.500 | 0 | 98.4 | 85 | 115 | 06/13/2022 |
| Potassium | | 0.100 | | **2.24** | 2.500 | 0 | 89.6 | 85 | 115 | 06/13/2022 |
| Sodium | | 0.0500 | | **2.15** | 2.500 | 0 | 85.9 | 85 | 115 | 06/13/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193511 **SampType:** MBLK Units **mg/L**
SampID: MBLK-193511

| 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 | 06/14/2022 |
| Magnesium | | 0.050 | | **< 0.050** | 0.0055 | 0 | 0 | -100 | 100 | 06/14/2022 |
| Potassium | | 0.100 | | **< 0.100** | 0.0400 | 0 | 0 | -100 | 100 | 06/14/2022 |
| Sodium | | 0.050 | | **< 0.050** | 0.0180 | 0 | 0 | -100 | 100 | 06/14/2022 |

**Batch** 193511 **SampType:** LCS Units **mg/L**
SampID: LCS-193511

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **2.65** | 2.500 | 0 | 106.0 | 85 | 115 | 06/14/2022 |
| Magnesium | | 0.050 | | **2.76** | 2.500 | 0 | 110.3 | 85 | 115 | 06/14/2022 |
| Potassium | | 0.100 | | **2.65** | 2.500 | 0 | 106.1 | 85 | 115 | 06/14/2022 |
| Sodium | | 0.050 | | **2.45** | 2.500 | 0 | 98.0 | 85 | 115 | 06/14/2022 |

**Batch** 193511 **SampType:** MS Units **mg/L**
SampID: 22051803-007DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **156** | 2.500 | 154.3 | 52.0 | 75 | 125 | 06/14/2022 |

**Batch** 193511 **SampType:** MSD Units **mg/L** RPD Limit: **20**
SampID: 22051803-007DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **160** | 2.500 | 154.3 | 212.0 | 155.6 | 2.54 | 06/14/2022 |

**Batch** 193511 **SampType:** MS Units **mg/L**
SampID: 22051803-030CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **117** | 2.500 | 114.8 | 104.0 | 75 | 125 | 06/14/2022 |

**Batch** 193511 **SampType:** MSD Units **mg/L** RPD Limit: **20**
SampID: 22051803-030CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **118** | 2.500 | 114.8 | 116.0 | 117.4 | 0.26 | 06/14/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193515 **SampType:** MBLK Units **mg/L**
SampID: MBLK-193515

| 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 | 06/13/2022 |
| Magnesium | | 0.0500 | | **< 0.0500** | 0.0055 | 0 | 0 | -100 | 100 | 06/13/2022 |
| Potassium | | 0.100 | | **< 0.100** | 0.0400 | 0 | 0 | -100 | 100 | 06/13/2022 |
| Sodium | | 0.0500 | | **< 0.0500** | 0.0180 | 0 | 0 | -100 | 100 | 06/13/2022 |

**Batch** 193515 **SampType:** LCS Units **mg/L**
SampID: LCS-193515

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **2.65** | 2.500 | 0 | 106.0 | 85 | 115 | 06/13/2022 |
| Magnesium | | 0.0500 | | **2.57** | 2.500 | 0 | 102.8 | 85 | 115 | 06/13/2022 |
| Potassium | | 0.100 | | **2.62** | 2.500 | 0 | 104.7 | 85 | 115 | 06/13/2022 |
| Sodium | | 0.0500 | | **2.54** | 2.500 | 0 | 101.5 | 85 | 115 | 06/13/2022 |

**Batch** 193515 **SampType:** MS Units **mg/L**
SampID: 22051803-039CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **126** | 2.500 | 119.7 | 248.4 | 75 | 125 | 06/13/2022 |

**Batch** 193515 **SampType:** MSD Units **mg/L** RPD Limit: **20**
SampID: 22051803-039CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **129** | 2.500 | 119.7 | 377.2 | 126.0 | 2.52 | 06/13/2022 |

**Batch** 193560 **SampType:** MBLK Units **mg/L**
SampID: MBLK-193560

| 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 | 06/14/2022 |
| Magnesium | | 0.0500 | | **< 0.0500** | 0.0055 | 0 | 0 | -100 | 100 | 06/14/2022 |
| Potassium | | 0.100 | | **< 0.100** | 0.0400 | 0 | 0 | -100 | 100 | 06/14/2022 |
| Sodium | | 0.0500 | | **< 0.0500** | 0.0180 | 0 | 0 | -100 | 100 | 06/14/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193560 **SampType:** LCS Units **mg/L**

SampID: LCS-193560

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | | **2.61** | 2.500 | 0 | 104.3 | 85 | 115 | 06/14/2022 |
| Magnesium | | 0.0500 | | **2.71** | 2.500 | 0 | 108.2 | 85 | 115 | 06/14/2022 |
| Potassium | | 0.100 | | **2.61** | 2.500 | 0 | 104.5 | 85 | 115 | 06/14/2022 |
| Sodium | | 0.0500 | | **2.41** | 2.500 | 0 | 96.3 | 85 | 115 | 06/14/2022 |

**Batch** 193560 **SampType:** MS Units **mg/L**

SampID: 22051803-024CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **120** | 2.500 | 115.2 | 196.0 | 75 | 125 | 06/14/2022 |

**Batch** 193560 **SampType:** MSD Units **mg/L** RPD Limit: **20**

SampID: 22051803-024CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | | 0.100 | S | **123** | 2.500 | 115.2 | 296.0 | 120.1 | 2.06 | 06/14/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193517 **SampType:** MBLK Units **µg/L**

SampID: MBLK-193517

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 25.0 | | **< 25.0** | 12.50 | 0 | 0 | -100 | 100 | 06/28/2022 |
| Antimony | | 1.0 | | **< 1.0** | 0.4500 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Arsenic | | 1.0 | | **< 1.0** | 0.3750 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Barium | | 1.0 | | **< 1.0** | 0.7000 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Beryllium | | 1.0 | | **< 1.0** | 0.2500 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Boron | | 25.0 | | **< 25.0** | 9.250 | 0 | 0 | -100 | 100 | 06/28/2022 |
| Cadmium | | 1.0 | | **< 1.0** | 0.1340 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Chromium | | 1.5 | | **< 1.5** | 0.7000 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Cobalt | | 1.0 | | **< 1.0** | 0.1150 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Copper | | 1.0 | | **< 1.0** | 0.3000 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Iron | | 25.0 | | **< 25.0** | 11.50 | 0 | 0 | -100 | 100 | 06/28/2022 |
| Lead | | 1.0 | | **< 1.0** | 0.6000 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Manganese | | 2.0 | | **< 2.0** | 0.7500 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Molybdenum | | 1.5 | | **< 1.5** | 0.6000 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Nickel | | 1.0 | | **< 1.0** | 0.4300 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Selenium | | 1.0 | | **< 1.0** | 0.6000 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Silver | | 1.0 | | **< 1.0** | 0.1000 | 0 | 0 | -100 | 100 | 06/29/2022 |
| Thallium | | 2.0 | | **< 2.0** | 0.9500 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Vanadium | | 5.0 | | **< 5.0** | 5.000 | 0 | 0 | -100 | 100 | 06/27/2022 |
| Zinc | | 15.0 | | **< 15.0** | 5.900 | 0 | 0 | -100 | 100 | 06/27/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193517 **SampType:** LCS Units **µg/L**

SampID: LCS-193517

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 25.0 | | **1980** | 2000 | 0 | 98.8 | 80 | 120 | 06/28/2022 |
| Antimony | | 1.0 | | **463** | 500.0 | 0 | 92.7 | 80 | 120 | 06/27/2022 |
| Arsenic | | 1.0 | | **491** | 500.0 | 0 | 98.2 | 80 | 120 | 06/27/2022 |
| Barium | | 1.0 | | **1870** | 2000 | 0 | 93.3 | 80 | 120 | 06/27/2022 |
| Beryllium | | 1.0 | | **45.7** | 50.00 | 0 | 91.3 | 80 | 120 | 06/27/2022 |
| Boron | | 25.0 | | **459** | 500.0 | 0 | 91.8 | 80 | 120 | 06/28/2022 |
| Cadmium | | 1.0 | | **47.3** | 50.00 | 0 | 94.7 | 80 | 120 | 06/27/2022 |
| Chromium | | 1.5 | | **200** | 200.0 | 0 | 99.8 | 80 | 120 | 06/27/2022 |
| Cobalt | | 1.0 | | **514** | 500.0 | 0 | 102.7 | 80 | 120 | 06/27/2022 |
| Copper | | 1.0 | | **270** | 250.0 | 0 | 108.1 | 80 | 120 | 06/27/2022 |
| Iron | | 25.0 | | **1830** | 2000 | 0 | 91.3 | 80 | 120 | 06/28/2022 |
| Lead | | 1.0 | | **480** | 500.0 | 0 | 95.9 | 80 | 120 | 06/27/2022 |
| Manganese | | 2.0 | | **487** | 500.0 | 0 | 97.4 | 80 | 120 | 06/27/2022 |
| Molybdenum | | 1.5 | | **492** | 500.0 | 0 | 98.4 | 80 | 120 | 06/27/2022 |
| Nickel | | 1.0 | | **527** | 500.0 | 0 | 105.5 | 80 | 120 | 06/27/2022 |
| Selenium | | 1.0 | | **437** | 500.0 | 0 | 87.4 | 80 | 120 | 06/27/2022 |
| Silver | | 1.0 | | **43.6** | 50.00 | 0 | 87.3 | 80 | 120 | 06/29/2022 |
| Thallium | | 2.0 | | **241** | 250.0 | 0 | 96.3 | 80 | 120 | 06/27/2022 |
| Vanadium | | 5.0 | | **497** | 500.0 | 0 | 99.4 | 80 | 120 | 06/27/2022 |
| Zinc | | 15.0 | | **484** | 500.0 | 0 | 96.7 | 80 | 120 | 06/27/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193517 **SampType:** MS Units **µg/L**

SampID: 22051803-003CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **466** | 500.0 | 1.542 | 93.0 | 75 | 125 | 06/27/2022 |
| Arsenic | | 1.0 | | **489** | 500.0 | 1.839 | 97.4 | 75 | 125 | 06/27/2022 |
| Barium | | 1.0 | | **1960** | 2000 | 46.53 | 95.8 | 75 | 125 | 06/27/2022 |
| Beryllium | | 1.0 | | **46.8** | 50.00 | 0 | 93.5 | 75 | 125 | 06/27/2022 |
| Boron | | 25.0 | | **1670** | 500.0 | 1232 | 88.0 | 75 | 125 | 06/29/2022 |
| Cadmium | | 1.0 | | **44.6** | 50.00 | 0 | 89.2 | 75 | 125 | 06/27/2022 |
| Chromium | | 1.5 | | **167** | 200.0 | 1.057 | 83.0 | 75 | 125 | 06/29/2022 |
| Cobalt | | 1.0 | | **471** | 500.0 | 0 | 94.2 | 75 | 125 | 06/27/2022 |
| Copper | | 1.0 | | **241** | 250.0 | 0.6444 | 96.3 | 75 | 125 | 06/27/2022 |
| Iron | | 25.0 | | **1670** | 2000 | 74.14 | 80.0 | 75 | 125 | 06/29/2022 |
| Lead | | 1.0 | | **485** | 500.0 | 0 | 96.9 | 75 | 125 | 06/27/2022 |
| Manganese | | 2.0 | | **479** | 500.0 | 2.986 | 95.2 | 75 | 125 | 06/27/2022 |
| Nickel | | 1.0 | | **472** | 500.0 | 1.109 | 94.2 | 75 | 125 | 06/27/2022 |
| Selenium | | 1.0 | | **455** | 500.0 | 6.477 | 89.8 | 75 | 125 | 06/27/2022 |
| Silver | | 1.0 | | **43.3** | 50.00 | 0 | 86.5 | 75 | 125 | 06/29/2022 |
| Thallium | | 2.0 | | **250** | 250.0 | 0 | 99.9 | 75 | 125 | 06/27/2022 |
| Zinc | | 15.0 | | **453** | 500.0 | 0 | 90.6 | 75 | 125 | 06/27/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193517 **SampType:** MSD Units **µg/L** RPD Limit: **20**

SampID: 22051803-003CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **461** | 500.0 | 1.542 | 91.9 | 466.5 | 1.12 | 06/27/2022 |
| Arsenic | | 1.0 | | **482** | 500.0 | 1.839 | 96.1 | 488.8 | 1.31 | 06/27/2022 |
| Barium | | 1.0 | | **1910** | 2000 | 46.53 | 93.0 | 1963 | 2.89 | 06/27/2022 |
| Beryllium | | 1.0 | | **45.6** | 50.00 | 0 | 91.2 | 46.77 | 2.54 | 06/27/2022 |
| Boron | | 25.0 | | **1740** | 500.0 | 1232 | 101.2 | 1672 | 3.89 | 06/29/2022 |
| Cadmium | | 1.0 | | **45.1** | 50.00 | 0 | 90.3 | 44.62 | 1.18 | 06/27/2022 |
| Chromium | | 1.5 | | **181** | 200.0 | 1.057 | 89.8 | 167.1 | 7.77 | 06/29/2022 |
| Cobalt | | 1.0 | | **481** | 500.0 | 0 | 96.3 | 470.8 | 2.23 | 06/27/2022 |
| Copper | | 1.0 | | **244** | 250.0 | 0.6444 | 97.4 | 241.5 | 1.12 | 06/27/2022 |
| Iron | | 25.0 | | **1960** | 2000 | 74.14 | 94.4 | 1674 | 15.82 | 06/29/2022 |
| Lead | | 1.0 | | **455** | 500.0 | 0 | 91.1 | 484.7 | 6.24 | 06/27/2022 |
| Manganese | | 2.0 | | **469** | 500.0 | 2.986 | 93.1 | 478.8 | 2.17 | 06/27/2022 |
| Nickel | | 1.0 | | **474** | 500.0 | 1.109 | 94.5 | 472.2 | 0.32 | 06/27/2022 |
| Selenium | | 1.0 | | **440** | 500.0 | 6.477 | 86.8 | 455.3 | 3.32 | 06/27/2022 |
| Silver | | 1.0 | | **45.8** | 50.00 | 0 | 91.6 | 43.25 | 5.75 | 06/29/2022 |
| Thallium | | 2.0 | | **239** | 250.0 | 0 | 95.6 | 249.7 | 4.41 | 06/27/2022 |
| Zinc | | 15.0 | | **450** | 500.0 | 0 | 89.9 | 453.1 | 0.79 | 06/27/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193517 **SampType:** MS Units **µg/L**

SampID: 22051803-014CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **508** | 500.0 | 0.7309 | 101.4 | 75 | 125 | 06/27/2022 |
| Arsenic | | 1.0 | | **449** | 500.0 | 0 | 89.7 | 75 | 125 | 06/29/2022 |
| Barium | | 1.0 | | **1970** | 2000 | 65.19 | 95.2 | 75 | 125 | 06/29/2022 |
| Beryllium | | 1.0 | | **47.7** | 50.00 | 0 | 95.5 | 75 | 125 | 06/27/2022 |
| Boron | | 25.0 | | **892** | 500.0 | 464.3 | 85.5 | 75 | 125 | 06/29/2022 |
| Cadmium | | 1.0 | | **45.0** | 50.00 | 0 | 89.9 | 75 | 125 | 06/29/2022 |
| Chromium | | 1.5 | | **170** | 200.0 | 1.560 | 84.1 | 75 | 125 | 06/29/2022 |
| Cobalt | | 1.0 | | **506** | 500.0 | 0.1621 | 101.2 | 75 | 125 | 06/27/2022 |
| Copper | | 1.0 | | **260** | 250.0 | 1.687 | 103.2 | 75 | 125 | 06/27/2022 |
| Iron | | 25.0 | | **1730** | 2000 | 12.64 | 86.1 | 75 | 125 | 06/29/2022 |
| Lead | | 1.0 | | **427** | 500.0 | 0 | 85.3 | 75 | 125 | 06/29/2022 |
| Manganese | | 2.0 | | **512** | 500.0 | 0 | 102.4 | 75 | 125 | 06/27/2022 |
| Nickel | | 1.0 | | **507** | 500.0 | 1.580 | 101.0 | 75 | 125 | 06/27/2022 |
| Selenium | | 1.0 | | **492** | 500.0 | 2.505 | 97.9 | 75 | 125 | 06/27/2022 |
| Silver | | 1.0 | | **44.5** | 50.00 | 0 | 88.9 | 75 | 125 | 06/29/2022 |
| Thallium | | 2.0 | | **262** | 250.0 | 0 | 104.8 | 75 | 125 | 06/27/2022 |
| Zinc | | 15.0 | | **480** | 500.0 | 0 | 95.9 | 75 | 125 | 06/27/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193517 **SampType:** MSD Units **µg/L** RPD Limit: **20**

SampID: 22051803-014CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **614** | 500.0 | 0.7309 | 122.6 | 507.5 | 18.94 | 06/27/2022 |
| Arsenic | | 1.0 | | **409** | 500.0 | 0 | 81.8 | 448.5 | 9.25 | 06/29/2022 |
| Barium | | 1.0 | | **1800** | 2000 | 65.19 | 86.6 | 1970 | 9.18 | 06/29/2022 |
| Beryllium | | 1.0 | | **56.5** | 50.00 | 0 | 113.1 | 47.73 | 16.91 | 06/27/2022 |
| Boron | | 25.0 | | **840** | 500.0 | 464.3 | 75.1 | 891.8 | 6.03 | 06/29/2022 |
| Cadmium | | 1.0 | | **40.8** | 50.00 | 0 | 81.5 | 44.97 | 9.85 | 06/29/2022 |
| Chromium | | 1.5 | | **153** | 200.0 | 1.560 | 75.8 | 169.7 | 10.28 | 06/29/2022 |
| Cobalt | | 1.0 | | **607** | 500.0 | 0.1621 | 121.3 | 506.4 | 17.99 | 06/27/2022 |
| Copper | | 1.0 | | **311** | 250.0 | 1.687 | 123.6 | 259.7 | 17.89 | 06/27/2022 |
| Iron | | 25.0 | | **1520** | 2000 | 12.64 | 75.2 | 1735 | 13.37 | 06/29/2022 |
| Lead | | 1.0 | | **418** | 500.0 | 0 | 83.6 | 426.7 | 2.12 | 06/29/2022 |
| Manganese | | 2.0 | | **612** | 500.0 | 0 | 122.3 | 511.8 | 17.78 | 06/27/2022 |
| Nickel | | 1.0 | | **603** | 500.0 | 1.580 | 120.2 | 506.6 | 17.30 | 06/27/2022 |
| Selenium | | 1.0 | | **589** | 500.0 | 2.505 | 117.2 | 491.9 | 17.90 | 06/27/2022 |
| Silver | | 1.0 | | **40.6** | 50.00 | 0 | 81.3 | 44.47 | 9.03 | 06/29/2022 |
| Thallium | | 2.0 | | **298** | 250.0 | 0 | 119.0 | 262.1 | 12.67 | 06/27/2022 |
| Zinc | | 15.0 | | **579** | 500.0 | 0 | 115.9 | 479.5 | 18.87 | 06/27/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193557 **SampType:** MBLK Units **µg/L**

SampID: MBLK-193557

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 25.0 | | **< 25.0** | 12.50 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Antimony | | 1.0 | | **< 1.0** | 0.4500 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Arsenic | | 1.0 | | **< 1.0** | 0.3750 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Barium | | 1.0 | | **< 1.0** | 0.7000 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Beryllium | | 1.0 | | **< 1.0** | 0.2500 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Boron | | 25.0 | | **< 25.0** | 9.250 | 0 | 0 | -100 | 100 | 06/23/2022 |
| Cadmium | | 1.0 | | **< 1.0** | 0.1340 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Chromium | | 1.5 | | **< 1.5** | 0.7000 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Cobalt | | 1.0 | | **< 1.0** | 0.1150 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Copper | | 1.0 | | **< 1.0** | 0.3000 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Iron | | 25.0 | | **< 25.0** | 11.50 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Lead | | 1.0 | | **< 1.0** | 0.6000 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Manganese | | 2.0 | | **< 2.0** | 0.7500 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Molybdenum | | 1.5 | | **< 1.5** | 0.6000 | 0 | 0 | -100 | 100 | 06/23/2022 |
| Nickel | | 1.0 | | **< 1.0** | 0.5500 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Selenium | | 1.0 | | **< 1.0** | 0.6000 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Silver | | 1.0 | | **< 1.0** | 0.1000 | 0 | 0 | -100 | 100 | 06/23/2022 |
| Thallium | | 2.0 | | **< 2.0** | 0.9500 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Vanadium | | 5.0 | | **< 5.0** | 5.000 | 0 | 0 | -100 | 100 | 06/22/2022 |
| Zinc | | 15.0 | | **< 15.0** | 5.900 | 0 | 0 | -100 | 100 | 06/23/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193557 **SampType:** LCS Units µg/L

SampID: LCS-193557

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 25.0 | | **1710** | 2000 | 0 | 85.5 | 80 | 120 | 06/22/2022 |
| Antimony | | 1.0 | | **437** | 500.0 | 0 | 87.3 | 80 | 120 | 06/22/2022 |
| Arsenic | | 1.0 | | **451** | 500.0 | 0 | 90.3 | 80 | 120 | 06/22/2022 |
| Barium | | 1.0 | | **1940** | 2000 | 0 | 96.8 | 80 | 120 | 06/22/2022 |
| Beryllium | | 1.0 | | **45.3** | 50.00 | 0 | 90.5 | 80 | 120 | 06/22/2022 |
| Boron | | 25.0 | | **427** | 500.0 | 0 | 85.4 | 80 | 120 | 06/23/2022 |
| Cadmium | | 1.0 | | **44.8** | 50.00 | 0 | 89.6 | 80 | 120 | 06/22/2022 |
| Chromium | | 1.5 | | **187** | 200.0 | 0 | 93.3 | 80 | 120 | 06/22/2022 |
| Cobalt | | 1.0 | | **435** | 500.0 | 0 | 87.0 | 80 | 120 | 06/22/2022 |
| Copper | | 1.0 | | **248** | 250.0 | 0 | 99.2 | 80 | 120 | 06/22/2022 |
| Iron | | 25.0 | | **1770** | 2000 | 0 | 88.6 | 80 | 120 | 06/22/2022 |
| Lead | | 1.0 | | **435** | 500.0 | 0 | 87.1 | 80 | 120 | 06/22/2022 |
| Manganese | | 2.0 | | **472** | 500.0 | 0 | 94.5 | 80 | 120 | 06/22/2022 |
| Molybdenum | | 1.5 | | **457** | 500.0 | 0 | 91.5 | 80 | 120 | 06/23/2022 |
| Nickel | | 1.0 | | **421** | 500.0 | 0 | 84.3 | 80 | 120 | 06/22/2022 |
| Selenium | | 1.0 | | **458** | 500.0 | 0 | 91.7 | 80 | 120 | 06/22/2022 |
| Silver | | 1.0 | | **43.4** | 50.00 | 0 | 86.7 | 80 | 120 | 06/23/2022 |
| Thallium | | 2.0 | | **238** | 250.0 | 0 | 95.2 | 80 | 120 | 06/22/2022 |
| Vanadium | | 5.0 | | **456** | 500.0 | 0 | 91.1 | 80 | 120 | 06/22/2022 |
| Zinc | | 15.0 | | **437** | 500.0 | 0 | 87.4 | 80 | 120 | 06/23/2022 |

**Batch** 193944 **SampType:** MBLK Units µg/L

SampID: MBLK-193944

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | 1.0 | | **< 1.0** | 0.3750 | 0 | 0 | -100 | 100 | 06/24/2022 |

**Batch** 193944 **SampType:** LCS Units µg/L

SampID: LCS-193944

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | 1.0 | | **589** | 500.0 | 0 | 117.7 | 80 | 120 | 06/24/2022 |

**Batch** 193944 **SampType:** MS Units µg/L

SampID: 22051803-027DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 25.0 | | **2930** | 1000 | 2079 | 85.6 | 75 | 125 | 06/26/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193944 **SampType:** MSD Units **µg/L** RPD Limit: **20**

SampID: 22051803-027DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 25.0 | | **2960** | 1000 | 2079 | 88.2 | 2935 | 0.88 | 06/26/2022 |

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

**Batch** 193511 **SampType:** MBLK Units **µg/L**

SampID: MBLK-193511

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 25.0 | | **< 25.0** | 12.50 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Antimony | | 1.0 | | **< 1.0** | 0.4500 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Arsenic | | 1.0 | | **< 1.0** | 0.3750 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Barium | | 1.0 | | **< 1.0** | 0.7000 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Beryllium | | 1.0 | | **< 1.0** | 0.2500 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Boron | | 25.0 | | **< 25.0** | 9.250 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Cadmium | | 1.0 | | **< 1.0** | 0.1340 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Chromium | | 1.5 | | **< 1.5** | 0.7000 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Cobalt | | 1.0 | | **< 1.0** | 0.1150 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Copper | | 1.0 | | **< 1.0** | 0.2980 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Iron | | 25.0 | | **< 25.0** | 11.50 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Lead | | 1.0 | | **< 1.0** | 0.6000 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Lithium | * | 3.0 | | **< 3.0** | 1.450 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Molybdenum | | 1.5 | | **< 1.5** | 0.6000 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Selenium | | 1.0 | | **< 1.0** | 0.6000 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Thallium | | 2.0 | | **< 2.0** | 0.9500 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Vanadium | | 5.0 | | **< 5.0** | 5.000 | 0 | 0 | -100 | 100 | 06/11/2022 |
| Zinc | | 15.0 | | **< 15.0** | 5.900 | 0 | 0 | -100 | 100 | 06/11/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193511 **SampType:** LCS Units **µg/L**

SampID: LCS-193511

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 25.0 | | **2160** | 2000 | 0 | 108.2 | 80 | 120 | 06/21/2022 |
| Antimony | | 1.0 | | **541** | 500.0 | 0 | 108.2 | 80 | 120 | 06/11/2022 |
| Arsenic | | 1.0 | | **540** | 500.0 | 0 | 108.1 | 80 | 120 | 06/11/2022 |
| Barium | | 1.0 | | **2120** | 2000 | 0 | 105.8 | 80 | 120 | 06/11/2022 |
| Beryllium | | 1.0 | | **49.0** | 50.00 | 0 | 98.0 | 80 | 120 | 06/11/2022 |
| Boron | | 25.0 | | **483** | 500.0 | 0 | 96.6 | 80 | 120 | 06/11/2022 |
| Cadmium | | 1.0 | | **52.8** | 50.00 | 0 | 105.6 | 80 | 120 | 06/11/2022 |
| Chromium | | 1.5 | | **209** | 200.0 | 0 | 104.5 | 80 | 120 | 06/21/2022 |
| Cobalt | | 1.0 | | **505** | 500.0 | 0 | 101.1 | 80 | 120 | 06/11/2022 |
| Copper | | 1.0 | | **259** | 250.0 | 0 | 103.5 | 80 | 120 | 06/11/2022 |
| Iron | | 25.0 | | **1930** | 2000 | 0 | 96.7 | 80 | 120 | 06/11/2022 |
| Lead | | 1.0 | | **486** | 500.0 | 0 | 97.1 | 80 | 120 | 06/11/2022 |
| Lithium | * | 3.0 | | **530** | 500.0 | 0 | 106.1 | 80 | 120 | 06/11/2022 |
| Molybdenum | | 1.5 | | **503** | 500.0 | 0 | 100.5 | 80 | 120 | 06/11/2022 |
| Selenium | | 1.0 | | **548** | 500.0 | 0 | 109.6 | 80 | 120 | 06/11/2022 |
| Thallium | | 2.0 | | **234** | 250.0 | 0 | 93.7 | 80 | 120 | 06/11/2022 |
| Vanadium | | 5.0 | | **506** | 500.0 | 0 | 101.2 | 80 | 120 | 06/11/2022 |
| Zinc | | 15.0 | | **545** | 500.0 | 0 | 109.0 | 80 | 120 | 06/11/2022 |

**Batch** 193511 **SampType:** MS Units **µg/L**

SampID: 22051803-007DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **579** | 500.0 | 0 | 115.9 | 75 | 125 | 06/11/2022 |
| Arsenic | | 1.0 | | **604** | 500.0 | 0 | 120.8 | 75 | 125 | 06/11/2022 |
| Barium | | 1.0 | | **2340** | 2000 | 124.6 | 111.0 | 75 | 125 | 06/11/2022 |
| Beryllium | | 1.0 | | **58.0** | 50.00 | 0 | 116.1 | 75 | 125 | 06/11/2022 |
| Boron | | 25.0 | | **591** | 500.0 | 61.38 | 106.0 | 75 | 125 | 06/11/2022 |
| Cadmium | | 1.0 | | **57.6** | 50.00 | 0 | 115.1 | 75 | 125 | 06/11/2022 |
| Chromium | | 1.5 | | **203** | 200.0 | 0.7746 | 101.0 | 75 | 125 | 06/21/2022 |
| Cobalt | | 1.0 | | **574** | 500.0 | 12.08 | 112.4 | 75 | 125 | 06/11/2022 |
| Lead | | 1.0 | | **554** | 500.0 | 0 | 110.9 | 75 | 125 | 06/11/2022 |
| Lithium | * | 3.0 | | **612** | 500.0 | 8.946 | 120.5 | 75 | 125 | 06/11/2022 |
| Molybdenum | | 1.5 | | **581** | 500.0 | 0 | 116.2 | 75 | 125 | 06/11/2022 |
| Selenium | | 1.0 | | **565** | 500.0 | 0 | 113.0 | 75 | 125 | 06/11/2022 |
| Thallium | | 2.0 | | **255** | 250.0 | 0 | 102.1 | 75 | 125 | 06/11/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193511 **SampType:** MSD Units **µg/L** RPD Limit: **20**

SampID: 22051803-007DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **539** | 500.0 | 0 | 107.9 | 579.3 | 7.13 | 06/11/2022 |
| Arsenic | | 1.0 | | **555** | 500.0 | 0 | 110.9 | 603.8 | 8.50 | 06/11/2022 |
| Barium | | 1.0 | | **2170** | 2000 | 124.6 | 102.5 | 2345 | 7.53 | 06/11/2022 |
| Beryllium | | 1.0 | | **53.2** | 50.00 | 0 | 106.3 | 58.03 | 8.77 | 06/11/2022 |
| Boron | | 25.0 | | **538** | 500.0 | 61.38 | 95.4 | 591.2 | 9.39 | 06/11/2022 |
| Cadmium | | 1.0 | | **54.0** | 50.00 | 0 | 108.0 | 57.56 | 6.34 | 06/11/2022 |
| Chromium | | 1.5 | | **201** | 200.0 | 0.7746 | 100.3 | 202.7 | 0.66 | 06/21/2022 |
| Cobalt | | 1.0 | | **522** | 500.0 | 12.08 | 102.1 | 574.1 | 9.42 | 06/11/2022 |
| Lead | | 1.0 | | **510** | 500.0 | 0 | 102.0 | 554.3 | 8.36 | 06/11/2022 |
| Lithium | * | 3.0 | | **554** | 500.0 | 8.946 | 108.9 | 611.5 | 9.95 | 06/11/2022 |
| Molybdenum | | 1.5 | | **541** | 500.0 | 0 | 108.2 | 581.0 | 7.09 | 06/11/2022 |
| Selenium | | 1.0 | | **520** | 500.0 | 0 | 103.9 | 565.2 | 8.38 | 06/11/2022 |
| Thallium | | 2.0 | | **240** | 250.0 | 0 | 95.9 | 255.3 | 6.30 | 06/11/2022 |

**Batch** 193511 **SampType:** MS Units **µg/L**

SampID: 22051803-030CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **494** | 500.0 | 0 | 98.8 | 75 | 125 | 06/21/2022 |
| Arsenic | | 1.0 | | **535** | 500.0 | 0.4765 | 106.9 | 75 | 125 | 06/21/2022 |
| Barium | | 1.0 | | **2440** | 2000 | 57.50 | 119.2 | 75 | 125 | 06/11/2022 |
| Beryllium | | 1.0 | | **62.4** | 50.00 | 0 | 124.9 | 75 | 125 | 06/11/2022 |
| Boron | | 25.0 | | **726** | 500.0 | 188.2 | 107.6 | 75 | 125 | 06/11/2022 |
| Cadmium | | 1.0 | | **50.6** | 50.00 | 0.1584 | 100.9 | 75 | 125 | 06/21/2022 |
| Chromium | | 1.5 | | **197** | 200.0 | 1.130 | 98.0 | 75 | 125 | 06/22/2022 |
| Cobalt | | 1.0 | | **507** | 500.0 | 2.055 | 100.9 | 75 | 125 | 06/21/2022 |
| Lead | | 1.0 | | **604** | 500.0 | 1.725 | 120.4 | 75 | 125 | 06/11/2022 |
| Lithium | * | 3.0 | | **583** | 500.0 | 3.937 | 115.7 | 75 | 125 | 06/22/2022 |
| Molybdenum | | 1.5 | | **509** | 500.0 | 0 | 101.7 | 75 | 125 | 06/21/2022 |
| Selenium | | 1.0 | | **601** | 500.0 | 0 | 120.2 | 75 | 125 | 06/11/2022 |
| Thallium | | 2.0 | | **287** | 250.0 | 0 | 114.9 | 75 | 125 | 06/11/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193511 **SampType:** MSD Units **µg/L** RPD Limit: **20**

SampID: 22051803-030CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **476** | 500.0 | 0 | 95.2 | 493.9 | 3.71 | 06/21/2022 |
| Arsenic | | 1.0 | | **518** | 500.0 | 0.4765 | 103.6 | 535.0 | 3.15 | 06/21/2022 |
| Barium | | 1.0 | | **2320** | 2000 | 57.50 | 113.3 | 2442 | 4.99 | 06/11/2022 |
| Beryllium | | 1.0 | | **57.8** | 50.00 | 0 | 115.6 | 62.44 | 7.68 | 06/11/2022 |
| Boron | | 25.0 | | **696** | 500.0 | 188.2 | 101.6 | 726.2 | 4.25 | 06/11/2022 |
| Cadmium | | 1.0 | | **48.0** | 50.00 | 0.1584 | 95.7 | 50.59 | 5.26 | 06/21/2022 |
| Chromium | | 1.5 | | **199** | 200.0 | 1.130 | 99.1 | 197.2 | 1.05 | 06/22/2022 |
| Cobalt | | 1.0 | | **489** | 500.0 | 2.055 | 97.4 | 506.7 | 3.50 | 06/21/2022 |
| Lead | | 1.0 | | **572** | 500.0 | 1.725 | 114.1 | 603.8 | 5.39 | 06/11/2022 |
| Lithium | * | 3.0 | | **592** | 500.0 | 3.937 | 117.6 | 582.6 | 1.55 | 06/22/2022 |
| Molybdenum | | 1.5 | | **481** | 500.0 | 0 | 96.2 | 508.7 | 5.64 | 06/21/2022 |
| Selenium | | 1.0 | | **564** | 500.0 | 0 | 112.8 | 601.1 | 6.34 | 06/11/2022 |
| Thallium | | 2.0 | | **270** | 250.0 | 0 | 107.8 | 287.3 | 6.38 | 06/11/2022 |

**Batch** 193515 **SampType:** MBLK Units **µg/L**

SampID: MBLK-193515

| 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 | 06/21/2022 |
| Arsenic | | 1.0 | | **< 1.0** | 0.3750 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Barium | | 1.0 | | **< 1.0** | 0.7000 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Beryllium | | 1.0 | | **< 1.0** | 0.2500 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Boron | | 25.0 | | **< 25.0** | 9.250 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Cadmium | | 1.0 | | **< 1.0** | 0.1340 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Chromium | | 1.5 | | **< 1.5** | 0.7000 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Cobalt | | 1.0 | | **< 1.0** | 0.1150 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Copper | | 1.0 | | **< 1.0** | 0.2980 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Iron | | 25.0 | | **< 25.0** | 11.50 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Lead | | 1.0 | | **< 1.0** | 0.6000 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Lithium | * | 3.0 | | **< 3.0** | 1.450 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Molybdenum | | 1.5 | | **< 1.5** | 0.6000 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Selenium | | 1.0 | | **< 1.0** | 0.6000 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Thallium | | 2.0 | | **< 2.0** | 0.9500 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Vanadium | | 5.0 | | **< 5.0** | 5.000 | 0 | 0 | -100 | 100 | 06/21/2022 |
| Zinc | | 15.0 | | **< 15.0** | 5.900 | 0 | 0 | -100 | 100 | 06/21/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193515 **SampType:** LCS Units µg/L

SampID: LCS-193515

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 25.0 | | **2020** | 2000 | 0 | 101.1 | 80 | 120 | 06/22/2022 |
| Antimony | | 1.0 | | **481** | 500.0 | 0 | 96.1 | 80 | 120 | 06/21/2022 |
| Arsenic | | 1.0 | | **516** | 500.0 | 0 | 103.2 | 80 | 120 | 06/21/2022 |
| Barium | | 1.0 | | **2020** | 2000 | 0 | 100.9 | 80 | 120 | 06/21/2022 |
| Beryllium | | 1.0 | | **51.2** | 50.00 | 0 | 102.5 | 80 | 120 | 06/21/2022 |
| Cadmium | | 1.0 | | **48.8** | 50.00 | 0 | 97.6 | 80 | 120 | 06/21/2022 |
| Chromium | | 1.5 | | **199** | 200.0 | 0 | 99.4 | 80 | 120 | 06/22/2022 |
| Cobalt | | 1.0 | | **538** | 500.0 | 0 | 107.5 | 80 | 120 | 06/21/2022 |
| Copper | | 1.0 | | **264** | 250.0 | 0 | 105.8 | 80 | 120 | 06/22/2022 |
| Iron | | 25.0 | | **2000** | 2000 | 0 | 99.8 | 80 | 120 | 06/22/2022 |
| Lead | | 1.0 | | **479** | 500.0 | 0 | 95.7 | 80 | 120 | 06/21/2022 |
| Molybdenum | | 1.5 | | **509** | 500.0 | 0 | 101.8 | 80 | 120 | 06/21/2022 |
| Selenium | | 1.0 | | **487** | 500.0 | 0 | 97.3 | 80 | 120 | 06/21/2022 |
| Thallium | | 2.0 | | **238** | 250.0 | 0 | 95.2 | 80 | 120 | 06/21/2022 |
| Vanadium | | 5.0 | | **502** | 500.0 | 0 | 100.3 | 80 | 120 | 06/21/2022 |

**Batch** 193515 **SampType:** MS Units µg/L

SampID: 22051803-039CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **484** | 500.0 | 0 | 96.9 | 75 | 125 | 06/21/2022 |
| Arsenic | | 1.0 | | **542** | 500.0 | 19.15 | 104.5 | 75 | 125 | 06/21/2022 |
| Barium | | 1.0 | | **2110** | 2000 | 96.85 | 100.5 | 75 | 125 | 06/21/2022 |
| Beryllium | | 1.0 | | **48.0** | 50.00 | 0 | 96.1 | 75 | 125 | 06/21/2022 |
| Cadmium | | 1.0 | | **47.9** | 50.00 | 0 | 95.8 | 75 | 125 | 06/21/2022 |
| Chromium | | 1.5 | | **206** | 200.0 | 0.9784 | 102.6 | 75 | 125 | 06/22/2022 |
| Cobalt | | 1.0 | | **484** | 500.0 | 0.4697 | 96.7 | 75 | 125 | 06/21/2022 |
| Lead | | 1.0 | | **484** | 500.0 | 1.154 | 96.6 | 75 | 125 | 06/21/2022 |
| Molybdenum | | 1.5 | | **499** | 500.0 | 7.217 | 98.3 | 75 | 125 | 06/21/2022 |
| Selenium | | 1.0 | | **519** | 500.0 | 0 | 103.8 | 75 | 125 | 06/21/2022 |
| Thallium | | 2.0 | | **234** | 250.0 | 0 | 93.6 | 75 | 125 | 06/21/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193515 **SampType:** MSD Units **µg/L** RPD Limit: **20**

SampID: 22051803-039CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **496** | 500.0 | 0 | 99.3 | 484.5 | 2.44 | 06/21/2022 |
| Arsenic | | 1.0 | | **560** | 500.0 | 19.15 | 108.1 | 541.8 | 3.28 | 06/21/2022 |
| Barium | | 1.0 | | **2200** | 2000 | 96.85 | 105.0 | 2108 | 4.18 | 06/21/2022 |
| Beryllium | | 1.0 | | **50.0** | 50.00 | 0 | 100.1 | 48.04 | 4.08 | 06/21/2022 |
| Cadmium | | 1.0 | | **49.5** | 50.00 | 0 | 99.1 | 47.92 | 3.32 | 06/21/2022 |
| Chromium | | 1.5 | | **208** | 200.0 | 0.9784 | 103.4 | 206.3 | 0.74 | 06/22/2022 |
| Cobalt | | 1.0 | | **499** | 500.0 | 0.4697 | 99.7 | 484.1 | 3.06 | 06/21/2022 |
| Lead | | 1.0 | | **493** | 500.0 | 1.154 | 98.3 | 483.9 | 1.83 | 06/21/2022 |
| Molybdenum | | 1.5 | | **518** | 500.0 | 7.217 | 102.2 | 499.0 | 3.75 | 06/21/2022 |
| Selenium | | 1.0 | | **528** | 500.0 | 0 | 105.5 | 519.1 | 1.64 | 06/21/2022 |
| Thallium | | 2.0 | | **261** | 250.0 | 0 | 104.4 | 234.0 | 10.93 | 06/21/2022 |

**Batch** 193560 **SampType:** MS Units **µg/L**

SampID: 22051803-024CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **494** | 500.0 | 0 | 98.7 | 75 | 125 | 06/23/2022 |
| Arsenic | | 1.0 | | **516** | 500.0 | 0.6712 | 103.1 | 75 | 125 | 06/23/2022 |
| Barium | | 1.0 | | **2010** | 2000 | 40.95 | 98.7 | 75 | 125 | 06/23/2022 |
| Beryllium | | 1.0 | | **45.7** | 50.00 | 0 | 91.5 | 75 | 125 | 06/23/2022 |
| Boron | | 25.0 | S | **8700** | 500.0 | 9396 | -138.5 | 75 | 125 | 06/24/2022 |
| Cadmium | | 1.0 | | **48.8** | 50.00 | 0 | 97.5 | 75 | 125 | 06/23/2022 |
| Chromium | | 1.5 | | **186** | 200.0 | 0 | 93.2 | 75 | 125 | 06/23/2022 |
| Cobalt | | 1.0 | | **489** | 500.0 | 0.3058 | 97.7 | 75 | 125 | 06/23/2022 |
| Lead | | 1.0 | | **490** | 500.0 | 0 | 98.1 | 75 | 125 | 06/23/2022 |
| Lithium | * | 3.0 | | **551** | 500.0 | 4.609 | 109.3 | 75 | 125 | 06/23/2022 |
| Molybdenum | | 1.5 | | **536** | 500.0 | 13.75 | 104.4 | 75 | 125 | 06/23/2022 |
| Selenium | | 1.0 | | **475** | 500.0 | 0 | 95.1 | 75 | 125 | 06/23/2022 |
| Thallium | | 2.0 | | **232** | 250.0 | 0 | 92.7 | 75 | 125 | 06/23/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

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

**Batch** 193560 **SampType:** MSD Units µg/L RPD Limit: 20

SampID: 22051803-024CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 1.0 | | **499** | 500.0 | 0 | 99.8 | 493.5 | 1.14 | 06/23/2022 |
| Arsenic | | 1.0 | | **519** | 500.0 | 0.6712 | 103.7 | 516.4 | 0.58 | 06/23/2022 |
| Barium | | 1.0 | | **2060** | 2000 | 40.95 | 101.1 | 2014 | 2.42 | 06/23/2022 |
| Beryllium | | 1.0 | | **44.8** | 50.00 | 0 | 89.6 | 45.73 | 2.09 | 06/23/2022 |
| Boron | | 25.0 | S | **9360** | 500.0 | 9396 | -7.5 | 8704 | 7.25 | 06/24/2022 |
| Cadmium | | 1.0 | | **50.9** | 50.00 | 0 | 101.9 | 48.76 | 4.39 | 06/23/2022 |
| Chromium | | 1.5 | | **196** | 200.0 | 0 | 97.8 | 186.4 | 4.80 | 06/23/2022 |
| Cobalt | | 1.0 | | **491** | 500.0 | 0.3058 | 98.2 | 488.9 | 0.45 | 06/23/2022 |
| Lead | | 1.0 | | **511** | 500.0 | 0 | 102.2 | 490.4 | 4.15 | 06/23/2022 |
| Lithium | * | 3.0 | | **582** | 500.0 | 4.609 | 115.4 | 551.3 | 5.36 | 06/23/2022 |
| Molybdenum | | 1.5 | | **531** | 500.0 | 13.75 | 103.5 | 535.8 | 0.86 | 06/23/2022 |
| Selenium | | 1.0 | | **478** | 500.0 | 0 | 95.6 | 475.3 | 0.61 | 06/23/2022 |
| Thallium | | 2.0 | | **244** | 250.0 | 0 | 97.7 | 231.6 | 5.31 | 06/23/2022 |

## SW-846 7470A (DISSOLVED)

**Batch** 181885 **SampType:** MS Units µg/L

SampID: 22051803-015CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.92** | 5.000 | 0 | 98.4 | 75 | 125 | 06/16/2022 |

**Batch** 181885 **SampType:** MSD Units µg/L RPD Limit: 15

SampID: 22051803-015CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.69** | 5.000 | 0 | 93.9 | 4.920 | 4.70 | 06/16/2022 |

**Batch** 188889 **SampType:** MS Units µg/L

SampID: 22051803-005DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.97** | 5.000 | 0 | 99.3 | 75 | 125 | 06/15/2022 |

**Batch** 188889 **SampType:** MSD Units µg/L RPD Limit: 15

SampID: 22051803-005DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.90** | 5.000 | 0 | 98.0 | 4.967 | 1.39 | 06/15/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

## SW-846 7470A (DISSOLVED)

**Batch** 188889 **SampType:** MS Units µg/L
SampID: 22051803-010DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.77** | 5.000 | 0 | 95.4 | 75 | 125 | 06/16/2022 |

**Batch** 188889 **SampType:** MSD Units µg/L RPD Limit: **15**
SampID: 22051803-010DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.82** | 5.000 | 0 | 96.4 | 4.772 | 0.95 | 06/16/2022 |

**Batch** 193542 **SampType:** MS Units µg/L
SampID: 22051803-004DMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **5.37** | 5.000 | 0 | 107.5 | 75 | 125 | 06/13/2022 |

**Batch** 193542 **SampType:** MSD Units µg/L RPD Limit: **15**
SampID: 22051803-004DMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **5.16** | 5.000 | 0 | 103.2 | 5.374 | 4.08 | 06/13/2022 |

## SW-846 7470A (TOTAL)

**Batch** 181136 **SampType:** MBLK Units µg/L
SampID: MBLK-181136

| 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 | 06/16/2022 |

**Batch** 181136 **SampType:** LCS Units µg/L
SampID: LCS-181136

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.53** | 5.000 | 0 | 90.7 | 85 | 115 | 06/16/2022 |

**Batch** 181136 **SampType:** MS Units µg/L
SampID: 22051803-039CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **7.83** | 10.00 | 0 | 78.3 | 75 | 125 | 06/16/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

## SW-846 7470A (TOTAL)

**Batch** 181136 **SampType:** MSD Units µg/L RPD Limit: 15

SampID: 22051803-039CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **7.67** | 10.00 | 0 | 76.7 | 7.828 | 1.99 | 06/16/2022 |

**Batch** 181885 **SampType:** MBLK Units µg/L

SampID: MBLK-181885

| 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 | 06/16/2022 |

**Batch** 181885 **SampType:** LCS Units µg/L

SampID: LCS-181885

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.30** | 5.000 | 0 | 85.9 | 85 | 115 | 06/16/2022 |

**Batch** 181885 **SampType:** MS Units µg/L

SampID: 22051803-037CMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **5.01** | 5.000 | 0 | 100.3 | 75 | 125 | 06/16/2022 |

**Batch** 181885 **SampType:** MSD Units µg/L RPD Limit: 15

SampID: 22051803-037CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.39** | 5.000 | 0 | 87.8 | 5.013 | 13.20 | 06/16/2022 |

**Batch** 188889 **SampType:** MBLK Units µg/L

SampID: MBLK-188889

| 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 | 06/15/2022 |

**Batch** 188889 **SampType:** LCS Units µg/L

SampID: LCS-188889

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **5.05** | 5.000 | 0 | 100.9 | 85 | 115 | 06/15/2022 |

**Batch** 193542 **SampType:** MBLK Units µg/L

SampID: MBLK-193542

| 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 | 06/13/2022 |

**Client:** Ramboll **Work Order:** 22051803

**Client Project:** Hennepin Q2 Groundwater **Report Date:** 13-Jul-22

**SW-846 7470A (TOTAL)**

**Batch** 193542 **SampType:** LCS Units **µg/L**

SampID: LCS-193542

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.96** | 5.000 | 0 | 99.1 | 85 | 115 | 06/10/2022 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** Ramboll
**Work Order:** 22051803
**Client Project:** Hennepin Q2 Groundwater
**Report Date:** 13-Jul-22

**Carrier:** Adam Bridges
**Received By:** RMW

**Completed by:** Reannan Willis
**On:** 09-Jun-22

**Reviewed by:** Elizabeth A. Hurley
**On:** 10-Jun-22

**Pages to follow:** Chain of custody 4 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.**

pH strip #75846/78198. - CET/rwillis - 6/9/2022 12:49:08 PM

Additional Nitric acid (82107) was needed in 03R, 05R, and 22 upon arrival at the laboratory. - CET/rwillis - 6/9/2022 12:49:53 PM

Additional Sodium Hydroxide (81662) was needed in 02, 03R, 04R, 06, 07, 08, 08 Duplicate, 08D, 10, 13, and 45S upon arrival at the laboratory. - CET/rwillis - 6/9/2022 12:49:57 PM

08, 08 Duplicate, and 08D did not reach the desired pH range(s). - rwillis - 6/9/2022 12:51:06 PM

Headspace was present in one 12 volatile vial. - CET/rwillis - 6/9/2022 12:52:29 PM

Well 10 was collected in Well 08 bottles, and Well 08 was collected in Well 10 bottles. Both sample suites were re-labeled upon arrival at the laboratory. - ehurley - 6/10/2022 9:04:28 AM

Samples collected on 6/7/22 were received with insufficient amount of time to meet hold time requirements for Nitrate analysis. Client was notified via work order summary. - ehurley - 6/10/2022 9:05:46 AM

Field Blank was filtered and preserved as needed with nitric acid (82107) upon arrival at the laboratory. - CET/ehurley - 6/10/2022 9:08:20 AM

PRINT PDF

# CHAIN OF CUSTODY

Pg 1 of 4 Workorder # 22051803

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

Client: Vistra/Ramboll
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 61704
Contact: Eric Bauer Phone: 920-255-4997
Email: eric.bauer@ramboll.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.4 °C LTG# 1
Preserved in: ☒ LAB ☐ FIELD
FOR LAB USE ONLY
LAB NOTES: pH 75795/75546. ★ Added HNO3. * Added NaOH to pH 7999. Samples 8, 8dup, and 8D did not reach desired pH.

Client Comments: Program reporting required. Metals lists per project requirements.
*Dissolved Cl and dissolved B, only - 22D and 50
**DTW, only - 25, 26, 30, 31, 33 and SG02

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 Q2 Groundwater
SAMPLE COLLECTOR'S NAME: J. RILEY A. BRIDGES

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS: Vistra 2022 PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field Tests** | Cl, SO4, F (T) | TDS, NO3 (T) | Alkalinity (T) | Alkalinity B (T) | Cl, SO4, F (D)* | Total Metals | Diss. Metals* | Total Cyanide | OOH, NH3 | EDB/DBCP | VOCs | BTEX | Perchlorate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22051803-001 | 02 * | 6/7/22 1404 | Groundwater | 3 | 1 | 1 | | 3 | | | | | ✓ | ✓ | ✓ | | | ✓ | | ✓ | ✓ | | | | | ✓ | ✓ |
| 002 | 03R * ★ | 6/8/22 1117 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ |
| 003 | 04R * | 0904 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | | | | | | ✓ |
| 004 | 05R * | 1013 | Groundwater | 4 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| 005 | 05DR | 1024 | Groundwater | 4 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| 006 | 06 * | D 1133 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | | | | | | |
| 007 | 07 * | 6/8/22 0825 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ |
| ~~008~~ | ~~08~~ * | 6/7/22 1642 | Groundwater | 5 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ |
| 009 | 08 Duplicate * | 1642 | Groundwater | 5 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ |
| 010 | 08D * | 1604 | Groundwater | 5 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ |
| ~~011~~ | ~~10~~ * | 1709 | Groundwater JK | 4 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 6-9-22 0828 | K Wilds | 6/9/22 8:28 |

*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

WELL 08 WAS DONE IN WELL 10 DOT IN WELL 10 DONE IN WELL 08 BOTTLES

CET 6-9-22

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 22051803

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

Client: Vistra/Ramboll
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 61704
Contact: Eric Bauer Phone: 920-255-4997
Email: eric.bauer@ramboll.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:**
Program reporting required. Metals lists per project requirements.
*Dissolved Cl and dissolved B, only - 21R, 22, 22D, 23, 27, 32, 34, 35, 49, 50 and 51
***Dissolved B, only - 22D and 50
**DTW, only - 25, 26, 30, 31, 33 and SG02
+TDS, only - 21R, 22, 23, 27, 32, 34, 35, 49 and 51

**PROJECT NAME/NUMBER**
Hennepin Q2 Groundwater

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra 2022 PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field Tests** | Cl, SO4, F (T) | TDS, NO3 (T)+ | Alkalinity (T) | Alkalinity B (T) | Cl, SO4, F (D)* | Total Metals | Diss. Metals*** | Total Cyanide | OOH, NH3 | EDB/DBCP | VOCs | BTEX | Perchlorate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22051803-012 | 12 | 6/7/22 1516 | Groundwater | 4 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 013 | 13 ✳ | 1530 | Groundwater | 4 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 014 | 15 | 1455 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | | | | | |
| 015 | 16 | 1421 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | | | | | |
| 016 | 17 | 1434 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | | | | | |
| 017 | 18D | 6/8/22 1100 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ |
| 018 | 18S | 1049 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ |
| 019 | 19D | 943 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | | | | | |
| 020 | 19S | 0920 | Groundwater | 2 | 1 | 1 | | | | | | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | | | | | |
| 021 | 21R | 6/1/22 0932 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | |
| 022 | 22 ✳ | 1245 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 6-9-22 0828 | K Willis | 6/9/22 8:28 |
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*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

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# CHAIN OF CUSTODY

Pg 3 of 4 Workorder # 22051803

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

Client: Vistra/Ramboll
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 61704
Contact: Eric Bauer Phone: 920-255-4997
Email: eric.bauer@ramboll.com Fax:

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

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

**Client Comments:**

Program reporting required. Metals lists per project requirements.
*Dissolved Cl and dissolved B, only - 21R, 22, 22D, 23, 27, 32, 34, 35, 49, 50 and 51
***Dissolved B, only - 22D and 50
**DTW, only - 25, 26, 30, 31, 33 and SG02
+TDS, only - 21R, 22, 23, 27, 32, 34, 35, 49 and 51

**PROJECT NAME/NUMBER**
Hennepin Q2 Groundwater

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra 2022 PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field Tests** | Cl, SO4, F (T) | TDS, NO3 (T)+ | Alkalinity (T) | Alkalinity B (T) | Cl, SO4, F (D)* | Total Metals | Diss. Metals*** | Total Cyanide | OOH, NH3 | EDB/DBCP | VOCs | BTEX | Perchlorate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22051803-023 | 22D | 6/7/22 1259 | Groundwater | 2 | 2 | TE | Field | 5/5 | 22 | | | | ✔ | ✔ | ✔ | | | ✔ | | ✔ | | | | | | |
| 024 | 23 | 1213 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | | | | | | |
| 025 | 25 | 1223 | Groundwater | | | | | | | | | | ✔ | | | | | | | | | | | | | |
| 026 | 26 | 1224 | Groundwater | | | | | | | | | | ✔ | | | | | | | | | | | | | |
| 027 | 27 | 1052 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | | | | | | |
| 028 | 30 | 1018 | Groundwater | | | | | | | | | | ✔ | | | | | | | | | | | | | |
| 029 | 31 | 1018 | Groundwater | | | | | | | | | | ✔ | | | | | | | | | | | | | |
| 030 | 32 | 1112 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | | | | | | |
| 031 | 33 | 1114 | Groundwater | | | | | | | | | | ✔ | | | | | | | | | | | | | |
| 032 | 34 | 0953 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | | | | | | |
| 033 | 35 | D 1010 | Groundwater | 2 | 2 | | | | | | | | ✔ | ✔ | ✔ | | | ✔ | ✔ | ✔ | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 6-9-22 0828 | [signature] | 6/9/22 828 |
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*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

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# CHAIN OF CUSTODY

Pg 4 of 4 Workorder # 22051803

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

Client: Vistra/Ramboll
Address: 234 W. Florida St.
City/State/Zip: Milwaukee, WI 61704
Contact: Eric Bauer Phone: 920-255-4997
Email: eric.bauer@ramboll.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:**

Program reporting required. Metals lists per project requirements.
*Dissolved Cl and dissolved B, only - 21R, 22, 22D, 23, 27, 32, 34, 35, 49, 50 and 51
***Dissolved B, only - 22D and 50
**DTW, only - 25, 26, 30, 31, 33 and SG02
+TDS, only - 21R, 22, 23, 27, 32, 34, 35, 49 and 51

**PROJECT NAME/NUMBER**
Hennepin Q2 Groundwater

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**
Vistra 2022 PO#s

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field Tests** | Cl, SO4, F (T) | TDS, NO3 (T)+ | Alkalinity (T) | Alkalinity B (T) | Cl, SO4, F (D)* | Total Metals | Diss. Metals*** | Total Cyanide | OOH, NH3 | EDB/DBCP | VOCs | BTEX | Perchlorate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22051803-034 | 36 | 6/7/22 1320 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 035 | 40S | 6/8/22 0957 | Groundwater | 4 | 2 | 1 | 2 | 3 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 036 | 45S * | " 1146 | Groundwater | 3 | 2 | 1 | | 3 | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ |
| 037 | 49 | 6/7/22 1231 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | |
| 038 | 50 | " 1314 | Groundwater | 2 | 1 | | | | | | | | ✓ | ✓ | ✓ | | | ✓ | | ✓ | | | | | | |
| 039 | 51 | " 1156 | Groundwater | 2 | 2 | | | | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | |
| 040 | SG02 | " 1118 | Groundwater | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| 041 | Field Blank (X) | " 1201 | Aqueous | ~~2~~ | ~~2~~ | TE | ~~SM~~ | 4 | 10 | 22 | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | Groundwater | 5 | 2 | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 6-9-22 0828 | | 6/9/22 828 |
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*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 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

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 | 33 |
| Dates Report | 34 |
| Quality Control Results | 42 |
| Receiving Check List | 77 |
| 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

**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_804 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

### Springfield

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

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**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

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@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 **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-015 **Client Sample ID:** 21R

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 9:22

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **6.08** | ft | 1 | 09/13/2022 9:22 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.30** | | 1 | 09/13/2022 9:22 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **19** | NTU | 1 | 09/13/2022 9:22 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **37** | mV | 1 | 09/13/2022 9:22 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1340** | µS/cm | 1 | 09/13/2022 9:22 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.3** | °C | 1 | 09/13/2022 9:22 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **1.00** | mg/L | 1 | 09/13/2022 9:22 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **376** | mg/L | 1 | 09/16/2022 11:06 | R318111 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/16/2022 11:06 | R318111 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **682** | mg/L | 1 | 09/19/2022 14:16 | R318312 |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **87** | mg/L | 5 | 09/21/2022 14:41 | R318339 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.15** | mg/L | 1 | 09/22/2022 17:07 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **104** | mg/L | 5 | 09/21/2022 14:41 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **135** | mg/L | 1 | 09/16/2022 19:10 | 196679 |
| Magnesium | NELAP | 0.050 | | **42.0** | mg/L | 1 | 09/16/2022 19:10 | 196679 |
| Potassium | NELAP | 0.100 | | **2.81** | mg/L | 1 | 09/16/2022 19:10 | 196679 |
| Sodium | NELAP | 0.050 | | **45.1** | mg/L | 1 | 09/16/2022 19:10 | 196679 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 22:48 | 196679 |
| Arsenic | NELAP | 1.0 | | **33.2** | µg/L | 5 | 09/19/2022 22:48 | 196679 |
| Barium | NELAP | 1.0 | | **378** | µg/L | 5 | 09/19/2022 22:48 | 196679 |
| Boron | NELAP | 25.0 | | **2280** | µg/L | 5 | 09/20/2022 17:00 | 196679 |
| Cadmium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 22:48 | 196679 |
| Chromium | NELAP | 1.5 | J | **1.2** | µg/L | 5 | 09/22/2022 15:27 | 196679 |
| Cobalt | NELAP | 1.0 | J | **0.4** | µg/L | 5 | 09/20/2022 17:00 | 196679 |
| Lead | NELAP | 1.0 | | **2.3** | µg/L | 5 | 09/19/2022 22:48 | 196679 |
| Lithium | * | 3.0 | | **17.8** | µg/L | 5 | 09/20/2022 17:00 | 196679 |
| Molybdenum | NELAP | 1.5 | | **8.0** | µg/L | 5 | 09/19/2022 22:48 | 196679 |
| Selenium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 22:48 | 196679 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/19/2022 22:48 | 196679 |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-015 **Client Sample ID:** 21R

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 9:22

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 11:51 | 197750 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-016 **Client Sample ID:** 22

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 11:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.65** | ft | 1 | 09/13/2022 11:12 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.50** | | 1 | 09/13/2022 11:12 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 09/13/2022 11:12 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **47** | mV | 1 | 09/13/2022 11:12 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1160** | µS/cm | 1 | 09/13/2022 11:12 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **15.8** | °C | 1 | 09/13/2022 11:12 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.41** | mg/L | 1 | 09/13/2022 11:12 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **248** | mg/L | 1 | 09/16/2022 11:12 | R318111 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/16/2022 11:12 | R318111 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **662** | mg/L | 1 | 09/19/2022 14:17 | R318312 |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **142** | mg/L | 5 | 09/21/2022 14:49 | R318339 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 09/22/2022 17:10 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **97** | mg/L | 5 | 09/21/2022 14:49 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **97.0** | mg/L | 1 | 09/16/2022 19:14 | 196679 |
| Magnesium | NELAP | 0.050 | | **31.0** | mg/L | 1 | 09/16/2022 19:14 | 196679 |
| Potassium | NELAP | 0.500 | | **11.4** | mg/L | 5 | 09/19/2022 14:41 | 196679 |
| Sodium | NELAP | 0.050 | | **52.6** | mg/L | 1 | 09/16/2022 19:14 | 196679 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | J | **0.9** | µg/L | 5 | 09/19/2022 22:54 | 196679 |
| Arsenic | NELAP | 1.0 | J | **1.0** | µg/L | 5 | 09/19/2022 22:54 | 196679 |
| Barium | NELAP | 1.0 | | **65.2** | µg/L | 5 | 09/19/2022 22:54 | 196679 |
| Boron | NELAP | 25.0 | | **3420** | µg/L | 5 | 09/20/2022 17:06 | 196679 |
| Cadmium | NELAP | 1.0 | | **5.7** | µg/L | 5 | 09/19/2022 22:54 | 196679 |
| Chromium | NELAP | 1.5 | | **< 1.5** | µg/L | 5 | 09/22/2022 16:10 | 196679 |
| Cobalt | NELAP | 1.0 | | **2.0** | µg/L | 5 | 09/20/2022 17:06 | 196679 |
| Lead | NELAP | 1.0 | J | **0.8** | µg/L | 5 | 09/19/2022 22:54 | 196679 |
| Lithium | * | 3.0 | | **43.9** | µg/L | 5 | 09/20/2022 17:06 | 196679 |
| Molybdenum | NELAP | 1.5 | | **101** | µg/L | 5 | 09/19/2022 22:54 | 196679 |
| Selenium | NELAP | 1.0 | | **16.3** | µg/L | 5 | 09/19/2022 22:54 | 196679 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/19/2022 22:54 | 196679 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-016 **Client Sample ID:** 22

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 11:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| *CCV recovered outside the upper control limits for Cr. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 11:53 | 197750 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-017 **Client Sample ID:** 22D

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 11:31

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **19.22** | ft | 1 | 09/13/2022 11:31 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.18** | | 1 | 09/13/2022 11:31 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.2** | NTU | 1 | 09/13/2022 11:31 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **21** | mV | 1 | 09/13/2022 11:31 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1300** | µS/cm | 1 | 09/13/2022 11:31 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **16.4** | °C | 1 | 09/13/2022 11:31 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **1.22** | mg/L | 1 | 09/13/2022 11:31 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **346** | mg/L | 1 | 09/16/2022 11:18 | R318111 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/16/2022 11:18 | R318111 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **686** | mg/L | 1 | 09/19/2022 14:17 | R318312 |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **96** | mg/L | 5 | 09/21/2022 15:10 | R318339 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 09/22/2022 17:12 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **103** | mg/L | 5 | 09/21/2022 15:10 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **124** | mg/L | 1 | 09/16/2022 19:18 | 196679 |
| Magnesium | NELAP | 0.050 | | **41.6** | mg/L | 1 | 09/16/2022 19:18 | 196679 |
| Potassium | NELAP | 0.100 | | **3.16** | mg/L | 1 | 09/16/2022 19:18 | 196679 |
| Sodium | NELAP | 0.050 | | **41.9** | mg/L | 1 | 09/16/2022 19:18 | 196679 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:01 | 196679 |
| Arsenic | NELAP | 1.0 | | **1.1** | µg/L | 5 | 09/19/2022 23:01 | 196679 |
| Barium | NELAP | 1.0 | | **73.9** | µg/L | 5 | 09/19/2022 23:01 | 196679 |
| Boron | NELAP | 25.0 | | **1670** | µg/L | 5 | 09/20/2022 17:13 | 196679 |
| Cadmium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:01 | 196679 |
| Chromium | NELAP | 1.5 | | **< 1.5** | µg/L | 5 | 09/22/2022 16:15 | 196679 |
| Cobalt | NELAP | 1.0 | J | **0.2** | µg/L | 5 | 09/20/2022 17:13 | 196679 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:01 | 196679 |
| Lithium | * | 3.0 | | **12.3** | µg/L | 5 | 09/20/2022 17:13 | 196679 |
| Molybdenum | NELAP | 1.5 | | **7.3** | µg/L | 5 | 09/19/2022 23:01 | 196679 |
| Selenium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:01 | 196679 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/19/2022 23:01 | 196679 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-017 **Client Sample ID:** 22D

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 11:31

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| *CCV recovered outside the upper control limits for Cr. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 11:55 | 197750 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-018 **Client Sample ID:** 23

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 10:27

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **16.90** | ft | 1 | 09/13/2022 10:27 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.43** | | 1 | 09/13/2022 10:27 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 09/13/2022 10:27 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **-7** | mV | 1 | 09/13/2022 10:27 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1490** | µS/cm | 1 | 09/13/2022 10:27 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **12.9** | °C | 1 | 09/13/2022 10:27 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.49** | mg/L | 1 | 09/13/2022 10:27 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **162** | mg/L | 1 | 09/16/2022 11:23 | R318111 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/16/2022 11:23 | R318111 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1020** | mg/L | 1 | 09/19/2022 14:17 | R318312 |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **471** | mg/L | 10 | 09/21/2022 15:18 | R318339 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 09/22/2022 17:15 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 40 | | **50** | mg/L | 10 | 09/21/2022 15:18 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **115** | mg/L | 1 | 09/16/2022 19:21 | 196679 |
| Magnesium | NELAP | 0.050 | | **78.9** | mg/L | 1 | 09/16/2022 19:21 | 196679 |
| Potassium | NELAP | 0.100 | | **3.08** | mg/L | 1 | 09/16/2022 19:21 | 196679 |
| Sodium | NELAP | 0.050 | | **43.4** | mg/L | 1 | 09/16/2022 19:21 | 196679 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:07 | 196679 |
| Arsenic | NELAP | 1.0 | J | **0.5** | µg/L | 5 | 09/19/2022 23:07 | 196679 |
| Barium | NELAP | 1.0 | | **44.5** | µg/L | 5 | 09/19/2022 23:07 | 196679 |
| Boron | NELAP | 25.0 | | **8200** | µg/L | 5 | 09/20/2022 17:19 | 196679 |
| Cadmium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:07 | 196679 |
| Chromium | NELAP | 1.5 | | **< 1.5** | µg/L | 5 | 09/22/2022 16:20 | 196679 |
| Cobalt | NELAP | 1.0 | J | **0.2** | µg/L | 5 | 09/20/2022 17:19 | 196679 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:07 | 196679 |
| Lithium | * | 3.0 | | **3.9** | µg/L | 5 | 09/20/2022 17:19 | 196679 |
| Molybdenum | NELAP | 1.5 | | **15.2** | µg/L | 5 | 09/19/2022 23:07 | 196679 |
| Selenium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:07 | 196679 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/19/2022 23:07 | 196679 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-018 **Client Sample ID:** 23

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 10:27

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| *CCV recovered outside the upper control limits for Cr. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 11:58 | 197750 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-019 **Client Sample ID:** 25

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 14:01

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **16.31** | ft | 1 | 09/13/2022 14:01 | R319062 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-020 **Client Sample ID:** 26

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 14:02

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.01** | ft | 1 | 09/13/2022 14:02 | R319062 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-022 **Client Sample ID:** 30

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 12:28

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **6.79** | ft | 1 | 09/13/2022 12:28 | R319062 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-023 **Client Sample ID:** 31

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 12:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **6.70** | ft | 1 | 09/13/2022 12:29 | R319062 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-024 **Client Sample ID:** 32

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 13:37

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **5.30** | ft | 1 | 09/13/2022 13:37 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.05** | | 1 | 09/13/2022 13:37 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 09/13/2022 13:37 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **118** | mV | 1 | 09/13/2022 13:37 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1160** | µS/cm | 1 | 09/13/2022 13:37 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.3** | °C | 1 | 09/13/2022 13:37 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.79** | mg/L | 1 | 09/13/2022 13:37 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **326** | mg/L | 1 | 09/16/2022 11:28 | R318111 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/16/2022 11:28 | R318111 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | H | **596** | mg/L | 1 | 09/20/2022 15:07 | R318312 |
| *Sample analysis did not meet hold time requirements.* | | | | | | | | |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **62** | mg/L | 5 | 09/21/2022 15:33 | R318339 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 09/22/2022 17:33 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **74** | mg/L | 5 | 09/21/2022 15:34 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **113** | mg/L | 1 | 09/16/2022 19:29 | 196679 |
| Magnesium | NELAP | 0.050 | | **39.6** | mg/L | 1 | 09/16/2022 19:29 | 196679 |
| Potassium | NELAP | 0.100 | | **2.24** | mg/L | 1 | 09/16/2022 19:29 | 196679 |
| Sodium | NELAP | 0.050 | | **38.6** | mg/L | 1 | 09/16/2022 19:29 | 196679 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:45 | 196679 |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:45 | 196679 |
| Barium | NELAP | 1.0 | | **38.0** | µg/L | 5 | 09/19/2022 23:45 | 196679 |
| Boron | NELAP | 25.0 | | **152** | µg/L | 5 | 09/20/2022 18:10 | 196679 |
| Cadmium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:45 | 196679 |
| Chromium | NELAP | 1.5 | | **< 1.5** | µg/L | 5 | 09/22/2022 16:30 | 196679 |
| Cobalt | NELAP | 1.0 | | **1.5** | µg/L | 5 | 09/20/2022 18:10 | 196679 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:45 | 196679 |
| Lithium | * | 3.0 | | **3.2** | µg/L | 5 | 09/20/2022 18:10 | 196679 |
| Molybdenum | NELAP | 1.5 | | **< 1.5** | µg/L | 5 | 09/19/2022 23:45 | 196679 |
| Selenium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:45 | 196679 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/19/2022 23:45 | 196679 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-024 **Client Sample ID:** 32

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 13:37

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| *CCV recovered outside the upper control limits for Cr. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 12:02 | 197750 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-025 **Client Sample ID:** 33

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 13:42

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **4.97** | ft | 1 | 09/13/2022 13:42 | R319062 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-027 **Client Sample ID:** 35

**Matrix:** GROUNDWATER **Collection Date:** 09/14/2022 8:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **8.37** | ft | 1 | 09/14/2022 8:32 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **6.76** | | 1 | 09/14/2022 8:32 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 09/14/2022 8:32 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **191** | mV | 1 | 09/14/2022 8:32 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **2540** | µS/cm | 1 | 09/14/2022 8:32 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **15.7** | °C | 1 | 09/14/2022 8:32 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.34** | mg/L | 1 | 09/14/2022 8:32 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **215** | mg/L | 1 | 09/16/2022 11:34 | R318111 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/16/2022 11:34 | R318111 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | H | **1940** | mg/L | 1 | 09/20/2022 15:07 | R318312 |
| *Sample analysis did not meet hold time requirements.* | | | | | | | | |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 500 | | **1190** | mg/L | 50 | 09/23/2022 8:44 | R318485 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 09/22/2022 17:36 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **30** | mg/L | 1 | 09/21/2022 15:37 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **426** | mg/L | 1 | 09/16/2022 19:33 | 196679 |
| Magnesium | NELAP | 0.050 | | **47.1** | mg/L | 1 | 09/16/2022 19:33 | 196679 |
| Potassium | NELAP | 0.500 | | **17.1** | mg/L | 5 | 09/20/2022 9:52 | 196679 |
| Sodium | NELAP | 0.050 | | **30.4** | mg/L | 1 | 09/16/2022 19:33 | 196679 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:51 | 196679 |
| Arsenic | NELAP | 1.0 | J | **0.8** | µg/L | 5 | 09/19/2022 23:51 | 196679 |
| Barium | NELAP | 1.0 | | **66.6** | µg/L | 5 | 09/19/2022 23:51 | 196679 |
| Boron | NELAP | 25.0 | | **16200** | µg/L | 5 | 09/20/2022 18:17 | 196679 |
| Cadmium | NELAP | 1.0 | J | **0.5** | µg/L | 5 | 09/19/2022 23:51 | 196679 |
| Chromium | NELAP | 1.5 | | **< 1.5** | µg/L | 5 | 09/22/2022 16:35 | 196679 |
| Cobalt | NELAP | 1.0 | | **1.1** | µg/L | 5 | 09/20/2022 18:17 | 196679 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:51 | 196679 |
| Lithium | * | 3.0 | | **24.0** | µg/L | 5 | 09/20/2022 18:17 | 196679 |
| Molybdenum | NELAP | 1.5 | | **61.1** | µg/L | 5 | 09/19/2022 23:51 | 196679 |
| Selenium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/19/2022 23:51 | 196679 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/19/2022 23:51 | 196679 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-027 **Client Sample ID:** 35

**Matrix:** GROUNDWATER **Collection Date:** 09/14/2022 8:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| *CCV recovered outside the upper control limits for Cr. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 12:04 | 197750 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-028 **Client Sample ID:** 36

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 12:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **13.42** | ft | 1 | 09/13/2022 12:15 | R319062 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-034 **Client Sample ID:** 49

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 10:48

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **21.70** | ft | 1 | 09/13/2022 10:48 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **6.99** | | 1 | 09/13/2022 10:48 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 09/13/2022 10:48 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **43** | mV | 1 | 09/13/2022 10:48 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1270** | µS/cm | 1 | 09/13/2022 10:48 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **14.5** | °C | 1 | 09/13/2022 10:48 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.41** | mg/L | 1 | 09/13/2022 10:48 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **342** | mg/L | 1 | 09/21/2022 15:53 | R318378 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/21/2022 15:53 | R318378 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | RH | **658** | mg/L | 1 | 09/20/2022 15:08 | R318312 |
| *Sample analysis did not meet hold time requirements.* | | | | | | | | |
| *RPD for DUP was outside control limits due to sample composition.* | | | | | | | | |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **75** | mg/L | 5 | 09/21/2022 17:15 | R318339 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 09/22/2022 18:00 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **103** | mg/L | 5 | 09/21/2022 17:15 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **113** | mg/L | 1 | 09/19/2022 16:13 | 196682 |
| Magnesium | NELAP | 0.050 | | **34.9** | mg/L | 1 | 09/19/2022 16:13 | 196682 |
| Potassium | NELAP | 0.500 | | **12.7** | mg/L | 5 | 09/20/2022 10:05 | 196682 |
| Sodium | NELAP | 0.050 | | **60.8** | mg/L | 1 | 09/19/2022 16:13 | 196682 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/20/2022 0:22 | 196682 |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/20/2022 0:22 | 196682 |
| Barium | NELAP | 1.0 | | **57.6** | µg/L | 5 | 09/20/2022 0:22 | 196682 |
| Boron | NELAP | 25.0 | | **701** | µg/L | 5 | 09/21/2022 0:06 | 196682 |
| Cadmium | NELAP | 1.0 | | **1.2** | µg/L | 5 | 09/20/2022 0:22 | 196682 |
| Chromium | NELAP | 1.5 | | **< 1.5** | µg/L | 5 | 09/23/2022 0:12 | 196682 |
| Cobalt | NELAP | 1.0 | | **5.3** | µg/L | 5 | 09/21/2022 0:06 | 196682 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/20/2022 0:22 | 196682 |
| Lithium | * | 3.0 | | **24.5** | µg/L | 5 | 09/23/2022 0:12 | 196682 |
| Molybdenum | NELAP | 1.5 | | **20.7** | µg/L | 5 | 09/20/2022 0:22 | 196682 |
| Selenium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/20/2022 0:22 | 196682 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-034 **Client Sample ID:** 49

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 10:48

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/20/2022 0:22 | 196682 |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 12:23 | 197750 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-035 **Client Sample ID:** 50

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 12:03

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.33** | ft | 1 | 09/13/2022 12:03 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.29** | | 1 | 09/13/2022 12:03 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 09/13/2022 12:03 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **55** | mV | 1 | 09/13/2022 12:03 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1230** | µS/cm | 1 | 09/13/2022 12:03 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **15.9** | °C | 1 | 09/13/2022 12:03 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **0.86** | mg/L | 1 | 09/13/2022 12:03 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **326** | mg/L | 1 | 09/21/2022 15:59 | R318378 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/21/2022 15:59 | R318378 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **668** | mg/L | 1 | 09/19/2022 15:45 | R318312 |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **81** | mg/L | 5 | 09/21/2022 17:23 | R318339 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 09/22/2022 18:03 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **96** | mg/L | 5 | 09/21/2022 17:23 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | | **110** | mg/L | 1 | 09/19/2022 16:32 | 196682 |
| Magnesium | NELAP | 0.050 | | **32.9** | mg/L | 1 | 09/19/2022 16:32 | 196682 |
| Potassium | NELAP | 0.100 | | **9.32** | mg/L | 1 | 09/19/2022 16:32 | 196682 |
| Sodium | NELAP | 0.050 | | **61.0** | mg/L | 1 | 09/19/2022 16:32 | 196682 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/20/2022 1:31 | 196682 |
| Arsenic | NELAP | 1.0 | J | **0.8** | µg/L | 5 | 09/20/2022 1:31 | 196682 |
| Barium | NELAP | 1.0 | | **105** | µg/L | 5 | 09/20/2022 1:31 | 196682 |
| Boron | NELAP | 25.0 | | **618** | µg/L | 5 | 09/21/2022 0:12 | 196682 |
| Cadmium | NELAP | 1.0 | | **1.4** | µg/L | 5 | 09/20/2022 1:31 | 196682 |
| Chromium | NELAP | 1.5 | J | **0.8** | µg/L | 5 | 09/23/2022 0:17 | 196682 |
| Cobalt | NELAP | 1.0 | | **6.9** | µg/L | 5 | 09/21/2022 0:12 | 196682 |
| Lead | NELAP | 1.0 | J | **0.7** | µg/L | 5 | 09/20/2022 1:31 | 196682 |
| Lithium | * | 3.0 | | **20.1** | µg/L | 5 | 09/23/2022 0:17 | 196682 |
| Molybdenum | NELAP | 1.5 | | **33.7** | µg/L | 5 | 09/20/2022 1:31 | 196682 |
| Selenium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/20/2022 1:31 | 196682 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/20/2022 1:31 | 196682 |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-035 **Client Sample ID:** 50

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 12:03

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 12:25 | 197750 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-036 **Client Sample ID:** 51

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 9:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Depth to water from measuring point | * | 0 | | **18.68** | ft | 1 | 09/13/2022 9:56 | R319062 |
| **STANDARD METHOD 4500-H B 2001 FIELD** | | | | | | | | |
| pH | * | 1.00 | | **7.20** | | 1 | 09/13/2022 9:56 | R319062 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.0** | NTU | 1 | 09/13/2022 9:56 | R319062 |
| **STANDARD METHODS 18TH ED. 2580 B FIELD** | | | | | | | | |
| Oxidation-Reduction Potential | * | -300 | | **68** | mV | 1 | 09/13/2022 9:56 | R319062 |
| **STANDARD METHODS 2510 B FIELD** | | | | | | | | |
| Spec. Conductance, Field | * | 0 | | **1320** | µS/cm | 1 | 09/13/2022 9:56 | R319062 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **13.1** | °C | 1 | 09/13/2022 9:56 | R319062 |
| **STANDARD METHODS 4500-O G FIELD** | | | | | | | | |
| Oxygen, Dissolved | * | 0 | | **2.02** | mg/L | 1 | 09/13/2022 9:56 | R319062 |
| **STANDARD METHODS 2320 B (TOTAL) 1997, 2011** | | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | NELAP | 0 | | **347** | mg/L | 1 | 09/21/2022 16:05 | R318378 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | NELAP | 0 | | **0** | mg/L | 1 | 09/21/2022 16:05 | R318378 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **615** | mg/L | 2.5 | 09/19/2022 15:45 | R318312 |
| *QC has recovered ouside the acceptance range. Data is validated by passing LCS.* | | | | | | | | |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **105** | mg/L | 5 | 09/21/2022 17:31 | R318339 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 09/22/2022 18:05 | R318437 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **112** | mg/L | 5 | 09/21/2022 17:31 | R318345 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Calcium | NELAP | 0.100 | S | **124** | mg/L | 1 | 09/16/2022 19:55 | 196679 |
| Magnesium | NELAP | 0.050 | | **36.7** | mg/L | 1 | 09/16/2022 19:55 | 196679 |
| Potassium | NELAP | 0.100 | | **6.49** | mg/L | 1 | 09/16/2022 19:55 | 196679 |
| Sodium | NELAP | 0.050 | | **55.5** | mg/L | 1 | 09/16/2022 19:55 | 196679 |
| *Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | S | **< 1.0** | µg/L | 5 | 09/20/2022 0:28 | 196679 |
| Arsenic | NELAP | 1.0 | | **20.6** | µg/L | 5 | 09/20/2022 18:23 | 196679 |
| Barium | NELAP | 1.0 | | **91.7** | µg/L | 5 | 09/20/2022 18:23 | 196679 |
| Boron | NELAP | 25.0 | | **1570** | µg/L | 5 | 09/23/2022 0:07 | 197894 |
| Cadmium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/20/2022 0:28 | 196679 |
| Chromium | NELAP | 1.5 | | **< 1.5** | µg/L | 5 | 09/22/2022 18:12 | 196679 |
| Cobalt | NELAP | 1.0 | J | **0.5** | µg/L | 5 | 09/20/2022 18:23 | 196679 |
| Lead | NELAP | 1.0 | J | **0.6** | µg/L | 5 | 09/20/2022 0:28 | 196679 |
| Lithium | * | 3.0 | | **21.3** | µg/L | 5 | 09/20/2022 18:23 | 196679 |
| Molybdenum | NELAP | 1.5 | | **6.2** | µg/L | 5 | 09/20/2022 0:28 | 196679 |
| Selenium | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 09/20/2022 0:28 | 196679 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/20/2022 0:28 | 196679 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-036 **Client Sample ID:** 51

**Matrix:** GROUNDWATER **Collection Date:** 09/13/2022 9:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| *CCV recovered outside the upper control limits for Cr. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| *Matrix spike recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 12:27 | 197750 |

**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 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

**Lab ID:** 22081261-041 **Client Sample ID:** Field Blank

**Matrix:** AQUEOUS **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 CaCO3) | NELAP | 0 | | **2** | mg/L | 1 | 09/22/2022 8:14 | R318378 |
| **STANDARD METHODS 2320 B 1997, 2011** | | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | 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 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 09/20/2022 1:44 | 196682 |
| *PQL recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 09/20/2022 12:38 | 197750 |

**Client:** Ramboll
**Client Project:** Hennepin Q3 Groundwater

**Work Order:** 22081261
**Report Date:** 31-Oct-22

| Lab Sample ID | Client Sample ID | Matrix | Fractions | Collection Date |
|---|---|---|---|---|
| 22081261-015 | 21R | Groundwater | 4 | 09/13/2022 9:22 |
| 22081261-016 | 22 | Groundwater | 4 | 09/13/2022 11:12 |
| 22081261-017 | 22D | Groundwater | 4 | 09/13/2022 11:31 |
| 22081261-018 | 23 | Groundwater | 4 | 09/13/2022 10:27 |
| 22081261-019 | 25 | Groundwater | 1 | 09/13/2022 14:01 |
| 22081261-020 | 26 | Groundwater | 1 | 09/13/2022 14:02 |
| 22081261-022 | 30 | Groundwater | 1 | 09/13/2022 12:28 |
| 22081261-023 | 31 | Groundwater | 1 | 09/13/2022 12:29 |
| 22081261-024 | 32 | Groundwater | 4 | 09/13/2022 13:37 |
| 22081261-025 | 33 | Groundwater | 1 | 09/13/2022 13:42 |
| 22081261-026 | 34 | Groundwater | 4 | |
| 22081261-027 | 35 | Groundwater | 4 | 09/14/2022 8:32 |
| 22081261-028 | 36 | Groundwater | 1 | 09/13/2022 12:15 |
| 22081261-034 | 49 | Groundwater | 4 | 09/13/2022 10:48 |
| 22081261-035 | 50 | Groundwater | 4 | 09/13/2022 12:03 |
| 22081261-036 | 51 | Groundwater | 4 | 09/13/2022 9:56 |
| 22081261-038 | SG02 | Groundwater | 1 | 09/13/2022 14:52 |
| 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** |
| 22081261-015A | 21R | 09/13/2022 9:22 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 9:22 |
| | Standard Method 4500-H B 2001 Field | | | | 09/13/2022 9:22 |
| | Standard Methods 2130 B Field | | | | 09/13/2022 9:22 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/13/2022 9:22 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/16/2022 11:06 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/16/2022 11:06 |
| | Standard Methods 2510 B Field | | | | 09/13/2022 9:22 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/19/2022 14:16 |
| | Standard Methods 2550 B Field | | | | 09/13/2022 9:22 |
| | Standard Methods 4500-O G Field | | | | 09/13/2022 9:22 |
| | SW-846 9036 (Total) | | | | 09/21/2022 14:41 |
| | SW-846 9214 (Total) | | | | 09/22/2022 17:07 |
| | SW-846 9251 (Total) | | | | 09/21/2022 14:41 |
| 22081261-015B | 21R | 09/13/2022 9:22 | 09/15/2022 10:05 | | |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 16:19 |
| 22081261-015C | 21R | 09/13/2022 9:22 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/16/2022 19:10 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/19/2022 22:48 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 17:00 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/22/2022 15:27 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 11:51 |
| 22081261-015D | 21R | 09/13/2022 9:22 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:15 | 09/23/2022 18:43 |
| 22081261-016A | 22 | 09/13/2022 11:12 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 11:12 |
| | Standard Method 4500-H B 2001 Field | | | | 09/13/2022 11:12 |
| | Standard Methods 2130 B Field | | | | 09/13/2022 11:12 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/13/2022 11:12 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/16/2022 11:12 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/16/2022 11:12 |
| | Standard Methods 2510 B Field | | | | 09/13/2022 11:12 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/19/2022 14:17 |
| | Standard Methods 2550 B Field | | | | 09/13/2022 11:12 |
| | Standard Methods 4500-O G Field | | | | 09/13/2022 11:12 |
| | SW-846 9036 (Total) | | | | 09/21/2022 14:49 |
| | SW-846 9214 (Total) | | | | 09/22/2022 17:10 |

**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** |
| | SW-846 9251 (Total) | | | | 09/21/2022 14:49 |
| 22081261-016B | 22 | 09/13/2022 11:12 | 09/15/2022 10:05 | | |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 16:35 |
| 22081261-016C | 22 | 09/13/2022 11:12 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/16/2022 19:14 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/19/2022 14:41 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/19/2022 22:54 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 17:06 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/22/2022 16:10 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 11:53 |
| 22081261-016D | 22 | 09/13/2022 11:12 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:15 | 09/23/2022 18:49 |
| 22081261-017A | 22D | 09/13/2022 11:31 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 11:31 |
| | Standard Method 4500-H B 2001 Field | | | | 09/13/2022 11:31 |
| | Standard Methods 2130 B Field | | | | 09/13/2022 11:31 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/13/2022 11:31 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/16/2022 11:18 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/16/2022 11:18 |
| | Standard Methods 2510 B Field | | | | 09/13/2022 11:31 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/19/2022 14:17 |
| | Standard Methods 2550 B Field | | | | 09/13/2022 11:31 |
| | Standard Methods 4500-O G Field | | | | 09/13/2022 11:31 |
| | SW-846 9036 (Total) | | | | 09/21/2022 15:10 |
| | SW-846 9214 (Total) | | | | 09/22/2022 17:12 |
| | SW-846 9251 (Total) | | | | 09/21/2022 15:10 |
| 22081261-017B | 22D | 09/13/2022 11:31 | 09/15/2022 10:05 | | |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 16:51 |
| 22081261-017C | 22D | 09/13/2022 11:31 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/16/2022 19:18 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/19/2022 23:01 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 17:13 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/22/2022 16:15 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 11:55 |
| 22081261-017D | 22D | 09/13/2022 11:31 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:15 | 09/23/2022 19:08 |
| 22081261-018A | 23 | 09/13/2022 10:27 | 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 | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | Field Elevation Measurements | | | | 09/13/2022 10:27 |
| | Standard Method 4500-H B 2001 Field | | | | 09/13/2022 10:27 |
| | Standard Methods 2130 B Field | | | | 09/13/2022 10:27 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/13/2022 10:27 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/16/2022 11:23 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/16/2022 11:23 |
| | Standard Methods 2510 B Field | | | | 09/13/2022 10:27 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/19/2022 14:17 |
| | Standard Methods 2550 B Field | | | | 09/13/2022 10:27 |
| | Standard Methods 4500-O G Field | | | | 09/13/2022 10:27 |
| | SW-846 9036 (Total) | | | | 09/21/2022 15:18 |
| | SW-846 9214 (Total) | | | | 09/22/2022 17:15 |
| | SW-846 9251 (Total) | | | | 09/21/2022 15:18 |
| 22081261-018B | 23 | 09/13/2022 10:27 | 09/15/2022 10:05 | | |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 17:15 |
| 22081261-018C | 23 | 09/13/2022 10:27 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/16/2022 19:21 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/19/2022 23:07 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 17:19 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/22/2022 16:20 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 11:58 |
| 22081261-018D | 23 | 09/13/2022 10:27 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:15 | 09/23/2022 18:55 |
| 22081261-019A | 25 | 09/13/2022 14:01 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 14:01 |
| 22081261-020A | 26 | 09/13/2022 14:02 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 14:02 |
| 22081261-022A | 30 | 09/13/2022 12:28 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 12:28 |
| 22081261-023A | 31 | 09/13/2022 12:29 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 12:29 |
| 22081261-024A | 32 | 09/13/2022 13:37 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 13:37 |
| | Standard Method 4500-H B 2001 Field | | | | 09/13/2022 13:37 |
| | Standard Methods 2130 B Field | | | | 09/13/2022 13:37 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/13/2022 13:37 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/16/2022 11:28 |

**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** |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/16/2022 11:28 |
| | Standard Methods 2510 B Field | | | | 09/13/2022 13:37 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/20/2022 15:07 |
| | Standard Methods 2550 B Field | | | | 09/13/2022 13:37 |
| | Standard Methods 4500-O G Field | | | | 09/13/2022 13:37 |
| | SW-846 9036 (Total) | | | | 09/21/2022 15:33 |
| | SW-846 9214 (Total) | | | | 09/22/2022 17:33 |
| | SW-846 9251 (Total) | | | | 09/21/2022 15:34 |
| 22081261-024B | 32 | 09/13/2022 13:37 | 09/15/2022 10:05 | | |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 17:31 |
| 22081261-024C | 32 | 09/13/2022 13:37 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/16/2022 19:29 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/19/2022 23:45 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 18:10 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/22/2022 16:30 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 12:02 |
| 22081261-024D | 32 | 09/13/2022 13:37 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:15 | 09/28/2022 15:15 |
| 22081261-025A | 33 | 09/13/2022 13:42 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 13:42 |
| 22081261-027A | 35 | 09/14/2022 8:32 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/14/2022 8:32 |
| | Standard Method 4500-H B 2001 Field | | | | 09/14/2022 8:32 |
| | Standard Methods 2130 B Field | | | | 09/14/2022 8:32 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/14/2022 8:32 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/16/2022 11:34 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/16/2022 11:34 |
| | Standard Methods 2510 B Field | | | | 09/14/2022 8:32 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/20/2022 15:07 |
| | Standard Methods 2550 B Field | | | | 09/14/2022 8:32 |
| | Standard Methods 4500-O G Field | | | | 09/14/2022 8:32 |
| | SW-846 9036 (Total) | | | | 09/23/2022 8:44 |
| | SW-846 9214 (Total) | | | | 09/22/2022 17:36 |
| | SW-846 9251 (Total) | | | | 09/21/2022 15:37 |
| 22081261-027B | 35 | 09/14/2022 8:32 | 09/15/2022 10:05 | | |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 17:34 |
| 22081261-027C | 35 | 09/14/2022 8:32 | 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 | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/16/2022 19:33 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/20/2022 9:52 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/19/2022 23:51 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 18:17 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/22/2022 16:35 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 12:04 |
| 22081261-027D | 35 | 09/14/2022 8:32 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:16 | 09/26/2022 13:23 |
| 22081261-028A | 36 | 09/13/2022 12:15 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 12:15 |
| 22081261-034A | 49 | 09/13/2022 10:48 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 10:48 |
| | Standard Method 4500-H B 2001 Field | | | | 09/13/2022 10:48 |
| | Standard Methods 2130 B Field | | | | 09/13/2022 10:48 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/13/2022 10:48 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/21/2022 15:53 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/21/2022 15:53 |
| | Standard Methods 2510 B Field | | | | 09/13/2022 10:48 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/20/2022 15:08 |
| | Standard Methods 2550 B Field | | | | 09/13/2022 10:48 |
| | Standard Methods 4500-O G Field | | | | 09/13/2022 10:48 |
| | SW-846 9036 (Total) | | | | 09/21/2022 17:15 |
| | SW-846 9214 (Total) | | | | 09/22/2022 18:00 |
| | SW-846 9251 (Total) | | | | 09/21/2022 17:15 |
| 22081261-034B | 49 | 09/13/2022 10:48 | 09/15/2022 10:05 | | |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 18:19 |
| 22081261-034C | 49 | 09/13/2022 10:48 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/19/2022 16:13 |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/20/2022 10:05 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 0:22 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/21/2022 0:06 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/23/2022 0:12 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 12:23 |
| 22081261-034D | 49 | 09/13/2022 10:48 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:16 | 09/28/2022 13:48 |
| 22081261-035A | 50 | 09/13/2022 12:03 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 12:03 |

**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** |
| | Standard Method 4500-H B 2001 Field | | | | 09/13/2022 12:03 |
| | Standard Methods 2130 B Field | | | | 09/13/2022 12:03 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/13/2022 12:03 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/21/2022 15:59 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/21/2022 15:59 |
| | Standard Methods 2510 B Field | | | | 09/13/2022 12:03 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/19/2022 15:45 |
| | Standard Methods 2550 B Field | | | | 09/13/2022 12:03 |
| | Standard Methods 4500-O G Field | | | | 09/13/2022 12:03 |
| | SW-846 9036 (Total) | | | | 09/21/2022 17:23 |
| | SW-846 9214 (Total) | | | | 09/22/2022 18:03 |
| | SW-846 9251 (Total) | | | | 09/21/2022 17:23 |
| 22081261-035B | 50 | 09/13/2022 12:03 | 09/15/2022 10:05 | | |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 18:27 |
| 22081261-035C | 50 | 09/13/2022 12:03 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/19/2022 16:32 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 1:31 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/21/2022 0:12 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/23/2022 0:17 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 12:25 |
| 22081261-035D | 50 | 09/13/2022 12:03 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:16 | 09/26/2022 14:07 |
| 22081261-036A | 51 | 09/13/2022 9:56 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 9:56 |
| | Standard Method 4500-H B 2001 Field | | | | 09/13/2022 9:56 |
| | Standard Methods 2130 B Field | | | | 09/13/2022 9:56 |
| | Standard Methods 18th Ed. 2580 B Field | | | | 09/13/2022 9:56 |
| | Standard Methods 2320 B (Total) 1997, 2011 | | | | 09/21/2022 16:05 |
| | Standard Methods 2320 B 1997, 2011 | | | | 09/21/2022 16:05 |
| | Standard Methods 2510 B Field | | | | 09/13/2022 9:56 |
| | Standard Methods 2540 C (Total) 1997, 2011 | | | | 09/19/2022 15:45 |
| | Standard Methods 2550 B Field | | | | 09/13/2022 9:56 |
| | Standard Methods 4500-O G Field | | | | 09/13/2022 9:56 |
| | SW-846 9036 (Total) | | | | 09/21/2022 17:31 |
| | SW-846 9214 (Total) | | | | 09/22/2022 18:05 |
| | SW-846 9251 (Total) | | | | 09/21/2022 17:31 |
| 22081261-036B | 51 | 09/13/2022 9:56 | 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 | | |
|---|---|---|---|---|---|
| | **Test Name** | | | **Prep Date/Time** | **Analysis Date/Time** |
| | SW-846 9251 (Dissolved) | | | | 09/19/2022 18:35 |
| 22081261-036C | 51 | 09/13/2022 9:56 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6010B, Metals by ICP (Total) | | | 09/16/2022 9:55 | 09/16/2022 19:55 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 0:28 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/20/2022 18:23 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/16/2022 9:55 | 09/22/2022 18:12 |
| | SW-846 3005A, 6020A, Metals by ICPMS (Total) | | | 09/22/2022 8:04 | 09/23/2022 0:07 |
| | SW-846 7470A (Total) | | | 09/19/2022 10:39 | 09/20/2022 12:27 |
| 22081261-036D | 51 | 09/13/2022 9:56 | 09/15/2022 10:05 | | |
| | SW-846 3005A, 6020A, Metals by ICPMS (Dissolved) | | | 09/19/2022 12:16 | 09/26/2022 14:13 |
| 22081261-038A | SG02 | 09/13/2022 14:52 | 09/15/2022 10:05 | | |
| | Field Elevation Measurements | | | | 09/13/2022 14:52 |
| 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 |
| | 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 |

**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** |
| | 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 **µS/cm**

SampID: LCS-R319062

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 22081261-040ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (as CaCO3) | | 0 | | **509** | | | | 496.0 | 2.59 | 09/21/2022 |

**Batch** R318378 **SampType:** DUP Units **mg/L** RPD Limit: **10**

SampID: 22081261-041ADUP

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (as CaCO3) | | 0 | R | **1** | | | | 2.000 | 66.67 | 09/22/2022 |

**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**
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 | 09/19/2022 |
| 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
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 | 09/20/2022 |

**Batch** R318379 **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 | | **926** | 1000 | 0 | 92.6 | 90 | 110 | 09/20/2022 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | | 20 | | **400** | | | | 394.0 | 1.51 | 09/20/2022 |

**Batch** R318497 **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 | 09/22/2022 |
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | | 20 | H | **400** | | | | 388.0 | 3.05 | 09/22/2022 |

**Batch** R318645 **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 | 09/26/2022 |
| Total Dissolved Solids | | 20 | | **< 20** | 16.00 | 0 | 0 | -100 | 100 | 09/26/2022 |

**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: ICV/LCS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (as N) | | 0.10 | | **1.02** | 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 |

**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 |

**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 |

**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**
SampID: 22081261-005AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**
SampID: 22081261-010AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**
SampID: 22081261-043AMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**
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 | | **0.521** | 0.5000 | 0 | 104.2 | 90 | 110 | 09/20/2022 |

**Batch** R318368 **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 | 09/21/2022 |

**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 |

**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 |

**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**
SampID: 22081261-011BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | | 50 | | **165** | 100.0 | 61.38 | 104.1 | 85 | 115 | 09/19/2022 |

**Batch** R318277 **SampType:** MSD Units **mg/L** RPD Limit: **10**
SampID: 22081261-043BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**
SampID: 22081261-001CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| 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 | 09/19/2022 |

**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 |

**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 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

## 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**
SampID: 22081261-003FMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

## SW-846 9214 (DISSOLVED)

**Batch** R318287 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 22081261-011BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 22081261-042BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 22081261-046BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

## SW-846 9214 (TOTAL)

**Batch** R318437 **SampType:** MBLK Units **mg/L**
SampID: MBLK

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

## SW-846 9214 (TOTAL)

**Batch** R318437 **SampType:** MS Units **mg/L**
SampID: 22081261-041AMS

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

## SW-846 9251 (DISSOLVED)

**Batch** R318286 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 22081261-043BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | 40 | | **277** | 200.0 | 90.36 | 93.1 | 85 | 115 | 09/21/2022 |

**Batch** R318345 **SampType:** MSD Units **mg/L** RPD Limit: **15**

SampID: 22081261-011BMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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: ICV/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: ICV/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 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

## 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: ICV/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 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

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

**Batch** 197755 **SampType:** LCS Units **mg/L**
SampID: 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**
SampID: 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** RPD Limit: **20**
SampID: 22081261-003DMSD

| 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**
SampID: 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**
SampID: 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**
SampID: 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 |

**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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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**
SampID: 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 |

**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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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 |

**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**

SampID: MBLK-197755

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**

SampID: 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 |

**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**

SampID: 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 |

**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

SampID: 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

SampID: 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

SampID: 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

SampID: MBLK-197756

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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**

SampID: 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**

SampID: 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**

SampID: 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**

SampID: 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 µg/L

SampID: 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 µg/L

SampID: 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 |

**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**

SampID: MBLK-197894

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Boron | | 25.0 | | **< 25.0** | 9.250 | 0 | 0 | -100 | 100 | 09/22/2022 |

**Client:** Ramboll **Work Order:** 22081261

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 31-Oct-22

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

**Batch** 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** RPD Limit: **20**

SampID: LCSD-197894

| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

SampID: 22081261-014EMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | 0.20 | | **4.01** | 5.000 | 0 | 80.1 | 3.766 | 6.19 | 09/20/2022 |

**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 |

**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

SampID: 22081261-030EMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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

SampID: 22081261-043CMSD

| Analyses | Cert | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref Val | %RPD | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

**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

SampID: 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

SampID: 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

SampID: 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

SampID: 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:** Timothy W. Mathis
**On:** 15-Sep-22

**Reviewed by:** Elizabeth A. Hurley
**On:** 15-Sep-22

**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 sodiurm 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

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 3

| Section A Required Client Information: | | Section B Required Project Information: | | Section C 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 |
| | | | | Address: | see Section A |
| Email To: | Brian.Voelker@VistraCorp.com | Purchase Order No.: | | Quote Reference: | |
| Phone: | (217) 753-8911 Fax: | Project Name: | | Project Manager: | |
| Requested Due Date/TAT: | standard | Project Number: | 2285 | Profile #: | |

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: IL

Requested Analysis Filtered (Y/N)

| ITEM # | Section D Required Client Information SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | Valid Matrix Codes MATRIX / CODE: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED DATE | COLLECTED TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Y/N: Analysis Test | 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) | Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 02 | | | C | 9/13/22 | 1443 | | 8 | 3 | | 1 | 3 | 1 | | | | ✓ | | | | | | ✓ | | ✓ | | | | 22081261-001 |
| 2 | 03R | | | C | 9/14/22 | 1309 | | 9 | 3 | | 2 | 3 | 1 | | | | | ✓ | | | | ✓ | | ✓ | | ✓ | | | | 002 |
| 3 | 05R | | | C | 9/14/22 | 1420 | | 7 | 2 | 2 | 2 | | 1 | | | | ✓ | | | | ✓ | | | | | ✓ | | | | 003 |
| 4 | 05DR | | | C | 9/14/22 | 1403 | | 7 | 2 | 2 | 2 | | 1 | | | | ✓ | | | | ✓ | | | | | ✓ | | | | 004 |
| 5 | 07 | | | C | 9/14/22 | 1124 | | 9 | 3 | | 2 | 3 | 1 | | | | ✓ | ✓ | ✓ | | | ✓ | | ✓ | ✓ | | | | | 005 |
| 6 | 08 | | | C | 9/14/22 | 0934 | | 11 | 3 | 2 | 2 | 3 | 1 | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | | | 006 |
| 7 | 08D | | | C | 9/14/22 | 1409 | | 11 | 3 | 2 | 2 | 3 | 1 | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | | | 007 |
| 8 | 10 | | | C | 9/14/22 | 1214 | | 10 | 3 | 2 | 1 | 3 | 1 | | | | | | | | ✓ | | | ✓ | | | ✓ | | | 008 |
| 9 | 12 | | | C | 9/14/22 | 1105 | | 7 | 2 | 2 | 2 | | 1 | | | | | | ✓ | | ✓ | | | | | | ✓ | | | 009 |
| 10 | 13 | | | C | 9/14/22 | 1119 | | 7 | 2 | 2 | 2 | | 1 | | | | | | ✓ | | ✓ | | | | | | ✓ | | | 010 |
| 11 | 16 | | | C | 9/14/22 | 0959 | | 5 | 2 | | 2 | | 1 | | | | ✓ | | | | | | | | ✓ | | | | | 011 |
| 12 | 17 | | | C | 9/14/22 | 1017 | | 5 | 2 | | 2 | | 1 | | | | ✓ | | | | | | | | ✓ | | | | | 012 |
| 13 | 18S | | | C | 9/14/22 | 1328 | | 9 | 3 | | 2 | 3 | 1 | | | | | ✓ | | | | ✓ | | ✓ | ✓ | | | | | 013 |
| 14 | 18D | | | C | 9/14/22 | 1344 | | 9 | 3 | | 2 | 3 | 1 | | | | | ✓ | | | | ✓ | | ✓ | ✓ | | | | | 014 |
| 15 | 21R | | | C | 9/13/22 | 0922 | | 4 | 2 | | 2 | | | | | | | | | ✓ | | | ✓ | | ✓ | | | | | 015 |
| 16 | 22 | | | C | 9/13/22 | 1112 | | 4 | 2 | | 2 | | | | | | | | | ✓ | | | ✓ | | ✓ | | | | | 016 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| HEN-Q3-2022 | Tek Labs | 09/13/22 | 1005 | TEKLABS | 9-16-22 | 1005 | 4.4 / Y / NO / Y |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Ridd

SIGNATURE of SAMPLER: Joe Ridd DATE Signed (MM/DD/YY): 09/13/22

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

ph ✓ 29929 / 82949

Add NaOH (81662) to

002, 05R, 07, 08, 08D, 10, 12, 16, 17, 405, 45s, 08D, 04R, 006

0 HEADSPACE TM PR

DO ONE 177

22081261

# CHAIN-OF-CUSTODY / Analytical Request Document

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: | |
|---|---|---|---|---|---|
| Company: | Vistra Corp | Report To: | Brian Voelker | Attention: | Jason Stuckey |
| Address: | 13498 E. 900th St | Copy To: | Jason Stuckey | Company Name: | Vistra Corp |
| | | | | Address: | see Section A |
| Email To: | Brian.Voelker@VistraCorp.com | Purchase Order No.: | | Quote Reference: | |
| Phone: | (217) 753-8911 Fax: | Project Name: | | Project Manager: | |
| Requested Due Date/TAT: | standard | Project Number: | 2285 | Profile #: | |

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: IL

Section D Required Client Information

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

Valid Matrix Codes

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

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED DATE | COLLECTED TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | 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) | Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1233 | | 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 | 1542 | | 0 | | | | | | | | | | | | | ✓ | | | ✓ | | | | | | 025 |
| 10 | 34 | | | NOT ACCESSIBLE | | | 4 | 2 | | 2 | | | | | | | | | | ✓ | | | ✓ | | ✓ | | | | 026 |
| 11 | 35 | | | 09/13/22 | 0825 | | 4 | 2 | | 2 | | | | | | | | | | ✓ | | | ✓ | | ✓ | | | | 027 |
| 12 | 36 | | | 09/13/22 | 1025 | | 0 | 2 | 2 | 2 | | | | TB | | | | | | ✓ | | | ✓ | | | | | | 028 |
| 13 | 40S | | | 09/14/22 | 1451 | | 7 | 2 | 2 | 2 | | 1 | | | | ✓ | | | | | ✓ | | | | | ✓ | | | 029 |
| 14 | 45S | | | 09/14/22 | 1234 | | 9 | 3 | 1 | 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 | | 09/15/22 | 1005 | | 9-15-22 | 1005 | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 09/15/22

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

22081261

# CHAIN-OF-CUSTODY / Analytical Request Document

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



**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 #: | |

**REGULATORY AGENCY**

NPDES GROUND WATER DRINKING WATER

UST RCRA DTHER

Site Location STATE: IL

**Section D** Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED DATE | COLLECTED TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Y/N / Analysis Test: 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) | Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 48 | | GT | 09/19/22 | 1956 | | 2 | 1 | | 1 | | | | | | ✓ | | | | | | | | | | | | 22081261-033 |
| 2 | 49 | | | 09/13/22 | 1040 | | 4 | 2 | | 2 | | | | | | | | | ✓ | | | | ✓ | ✓ | | | | 034 |
| 3 | 50 | | | 09/13/22 | 1203 | | 4 | 2 | | 2 | | | | | | | | | ✓ | | | | ✓ | ✓ | | | | 035 |
| 4 | 51 | | | 09/13/22 | 0956 | | 4 | 2 | | 2 | | | | | | | | | ✓ | | | | ✓ | ✓ | | | | 036 |
| 5 | 55 | | | 09/19/22 | 1511 | | 0 | | | | | | | | | | | ✓ | | | | | | | | | | 037 |
| 6 | SG02 | | | 09/13/22 | 1450 | | 0 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | 038 |
| 7 | XSG01 | | | 9/19/22 | 1500 | | 0 | | | | | | | | | | | ✓ | | | | | | ✓ | | | | 039 |
| 8 | 08 Duplicate | | | 09/14/22 | 0937 | | 11 | 3 | 2 | 2 | 3 | 1 | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | | | 040 |
| 9 | Field Blank | | | 09/19/22 | 1605 | | 11 | 3 | 2 | 2 | 3 | 1 | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | 041 |
| 10 | 04R | | | 09/19/22 | 1547 | | 4 | 2 | | 1 | | 1 | | | | | | | | | | | | | ✓ | | | 042 |
| 11 | 06 | | | 09/14/22 | 1257 | | 4 | 2 | | 1 | | 1 | | | | | | | | | | | | | ✓ | | | 043 |
| 12 | 15 | | | 09/14/22 | 1006 | | 4 | 2 | | 1 | | 1 | | | | | | | | | | | | | ✓ | | | 044 |
| 13 | 19D | | | 09/14/22 | 1538 | | 4 | 2 | | 1 | | 1 | | | | | | | | | | | | | ✓ | | | 045 |
| 14 | 19S | | | 09/19/22 | 1514 | | 4 | 2 | | 1 | | 1 | | | | | | | | | | | | | ✓ | | | 046 |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| HEN-Q3-2022 | | 09/19/22 | 1005 | | 9/19/22 | 1005 | |
| Duplicate and Field Blank per project history. EAH 8/18/22 | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 09/19/22

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

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

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

**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 accessable 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<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | jhriley@teklabinc.com |

### Springfield

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

### Kansas City

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

### Collinsville Air

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

### Chicago

| | |
|---|---|
| **Address** | 1319 Butterfield Rd.<br>Downers Grove, IL 60515 |
| **Phone** | (630) 324-6855 |
| **Fax** | |
| **Email** | arenner@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 **Work Order:** 22081260

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 28-Oct-22

**Lab ID:** 22081260-001 **Client Sample ID:** 03R

**Matrix:** GROUNDWATER **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 |

**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 **Work Order:** 22081260

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 28-Oct-22

**Lab ID:** 22081260-012 **Client Sample ID:** 22D

**Matrix:** GROUNDWATER **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 **Work Order:** 22081260

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 28-Oct-22

**Lab ID:** 22081260-015 **Client Sample ID:** 32

**Matrix:** GROUNDWATER **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 |

**Client:** Ramboll **Work Order:** 22081260

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 28-Oct-22

**Lab ID:** 22081260-019 **Client Sample ID:** 46

**Matrix:** GROUNDWATER **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 **Work Order:** 22081260

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 28-Oct-22

**Lab ID:** 22081260-020 **Client Sample ID:** 47

**Matrix:** GROUNDWATER **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 |

**Client:** Ramboll **Work Order:** 22081260

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 28-Oct-22

**Lab ID:** 22081260-021 **Client Sample ID:** 49

**Matrix:** GROUNDWATER **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 |

**Client:** Ramboll **Work Order:** 22081260

**Client Project:** Hennepin Q3 Groundwater **Report Date:** 28-Oct-22

| Sample ID | Client Sample ID | Collection Date | Received Date | | |
|---|---|---|---|---|---|
| | Test Name | | | Prep Date/Time | Analysis Date/Time |
| 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 | | |
|---|---|---|---|---|---|
| | Test Name | | | Prep Date/Time | Analysis Date/Time |
| | 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

Teklab, Inc. Environmental Laboratory

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:** Timothy W. Mathis
**On:** 19-Sep-22

**Reviewed by:** Elizabeth A. Hurley
**On:** 19-Sep-22

**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

22081260

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

| Section A Required Client Information: | Section B Required Project Information: | Section C 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 |
| | | Address: see Section A |
| Email To: Brian.Voelker@VistraCorp.com | Purchase Order No.: | Quote Reference: |
| Phone: (217) 753-8911 Fax: | Project Name: | Project Manager: |
| Requested Due Date/TAT: standard | Project Number: 2285 | Profile #: |

**REGULATORY AGENCY**

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: IL

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED DATE | COLLECTED TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Y/N | Analysis Test: HEN-257-802 | HEN-257-803 | HEN-257-804 | HEN-CLOSURE-802-805 | HEN-CLOSURE-804 | Residual Chlorine (Y/N) | Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 03R | | | 8/19/22 | 1309 | | 2 | | | 2 | | | | | | | X | | | X | | | 22081260-001 |
| 2 | 07 | | | 8/19/22 | 1321 | | | | | | | | | | | | X | X | | X | | | 002 |
| 3 | 08 | | | 8/19/22 | 0957 | | | | | | | | | | | | X | X | | X | | | 003 |
| 4 | 08 Duplicate | | | 8/19/22 | 0957 | | | | | | | | | | | | X | X | | X | | | 004 |
| 5 | 08D | | | 8/19/22 | 0909 | | | | | | | | | | | | X | X | | X | | | 005 |
| 6 | 12 | | | 8/19/22 | 1105 | | | | | | | | | | | | | X | | | | | 006 |
| 7 | 13 | | | 8/19/22 | 1119 | | | | | | | | | | | | | X | | | | | 007 |
| 8 | 18S | | | 8/19/22 | 1326 | | | | | | | | | | | | X | | | X | | | 008 |
| 9 | 18D | | | 8/19/22 | 1344 | | | | | | | | | | | | X | | | X | | | 009 |
| 10 | 21R | | | 8/19/22 | 0922 | | | | | | | | | | | | | | X | | X | | 010 |
| 11 | 22 | | | 8/19/22 | 1112 | | | | | | | | | | | | | | X | | X | | 011 |
| 12 | 22D | | | 8/19/22 | 1131 | | | | | | | | | | | | | | X | | X | | 012 |
| 13 | 23 | | | 8/19/22 | 1027 | | | | | | | | | | | | | | X | | X | | 013 |
| 14 | 27 | | | 8/19/22 | 1253 | | | | | | | | | | | | | | X | | X | | 014 |
| 15 | 32 | | | 8/19/22 | 1327 | | | | | | | | | | | | | | X | | X | | 015 |
| 16 | 34 | | | NOT ACCESSIBLE | | | | | | | | | | | | | | | X | | X | | 016 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| **HEN-Q3-2022** | [signature] rekiab | 8/19/22 | 1005 | [signature] TEKLAB | 8/19/22 | 1006 | |
| Radium, only. | | | | | | | |

Duplicate and Field Blank per project history. EAH 8/18/22

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Rikel

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 08/19/22

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

CET Tam PM

82999

22081260

# CHAIN-OF-CUSTODY / Analytical Request Document

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



**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 #: | |

**REGULATORY AGENCY**

NPDES GROUND WATER DRINKING WATER

UST RCRA DTHER

Site Location STATE: IL

**Section D** Required Client Information

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

Valid Matrix Codes

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

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED DATE | COLLECTED TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | HEN-257-802 | HEN-257-803 | HEN-257-804 | HEN-CLOSURE-802-805 | HEN-CLOSURE-804 | Residual Chlorine (Y/N) | Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 35 | | | 09/19/22 | 0852 | | 2 | | | 2 | | | | | | | | | X | | X | | 22081260-017 |
| 2 | 45S | | | 09/19/22 | 1224 | | 1 | | | 1 | | | | | | | X | | | | | | 018 |
| 3 | 46 | | | 09/19/22 | 1044 | | | | | | | | | | | | | X | | | | | | 019 |
| 4 | 47 | | | 09/19/22 | 1142 | | | | | | | | | | | | | X | | | | | | 020 |
| 5 | 49 | | | 09/19/22 | 1048 | | | | | | | | | | | | | | X | | X | | | 021 |
| 6 | 50 | | | 09/19/22 | 1209 | | | | | | | | | | | | | | X | | X | | | 022 |
| 7 | 51 | | | 09/19/22 | 0956 | | | | | | | | | | | | | | X | | X | | | 023 |
| 8 | Field Blank | | | 09/19/22 | 1645 | | ↓ | | | ↓ | | | | | | | X | X | X | X | X | | | 024 |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | |

Requested Analysis Filtered (Y/N)

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| HEN-Q3-2022 | | 09/19/22 | 1805 | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 09/19/22

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

# ANALYTICAL REPORT

October 26, 2022

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

## TEKLAB, Inc.

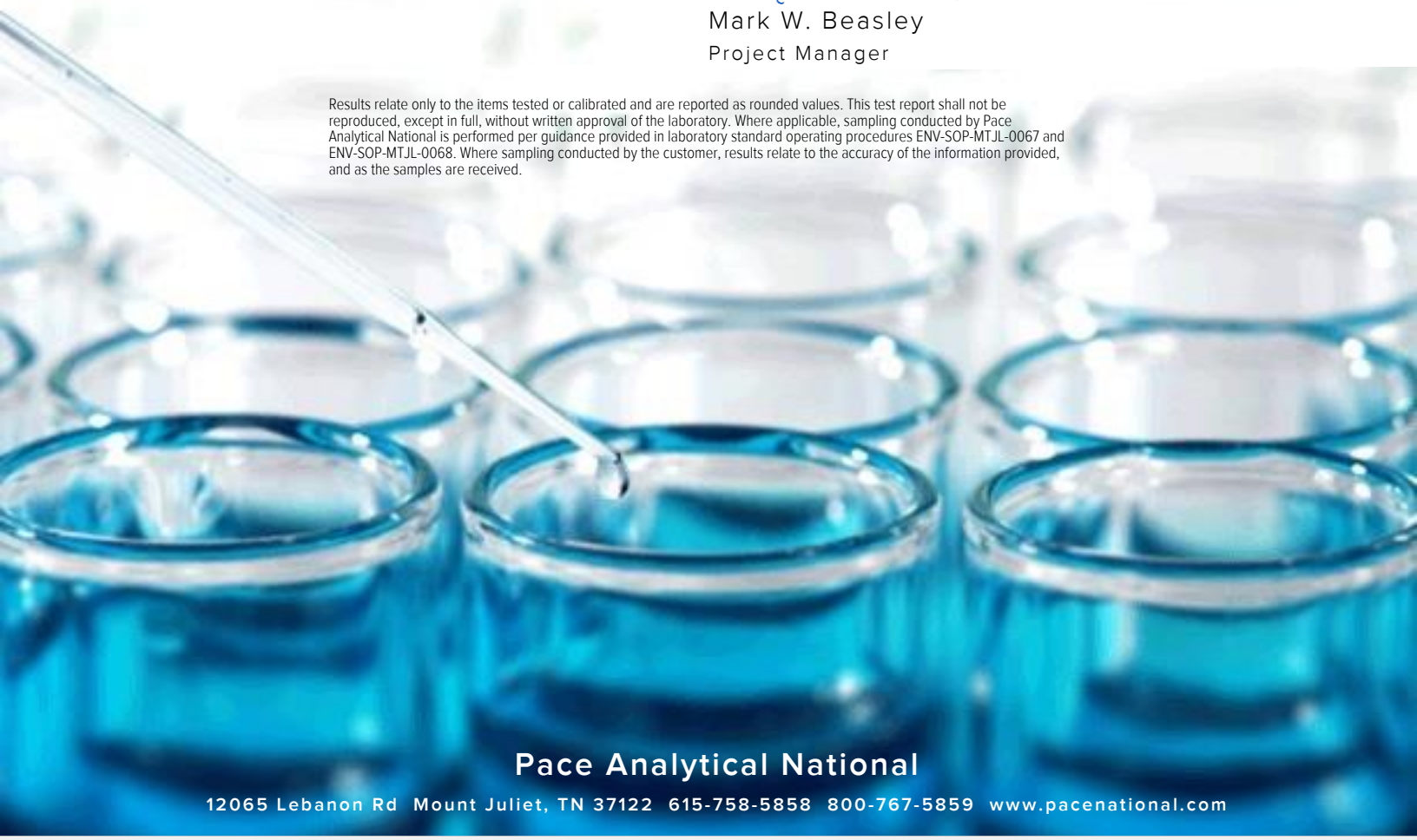
| | |
|---|---|
| Sample Delivery Group: | L1537975 |
| Samples Received: | 09/21/2022 |
| Project Number: | 22091260 |
| Description: | |

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 National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## 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 |

## 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 |

## 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 |

## 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 |

## 22081260-009 L1537975-09 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 09/14/22 13:44 | 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 |

## 22081260-010 L1537975-10 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 09/14/22 09:22 | 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 |

## 22081260-011 L1537975-11 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 09/13/22 11:12 | 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 |

## 22081260-012 L1537975-12 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 09/13/22 11:31 | 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 |

## 22081260-013 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 1.67 | | 0.393 | 0.704 | 10/21/2022 12:18 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 1.71 | | 0.361 | 0.688 | 10/21/2022 12:18 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 1.59 | | 0.335 | 0.656 | 10/21/2022 12:18 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 1.59 | | 0.299 | 0.657 | 10/21/2022 12:18 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 1.82 | | 0.244 | 0.630 | 10/21/2022 12:18 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.501 | U | 0.294 | 0.799 | 10/21/2022 14:45 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 1.71 | | 0.325 | 0.668 | 10/21/2022 14:45 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 2.44 | | 0.369 | 0.573 | 10/21/2022 14:45 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 2.31 | | 0.410 | 0.607 | 10/21/2022 14:45 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 1.01 | | 0.272 | 0.701 | 10/21/2022 14:45 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 3.06 | | 0.321 | 0.641 | 10/21/2022 14:45 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.559 | | 0.226 | 0.392 | 10/25/2022 10:45 | WG1933262 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## 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 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.0434 | U | 0.269 | 0.491 | 10/25/2022 10:45 | WG1933261 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| 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 |

## Method Blank (MB)

(MB) R3852876-5 10/25/22 10:45

| Analyte | MB Result | MB Qualifier | MB Uncertainty | MB MDA |
|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l |
| Radium-228 | -0.253 | 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 | Original Uncertainty | Original MDA | DUP Result | DUP Uncertainty | DUP MDA | Dilution | DUP RPD | DUP RER | DUP Qualifier | DUP RPD Limits | DUP RER Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | + / - | pCi/l | pCi/l | + / - | pCi/l | | % | | | % | |
| 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 | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | pCi/l | pCi/l | % | % | |
| 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 | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | MS RER | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | pCi/l | pCi/l | pCi/l | % | % | | % | | | % | | % |
| 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* | | | | | | | |

# QUALITY CONTROL SUMMARY

L1537975-15,16,17,18,19,20,21,22,23

## Method Blank (MB)

(MB) R3852878-1 10/25/22 10:45

| Analyte | MB Result pCi/l | MB Qualifier | MB Uncertainty + / - pCi/l | MB MDA pCi/l |
|---|---|---|---|---|
| Radium-228 | -0.586 | 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 | 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* | | | | | | | |

## Method Blank (MB)

(MB) R3846799-1 10/07/22 12:15

| Analyte | MB Result pCi/l | MB Qualifier | MB Uncertainty + / - pCi/l | MB MDA pCi/l |
|---|---|---|---|---|
| Radium-226 | 0.00347 | 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 | 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* | | | | | | | |

## Method Blank (MB)

(MB) R3850352-1 10/14/22 14:08

| Analyte | MB Result | MB Qualifier | MB Uncertainty | MB MDA |
|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l |
| Radium-226 | 0.0233 | 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 | Original Uncertainty | Original MDA | DUP Result | DUP Uncertainty | DUP MDA | Dilution | DUP RPD | DUP RER | DUP Qualifier | DUP RPD Limits | DUP RER Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | + / - | pCi/l | pCi/l | + / - | pCi/l | | % | | | % | |
| 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 | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | pCi/l | pCi/l | % | % | |
| 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 | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | MS RER | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | pCi/l | pCi/l | pCi/l | % | % | | % | | | % | | % |
| 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* | | | | | | | |

# 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. |

# 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 | LAO000356 |
| 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.

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# TEKLAB, INC. Chain of Custody

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

Were samples chilled? 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

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):

Project# WO-~~#22082660~~ 22091760

Contact: Liz Hurley | Email: ehurley@teklabinc.com
Requested Due Date: NTAT | Billing/PO: 33354 | Phone: (618)344-1004

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 |
|---|---|---|---|---|---|
| L537975-01 | 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 | |
| 04 | 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 |

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Pg ___ of ___

# 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: Client | QC Level: 3

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):

Project# WO #22082660

Contact: Liz Hurley | Email: ehurley@teklabinc.com
Requested Due Date: NTAT | Billing/PO: 33354 | Phone: (618)344-1004

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 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1537975-12 | 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 |
| | | | |

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3/2/2016

Pg ___ of ___

# 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: Client | QC Level: 3

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):

Project# WO #22082660

Contact: Liz Hurley | Email: ehurley@teklabinc.com
Requested Due Date: NTAT | Billing/PO: 33354 | Phone: (618)344-1004

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 |
|---|---|---|---|---|---|
| L537975-13 | 22081260-024 | 9/14/22 1645 | HNO3 | Aqueous | ✔ |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |
| | | | HNO3 | Aqueous | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 9-19-22 | | |
| | | | |
| | | | |
| | | | 09/22/22 0945 |

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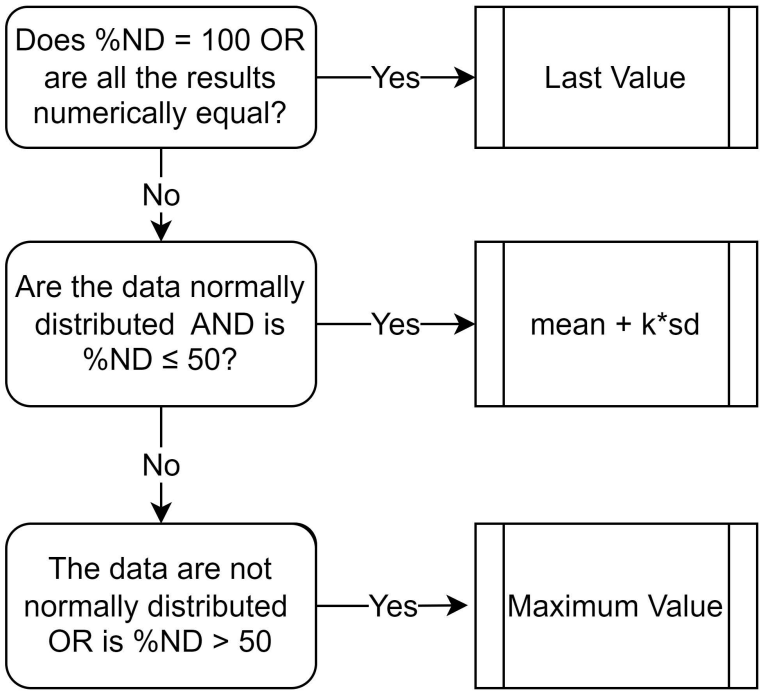
SubCocRevA
3/2/2016

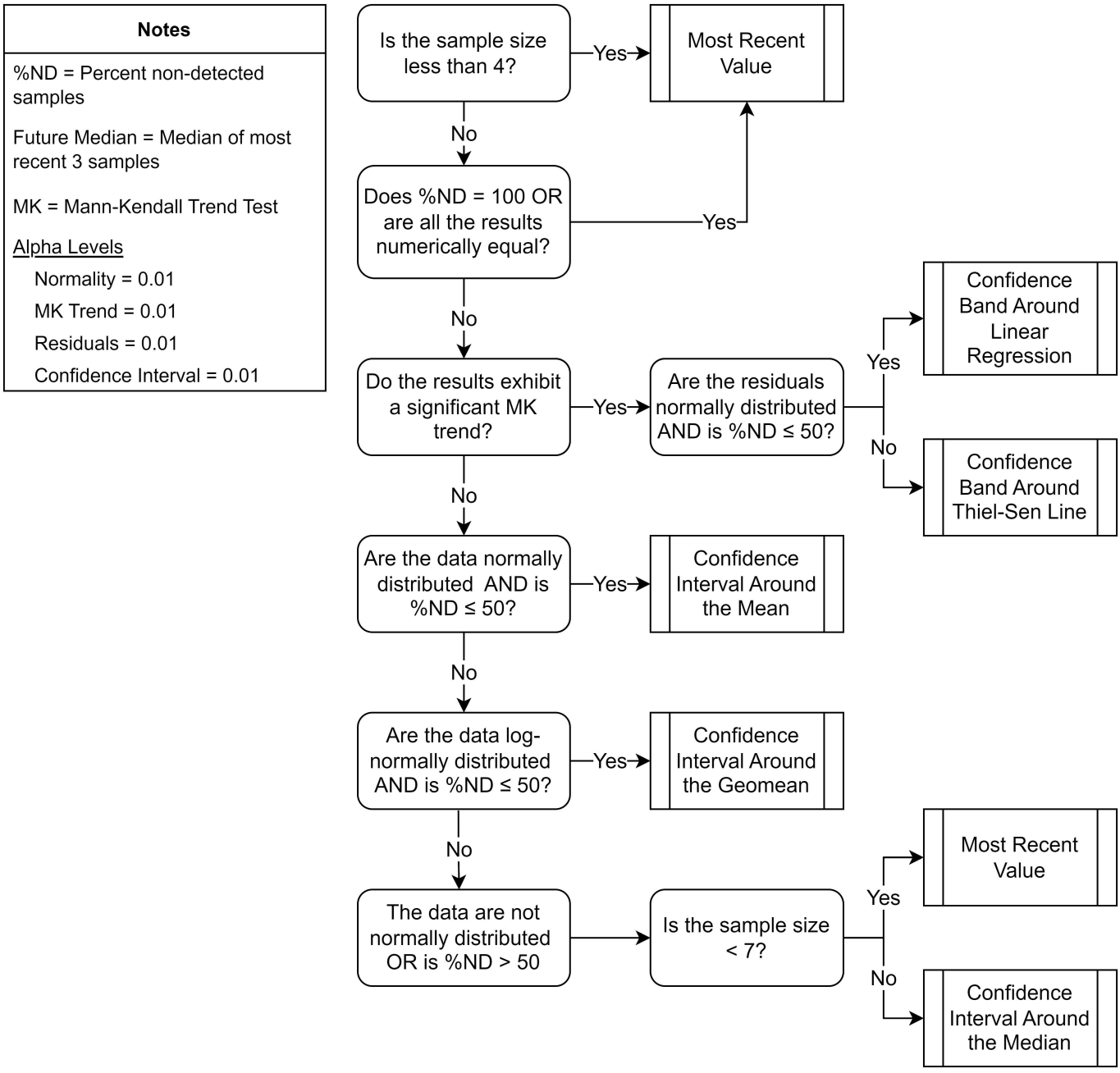
| Tracking Numbers | Temperature |
| --- | --- |
| 582158998 1180 | 26.1 to 26.1 |
| 1206 | 28.1 to 28.1 |
| 1191 | 26.4 to 26.4 |
| | |
| | |
| | |

# APPENDIX B
# STATISTICAL METHODOLGY FOR DETERMINATION OF BACKGROUND VALUES

| Notes |
| --- |
| %ND = Percent non-detected samples<br>sd = standard deviation<br>k = kappa for tolerance limit (95% confidence/95% coverage) |



# APPENDIX C
# STATISTICAL METHODOLGY 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
Alpha Levels
Normality = 0.01
MK Trend = 0.01
Residuals = 0.01
Confidence Interval = 0.01
Is the sample size less than 4?
Yes
Most Recent Value
No
Does %ND = 100 OR are all the results numerically equal?
Yes
No
Do the results exhibit a significant MK trend?
Yes
Are the residuals normally distributed AND is %ND ≤ 50?
Yes
Confidence Band Around Linear Regression
No
Confidence Band Around Thiel-Sen Line
No
Are the data normally distributed AND is %ND ≤ 50?
Yes
Confidence Interval Around the Mean
No
Are the data log-normally distributed AND is %ND ≤ 50?
Yes
Confidence Interval Around the Geomean
No
The data are not normally distributed OR is %ND > 50
Is the sample size < 7?
Yes
Most Recent Value
No
Confidence Interval Around the Median

# APPENDIX D
# ALTERNATE SOURCE DEMONSTRATIONS

Prepared for
**Dynegy Midwest Generation, LLC**

Date
**April 13, 2022**

Project No.
**1940102203-011**

# 40 C.F.R. § 257.95(g)(3)(ii):
# OLD WEST ASH POND (POND NO. 1 AND POND NO. 3) AND OLD WEST POLISHING POND
# HENNEPIN POWER PLANT
# HENNEPIN, ILLINOIS
# CCR UNIT 804

RAMBOLL Bright ideas. Sustainable change.

# CERTIFICATIONS

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

Eric J. Tlachac
Qualified Professional Engineer
062-063091
Illinois
Ramboll Americas Engineering Solutions, Inc.
Date: April 13, 2022

I, Kristin A. Drucquer, a qualified data validation professional, certify that the information in this report is accurate as of the date of my signature below. The content of this report is not to be used other than for its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.

Kristin A. Drucquer
Data Validator
Ramboll Americas Engineering Solutions, Inc.
Date: April 13, 2022

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Fifth Floor
Milwaukee, WI 53204
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| **2.** | **Alternate Source Demonstration: Analytical Data Review** | **4** |
| **3.** | **Conclusions** | **7** |
| **4.** | **References** | **8** |

## TABLES (IN TEXT)

| | |
|---|---|
| Table A | Select Level IV Quality Control Data for Thallium Resample Analysis and Laboratory Investigation of Carryover Contamination |

## APPENDICES

| | |
|---|---|
| Appendix A | Teklab Inc., March 17, 2022 Letter |

# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| 40 C.F.R. | Title 40 of the Code of Federal Regulations |
| A4D | Assessment Monitoring Round 4 |
| ASD | Alternate Source Demonstration |
| CCR | coal combustion residuals |
| Conc. | concentration |
| GWPS | groundwater protection standards |
| ICP-MS | inductively coupled plasma-mass spectrometry |
| ID | identification |
| LCS | laboratory control sample |
| LIMS | Laboratory Information Management System |
| MBLK | method blank |
| MDL | method detection limit |
| mg/L | milligrams per liter |
| MS | matrix spike |
| MSD | matrix spike duplicate |
| No. | Number |
| NRT/OBG | Natural Resource Technology, an OBG Company |
| OWAP | includes Old West Ash Pond (Pond No. 1 and Pond No. 3) and Old West Polishing Pond |
| ppb | parts per billion |
| QC | quality control |
| Ramboll | Ramboll Americas Engineering Solutions, Inc. |
| RL | reporting limit |
| SSL | Statistically Significant Level |
| USEPA | United States Environmental Protection Agency |

# 1. INTRODUCTION

Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257.95(g)(3)(ii) allows the owner or operator of a coal combustion residuals (CCR) unit 90 days from the date of determination of a Statistically Significant Level (SSL) over the Groundwater Protection Standard (GWPS) of groundwater constituents listed in Appendix IV of 40 C.F.R. § 257 to complete a written demonstration that a source other than the CCR unit being monitored caused the SSL(s), or that the SSL(s) resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (Alternate Source Demonstration [ASD]).

This ASD has been prepared on behalf of Dynegy Midwest Generation, LLC, by Ramboll Americas Engineering Solutions, Inc. (Ramboll) to provide pertinent information pursuant to 40 C.F.R. § 257.95(g)(3)(ii) for the Old West Ash Pond (Pond Number [No.] 1 and Pond No. 3) and Old West Polishing Pond, collectively referred to as the OWAP, located at Hennepin Power Plant near Hennepin, Illinois.

The most recent Assessment Monitoring sampling event (Assessment Monitoring Round 4 [A4D]) was completed on September 10, 2021, and analytical data were received on October 15, 2021. Analytical data from A4D were evaluated in accordance with the Statistical Analysis Plan[1] (Natural Resource Technology, an OBG Company [NRT/OBG], 2017) to determine any SSLs of Appendix IV parameters over background concentrations. That evaluation identified a SSL at a downgradient monitoring well as follows:

- Thallium at well 22

In accordance with the Statistical Analysis Plan (NRT/OBG, 2017), well 22 was resampled on December 8, 2021 and analyzed for thallium to confirm the SSL. Following evaluation of the analytical data from the resample event, the following SSL remained:

- Thallium at well 22

Pursuant to 40 C.F.R. § 257.95(g)(3)(ii), the review of analytical data demonstrates that the OWAP is not the source of the SSL identified at well 22. This ASD was completed by April 13, 2022, within 90 days of determination of the SSL (January 13, 2022), as required by 40 C.F.R. § 257.95(g)(3)(ii).

[1] Natural Resource Technology, an OBG Company (NRT/OBG), 2017, Statistical Analysis Plan, Hennepin Old West Ash Pond (Pond No. 1 and Pond No. 3) and Hennepin Old West Polishing Pond, Hennepin Power Station, October 17, 2017.

# 2. ALTERNATE SOURCE DEMONSTRATION: ANALYTICAL DATA REVIEW

Assessment monitoring in accordance with 40 C.F.R. § 257.95 was initiated at the OWAP on April 9, 2018, and thallium concentrations in semiannual groundwater samples have not been previously observed at concentrations above the reporting limit (RL). However, during A4D, thallium concentrations above the RL were identified in well 22 and confirmed by resample analysis, resulting in a SSL. Because thallium was not detected historically, Level II quality control (QC) data were thoroughly reviewed for compliance with data quality requirements. This review indicated that metals analyses of samples from wells 07[1] and 22 immediately followed metals analysis of laboratory QC samples spiked with thallium to evaluate instrument accuracy and precision (*i.e.,* matrix spikes [MS], matrix spike duplicates [MSD], or laboratory control samples [LCS]). This finding suggested the possibility of carryover contamination (memory interference) in the well 22 sample. The laboratory performed additional analyses (described below) to investigate the possibility of carryover contamination.

Metals, including thallium, are analyzed using Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) per United States Environmental Protection Agency (USEPA) Method 6020A. Carryover contamination can result when isotopes of elements in the previous sample remaining in the instrument components contribute to signals measured in the subsequent sample when analyzed. The laboratory's standard operating procedure includes flushing the ICP-MS system with deionized water between samples to minimize carryover contamination.

Level IV QC data for both the well 22 resample (on December 13, 2021) and the additional analyses performed by the laboratory (on January 31 and February 1, 2022) were reviewed; selected excerpts of the Level IV QC data are provided on the following page in **Table A**. It should be noted that the Level IV QC data excerpts in **Table A** include the raw instrument results (three runs and average concentrations) which are different than reported results (also included in **Table A**) due to sample dilution during analysis.

The Level IV QC data (summarized in **Table A**) show that samples spiked with thallium (MS/MSD samples) immediately preceded the samples from wells 07 and 22 during the original analysis. Thallium concentrations of similar magnitudes were reported for both samples (0.0056 milligrams per liter [mg/L] and 0.0052 mg/L, respectively), thus apparently confirming the well 22 thallium SSL.

Subsequent additional analyses included analyzing laboratory QC samples (method blank [MBLK] and LCS) immediately prior to sequential analysis of samples from wells 07, 08[2], and 22 (using remaining extracts from the original analysis). The highest thallium concentration (in the well 07 sample) was measured immediately after the QC sample; subsequent thallium concentrations (in well 08 and well 22 samples) were lower and similar to one another. Thallium had also not previously been detected in samples from well 07. This finding strongly suggested that carryover contamination was occurring from the QC samples. In other words, thallium spiked in the QC sample remained in the instrument during the first subsequent sample analyzed (well 07 sample), and the sample flux through the instrument during the analysis served to flush the

[1] Wells 07 and 08 are not part of the OWAP monitoring network. The results from wells 07 and 08 were used for this evaluation because they either immediately followed a spiked QC sample in analytical sequence, or a sample affected by carryover contamination.

carryover contamination, and analysis of the following samples (well 08 and well 22 samples) was not affected.

The laboratory further investigated the carryover hypothesis by initiating an augmented rinsing procedure following the QC samples and analyzed the concentration of thallium in the rinse water. Reanalysis of the sample from well 07 followed. As can be seen in **Table A**, the rinse water sample (following a QC sample) contained elevated concentrations of thallium (similar to those measured in the well 07 sample) and thallium was subsequently not detected above the RL in the well 07 sample that followed the augmented rinse procedure (similar to those measured in the initial well 08 and well 22 samples). This result proved that the original sample results were biased high due to carryover of thallium from QC samples. Further discussion of the laboratory's investigation and conclusions are included in **Attachment 1**.

**Table A. Select Level IV Quality Control Data for Thallium Resample Analysis and Laboratory Investigation of Carryover Contamination**

| Laboratory or Field ID | Analysis Date and Time | Raw ICP-MS Instrument Result[1] | | | | Laboratory Reported Result mg/L [2] |
|---|---|---|---|---|---|---|
| | | Run 1 Conc. (ppb) | Run 2 Conc. (ppb) | Run 3 Conc. (ppb) | Avg. Conc. (ppb) | |
| **Summary of QC Data for Resample Analysis** | | | | | | |
| MBLK | 12/13/2021 21:13:37 | 0.159 | 0.211 | 0.152 | 0.174 | 0.001 |
| LCS | 12/13/2021 21:21:17 | 52.910 | 58.308 | 56.526 | 55.915 | 0.280 |
| MSD | 12/13/2021 21:28:58 | 56.995 | 55.861 | 55.803 | 56.220 | 0.281 |
| 07 | 12/13/2021 21:36:37 | 1.366 | 1.211 | 0.764 | 1.113 | 0.0056 |
| MS | 12/13/2021 22:07:19 | 56.016 | 57.888 | 57.079 | 56.994 | 0.285 |
| MSD | 12/13/2021 22:15:00 | 55.874 | 57.073 | 56.113 | 56.353 | 0.282 |
| 22 | 12/13/2021 22:22:41 | 1.302 | 1.120 | 0.692 | 1.038 | 0.0052 |
| **Summary of QC Data for Laboratory Investigation of Carryover Contamination** | | | | | | |
| MBLK | 01/31/2022 16:26:33 | -0.004 | -0.008 | -0.008 | -0.007 | 0.000 |
| LCS | 01/31/2022 16:34:09 | 44.453 | 48.340 | 51.205 | 47.999 | 0.240 |
| 07 | 01/31/2022 16:41:46 | 0.544 | 0.497 | 0.285 | 0.442 | 0.0022 |
| 08 | 01/31/2022 16:49:23 | 0.111 | 0.127 | 0.083 | 0.107 | 0.0005 |
| 22 | 01/31/2022 16:57:00 | 0.124 | 0.139 | 0.123 | 0.128 | 0.0006 |
| MBLK | 02/01/2022 10:37:20 | -0.014 | -0.004 | -0.006 | -0.008 | 0.000 |
| LCS | 02/01/2022 10:44:29 | 62.289 | 59.977 | 63.058 | 61.775 | 0.309 |
| Rinse | 02/01/2022 10:51:38 | 0.532 | 0.480 | 0.327 | 0.446 | 0.002 |
| 07 | 02/01/2022 10:58:50 | 0.128 | 0.145 | 0.130 | 0.134 | 0.0007 |

**Notes:**

[1] Raw ICP-MS results are the average result of three replicate instrument runs.

[2] Laboratory reported result is different than the average raw result due to sample dilution.

Conc. = concentration

ID = identification

MBLK = method blank

mg/L = milligrams per liter

ppb = parts per billion

The finding of high bias due to carryover, taken together with the finding of a thallium concentration in well 22 below the RL when the analysis did not immediately follow analysis of a QC sample, confirms that the well 22 thallium SSL is the result of error(s) in the laboratory analysis and is not attributable to the OWAP.

As a precaution against future carryover contamination issues, the laboratory has adjusted their loading sequences, Laboratory Information Management System (LIMS), and instrument configuration to include analysis of a rinsing sample following any spiked QC sample to ensure instrument cleanliness, and evaluating and flagging rinses that show carryover above the method detection limit (MDL). Additionally, the pump that transfers rinsing solutions through the instrument was adjusted to triple the amount of rinse solution between samples.

# 3. CONCLUSIONS

Based on the evaluation of analytical QC data presented, the well 22 thallium SSL is the result of error(s) in the laboratory analysis and is not attributable to the OWAP. This information serves as the written ASD report prepared in accordance with 40 C.F.R. § 257.95(g)(3)(ii) that the SSL observed during the A4D monitoring event was not caused by the OWAP.

# 4. REFERENCES

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

United States Environmental Protection Agency, 2020. Disposal of Coal Combustion Residuals from Electric Utilities, 40 C.F.R. § 257 Subpart D, published April 17, 2015, updated 2020. Accessed from URL https://www.ecfr.gov/current/title-40/chapter-I/subchapter-I/part-257/subpart-D#page-top

# APPENDICES

# APPENDIX A
# TEKLAB, INC. MARCH 17, 2022 LETTER

**TEKLAB, INC.**

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

March 17, 2022

After an initial complaint and phone conversation with client on Friday, January 28th we began our investigation into the potential carryover effects of Thallium on our ICPMS systems. Historically we are accustomed to seeing carryover from QC samples such as CCVs and ICVs spiked at 50ppb on instrument, to result in ~0.01ppb in the following rinse sample. This value is approximately a twentieth of the RL and has never shown to be a problem. The client identified what appeared to be carryover contamination in all of their samples that immediately followed digested spike QC samples, in excess of our typical carryover, that in some cases had results above the RL. This is a trend we had not identified previously.

On Monday, January 31st all samples identified as potentially contaminated were re-analyzed, in duplicate from the original extract, but after all QC samples an additional rinse solution was analyzed on the instrument before samples. Every sample in this case wound up not detecting thallium. This proved the original analyses for these samples were high biased.

We are still unsure why digested spiked QC samples, such as LCSs and Matrix Spikes, show increased carryover when analyzed on the instrument at the same concentrations as CCVs and ICVs but we have made adjustments to our loading sequences, LIMS system, and instrument configuration, all to remove the chances of this reoccurring and reducing any carryover.

When loading sample for analyses, after any piece of spiked QC (of any type) a rinsing sample will be analyzed to ensure cleanliness. Unlike before, this data will also be imported into the LIMS and will flag the rinses that show carryover above the MDL. This will help both analysts and data validators alike in identifying potential carryover. Finally, it was discovered that the peristaltic pump that pumps rinsing solutions through the sample lines between samples, was not running in "rapid" mode for the 75 seconds of wash and sample uptake. Not running in "rapid" mode it was only operating at 40rpm. Now having been updated to rapid mode has increased the pump speed to the maximum of 100rpm. As of today, 3/17, we have even increased both the uptake and wash to 90 seconds. Overall, this has now tripled the amount of wash solution cleaning the tubing between samples.

This document is being attached to an official corrective action in our LIMS system and will remain active and required in the ICPMS SOP, until there is a time that a future study shows these requirements are no longer needed or become obsolete by upgrade of equipment.

Robert L. Henson
Lab Director

Stacy A. Mathis
QA Manager

Prepared for
**Dynegy Midwest Generation, LLC**

Date
**November 28, 2022**

Project No.
**1940102203-011**

# 40 C.F.R. § 257.95(g)(3)(ii): Alternate Source Demonstration

## OLD WEST ASH POND (POND NO. 1 AND POND NO. 3) AND OLD WEST POLISHING POND

## HENNEPIN POWER PLANT

## HENNEPIN, ILLINOIS

## CCR UNIT 804

RAMBOLL Bright ideas. Sustainable change.

# CERTIFICATIONS

I, Brian G. Hennings, a professional geologist in good standing in the State of Illinois, certify that the information in this report is accurate as of the date of my signature below. The content of this report is not to be used other than for its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.

Brian G. Hennings
Professional Geologist
196-001482
Illinois
Ramboll Americas Engineering Solutions, Inc.
Date: November 28, 2022

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

Eric J. Tlachac
Qualified Professional Engineer
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## FIGURES (ATTACHED)


Figure 1 Monitoring Well Location Map
Figure 2 Potentiometric Surface Map – March 21, 2022
Figure 3 Leachate Sample Location Map


## APPENDICES


Appendix A Groundwater Contour Maps

# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| 40 C.F.R. | Title 40 of the Code of Federal Regulations |
| A5 | Assessment Monitoring Round 5 |
| AP2 | Ash Pond No. 2 |
| AP4 | Ash Pond No. 4 |
| ASD | Alternate Source Demonstration |
| CCR | coal combustion residuals |
| CCR Rule | 40 C.F.R. § 257 Subpart D |
| Closure Plan | Closure and Post-Closure Care Plan |
| CMA | Corrective Measures Assessment |
| DMG | Dynegy Midwest Generation, LLC |
| EPRI | Electric Power Research Institute |
| Geosyntec | Geosyntec Consultants, Inc. |
| GWPS | Groundwater Protection Standard |
| HPP | Hennepin Power Plant |
| IEPA | Illinois Environmental Protection Agency |
| LOE | line(s) of evidence |
| mg/kg | milligrams per kilogram |
| mg/L | milligrams per liter |
| MNA | monitored natural attenuation |
| mV | millivolts |
| NAVD88 | North American Vertical Datum of 1988 |
| No. | Number |
| NRT/OBG | Natural Resource Technology, an OBG Company |
| OWAP | Old West Ash Pond (Pond Number No. 1 and Pond No. 3) and Old West Polishing Pond |
| Ramboll | Ramboll Americas Engineering Solutions, Inc. |
| redox | reduction-oxidation |
| RL | reporting limit |
| SSI | Statistically Significant Increase |
| SSL | Statistically Significant Level |
| USGS | United States Geological Survey |

# 1. INTRODUCTION

Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257.95(g)(3)(ii) allows the owner or operator of a coal combustion residuals (CCR) unit 90 days from the date of determination of a Statistically Significant Level (SSL) over the Groundwater Protection Standard (GWPS) of groundwater constituents listed in Appendix IV of 40 C.F.R. § 257 to complete a written demonstration that a source other than the CCR unit being monitored caused the SSL(s), or that the SSL(s) resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (Alternate Source Demonstration [ASD]).

This ASD has been prepared on behalf of Dynegy Midwest Generation, LLC (DMG), by Ramboll Americas Engineering Solutions, Inc. (Ramboll) to provide pertinent information pursuant to 40 C.F.R. § 257.95(g)(3)(ii) for the Old West Ash Pond (Pond Number [No.] 1 and Pond No. 3) and Old West Polishing Pond, collectively referred to as the OWAP, located at Hennepin Power Plant (HPP) near Hennepin, Illinois.

The most recent Assessment Monitoring sampling event (Assessment Monitoring Round 5 [A5]) was completed on March 22, 2022, and analytical data were received on June 1, 2022. Analytical data from A5 were evaluated in accordance with the Statistical Analysis Plan (Natural Resource Technology, an OBG Company [NRT/OBG], 2017a) to determine any Statistically Significant Increases (SSIs) of Appendix III parameters over background concentrations or SSLs of Appendix IV parameters over GWPSs. That evaluation identified the following SSLs at downgradient monitoring wells:

- Arsenic at wells 21R and 51
- Cadmium at well 22
- Lithium at well 22

A Corrective Measures Assessment (CMA) was completed in 2019 for the arsenic and lithium SSLs, and further evaluation of monitored natural attenuation (MNA) as an associated groundwater remedy is in progress. The cadmium SSL was not observed in previous sampling events. In accordance with the Statistical Analysis Plan (NRT/OBG, 2017a), well 22 was resampled on June 7, 2022 and analyzed for cadmium to confirm the SSL observed during the A5 sampling event. Following evaluation of analytical data from the resample event, the cadmium SSL was confirmed. Consequently, alternate sources were evaluated for the cadmium SSL.

Pursuant to 40 C.F.R. § 257.95(g)(3)(ii), the lines of evidence (LOE) described in Section 3 demonstrate that sources other than the OWAP were the cause of the cadmium SSL listed above. This ASD was completed by November 28, 2022, within 90 days of determination of the SSL, as required by 40 C.F.R. § 257.95(g)(3)(ii).

# 2. BACKGROUND

## 2.1 Site Location and Description

The HPP is located in the northwest quarter of Section 26, Township 33 North, Range 2 West, Putnam County, Illinois and approximately 3 miles north-northeast of the Village of Hennepin.

The OWAP is one of four CCR units regulated under 40 C.F.R. §257 Subpart D (CCR Rule) at the HPP. Three CCR units (the Landfill, Ash Pond No. 2 [AP2], and the East Ash Pond) and one unit not regulated by the CCR Rule (Ash Pond No. 4 [AP4]) are located adjacent to each other and east of the HPP and are collectively known as Hennepin East. The OWAP is located west of the HPP. Areas surrounding the OWAP include agricultural land with scattered groupings or rows of trees to the southeast and low-lying floodplains of the Donnelley Wildlife Management Area to the southwest and west. The OWAP and surrounding properties are shown on **Figure 1**.

## 2.2 Groundwater Monitoring

The OWAP groundwater monitoring system for compliance with the CCR Rule consists of two background monitoring wells (32 and 34) and six compliance monitoring wells (21R, 22, 23, 35, 49, and 51). This monitoring network also includes two monitoring wells (22D and 50) installed to delineate groundwater impacts as required by 40 C.F.R. § 257.95(g)(1). A map showing the groundwater monitoring system, including the CCR unit and monitoring wells, is presented in **Figure 1**.

Groundwater samples are collected and analyzed in accordance with the Sampling and Analysis Plan prepared for the OWAP (NRT/OBG, 2017b). Statistical evaluation of analytical data is performed in accordance with the Statistical Analysis Plan (NRT/OBG, 2017a).

## 2.3 Site History

The HPP has two coal-fired generating units constructed in 1953 and 1959 with a total capacity of 210 Megawatts. Operations were ceased in November 2019. The coal source changed several times during the plant's operational history.

DMG operated the OWAP from 1952 through 1996. It consists of two closed units, the Old West Ash Pond and the Old West Polishing Pond (**Figure 1**). The Old West Ash Pond consists of the 9.3-acre Pond No. 1 at the eastern end of the impoundment and the 16.4-acre Pond No. 3 within the central portion of the impoundment. The 4.7-acre Old West Polishing Pond is situated at the western end of the impoundment. All ponds are bermed to approximately 15 feet above grade and are constructed from locally occurring sandy soils.

During operation, service water was used to sluice fly ash, bottom ash, and low-volume wastes to the OWAP. At the time it was removed from service in late 1996, there was no surface water discharge and all sluice water ex-filtrated via evapotranspiration, seepage through the berms, or leakage through the base of the ponds. Coal ash sluiced to the OWAP was a by-product of the combustion of high-sulfur Illinois coal. The operational history of the OWAP is summarized in **Table A** below.

**Table A. Operational History of OWAP**

| Date | Event |
|---|---|
| **1952-1955** | Construction of OWAP, Pond No. 1. Berms were constructed from locally sandy materials to an original elevation (since modified) of 457 feet. |
| **1968** | Construction of OWAP, Pond No. 3. Berms were constructed to an elevation of 457 feet. |
| **1979** | Berms surrounding the OWAP were raised by three feet to an elevation of 460 feet. |
| **1988-1989** | Ponds No. 1 and No. 3 within the OWAP were consolidated and divided into primary and secondary cells, and the berm around the primary portion was raised five feet to an elevation of 465 feet. It was after this consolidation that surface water discharge from the impoundment ceased. |
| **1996** | OWAP Ponds No. 1 and No. 3 were removed from service. |
| **2020** | OWAP Ponds No. 1 and No. 3 were closed in-place and Old West Polishing Pond was closed by removal (CCR consolidated into Ponds No. 1 and No. 3) in accordance with the IEPA-approved closure plan. |

The *Closure and Post-Closure Care Plan, Old West Ash Pond, Old West Polishing Pond at DMG, Hennepin Power Station* (Closure Plan) was submitted to Illinois Environmental Protection Agency (IEPA) in 2017 (Geosyntec Consultants, Inc. [Geosyntec], 2017). The Closure Plan was approved by IEPA in a letter dated June 19, 2018. The approved Closure Plan summarized the planned closure of the OWAP, which included dewatering the CCR, if needed, mechanical excavation of material from the Old West Polishing Pond for use as structural fill in the OWAP, grading within the OWAP, constructing an alternative cover system consisting of geomembrane and vegetated cover soils in direct contract with the graded CCR, and establishment of a vegetative cover. Closure construction was completed on November 17, 2020.

## 2.4 Site Hydrogeology and Stratigraphy

A detailed hydrogeological assessment of the HPP was completed and submitted as part of the 2017 Closure Plan for the West Ash Pond System (NRT/OBG, 2017c) Information pertinent to this ASD is included in this report; however, more complete information on site hydrogeology and stratigraphy is available in the 2017 Closure Plan (Geosyntec, 2017).

There are three dominant geomorphic features in the immediate vicinity of the HPP: an upper river terrace at an elevation of about 500 to 550 feet North American Vertical Datum of 1988 NAVD88, a lower river terrace at an elevation of about 450 to 460 feet NAVD88, and the current river valley filled with alluvium to an elevation of about 445 feet NAVD88. The HPP and the eastern portion of the OWAP (Pond No. 1) are on the lower terrace. The western portion of the OWAP (Pond No. 3 and Old West Polishing Pond) overlies alluvium.

The hydrogeological assessment identified that the stratigraphy within and immediately surrounding the OWAP consists of fill, unlithified river alluvium, and Pleistocene-age glacial outwash deposits overlying Pennsylvanian-age shale bedrock. The perimeter berms of the OWAP contain variable amounts of CCR and re-worked native silt, clay, and sand. Where undisturbed or partially excavated, the native surficial soil at the site is poorly drained, moderately permeable silty clay loam formed as alluvium in floodplains.

There are two hydrogeologic units present at the HPP: alluvium and Henry Formation sands and gravels. The river laid deposits are identified as Cahokia Alluvium. The Henry Formation sands and gravels make up the upper and lower terraces and fill the valley beneath the alluvium. The Henry Formation and alluvium together comprise the Uppermost Aquifer at the OWAP and extend from the water table to the bedrock.

The OWAP overlies both glacial deposits (Henry Formation) and alluvium (Cahokia Alluvium). The OWAP, specifically Pond No. 1, rests on top of lower terrace glacial deposits, and the eastern portion of Pond No. 3 overlies alluvial sand. While the western portion of Pond No. 3 and the Old West Polishing Pond overlie silty clay alluvial channel fill deposits.

The Pennsylvanian-age bedrock consists of interbedded layers of shale with thin limestone, sandstone, and coal beds. The shale bedrock unit has low hydraulic conductivity and defines the lower boundary of the Uppermost Aquifer.

The direction of groundwater flow and hydraulic gradient within the Uppermost Aquifer varies with the elevation of the Illinois River (select groundwater elevation contour maps are provided in **Appendix A**). During normal river stage the direction of groundwater flow is most often toward the river, but comparison of groundwater and river elevation data indicate reversals in this flow direction during times of high river elevations. The relative duration of these events is short, which leads to the determination of a predominant groundwater flow direction toward the river.

Groundwater elevations were obtained from measurements in monitoring wells on March 21, 2022 prior to the A5 sampling event at the site. Groundwater elevations for the OWAP during the A5 sampling event are shown in **Figure 2** and ranged from 444.15 feet NAVD88 (in well 34) to 448.50 feet NAVD88 (in well 32). Groundwater flow was generally toward the Illinois River.

# 3. ALTERNATE SOURCE DEMONSTRATION: LINES OF EVIDENCE

As allowed by 40 C.F.R. § 257.95(g)(3)(ii), this ASD demonstrates that sources other than the OWAP (the CCR unit) caused the SSL. LOEs supporting this ASD include the following:

1. Concentrations of cadmium are lower than those observed in leachate samples.
2. Cadmium concentrations are negatively correlated with concentrations of CCR indicator parameters.
3. Cadmium concentrations were detected in nearby aquifer materials and geochemical conditions support mobilization.

Data and information supporting these LOEs are discussed in more detail below.

## 3.1 LOE #1: Concentrations of Cadmium are Lower than those Observed in Leachate Samples

Leachate samples were collected from multiple locations within the OWAP in April and September of 2017 (**Figure 3**). Analytical results from locations L4, LPZ1, LPZ3, and LPZ17, sampled on April 25, 2017, indicate that total cadmium concentrations were less than laboratory reporting limits (RL) (less than 0.001 milligrams per liter [mg/L]). Analytical results from locations L4 and LPZ17, sampled on September 6, 2017, indicate that the total cadmium concentration in the sample from L4 was less than the RLs (less than 0.001 mg/L) and the total cadmium concentration in the sample from LPZ17 was 0.0013 mg/L.

The cadmium concentrations detected in the leachate samples are less than the lower confidence level of cadmium concentrations observed in well 22 (0.00527 mg/L).

## 3.2 LOE #2: Cadmium Concentrations are Negatively Correlated with Concentrations of CCR Indicator Parameters

Boron and sulfate are common indicators of CCR impacts to groundwater due to their leachability from CCR and mobility in groundwater (Electric Power Research Institute [EPRI], 2012). If an SSL is identified for a monitored parameter but concentrations of boron and sulfate are not correlated with that parameter, it is unlikely that the CCR unit is the source of the SSL.

**Figure A** below provides a scatter plot of cadmium versus boron and sulfate concentrations (collected from 2015 through the A5 sampling event) in monitoring well 22 (the location of the cadmium SSL), along with the results of a Spearman correlation test for non-parametric data (these data were determined to be not normally distributed). The results of the test at each well are described by the p-value and rho (Spearman correlation coefficient) included in each plot. Typically, a p-value greater than 0.05 is considered to be a statistically insignificant relationship. The range of rho falls between -1 and 1, with a perfect correlation equal to -1 or 1. The closer rho is to 0, the less of a correlation exists in the data.

The results of the correlation analyses indicates that concentrations of cadmium observed at monitoring well 22 are negatively correlated with concentrations of boron and sulfate, common indicators of CCR impacts to groundwater. **Figure A** below illustrates the inverse relationship

between cadmium concentrations and boron or sulfate concentrations in groundwater at monitoring well 22, where the p-values are less than 0.001 and rho is close to -1.

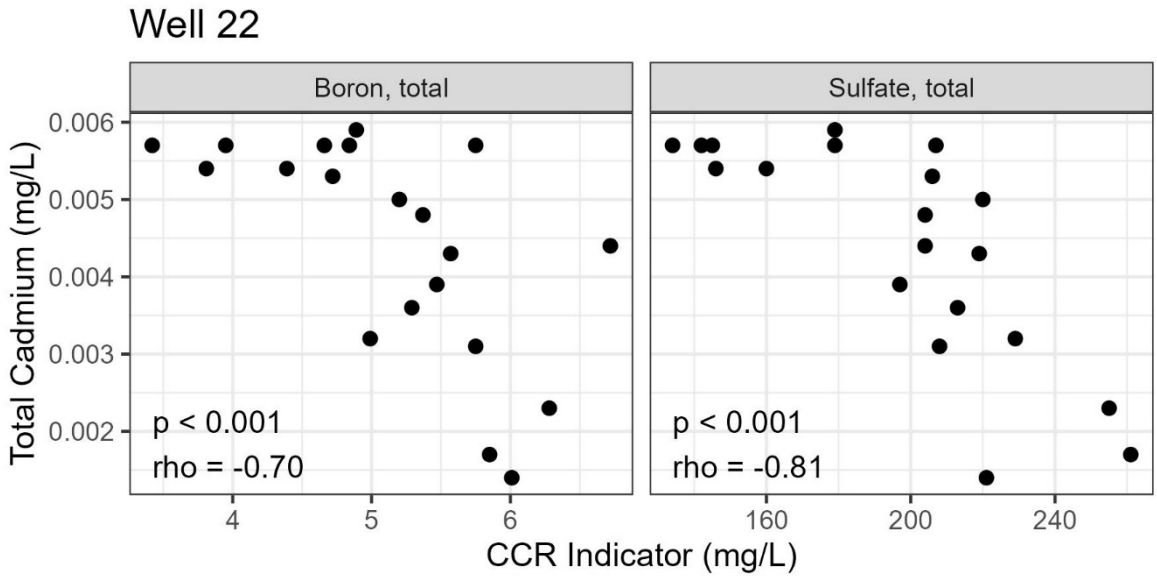


**Figure A. Scatter Plot of Cadmium Versus Boron and Sulfate Concentrations at Monitoring Well 22**

Cadmium concentrations are negatively correlated with boron and sulfate concentrations in the downgradient monitoring well, indicating the OWAP is not the source of the cadmium SSL.

## 3.3 LOE #3: Cadmium Concentrations were Detected in Nearby Aquifer Materials and Geochemical Conditions Support Mobilization

Soil samples were collected from four borings near Hennepin East in 2021 to support a hydrogeologic characterization report (Ramboll, 2021). Results of chemical analyses of the soil samples indicate that cadmium concentrations in the Henry Formation sands and gravels ranged from 1.13 to 1.65 milligrams per kilogram (mg/kg) with an average cadmium concentration of 1.36 mg/kg. Results of cadmium analyses from samples within the Cahokia Alluvium were slightly more variable, ranging from 0.57 to 1.34 mg/kg, with an average cadmium concentration of 0.97 mg/kg. Additionally, a sample of bedrock was obtained and yielded a cadmium concentration of 0.75 mg/kg.

Geochemical conditions that would affect cadmium mobility in groundwater at monitoring well 22 were evaluated. The primary geochemical conditions influencing cadmium mobility in non-sulfidic groundwater are pH and the association of cadmium with ligands. Cadmium will desorb from solid phases, and therefore exhibit greater mobility in groundwater, under lower pH conditions (Kubier et al., 2019). Additionally, cadmium can be mobilized from the solid phase via forming soluble complexes with certain ligands (*e.g.,* $CdCl^{+}$, $Cd(SO4)_2^{-2}$, or dissolved organic molecules) (Kubier et al., 2019). Because reduction-oxidation (redox) conditions at monitoring well 22 are insufficiently reducing to drive sulfide formation, sulfide is unlikely to occur at monitoring well 22. Therefore, the potential for pH and the formation of soluble cadmium complexes to mobilize cadmium at well 22 were assessed as described below.

Changes in pH at monitoring well 22 were evaluated using a Mann-Kendall trend test. Over the same time frame that cadmium concentrations have been increasing, pH values exhibit a significant downward trend (**Figure B**). Because cadmium is more mobile in groundwater under lower pH conditions, the decrease in pH could have contributed to the increased mobilization and concentrations of cadmium in groundwater at monitoring well 22.

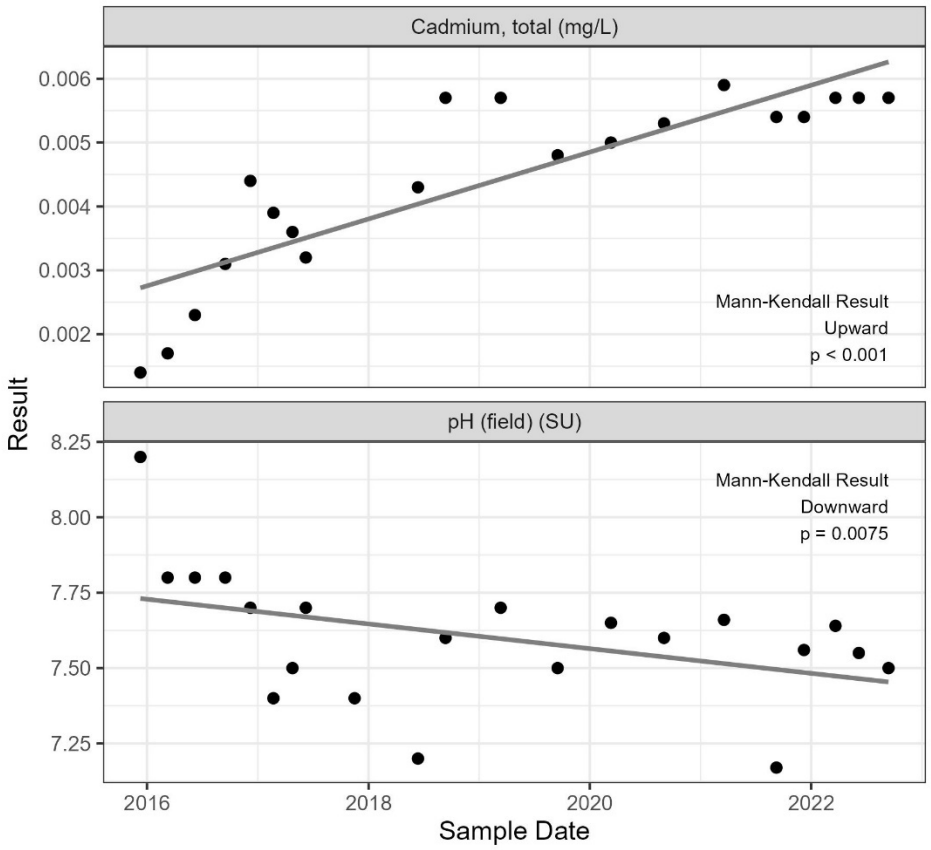


**Figure B. Time Series Showing Mann-Kendall Trend Test Results for Cadmium and pH at Monitoring Well 22**

Complexation with chloride and sulfate can also contribute to cadmium mobilization from the solid phase due to the formation of more mobile species (Kubier et al., 2019). Therefore, a basic cadmium speciation analysis was conducted using PHREEQC using the LLNL thermodynamic database[1] (United States Geological Survey [USGS], 2021). Samples included in the analysis were those collected under 40 C.F.R. § 257 monitoring, plus two samples collected in 2013. These earlier samples were included to achieve a more complete picture of geochemical conditions associated with low cadmium concentrations at monitoring well 22. Inputs to the speciation model were temperature, pH, redox potential, and concentrations of cadmium, chloride, and sulfate. For samples in which cadmium was not detected, the RL was used as the cadmium concentration input to the speciation model. Because redox measurements were not available for all samples, the median value (59.5 millivolts [mV], out of a range of -67 mV to 168 mV) was used as the redox input to the speciation model for all samples.

[1] Except for $Cd(SO_4)_2^{2-}$, which used thermodynamic data from the Oak Ridge National Laboratory AQUA-MER database.

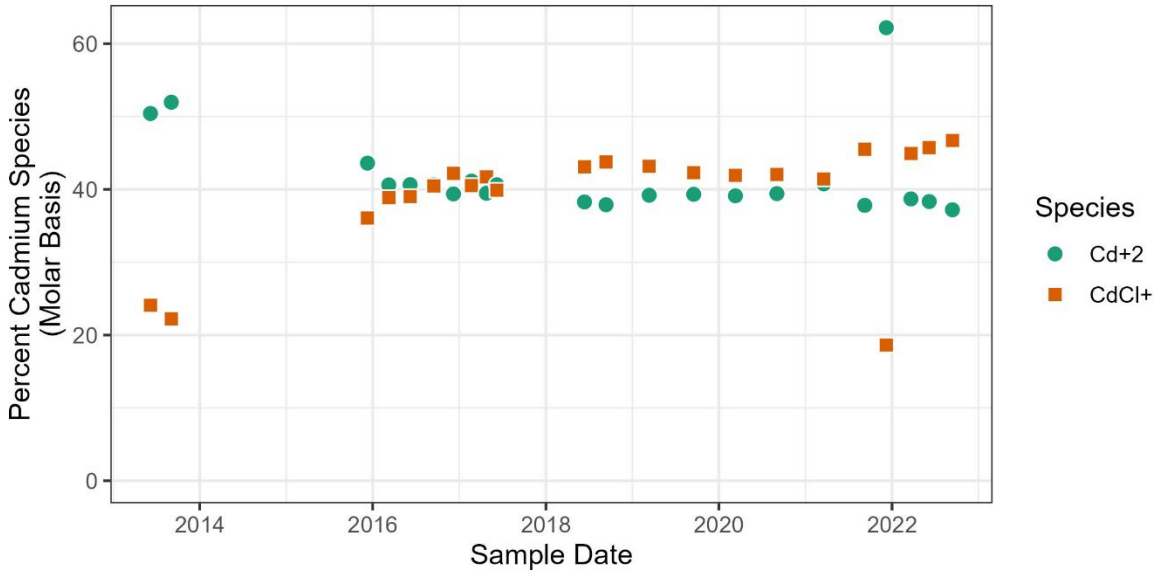


**Figure C. Cadmium Speciation Results at Monitoring Well 22 (presented as the percent of total cadmium present on a molar basis).**

Eight cadmium species[2] were evaluated for their contribution to total cadmium, and only $Cd^{2+}$ and $CdCl^{+}$ contributed more than 1 percent to any sample (on a molar basis). **Figure C** shows the proportion of total cadmium that was present as $Cd^{2+}$ and $CdCl^{+}$ in each sample. When total cadmium concentrations were low, $Cd^{2+}$ was the dominant cadmium species. Due to its higher charge, $Cd^{2+}$ is more likely to sorb to aquifer solids (Kubier et al., 2019). Increasing total cadmium concentrations coincide with an increasing prevalence, and eventual predominance, of $CdCl^{+}$, a more mobile cadmium species.

The downward trend in pH and the cadmium speciation analysis indicate that cadmium concentrations in groundwater samples from well 22 increased when geochemical conditions facilitated greater mobility of cadmium through dissolution out of the aquifer material due to lower pH and the increased formation of mobile $CdCl^{+}$. The increase in cadmium concentrations was likely due to the cadmium naturally present in the Henry Formation becoming mobilized due to changing geochemical conditions.

[2] $Cd^{2+}$, $CdOH^{+}$, $Cd(OH)_2$, $Cd(OH)Cl$, $CdCl^{+}$, $CdCl_2$, $CdSO_4$, $Cd(SO4)_2^{2-}$

# 4. CONCLUSIONS

Based on these three LOEs, it has been demonstrated that the OWAP is not the source of the cadmium SSL identified in well 22.

1. Concentrations of cadmium are lower than those observed in leachate samples.
2. Cadmium concentrations are negatively correlated with concentrations of CCR indicator parameters.
3. Cadmium concentrations were detected in nearby aquifer materials and geochemical conditions support mobilization.

Based on the LOEs presented, the following alternate sources are the cause of the SSL observed in the OWAP compliance well:

- Cadmium: SSL for cadmium may be caused by mobilization of naturally occurring cadmium out of aquifer materials due to favorable geochemical conditions.

This information serves as the written ASD report prepared in accordance with 40 C.F.R. § 257.95(g)(3)(ii) that the cadmium SSL observed during the A5 monitoring event was not caused by the OWAP but was from other sources.

# 5. REFERENCES

Electric Power Research Institute (EPRI), 2012. Groundwater Quality Signatures for Assessing Potential Impacts from Coal Combustion Product Leachate. EPRI, Palo Alto, CA. 1017923.

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# FIGURES

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

BACKGROUND WELL
COMPLIANCE WELL
MONITORING WELL
PART 257 REGULATED UNIT (SUBJECT UNIT)
LIMITS OF FINAL COVER
SITE FEATURE
PROPERTY BOUNDARY

0 200 400
Feet

# MONITORING WELL LOCATION MAP

**ALTERNATE SOURCE DEMONSTRATION**
**OLD WEST ASH POND**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

## FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

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PROJECT: 169000XXXX | DATED: 1/5/2022 | DESIGNER: galarmmc

BACKGROUND WELL

COMPLIANCE WELL

MONITORING WELL

GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)

INFERRED GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW DIRECTION

PART 257 REGULATED UNIT (SUBJECT UNIT)

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

0 200 400 Feet

# POTENTIOMETRIC SURFACE MAP MARCH 21, 2022

**ALTERNATE SOURCE DEMONSTRATION**
**OLD WEST ASH POND**

HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

## FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 169000XXXX | DATED: 10/13/2022 | DESIGNER: galarnmc

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LEACHATE WELL

PART 257 REGULATED UNIT (SUBJECT UNIT)

LIMITS OF FINAL COVER

PROPERTY BOUNDARY

0 200 400 Feet

# LEACHATE SAMPLE LOCATION MAP

**ALTERNATE SOURCE DEMONSTRATION**
**OLD WEST ASH POND**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

## FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

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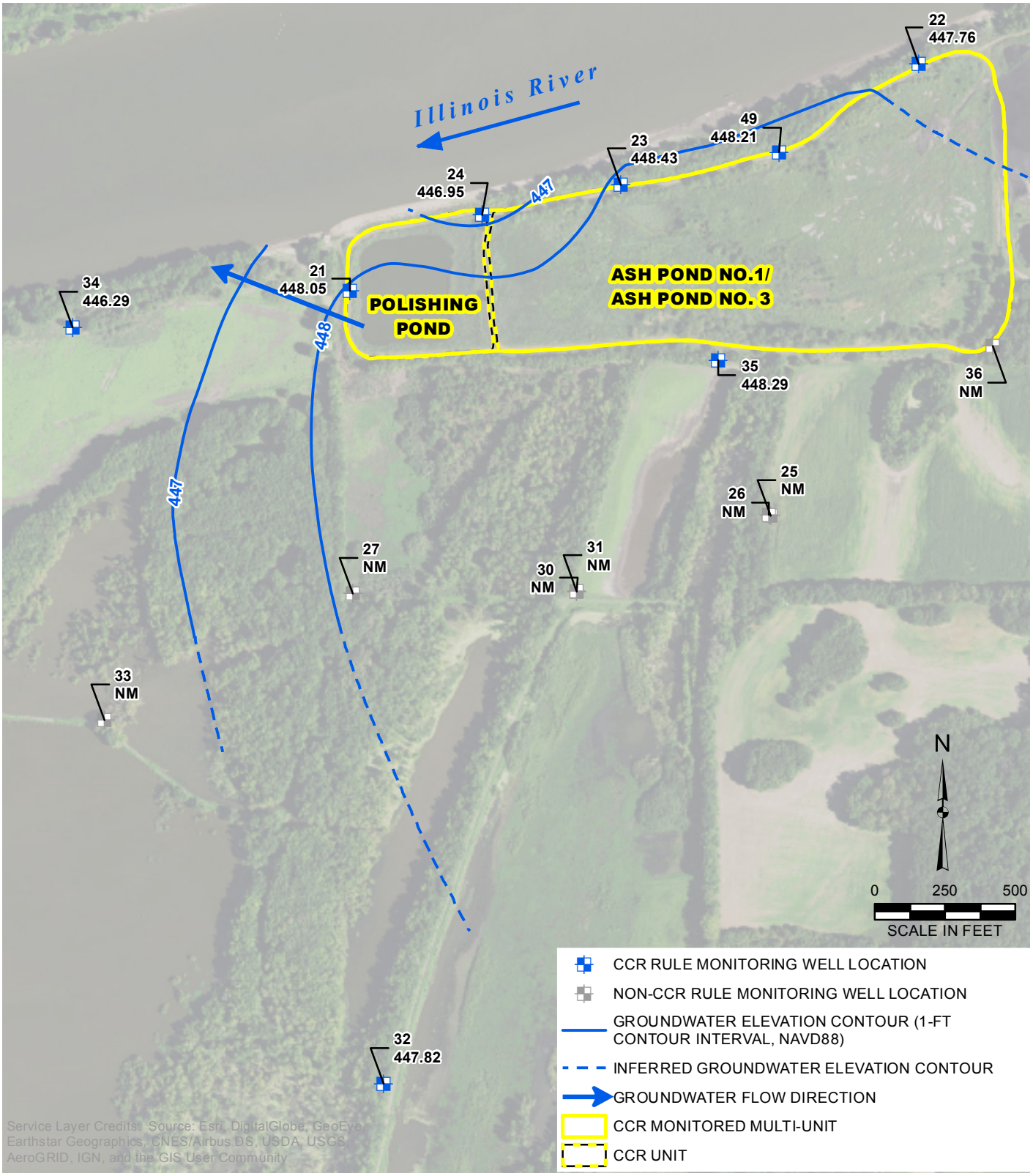
PROJECT: 169000XXXX | DATED: 10/17/2022 | DESIGNER: galarnmc

# APPENDICES

# APPENDIX A
# GROUNDWATER CONTOUR MAPS

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TBN 1/26/17
APPROVED BY/DATE:
JJW 2/8/17

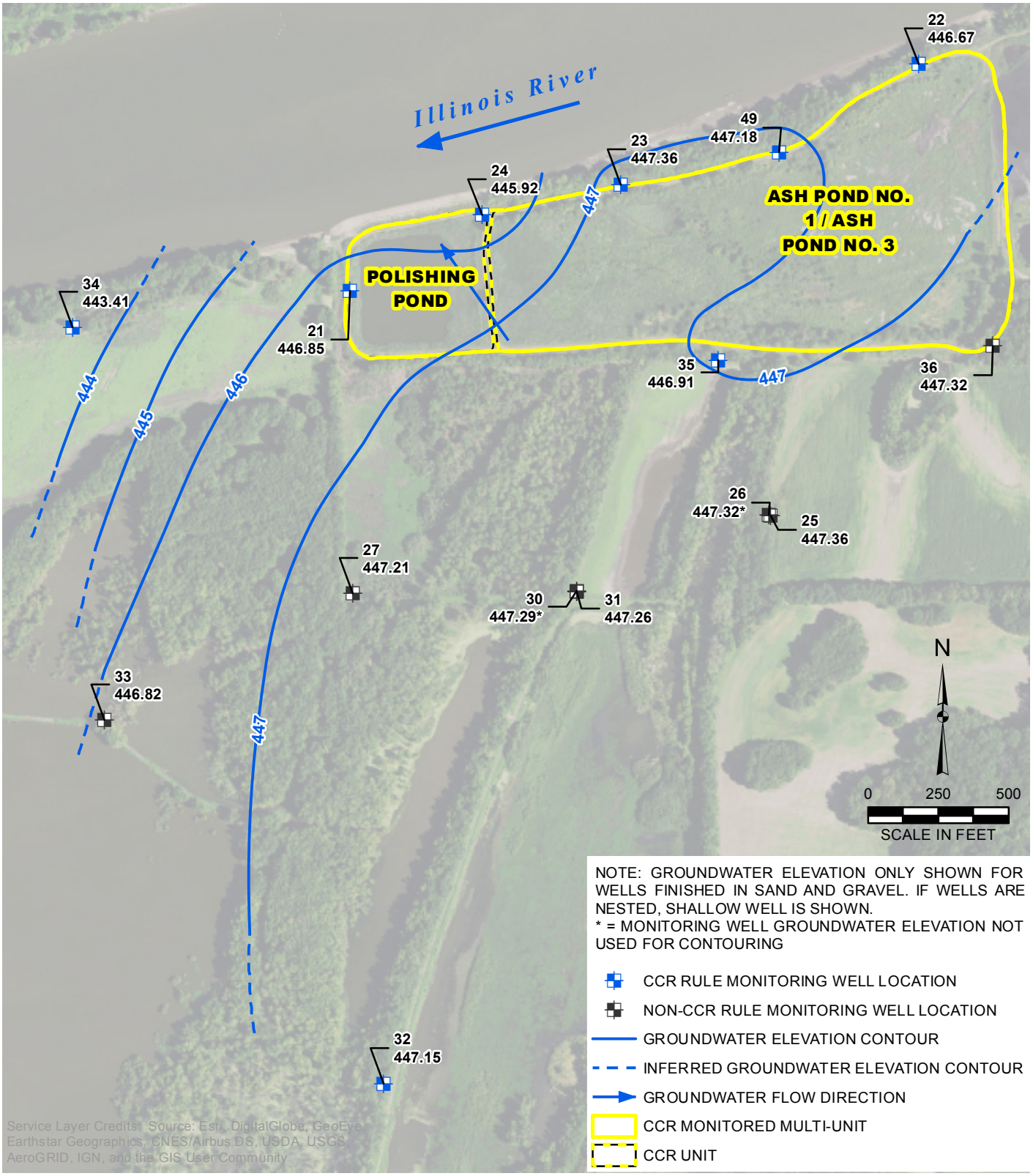
# HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804) UPPERMOST AQUIFER UNIT GROUNDWATER ELEVATION CONTOUR MAP ROUND 1: DECEMBER 8, 2015

DYNEGY MIDWEST GENERATION, LLC
HENNEPIN POWER STATION, HENNEPIN, ILLINOIS

PROJECT NO: 2285

FIGURE NO: 1

Natural Resource Technology
AN OBG COMPANY




NOTE: GROUNDWATER ELEVATION ONLY SHOWN FOR WELLS FINISHED IN SAND AND GRAVEL. IF WELLS ARE NESTED, SHALLOW WELL IS SHOWN.
* = MONITORING WELL GROUNDWATER ELEVATION NOT USED FOR CONTOURING

- CCR RULE MONITORING WELL LOCATION
- NON-CCR RULE MONITORING WELL LOCATION
- GROUNDWATER ELEVATION CONTOUR
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- CCR MONITORED MULTI-UNIT
- CCR UNIT

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TBN 1/20/17
APPROVED BY/DATE:
JJW 2/8/17

# HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)
# UPPERMOST AQUIFER UNIT
# GROUNDWATER ELEVATION CONTOUR MAP
# ROUND 2: MARCH 8, 2016

DYNEGY MIDWEST GENERATION, LLC
HENNEPIN POWER STATION, HENNEPIN, ILLINOIS

PROJECT NO: 2285

FIGURE NO: 1

Natural Resource Technology
AN OBG COMPANY

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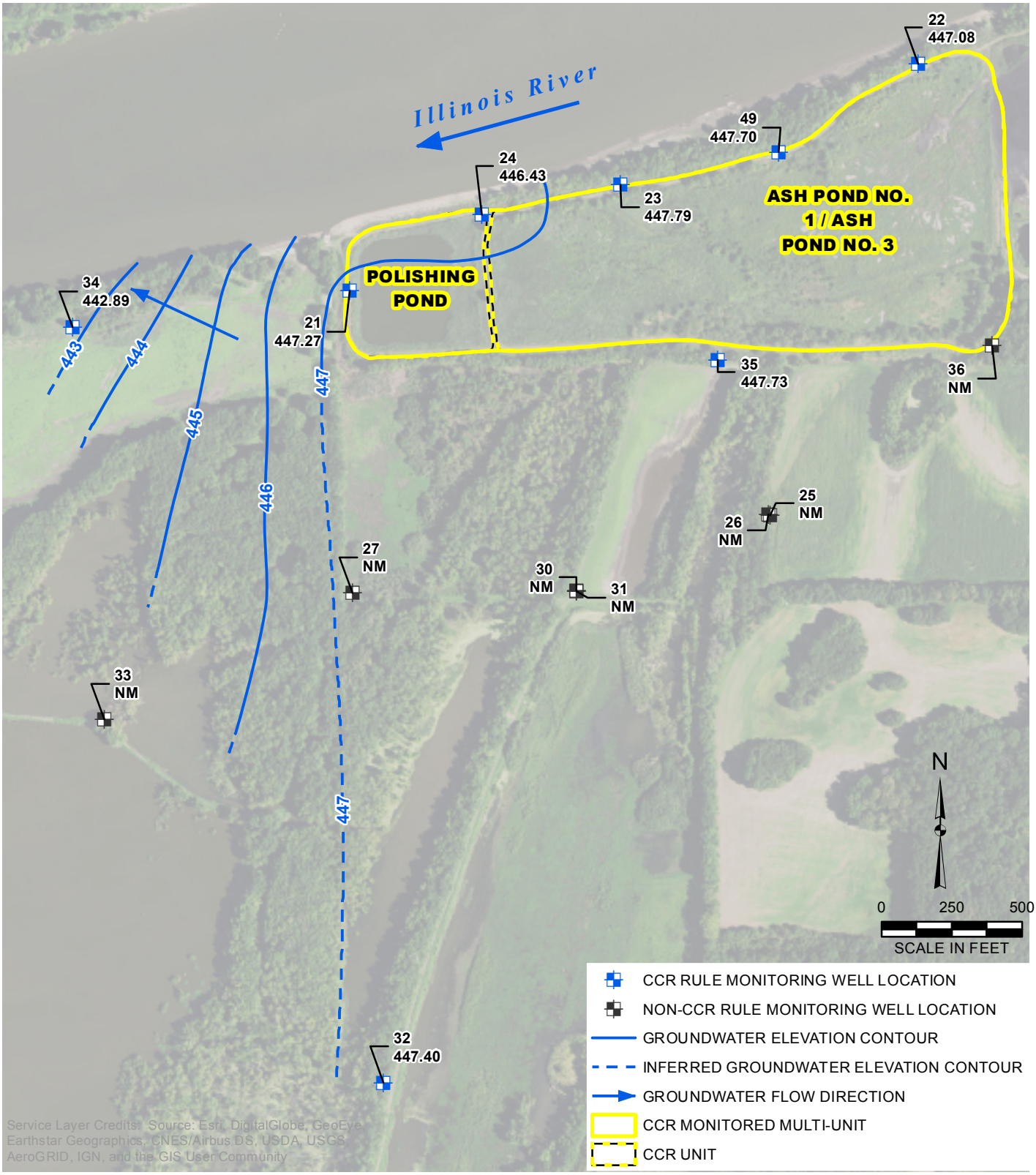


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TBN 1/27/17
APPROVED BY/DATE:
JJW 2/8/17

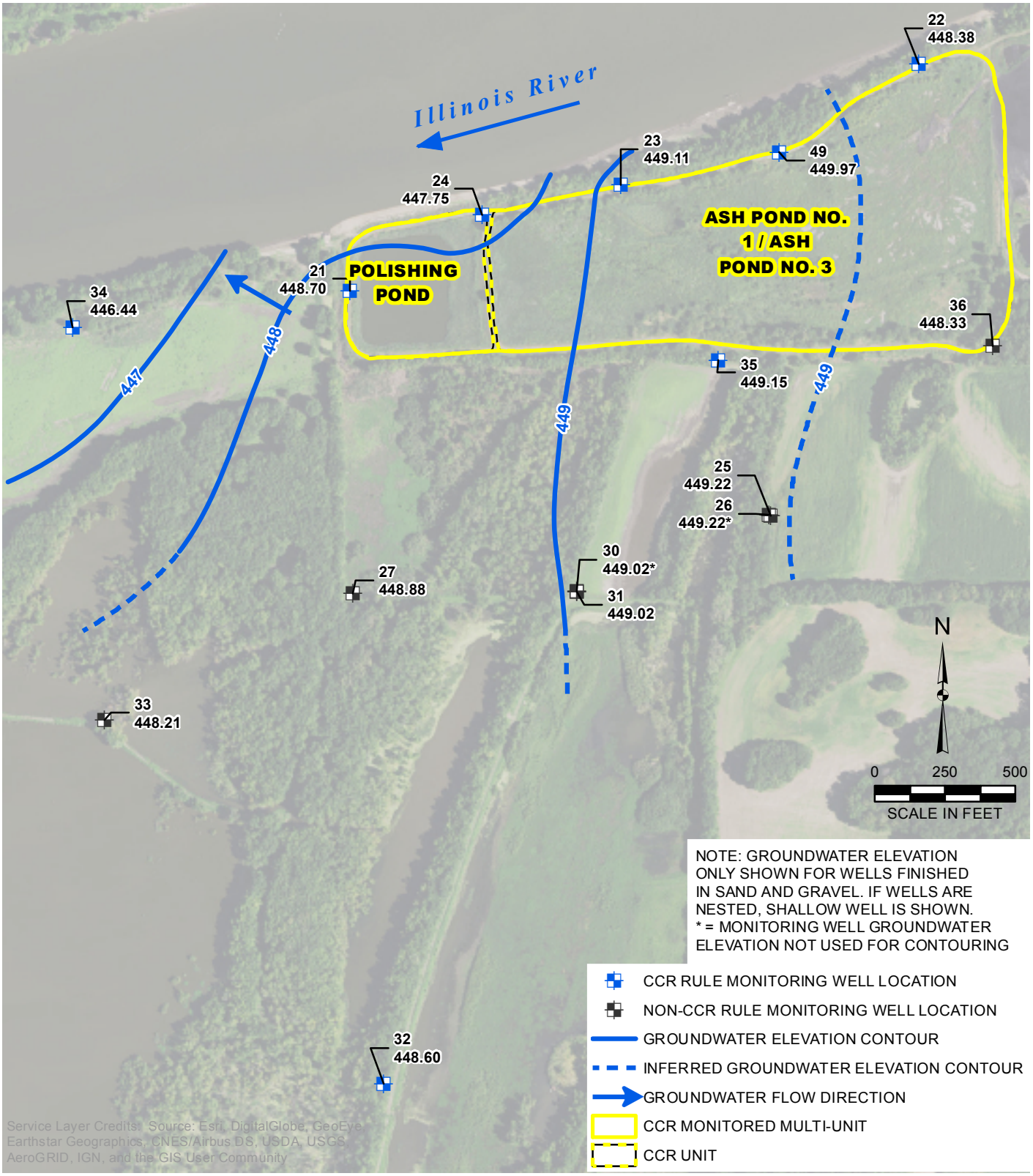
# HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804) UPPERMOST AQUIFER UNIT GROUNDWATER ELEVATION CONTOUR MAP ROUND 3: JUNE 7, 2016

DYNEGY MIDWEST GENERATION, LLC
HENNEPIN POWER STATION, HENNEPIN, ILLINOIS

PROJECT NO: 2285

FIGURE NO: 1

Natural Resource Technology
AN OBG COMPANY

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TBN 1/26/17
APPROVED BY/DATE:
JJW 2/8/17

# HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804) UPPERMOST AQUIFER UNIT GROUNDWATER ELEVATION CONTOUR MAP ROUND 4: SEPTEMBER 15, 2016

DYNEGY MIDWEST GENERATION, LLC
HENNEPIN POWER STATION, HENNEPIN, ILLINOIS

PROJECT NO: 2285

FIGURE NO: 1

Natural Resource Technology
AN OBG COMPANY

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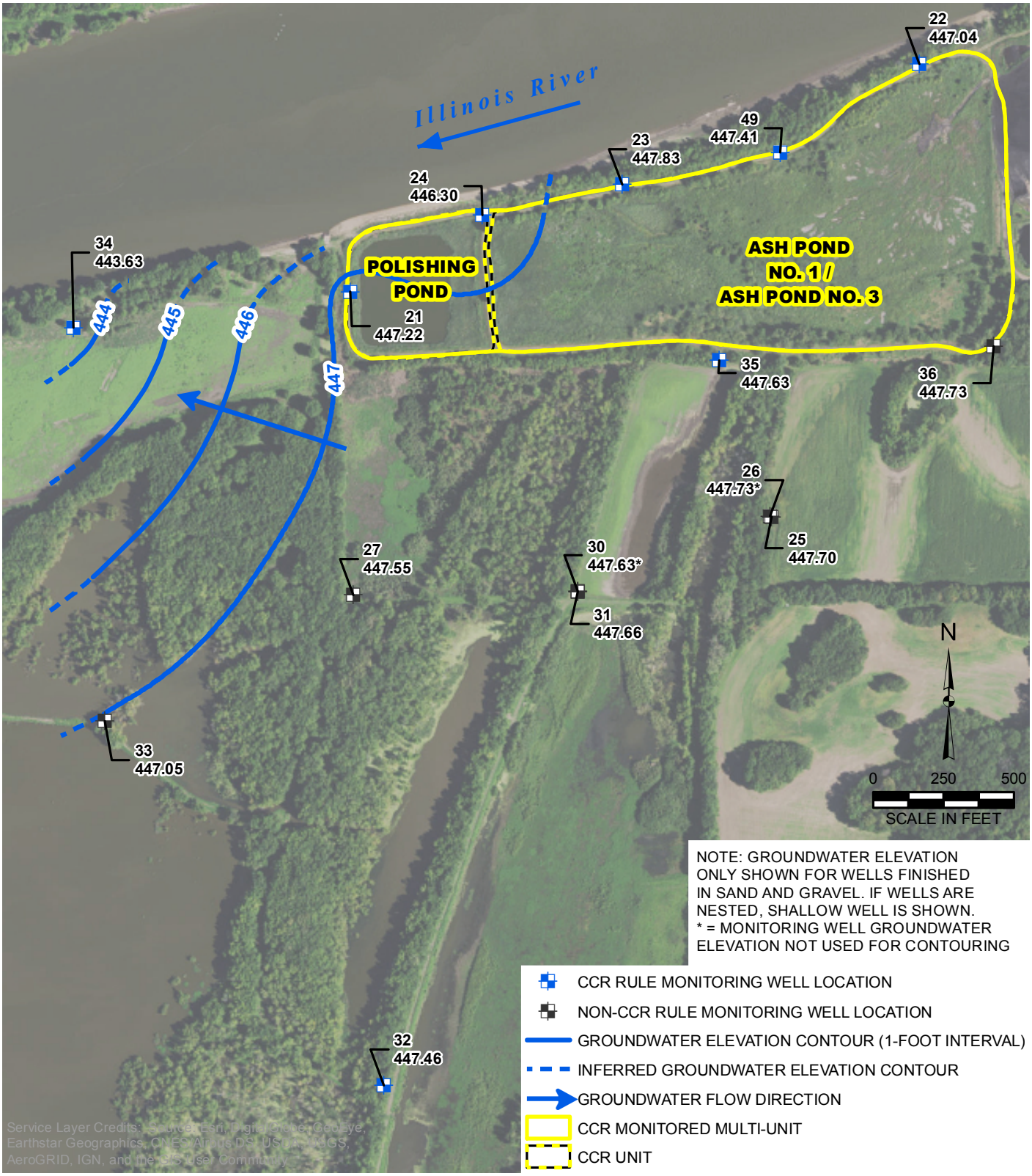


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TBN 3/6/17
APPROVED BY/DATE:
JJW 9/1/17

# HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)
## UPPERMOST AQUIFER UNIT
## GROUNDWATER ELEVATION CONTOUR MAP
## ROUND 5: DECEMBER 7, 2016

DYNEGY MIDWEST GENERATION, LLC
HENNEPIN POWER STATION, HENNEPIN, ILLINOIS

PROJECT NO: 2285

FIGURE NO: 1

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AN OBG COMPANY

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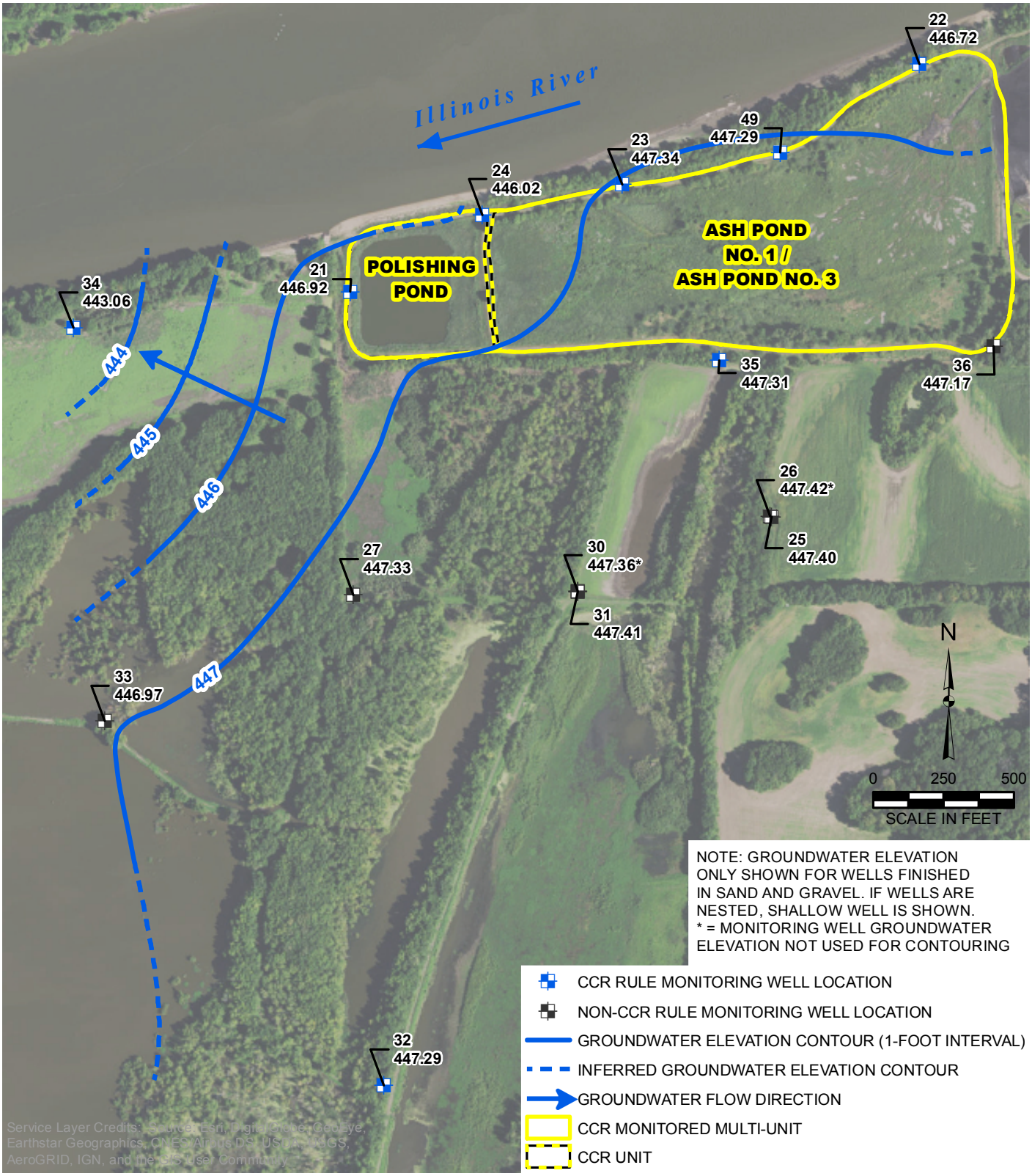


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REVIEWED BY/DATE:
TBN 3/6/17
APPROVED BY/DATE:
JJW 9/1/17

# HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804) UPPERMOST AQUIFER UNIT GROUNDWATER ELEVATION CONTOUR MAP ROUND 6: FEBRUARY 20, 2017

DYNEGY MIDWEST GENERATION, LLC
HENNEPIN POWER STATION, HENNEPIN, ILLINOIS

PROJECT NO: 2285

FIGURE NO: 1

Natural Resource Technology
AN OBG COMPANY

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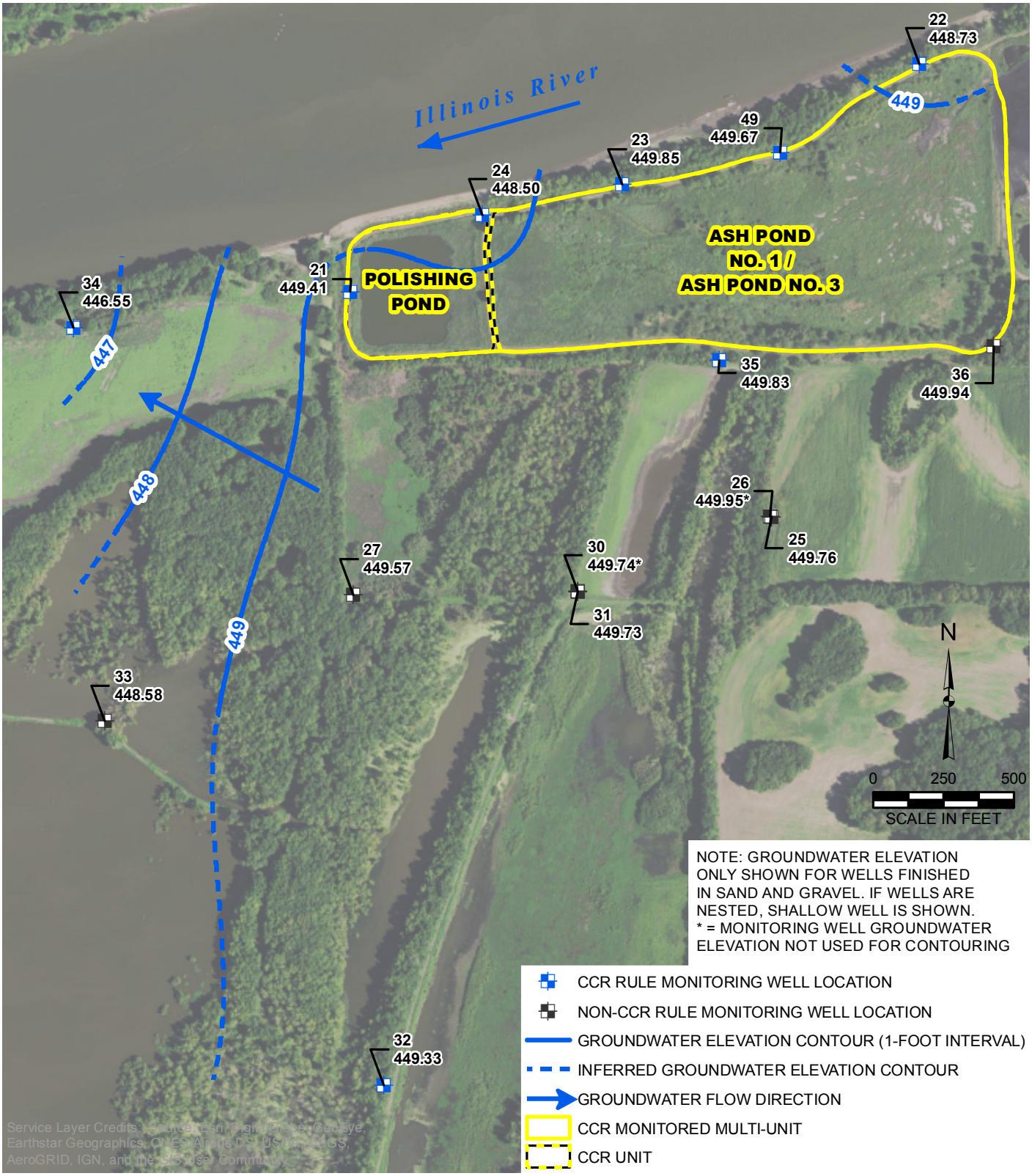


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TBN 6/14/17
APPROVED BY/DATE:
JJW 9/1/17

# HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804) UPPERMOST AQUIFER UNIT GROUNDWATER ELEVATION CONTOUR MAP ROUND 7: APRIL 25, 2017

DYNEGY MIDWEST GENERATION, LLC
HENNEPIN POWER STATION, HENNEPIN, ILLINOIS

PROJECT NO: 2285

FIGURE NO: 1

Natural Resource Technology
AN OBG COMPANY

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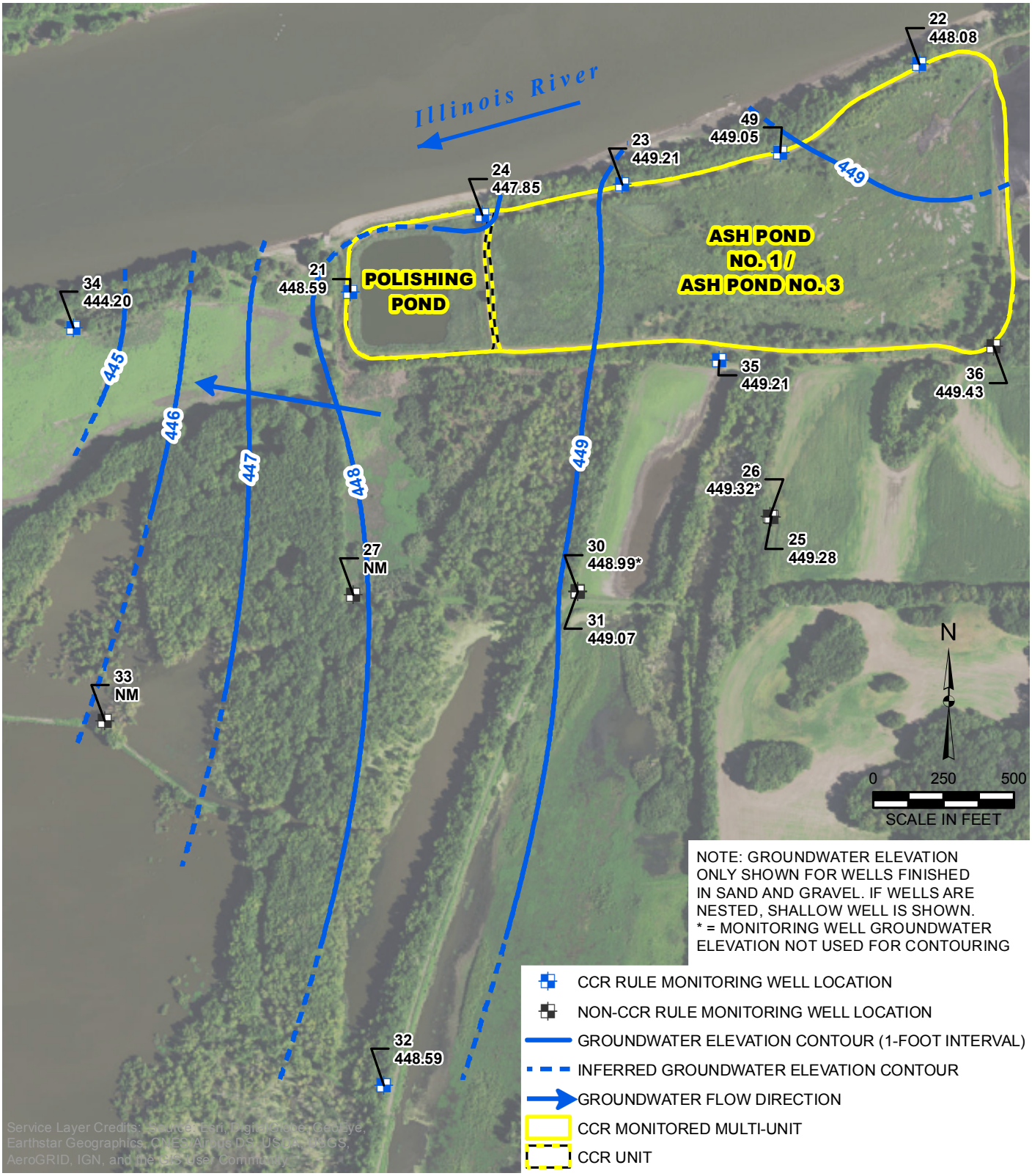


NOTE: GROUNDWATER ELEVATION ONLY SHOWN FOR WELLS FINISHED IN SAND AND GRAVEL. IF WELLS ARE NESTED, SHALLOW WELL IS SHOWN.
* = MONITORING WELL GROUNDWATER ELEVATION NOT USED FOR CONTOURING

- CCR RULE MONITORING WELL LOCATION
- NON-CCR RULE MONITORING WELL LOCATION
- GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- CCR MONITORED MULTI-UNIT
- CCR UNIT

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SDS 7/20/17
REVIEWED BY/DATE:
TBN 7/20/17
APPROVED BY/DATE:
JJW 9/1/17

# HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804) UPPERMOST AQUIFER UNIT GROUNDWATER ELEVATION CONTOUR MAP ROUND 8: JUNE 8, 2017

DYNEGY MIDWEST GENERATION, LLC
HENNEPIN POWER STATION, HENNEPIN, ILLINOIS

PROJECT NO: 2285

FIGURE NO: 1

Natural Resource Technology
AN OBG COMPANY

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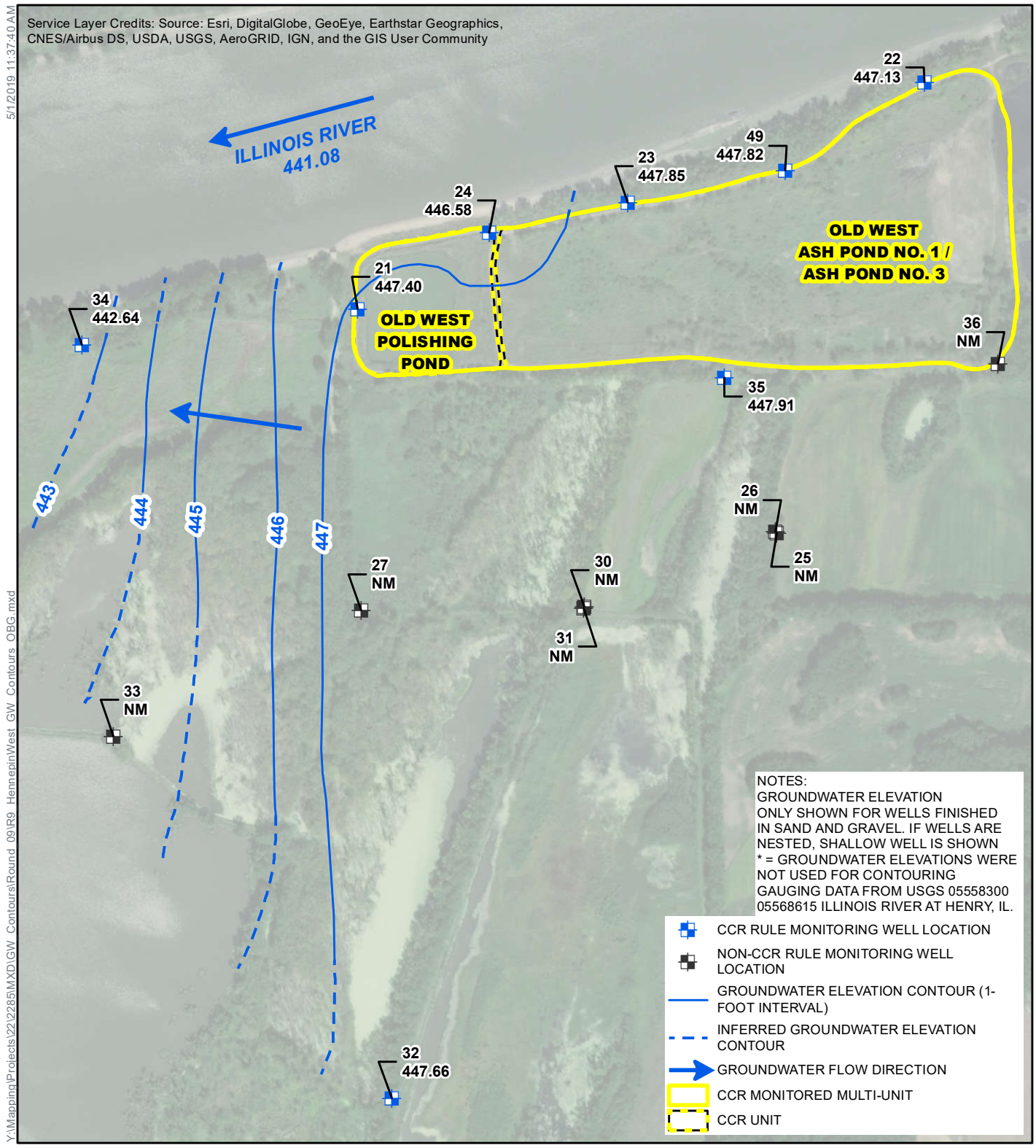


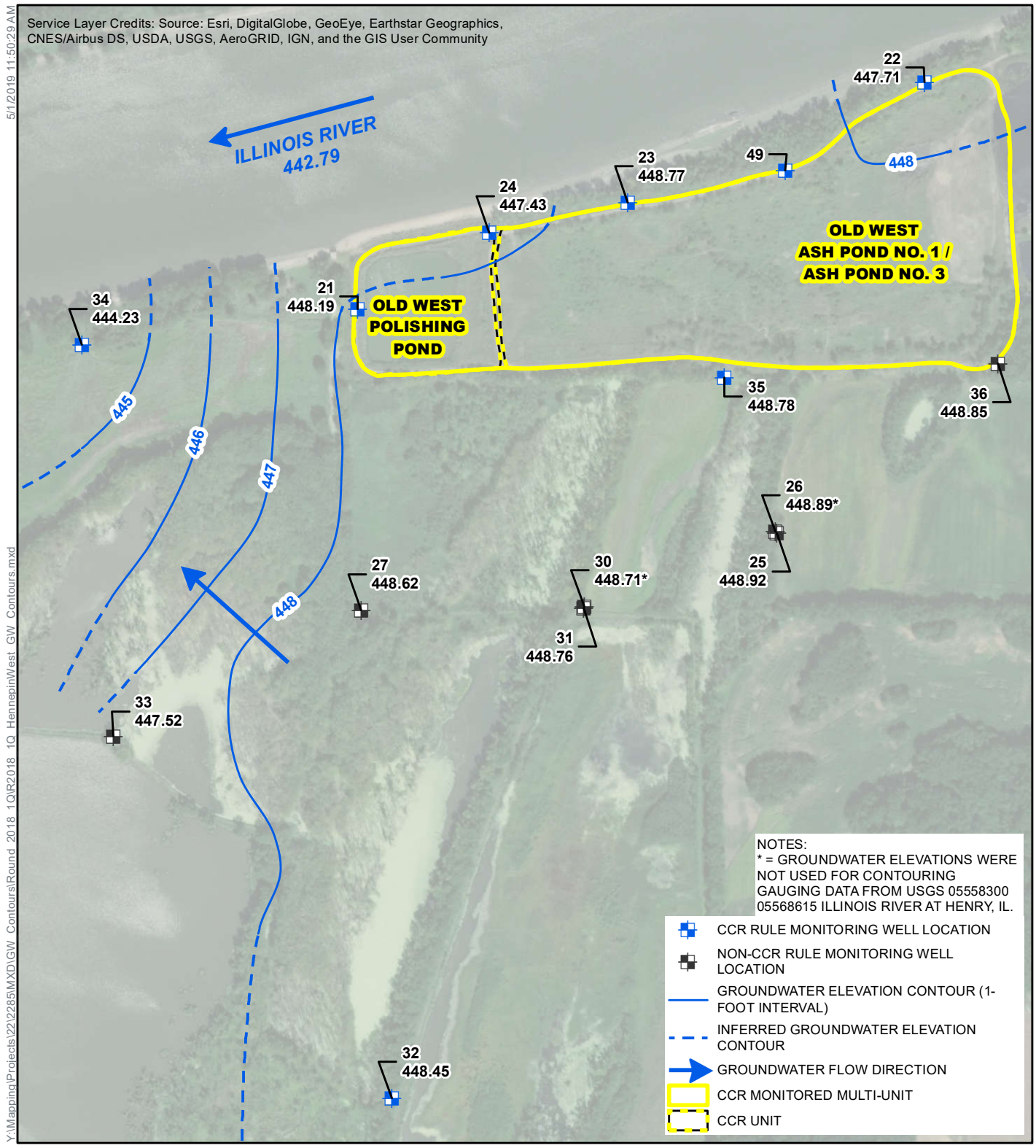

**HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)**
**GROUNDWATER ELEVATION CONTOUR MAP**
**NOVEMBER 15, 2017**

CCR RULE GROUNDWATER MONITORING
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

0 125 250 500
Feet

N

O'BRIEN & GERE ENGINEERS, INC.



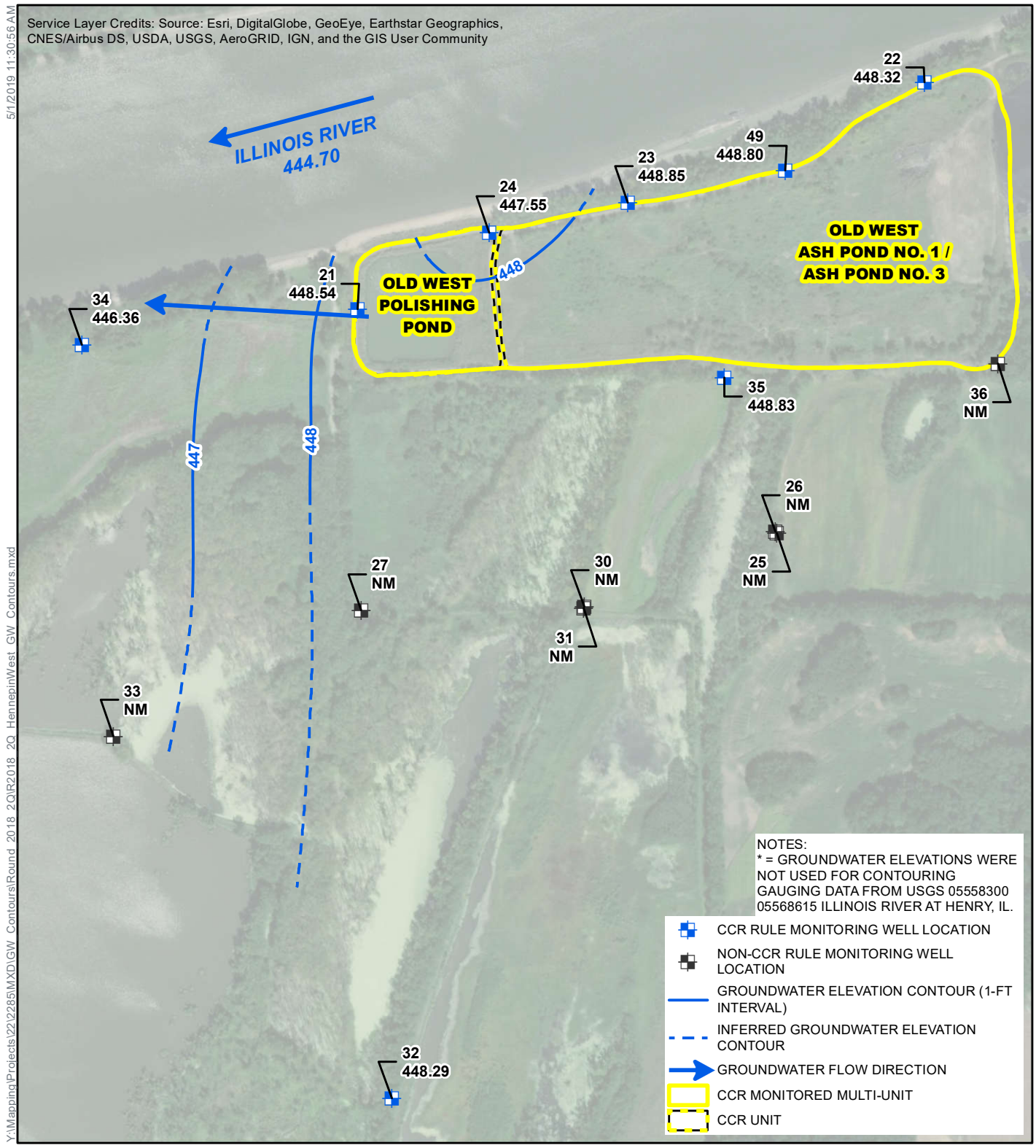

**HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)**
**GROUNDWATER ELEVATION CONTOUR MAP**
**MARCH 26, 2018**

CCR RULE GROUNDWATER MONITORING
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

0 125 250 500
Feet

N

O'BRIEN & GERE ENGINEERS, INC.



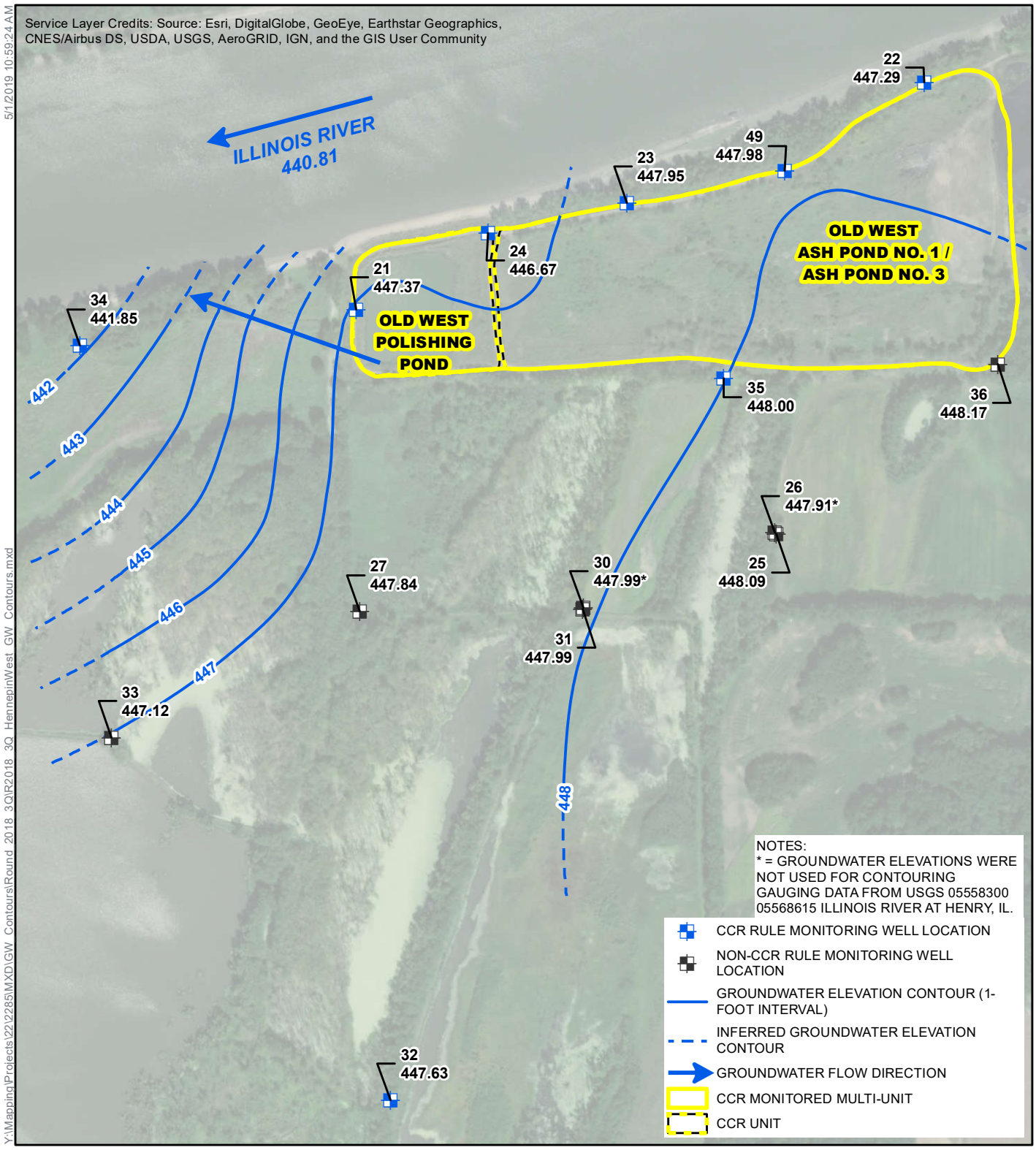

**HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)**
**GROUNDWATER ELEVATION CONTOUR MAP**
**JUNE 13, 2018**

CCR RULE GROUNDWATER MONITORING
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

0 125 250 500
Feet

N

O'BRIEN & GERE ENGINEERS, INC.



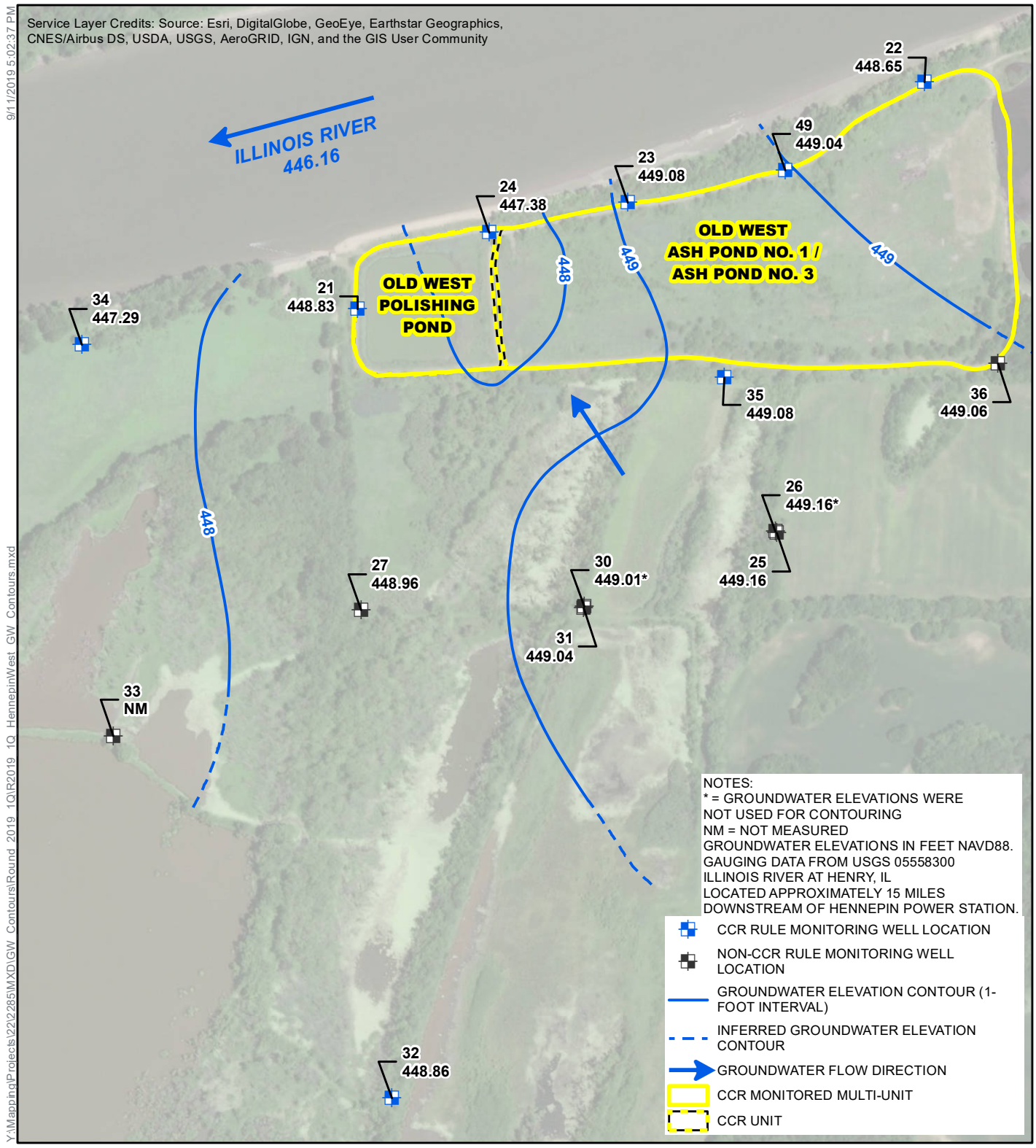

**HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)**
**GROUNDWATER ELEVATION CONTOUR MAP**
**SEPTEMBER 12, 2018**

CCR RULE GROUNDWATER MONITORING
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

0 125 250 500
Feet

N

O'BRIEN & GERE ENGINEERS, INC.



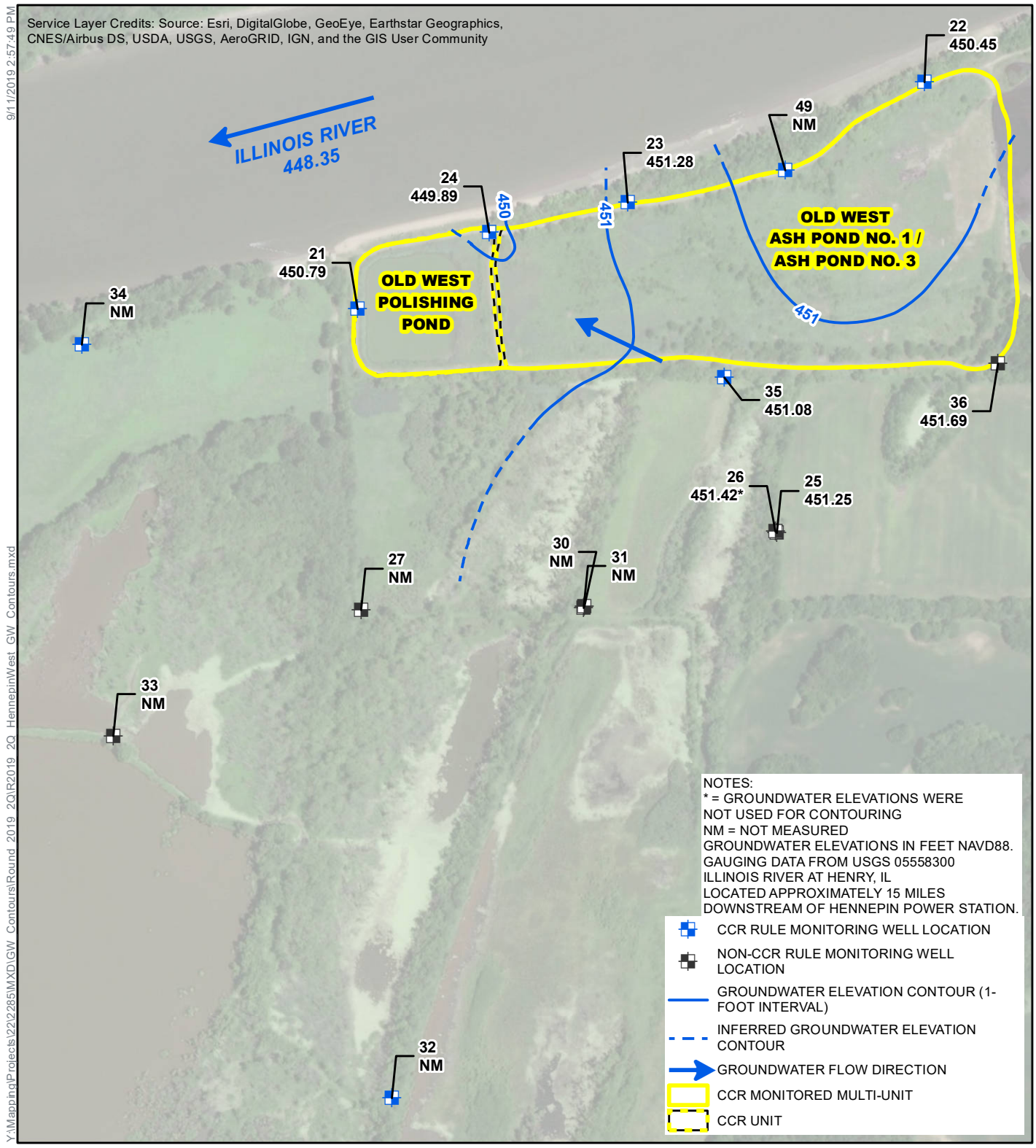

**HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)**
**GROUNDWATER ELEVATION CONTOUR MAP**
**MARCH 13, 2019**

CCR RULE GROUNDWATER MONITORING
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

0 125 250 500
Feet

N

O'BRIEN & GERE ENGINEERS, INC.



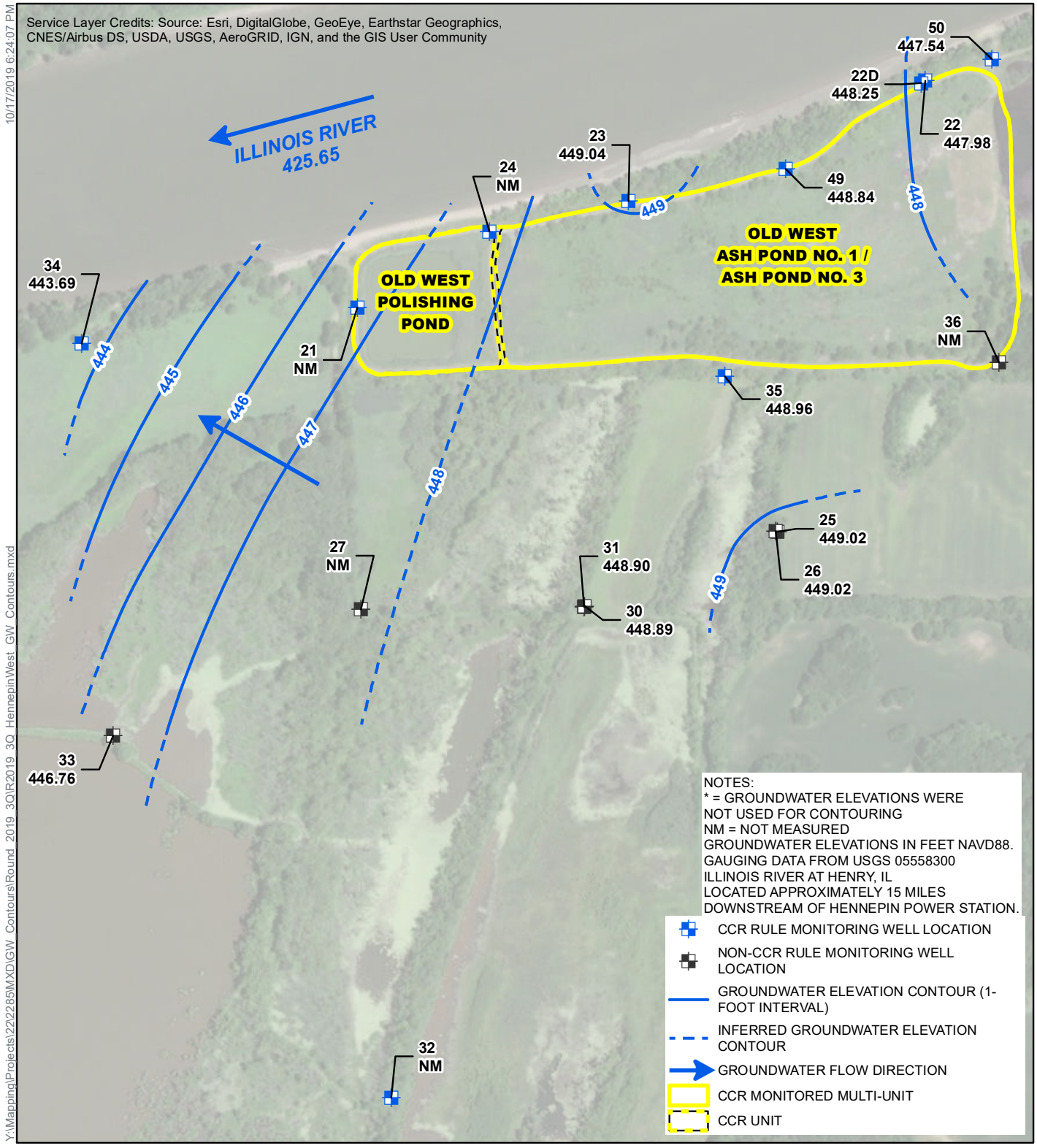

**HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804) GROUNDWATER ELEVATION CONTOUR MAP JUNE 18, 2019**

CCR RULE GROUNDWATER MONITORING
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

0 125 250 500
Feet

N

O'BRIEN & GERE ENGINEERS, INC.



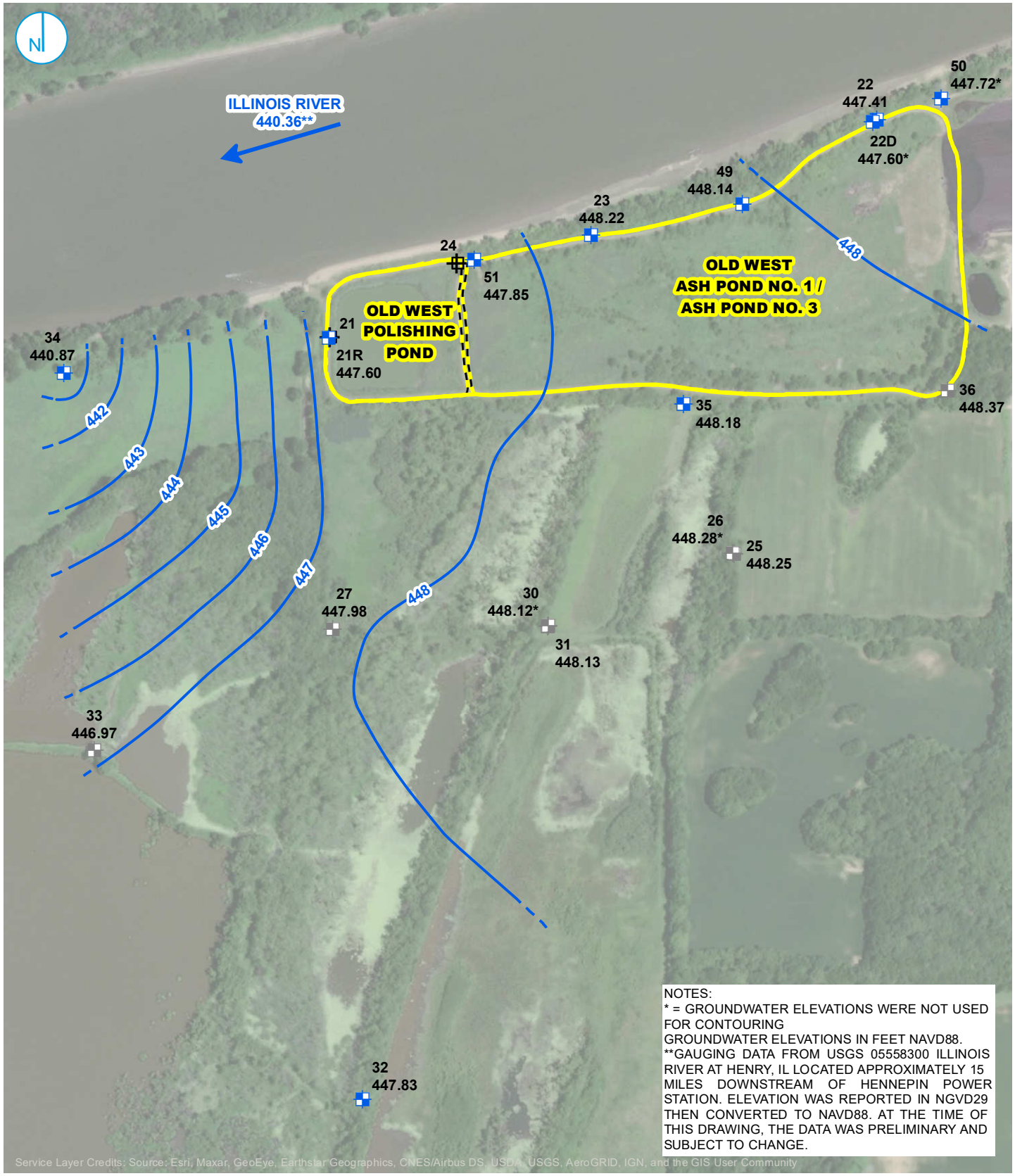

**HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)**
**GROUNDWATER ELEVATION CONTOUR MAP**
**SEPTEMBER 17, 2019**

CCR RULE GROUNDWATER MONITORING
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

0 125 250 500
Feet

N

O'BRIEN & GERE ENGINEERS, INC.

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PROJECT: 169000XXXX | DATED: 12/16/2020 | DESIGNER: MARRAMJ

- CCR RULE MONITORING WELL
- NON-CCR RULE MONITORING WELL
- ABANDONED MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (1-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- CCR MONITORED MULTI-UNIT
- CCR MONITORED UNIT

0 250 500 Feet

# GROUNDWATER ELEVATION CONTOUR MAP
## SEPTEMBER 2, 2020

**HENNEPIN OLD WEST ASH POND (POND NO.1 AND POND NO. 3) AND HENNEPIN OLD WEST POLISHING POND (UNIT ID: 804)**
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

RAMBOLL

BACKGROUND WELL
COMPLIANCE WELL
MONITORING WELL
GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)
INFERRED GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION
PART 257 REGULATED UNIT (SUBJECT UNIT)
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

0 200 400 Feet

# POTENTIOMETRIC SURFACE MAP MARCH 17, 2021

PRIVILEGED AND CONFIDENTIAL
PREPARED AT THE REQUEST OF COUNSEL

**2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT**
**OLD WEST ASH POND**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

**DRAFT**

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

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PROJECT: 169000XXXX | DATED: 3/25/2022 | DESIGNER: galammc

- BACKGROUND WELL
- COMPLIANCE WELL
- MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW ARROW
- PART 257 REGULATED UNIT (SUBJECT UNIT)
- 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)

0 200 400 Feet

# POTENTIOMETRIC SURFACE MAP SEPTEMBER 8, 2021

**2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT**
**OLD WEST ASH POND**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

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PROJECT: 169000XXXX | DATED: 3/25/2022 | DESIGNER: galarmmc