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Dynegy Midwest Generation, LLC

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1940106781-008


**2024 40 C.F.R. § 257 ANNUAL
GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS
CCR UNIT 801**

2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT HENNEPIN POWER PLANT LANDFILL

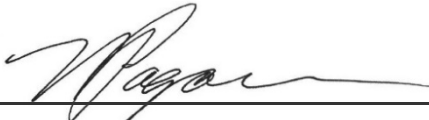
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ACRONYMS AND ABBREVIATIONS

40 C.F.R.	Title 40 of the Code of Federal Regulations
ASD	Alternative Source Demonstration
CCR	coal combustion residuals
D13	Quarter 3, 2023 Detection Monitoring sampling event
D13R	Quarter 4, 2023 Detection Monitoring sampling event
D14	Quarter 1, 2024 Detection Monitoring sampling event
D15	Quarter 3, 2024 Detection Monitoring sampling event
LF	Landfill
GWPS	groundwater protection standard
HPP	Hennepin Power Plant
NA	not applicable
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SAP	Sampling and Analysis Plan
SSI	statistically significant increase
TBD	to be determined

EXECUTIVE SUMMARY

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

Groundwater is being monitored at the LF in accordance with the Detection Monitoring Program requirements specified in 40 C.F.R. § 257.94.

The LF monitoring system was modified in 2024 to add monitoring well 48R as a compliance location to replace the damaged well 48. Well 48 was abandoned after installation of the replacement well 48R.

The following Statistically Significant Increases (SSIs) of 40 C.F.R. § 257 Appendix III parameter concentrations greater than background concentrations were reported in 2024:

- Boron at wells 05R, 05DR, 40S, and 48/48R¹
- pH at wells 05R, 40S, and 48/48R¹

Alternative Source Demonstrations (ASDs) were completed for the SSIs listed above and the LF remains in the Detection Monitoring Program.

¹ SSIs of boron and pH were detected at well 48 prior to damage and abandonment and were additionally detected at well 48R after replacement.

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 LF 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 (**Section 2**), summarizes key actions completed (**Section 3**), describes any problems encountered and actions to resolve the problems (**Section 4**), and projects key activities for the upcoming year (**Section 5**). At a minimum, the annual report must contain the following information, to the extent available:

1. A map, aerial image, or diagram showing the CCR 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 (**Figure 1**).
2. Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken (**Section 3**, paragraph 1).
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 (**Section 3, Table A**).
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) (**Section 2**).
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 (see **Executive Summary**). 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 [GWPS] for one or more constituents listed in Appendix IV of § 257 pursuant to § 257.95(g) include all of the following:
 - A. Identify those constituents listed in Appendix IV of § 257 and the names of the monitoring wells associated with such an increase.
 - B. Provide the date when the assessment of corrective measures was initiated for the CCR unit.
 - C. Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit.
 - D. Provide the date when the assessment of corrective measures was completed for the CCR unit.
- v. Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection.
- vi. Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

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

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

No changes have occurred to the monitoring program status in calendar year 2024 and the LF remains in the Detection Monitoring Program in accordance with 40 C.F.R. § 257.94.

3. KEY ACTIONS COMPLETED IN 2024

A summary of the samples collected from background and compliance monitoring wells in 2024 under the Detection Monitoring Program is included 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**. A groundwater monitoring plan (GMP) was developed for the LF in 2023 (Ramboll, 2023a). Compliance monitoring well 48 was previously damaged in November 2023, and was not sampled during the Quarter 1, 2024 Detection Monitoring sampling event (D14). This well was replaced in March 2024 with monitoring well 48R and was successfully sampled during the Quarter 3, 2024 Detection Monitoring event (D15). After installation of new compliance well 48R, the damaged well 48 was abandoned and decommissioned from the LF monitoring network.

One groundwater sample was collected from each background and compliance well during each monitoring event². All samples were collected and analyzed in accordance with the Multi-Site Sampling and Analysis Plan (SAP) (Ramboll, 2023b).

Potentiometric surfaces for both monitoring events are included in **Figures 2 and 3**. All available monitoring data and analytical results obtained under 40 C.F.R. § 257.90 through 257.98 are presented in **Tables 1 and 2**. All associated laboratory reports and field data sheets are included in **Appendix A**.

Analytical data were evaluated in accordance with the Multi-Site Statistical Analysis Plan (Ramboll, 2022a), the Multi-Site Quality Assurance Project Plan (Ramboll, 2022b), and the Multi-Site Data Management Plan (Ramboll, 2022c) to determine any SSIs of Appendix III parameters greater than background values. SSIs are summarized in **Table A** and highlighted in **Table 2**. Statistical background values are provided in **Table 3**. A flow chart showing the statistical methodology for determination of background values is included as **Appendix B**. Additional information to support background statistics is provided in **Appendix C**.

Potential alternative sources were evaluated as outlined in the 40 C.F.R. § 257.94(e)(2). ASDs were completed in 2024 for the SSIs summarized in **Table A**. The dates the ASDs were completed are also provided in **Table A**. The ASDs were certified by a qualified professional engineer and are included in **Appendix C**. The LF remains in the Detection Monitoring Program.

² Compliance monitoring well 48 was not sampled during the January 2024 sampling event due to damage to the well. The well was replaced in March 2024 with compliance monitoring well 48R and was sampled during the July 2024 sampling event.

Table A. 2024 Detection Monitoring Program Summary

Event ID	Sampling Dates ^{1, 2, 3}	Analytical Data Receipt Date	SSI(s) Determination Date	SSI(s)	ASD Completion Date
D13 ⁴	August 23 - 28, 2023	November 16, 2023	February 14, 2024 ⁵	Boron at wells 05DR, 05R, 40S, and 48; pH at wells 05R, 40S, and 48	May 14, 2024
D13R	November 16 – 20, 2023	December 27, 2023	NA	NA	NA
D14	January 24 – 26, 2024	February 21, 2024	May 21, 2024	Boron at wells 05DR, 05R, 40S; pH at wells 05R and 40S	August 19, 2024
D15	July 15 – August 6, 2024	August 26, 2024	November 24, 2024	Boron at wells 05DR, 05R, 40S, and 48R; pH at wells 05R, 40S, and 48R	TBD

Notes:

ASD: Alternative Source Demonstration

NA: not applicable

SSI: statistically significant increase

TBD: to be determined in 2025

¹ All samples were analyzed for Appendix III parameters listed in 40 C.F.R. § 257.94(e).

² The following background wells were sampled for each event: 07, 08, 08D, 16, and 17.

³ The following compliance wells were sampled in D13: 05DR, 05R, 40S, and 48. The following compliance wells were sampled in D14: 05DR, 05R, and 40S. Well 48 was not sampled due to damage, which was replaced by well 48R in March 2024. The following compliance wells were sampled in D15: 05DR, 05R, 40S, and 48R.

⁴ Laboratory reports and associated analytical data tables were included in the 2023 Annual Groundwater Monitoring and Corrective Action Report.

⁵ Statistical determinations were completed in 2024. Analytical data from 2023 sampling events used in statistical determinations are included in the 2024 Annual Groundwater Monitoring and Corrective Action Report for completeness.

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

As discussed in **Section 3**, compliance monitoring well 48 was damaged by a lawn mower in November of 2023. A detailed inspection concluded that it was no longer capable of being sampled. This well was replaced in March 2024 with new compliance monitoring well 48R. After installation of new compliance well 48R, the damaged well 48 was abandoned and decommissioned from the LF monitoring network.

No additional problems were encountered with the groundwater monitoring program during 2024. Groundwater samples were collected and analyzed in accordance with the SAP and all data were accepted.

5. KEY ACTIVITIES PLANNED FOR 2025

The following key activities are planned for 2025:

- Continuation of the Detection Monitoring Program with semiannual sampling scheduled for the first and third quarters of 2025.
- 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.
- If an SSI is identified, potential alternative sources (*i.e.*, a source other than the CCR unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated.
 - If an alternative source is identified to be the cause of the SSI, a written demonstration will be completed within 90 days of SSI determination and included in the 2025 Annual Groundwater Monitoring and Corrective Action Report.
 - If an alternative source(s) is not identified to be the cause of the SSI, the applicable requirements of 40 C.F.R. §§ 257.94 through 257.98 as may apply in 2025 (*e.g.*, assessment monitoring) will be met, including associated recordkeeping/notifications required by 40 C.F.R. §§ 257.105 through 257.108.

6. REFERENCES

Code of Federal Regulations, Title 40, Chapter I, Subchapter I, Part 257, Subpart D, Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, effective April 17, 2015. Accessed from URL <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-I/part-257/subpart-D#page-top>

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022a. Multi-Site Statistical Analysis Plan, 40 C.F.R. § 257. 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), 2023a. 40 C.F.R. § 257 Groundwater Monitoring Plan, Landfill, Hennepin Power Plant, Hennepin, Illinois. October 10, 2023.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2023b. Multi-Site Sampling and Analysis Plan, Revision 1. October 10, 2023.

TABLES

TABLE 1
GROUNDWATER ELEVATION DATA
2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
LANDFILL
HENNEPIN, IL

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
05R	Compliance	UA	01/22/2024	41.06	447.37
05R	Compliance	UA	04/15/2024	38.57	449.86
05R	Compliance	UA	07/15/2024	41.27	447.16
05R	Compliance	UA	10/07/2024	42.22	446.51
05DR	Compliance	UA	01/22/2024	41.26	447.11
05DR	Compliance	UA	04/15/2024	38.55	449.82
05DR	Compliance	UA	07/15/2024	41.23	447.14
05DR	Compliance	UA	10/07/2024	42.27	446.42
07	Background	UA	01/22/2024	68.78	449.49
07	Background	UA	02/15/2024	66.77	451.49
07	Background	UA	03/15/2024	67.77	450.49
07	Background	UA	04/15/2024	66.81	451.46
07	Background	UA	05/15/2024	66.14	452.13
07	Background	UA	06/15/2024	67.10	451.17
07	Background	UA	07/15/2024	67.77	450.50
07	Background	UA	08/07/2024	68.21	450.58
07	Background	UA	09/07/2024	69.01	449.78
07	Background	UA	10/07/2024	69.10	449.69
07	Background	UA	11/19/2024	68.80	449.99
07	Background	UA	12/19/2024	69.40	449.39
08	Background	UA	01/22/2024	53.82	447.36
08	Background	UA	02/15/2024	51.67	449.50
08	Background	UA	03/15/2024	53.02	448.15
08	Background	UA	04/15/2024	51.12	450.06
08	Background	UA	05/15/2024	51.22	449.96
08	Background	UA	06/15/2024	52.53	448.65
08	Background	UA	07/15/2024	53.25	447.93
08	Background	UA	08/07/2024	53.82	447.68
08	Background	UA	09/07/2024	54.63	446.87
08	Background	UA	10/07/2024	54.71	446.80
08	Background	UA	11/19/2024	54.17	447.33
08	Background	UA	12/19/2024	55.11	446.40
08D	Background	UA	01/22/2024	54.20	447.21
08D	Background	UA	02/15/2024	DM ⁷	
08D	Background	UA	03/15/2024	53.63	447.77
08D	Background	UA	04/15/2024	51.58	449.83
08D	Background	UA	05/15/2024	51.90	449.51
08D	Background	UA	06/15/2024	53.25	448.16
08D	Background	UA	07/15/2024	54.24	447.17
08D	Background	UA	08/07/2024	54.63	447.13
08D	Background	UA	09/07/2024	55.40	446.36
08D	Background	UA	10/07/2024	55.12	446.65
08D	Background	UA	11/19/2024	54.92	446.84
08D	Background	UA	12/19/2024	55.61	446.16
16	Background	UA	01/22/2024	54.38	447.13
16	Background	UA	02/15/2024	52.54	448.96

TABLE 1
GROUNDWATER ELEVATION DATA
2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
LANDFILL
HENNEPIN, IL

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
16	Background	UA	03/15/2024	53.75	447.75
16	Background	UA	04/15/2024	51.76	449.75
16	Background	UA	05/15/2024	52.01	449.50
16	Background	UA	06/15/2024	53.35	448.16
16	Background	UA	07/15/2024	54.42	447.09
16	Background	UA	08/07/2024	54.83	447.12
16	Background	UA	09/07/2024	55.59	446.35
16	Background	UA	10/07/2024	55.28	446.67
16	Background	UA	11/19/2024	55.12	446.82
16	Background	UA	12/19/2024	55.79	446.16
17	Background	UA	01/22/2024	58.98	448.32
17	Background	UA	02/15/2024	57.03	450.26
17	Background	UA	03/15/2024	57.33	449.96
17	Background	UA	04/15/2024	55.09	452.21
17	Background	UA	05/15/2024	54.75	452.55
17	Background	UA	06/15/2024	54.69	452.61
17	Background	UA	07/15/2024	56.61	450.69
17	Background	UA	08/07/2024	56.26	451.56
17	Background	UA	10/07/2024	56.83	451.00
17	Background	UA	12/19/2024	60.07	447.76
40S	Compliance	UA	01/22/2024	40.49	447.18
40S	Compliance	UA	04/15/2024	37.86	449.81
40S	Compliance	UA	07/15/2024	40.55	447.12
40S	Compliance	UA	10/07/2024	41.43	446.61
48	Compliance	UA	01/22/2024	39.57	447.89
48R	Compliance	UA	04/15/2024	38.13	NA
48R	Compliance	UA	07/15/2024	40.80	NA
48R	Compliance	UA	10/07/2024	41.72	446.62

Notes:
BMP = below measuring point
Depth to Groundwater/Groundwater Elevation Code (if applicable):
DM¹ = Depth to water was not measured.
DM² = Depth to water was not measured because water was above or below the staff gage markings.
DM³ = Depth to water was not measured because the location was inaccessible.
DM⁴ = Depth to water was not measured because water level was below the top of the pump.
DM⁵ = Depth to water was not measured because water level was above the top of casing (artesian well).
DM⁶ = Depth to water was not measured because of damage to the well.
DM⁷ = Depth to water was not measured due to required pressure transducer maintenance.
DM⁸ = Lab provided groundwater elevation data and not depth to water.
NA = not available/not applicable
NAVD88 = North American Vertical Datum of 1988
Monitored Unit Abbreviations:
UA = uppermost aquifer

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
LANDFILL
HENNEPIN, IL

Well ID	HSU	Well Type	Date	Event ID	Parameter	Unit	Result	Comparison Value	Background	SSI Type
07	UA	Background	08/24/2023	D13	Boron, total	mg/L	0.0670	--	--	--
07	UA	Background	01/26/2024	D14	Boron, total	mg/L	0.120	--	--	--
07	UA	Background	07/15/2024	D15	Boron, total	mg/L	0.0930 J	--	--	--
07	UA	Background	08/24/2023	D13	Calcium, total	mg/L	94.0	--	--	--
07	UA	Background	01/26/2024	D14	Calcium, total	mg/L	120	--	--	--
07	UA	Background	07/15/2024	D15	Calcium, total	mg/L	170	--	--	--
07	UA	Background	08/24/2023	D13	Chloride, total	mg/L	51.0	--	--	--
07	UA	Background	01/26/2024	D14	Chloride, total	mg/L	56.0	--	--	--
07	UA	Background	07/15/2024	D15	Chloride, total	mg/L	170	--	--	--
07	UA	Background	08/24/2023	D13	Fluoride, total	mg/L	0.24 J	--	--	--
07	UA	Background	11/20/2023	D13R	Fluoride, total	mg/L	0.120	--	--	--
07	UA	Background	01/26/2024	D14	Fluoride, total	mg/L	0.120	--	--	--
07	UA	Background	07/15/2024	D15	Fluoride, total	mg/L	0.120	--	--	--
07	UA	Background	08/24/2023	D13	pH (field)	SU	6.9	--	--	--
07	UA	Background	01/26/2024	D14	pH (field)	SU	7.0	--	--	--
07	UA	Background	07/15/2024	D15	pH (field)	SU	6.7	--	--	--
07	UA	Background	08/24/2023	D13	Sulfate, total	mg/L	67.0	--	--	--
07	UA	Background	01/26/2024	D14	Sulfate, total	mg/L	59.0	--	--	--
07	UA	Background	07/15/2024	D15	Sulfate, total	mg/L	63.0	--	--	--
07	UA	Background	08/24/2023	D13	Total Dissolved Solids	mg/L	640	--	--	--
07	UA	Background	01/26/2024	D14	Total Dissolved Solids	mg/L	650	--	--	--
07	UA	Background	07/15/2024	D15	Total Dissolved Solids	mg/L	1,100	--	--	--
08	UA	Background	08/24/2023	D13	Boron, total	mg/L	0.0700	--	--	--
08	UA	Background	01/26/2024	D14	Boron, total	mg/L	0.150	--	--	--
08	UA	Background	07/16/2024	D15	Boron, total	mg/L	0.0990 J+	--	--	--
08	UA	Background	08/24/2023	D13	Calcium, total	mg/L	160	--	--	--
08	UA	Background	01/26/2024	D14	Calcium, total	mg/L	200	--	--	--
08	UA	Background	07/16/2024	D15	Calcium, total	mg/L	180	--	--	--
08	UA	Background	08/24/2023	D13	Chloride, total	mg/L	240	--	--	--
08	UA	Background	01/26/2024	D14	Chloride, total	mg/L	250	--	--	--
08	UA	Background	07/16/2024	D15	Chloride, total	mg/L	150	--	--	--
08	UA	Background	08/24/2023	D13	Fluoride, total	mg/L	0.19 J	--	--	--
08	UA	Background	11/17/2023	D13R	Fluoride, total	mg/L	0.089 J	--	--	--
08	UA	Background	01/26/2024	D14	Fluoride, total	mg/L	0.083 J	--	--	--
08	UA	Background	07/16/2024	D15	Fluoride, total	mg/L	0.110	--	--	--
08	UA	Background	08/24/2023	D13	pH (field)	SU	6.7	--	--	--
08	UA	Background	01/26/2024	D14	pH (field)	SU	6.8	--	--	--
08	UA	Background	07/16/2024	D15	pH (field)	SU	6.7	--	--	--
08	UA	Background	08/24/2023	D13	Sulfate, total	mg/L	100	--	--	--
08	UA	Background	01/26/2024	D14	Sulfate, total	mg/L	120	--	--	--
08	UA	Background	07/16/2024	D15	Sulfate, total	mg/L	110	--	--	--
08	UA	Background	08/24/2023	D13	Total Dissolved Solids	mg/L	1,100	--	--	--
08	UA	Background	01/26/2024	D14	Total Dissolved Solids	mg/L	1,200	--	--	--
08	UA	Background	07/16/2024	D15	Total Dissolved Solids	mg/L	870	--	--	--
08D	UA	Background	08/24/2023	D13	Boron, total	mg/L	0.0510	--	--	--
08D	UA	Background	01/25/2024	D14	Boron, total	mg/L	0.120	--	--	--

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
LANDFILL
HENNEPIN, IL

Well ID	HSU	Well Type	Date	Event ID	Parameter	Unit	Result	Comparison Value	Background	SSI Type
08D	UA	Background	07/16/2024	D15	Boron, total	mg/L	0.100 J+	--	--	--
08D	UA	Background	08/24/2023	D13	Calcium, total	mg/L	200	--	--	--
08D	UA	Background	01/25/2024	D14	Calcium, total	mg/L	220	--	--	--
08D	UA	Background	07/16/2024	D15	Calcium, total	mg/L	190	--	--	--
08D	UA	Background	08/24/2023	D13	Chloride, total	mg/L	310	--	--	--
08D	UA	Background	01/25/2024	D14	Chloride, total	mg/L	330	--	--	--
08D	UA	Background	07/16/2024	D15	Chloride, total	mg/L	300	--	--	--
08D	UA	Background	08/24/2023	D13	Fluoride, total	mg/L	0.19 U	--	--	--
08D	UA	Background	11/17/2023	D13R	Fluoride, total	mg/L	0.097 J	--	--	--
08D	UA	Background	01/25/2024	D14	Fluoride, total	mg/L	0.09 J	--	--	--
08D	UA	Background	07/16/2024	D15	Fluoride, total	mg/L	0.110	--	--	--
08D	UA	Background	08/24/2023	D13	pH (field)	SU	6.6	--	--	--
08D	UA	Background	01/25/2024	D14	pH (field)	SU	6.7	--	--	--
08D	UA	Background	07/16/2024	D15	pH (field)	SU	6.7	--	--	--
08D	UA	Background	08/24/2023	D13	Sulfate, total	mg/L	170	--	--	--
08D	UA	Background	01/25/2024	D14	Sulfate, total	mg/L	170	--	--	--
08D	UA	Background	07/16/2024	D15	Sulfate, total	mg/L	170	--	--	--
08D	UA	Background	08/24/2023	D13	Total Dissolved Solids	mg/L	1,400	--	--	--
08D	UA	Background	01/25/2024	D14	Total Dissolved Solids	mg/L	1,500	--	--	--
08D	UA	Background	07/16/2024	D15	Total Dissolved Solids	mg/L	1,300	--	--	--
16	UA	Background	08/28/2023	D13	Boron, total	mg/L	0.110	--	--	--
16	UA	Background	01/24/2024	D14	Boron, total	mg/L	0.240	--	--	--
16	UA	Background	07/16/2024	D15	Boron, total	mg/L	0.180 J+	--	--	--
16	UA	Background	08/28/2023	D13	Calcium, total	mg/L	73.0	--	--	--
16	UA	Background	01/24/2024	D14	Calcium, total	mg/L	81.0	--	--	--
16	UA	Background	07/16/2024	D15	Calcium, total	mg/L	73.0	--	--	--
16	UA	Background	08/28/2023	D13	Chloride, total	mg/L	81.0	--	--	--
16	UA	Background	01/24/2024	D14	Chloride, total	mg/L	89.0	--	--	--
16	UA	Background	07/16/2024	D15	Chloride, total	mg/L	70.0	--	--	--
16	UA	Background	08/28/2023	D13	Fluoride, total	mg/L	0.31 J	--	--	--
16	UA	Background	11/17/2023	D13R	Fluoride, total	mg/L	0.220	--	--	--
16	UA	Background	01/24/2024	D14	Fluoride, total	mg/L	0.230	--	--	--
16	UA	Background	07/16/2024	D15	Fluoride, total	mg/L	0.270	--	--	--
16	UA	Background	08/28/2023	D13	pH (field)	SU	7.2	--	--	--
16	UA	Background	01/24/2024	D14	pH (field)	SU	7.3	--	--	--
16	UA	Background	07/16/2024	D15	pH (field)	SU	7.3	--	--	--
16	UA	Background	08/28/2023	D13	Sulfate, total	mg/L	56.0	--	--	--
16	UA	Background	01/24/2024	D14	Sulfate, total	mg/L	76.0	--	--	--
16	UA	Background	07/16/2024	D15	Sulfate, total	mg/L	59.0	--	--	--
16	UA	Background	08/28/2023	D13	Total Dissolved Solids	mg/L	450	--	--	--
16	UA	Background	01/24/2024	D14	Total Dissolved Solids	mg/L	500	--	--	--
16	UA	Background	07/16/2024	D15	Total Dissolved Solids	mg/L	450	--	--	--
17	UA	Background	08/28/2023	D13	Boron, total	mg/L	0.0760	--	--	--
17	UA	Background	01/24/2024	D14	Boron, total	mg/L	0.140	--	--	--
17	UA	Background	08/06/2024	D15	Boron, total	mg/L	0.110 J+	--	--	--
17	UA	Background	08/28/2023	D13	Calcium, total	mg/L	58.0	--	--	--

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
LANDFILL
HENNEPIN, IL

Well ID	HSU	Well Type	Date	Event ID	Parameter	Unit	Result	Comparison Value	Background	SSI Type
17	UA	Background	01/24/2024	D14	Calcium, total	mg/L	120	--	--	--
17	UA	Background	08/06/2024	D15	Calcium, total	mg/L	65.0	--	--	--
17	UA	Background	08/28/2023	D13	Chloride, total	mg/L	80.0	--	--	--
17	UA	Background	01/24/2024	D14	Chloride, total	mg/L	93.0	--	--	--
17	UA	Background	08/06/2024	D15	Chloride, total	mg/L	68.0	--	--	--
17	UA	Background	08/28/2023	D13	Fluoride, total	mg/L	0.36 J	--	--	--
17	UA	Background	11/17/2023	D13R	Fluoride, total	mg/L	0.210	--	--	--
17	UA	Background	01/24/2024	D14	Fluoride, total	mg/L	0.150	--	--	--
17	UA	Background	08/06/2024	D15	Fluoride, total	mg/L	0.270	--	--	--
17	UA	Background	08/28/2023	D13	pH (field)	SU	7.3	--	--	--
17	UA	Background	01/24/2024	D14	pH (field)	SU	7.0	--	--	--
17	UA	Background	08/06/2024	D15	pH (field)	SU	7.2	--	--	--
17	UA	Background	08/28/2023	D13	Sulfate, total	mg/L	58.0	--	--	--
17	UA	Background	01/24/2024	D14	Sulfate, total	mg/L	65.0	--	--	--
17	UA	Background	08/06/2024	D15	Sulfate, total	mg/L	55.0	--	--	--
17	UA	Background	08/28/2023	D13	Total Dissolved Solids	mg/L	420	--	--	--
17	UA	Background	01/24/2024	D14	Total Dissolved Solids	mg/L	670	--	--	--
17	UA	Background	08/06/2024	D15	Total Dissolved Solids	mg/L	400	--	--	--
05R	UA	Compliance	08/23/2023	D13	Boron, total	mg/L	0.510	0.510	0.172	Reported
05R	UA	Compliance	01/25/2024	D14	Boron, total	mg/L	0.930	0.930	0.172	Reported
05R	UA	Compliance	07/16/2024	D15	Boron, total	mg/L	0.650	0.650	0.172	Reported
05R	UA	Compliance	08/23/2023	D13	Calcium, total	mg/L	77.0	77.0	232	No Exceedance
05R	UA	Compliance	01/25/2024	D14	Calcium, total	mg/L	84.0	84.0	232	No Exceedance
05R	UA	Compliance	07/16/2024	D15	Calcium, total	mg/L	84.0	84.0	232	No Exceedance
05R	UA	Compliance	08/23/2023	D13	Chloride, total	mg/L	82.0	82.0	297	No Exceedance
05R	UA	Compliance	01/25/2024	D14	Chloride, total	mg/L	81.0	81.0	297	No Exceedance
05R	UA	Compliance	07/16/2024	D15	Chloride, total	mg/L	81.0	81.0	297	No Exceedance
05R	UA	Compliance	08/23/2023	D13	Fluoride, total	mg/L	0.21 J	0.5	0.320	Exceedance Not Confirmed
05R	UA	Compliance	11/16/2023	D13R	Fluoride, total	mg/L	0.130	0.130	0.320	No Exceedance
05R	UA	Compliance	01/25/2024	D14	Fluoride, total	mg/L	0.130	0.130	0.320	No Exceedance
05R	UA	Compliance	07/16/2024	D15	Fluoride, total	mg/L	0.140	0.140	0.320	No Exceedance
05R	UA	Compliance	08/23/2023	D13	pH (field)	SU	7.6	7.6	6.3/7.5	Reported
05R	UA	Compliance	01/25/2024	D14	pH (field)	SU	7.7	7.7	6.3/7.5	Reported
05R	UA	Compliance	07/16/2024	D15	pH (field)	SU	7.6	7.6	6.3/7.5	Reported
05R	UA	Compliance	08/23/2023	D13	Sulfate, total	mg/L	73.0	73.0	199	No Exceedance
05R	UA	Compliance	01/25/2024	D14	Sulfate, total	mg/L	80.0	80.0	199	No Exceedance
05R	UA	Compliance	07/16/2024	D15	Sulfate, total	mg/L	73.0	73.0	199	No Exceedance
05R	UA	Compliance	08/23/2023	D13	Total Dissolved Solids	mg/L	530	530	1,410	No Exceedance
05R	UA	Compliance	01/25/2024	D14	Total Dissolved Solids	mg/L	580	580	1,410	No Exceedance
05R	UA	Compliance	07/16/2024	D15	Total Dissolved Solids	mg/L	500	500	1,410	No Exceedance
05DR	UA	Compliance	08/23/2023	D13	Boron, total	mg/L	0.680	0.680	0.172	Reported
05DR	UA	Compliance	01/25/2024	D14	Boron, total	mg/L	0.890	0.890	0.172	Reported
05DR	UA	Compliance	07/16/2024	D15	Boron, total	mg/L	0.780	0.780	0.172	Reported
05DR	UA	Compliance	08/23/2023	D13	Calcium, total	mg/L	73.0	73.0	232	No Exceedance
05DR	UA	Compliance	01/25/2024	D14	Calcium, total	mg/L	83.0	83.0	232	No Exceedance

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
LANDFILL
HENNEPIN, IL

Well ID	HSU	Well Type	Date	Event ID	Parameter	Unit	Result	Comparison Value	Background	SSI Type
05DR	UA	Compliance	07/16/2024	D15	Calcium, total	mg/L	83.0	83.0	232	No Exceedance
05DR	UA	Compliance	08/23/2023	D13	Chloride, total	mg/L	76.0	76.0	297	No Exceedance
05DR	UA	Compliance	01/25/2024	D14	Chloride, total	mg/L	80.0	80.0	297	No Exceedance
05DR	UA	Compliance	07/16/2024	D15	Chloride, total	mg/L	77.0	77.0	297	No Exceedance
05DR	UA	Compliance	08/23/2023	D13	Fluoride, total	mg/L	0.24 J	0.5	0.320	Exceedance Not Confirmed
05DR	UA	Compliance	11/16/2023	D13R	Fluoride, total	mg/L	0.150	0.150	0.320	No Exceedance
05DR	UA	Compliance	01/25/2024	D14	Fluoride, total	mg/L	0.140	0.140	0.320	No Exceedance
05DR	UA	Compliance	07/16/2024	D15	Fluoride, total	mg/L	0.160	0.160	0.320	No Exceedance
05DR	UA	Compliance	08/23/2023	D13	pH (field)	SU	7.4	7.4	6.3/7.5	No Exceedance
05DR	UA	Compliance	01/25/2024	D14	pH (field)	SU	7.5	7.5	6.3/7.5	No Exceedance
05DR	UA	Compliance	07/16/2024	D15	pH (field)	SU	7.4	7.4	6.3/7.5	No Exceedance
05DR	UA	Compliance	08/23/2023	D13	Sulfate, total	mg/L	75.0	75.0	199	No Exceedance
05DR	UA	Compliance	01/25/2024	D14	Sulfate, total	mg/L	100	100	199	No Exceedance
05DR	UA	Compliance	07/16/2024	D15	Sulfate, total	mg/L	130	130	199	No Exceedance
05DR	UA	Compliance	08/23/2023	D13	Total Dissolved Solids	mg/L	490	490	1,410	No Exceedance
05DR	UA	Compliance	01/25/2024	D14	Total Dissolved Solids	mg/L	590	590	1,410	No Exceedance
05DR	UA	Compliance	07/16/2024	D15	Total Dissolved Solids	mg/L	560	560	1,410	No Exceedance
40S	UA	Compliance	08/23/2023	D13	Boron, total	mg/L	1.30	1.30	0.172	Reported
40S	UA	Compliance	01/25/2024	D14	Boron, total	mg/L	1.20	1.20	0.172	Reported
40S	UA	Compliance	07/16/2024	D15	Boron, total	mg/L	2.30	2.30	0.172	Reported
40S	UA	Compliance	08/23/2023	D13	Calcium, total	mg/L	58.0	58.0	232	No Exceedance
40S	UA	Compliance	01/25/2024	D14	Calcium, total	mg/L	66.0	66.0	232	No Exceedance
40S	UA	Compliance	07/16/2024	D15	Calcium, total	mg/L	71.0	71.0	232	No Exceedance
40S	UA	Compliance	08/23/2023	D13	Chloride, total	mg/L	73.0	73.0	297	No Exceedance
40S	UA	Compliance	01/25/2024	D14	Chloride, total	mg/L	83.0	83.0	297	No Exceedance
40S	UA	Compliance	07/16/2024	D15	Chloride, total	mg/L	74.0	74.0	297	No Exceedance
40S	UA	Compliance	08/23/2023	D13	Fluoride, total	mg/L	0.24 J	0.5	0.320	Exceedance Not Confirmed
40S	UA	Compliance	11/16/2023	D13R	Fluoride, total	mg/L	0.170	0.170	0.320	No Exceedance
40S	UA	Compliance	01/25/2024	D14	Fluoride, total	mg/L	0.160	0.160	0.320	No Exceedance
40S	UA	Compliance	07/16/2024	D15	Fluoride, total	mg/L	0.180	0.180	0.320	No Exceedance
40S	UA	Compliance	08/23/2023	D13	pH (field)	SU	7.9	7.9	6.3/7.5	Reported
40S	UA	Compliance	01/25/2024	D14	pH (field)	SU	7.9	7.9	6.3/7.5	Reported
40S	UA	Compliance	07/16/2024	D15	pH (field)	SU	7.8	7.8	6.3/7.5	Reported
40S	UA	Compliance	08/23/2023	D13	Sulfate, total	mg/L	92.0	92.0	199	No Exceedance
40S	UA	Compliance	01/25/2024	D14	Sulfate, total	mg/L	110	110	199	No Exceedance
40S	UA	Compliance	07/16/2024	D15	Sulfate, total	mg/L	120	120	199	No Exceedance
40S	UA	Compliance	08/23/2023	D13	Total Dissolved Solids	mg/L	480	480	1,410	No Exceedance
40S	UA	Compliance	01/25/2024	D14	Total Dissolved Solids	mg/L	490	490	1,410	No Exceedance
40S	UA	Compliance	07/16/2024	D15	Total Dissolved Solids	mg/L	550	550	1,410	No Exceedance
48	UA	Compliance	08/23/2023	D13	Boron, total	mg/L	1.40	1.40	0.172	Reported
48	UA	Compliance	--	D14	Boron, total	mg/L	NS ⁵	--	0.172	--
48	UA	Compliance	08/23/2023	D13	Calcium, total	mg/L	64.0	64.0	232	No Exceedance
48	UA	Compliance	--	D14	Calcium, total	mg/L	NS ⁵	--	232	--
48	UA	Compliance	08/23/2023	D13	Chloride, total	mg/L	74.0	74.0	297	No Exceedance
48	UA	Compliance	--	D14	Chloride, total	mg/L	NS ⁵	--	297	--

TABLE 2
ANALYTICAL RESULTS - APPENDIX III PARAMETERS
2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
LANDFILL
HENNEPIN, IL

Well ID	HSU	Well Type	Date	Event ID	Parameter	Unit	Result	Comparison Value	Background	SSI Type
48	UA	Compliance	08/23/2023	D13	Fluoride, total	mg/L	0.19 J	0.5	0.320	No Exceedance
48	UA	Compliance	--	D14	Fluoride, total	mg/L	NS ⁵	--	0.320	--
48	UA	Compliance	08/23/2023	D13	pH (field)	SU	7.6	7.6	6.3/7.5	Reported
48	UA	Compliance	--	D14	pH (field)	SU	NS ⁵	--	6.3/7.5	--
48	UA	Compliance	08/23/2023	D13	Sulfate, total	mg/L	100	100	199	No Exceedance
48	UA	Compliance	--	D14	Sulfate, total	mg/L	NS ⁵	--	199	--
48	UA	Compliance	08/23/2023	D13	Total Dissolved Solids	mg/L	490	490	1,410	No Exceedance
48	UA	Compliance	--	D14	Total Dissolved Solids	mg/L	NS ⁵	--	1,410	--
48R	UA	Compliance	07/18/2024	D15	Boron, total	mg/L	2.20	2.20	0.172	Reported
48R	UA	Compliance	07/18/2024	D15	Calcium, total	mg/L	83.0	83.0	232	No Exceedance
48R	UA	Compliance	07/18/2024	D15	Chloride, total	mg/L	75.0	75.0	297	No Exceedance
48R	UA	Compliance	07/18/2024	D15	Fluoride, total	mg/L	0.200	0.200	0.320	No Exceedance
48R	UA	Compliance	07/18/2024	D15	pH (field)	SU	7.7	7.7	6.3/7.5	Reported
48R	UA	Compliance	07/18/2024	D15	Sulfate, total	mg/L	130	130	199	No Exceedance
48R	UA	Compliance	07/18/2024	D15	Total Dissolved Solids	mg/L	540	540	1,410	No Exceedance

Notes:
-- = not applicable
Comparison Value is different from the Result when the Result is below the Reporting Limit (RL). The Result will not be used in statistical calculations due to the inherent uncertainty in results that are below the RL. Half of the RL will be substituted for these data. See the *Multi-Site Statistical Analysis Plan* (Ramboll, 2022a) for more information.
Event IDs:
D13 = Quarter 3, 2023 Detection Monitoring sampling event
D13R = Quarter 4, 2023 Detection Monitoring resampling event
D14 = Quarter 1, 2024 Detection Monitoring sampling event
D15 = Quarter 3, 2024 Detection Monitoring sampling event
HSU = hydrostratigraphic unit:
UA = Uppermost Aquifer
ID = identification
mg/L = milligrams per liter
Result Code (if applicable):
NR¹ = Parameter not analyzed.
NS¹ = Well has been, or will be, abandoned; therefore, a sample was not collected.
NS² = Well either needs or was undergoing maintenance; therefore, a sample was not collected.
NS³ = The location was not accessible; therefore, a sample was not collected.
NS⁴ = The location could not be found; therefore, a sample was not collected.
NS⁵ = The location was damaged; therefore, a sample was not collected.
NS⁶ = Sampling pump could not yield a sample.
NS⁷ = Well was either dry or purged dry and did not recover sufficiently to yield adequate volume for a sample.
NS⁸ = A sample was not collected.
PM¹ = Parameter not analyzed as the well purged dry during sample collection and did not sufficiently recover to yield adequate sample volume for analysis.
Result qualifiers as defined in the United States Environmental Protection Agency’s *National Functional Guidelines for Inorganic Superfund Methods Data Review*, EPA 542-R-20-006. November 2020.:
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, but the result may be biased high.
U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
Statistically Significant Increase (SSI) Type:
No Exceedance: No exceedance of the background.
Exceedance Not Confirmed: An exceedance was determined in the parent event, a resample was collected, and the resample did not confirm the exceedance; or an exceedance was not determined in the parent event but a subsequent sample collected exhibited a concentration higher than background.
Reported: An exceedance in the parent event was observed and reported.
SU = Standard Units

TABLE 3
STATISTICAL BACKGROUND VALUES
2024 40 C.F.R. § 257 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT
LANDFILL
HENNEPIN, IL

Parameter	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Background Value (LPL/UPL)
Boron (mg/L)	02/24/2021 - 09/14/2022	55	0	Parametric UPL (log-transformed)	0.172
Calcium (mg/L)	02/24/2021 - 09/14/2022	55	0	Non-Parametric UPL	232
Chloride (mg/L)	02/24/2021 - 09/14/2022	55	0	Non-Parametric UPL	297
Fluoride (mg/L)	02/24/2021 - 09/14/2022	55	5	Non-Parametric UPL	0.320
pH (field) (SU)	02/24/2021 - 09/14/2022	55	0	Parametric LPL/UPL	6.3/7.5
Sulfate (mg/L)	02/24/2021 - 09/14/2022	55	0	Non-Parametric UPL	199
Total Dissolved Solids (mg/L)	02/24/2021 - 09/14/2022	52	0	Non-Parametric UPL	1,410

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

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FIGURES



- BACKGROUND WELL
- COMPLIANCE WELL
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

0 175 350
Feet

MONITORING WELL LOCATION
MAP

2024 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000XXXXX | DATED: 3/27/2024 | DESIGNER: GALARNMC
Y:\Mapping\Projects\222285MXD\GW_Contours\Round_2024\Hennepin\LF_801\LF_2024.aprx\HEN 801 LF Pot Surface 20240122



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

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

0 175 350
Feet

POTENTIOMETRIC SURFACE MAP JANUARY 22-23, 2024

2024 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000XXXX | DATED: 8/15/2024 | DESIGNER: GALARNMC
Y:\Mapping\Projects\22\2285\MXD\GW_Contours\Round_2024\Hennepin\LF_801\HEN_801_LF_2024.aprx\HEN 801 LF Pot Surface 20240715



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

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

0 175 350
Feet

POTENTIOMETRIC SURFACE MAP JULY 15, 2024

2024 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



APPENDICES

APPENDIX A

LABORATORY REPORTS AND FIELD DATA SHEETS

ANALYTICAL REPORT

PREPARED FOR

Attn: Brian Voelker
Vistra Energy Corp
133 S 4th, Suite 206
Springfield, Illinois 62701

Generated 12/27/23 14:14:52

JOB DESCRIPTION

HEN-23Q4
HEN_257_801

JOB NUMBER

500-242591-13

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



Generated
12/27/23 14:14:52

Authorized for release by
Dirk Nelson, Project Management Assistant II
Dirk.Nelson@et.eurofinsus.com
Designee for
Donna Campbell, Manager of Project Management
Donna.Campbell@et.eurofinsus.com
(217)519-2114

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Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
Job ID: 500-242591-13
SDG: HEN_257_801

Job ID: 500-242591-13

Laboratory: Eurofins Chicago

Narrative

Job Narrative
500-242591-13

Receipt

The samples were received on 11/15/2023 11:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 15 coolers at receipt time were 1.8° C, 2.3° C, 2.4° C, 3.0° C, 3.2° C, 4.2° C, 4.4° C, 4.6° C, 4.6° C, 4.9° C, 4.9° C, 5.0° C, 5.0° C, 5.6° C and 5.7° C.

Receipt Exceptions

Per client email HEN_257_801 was added to these samples. HEN_05!R (500-242591-18), HEN_05&DR (500-242591-19) and HEN_40#S (500-242591-21)

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-242591-13
Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_05!R

Lab Sample ID: 500-242591-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.13		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

Client Sample ID: HEN_05&DR

Lab Sample ID: 500-242591-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.15		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

Client Sample ID: HEN_40#S

Lab Sample ID: 500-242591-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.17		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

Client Sample ID: HEN_08&D

Lab Sample ID: 500-242591-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.097	J	0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

Client Sample ID: HEN_08

Lab Sample ID: 500-242591-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.089	J	0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

Client Sample ID: HEN_08_FD

Lab Sample ID: 500-242591-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.087	J	0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

Client Sample ID: HEN_17

Lab Sample ID: 500-242591-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.21		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

Client Sample ID: HEN_16

Lab Sample ID: 500-242591-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.22		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

Client Sample ID: HEN_07

Lab Sample ID: 500-242591-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.12		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Method Summary

Method	Method Description	Protocol	Laboratory
SM 4500 F C	Fluoride	SM	EET CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-242591-18	HEN_05!R	Water	11/16/23 13:49	11/17/23 11:27
500-242591-19	HEN_05&DR	Water	11/16/23 13:46	11/17/23 11:27
500-242591-21	HEN_40#S	Water	11/16/23 15:19	11/17/23 11:27
500-242591-26	HEN_08&D	Water	11/17/23 12:31	11/17/23 18:00
500-242591-27	HEN_08	Water	11/17/23 12:32	11/17/23 18:00
500-242591-28	HEN_08_FD	Water	11/17/23 12:37	11/17/23 18:00
500-242591-30	HEN_17	Water	11/17/23 14:17	11/17/23 18:00
500-242591-31	HEN_16	Water	11/17/23 14:29	11/17/23 18:00
500-242591-38	HEN_07	Water	11/20/23 13:12	11/21/23 08:06

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_05!R

Date Collected: 11/16/23 13:49

Date Received: 11/17/23 11:27

Lab Sample ID: 500-242591-18

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.13		0.10	0.056	mg/L			12/01/23 15:32	1

Client Sample Results

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_05&DR

Lab Sample ID: 500-242591-19

Date Collected: 11/16/23 13:46

Matrix: Water

Date Received: 11/17/23 11:27

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.15		0.10	0.056	mg/L			12/01/23 15:37	1

Client Sample Results

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_40#S

Lab Sample ID: 500-242591-21

Date Collected: 11/16/23 15:19

Matrix: Water

Date Received: 11/17/23 11:27

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.17		0.10	0.056	mg/L			12/01/23 15:58	1

Client Sample Results

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_08&D

Lab Sample ID: 500-242591-26

Date Collected: 11/17/23 12:31

Matrix: Water

Date Received: 11/17/23 18:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.097	J	0.10	0.056	mg/L			12/01/23 16:22	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_08

Lab Sample ID: 500-242591-27

Date Collected: 11/17/23 12:32

Matrix: Water

Date Received: 11/17/23 18:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.089	J	0.10	0.056	mg/L			12/01/23 16:27	1

Client Sample Results

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_08_FD

Lab Sample ID: 500-242591-28

Date Collected: 11/17/23 12:37

Matrix: Water

Date Received: 11/17/23 18:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.087	J	0.10	0.056	mg/L			12/06/23 16:34	1

Client Sample Results

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_17

Date Collected: 11/17/23 14:17

Date Received: 11/17/23 18:00

Lab Sample ID: 500-242591-30

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.21		0.10	0.056	mg/L			12/01/23 18:13	1

Client Sample Results

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_16
Date Collected: 11/17/23 14:29
Date Received: 11/17/23 18:00

Lab Sample ID: 500-242591-31
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.22		0.10	0.056	mg/L			12/01/23 17:12	1

Client Sample Results

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_07

Date Collected: 11/20/23 13:12

Date Received: 11/21/23 08:06

Lab Sample ID: 500-242591-38

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	0.12		0.10	0.056	mg/L			12/01/23 17:42	1

Definitions/Glossary

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

APPENDIX A.
INITIAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
Job ID: 500-242591-13
JEN-250862
SDG: HEN_257_801

Qualifiers

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

General Chemistry

Analysis Batch: 744922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-242591-18	HEN_05!R	Total/NA	Water	SM 4500 F C	
500-242591-19	HEN_05&DR	Total/NA	Water	SM 4500 F C	
500-242591-21	HEN_40#S	Total/NA	Water	SM 4500 F C	
500-242591-26	HEN_08&D	Total/NA	Water	SM 4500 F C	
500-242591-27	HEN_08	Total/NA	Water	SM 4500 F C	
500-242591-30	HEN_17	Total/NA	Water	SM 4500 F C	
500-242591-31	HEN_16	Total/NA	Water	SM 4500 F C	
500-242591-38	HEN_07	Total/NA	Water	SM 4500 F C	
MB 500-744922/31	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-744922/59	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-744922/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-744922/60	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 745605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-242591-28	HEN_08_FD	Total/NA	Water	SM 4500 F C	
MB 500-745605/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-745605/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

APPENDIX A.
Job ID: 500-242591-13
SDG: HEN_257_801

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-744922/31
Matrix: Water
Analysis Batch: 744922

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			12/01/23 14:18	1

Lab Sample ID: MB 500-744922/59
Matrix: Water
Analysis Batch: 744922

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			12/01/23 16:38	1

Lab Sample ID: LCS 500-744922/32
Matrix: Water
Analysis Batch: 744922

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.83		mg/L		98	90 - 119

Lab Sample ID: LCS 500-744922/60
Matrix: Water
Analysis Batch: 744922

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.94		mg/L		99	90 - 119

Lab Sample ID: MB 500-745605/3
Matrix: Water
Analysis Batch: 745605

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			12/06/23 14:28	1

Lab Sample ID: LCS 500-745605/4
Matrix: Water
Analysis Batch: 745605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.74		mg/L		97	90 - 119

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_05!R

Lab Sample ID: 500-242591-18

Date Collected: 11/16/23 13:49

Matrix: Water

Date Received: 11/17/23 11:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	744922	SO	EET CHI	12/01/23 15:32

Client Sample ID: HEN_05&DR

Lab Sample ID: 500-242591-19

Date Collected: 11/16/23 13:46

Matrix: Water

Date Received: 11/17/23 11:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	744922	SO	EET CHI	12/01/23 15:37

Client Sample ID: HEN_40#S

Lab Sample ID: 500-242591-21

Date Collected: 11/16/23 15:19

Matrix: Water

Date Received: 11/17/23 11:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	744922	SO	EET CHI	12/01/23 15:58

Client Sample ID: HEN_08&D

Lab Sample ID: 500-242591-26

Date Collected: 11/17/23 12:31

Matrix: Water

Date Received: 11/17/23 18:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	744922	SO	EET CHI	12/01/23 16:22

Client Sample ID: HEN_08

Lab Sample ID: 500-242591-27

Date Collected: 11/17/23 12:32

Matrix: Water

Date Received: 11/17/23 18:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	744922	SO	EET CHI	12/01/23 16:27

Client Sample ID: HEN_08_FD

Lab Sample ID: 500-242591-28

Date Collected: 11/17/23 12:37

Matrix: Water

Date Received: 11/17/23 18:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	745605	SO	EET CHI	12/06/23 16:34

Client Sample ID: HEN_17

Lab Sample ID: 500-242591-30

Date Collected: 11/17/23 14:17

Matrix: Water

Date Received: 11/17/23 18:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	744922	SO	EET CHI	12/01/23 18:13

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Job ID: 500-242591-13
SDG: HEN_257_801

Client Sample ID: HEN_16

Date Collected: 11/17/23 14:29

Date Received: 11/17/23 18:00

Lab Sample ID: 500-242591-31

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	744922	SO	EET CHI	12/01/23 17:12

Client Sample ID: HEN_07

Date Collected: 11/20/23 13:12

Date Received: 11/21/23 08:06

Lab Sample ID: 500-242591-38

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	744922	SO	EET CHI	12/01/23 17:42

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
Job ID: 500-242591-13
SDG: HEN_257_801

Accreditation/Certification Summary

Client: Vistra Energy Corp
Project/Site: HEN-23Q4

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-24

1
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14

500-242591

Page 1 of 1

Section A Required Client Information:		Section B Required Project Information		Section C Invoice Information		Page 1 of 1	
Company: Vistra Corp		Report To: Brian Voelker		Attention: Jason Stuckey		REGULATORY AGENCY	
Address: 133 S 4th, Suite 206 Springfield, IL 62701		Copy To: Jason Stuckey		Company Name: Vistra Corp			
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.		Address: see Section A		NPDES GROUND WATER DRINKING WATER	
Phone: (217) 753-8911 Fax:		Project Name: 23 Q4 GW SAMPLING		Quote Reference:		UST RCRA OTHER	
Requested Due Date/TAT: 10 day		Project Number: 50022357		Project Manager: NIKKI PAGANO		Site Location: IL	
				Profile #:		STATE:	

[illegible]

CHAIN-OF-CUSTODY / Analytical Request Document

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

500-242591

Page 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information		Page 1 of 1	
Company: Vistra Corp		Report To: Brian Voelker		Attention: Jason Stuckey		REGULATORY AGENCY	
Address: 133 S 4th, Suite 206 Springfield, IL 62701		Copy To: Jason Stuckey		Company Name: Vistra Corp			
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.		Address: see Section A			
Phone: (217) 753-8911		Fax:		Quote Reference:		NPDES GROUND WATER DRINKING WATER	
Requested Due Date/TAT: 10 day		Project Name: 23Q4 GW SAMPLING		Project Manager: NIKKI PAGANO		UST RCRA OTHER	
		Project Number: 50022357		Profile #:		Site Location: IL	
						STATE:	

[illegible]

EUROFINS
COURIER
PICKUP

QC: TJD

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page 1 of 1	
Company: Vistra Corp		Report To: Brian Voelker		Attention: Jason Stuckey		REGULATORY AGENCY	
Address: 133 S 4th, Suite 206 Springfield, IL 62701		Copy To: Jason Stuckey		Company Name: Vistra Corp			
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.		Address: see Section A		NPDES GROUND WATER DRINKING WATER	
Phone: (217) 753-8911 Fax:		Project Name: 2304 GW SAMPLING		Quote Reference:		UST RCRA OTHER	
Requested Due Date/TAT: 10 day		Project Number: 50022357		Project Manager: NIKKI PAGANO		Site Location: IL	
				Profile #:		STATE:	

[illegible]

EUROFINS
COURIER
PICKUP

Q.C. 750

500-242591

Page 1 of 1

Invoice Information.STATE.

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Samples
Intact (Y/N)


QC KLT

500-242591

Page 1 of 1

Page 1 of 1

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		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↓	Y/N ↓	Requested Analysis Filtered (Y/N)																Residual Chlorine (Y/N)	Project No./ Lab I.D.
					DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other			HEN_257_802	HEN_257_803	HEN_257_804	HEN_811_801	HEN_845_802-805	HEN_845_803	HEN_845_804	HEN_000_C	HEN_000_RAD	HEN_WPCP_East	HEN_WPCP_West	HEN_257_801						
1	HEN_08		G		11-17-23	12:32		13	5	3	4	1			X	X			X	X	X		X	X	X		X								SHORT HOLDS -NO2	
2	HEN_08_FD		G		11-17-23	12:34		13	5	3	4	1			X	X			X	X	X		X	X	X		X							SHORT HOLDS -NO3		
3	TRIP BLANK 02		G		11-17-23	-																											BTEX			
4																																				
5																																				
6																																				
7																																				
8																																				
9																																				
10																																				
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14																																				
15																																				
16																																				
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION			DATE	TIME	ACCEPTED BY / AFFILIATION			DATE	TIME	SAMPLE CONDITIONS																							
HEN-23Q4 Rev 0			Ramboll			11-17-23	1800	Shirley Smith			11/17/23	1800																								

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on (mm/DD/YYYY)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER. KRISTEN THRESFOLD					
SIGNATURE of SAMPLER 	DATE Signed (MM/DD/YYYY): 11-17-23				

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17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 85

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Section A Required Client Information		Section B Required Project Information:		Section C Invoice Information.		Page: 1 of 1	
Company: Vistra Corp		Report To: Brian Voelker		Attention: Jason Stuckey		REGULATORY AGENCY	
Address: 133 S 4th, Suite 206 Springfield, IL 62701		Copy To: Jason Stuckey		Company Name: Vistra Corp			
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.		Address: see Section A		NPDES GROUND WATER DRINKING WATER	
Phone: (217) 753-8911 Fax:		Project Name: 23 Q4 GW SAMPLING		Quote Reference:		UST RCRA OTHER	
Requested Due Date/TAT: 10 day		Project Number: 50022357		Project Manager: NIKKI PAGANO		Site Location	
				Profile #:		IL	
						STATE	


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DROP OFF
AT LAB

QC TJD

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SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER. KRISTEN THEESFELD					
SIGNATURE of SAMPLER 	DATE Signed (MM/DD/YY) 11-20-23				

OC-TJD

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
HEN-257-801

Login Sample Receipt Checklist

Client: Vistra Energy Corp

Job Number: 500-242591-13

SDG Number: HEN_257_801

Login Number: 242591

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.7,4.9,3.2,4.2,3.0,1.8,5.6,4.6,2.4,4.6,4.4,5.0,,2.3,4.9,5.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

PREPARED FOR

Attn: Brian Voelker
Vistra Energy Corp
133 S 4th, Suite 206
Springfield, Illinois 62701

Generated 02/21/24 15:02:43

JOB DESCRIPTION

HEN-24Q1
HEN_257_801

JOB NUMBER

500-245277-14

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



Generated
02/21/24 15:02:43

Authorized for release by
Dirk Nelson, Project Management Assistant II
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Designee for
Donna Campbell, Manager of Project Management
Donna.Campbell@et.eurofinsus.com
(217)519-2114

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Client: Vistra Energy Corp
Project: HEN-24Q1

Job ID: 500-245277-14

Job ID: 500-245277-14

Eurofins Chicago

Job Narrative
500-245277-14

Receipt

The samples were received on 01/24/24 12:20. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 12 coolers at receipt time were 2.1° C, 2.3° C, 2.6° C, 2.7° C, 3.2° C, 3.3° C, 3.9° C, 4.1° C, 4.4° C, 4.4° C, 5.1° C and 5.2° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method 300.0: The method blank for analytical batch 500-752307 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Eurofins Chicago



Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_16

Lab Sample ID: 500-245277-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.24		0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	81		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	28	B	0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	4.6		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	61	B	0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	89	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	76		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	250		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	500		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.23		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	54.33				ft	1		Field Sampling	Total/NA
Field pH	7.31				SU	1		Field Sampling	Total/NA
Field Temperature	16.0				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-4.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.48				mg/L	1		Field Sampling	Total/NA
Specific Conductance	814				umhos/cm	1		Field Sampling	Total/NA
Turbidity	3.64				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_16_FD

Lab Sample ID: 500-245277-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.21		0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	79		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	27	B	0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	4.4		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	59	B	0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	89	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	75		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	240		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	460		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.23		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	54.33				ft	1		Field Sampling	Total/NA
Field pH	7.31				SU	1		Field Sampling	Total/NA
Field Temperature	16.0				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-4.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.48				mg/L	1		Field Sampling	Total/NA
Specific Conductance	814				umhos/cm	1		Field Sampling	Total/NA
Turbidity	3.64				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_17

Lab Sample ID: 500-245277-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.14		0.050	0.013	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_17 (Continued)

Lab Sample ID: 500-245277-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	120		0.20	0.044	mg/L	1		6020B	Total
									Recoverable
Magnesium	44	B	0.20	0.049	mg/L	1		6020B	Total
									Recoverable
Potassium	4.8		0.50	0.11	mg/L	1		6020B	Total
									Recoverable
Sodium	61	B	0.20	0.077	mg/L	1		6020B	Total
									Recoverable
Chloride	93	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	65		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	400		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	670		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.15		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	58.90				ft	1		Field Sampling	Total/NA
Field pH	6.99				SU	1		Field Sampling	Total/NA
Field Temperature	14.1				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	142.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	3.32				mg/L	1		Field Sampling	Total/NA
Specific Conductance	1110				umhos/cm	1		Field Sampling	Total/NA
Turbidity	2.49				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_05IR

Lab Sample ID: 500-245277-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.93		0.050	0.013	mg/L	1		6020B	Total
									Recoverable
Calcium	84		0.20	0.044	mg/L	1		6020B	Total
									Recoverable
Magnesium	30		0.20	0.049	mg/L	1		6020B	Total
									Recoverable
Potassium	8.5		0.50	0.11	mg/L	1		6020B	Total
									Recoverable
Sodium	47		0.20	0.077	mg/L	1		6020B	Total
									Recoverable
Chloride	81		5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	80		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	240		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	580		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.13		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	41.06				ft	1		Field Sampling	Total/NA
Field pH	7.69				SU	1		Field Sampling	Total/NA
Field Temperature	15.2				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	98.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.96				mg/L	1		Field Sampling	Total/NA
Specific Conductance	851				umhos/cm	1		Field Sampling	Total/NA
Turbidity	4.55				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_05&DR

Lab Sample ID: 500-245277-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.89		0.050	0.013	mg/L	1		6020B	Total
									Recoverable
Calcium	83		0.20	0.044	mg/L	1		6020B	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_05&DR (Continued)

Lab Sample ID: 500-245277-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	30		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	6.7		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	50		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	80		5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	100		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	230		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	590		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.14		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	41.09				ft	1		Field Sampling	Total/NA
Field pH	7.53				SU	1		Field Sampling	Total/NA
Field Temperature	13.2				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	55.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.13				mg/L	1		Field Sampling	Total/NA
Specific Conductance	794				umhos/cm	1		Field Sampling	Total/NA
Turbidity	2.96				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_08&D

Lab Sample ID: 500-245277-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.12		0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	220		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	59		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	4.3		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	190		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	330		20	2.3	mg/L	20		300.0	Total/NA
Sulfate	170		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	510		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1500		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.090	J	0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	54.09				ft	1		Field Sampling	Total/NA
Field pH	6.69				SU	1		Field Sampling	Total/NA
Field Temperature	12.5				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	86.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.50				mg/L	1		Field Sampling	Total/NA
Specific Conductance	2389				umhos/cm	1		Field Sampling	Total/NA
Turbidity	4.40				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_40#S

Lab Sample ID: 500-245277-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.2	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	66		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	24		0.20	0.049	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_40#S (Continued)

Lab Sample ID: 500-245277-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	6.1		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	52		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	83		5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	110		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	200		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	490		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.16		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	40.36				ft	1		Field Sampling	Total/NA
Field pH	7.94				SU	1		Field Sampling	Total/NA
Field Temperature	15.0				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	74.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.09				mg/L	1		Field Sampling	Total/NA
Specific Conductance	784				umhos/cm	1		Field Sampling	Total/NA
Turbidity	0.91				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_07

Lab Sample ID: 500-245277-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.12	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	120		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	39		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	2.7		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	37		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	56		5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	59		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	350		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	650		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.12		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	68.7				ft	1		Field Sampling	Total/NA
Field pH	6.97				SU	1		Field Sampling	Total/NA
Field Temperature	10.0				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	143.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	4.30				mg/L	1		Field Sampling	Total/NA
Specific Conductance	1026				umhos/cm	1		Field Sampling	Total/NA
Turbidity	5.90				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_08

Lab Sample ID: 500-245277-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.15	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	200		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	48		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	8.2		0.50	0.11	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_08 (Continued)

Lab Sample ID: 500-245277-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	130		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	250		5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	120		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	510		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1200		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.083	J	0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	53.62				ft	1		Field Sampling	Total/NA
Field pH	6.78				SU	1		Field Sampling	Total/NA
Field Temperature	12.3				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	101.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.53				mg/L	1		Field Sampling	Total/NA
Specific Conductance	1839				umhos/cm	1		Field Sampling	Total/NA
Turbidity	0.97				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_YSG_ILRIVER

Lab Sample ID: 500-245277-50

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Depth to Water (ft from MP)	22.07				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CHI
300.0	Anions, Ion Chromatography	EPA	EET CHI
SM 2320B	Alkalinity	SM	EET CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CHI
SM 4500 F C	Fluoride	SM	EET CHI
Field Sampling	Field Sampling	EPA	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-245277-15	HEN_16	Water	01/24/24 10:55	01/25/24 11:51
500-245277-16	HEN_16_FD	Water	01/24/24 10:55	01/25/24 11:51
500-245277-17	HEN_17	Water	01/24/24 11:55	01/25/24 11:51
500-245277-28	HEN_05IR	Water	01/25/24 15:50	01/26/24 11:45
500-245277-29	HEN_05&DR	Water	01/25/24 15:50	01/26/24 11:45
500-245277-30	HEN_08&D	Water	01/25/24 13:05	01/26/24 11:45
500-245277-34	HEN_40#S	Water	01/25/24 14:15	01/26/24 11:45
500-245277-39	HEN_07	Water	01/26/24 08:50	01/26/24 11:45
500-245277-40	HEN_08	Water	01/26/24 08:20	01/26/24 11:45
500-245277-50	HEN_YSG_ILRIVER	Water	01/22/24 14:20	01/26/24 11:45

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
INITIAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_16

Date Collected: 01/24/24 10:55

Date Received: 01/25/24 11:51

Lab Sample ID: 500-245277-15

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.24		0.050	0.013	mg/L		01/30/24 09:37	02/06/24 15:38	1
Calcium	81		0.20	0.044	mg/L		01/30/24 09:37	01/31/24 21:07	1
Magnesium	28	B	0.20	0.049	mg/L		01/30/24 09:37	01/31/24 21:07	1
Potassium	4.6		0.50	0.11	mg/L		01/30/24 09:37	01/31/24 21:07	1
Sodium	61	B	0.20	0.077	mg/L		01/30/24 09:37	01/31/24 21:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	89	B	5.0	0.58	mg/L			02/01/24 13:37	5
Sulfate (EPA 300.0)	76		5.0	1.0	mg/L			02/01/24 13:37	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	250		5.0	3.7	mg/L			01/26/24 19:55	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			01/26/24 19:55	1
Total Dissolved Solids (SM 2540C)	500		10	4.3	mg/L			01/29/24 02:33	1
Fluoride (SM 4500 F C)	0.23		0.10	0.056	mg/L			02/09/24 11:16	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	54.33				ft			01/24/24 10:55	1
Field pH	7.31				SU			01/24/24 10:55	1
Field Temperature	16.0				Degrees C			01/24/24 10:55	1
Oxidation Reduction Potential	-4.2				millivolts			01/24/24 10:55	1
Oxygen, Dissolved	0.48				mg/L			01/24/24 10:55	1
Specific Conductance	814				umhos/cm			01/24/24 10:55	1
Turbidity	3.64				NTU			01/24/24 10:55	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_16_FD

Lab Sample ID: 500-245277-16

Date Collected: 01/24/24 10:55

Matrix: Water

Date Received: 01/25/24 11:51

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.21		0.050	0.013	mg/L		01/30/24 09:37	02/06/24 15:41	1
Calcium	79		0.20	0.044	mg/L		01/30/24 09:37	01/31/24 21:10	1
Magnesium	27	B	0.20	0.049	mg/L		01/30/24 09:37	01/31/24 21:10	1
Potassium	4.4		0.50	0.11	mg/L		01/30/24 09:37	01/31/24 21:10	1
Sodium	59	B	0.20	0.077	mg/L		01/30/24 09:37	01/31/24 21:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	89	B	5.0	0.58	mg/L			02/01/24 13:52	5
Sulfate (EPA 300.0)	75		5.0	1.0	mg/L			02/01/24 13:52	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	240		5.0	3.7	mg/L			01/26/24 20:04	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			01/26/24 20:04	1
Total Dissolved Solids (SM 2540C)	460		10	4.3	mg/L			01/29/24 02:36	1
Fluoride (SM 4500 F C)	0.23		0.10	0.056	mg/L			02/09/24 11:20	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	54.33				ft			01/24/24 10:55	1
Field pH	7.31				SU			01/24/24 10:55	1
Field Temperature	16.0				Degrees C			01/24/24 10:55	1
Oxidation Reduction Potential	-4.2				millivolts			01/24/24 10:55	1
Oxygen, Dissolved	0.48				mg/L			01/24/24 10:55	1
Specific Conductance	814				umhos/cm			01/24/24 10:55	1
Turbidity	3.64				NTU			01/24/24 10:55	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
INITIAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_17

Date Collected: 01/24/24 11:55

Date Received: 01/25/24 11:51

Lab Sample ID: 500-245277-17

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.14		0.050	0.013	mg/L		01/30/24 09:37	02/06/24 15:45	1
Calcium	120		0.20	0.044	mg/L		01/30/24 09:37	01/31/24 21:14	1
Magnesium	44	B	0.20	0.049	mg/L		01/30/24 09:37	01/31/24 21:14	1
Potassium	4.8		0.50	0.11	mg/L		01/30/24 09:37	01/31/24 21:14	1
Sodium	61	B	0.20	0.077	mg/L		01/30/24 09:37	01/31/24 21:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	93	B	5.0	0.58	mg/L			02/01/24 14:39	5
Sulfate (EPA 300.0)	65		5.0	1.0	mg/L			02/01/24 14:39	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	400		5.0	3.7	mg/L			01/26/24 20:13	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			01/26/24 20:13	1
Total Dissolved Solids (SM 2540C)	670		10	4.3	mg/L			01/29/24 02:38	1
Fluoride (SM 4500 F C)	0.15		0.10	0.056	mg/L			02/09/24 11:25	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	58.90				ft			01/24/24 11:55	1
Field pH	6.99				SU			01/24/24 11:55	1
Field Temperature	14.1				Degrees C			01/24/24 11:55	1
Oxidation Reduction Potential	142.7				millivolts			01/24/24 11:55	1
Oxygen, Dissolved	3.32				mg/L			01/24/24 11:55	1
Specific Conductance	1110				umhos/cm			01/24/24 11:55	1
Turbidity	2.49				NTU			01/24/24 11:55	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
INITIAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_051R

Lab Sample ID: 500-245277-28

Date Collected: 01/25/24 15:50

Matrix: Water

Date Received: 01/26/24 11:45

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.93		0.050	0.013	mg/L		01/30/24 17:00	02/01/24 16:39	1
Calcium	84		0.20	0.044	mg/L		01/30/24 17:00	02/06/24 17:55	1
Magnesium	30		0.20	0.049	mg/L		01/30/24 17:00	02/01/24 16:39	1
Potassium	8.5		0.50	0.11	mg/L		01/30/24 17:00	02/01/24 16:39	1
Sodium	47		0.20	0.077	mg/L		01/30/24 17:00	02/01/24 16:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	81		5.0	0.58	mg/L			01/31/24 21:28	5
Sulfate (EPA 300.0)	80		5.0	1.0	mg/L			01/31/24 21:28	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	240		5.0	3.7	mg/L			02/08/24 11:29	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			02/08/24 11:29	1
Total Dissolved Solids (SM 2540C)	580		10	4.3	mg/L			01/29/24 03:25	1
Fluoride (SM 4500 F C)	0.13		0.10	0.056	mg/L			02/09/24 12:37	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	41.06				ft			01/25/24 15:50	1
Field pH	7.69				SU			01/25/24 15:50	1
Field Temperature	15.2				Degrees C			01/25/24 15:50	1
Oxidation Reduction Potential	98.7				millivolts			01/25/24 15:50	1
Oxygen, Dissolved	0.96				mg/L			01/25/24 15:50	1
Specific Conductance	851				umhos/cm			01/25/24 15:50	1
Turbidity	4.55				NTU			01/25/24 15:50	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
INITIAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_05&DR

Lab Sample ID: 500-245277-29

Date Collected: 01/25/24 15:50

Matrix: Water

Date Received: 01/26/24 11:45

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.89		0.050	0.013	mg/L		01/30/24 17:00	02/01/24 16:43	1
Calcium	83		0.20	0.044	mg/L		01/30/24 17:00	02/06/24 17:58	1
Magnesium	30		0.20	0.049	mg/L		01/30/24 17:00	02/01/24 16:43	1
Potassium	6.7		0.50	0.11	mg/L		01/30/24 17:00	02/01/24 16:43	1
Sodium	50		0.20	0.077	mg/L		01/30/24 17:00	02/01/24 16:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	80		5.0	0.58	mg/L			01/31/24 21:43	5
Sulfate (EPA 300.0)	100		5.0	1.0	mg/L			01/31/24 21:43	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	230		5.0	3.7	mg/L			02/08/24 11:38	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			02/08/24 11:38	1
Total Dissolved Solids (SM 2540C)	590		10	4.3	mg/L			01/29/24 03:27	1
Fluoride (SM 4500 F C)	0.14		0.10	0.056	mg/L			02/09/24 12:41	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	41.09				ft			01/25/24 15:50	1
Field pH	7.53				SU			01/25/24 15:50	1
Field Temperature	13.2				Degrees C			01/25/24 15:50	1
Oxidation Reduction Potential	55.8				millivolts			01/25/24 15:50	1
Oxygen, Dissolved	1.13				mg/L			01/25/24 15:50	1
Specific Conductance	794				umhos/cm			01/25/24 15:50	1
Turbidity	2.96				NTU			01/25/24 15:50	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
MINIHAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_08&D

Lab Sample ID: 500-245277-30

Date Collected: 01/25/24 13:05

Matrix: Water

Date Received: 01/26/24 11:45

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.12		0.050	0.013	mg/L		01/30/24 17:00	02/01/24 16:50	1
Calcium	220		0.20	0.044	mg/L		01/30/24 17:00	02/06/24 18:05	1
Magnesium	59		0.20	0.049	mg/L		01/30/24 17:00	02/01/24 16:50	1
Potassium	4.3		0.50	0.11	mg/L		01/30/24 17:00	02/01/24 16:50	1
Sodium	190		0.20	0.077	mg/L		01/30/24 17:00	02/01/24 16:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	330		20	2.3	mg/L			02/06/24 13:50	20
Sulfate (EPA 300.0)	170		5.0	1.0	mg/L			02/03/24 15:07	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	510		5.0	3.7	mg/L			02/08/24 11:47	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			02/08/24 11:47	1
Total Dissolved Solids (SM 2540C)	1500		10	4.3	mg/L			01/29/24 03:30	1
Fluoride (SM 4500 F C)	0.090 J		0.10	0.056	mg/L			02/09/24 12:46	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	54.09				ft			01/25/24 13:05	1
Field pH	6.69				SU			01/25/24 13:05	1
Field Temperature	12.5				Degrees C			01/25/24 13:05	1
Oxidation Reduction Potential	86.7				millivolts			01/25/24 13:05	1
Oxygen, Dissolved	0.50				mg/L			01/25/24 13:05	1
Specific Conductance	2389				umhos/cm			01/25/24 13:05	1
Turbidity	4.40				NTU			01/25/24 13:05	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_40#S

Lab Sample ID: 500-245277-34

Date Collected: 01/25/24 14:15

Matrix: Water

Date Received: 01/26/24 11:45

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.2	B	0.050	0.013	mg/L		01/31/24 08:07	02/06/24 19:07	1
Calcium	66		0.20	0.044	mg/L		01/31/24 08:07	02/06/24 19:07	1
Magnesium	24		0.20	0.049	mg/L		01/31/24 08:07	02/01/24 17:55	1
Potassium	6.1		0.50	0.11	mg/L		01/31/24 08:07	02/01/24 17:55	1
Sodium	52		0.20	0.077	mg/L		01/31/24 08:07	02/06/24 19:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	83		5.0	0.58	mg/L			01/31/24 21:59	5
Sulfate (EPA 300.0)	110		5.0	1.0	mg/L			01/31/24 21:59	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	200		5.0	3.7	mg/L			02/08/24 12:15	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			02/08/24 12:15	1
Total Dissolved Solids (SM 2540C)	490		10	4.3	mg/L			01/29/24 03:37	1
Fluoride (SM 4500 F C)	0.16		0.10	0.056	mg/L			02/09/24 13:11	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	40.36				ft			01/25/24 14:15	1
Field pH	7.94				SU			01/25/24 14:15	1
Field Temperature	15.0				Degrees C			01/25/24 14:15	1
Oxidation Reduction Potential	74.4				millivolts			01/25/24 14:15	1
Oxygen, Dissolved	0.09				mg/L			01/25/24 14:15	1
Specific Conductance	784				umhos/cm			01/25/24 14:15	1
Turbidity	0.91				NTU			01/25/24 14:15	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_07

Date Collected: 01/26/24 08:50

Date Received: 01/26/24 11:45

Lab Sample ID: 500-245277-39

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.12	B	0.050	0.013	mg/L		01/31/24 08:07	02/06/24 19:21	1
Calcium	120		0.20	0.044	mg/L		01/31/24 08:07	02/06/24 19:21	1
Magnesium	39		0.20	0.049	mg/L		01/31/24 08:07	02/01/24 18:16	1
Potassium	2.7		0.50	0.11	mg/L		01/31/24 08:07	02/01/24 18:16	1
Sodium	37		0.20	0.077	mg/L		01/31/24 08:07	02/06/24 19:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	56		5.0	0.58	mg/L			02/03/24 17:24	5
Sulfate (EPA 300.0)	59		5.0	1.0	mg/L			02/03/24 17:24	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	350		5.0	3.7	mg/L			02/08/24 13:07	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			02/08/24 13:07	1
Total Dissolved Solids (SM 2540C)	650		10	4.3	mg/L			01/29/24 03:50	1
Fluoride (SM 4500 F C)	0.12		0.10	0.056	mg/L			02/09/24 13:48	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	68.7				ft			01/26/24 08:50	1
Field pH	6.97				SU			01/26/24 08:50	1
Field Temperature	10.0				Degrees C			01/26/24 08:50	1
Oxidation Reduction Potential	143.4				millivolts			01/26/24 08:50	1
Oxygen, Dissolved	4.30				mg/L			01/26/24 08:50	1
Specific Conductance	1026				umhos/cm			01/26/24 08:50	1
Turbidity	5.90				NTU			01/26/24 08:50	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
MINIHAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_08

Date Collected: 01/26/24 08:20

Date Received: 01/26/24 11:45

Lab Sample ID: 500-245277-40

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.15	B	0.050	0.013	mg/L		01/31/24 08:07	02/06/24 19:24	1
Calcium	200		0.20	0.044	mg/L		01/31/24 08:07	02/06/24 19:24	1
Magnesium	48		0.20	0.049	mg/L		01/31/24 08:07	02/01/24 18:20	1
Potassium	8.2		0.50	0.11	mg/L		01/31/24 08:07	02/01/24 18:20	1
Sodium	130		0.20	0.077	mg/L		01/31/24 08:07	02/06/24 19:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	250		5.0	0.58	mg/L			02/06/24 16:07	5
Sulfate (EPA 300.0)	120		5.0	1.0	mg/L			02/06/24 16:07	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	510		5.0	3.7	mg/L			02/08/24 13:16	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			02/08/24 13:16	1
Total Dissolved Solids (SM 2540C)	1200		10	4.3	mg/L			01/29/24 03:53	1
Fluoride (SM 4500 F C)	0.083	J	0.10	0.056	mg/L			02/09/24 13:53	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	53.62				ft			01/26/24 08:20	1
Field pH	6.78				SU			01/26/24 08:20	1
Field Temperature	12.3				Degrees C			01/26/24 08:20	1
Oxidation Reduction Potential	101.3				millivolts			01/26/24 08:20	1
Oxygen, Dissolved	0.53				mg/L			01/26/24 08:20	1
Specific Conductance	1839				umhos/cm			01/26/24 08:20	1
Turbidity	0.97				NTU			01/26/24 08:20	1

Client Sample Results

APPENDIX A.
INITIAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_YSG_ILRIVER

Lab Sample ID: 500-245277-50

Date Collected: 01/22/24 14:20

Matrix: Water

Date Received: 01/26/24 11:45

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	22.07				ft			01/22/24 14:20	1

Definitions/Glossary

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
INITIAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
Job ID: 500-245277-14
JEN-250862
SDG: HEN_257_801

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Metals

Prep Batch: 751964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-15	HEN_16	Total Recoverable	Water	3005A	
500-245277-16	HEN_16_FD	Total Recoverable	Water	3005A	
500-245277-17	HEN_17	Total Recoverable	Water	3005A	
MB 500-751964/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-751964/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 752046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-28	HEN_05!R	Total Recoverable	Water	3005A	
500-245277-29	HEN_05&DR	Total Recoverable	Water	3005A	
500-245277-30	HEN_08&D	Total Recoverable	Water	3005A	
MB 500-752046/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-752046/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 752130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-34	HEN_40#S	Total Recoverable	Water	3005A	
500-245277-39	HEN_07	Total Recoverable	Water	3005A	
500-245277-40	HEN_08	Total Recoverable	Water	3005A	
MB 500-752130/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-752130/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 752304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-15	HEN_16	Total Recoverable	Water	6020B	751964
500-245277-16	HEN_16_FD	Total Recoverable	Water	6020B	751964
500-245277-17	HEN_17	Total Recoverable	Water	6020B	751964
MB 500-751964/1-A	Method Blank	Total Recoverable	Water	6020B	751964
LCS 500-751964/2-A	Lab Control Sample	Total Recoverable	Water	6020B	751964

Analysis Batch: 752468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-28	HEN_05!R	Total Recoverable	Water	6020B	752046
500-245277-29	HEN_05&DR	Total Recoverable	Water	6020B	752046
500-245277-30	HEN_08&D	Total Recoverable	Water	6020B	752046
500-245277-34	HEN_40#S	Total Recoverable	Water	6020B	752130
500-245277-39	HEN_07	Total Recoverable	Water	6020B	752130
500-245277-40	HEN_08	Total Recoverable	Water	6020B	752130
MB 500-752046/1-A	Method Blank	Total Recoverable	Water	6020B	752046
MB 500-752130/1-A	Method Blank	Total Recoverable	Water	6020B	752130
LCS 500-752046/2-A	Lab Control Sample	Total Recoverable	Water	6020B	752046
LCS 500-752130/2-A	Lab Control Sample	Total Recoverable	Water	6020B	752130

Analysis Batch: 752984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-15	HEN_16	Total Recoverable	Water	6020B	751964
500-245277-16	HEN_16_FD	Total Recoverable	Water	6020B	751964
500-245277-17	HEN_17	Total Recoverable	Water	6020B	751964
500-245277-28	HEN_05!R	Total Recoverable	Water	6020B	752046
500-245277-29	HEN_05&DR	Total Recoverable	Water	6020B	752046
500-245277-30	HEN_08&D	Total Recoverable	Water	6020B	752046

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QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Metals (Continued)

Analysis Batch: 752984 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-34	HEN_40#S	Total Recoverable	Water	6020B	752130
500-245277-39	HEN_07	Total Recoverable	Water	6020B	752130
500-245277-40	HEN_08	Total Recoverable	Water	6020B	752130
MB 500-751964/1-A	Method Blank	Total Recoverable	Water	6020B	751964
MB 500-752046/1-A	Method Blank	Total Recoverable	Water	6020B	752046
MB 500-752130/1-A	Method Blank	Total Recoverable	Water	6020B	752130
LCS 500-751964/2-A	Lab Control Sample	Total Recoverable	Water	6020B	751964
LCS 500-752046/2-A	Lab Control Sample	Total Recoverable	Water	6020B	752046
LCS 500-752130/2-A	Lab Control Sample	Total Recoverable	Water	6020B	752130

General Chemistry

Analysis Batch: 751719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-15	HEN_16	Total/NA	Water	SM 2540C	
500-245277-16	HEN_16_FD	Total/NA	Water	SM 2540C	
500-245277-17	HEN_17	Total/NA	Water	SM 2540C	
MB 500-751719/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-751719/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 751720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-28	HEN_05!R	Total/NA	Water	SM 2540C	
500-245277-29	HEN_05&DR	Total/NA	Water	SM 2540C	
500-245277-30	HEN_08&D	Total/NA	Water	SM 2540C	
500-245277-34	HEN_40#S	Total/NA	Water	SM 2540C	
500-245277-39	HEN_07	Total/NA	Water	SM 2540C	
500-245277-40	HEN_08	Total/NA	Water	SM 2540C	
MB 500-751720/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-751720/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 751763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-15	HEN_16	Total/NA	Water	SM 2320B	
500-245277-16	HEN_16_FD	Total/NA	Water	SM 2320B	
500-245277-17	HEN_17	Total/NA	Water	SM 2320B	
MB 500-751763/28	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-751763/29	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 752222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-28	HEN_05!R	Total/NA	Water	300.0	
500-245277-29	HEN_05&DR	Total/NA	Water	300.0	
500-245277-34	HEN_40#S	Total/NA	Water	300.0	
MB 500-752222/3	Method Blank	Total/NA	Water	300.0	
LCS 500-752222/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 752307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-15	HEN_16	Total/NA	Water	300.0	
500-245277-16	HEN_16_FD	Total/NA	Water	300.0	

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QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

General Chemistry (Continued)

Analysis Batch: 752307 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-17	HEN_17	Total/NA	Water	300.0	
MB 500-752307/3	Method Blank	Total/NA	Water	300.0	
LCS 500-752307/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 752534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-30	HEN_08&D	Total/NA	Water	300.0	
500-245277-39	HEN_07	Total/NA	Water	300.0	
MB 500-752534/3	Method Blank	Total/NA	Water	300.0	
LCS 500-752534/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 752833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-30	HEN_08&D	Total/NA	Water	300.0	
500-245277-40	HEN_08	Total/NA	Water	300.0	
MB 500-752833/3	Method Blank	Total/NA	Water	300.0	
LCS 500-752833/4	Lab Control Sample	Total/NA	Water	300.0	
500-245277-C-28 MS	500-245277-C-28 MS	Dissolved	Water	300.0	
500-245277-C-28 MSD	500-245277-C-28 MSD	Dissolved	Water	300.0	

Analysis Batch: 753401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-28	HEN_05!R	Total/NA	Water	SM 2320B	
500-245277-29	HEN_05&DR	Total/NA	Water	SM 2320B	
500-245277-30	HEN_08&D	Total/NA	Water	SM 2320B	
500-245277-34	HEN_40#S	Total/NA	Water	SM 2320B	
500-245277-39	HEN_07	Total/NA	Water	SM 2320B	
500-245277-40	HEN_08	Total/NA	Water	SM 2320B	
MB 500-753401/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-753401/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 753484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-15	HEN_16	Total/NA	Water	SM 4500 F C	
500-245277-16	HEN_16_FD	Total/NA	Water	SM 4500 F C	
500-245277-17	HEN_17	Total/NA	Water	SM 4500 F C	
500-245277-28	HEN_05!R	Total/NA	Water	SM 4500 F C	
500-245277-29	HEN_05&DR	Total/NA	Water	SM 4500 F C	
500-245277-30	HEN_08&D	Total/NA	Water	SM 4500 F C	
500-245277-34	HEN_40#S	Total/NA	Water	SM 4500 F C	
500-245277-39	HEN_07	Total/NA	Water	SM 4500 F C	
500-245277-40	HEN_08	Total/NA	Water	SM 4500 F C	
MB 500-753484/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-753484/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-753484/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-753484/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Field Service / Mobile Lab

Analysis Batch: 753002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-15	HEN_16	Total/NA	Water	Field Sampling	
500-245277-16	HEN_16_FD	Total/NA	Water	Field Sampling	
500-245277-17	HEN_17	Total/NA	Water	Field Sampling	
500-245277-28	HEN_05!R	Total/NA	Water	Field Sampling	
500-245277-29	HEN_05&DR	Total/NA	Water	Field Sampling	
500-245277-30	HEN_08&D	Total/NA	Water	Field Sampling	
500-245277-34	HEN_40#S	Total/NA	Water	Field Sampling	
500-245277-39	HEN_07	Total/NA	Water	Field Sampling	
500-245277-40	HEN_08	Total/NA	Water	Field Sampling	

Analysis Batch: 753107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-245277-50	HEN_YSG_ILRIVER	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

APPENDIX A.
Job ID: 500-245277-14
SDG: HEN_257_801

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-751964/1-A
Matrix: Water
Analysis Batch: 752304

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 751964

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20	0.044	mg/L		01/30/24 09:37	01/31/24 20:01	1
Magnesium	0.0659	J	0.20	0.049	mg/L		01/30/24 09:37	01/31/24 20:01	1
Potassium	<0.50		0.50	0.11	mg/L		01/30/24 09:37	01/31/24 20:01	1
Sodium	0.0938	J	0.20	0.077	mg/L		01/30/24 09:37	01/31/24 20:01	1

Lab Sample ID: MB 500-751964/1-A
Matrix: Water
Analysis Batch: 752984

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 751964

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050	0.013	mg/L		01/30/24 09:37	02/06/24 14:54	1

Lab Sample ID: LCS 500-751964/2-A
Matrix: Water
Analysis Batch: 752304

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 751964

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	10.0	8.00		mg/L		80	80 - 120
Magnesium	10.0	10.5		mg/L		105	80 - 120
Potassium	10.0	10.5		mg/L		105	80 - 120
Sodium	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: LCS 500-751964/2-A
Matrix: Water
Analysis Batch: 752984

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 751964

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.935		mg/L		93	80 - 120

Lab Sample ID: MB 500-752046/1-A
Matrix: Water
Analysis Batch: 752468

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 752046

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	<0.20		0.20	0.049	mg/L		01/30/24 17:00	02/01/24 15:50	1
Potassium	<0.50		0.50	0.11	mg/L		01/30/24 17:00	02/01/24 15:50	1
Sodium	<0.20		0.20	0.077	mg/L		01/30/24 17:00	02/01/24 15:50	1

Lab Sample ID: MB 500-752046/1-A
Matrix: Water
Analysis Batch: 752984

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 752046

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050	0.013	mg/L		01/30/24 17:00	02/06/24 17:37	1
Calcium	<0.20		0.20	0.044	mg/L		01/30/24 17:00	02/06/24 17:37	1

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

APPENDIX A.
Job ID: 500-245277-14
SDG: HEN_257_801

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-752046/2-A
Matrix: Water
Analysis Batch: 752468

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 752046

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	10.0	9.19		mg/L		92	80 - 120
Potassium	10.0	9.23		mg/L		92	80 - 120
Sodium	10.0	9.20		mg/L		92	80 - 120

Lab Sample ID: LCS 500-752046/2-A
Matrix: Water
Analysis Batch: 752984

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 752046

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.944		mg/L		94	80 - 120
Calcium	10.0	8.60		mg/L		86	80 - 120

Lab Sample ID: MB 500-752130/1-A
Matrix: Water
Analysis Batch: 752468

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 752130

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	<0.20		0.20	0.049	mg/L		01/31/24 08:07	02/01/24 17:31	1
Potassium	<0.50		0.50	0.11	mg/L		01/31/24 08:07	02/01/24 17:31	1
Sodium	0.169	J	0.20	0.077	mg/L		01/31/24 08:07	02/01/24 17:31	1

Lab Sample ID: MB 500-752130/1-A
Matrix: Water
Analysis Batch: 752984

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 752130

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0176	J	0.050	0.013	mg/L		01/31/24 08:07	02/06/24 18:39	1
Calcium	<0.20		0.20	0.044	mg/L		01/31/24 08:07	02/06/24 18:39	1

Lab Sample ID: LCS 500-752130/2-A
Matrix: Water
Analysis Batch: 752468

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 752130

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	10.0	8.80		mg/L		88	80 - 120
Potassium	10.0	9.01		mg/L		90	80 - 120
Sodium	10.0	8.92		mg/L		89	80 - 120

Lab Sample ID: LCS 500-752130/2-A
Matrix: Water
Analysis Batch: 752984

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 752130

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.914		mg/L		91	80 - 120
Calcium	10.0	8.33		mg/L		83	80 - 120

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
Job ID: 500-245277-14
SDG: HEN_257_801

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-752222/3
Matrix: Water
Analysis Batch: 752222

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0	0.12	mg/L			01/31/24 16:55	1
Sulfate	<1.0		1.0	0.21	mg/L			01/31/24 16:55	1

Lab Sample ID: LCS 500-752222/4
Matrix: Water
Analysis Batch: 752222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.2		mg/L		106	90 - 110
Sulfate	20.0	21.2		mg/L		106	90 - 110

Lab Sample ID: MB 500-752307/3
Matrix: Water
Analysis Batch: 752307

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.140	J	1.0	0.12	mg/L			02/01/24 11:00	1
Sulfate	<1.0		1.0	0.21	mg/L			02/01/24 11:00	1

Lab Sample ID: LCS 500-752307/4
Matrix: Water
Analysis Batch: 752307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.8		mg/L		109	90 - 110
Sulfate	20.0	20.9		mg/L		105	90 - 110

Lab Sample ID: MB 500-752534/3
Matrix: Water
Analysis Batch: 752534

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0	0.12	mg/L			02/03/24 11:20	1
Sulfate	<1.0		1.0	0.21	mg/L			02/03/24 11:20	1

Lab Sample ID: LCS 500-752534/4
Matrix: Water
Analysis Batch: 752534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.2		mg/L		101	90 - 110
Sulfate	20.0	19.9		mg/L		99	90 - 110

Lab Sample ID: MB 500-752833/3
Matrix: Water
Analysis Batch: 752833

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0	0.12	mg/L			02/06/24 11:49	1
Sulfate	<1.0		1.0	0.21	mg/L			02/06/24 11:49	1

Eurofins Chicago

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 500-752833/4
Matrix: Water
Analysis Batch: 752833

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.5		mg/L		102	90 - 110
Sulfate	20.0	20.0		mg/L		100	90 - 110

Lab Sample ID: 500-245277-C-28 MS
Matrix: Water
Analysis Batch: 752833

Client Sample ID: 500-245277-C-28 MS
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	77		50.0	124		mg/L		95	80 - 120

Lab Sample ID: 500-245277-C-28 MSD
Matrix: Water
Analysis Batch: 752833

Client Sample ID: 500-245277-C-28 MSD
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	77		50.0	124		mg/L		95	80 - 120	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-751763/28
Matrix: Water
Analysis Batch: 751763

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	3.7	mg/L			01/26/24 20:23	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	3.7	mg/L			01/26/24 20:23	1

Lab Sample ID: LCS 500-751763/29
Matrix: Water
Analysis Batch: 751763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	107		mg/L		107	90 - 110

Lab Sample ID: MB 500-753401/3
Matrix: Water
Analysis Batch: 753401

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	3.7	mg/L			02/08/24 10:58	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	3.7	mg/L			02/08/24 10:58	1

Lab Sample ID: LCS 500-753401/4
Matrix: Water
Analysis Batch: 753401

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	107		mg/L		107	90 - 110

Eurofins Chicago

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

APPENDIX A.
Job ID: 500-245277-14
SDG: HEN_257_801

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-751719/1
Matrix: Water
Analysis Batch: 751719

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	4.3	mg/L			01/29/24 01:47	1

Lab Sample ID: LCS 500-751719/2
Matrix: Water
Analysis Batch: 751719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	250	248		mg/L		99	80 - 120

Lab Sample ID: MB 500-751720/1
Matrix: Water
Analysis Batch: 751720

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	4.3	mg/L			01/29/24 02:54	1

Lab Sample ID: LCS 500-751720/2
Matrix: Water
Analysis Batch: 751720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	250	236		mg/L		94	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-753484/3
Matrix: Water
Analysis Batch: 753484

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			02/09/24 10:43	1

Lab Sample ID: MB 500-753484/31
Matrix: Water
Analysis Batch: 753484

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			02/09/24 12:56	1

Lab Sample ID: LCS 500-753484/32
Matrix: Water
Analysis Batch: 753484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.90		mg/L		99	90 - 119

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
SDG: HEN_257_801

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 500-753484/4				Client Sample ID: Lab Control Sample			
Matrix: Water				Prep Type: Total/NA			
Analysis Batch: 753484							
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.96		mg/L		100	90 - 119

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_16

Date Collected: 01/24/24 10:55

Date Received: 01/25/24 11:51

Lab Sample ID: 500-245277-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			751964	BDE	EET CHI	01/30/24 09:37 - 01/30/24 15:37 ¹
Total Recoverable	Analysis	6020B		1	752304	RN	EET CHI	01/31/24 21:07
Total Recoverable	Prep	3005A			751964	BDE	EET CHI	01/30/24 09:37 - 01/30/24 15:37 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 15:38
Total/NA	Analysis	300.0		5	752307	NMB	EET CHI	02/01/24 13:37
Total/NA	Analysis	SM 2320B		1	751763	SO	EET CHI	01/26/24 19:55
Total/NA	Analysis	SM 2540C		1	751719	CLB	EET CHI	01/29/24 02:33
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 11:16
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/24/24 10:55

Client Sample ID: HEN_16_FD

Date Collected: 01/24/24 10:55

Date Received: 01/25/24 11:51

Lab Sample ID: 500-245277-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			751964	BDE	EET CHI	01/30/24 09:37 - 01/30/24 15:37 ¹
Total Recoverable	Analysis	6020B		1	752304	RN	EET CHI	01/31/24 21:10
Total Recoverable	Prep	3005A			751964	BDE	EET CHI	01/30/24 09:37 - 01/30/24 15:37 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 15:41
Total/NA	Analysis	300.0		5	752307	NMB	EET CHI	02/01/24 13:52
Total/NA	Analysis	SM 2320B		1	751763	SO	EET CHI	01/26/24 20:04
Total/NA	Analysis	SM 2540C		1	751719	CLB	EET CHI	01/29/24 02:36
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 11:20
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/24/24 10:55

Client Sample ID: HEN_17

Date Collected: 01/24/24 11:55

Date Received: 01/25/24 11:51

Lab Sample ID: 500-245277-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			751964	BDE	EET CHI	01/30/24 09:37 - 01/30/24 15:37 ¹
Total Recoverable	Analysis	6020B		1	752304	RN	EET CHI	01/31/24 21:14
Total Recoverable	Prep	3005A			751964	BDE	EET CHI	01/30/24 09:37 - 01/30/24 15:37 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 15:45
Total/NA	Analysis	300.0		5	752307	NMB	EET CHI	02/01/24 14:39
Total/NA	Analysis	SM 2320B		1	751763	SO	EET CHI	01/26/24 20:13
Total/NA	Analysis	SM 2540C		1	751719	CLB	EET CHI	01/29/24 02:38
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 11:25
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/24/24 11:55

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_05!R

Date Collected: 01/25/24 15:50

Date Received: 01/26/24 11:45

Lab Sample ID: 500-245277-28

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			752046	MC	EET CHI	01/30/24 17:00 - 01/30/24 23:00 ¹
Total Recoverable	Analysis	6020B		1	752468	RN	EET CHI	02/01/24 16:39
Total Recoverable	Prep	3005A			752046	MC	EET CHI	01/30/24 17:00 - 01/30/24 23:00 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 17:55
Total/NA	Analysis	300.0		5	752222	W1T	EET CHI	01/31/24 21:28
Total/NA	Analysis	SM 2320B		1	753401	SO	EET CHI	02/08/24 11:29
Total/NA	Analysis	SM 2540C		1	751720	CLB	EET CHI	01/29/24 03:25
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 12:37
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/25/24 15:50

Client Sample ID: HEN_05&DR

Date Collected: 01/25/24 15:50

Date Received: 01/26/24 11:45

Lab Sample ID: 500-245277-29

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			752046	MC	EET CHI	01/30/24 17:00 - 01/30/24 23:00 ¹
Total Recoverable	Analysis	6020B		1	752468	RN	EET CHI	02/01/24 16:43
Total Recoverable	Prep	3005A			752046	MC	EET CHI	01/30/24 17:00 - 01/30/24 23:00 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 17:58
Total/NA	Analysis	300.0		5	752222	W1T	EET CHI	01/31/24 21:43
Total/NA	Analysis	SM 2320B		1	753401	SO	EET CHI	02/08/24 11:38
Total/NA	Analysis	SM 2540C		1	751720	CLB	EET CHI	01/29/24 03:27
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 12:41
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/25/24 15:50

Client Sample ID: HEN_08&D

Date Collected: 01/25/24 13:05

Date Received: 01/26/24 11:45

Lab Sample ID: 500-245277-30

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			752046	MC	EET CHI	01/30/24 17:00 - 01/30/24 23:00 ¹
Total Recoverable	Analysis	6020B		1	752468	RN	EET CHI	02/01/24 16:50
Total Recoverable	Prep	3005A			752046	MC	EET CHI	01/30/24 17:00 - 01/30/24 23:00 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 18:05
Total/NA	Analysis	300.0		5	752534	W1T	EET CHI	02/03/24 15:07
Total/NA	Analysis	300.0		20	752833	W1T	EET CHI	02/06/24 13:50
Total/NA	Analysis	SM 2320B		1	753401	SO	EET CHI	02/08/24 11:47
Total/NA	Analysis	SM 2540C		1	751720	CLB	EET CHI	01/29/24 03:30
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 12:46
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/25/24 13:05

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_40#S

Lab Sample ID: 500-245277-34

Date Collected: 01/25/24 14:15

Matrix: Water

Date Received: 01/26/24 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			752130	BDE	EET CHI	01/31/24 08:07 - 01/31/24 14:07 ¹
Total Recoverable	Analysis	6020B		1	752468	RN	EET CHI	02/01/24 17:55
Total Recoverable	Prep	3005A			752130	BDE	EET CHI	01/31/24 08:07 - 01/31/24 14:07 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 19:07
Total/NA	Analysis	300.0		5	752222	W1T	EET CHI	01/31/24 21:59
Total/NA	Analysis	SM 2320B		1	753401	SO	EET CHI	02/08/24 12:15
Total/NA	Analysis	SM 2540C		1	751720	CLB	EET CHI	01/29/24 03:37
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 13:11
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/25/24 14:15

Client Sample ID: HEN_07

Lab Sample ID: 500-245277-39

Date Collected: 01/26/24 08:50

Matrix: Water

Date Received: 01/26/24 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			752130	BDE	EET CHI	01/31/24 08:07 - 01/31/24 14:07 ¹
Total Recoverable	Analysis	6020B		1	752468	RN	EET CHI	02/01/24 18:16
Total Recoverable	Prep	3005A			752130	BDE	EET CHI	01/31/24 08:07 - 01/31/24 14:07 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 19:21
Total/NA	Analysis	300.0		5	752534	W1T	EET CHI	02/03/24 17:24
Total/NA	Analysis	SM 2320B		1	753401	SO	EET CHI	02/08/24 13:07
Total/NA	Analysis	SM 2540C		1	751720	CLB	EET CHI	01/29/24 03:50
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 13:48
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/26/24 08:50

Client Sample ID: HEN_08

Lab Sample ID: 500-245277-40

Date Collected: 01/26/24 08:20

Matrix: Water

Date Received: 01/26/24 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			752130	BDE	EET CHI	01/31/24 08:07 - 01/31/24 14:07 ¹
Total Recoverable	Analysis	6020B		1	752468	RN	EET CHI	02/01/24 18:20
Total Recoverable	Prep	3005A			752130	BDE	EET CHI	01/31/24 08:07 - 01/31/24 14:07 ¹
Total Recoverable	Analysis	6020B		1	752984	RN	EET CHI	02/06/24 19:24
Total/NA	Analysis	300.0		5	752833	W1T	EET CHI	02/06/24 16:07
Total/NA	Analysis	SM 2320B		1	753401	SO	EET CHI	02/08/24 13:16
Total/NA	Analysis	SM 2540C		1	751720	CLB	EET CHI	01/29/24 03:53
Total/NA	Analysis	SM 4500 F C		1	753484	SO	EET CHI	02/09/24 13:53
Total/NA	Analysis	Field Sampling		1	753002	DN	EET CHI	01/26/24 08:20

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

Job ID: 500-245277-14
SDG: HEN_257_801

Client Sample ID: HEN_YSG_ILRIVER

Lab Sample ID: 500-245277-50

Date Collected: 01/22/24 14:20

Matrix: Water

Date Received: 01/26/24 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Field Sampling		1	753107	DN	EET CHI	01/22/24 14:20

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q1

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-245277-14
JCH-250962
SDG: HEN_257_801

Laboratory: Eurofins Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Field Sampling		Water	Depth to Water (ft from MP)
Field Sampling		Water	Field pH
Field Sampling		Water	Field Temperature
Field Sampling		Water	Oxidation Reduction Potential
Field Sampling		Water	Oxygen, Dissolved
Field Sampling		Water	Specific Conductance
Field Sampling		Water	Turbidity
SM 2320B		Water	Bicarbonate Alkalinity as CaCO ₃
SM 2320B		Water	Carbonate Alkalinity as CaCO ₃

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Page 1 of 3



500-245277 COC

Temp = 2.6 → 2.1, 3.7 → 3.2,
1.8 → 2.3

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02/21/24

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ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
HEN-24Q1 Rev 2	Allison Belknap ABE	1/24/24	0700	<i>[Signature]</i> Elfin	1/24/24	1005				
	<i>[Signature]</i> R. J. Elfin	1/24/24	1220	<i>[Signature]</i> Scott	1/24/24	1220				

✓ HEN-257-801

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Page 1 of 3



Project No./ Lab I D.

DUPE

Temp: 4.4+3.9, 5.7+5.2, 5.6+5.1,
4.9+4.4

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500-245277


Page 2 HEN-257-801 3

Section C

Invoice Information

Company: Visira Corp-Hennepin		Report To: Brian Voelker		Attention: Dave McCoy				
Address: 13498 E 800th St		Copy To: Jason Stuckey Jason.Stuckey@visitracorp.com Sam Davies samantha.davies@visitracorp.com		Company Name: A3 Environmental		REGULATORY AGENCY		
Hennepin, IL 61327				Address: 3030 Warrenville Rd , Suite 418				
Email To: Brian.Voelker@VisiraCorp.com		Purchase Order No:		Warrenville, IL 60532		NPDES	GROUND WATER	DRINKING WATER
Phone: (217) 753-8911	Fax:	Project Name:		Project Manager:		UST	RCRA	OTHER
Requested Due Date/TAT: 10 day		Project Number: 50022619		Profile #:		Site Location	IL	
						STATE		

[illegible]

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER	ALLISON BELFLETT				
SIGNATURE of SAMPLER	DATE Signed (MM/DD/YY) 1/24/24 				

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

Section C

A2

Required Client Information:		Required Project Information:		Invoice Information:	
Company	Vistra Energy Corp-Hennepin	Report To:	Brian Voelker	Attention:	Dave McCoy
Address	13498 E 800th St Hennepin, IL 61327	Copy To	Jason Stuckey Jason.Stuckey@vistracorp.com Sam Davies samantha.davies@vistracorp.com	Company Name	A3 Environmental
Email To	Brian.Voelker@VistraCorp.com	Purchase Order No.		Address	3030 Warrenville Rd , Suite 418 Warrenville, IL 60532
Phone	(217) 753-8911	Project Name		Project Manager	
Requested Due Date/TAT	10 day	Project Number	50022619	Profile #:	
				HEN-257-801	
				REGULATORY AGENCY	
				NPDES GROUND WATER DRINKING WATER	
				UST RCRA OTHER	
				Site Location	
				STATE IL	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOL/SOLID SL OIL OL WPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test Y/N	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Project No./ Lab I.D.			
					DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol		Other	HEN-257-801	HEN-257-802	HEN-257-803	HEN-257-804	HEN-811-801	HEN-845-802-805	HEN-845-803	HEN-845-804	HEN-WPCP-EAST	HEN-WPCP-WEST	HEN_000_RAD			HEN_000		
	SAMPLE ID (A-Z, 0-9 /) Sample IDs MUST BE UNIQUE																																
	HEN-48																	X															
	HEN-49																																
	HEN-50				WT G	1/24/24																											
21	HEN-51				WT G	1/24/24	0900	8													X												
22	HEN-52				WT G	1/24/24	1025	6													X												
23/24	HEN-54				WT G	1/24/24	1357	12													X												
	HEN-55																																
	HEN-XPW01-pore																				X												
	HEN-XPW02-pore																				X												
	HEN-XPW03-pore																				X												
	HEN-XSG01																				X												
25	HEN-FB				WT G	1/24/24	11010											X			X				X	X		X					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
HEN-24Q1 Rev 2	Alison Beckert A3E	1/25/24	0700	Stephanie Hemminger EE1A	1/25/24	0740				
	Stephanie Hemminger EE1A	1/25/24	1151		1/25/24	1151				
SAMPLER NAME AND SIGNATURE							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER Alison Beckert										
SIGNATURE of SAMPLER Beckert							DATE Signed (MM/DD/YY) 1/24/24			

500-245277

[illegible]

CHAIN-OF-CUSTODY / Analytical Request Document

500-245277

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Vistra Corp-Hennepin	Report To:	Brian Voelker	Attention:	Dave McCoy
Address:	13498 E 800th St	Copy To:	Jason Stuckey Jason.Stuckey@vistracorp.com	Company Name:	A3 Environmental
Email To:	Brian.Voelker@vistracorp.com	Purchase Order No.:		Address:	3030 Warrenville Rd, Suite 418
Phone:	(217) 753-8911	Project Name:		Project Manager:	
Requested Due Date/TAT		10 day		Profile #:	

Section D Required Client Information		Valid Matrix Codes		Matrix		Sample IDs MUST BE UNIQUE (A-Z, 0-9 /)	
ITEM #		DATE		TIME		SAMPLE TEMP AT COLLECTION	
COLLECTED		DATE		TIME		# OF CONTAINERS	
UNPRESERVED		H ₂ SO ₄		HNO ₃		HCl	
PRESERVED		Na ₂ S ₂ O ₃		NaOH		Methanol	
Other							
Analysis Test 1		Y/N		Requested Analysis Filtered (Y/N)		Project No./Lab I.D.	
HEN-257-801						HEN_000	
HEN-257-802						HEN_000_RAD	
HEN-257-803						HEN-WPCP-WEST	
HEN-257-804						HEN-WPCP-EAST	
HEN-811-801						HEN-845-803	
HEN-845-802-805						HEN-845-804	
HEN-845-803						HEN-845-804	
HEN-845-804						HEN-845-804	
HEN-845-805						HEN-845-804	
HEN-845-806						HEN-845-804	
HEN-845-807						HEN-845-804	
HEN-845-808						HEN-845-804	
HEN-845-809						HEN-845-804	
HEN-845-810						HEN-845-804	
HEN-845-811						HEN-845-804	
HEN-845-812						HEN-845-804	
HEN-845-813						HEN-845-804	
HEN-845-814						HEN-845-804	
HEN-845-815						HEN-845-804	
HEN-845-816						HEN-845-804	
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HEN-845-823						HEN-845-804	
HEN-845-824						HEN-845-804	
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HEN-845-830						HEN-845-804	
HEN-845-831						HEN-845-804	
HEN-845-832						HEN-845-804	
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HEN-846-009						HEN-845-804	
HEN-846-010						HEN-845-804	
HEN-846-011						HEN-845-804	
HEN-846-012						HEN-845-804	
HEN-846-013						HEN-845-804	
HEN-846-014						HEN-845-804	
HEN-846-015						HEN-845-804	
HEN-846-016						HEN-845-804	
HEN-846-017						HEN-845	

500-245277

MPLE Allison Beckert
MPLE Beckert

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
HEN-257-801

Login Sample Receipt Checklist

Client: Vistra Energy Corp

Job Number: 500-245277-14

SDG Number: HEN_257_801

Login Number: 245277

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1,3.2,2.3,3.9,5.2,5.1,4.4,4.1,3.3,2.6,2.7,4.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: Hennepin	Client: Vistra	Start Date: 1-25-24	Time: 1115	Finish Date: 1/25/24	Time: 1225						
Project Number: 2024-004	Task #: AB/LF										
Field Personnel:											
WELL INFORMATION					EVENT TYPE						
Well ID: Hen-03R	Well Development	Low-Flow / Low Stress Sampling Other (Specify): Low Flow									
Transducer Serial #: 21615140	Well Volume Approach Sampling										
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (us/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
Purge	1115		35.85		3%	+1	3%	10%	10%	+10	cloudy
Purge	1120		35.85		15.0	7.36	878	1.56	16.76	66.8	
	1125		35.85		14.7	7.34	876	1.60	67.70	64.7	
	1130		35.85		14.4	7.33	876	1.51	31.53	58.8	
	1135		35.85		14.4	7.33	876	1.41	73.47	55.5	
	1140		35.89		14.6	7.33	877	1.39	16.80	50.0	
	1145		35.89		14.7	7.32	876	1.35	18.50	49.7	
	1150		35.89		15.1	7.32	877	1.29	12.46	49.1	
	1155		35.90		15.0	7.32	877	1.33	13.38	49.0	
	1200		35.90		15.0	7.31	877	1.26	11.98	47.3	
	1205		35.90		15.0	7.31	877	1.27	10.04	46.6	
	1210		35.91		15.0	7.31	877	1.28	8.97	46.5	
	1215	5 GAL	35.9		15.0	7.31	877	1.28	8.98	46.6	
NOTES (continued)											
Timed out at 1 hr. Sample at 1215											
Dupe Sample at 1225											

15 Bottles
15 Dupe Bottles
HAD to Run Pump at a Higher Pressure to Get Water to Pump, 125/150 PSI

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Vistra
Project Number: Task #: 2024.0054 Start Date: 1/25/24 Time: 1430
Field Personnel: ABJ/F Finish Date: 1/25/24 Time: 1010

WELL INFORMATION

Well ID: HEN-051R
Transducer Serial #: N/A
Well Development: Well Volume Approach Sampling
EVENT TYPE: Low-Flow / Low Stress Sampling Other (Specify): Low Flow

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
0 purg	1440	0	41.00	41.00	3%	+1	852	0.88	10%	+10	clear
5 purg	1511	1	41.00	41.00	14.6	7.70	851	1.08	40.48	124.8	clear
15	1516	2	41.00	41.00	14.7	7.70	851	0.85	39.70	121.0	clear
20	1521	2	41.00	41.00	14.9	7.69	853	0.83	25.99	114.4	clear
25	1526		41.00	41.00	14.9	7.69	852	1.13	14.91	116.2	clear
30	1531		41.00	41.00	15.0	7.69	854	1.03	12.91	104.7	murky
35	1536		41.00	41.00	15.1	7.69	856	0.94	11.80	104.0	clear
40	1541	3.5	41.00	41.00	15.1	7.69	857	1.02	5.21	161.4	clear
45	1546		41.00	41.00	15.2	7.69	851	0.96	8.54	100.0	clear
50	1550		41.00	41.00	15.2	7.69			4.55	98.7	clear

NOTES (continued)

Sampled @ 1550

*bladder

pumped air into YST, but

11 bottles

still stabilized

* took 30 min to get water out of wen (use high pressure)

ABBREVIATIONS

Cond - Actual Conductivity
FI STOC - Feet Below Top of Casing 1st -
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units

PROJECT INFORMATION

25 30 35 40 45 50 55 60

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: Hennepin	Client: Vistra										
Project Number: Task #: 2024-0054	Start Date: 1/20/24	Time: 0800									
Field Personnel: AB/LF	Finish Date: 1/20/24	Time: 0850									
WELL INFORMATION			EVENT TYPE								
Well ID: HEN-02	Well Development	Low-Flow / Low Stress Sampling Other (Specify): Low Flow									
Transducer Serial #: 21015139	Well Volume Approach Sampling										
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (milli)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
pre	800	0	68.7		3%	+1	1025	4.66	2.37	+10	
10	805		68.7		9.9	6.99	1037	4.40	3.97	144.2	
15	810		68.7		10.1	6.97	1035	4.35	1.03	141.3	
20	815		68.7		10.1	6.97	1034	4.33	1.07	138.7	
25	820		68.7		10.1	6.97	1029	4.33	3.26	137.8	
30	825		68.7		10.0	6.97	1026	4.23	8.70	136.8	
35	830		68.7		10.0	6.97	1027	4.30	6.80	139.7	
40	835		68.7		10.0	6.97	1030	4.33	6.45	141.7	
45	840		68.7		10.0	6.97	1026	4.30	5.90	143.4	
50	845		68.7								
	850		68.7								
NOTES (continued)										ABBREVIATIONS	
sampled @ 0850										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units	

15 bottles

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: <u>Hennepin</u>	Client: <u>Vistra</u>	Task #: <u>2024.0054</u>	Start Date: <u>1/25/24</u>	Time: <u>12:15</u>	Finish Date: <u>1/25/24</u>	Time: <u>1325</u>					
Project Number: <u>AB/LF</u>	Field Personnel: <u>AB/LF</u>										
WELL INFORMATION					EVENT TYPE						
Well ID: <u>HEN-0800</u>					Well Development						
Transducer Serial #: <u>21015598</u>					Well Volume Approach Sampling						
Low-Flow / Low Stress Sampling Other (Specify): <u>Low Flow</u>											
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
<u>pre</u>	<u>1223</u>	<u>0</u>	<u>54.09</u>		<u>3%</u>	<u>7.21</u>	<u>3%</u>	<u>10%</u>	<u>10%</u>	<u>+10</u>	<u>clear</u>
<u>purge</u>	<u>1225</u>		<u>54.09</u>		<u>10.8</u>	<u>7.21</u>	<u>1799</u>	<u>9.32</u>	<u>5.04</u>	<u>104.4</u>	<u>u</u>
	<u>1230</u>		<u>54.09</u>		<u>11.9</u>	<u>7.77</u>	<u>2244</u>	<u>3.98</u>	<u>2.97</u>	<u>102.7</u>	<u>u</u>
	<u>1235</u>	<u>1</u>	<u>54.09</u>		<u>12.4</u>	<u>7.71</u>	<u>2343</u>	<u>4.94</u>	<u>5.01</u>	<u>45.0</u>	<u>u</u>
	<u>1240</u>		<u>54.09</u>		<u>12.4</u>	<u>7.70</u>	<u>2390</u>	<u>0.90</u>	<u>5.18</u>	<u>91.2</u>	<u>u</u>
	<u>1245</u>		<u>54.09</u>		<u>12.5</u>	<u>7.69</u>	<u>2396</u>	<u>0.72</u>	<u>5.06</u>	<u>89.4</u>	<u>u</u>
	<u>1250</u>		<u>54.09</u>		<u>12.4</u>	<u>7.69</u>	<u>2896</u>	<u>0.50</u>	<u>5.23</u>	<u>87.5</u>	<u>u</u>
	<u>1255</u>		<u>54.09</u>		<u>12.4</u>	<u>7.69</u>	<u>2393</u>	<u>0.51</u>	<u>5.04</u>	<u>86.8</u>	<u>u</u>
	<u>1300</u>	<u>2.5</u>	<u>54.09</u>		<u>12.5</u>	<u>7.69</u>	<u>2389</u>	<u>0.50</u>	<u>4.40</u>	<u>86.7</u>	
NOTES (continued)					ABBREVIATIONS						
10 bottles					Cond. - Actual Conductivity FI BTGC - Feet Below Top of casing in - ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units						
air is being											

hair is being pumped through yst from bladder, but still stabilized

Sampled @ 1305

Unpres.
sulf. acid
Hyd. acid
sod. hyd
Nitric

PROJECT INFORMATION

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin

Project Number2024-0054

Field Personnel: AB/LF

Client: Vistra

Start Date: 1/24/24

Finish Date: 1/24/24

Task #:

Time: 1510

Time: 1600

WELL INFORMATION

Well ID: hen-10

Transducer Serial #: N/A

EVENT TYPE

Well Development

Well Volume Approach Sampling

Low-Flow / Low Stress Sampling Other (Specify) Low Flow

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
Pcp 15310			50.71		3%	+1					
Purple 1515			50.71		14.2	7.17	950	3.52	10%	+10	clear
1520			50.71		13.5	7.16	945	3.85	.55	179.6	
1525			50.71		13.8	7.15	945	4.01	.83	176.6	
1530			50.71		14.0	7.15	943	4.05	.83	172.7	
1535			50.71		14.1	7.15	944	3.97	.75	172.7	
1540			50.71		14.1	7.15	945	3.93	.69	176.2	
1545			50.71		14.3	7.16	944	3.93	.66	176.5	
1550			50.71		14.3	7.15	944	3.89	.59	176.9	
1555			50.71		14.3	7.15	945	3.82	.58	177.9	
1600			50.71	45A1	14.0	7.15	946	3.81	.56	178.0	
	</										

Sulphuric Acid
Nitric acid
Sodium Hydrox.
Sulfuric Acid
Hydrochloric Acid

Sample at 1600
13 Bottles

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

[illegible]

Sampled @ 1155

Cond. 77	Fluoride
air being pumped through bladder, but still stabilized	

13 bottles

Nitric
Sulfuric
Soa Hyd

[illegible]

Sulfuric
Nitric
80d. Hyd.

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

[illegible]

12 bottles

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: Hennepin	Client: Vistra										
Project Number: 2024-054	Task #: 1724/24	Time: 1110									
Field Personnel: LF/AB	Start Date: 1/24/24	Finish Date: 1/24/24	Time: 1155								
WELL INFORMATION			EVENT TYPE								
Well ID: Hen-17	Well Development: Well Volume Approach Sampling	Well ID: 2615500	Low-Flow / Low Stress Sampling Other (Specify): Low Flow								
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
Pre	1110		58.90		3%	6.96	1107	3.09	5.76	127.9	1/201
Pre	1110		58.90		14.3	6.96	1114	3.02	2.47	128.7	
	1115		58.90		14.0	6.96	1111	2.92	2.30	179.1	
	1120		58.90		14.0	6.96	1112	2.94	1.69	131.2	
	1125		58.90		13.9	6.97	1109	2.97	3.17	133.5	
	1130		58.90		14.1	6.99	1091	3.56	2.34	135.6	
	1135		58.90		13.9	6.97	1107	3.41	2.17	139.2	
	1140		58.90		14.1	6.97	1110	3.38	2.46	141.3	
	1145		58.90		14.0	6.97	1109	3.34	2.048	142.8	
	1150		58.90		14.1	6.99	1110	3.32	2.49	142.7	
	1155	3.56 gal	58.90		14.1						
NOTES (continued)											
Bladder Pump / Clear / No Color / No odor											
Sample @ 1155 / Air Bubbles in water Line & YSI											

ABBREVIATIONS

ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units

□ □ □ □

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: Hennepin	Client: Vista	Start Date: 1/25/24	Time: 1355								
Project Number: 2024-0037	Task #: AB/LF	Finish Date: 1/25/24	Time: 1440								
Field Personnel:											
WELL INFORMATION				EVENT TYPE							
Well ID: HEN-18011P	Well Development: Well Volume Approach Sampling	Low-Flow / Low Stress Sampling Other (Specify): Low Flow									
Transducer Serial #: 21615009											
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond (us/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
Pre	1355		40.50		3%	+1	861	10%	10%	+10	
Purge	1355		40.50		13.6	7.29	859	1.22	25.28	36.6	
	1400		40.50		14.1	7.29	859	1.14	31.24	37.5	
	1405		40.53		14.2	7.29	861	1.07	35.00	35.4	
	1410		40.53		14.2	7.29	859	1.10	42.82	22.7	
	1415		40.53		14.1	7.30	859	1.10	30.29	4.1	
	1420		40.54		14.1	7.30	858	1.05	29.60	-14.7	
	1425		40.54		14.3	7.29	857	1.02	34.29	-14.0	
	1430		40.54		14.5	7.29	858	1.02	29.22	-12.6	
	1435		40.55		14.5	7.29	856	.97	28.40	-11.7	
	1440	3.56 gal	40.55		14.5	7.29	856	.95	28.20	-10.5	
NOTES (continued)										ABBREVIATIONS	
Sample at 1440										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units	
15 BOTTLES											

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PROJECT INFORMATION											
Site:	Hemipin	Client:	Vistra								
Project Number:	Task # 2024-0054	Start Date:	1/23/24	Time:	12:00						
Field Personnel:	AB/LF	Finish Date:	1/23/24	Time:	1305						
WELL INFORMATION		EVENT TYPE									
Well ID:	HEN-ZIR	Well Development		Low-Flow / Low Stress Sampling Other (Specify): Low Flow							
Transducer Serial #: Z16151013		Well Volume Approach Sampling									
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
PVE	1202		5.33		3%	+1	3%	10%	10%	+10	MURKY,
	12015		5.39		11.1	7.59	112.1	1.82	170.10	-188.4	"
	1220	1.5	5.35		10.3	7.59	112.5	0.97	135.42	-180.4	"
	1225		5.3		10.2	7.59	112.2	1.26	131.83	-180.0	"
	1230		5.38		10.01	7.59	112.1	1.35	132.90	-178.7	"
	1235		5.38		10.01	7.59	112.1	1.38	130.21	-179.7	"
	1240										
NOTES (continued)		ABBREVIATIONS									
Sampled @ 1240		* Well/bladder may be damaged ↳ Sending air through									

- * Well/bladder may be damaged
 - ↳ Sending air through YCI, but was still stable

Sampled @ 1240

MS/MS

PROJECT INFORMATION											
Site: Hemnepin		Client: Vista		Start Date: 1/23/24		Time: 1:10					
Project Number: 2024-0054		Task #: 1535		Field Personnel: AB/LF		Finish Date: 1/23/24		Time: 1535			
WELL INFORMATION				EVENT TYPE							
Well ID: HEN-22				Well Development				Low-Flow / Low Stress Sampling Other (Specify): Low Flow			
Transducer Serial #: 21015497				Well Volume Approach Sampling							
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
Pre	1440		17.95		3%	+1	935	10%	10%	+10	Clear
Purge	1440		17.95		13.1	7.63	935	300	4.00	77.2	
	1445		17.95		13.8	7.64	936	0.34	5.58	66.8	
	1450		17.95		14.1	7.65	935	0.21	10.58	57.9	
	1455		17.95		14.0	7.66	935	0.16	8.80	51.9	
	1500		17.95		14.00	7.67	934	0.12	13.69	46.5	
	1505		17.95		14.2	7.66	933	0.10	20.74	41.3	
	1500		17.95		14.2	7.66	933	0.10	19.76	37.4	
	1515	36AL	17.95		14.1	7.66	935	0.10	19.94	36.3	

PROJECT INFORMATION											
Site: Hemetpin	Client: Vista	Task #: 2024.0054	Start Date: 1/24/24	Time: 0750	Finish Date: 1/24/24	Time: 0852					
Project Number:	Field Personnel:	AB/LF									
WELL INFORMATION			EVENT TYPE								
Well ID: HEN-23	Well Development		Low-Flow / Low Stress Sampling Other (Specify): Low Flow								
Transducer Serial #: 21015000	Well Volume Approach Sampling										
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
PRE	0800	0	10.48		3%	4.1	3%	10%	10%	+10	Clear
Large	0805		10.02		12.1	7.58	1152	1.57	10.0	-120.1	"
	0810		10.00		12.1	7.51	1150	0.22	5.93	-151.9	"
	0815	1.5	10.05		11.0	7.58	1145	0.14	4.79	-154.4	"
	0820		10.62		11.3	7.58	1133	0.13	4.47	-152.9	"
	0825		10.58		11.4	7.57	1134	0.11	5.02	-148.2	"
	0830		10.00		11.5	7.50	1133	0.12	4.09	-144.9	"
	0835	2.5	10.00		11.4	7.50	1134	0.11	6.25	-145.9	"
NOTES (continued)										ABBREVIATIONS	
Sampled @ 0835										Cond. - Actual Conductivity FT BTOC - Feet Below Top of Casing na - ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units	

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: <u>Hennepin</u>		Client: <u>Visira</u>									
Project Number: <u>2024.005</u>		Start Date: <u>11/23/24</u>		Time: <u>0945</u>							
Field Personnel: <u>ABJ.F</u>		Finish Date: <u>11/23/24</u>		Time: <u></u>							
WELL INFORMATION					EVENT TYPE						
Well ID: <u>HEN-27</u>					Well Development						
Transducer Serial #: <u>21015576</u>					Well Volume Approach Sampling						
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
0 PK2	0949	0	3.76		3%	+1	3%	10%	10%	+10	
5 PK2	0950		3.77		9.1	7.37	1059	1.50	12.58	71.8	Clear
10	0955	0.15	3.77		9.5	7.26	1079	0.15	10.19	13.0	
15	1000		3.77		9.7	7.25	1087	-0.17	69.90	-25.2	
20	1005		3.77		9.7	7.25	1088	-0.21	70.71	-24.2	
25	1010	1	3.77		9.9	7.25	1088	-0.26	40.75	-38.0	
30	1015		3.77		9.7	7.25	1088	-0.29	46.85	-45.5	
35	1020	1.5	3.77		9.7	7.25	1088	-0.30	32.37	-48.7	
40	1025		3.77		9.8	7.25	1088	-0.31	24.54	-52.4	
45	1030		3.77		9.8	7.25	1089	-0.32	16.42	-57.5	
50	1035	2.5	3.77		9.9	7.25	1088	-0.32	18.51	-11.2	
55	1040	2.5	3.77		9.8	7.25	1087	-0.33	18.22	-62.0	
60	1045	3	3.77		9.7	7.25	1089	-0.30	18.13	-65.4	
NOTES (continued)										ABBREVIATIONS	
<p>Sampled @ 1045</p> <p>did not stabilize until 1045 minutes?</p>										<p>Cond - Actual Conductivity F1B10C - Feet Below Top of Casing (m) ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units</p>	

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: <u>Hennepin</u>	Client: <u>Vistra</u>										
Project Number: <u>2023004</u>	Task #: <u>2024.0054</u>	Start Date: <u>1/23/24</u>	Time: <u>0815</u>								
Field Personnel: <u>AB/LF</u>	Finish Date: <u>1/23/24</u>	Time: <u>0940</u>									
WELL INFORMATION				EVENT TYPE							
Well ID: <u>HEN-32</u>	Well Development: <u>Well Volume Approach Sampling</u>	Low-Flow / Low Stress Sampling Other (Specify): <u>Low Flow</u>									
Transducer Serial #: <u>21015487</u>											
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
PRE	0840	0.15	4.50		3%	+1	1012	1.43	140.00	179.0	1000
05	0844		4.44		10.4	7.17	1011	0.08	87.20	170.7	murky
10	0849	1	4.08		10.7	7.10	1000	0.33	72.78	172.0	
15	0854		4.00		10.7	7.10	1001	0.07	54.83	145.9	
20	0859	1.25	4.00		10.8	7.10	1002	0.01	47.03	103.0	
25	0904		4.00		10.8	7.10	999	-0.04	37.19	159.8	
30	0909	3	4.00		10.8	7.15	999	-0.05	30.09	158.3	
35	0914		4.00		10.2	7.10	998	-0.03	29.80	153.0	
40	0919		4.00		10.1	7.10	999	-0.08	30.01	157.5	
45	0924		4.00		10.2	7.10	1001	-0.07	29.73	157.1	
50	0929	4.5	4.00								
55											
60											
NOTES (continued)											
sampled @ 0930											
ABBREVIATIONS											
Cond - Actual Conductivity F1 B10C - Feet Below Top of Casing n.s. - ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units											

PROJECT INFORMATION											
Site: Hennepin	Client: Vistra	Start Date: 1/23/24	Time: 1305	Finish Date: 1/23/24	Time: 1357						
Project Number: 2024.0054	Task #: AB/LF										
Field Personnel:											
WELL INFORMATION		EVENT TYPE									
Well ID: HEN-35	Well Development		Low-Flow / Low Stress Sampling Other (Specify): Low Flow								
Transducer Serial #: 21U15510	Well Volume Approach Sampling										
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
Purge	1310	0	7.90		3%	+1	3%	10%	10%	+10	Brown/oxid
	1315		7.90		11.3	7.13	796	0.54	39.42	40.8	"
	1320		7.91		11.3	7.11	806	0.08	13.75	36.1	"
	1325	1	7.92		11.4	7.11	818	-0.06	10.71	33.1	"
	1330		7.91		11.4	7.10	839	-0.13	7.49	30.7	"
	1335		7.90		11.4	7.10	842	-0.15	5.91	29.5	Cloudy
	1340	2.5	7.90		11.5	7.10	856	-0.17	5.92	28.5	"
NOTES (continued)										ABBREVIATIONS	
Sampled @ 1340										Cond. - Actual Conductivity ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductivity FT BTDC - Feet Below Top of Casing na - Standard Units	

Sampled @ 1340

dup

PROJECT INFORMATION											
Site:	Hennepin	Vista									
Project Number:	Task #:	Start Date:	Time:								
Field Personnel:	AB/LF	Finish Date:	Time:								
WELL INFORMATION			EVEN TYPE								
Well ID:	Low-Flow / Low Stress Sampling Other (Specify): Low Flow										
Transducer Serial #:											
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond (µscm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
Prel	1338	b	40.36		3%	+1	777	8.33	10%	+10	CLEAR
Burge	1342		40.36		13.1	8.03	777	8.33	3.86	122.5	" "
	1347		40.36		14.6	7.96	782	0.24	1.40	93.7	" "
	1352	1	40.36		15.0	7.96	784	0.24	1.28	93.5	" "
	1357		40.36		15.0	7.94	785	0.16	0.87	87.3	" "
	1402		40.36		14.9	7.94	784	0.09	0.26	81.6	" "
	1407		40.36		14.9	7.94	784	0.08	0.48	78.3	" "
	1412	2.5	40.36		15.0	7.94	784	0.09	0.91	74.4	" "
NOTES (continued)											
ABBREVIATIONS											
Cond - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Conductance SU - Standard Units											
ORP - Oxidation-Reduction Potential SEC - Specific Electrical											

Sampled @ 1415

Sampled @ 1415

11 bottles

Sulf. acid
Nit. acid
Socn. Hyd.

Sheen on water in bucket

PROJECT INFORMATION											
Site:	Hemepin	Client:	Vistra								
Project Number:	Task # 2024.0854	Start Date:	1/24/24	Time:	12:25						
Field Personnel:	AB/LF	Finish Date:	1/24/24	Time:	13:10						
WELL INFORMATION		EVENT TYPE									
Well ID:	Hen-Ho 21015491		Low-Flow / Low Stress Sampling Other (Specify): Low Flow								
Transducer Serial #:											
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
Per	1225		51.61		3%	+1	3%	10%	10%	+10	clear
Purge	1225		51.61		14.2	7.35	846	2.45	1.33	136.7	
	1230		51.61		13.6	7.36	842	2.41	1.19	135.0	
	1233		51.61		14.5	7.36	849	2.37	1.06	131.4	
	1240		51.61		14.4	7.35	848	2.35	.79	129.9	
	1245		51.61		14.5	7.35	849	2.33	.90	128.3	
	1250		51.61		14.7	7.35	847	2.31	.77	127.1	
	1255		51.61		14.4	7.35	847	2.29	.70	124.5	
	1300		51.61		14.6	7.35	847	2.28	.75	122.5	
	1305		51.61		14.6	7.35	848	2.26	.72	120.0	
	1310	46gal	51.61		14.6	7.35	848	2.27	.70	118.5	
NOTES (continued)											
ABBREVIATIONS											
Cond - Actual Conductivity ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units FT BTOC - Feet Below Top of Casing na -											

Sample @ 1310

Sample at 1430
6 Bottles

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: Hennepin		Client: Vistra									
Project Number:		Task #: AB/LF		Start Date: 1/23/24		Time: 1520					
Field Personnel:				Finish Date: 1/23/24		Time: 1040					
WELL INFORMATION				EVENT TYPE							
Well ID: HEN-49				Low-Flow / Low Stress Sampling Other (Specify): Low Flow							
Transducer Serial #: 21029307				Well Development Well Volume Approach Sampling							
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C)	pH (SU)	SEC or Cond. (us/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
0	1530	0	21.25		3%	+1	1028	10%	10%	+10	clear
5	1533		21.25		11.6	7.33	1028		73.75	40.0	"
10	1538	0.25	21.25		9.8	7.21	1014	2.128	69.100	40.2	"
15	1543		21.25		8.7	7.20	1057	1.104	86.14	40.10	"
20	1548		21.25		9.1	7.18	1032	1.88	110.27	51.8	"
25	1553		21.25		12.9	7.16	1055	0.63	73.88	48.6	"
30	1558	1.5	21.25		13.1	7.14	1053	0.19	72.81	46.3	cloudy
35	1603		21.25		13.1	7.16	1052	0.16	69.98	45.3	"
40	1608	2	21.25		13.0	7.16	1054	0.16	80.02	44.3	"
<p>NOTES (continued)</p> <p>Sampled @ 1610</p> <p>0.17</p>											
ABBREVIATIONS											
<p>Cond - Actual Conductivity FTBDC - Feet Below Top of Casing na - Conductance SU - Standard Units</p> <p>ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units</p>											

Possible Diaphragm Problem, A Lot of air Bubbles in water line.

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: <u>Hennepin</u>		Client: <u>Visita</u>		Start Date: <u>1.24.24</u>		Time: <u>8:20</u>					
Project Number: <u>2024 00064</u>		Finish Date: <u>1/24/24</u>		Time: <u>0820</u>		Time: <u>900</u>					
Field Personnel: <u>AB/LF</u>		Well ID: <u>HEN-51</u>		Well Development		Well Volume Approach Sampling		EVENT TYPE			
Transducer Serial #: <u>21615008</u>		Low-Flow / Low Stress Sampling Other (Specify): <u>Low Flow</u>									
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
Purge	820		17.81		9.5	7.36	1087	2.15	41.66	-106.7	Cloudy
	825		17.95		9.7	7.37	1091	1.37	41.69	-128.6	
	830		17.95		9.9	7.40	1094	0.39	110.07	-156.8	
	835		17.95		10.1	7.41	1094	0.17	133.17	-165.0	
	840		17.85		10.0	7.42	1094	0.04	135.14	-171.2	
	845		17.95		9.9	7.42	1094	0.01	125.14	-174.0	
	850		17.95		9.8	7.43	1093	-0.06	111.37	-176.4	
	855		17.95		9.8	7.43	1093	-0.06	110.73	-177.0	
	900		17.95	36AL	9.9	7.42	1094	-0.06	109.77	-178.2	
NOTES (continued)											
<p>Sample at 900</p> <p>8 bottles</p>											
ABBREVIATIONS											
<p>Cond - Actual Conductivity</p> <p>FT BTDC - Feet Below Top of Casing</p> <p>ORP - Oxidation-Reduction Potential</p> <p>SEC - Specific Electrical Conductance</p> <p>SU - Standard Units</p>											

PROJECT INFORMATION											
Site:	Hennepin	Client:	Vistra	Start Date:	1/24/24	Time:	1000				
Project Number:	2024-0054	Task #:		Finish Date:	1/24/24	Time:	1025				
Field Personnel:	AB/LF										
WELL INFORMATION				EVENT TYPE							
Well ID:	Hen-52	Well Development		Low Flow / Low Stress Sampling Other (specify): Low Flow							
Transducer Serial #:	21615145	Well Volume Approach Sampling									
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
Pre	1000		53.95		3%	+1	3%	10%	10%	+10	Clear
Burge	1000		53.95		13.4	7.17	962	4.60	15.12	92.9	
	1005		53.95		13.9	7.16	966	3.61	5.08	90.1	
	1010		53.95		13.9	7.16	966	3.61	3.75	89.8	
	1015		53.95		13.9	7.16	966	3.62	2.44	89.3	
	1020		53.95		13.9	7.15	966	3.61	2.01	89.7	
	1025		53.95		13.9	7.15	966	3.61	1.97	89.8	
NOTES (continued)								ABBREVIATIONS			
Sample one at 1025								Conc - Actual Conductivity RT BIOC - Feet Below Top of Casing m. ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units			

Sampling at 1025

6 Bottles	no Filter Samples
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PROJECT INFORMATION											
Site:	Hennepin	Client:	Vistra	Task #:	Start Date:	Time:					
Project Number:		Field Personnel:	AB/LF		Finish Date:						
						Low-Flow / Low Stress Sampling Other (specify): Low Flow					
EVENT TYPE											
Well ID: HENL-SH Transducer Serial #: 21015143											
WELL DEVELOPMENT											
Well Volume Approach Sampling											
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
PFE	1324	0	53.21		3%	+1	3%	10%	10%	+10	Clear
Purge	1825	1330	53.20		13.4	7.53	814	6.78	5.12	75.3	"
	1335		53.20		14.1	7.36	869	2.22	7.19	58.7	"
	1340		53.21		14.2	7.36	869	1.94	7.43	53.3	"
	1345		53.20		14.3	7.36	870	1.84	6.59	48.7	"
	1350		53.20		14.4	7.35	871	1.08	5.55	44.3	"
	1355		53.20		14.4	7.35	873	1.05	4.28	39.8	"
NOTES (continued)							ABBREVIATIONS				
Sampled @ 1357 dupe!							Cond - Actual Conductivity				
							RT BDOC - Feet Below Top of Casing na-				
							ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units				

(12 bottles (inc. dwp))

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION										
Site: Hennepin	Client: Vista									
Project Number: 2024.0054	Task #: 125/24	Start Date: 12/5/24	Time: 0750							
Field Personnel: AB/LF	Finish Date: 1/25/24	Time: 0900								
WELL INFORMATION				EVENT TYPE						
Well ID: HEN-XP001-Pore	Well Development	Low-Flow / Low Stress Sampling Other (Specify): Low Flow								
Transducer Serial #: N/A	Well Volume Approach Sampling									
WATER QUALITY INDICATOR PARAMETERS (continued)										
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
PUR	0752		10.50	3%	+1	1080	0.53	10%	+10	1000
PURGE	0755		10.51	14.5	11.44	1080	0.53	5.75	-146.1	1000
	0800	0.850	10.50	13.9	11.47	1081	0.10	4.30	-177.7	1000
	0805		10.51	14.2	11.40	1082	-0.05	1.33	-213.0	1000
	0810	1.25	10.52	14.1	11.47	1085	-0.07	12.11	-721.5	1000
	0815		10.52	14.0	11.47	1090	-0.07	7.08	-229.2	1000
	0820	2.0	10.52	14.1	11.47	1093	0.01	9.04	-233.5	1000
	0825		10.52	14.2	11.47	1097	-0.07	12.40	-237.8	1000
	0830	2.5	10.51	14.3	11.48	1104	-0.07	18.99	-251.5	1000
	0835		10.52	13.9	11.49	1109	-0.18	11.22	-253.7	1000
	0840		10.52	14.4	11.48	1116	-0.18	12.20	-257.5	1000
	0845	3.0	10.52	14.4	11.48	1113	-0.18	11.89	-259.9	1000
	0850									
	0855									
NOTES (continued)										
Sampled 0845										
* Water smelled like sulfur & had a sheen										
10 bottles										
no dedicated bladder										
* Used peristaltic pump										
ABBREVIATIONS										
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units										

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[illegible]

in bottles

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION											
Site: Hennepin	Client: Vistra	Task #: 2024.0054	Start Date: 1/25/24	Time: 0950							
Project Number:	AB/LF	Finish Date: 1/25/24	Time: 1100								
Field Personnel:											
WELL INFORMATION					EVENT TYPE						
Well ID: HEN-XPW03-Pore	Well Development	Low-Flow / Low Stress Sampling Other (Specify): Low Flow									
Transducer Serial #: N/A	Well Volume Approach Sampling										
WATER QUALITY INDICATOR PARAMETERS (continued)											
Sampling Stage	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
0 pre	0954	0	6.10		3%	+1	1038	2.48	10%	+10	clear
5 purge	0956		6.27		11.3	11.95	1597	0.07	3.49	-52.1	"
10	1001		6.24		11.5	11.91	1597	0.38	1.31	-64.5	"
15	1006	1	6.25		11.5	11.92	1594	0.20	1.21	-74.9	"
20	1011		6.25		11.5	11.92	1598	0.09	1.16	-78.1	"
25	1016		6.25		11.4	11.93	1598	0.09	1.59	-82.3	"
30	1021		6.25		11.3	11.93	1598	0.09	1.13	-84.4	"
35	1026	2.5	6.25		11.4	11.93	1598	0.08	1.00	-85.7	"
NOTES (continued)										ABBREVIATIONS	
Sampled @ 1030										Cond. - Actual Conductivity FT BTIC - Feet Below Top of Casing m -	
										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units	

*No dedicated bladder
used peristaltic

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SAR-3: Episodic Depth to Groundwater Measurements

All DTWs on SAR-3 must be collected within 24 hours.

Plant: HEN

Event: HEN-24Q1 Rev 0

Well	Unique ID	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
02	HEN_02	1/22/24	1222	44.93	DTB: 51.13	AB
04R	HEN_04R	1/22/24	1112	39.39	DTB: 45.43	AB
05DR	HEN_05&DR	1/22/24	1145	41.26	DTB: 71.29	AB
05R	HEN_05!R	1/22/24	1147	4.17	DTB: 48.79	AB
06	HEN_06	1/22/24	1002	22.54	DTB: 33.8	AB
10	HEN_10	1/22/24	1023	50.72	DTB: 51.45	AB
11	HEN_11	1/22/24	1028	50.95	DTB: 69.5	AB
15	HEN_15	1/22/24	1107	49.73	DTB: 52.81	AB
19D	HEN_19&D	1/22/24	1125	40.03	DTB: 65.44	AB
19S	HEN_19#S	1/22/24	1126	40.17	DTB: 42.57	AB
25	HEN_25	1/22/24	1527	15.62	DTB: 18.17	AB
26	HEN_26	1/22/24	1529	15.67	DTB: 27.32	AB
30	HEN_30	1/22/24	1544	6.25	DTB: 21.30	AB
31	HEN_31	1/22/24	1543	6.17	10.03: DTB	AB
33	HEN_33	1/22/24	1606	3.71	DTB: 38.16	AB
36	HEN_36	1/22/24	1430	15.70	DTB: 28.85	AB
40S	HEN_40#S	1/22/24	1133	40.49	DTB: 42.37	AB
45S	HEN_45#S	1/22/24	1015	20.24	DTB: 38.52	AB
48	HEN_48	1/22/24	1137	39.57	DTB: 45.13	AB
XPW01	HEN_XPW01_pore	1/22/24	1340	10.51	DTB: 19.73	AB
XPW02	HEN_XPW02_pore	1/22/24	1350	14.63	DTB: 21.73	AB
XPW03	HEN_XPW03_pore	1/22/24	1330	6.58	DTB: 22.04	AB
SG02	HEN_YSG_ILRIVER	1/22/24	1420	22.07	from higher elev. on bridge	AB
53	HEN_53	1/22/24	1345	55.67	U: 12/19/23 JRK DTB: 66.72	AB

go as we sample

24 hours!!

SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads
~~All DTB's on SAR-4 form may be collected at anytime during the sampling event.~~
Plant: HEN
Event: HEN-24Q1 Rev 0

Well	Unique ID	Date	Time	Measured Depth to Water (ft bmp)	On-site Transducer Data					Comments	Initials
					Data Logger Serial No.	Does Data Logger Serial No. Match?	WL Reading on Transducer (ft)	Data down-loaded?	Batt (H/M/L)		
03R	HEN_03R	1/22/24	1212	34.96	21615140	Y	447.38	Y	H	DTB: 46.93	AB
07	HEN_07	1/23/24	0720	68.78	21615139	Y	449.61	Y	H	DTB: 72.27	AB
08	HEN_08	1/22/24	1245	53.82	21615138	Y	447.54	Y	H	DTB: 53.96	AB
08D	HEN_08&D	1/22/24	1250	54.2	21615598	Y	447.21	Y	H	DTB: 84.13	AB
12	HEN_12	1/22/24	1052	51.34	21615520	Y	447.44	Y	H	DTB: 51.35	AB
13	HEN_13	1/22/24	1049	51.36	21615515	Y	447.44	Y	H	DTB: 51.91	AB
16	HEN_16	1/22/24	1315	54.38	21615534	Y	447.15	Y	H	DTB: 60.82	AB
17	HEN_17	1/22/24	1320	58.98	21615500	Y	448.39	Y	H	DTB: 61.79	AB
18D	HEN_18&D	1/22/24	1154	40.57	21615609	Y	447.41	Y	H	DTB: 72.47	AB
18S	HEN_18#S	1/22/24	1150	40.42	21615482	Y	447.38	Y	H	DTB: 42.87	AB
21R	HEN_21R	1/22/24	1440	15.48	21615613	Y	446.92	Y	H	DTB: 45.03	AB
22	HEN_22	1/22/24	1505	17.95	21615497	Y	446.82	Y	H	DTB: 27.35	AB
22D	HEN_22&D	1/22/24	1502	18.79	21564134	Y	446.92	Y	H	DTB: 53.45	AB
23	HEN_23	1/22/24	1450	16.68	21615600	Y	447.08	Y	H	DTB: 35.34	AB
27	HEN_27	1/22/24	1415	3.82	21615576	Y	446.98	Y	H	DTB: 29.95	AB
32	HEN_32	1/22/24	1550	4.64	21615487	Y	447.08	Y	H	DTB: 13.25	AB
34	HEN_34	1/22/24	1633	4.09	21615509	Y	445.9	Y	H	DTB: 30.23	AB
35	HEN_35	1/22/24	1535	7.97	21615510	Y	447.05	Y	H	DTB: 16.08	AB
46	HEN_46	1/22/24	1100	51.58	21615491	Y	446.75	Y	H	DTB: 59.39	AB
47	HEN_47	1/22/24	1030	55.84	21615505	Y	447.15	Y	H	DTB: 57.61	AB
49	HEN_49	1/22/24	1455	21.33	21629307	Y	447.08	Y	H	DTB: 38.59	AB
50	HEN_50	1/22/24	1410	17.54	21615489	Y	446.69	Y		DTB: 22.94	AB
51	HEN_51	1/22/24	1440	18.04	21615608	Y	447.08	Y	H	DTB: 58.25	AB
52	HEN_52	1/22/24	1228	53.98	21615145	Y	447.24	Y	H	DTB: 61.21	AB
54	HEN_54	1/22/24	1039	53.92	21615143	Y	447.18	Y	H	DTB: 68.29	AB
55	HEN_55	1/22/24	1045	51.55	21615612	Y	447.24	Y	H	DTB: 93.11	AB
XSG01	HEN_XSG01	1/22/24	1355	10.1	21768087	Y	483.63	Y	H	NO DTB	AB
SG02	HEN_YSG_ILRIVER	1/22/24	1420	22.87	21768088	Y	11.25	Y	H	NO DTB	AB

U: 12/19/23 JRK

ANALYTICAL REPORT

PREPARED FOR

Attn: Brian Voelker
Vistra Energy Corp
133 S 4th, Suite 206
Springfield, Illinois 62701

Generated 08/26/24 15:53:43

JOB DESCRIPTION

HEN-24Q3
HEN_257_801

JOB NUMBER

500-253560-3

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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08/26/24 15:53:43

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Client: Vistra Energy Corp
Project: HEN-24Q3

Job ID: 500-253560-3

Job ID: 500-253560-3

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Job Narrative
500-253560-3

Receipt

The samples were received on 07/16/24 13:05. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 18 coolers at receipt time were -0.2° C, 0.8° C, 0.9° C, 0.9° C, 1.6° C, 1.7° C, 3.1° C, 4.0° C, 4.2° C, 5.7° C, 5.7° C, 5.7° C, 5.9° C, 9.1° C, 11.3° C, 11.8° C, 11.8° C and 12.7° C.

Receipt Exceptions

The following samples from the July sampling event were received at the laboratory outside the required temperature criteria: HEN_17 (500-253560-24), HEN_21R (500-253560-25), HEN_21R_MS (500-253560-25[MS]), HEN_21R_MSD (500-253560-25[MSD]), HEN_22 (500-253560-26), HEN_22&D (500-253560-27), HEN_27 (500-253560-28), HEN_32 (500-253560-29), HEN_34 (500-253560-30), HEN_35 (500-253560-31), HEN_35_FD (500-253560-32), HEN_46 (500-253560-33), HEN_47 (500-253560-34), HEN_49 (500-253560-35), HEN_49_MS (500-253560-35[MS]), HEN_49_MSD (500-253560-35[MSD]), HEN_50 (500-253560-36), HEN_52 (500-253560-37), HEN_54 (500-253560-38) and HEN_54_FD (500-253560-39). This does not meet regulatory requirements. The client was contacted regarding this issue, and the laboratory was instructed to cancel analysis, pending resampling.

Affected samples were recollected on 08/06/24 and added to the existing login to report together.

Method Field Sampling: Field Conductivity for the following samples was recorded on the field forms in ms (mmhos) instead of the usual us (umhos). Results have been converted to umhos to maintain consistency in reporting. HEN_07 (500-253560-1), HEN_08&D (500-253560-10), HEN_40#S (500-253560-16) and HEN_17 (500-253560-24)

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method SM 2320B: The method blank for analytical batch 500-779286 contained Alkalinity above the reporting limit (RL). Associated sample(s) were not re-analyzed because results were greater than 10X the value found in the method blank.

Method SM 2320B: The method blank for analytical batch 500-781135 contained Alkalinity and Bicarbonate Alkalinity as CaCO₃ above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 300.0: The method blank for analytical batch 500-779304 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 300.0: The method blank for analytical batch 500-780474 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_07

Lab Sample ID: 500-253560-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.093	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	170		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	63		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	3.8		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	77		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	170	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	63		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	400		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.12		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	67.77				ft	1		Field Sampling	Total/NA
Field pH	6.65				SU	1		Field Sampling	Total/NA
Field Temperature	16.4				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	192.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	6.82				mg/L	1		Field Sampling	Total/NA
Specific Conductance	1662				umhos/cm	1		Field Sampling	Total/NA
Turbidity	2.66				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_05&DR

Lab Sample ID: 500-253560-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.78	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	83		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	32		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	6.7		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	46		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	77	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	130		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	240	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	560		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.16		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	41.11				ft	1		Field Sampling	Total/NA
Field pH	7.41				SU	1		Field Sampling	Total/NA
Field Temperature	19.9				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	156.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.76				mg/L	1		Field Sampling	Total/NA
Specific Conductance	913				umhos/cm	1		Field Sampling	Total/NA
Turbidity	7.82				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_05!R

Lab Sample ID: 500-253560-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.65	B	0.050	0.013	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
JEN-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_05IR (Continued)

Lab Sample ID: 500-253560-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	84		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	33		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	8.8		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	83		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	81	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	73		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	220	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	500		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.14		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	41.11				ft	1		Field Sampling	Total/NA
Field pH	7.63				SU	1		Field Sampling	Total/NA
Field Temperature	20.4				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	158.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.60				mg/L	1		Field Sampling	Total/NA
Specific Conductance	917				umhos/cm	1		Field Sampling	Total/NA
Turbidity	3.35				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_08

Lab Sample ID: 500-253560-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.099	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	180		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	50		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	7.7		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	58		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	150	B	10	1.2	mg/L	10		300.0	Total/NA
Sulfate	110		10	2.1	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	480	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	870		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.11		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	53.62				ft	1		Field Sampling	Total/NA
Field pH	6.65				SU	1		Field Sampling	Total/NA
Field Temperature	18.1				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	189.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	2.21				mg/L	1		Field Sampling	Total/NA
Specific Conductance	1597				umhos/cm	1		Field Sampling	Total/NA
Turbidity	1.78				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_08&D

Lab Sample ID: 500-253560-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.10	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	190		0.20	0.044	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
JEN 1255901
SDG: HEN_257_801

Client Sample ID: HEN_08&D (Continued)

Lab Sample ID: 500-253560-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	57		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	4.0		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	160		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	300	B	10	1.2	mg/L	10		300.0	Total/NA
Sulfate	170		10	2.1	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	490	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1300		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.11		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	54.09				ft	1		Field Sampling	Total/NA
Field pH	6.69				SU	1		Field Sampling	Total/NA
Field Temperature	15.4				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	195.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.28				mg/L	1		Field Sampling	Total/NA
Specific Conductance	1824				umhos/cm	1		Field Sampling	Total/NA
Turbidity	4.41				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_16

Lab Sample ID: 500-253560-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.18	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	73		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	27		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	4.5		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	43		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	70	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	59		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	220	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	450		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.27		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	54.22				ft	1		Field Sampling	Total/NA
Field pH	7.27				SU	1		Field Sampling	Total/NA
Field Temperature	22.1				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	192.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.48				mg/L	1		Field Sampling	Total/NA
Specific Conductance	823				umhos/cm	1		Field Sampling	Total/NA
Turbidity	1.12				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_16_FD

Lab Sample ID: 500-253560-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.18	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	74		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	27		0.20	0.049	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Detection Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
Date: 08/25/2017
SDG: HEN_257_801

Client Sample ID: HEN_16_FD (Continued)

Lab Sample ID: 500-253560-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	4.6		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	40		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	70	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	58		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	220	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	430		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.27		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	54.22				ft	1		Field Sampling	Total/NA
Field pH	7.27				SU	1		Field Sampling	Total/NA
Field Temperature	22.1				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	192.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.48				mg/L	1		Field Sampling	Total/NA
Specific Conductance	823				umhos/cm	1		Field Sampling	Total/NA
Turbidity	1.12				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_40#S

Lab Sample ID: 500-253560-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.3	B	0.25	0.064	mg/L	5		6020B	Total Recoverable
Calcium	71		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	33		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	7.4		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	47		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	74	B	10	1.2	mg/L	10		300.0	Total/NA
Sulfate	120		10	2.1	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	190	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	550		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.18		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	40.38				ft	1		Field Sampling	Total/NA
Field pH	7.83				SU	1		Field Sampling	Total/NA
Field Temperature	17.8				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	118.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.18				mg/L	1		Field Sampling	Total/NA
Specific Conductance	714				umhos/cm	1		Field Sampling	Total/NA
Turbidity	8.56				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_48R

Lab Sample ID: 500-253560-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2	B	0.25	0.064	mg/L	5		6020B	Total Recoverable
Calcium	83		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	32		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	6.4		0.50	0.11	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

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Detection Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_48R (Continued)

Lab Sample ID: 500-253560-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	49		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	75		10	1.2	mg/L	10		300.0	Total/NA
Sulfate	130		10	2.1	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	190	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	540		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.20		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	40.53				ft	1		Field Sampling	Total/NA
Field pH	7.69				SU	1		Field Sampling	Total/NA
Field Temperature	18.6				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	109.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.18				mg/L	1		Field Sampling	Total/NA
Specific Conductance	910				umhos/cm	1		Field Sampling	Total/NA
Turbidity	8.56				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_17

Lab Sample ID: 500-253560-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.11	B	0.050	0.013	mg/L	1		6020B	Total Recoverable
Calcium	65		0.20	0.044	mg/L	1		6020B	Total Recoverable
Magnesium	26		0.20	0.049	mg/L	1		6020B	Total Recoverable
Potassium	4.3		0.50	0.11	mg/L	1		6020B	Total Recoverable
Sodium	47		0.20	0.077	mg/L	1		6020B	Total Recoverable
Chloride	68	B	5.0	0.58	mg/L	5		300.0	Total/NA
Sulfate	55		5.0	1.0	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	200	B	5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	400		10	4.3	mg/L	1		SM 2540C	Total/NA
Fluoride	0.27		0.10	0.056	mg/L	1		SM 4500 F C	Total/NA
Depth to Water (ft from MP)	56.12				ft	1		Field Sampling	Total/NA
Field pH	7.24				SU	1		Field Sampling	Total/NA
Field Temperature	23.0				Degrees C	1		Field Sampling	Total/NA
Oxidation Reduction Potential	88.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	6.79				mg/L	1		Field Sampling	Total/NA
Specific Conductance	789				umhos/cm	1		Field Sampling	Total/NA
Turbidity	1.43				NTU	1		Field Sampling	Total/NA

Client Sample ID: HEN_YSG_ILRIVER

Lab Sample ID: 500-253560-49

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Depth to Water (ft from MP)	5.25				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

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Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 590-253560-3
SDG: HEN_257_801

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CHI
300.0	Anions, Ion Chromatography	EPA	EET CHI
SM 2320B	Alkalinity	SM	EET CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CHI
SM 4500 F C	Fluoride	SM	EET CHI
Field Sampling	Field Sampling	EPA	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-253560-1	HEN_07	Water	07/15/24 15:20	07/16/24 13:05
500-253560-7	HEN_05&DR	Water	07/16/24 12:15	07/17/24 09:40
500-253560-8	HEN_05!R	Water	07/16/24 11:20	07/17/24 09:40
500-253560-9	HEN_08	Water	07/16/24 14:00	07/17/24 09:40
500-253560-10	HEN_08&D	Water	07/16/24 15:46	07/17/24 09:40
500-253560-12	HEN_16	Water	07/16/24 15:30	07/17/24 09:40
500-253560-13	HEN_16_FD	Water	07/16/24 15:40	07/17/24 09:40
500-253560-16	HEN_40#S	Water	07/16/24 14:43	07/17/24 09:40
500-253560-20	HEN_48R	Water	07/18/24 09:05	07/18/24 13:00
500-253560-24	HEN_17	Water	08/06/24 09:10	08/07/24 09:05
500-253560-49	HEN_YSG_ILRIVER	Water	07/15/24 12:30	07/16/24 13:05

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_07

Date Collected: 07/15/24 15:20

Date Received: 07/16/24 13:05

Lab Sample ID: 500-253560-1

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.093	B	0.050	0.013	mg/L		07/22/24 15:20	07/23/24 13:32	1
Calcium	170		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 14:33	1
Magnesium	63		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 14:33	1
Potassium	3.8		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 14:33	1
Sodium	77		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	170	B	5.0	0.58	mg/L			07/31/24 21:24	5
Sulfate (EPA 300.0)	63		5.0	1.0	mg/L			07/31/24 21:24	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	400		5.0	3.7	mg/L			07/19/24 19:51	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/19/24 19:51	1
Total Dissolved Solids (SM 2540C)	1100		10	4.3	mg/L			07/18/24 00:54	1
Fluoride (SM 4500 F C)	0.12		0.10	0.056	mg/L			08/08/24 14:33	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	67.77				ft			07/15/24 15:20	1
Field pH	6.65				SU			07/15/24 15:20	1
Field Temperature	16.4				Degrees C			07/15/24 15:20	1
Oxidation Reduction Potential	192.1				millivolts			07/15/24 15:20	1
Oxygen, Dissolved	6.82				mg/L			07/15/24 15:20	1
Specific Conductance	1662				umhos/cm			07/15/24 15:20	1
Turbidity	2.66				NTU			07/15/24 15:20	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_05&DR

Lab Sample ID: 500-253560-7

Date Collected: 07/16/24 12:15

Matrix: Water

Date Received: 07/17/24 09:40

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.78	B	0.050	0.013	mg/L		07/22/24 15:20	07/23/24 13:56	1
Calcium	83		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 14:58	1
Magnesium	32		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 14:58	1
Potassium	6.7		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 14:58	1
Sodium	46		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 13:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	77	B	5.0	0.58	mg/L			08/01/24 02:52	5
Sulfate (EPA 300.0)	130		5.0	1.0	mg/L			08/01/24 02:52	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	240	B	5.0	3.7	mg/L			07/30/24 17:58	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/30/24 17:58	1
Total Dissolved Solids (SM 2540C)	560		10	4.3	mg/L			07/22/24 21:01	1
Fluoride (SM 4500 F C)	0.16		0.10	0.056	mg/L			07/23/24 14:11	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	41.11				ft			07/16/24 12:15	1
Field pH	7.41				SU			07/16/24 12:15	1
Field Temperature	19.9				Degrees C			07/16/24 12:15	1
Oxidation Reduction Potential	156.1				millivolts			07/16/24 12:15	1
Oxygen, Dissolved	0.76				mg/L			07/16/24 12:15	1
Specific Conductance	913				umhos/cm			07/16/24 12:15	1
Turbidity	7.82				NTU			07/16/24 12:15	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_051R

Lab Sample ID: 500-253560-8

Date Collected: 07/16/24 11:20

Matrix: Water

Date Received: 07/17/24 09:40

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.65	B	0.050	0.013	mg/L		07/22/24 15:20	07/23/24 13:59	1
Calcium	84		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 15:00	1
Magnesium	33		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 15:00	1
Potassium	8.8		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 15:00	1
Sodium	83		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	81	B	5.0	0.58	mg/L			08/01/24 03:24	5
Sulfate (EPA 300.0)	73		5.0	1.0	mg/L			08/01/24 03:24	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	220	B	5.0	3.7	mg/L			07/30/24 18:07	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/30/24 18:07	1
Total Dissolved Solids (SM 2540C)	500		10	4.3	mg/L			07/22/24 21:03	1
Fluoride (SM 4500 F C)	0.14		0.10	0.056	mg/L			07/23/24 14:15	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	41.11				ft			07/16/24 11:20	1
Field pH	7.63				SU			07/16/24 11:20	1
Field Temperature	20.4				Degrees C			07/16/24 11:20	1
Oxidation Reduction Potential	158.5				millivolts			07/16/24 11:20	1
Oxygen, Dissolved	0.60				mg/L			07/16/24 11:20	1
Specific Conductance	917				umhos/cm			07/16/24 11:20	1
Turbidity	3.35				NTU			07/16/24 11:20	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_08

Date Collected: 07/16/24 14:00

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-9

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.099	B	0.050	0.013	mg/L		07/22/24 15:20	07/25/24 11:01	1
Calcium	180		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 15:02	1
Magnesium	50		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 15:02	1
Potassium	7.7		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 15:02	1
Sodium	58		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	150	B	10	1.2	mg/L			08/01/24 03:55	10
Sulfate (EPA 300.0)	110		10	2.1	mg/L			08/01/24 03:55	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	480	B	5.0	3.7	mg/L			07/30/24 18:16	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/30/24 18:16	1
Total Dissolved Solids (SM 2540C)	870		10	4.3	mg/L			07/22/24 21:06	1
Fluoride (SM 4500 F C)	0.11		0.10	0.056	mg/L			07/23/24 14:30	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	53.62				ft			07/16/24 14:00	1
Field pH	6.65				SU			07/16/24 14:00	1
Field Temperature	18.1				Degrees C			07/16/24 14:00	1
Oxidation Reduction Potential	189.4				millivolts			07/16/24 14:00	1
Oxygen, Dissolved	2.21				mg/L			07/16/24 14:00	1
Specific Conductance	1597				umhos/cm			07/16/24 14:00	1
Turbidity	1.78				NTU			07/16/24 14:00	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_08&D

Lab Sample ID: 500-253560-10

Date Collected: 07/16/24 15:46

Matrix: Water

Date Received: 07/17/24 09:40

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.10	B	0.050	0.013	mg/L		07/22/24 15:20	07/25/24 11:03	1
Calcium	190		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 15:05	1
Magnesium	57		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 15:05	1
Potassium	4.0		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 15:05	1
Sodium	160		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 14:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	300	B	10	1.2	mg/L			08/01/24 04:26	10
Sulfate (EPA 300.0)	170		10	2.1	mg/L			08/01/24 04:26	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	490	B	5.0	3.7	mg/L			07/30/24 18:26	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/30/24 18:26	1
Total Dissolved Solids (SM 2540C)	1300		10	4.3	mg/L			07/22/24 21:08	1
Fluoride (SM 4500 F C)	0.11		0.10	0.056	mg/L			07/23/24 14:34	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	54.09				ft			07/16/24 15:46	1
Field pH	6.69				SU			07/16/24 15:46	1
Field Temperature	15.4				Degrees C			07/16/24 15:46	1
Oxidation Reduction Potential	195.6				millivolts			07/16/24 15:46	1
Oxygen, Dissolved	0.28				mg/L			07/16/24 15:46	1
Specific Conductance	1824				umhos/cm			07/16/24 15:46	1
Turbidity	4.41				NTU			07/16/24 15:46	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
JEN ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_16

Date Collected: 07/16/24 15:30

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-12

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18	B	0.050	0.013	mg/L		07/22/24 15:20	07/25/24 11:05	1
Calcium	73		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 15:11	1
Magnesium	27		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 15:11	1
Potassium	4.5		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 15:11	1
Sodium	43		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 14:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	70	B	5.0	0.58	mg/L			08/01/24 05:44	5
Sulfate (EPA 300.0)	59		5.0	1.0	mg/L			08/01/24 05:44	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	220	B	5.0	3.7	mg/L			07/30/24 18:46	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/30/24 18:46	1
Total Dissolved Solids (SM 2540C)	450		10	4.3	mg/L			07/22/24 21:14	1
Fluoride (SM 4500 F C)	0.27		0.10	0.056	mg/L			07/23/24 14:44	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	54.22				ft			07/16/24 15:30	1
Field pH	7.27				SU			07/16/24 15:30	1
Field Temperature	22.1				Degrees C			07/16/24 15:30	1
Oxidation Reduction Potential	192.9				millivolts			07/16/24 15:30	1
Oxygen, Dissolved	0.48				mg/L			07/16/24 15:30	1
Specific Conductance	823				umhos/cm			07/16/24 15:30	1
Turbidity	1.12				NTU			07/16/24 15:30	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_16_FD

Lab Sample ID: 500-253560-13

Date Collected: 07/16/24 15:40

Matrix: Water

Date Received: 07/17/24 09:40

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18	B	0.050	0.013	mg/L		07/22/24 15:20	07/25/24 11:07	1
Calcium	74		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 15:14	1
Magnesium	27		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 15:14	1
Potassium	4.6		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 15:14	1
Sodium	40		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 14:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	70	B	5.0	0.58	mg/L			08/01/24 06:00	5
Sulfate (EPA 300.0)	58		5.0	1.0	mg/L			08/01/24 06:00	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	220	B	5.0	3.7	mg/L			07/30/24 19:13	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/30/24 19:13	1
Total Dissolved Solids (SM 2540C)	430		10	4.3	mg/L			07/22/24 21:16	1
Fluoride (SM 4500 F C)	0.27		0.10	0.056	mg/L			07/23/24 14:59	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	54.22				ft			07/16/24 15:40	1
Field pH	7.27				SU			07/16/24 15:40	1
Field Temperature	22.1				Degrees C			07/16/24 15:40	1
Oxidation Reduction Potential	192.9				millivolts			07/16/24 15:40	1
Oxygen, Dissolved	0.48				mg/L			07/16/24 15:40	1
Specific Conductance	823				umhos/cm			07/16/24 15:40	1
Turbidity	1.12				NTU			07/16/24 15:40	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_40#S

Lab Sample ID: 500-253560-16

Date Collected: 07/16/24 14:43

Matrix: Water

Date Received: 07/17/24 09:40

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3	B	0.25	0.064	mg/L		07/22/24 15:20	07/25/24 11:14	5
Calcium	71		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 15:20	1
Magnesium	33		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 15:20	1
Potassium	7.4		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 15:20	1
Sodium	47		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 14:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	74	B	10	1.2	mg/L			08/01/24 07:18	10
Sulfate (EPA 300.0)	120		10	2.1	mg/L			08/01/24 07:18	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	190	B	5.0	3.7	mg/L			07/30/24 19:45	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/30/24 19:45	1
Total Dissolved Solids (SM 2540C)	550		10	4.3	mg/L			07/22/24 21:24	1
Fluoride (SM 4500 F C)	0.18		0.10	0.056	mg/L			07/23/24 15:13	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	40.38				ft			07/16/24 14:43	1
Field pH	7.83				SU			07/16/24 14:43	1
Field Temperature	17.8				Degrees C			07/16/24 14:43	1
Oxidation Reduction Potential	118.1				millivolts			07/16/24 14:43	1
Oxygen, Dissolved	0.18				mg/L			07/16/24 14:43	1
Specific Conductance	714				umhos/cm			07/16/24 14:43	1
Turbidity	8.56				NTU			07/16/24 14:43	1

Client Sample Results

APPENDIX A.
MINIHAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_48R

Lab Sample ID: 500-253560-20

Date Collected: 07/18/24 09:05

Matrix: Water

Date Received: 07/18/24 13:00

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2	B	0.25	0.064	mg/L		07/22/24 15:20	07/25/24 11:20	5
Calcium	83		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 15:44	1
Magnesium	32		0.20	0.049	mg/L		07/22/24 15:20	07/24/24 15:44	1
Potassium	6.4		0.50	0.11	mg/L		07/22/24 15:20	07/24/24 15:44	1
Sodium	49		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	75		10	1.2	mg/L			08/01/24 11:28	10
Sulfate (EPA 300.0)	130		10	2.1	mg/L			08/01/24 11:28	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	190	B	5.0	3.7	mg/L			07/30/24 20:12	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			07/30/24 20:12	1
Total Dissolved Solids (SM 2540C)	540		10	4.3	mg/L			07/23/24 23:06	1
Fluoride (SM 4500 F C)	0.20		0.10	0.056	mg/L			07/23/24 15:26	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	40.53				ft			07/18/24 09:05	1
Field pH	7.69				SU			07/18/24 09:05	1
Field Temperature	18.6				Degrees C			07/18/24 09:05	1
Oxidation Reduction Potential	109.1				millivolts			07/18/24 09:05	1
Oxygen, Dissolved	0.18				mg/L			07/18/24 09:05	1
Specific Conductance	910				umhos/cm			07/18/24 09:05	1
Turbidity	8.56				NTU			07/18/24 09:05	1

Client Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
MINIMAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
JEN ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_17

Date Collected: 08/06/24 09:10

Date Received: 08/07/24 09:05

Lab Sample ID: 500-253560-24

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.11	B	0.050	0.013	mg/L		08/08/24 09:16	08/12/24 14:21	1
Calcium	65		0.20	0.044	mg/L		08/08/24 09:16	08/09/24 18:13	1
Magnesium	26		0.20	0.049	mg/L		08/08/24 09:16	08/09/24 18:13	1
Potassium	4.3		0.50	0.11	mg/L		08/08/24 09:16	08/09/24 18:13	1
Sodium	47		0.20	0.077	mg/L		08/08/24 09:16	08/09/24 18:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	68	B	5.0	0.58	mg/L			08/08/24 14:15	5
Sulfate (EPA 300.0)	55		5.0	1.0	mg/L			08/08/24 14:15	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	200	B	5.0	3.7	mg/L			08/12/24 17:52	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<5.0		5.0	3.7	mg/L			08/12/24 17:52	1
Total Dissolved Solids (SM 2540C)	400		10	4.3	mg/L			08/07/24 23:03	1
Fluoride (SM 4500 F C)	0.27		0.10	0.056	mg/L			08/15/24 14:15	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	56.12				ft			08/06/24 09:10	1
Field pH	7.24				SU			08/06/24 09:10	1
Field Temperature	23.0				Degrees C			08/06/24 09:10	1
Oxidation Reduction Potential	88.7				millivolts			08/06/24 09:10	1
Oxygen, Dissolved	6.79				mg/L			08/06/24 09:10	1
Specific Conductance	789				umhos/cm			08/06/24 09:10	1
Turbidity	1.43				NTU			08/06/24 09:10	1

Client Sample Results

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_YSG_ILRIVER

Lab Sample ID: 500-253560-49

Date Collected: 07/15/24 12:30

Matrix: Water

Date Received: 07/16/24 13:05

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Depth to Water (ft from MP)	5.25				ft			07/15/24 12:30	1

Definitions/Glossary

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
INITIAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
JEN-257-801
SDG: HEN_257_801

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 590-253560-3
SDG: HEN_257_801

Metals

Prep Batch: 777840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-1	HEN_07	Total Recoverable	Water	3005A	
500-253560-7	HEN_05&DR	Total Recoverable	Water	3005A	
500-253560-8	HEN_05!R	Total Recoverable	Water	3005A	
500-253560-9	HEN_08	Total Recoverable	Water	3005A	
500-253560-10	HEN_08&D	Total Recoverable	Water	3005A	
500-253560-12	HEN_16	Total Recoverable	Water	3005A	
500-253560-13	HEN_16_FD	Total Recoverable	Water	3005A	
500-253560-16	HEN_40#S	Total Recoverable	Water	3005A	
500-253560-20	HEN_48R	Total Recoverable	Water	3005A	
MB 500-777840/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-777840/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-253560-1 MS	HEN_07	Total Recoverable	Water	3005A	
500-253560-1 MSD	HEN_07	Total Recoverable	Water	3005A	
500-253560-1 DU	HEN_07	Total Recoverable	Water	3005A	

Analysis Batch: 778011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-1	HEN_07	Total Recoverable	Water	6020B	777840
500-253560-7	HEN_05&DR	Total Recoverable	Water	6020B	777840
500-253560-8	HEN_05!R	Total Recoverable	Water	6020B	777840
500-253560-9	HEN_08	Total Recoverable	Water	6020B	777840
500-253560-10	HEN_08&D	Total Recoverable	Water	6020B	777840
500-253560-12	HEN_16	Total Recoverable	Water	6020B	777840
500-253560-13	HEN_16_FD	Total Recoverable	Water	6020B	777840
500-253560-16	HEN_40#S	Total Recoverable	Water	6020B	777840
500-253560-20	HEN_48R	Total Recoverable	Water	6020B	777840
MB 500-777840/1-A	Method Blank	Total Recoverable	Water	6020B	777840
LCS 500-777840/2-A	Lab Control Sample	Total Recoverable	Water	6020B	777840
500-253560-1 MS	HEN_07	Total Recoverable	Water	6020B	777840
500-253560-1 MSD	HEN_07	Total Recoverable	Water	6020B	777840
500-253560-1 DU	HEN_07	Total Recoverable	Water	6020B	777840

Analysis Batch: 778290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-1	HEN_07	Total Recoverable	Water	6020B	777840
500-253560-7	HEN_05&DR	Total Recoverable	Water	6020B	777840
500-253560-8	HEN_05!R	Total Recoverable	Water	6020B	777840
500-253560-9	HEN_08	Total Recoverable	Water	6020B	777840
500-253560-10	HEN_08&D	Total Recoverable	Water	6020B	777840
500-253560-12	HEN_16	Total Recoverable	Water	6020B	777840
500-253560-13	HEN_16_FD	Total Recoverable	Water	6020B	777840
500-253560-16	HEN_40#S	Total Recoverable	Water	6020B	777840
500-253560-20	HEN_48R	Total Recoverable	Water	6020B	777840
MB 500-777840/1-A	Method Blank	Total Recoverable	Water	6020B	777840
LCS 500-777840/2-A	Lab Control Sample	Total Recoverable	Water	6020B	777840
500-253560-1 MS	HEN_07	Total Recoverable	Water	6020B	777840
500-253560-1 MSD	HEN_07	Total Recoverable	Water	6020B	777840
500-253560-1 DU	HEN_07	Total Recoverable	Water	6020B	777840

QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

Metals

Analysis Batch: 778401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-9	HEN_08	Total Recoverable	Water	6020B	777840
500-253560-10	HEN_08&D	Total Recoverable	Water	6020B	777840
500-253560-12	HEN_16	Total Recoverable	Water	6020B	777840
500-253560-13	HEN_16_FD	Total Recoverable	Water	6020B	777840
500-253560-16	HEN_40#S	Total Recoverable	Water	6020B	777840
500-253560-20	HEN_48R	Total Recoverable	Water	6020B	777840

Prep Batch: 780445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-24	HEN_17	Total Recoverable	Water	3005A	
MB 500-780445/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-780445/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 780867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-24	HEN_17	Total Recoverable	Water	6020B	780445
MB 500-780445/1-A	Method Blank	Total Recoverable	Water	6020B	780445
LCS 500-780445/2-A	Lab Control Sample	Total Recoverable	Water	6020B	780445

Analysis Batch: 781097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-24	HEN_17	Total Recoverable	Water	6020B	780445
MB 500-780445/1-A	Method Blank	Total Recoverable	Water	6020B	780445
LCS 500-780445/2-A	Lab Control Sample	Total Recoverable	Water	6020B	780445

General Chemistry

Analysis Batch: 777221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-1	HEN_07	Total/NA	Water	SM 2540C	
MB 500-777221/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-777221/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 777696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-1	HEN_07	Total/NA	Water	SM 2320B	
MB 500-777696/28	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-777696/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 777853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-7	HEN_05&DR	Total/NA	Water	SM 2540C	
500-253560-8	HEN_05!R	Total/NA	Water	SM 2540C	
500-253560-9	HEN_08	Total/NA	Water	SM 2540C	
500-253560-10	HEN_08&D	Total/NA	Water	SM 2540C	
500-253560-12	HEN_16	Total/NA	Water	SM 2540C	
500-253560-13	HEN_16_FD	Total/NA	Water	SM 2540C	
500-253560-16	HEN_40#S	Total/NA	Water	SM 2540C	
MB 500-777853/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-777853/2	Lab Control Sample	Total/NA	Water	SM 2540C	

QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

General Chemistry

Analysis Batch: 778056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-20	HEN_48R	Total/NA	Water	SM 2540C	
MB 500-778056/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-778056/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 778153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-7	HEN_05&DR	Total/NA	Water	SM 4500 F C	
500-253560-8	HEN_05!R	Total/NA	Water	SM 4500 F C	
500-253560-9	HEN_08	Total/NA	Water	SM 4500 F C	
500-253560-10	HEN_08&D	Total/NA	Water	SM 4500 F C	
500-253560-12	HEN_16	Total/NA	Water	SM 4500 F C	
500-253560-13	HEN_16_FD	Total/NA	Water	SM 4500 F C	
500-253560-16	HEN_40#S	Total/NA	Water	SM 4500 F C	
500-253560-20	HEN_48R	Total/NA	Water	SM 4500 F C	
MB 500-778153/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-778153/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-778153/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-778153/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 779286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-7	HEN_05&DR	Total/NA	Water	SM 2320B	
500-253560-8	HEN_05!R	Total/NA	Water	SM 2320B	
500-253560-9	HEN_08	Total/NA	Water	SM 2320B	
500-253560-10	HEN_08&D	Total/NA	Water	SM 2320B	
500-253560-12	HEN_16	Total/NA	Water	SM 2320B	
500-253560-13	HEN_16_FD	Total/NA	Water	SM 2320B	
500-253560-16	HEN_40#S	Total/NA	Water	SM 2320B	
500-253560-20	HEN_48R	Total/NA	Water	SM 2320B	
MB 500-779286/28	Method Blank	Total/NA	Water	SM 2320B	
MB 500-779286/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-779286/29	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 500-779286/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 779304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-1	HEN_07	Total/NA	Water	300.0	
500-253560-7	HEN_05&DR	Total/NA	Water	300.0	
500-253560-8	HEN_05!R	Total/NA	Water	300.0	
500-253560-9	HEN_08	Total/NA	Water	300.0	
500-253560-10	HEN_08&D	Total/NA	Water	300.0	
500-253560-12	HEN_16	Total/NA	Water	300.0	
500-253560-13	HEN_16_FD	Total/NA	Water	300.0	
500-253560-16	HEN_40#S	Total/NA	Water	300.0	
500-253560-20	HEN_48R	Total/NA	Water	300.0	
MB 500-779304/3	Method Blank	Total/NA	Water	300.0	
MB 500-779304/33	Method Blank	Total/NA	Water	300.0	
MB 500-779304/65	Method Blank	Total/NA	Water	300.0	
LCS 500-779304/34	Lab Control Sample	Total/NA	Water	300.0	
LCS 500-779304/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 500-779304/66	Lab Control Sample	Total/NA	Water	300.0	

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QC Association Summary

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 590-253560-3
SDG: HEN_257_801

General Chemistry

Analysis Batch: 780360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-24	HEN_17	Total/NA	Water	SM 2540C	
MB 500-780360/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-780360/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 780474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-24	HEN_17	Total/NA	Water	300.0	
MB 500-780474/13	Method Blank	Total/NA	Water	300.0	
LCS 500-780474/14	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 780660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-1	HEN_07	Total/NA	Water	SM 4500 F C	
MB 500-780660/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-780660/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-253560-1 MS	HEN_07	Total/NA	Water	SM 4500 F C	
500-253560-1 MSD	HEN_07	Total/NA	Water	SM 4500 F C	

Analysis Batch: 781135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-24	HEN_17	Total/NA	Water	SM 2320B	
MB 500-781135/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-781135/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 781815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-24	HEN_17	Total/NA	Water	SM 4500 F C	
MB 500-781815/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-781815/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Field Service / Mobile Lab

Analysis Batch: 781194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-253560-1	HEN_07	Total/NA	Water	Field Sampling	
500-253560-7	HEN_05&DR	Total/NA	Water	Field Sampling	
500-253560-8	HEN_05!R	Total/NA	Water	Field Sampling	
500-253560-9	HEN_08	Total/NA	Water	Field Sampling	
500-253560-10	HEN_08&D	Total/NA	Water	Field Sampling	
500-253560-12	HEN_16	Total/NA	Water	Field Sampling	
500-253560-13	HEN_16_FD	Total/NA	Water	Field Sampling	
500-253560-16	HEN_40#S	Total/NA	Water	Field Sampling	
500-253560-20	HEN_48R	Total/NA	Water	Field Sampling	
500-253560-24	HEN_17	Total/NA	Water	Field Sampling	
500-253560-49	HEN_YSG_ILRIVER	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
Job ID: 500-253560-3
SDG: HEN_257_801

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 500-777840/1-A
Matrix: Water
Analysis Batch: 778011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0490	J	0.050	0.013	mg/L		07/22/24 15:20	07/23/24 13:27	1
Magnesium	<0.20		0.20	0.049	mg/L		07/22/24 15:20	07/23/24 13:27	1
Potassium	<0.50		0.50	0.11	mg/L		07/22/24 15:20	07/23/24 13:27	1
Sodium	<0.20		0.20	0.077	mg/L		07/22/24 15:20	07/23/24 13:27	1

Lab Sample ID: MB 500-777840/1-A
Matrix: Water
Analysis Batch: 778290

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20	0.044	mg/L		07/22/24 15:20	07/24/24 14:28	1

Lab Sample ID: LCS 500-777840/2-A
Matrix: Water
Analysis Batch: 778011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.933		mg/L		93	80 - 120
Magnesium	10.0	9.11		mg/L		91	80 - 120
Potassium	10.0	8.77		mg/L		88	80 - 120
Sodium	10.0	9.03		mg/L		90	80 - 120

Lab Sample ID: LCS 500-777840/2-A
Matrix: Water
Analysis Batch: 778290

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	10.0	9.47		mg/L		95	80 - 120

Lab Sample ID: 500-253560-1 MS
Matrix: Water
Analysis Batch: 778011

Client Sample ID: HEN_07
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.093	B	1.00	0.929		mg/L		84	75 - 125
Sodium	77		10.0	76.8	4	mg/L		-5	75 - 125

Lab Sample ID: 500-253560-1 MS
Matrix: Water
Analysis Batch: 778290

Client Sample ID: HEN_07
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	170		10.0	165	4	mg/L		-57	75 - 125
Magnesium	63		10.0	66.9	4	mg/L		36	75 - 125
Potassium	3.8		10.0	13.0		mg/L		92	75 - 125

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 500-253560-3
SDG: HEN_257_801

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-253560-1 MSD
Matrix: Water
Analysis Batch: 778011

Client Sample ID: HEN_07
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.093	B	1.00	1.00		mg/L		91	75 - 125	7	20
Sodium	77		10.0	81.1	4	mg/L		38	75 - 125	5	20

Lab Sample ID: 500-253560-1 MSD
Matrix: Water
Analysis Batch: 778290

Client Sample ID: HEN_07
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	170		10.0	173	4	mg/L		22	75 - 125	5	20
Magnesium	63		10.0	70.8	4	mg/L		75	75 - 125	6	20
Potassium	3.8		10.0	13.8		mg/L		100	75 - 125	6	20

Lab Sample ID: 500-253560-1 DU
Matrix: Water
Analysis Batch: 778011

Client Sample ID: HEN_07
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.093	B	0.0717	F5	mg/L		26	20
Sodium	77		76.1		mg/L		2	20

Lab Sample ID: 500-253560-1 DU
Matrix: Water
Analysis Batch: 778290

Client Sample ID: HEN_07
Prep Type: Total Recoverable
Prep Batch: 777840

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	170		170		mg/L		0.3	20
Magnesium	63		62.8		mg/L		0.7	20
Potassium	3.8		3.78		mg/L		1	20

Lab Sample ID: MB 500-780445/1-A
Matrix: Water
Analysis Batch: 780867

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 780445

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20	0.044	mg/L		08/08/24 09:16	08/09/24 18:08	1
Magnesium	<0.20		0.20	0.049	mg/L		08/08/24 09:16	08/09/24 18:08	1
Potassium	<0.50		0.50	0.11	mg/L		08/08/24 09:16	08/09/24 18:08	1
Sodium	<0.20		0.20	0.077	mg/L		08/08/24 09:16	08/09/24 18:08	1

Lab Sample ID: MB 500-780445/1-A
Matrix: Water
Analysis Batch: 781097

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 780445

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0226	J	0.050	0.013	mg/L		08/08/24 09:16	08/12/24 14:16	1

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

APPENDIX A.
Job ID: 590-253560-3
SDG: HEN_257_801

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-780445/2-A
Matrix: Water
Analysis Batch: 780867

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 780445

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	10.0	8.96		mg/L		90	80 - 120
Magnesium	10.0	10.5		mg/L		105	80 - 120
Potassium	10.0	10.2		mg/L		102	80 - 120
Sodium	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: LCS 500-780445/2-A
Matrix: Water
Analysis Batch: 781097

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 780445

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.07		mg/L		107	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-779304/3
Matrix: Water
Analysis Batch: 779304

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.168	J	1.0	0.12	mg/L			07/31/24 16:42	1
Sulfate	<1.0		1.0	0.21	mg/L			07/31/24 16:42	1

Lab Sample ID: MB 500-779304/33
Matrix: Water
Analysis Batch: 779304

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.163	J	1.0	0.12	mg/L			08/01/24 00:32	1
Sulfate	<1.0		1.0	0.21	mg/L			08/01/24 00:32	1

Lab Sample ID: MB 500-779304/65
Matrix: Water
Analysis Batch: 779304

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0	0.12	mg/L			08/01/24 08:52	1
Sulfate	<1.0		1.0	0.21	mg/L			08/01/24 08:52	1

Lab Sample ID: LCS 500-779304/34
Matrix: Water
Analysis Batch: 779304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.5		mg/L		103	90 - 110
Sulfate	20.0	21.4		mg/L		107	90 - 110

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
Job ID: 590-253560-3
JEN-25-590-253560-3
SDG: HEN_257_801

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 500-779304/4

Matrix: Water

Analysis Batch: 779304

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Sulfate	20.0	21.4		mg/L		107	90 - 110

Lab Sample ID: LCS 500-779304/66

Matrix: Water

Analysis Batch: 779304

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.9		mg/L		104	90 - 110
Sulfate	20.0	21.5		mg/L		107	90 - 110

Lab Sample ID: MB 500-780474/13

Matrix: Water

Analysis Batch: 780474

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.172	J	1.0	0.12	mg/L			08/08/24 13:44	1
Sulfate	<1.0		1.0	0.21	mg/L			08/08/24 13:44	1

Lab Sample ID: LCS 500-780474/14

Matrix: Water

Analysis Batch: 780474

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.5		mg/L		103	90 - 110
Sulfate	20.0	21.6		mg/L		108	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-777696/28

Matrix: Water

Analysis Batch: 777696

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	3.7	mg/L			07/19/24 20:43	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	3.7	mg/L			07/19/24 20:43	1

Lab Sample ID: LCS 500-777696/4

Matrix: Water

Analysis Batch: 777696

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	105		mg/L		105	95 - 121

Lab Sample ID: MB 500-779286/28

Matrix: Water

Analysis Batch: 779286

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	6.15		5.0	3.7	mg/L			07/30/24 16:38	1

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QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 590-253560-3
JEN-25-590-
SDG: HEN_257_801

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 500-779286/28
Matrix: Water
Analysis Batch: 779286

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO ₃	<5.0		5.0	3.7	mg/L			07/30/24 16:38	1

Lab Sample ID: MB 500-779286/3
Matrix: Water
Analysis Batch: 779286

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO ₃	5.15		5.0	3.7	mg/L			07/30/24 10:17	1
Carbonate Alkalinity as CaCO ₃	<5.0		5.0	3.7	mg/L			07/30/24 10:17	1

Lab Sample ID: LCS 500-779286/29
Matrix: Water
Analysis Batch: 779286

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	104		mg/L		104	95 - 121

Lab Sample ID: LCS 500-779286/4
Matrix: Water
Analysis Batch: 779286

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	109		mg/L		109	95 - 121

Lab Sample ID: MB 500-781135/3
Matrix: Water
Analysis Batch: 781135

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO ₃	5.15		5.0	3.7	mg/L			08/12/24 16:56	1
Carbonate Alkalinity as CaCO ₃	<5.0		5.0	3.7	mg/L			08/12/24 16:56	1

Lab Sample ID: LCS 500-781135/4
Matrix: Water
Analysis Batch: 781135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	102		mg/L		102	95 - 121

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-777221/1
Matrix: Water
Analysis Batch: 777221

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	4.3	mg/L			07/18/24 00:21	1

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

APPENDIX A.
Job ID: 590-253560-3
JEN-25-590-
SDG: HEN_257_801

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-777221/2
Matrix: Water
Analysis Batch: 777221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	250	242		mg/L		97	80 - 120

Lab Sample ID: MB 500-777853/1
Matrix: Water
Analysis Batch: 777853

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	4.3	mg/L			07/22/24 20:43	1

Lab Sample ID: LCS 500-777853/2
Matrix: Water
Analysis Batch: 777853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	250	234		mg/L		94	80 - 120

Lab Sample ID: MB 500-778056/1
Matrix: Water
Analysis Batch: 778056

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	4.3	mg/L			07/23/24 22:38	1

Lab Sample ID: LCS 500-778056/2
Matrix: Water
Analysis Batch: 778056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	250	240		mg/L		96	80 - 120

Lab Sample ID: MB 500-780360/1
Matrix: Water
Analysis Batch: 780360

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	4.3	mg/L			08/07/24 22:27	1

Lab Sample ID: LCS 500-780360/2
Matrix: Water
Analysis Batch: 780360

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	250	246		mg/L		98	80 - 120

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 590-253560-3
JEN-25-801
SDG: HEN_257_801

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-778153/3
Matrix: Water
Analysis Batch: 778153

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			07/23/24 12:09	1

Lab Sample ID: MB 500-778153/31
Matrix: Water
Analysis Batch: 778153

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			07/23/24 14:20	1

Lab Sample ID: LCS 500-778153/32
Matrix: Water
Analysis Batch: 778153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.49		mg/L		95	90 - 119

Lab Sample ID: LCS 500-778153/4
Matrix: Water
Analysis Batch: 778153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.52		mg/L		95	90 - 119

Lab Sample ID: MB 500-780660/3
Matrix: Water
Analysis Batch: 780660

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			08/08/24 14:13	1

Lab Sample ID: LCS 500-780660/4
Matrix: Water
Analysis Batch: 780660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.39		mg/L		94	90 - 119

Lab Sample ID: 500-253560-1 MS
Matrix: Water
Analysis Batch: 780660

Client Sample ID: HEN_07
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.12		5.00	5.10		mg/L		100	75 - 125

Lab Sample ID: 500-253560-1 MSD
Matrix: Water
Analysis Batch: 780660

Client Sample ID: HEN_07
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.12		5.00	5.11		mg/L		100	75 - 125	0	20

Eurofins Chicago

QC Sample Results

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 590-253560-3
SDG: HEN_257_801

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-781815/3
Matrix: Water
Analysis Batch: 781815

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10	0.056	mg/L			08/15/24 12:36	1

Lab Sample ID: LCS 500-781815/4
Matrix: Water
Analysis Batch: 781815

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.52		mg/L		95	90 - 119

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_07

Date Collected: 07/15/24 15:20

Date Received: 07/16/24 13:05

Lab Sample ID: 500-253560-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 13:32
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 14:33
Total/NA	Analysis	300.0		5	779304	NMB	EET CHI	07/31/24 21:24
Total/NA	Analysis	SM 2320B		1	777696	SO	EET CHI	07/19/24 19:51
Total/NA	Analysis	SM 2540C		1	777221	CLB	EET CHI	07/18/24 00:54
Total/NA	Analysis	SM 4500 F C		1	780660	SO	EET CHI	08/08/24 14:33
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/15/24 15:20

Client Sample ID: HEN_05&DR

Date Collected: 07/16/24 12:15

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 13:56
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 14:58
Total/NA	Analysis	300.0		5	779304	NMB	EET CHI	08/01/24 02:52
Total/NA	Analysis	SM 2320B		1	779286	LEG	EET CHI	07/30/24 17:58
Total/NA	Analysis	SM 2540C		1	777853	CLB	EET CHI	07/22/24 21:01
Total/NA	Analysis	SM 4500 F C		1	778153	SO	EET CHI	07/23/24 14:11
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/16/24 12:15

Client Sample ID: HEN_05!R

Date Collected: 07/16/24 11:20

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 13:59
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 15:00
Total/NA	Analysis	300.0		5	779304	NMB	EET CHI	08/01/24 03:24
Total/NA	Analysis	SM 2320B		1	779286	LEG	EET CHI	07/30/24 18:07
Total/NA	Analysis	SM 2540C		1	777853	CLB	EET CHI	07/22/24 21:03
Total/NA	Analysis	SM 4500 F C		1	778153	SO	EET CHI	07/23/24 14:15
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/16/24 11:20

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_08

Date Collected: 07/16/24 14:00

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 14:06
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 15:02
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778401	RN	EET CHI	07/25/24 11:01
Total/NA	Analysis	300.0		10	779304	NMB	EET CHI	08/01/24 03:55
Total/NA	Analysis	SM 2320B		1	779286	LEG	EET CHI	07/30/24 18:16
Total/NA	Analysis	SM 2540C		1	777853	CLB	EET CHI	07/22/24 21:06
Total/NA	Analysis	SM 4500 F C		1	778153	SO	EET CHI	07/23/24 14:30
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/16/24 14:00

Client Sample ID: HEN_08&D

Date Collected: 07/16/24 15:46

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 14:08
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 15:05
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778401	RN	EET CHI	07/25/24 11:03
Total/NA	Analysis	300.0		10	779304	NMB	EET CHI	08/01/24 04:26
Total/NA	Analysis	SM 2320B		1	779286	LEG	EET CHI	07/30/24 18:26
Total/NA	Analysis	SM 2540C		1	777853	CLB	EET CHI	07/22/24 21:08
Total/NA	Analysis	SM 4500 F C		1	778153	SO	EET CHI	07/23/24 14:34
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/16/24 15:46

Client Sample ID: HEN_16

Date Collected: 07/16/24 15:30

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 14:10
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 15:11
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778401	RN	EET CHI	07/25/24 11:05
Total/NA	Analysis	300.0		5	779304	NMB	EET CHI	08/01/24 05:44
Total/NA	Analysis	SM 2320B		1	779286	LEG	EET CHI	07/30/24 18:46
Total/NA	Analysis	SM 2540C		1	777853	CLB	EET CHI	07/22/24 21:14

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Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_16

Date Collected: 07/16/24 15:30

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 F C		1	778153	SO	EET CHI	07/23/24 14:44
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/16/24 15:30

Client Sample ID: HEN_16_FD

Date Collected: 07/16/24 15:40

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 14:12
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 15:14
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778401	RN	EET CHI	07/25/24 11:07
Total/NA	Analysis	300.0		5	779304	NMB	EET CHI	08/01/24 06:00
Total/NA	Analysis	SM 2320B		1	779286	LEG	EET CHI	07/30/24 19:13
Total/NA	Analysis	SM 2540C		1	777853	CLB	EET CHI	07/22/24 21:16
Total/NA	Analysis	SM 4500 F C		1	778153	SO	EET CHI	07/23/24 14:59
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/16/24 15:40

Client Sample ID: HEN_40#S

Date Collected: 07/16/24 14:43

Date Received: 07/17/24 09:40

Lab Sample ID: 500-253560-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 14:19
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 15:20
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		5	778401	RN	EET CHI	07/25/24 11:14
Total/NA	Analysis	300.0		10	779304	NMB	EET CHI	08/01/24 07:18
Total/NA	Analysis	SM 2320B		1	779286	LEG	EET CHI	07/30/24 19:45
Total/NA	Analysis	SM 2540C		1	777853	CLB	EET CHI	07/22/24 21:24
Total/NA	Analysis	SM 4500 F C		1	778153	SO	EET CHI	07/23/24 15:13
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/16/24 14:43

Client Sample ID: HEN_48R

Date Collected: 07/18/24 09:05

Date Received: 07/18/24 13:00

Lab Sample ID: 500-253560-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778011	RN	EET CHI	07/23/24 14:33

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Client: Vistra Energy Corp
Project/Site: HEN-24Q3

Job ID: 500-253560-3
SDG: HEN_257_801

Client Sample ID: HEN_48R

Date Collected: 07/18/24 09:05

Date Received: 07/18/24 13:00

Lab Sample ID: 500-253560-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		1	778290	RN	EET CHI	07/24/24 15:44
Total Recoverable	Prep	3005A			777840	S1Z	EET CHI	07/22/24 15:20 - 07/22/24 21:20 ¹
Total Recoverable	Analysis	6020B		5	778401	RN	EET CHI	07/25/24 11:20
Total/NA	Analysis	300.0		10	779304	NMB	EET CHI	08/01/24 11:28
Total/NA	Analysis	SM 2320B		1	779286	LEG	EET CHI	07/30/24 20:12
Total/NA	Analysis	SM 2540C		1	778056	CLB	EET CHI	07/23/24 23:06
Total/NA	Analysis	SM 4500 F C		1	778153	SO	EET CHI	07/23/24 15:26
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/18/24 09:05

Client Sample ID: HEN_17

Date Collected: 08/06/24 09:10

Date Received: 08/07/24 09:05

Lab Sample ID: 500-253560-24

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			780445	BDE	EET CHI	08/08/24 09:16 - 08/08/24 15:16 ¹
Total Recoverable	Analysis	6020B		1	780867	RN	EET CHI	08/09/24 18:13
Total Recoverable	Prep	3005A			780445	BDE	EET CHI	08/08/24 09:16 - 08/08/24 15:16 ¹
Total Recoverable	Analysis	6020B		1	781097	RN	EET CHI	08/12/24 14:21
Total/NA	Analysis	300.0		5	780474	LEG	EET CHI	08/08/24 14:15
Total/NA	Analysis	SM 2320B		1	781135	SO	EET CHI	08/12/24 17:52
Total/NA	Analysis	SM 2540C		1	780360	CLB	EET CHI	08/07/24 23:03
Total/NA	Analysis	SM 4500 F C		1	781815	SO	EET CHI	08/15/24 14:15
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	08/06/24 09:10

Client Sample ID: HEN_YSG_ILRIVER

Date Collected: 07/15/24 12:30

Date Received: 07/16/24 13:05

Lab Sample ID: 500-253560-49

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Field Sampling		1	781194	DN	EET CHI	07/15/24 12:30

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Vistra Energy Corp
Project/Site: HEN-24Q3

APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL

Job ID: 590-253560-3
JEN-257801
SDG: HEN_257_801

Laboratory: Eurofins Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	05-31-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Field Sampling		Water	Depth to Water (ft from MP)
Field Sampling		Water	Field pH
Field Sampling		Water	Field Temperature
Field Sampling		Water	Oxidation Reduction Potential
Field Sampling		Water	Oxygen, Dissolved
Field Sampling		Water	Specific Conductance
Field Sampling		Water	Turbidity
SM 2320B		Water	Bicarbonate Alkalinity as CaCO ₃
SM 2320B		Water	Carbonate Alkalinity as CaCO ₃

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14 =
15 =

$70.1 \rightarrow 70.2, 1.0 \rightarrow 70.9, 3.2 \rightarrow 73.1, 1.0 \rightarrow 70.9, 0.9 \rightarrow 70.8, 1.7 \rightarrow 71.6$

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SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER <i>Loyne F. Lewis</i>					
SIGNATURE of SAMPLER <i>Loyne F. Lewis</i>	DATE Signed (MM/DD/YY) <i>7 16 24</i>				

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ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX DRINKING WATER DW WATER WT WASTEWATER 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		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								[Analysis Test]	Requested Analysis Filtered (Y/N)																Residual Chlorine (Y/N)	Project No./ Lab I.D.
					DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other		HEN-257-801	HEN-257-802	HEN-257-803	HEN-257-804	HEN-811-801	HEN-845-802-805	HEN-845-803	HEN-845-804	HEN-WPCP-East	HEN-WPCP-West	HEN-000-RAD	HEN-000						
1	HEN_45#S				7-16-24	0842										X									X	B	SHORT HOLD - NO2								
2	HEN_46																	X						X	C										
3	HEN_47																	X						X	G										
4	HEN_48R															X									I										
5	HEN_49																		X				X	X	H	MS/MSD									
6	HEN_50																		X				X	X	H										
7	HEN_51																		X				X	X	H										
8	HEN_52																		X				X	G											
9	HEN_54																		X				X	G											
10	HEN_54-FB																		X				X	G											
11	HEN_55																		X					J	DTW Only										
12	HEN_YSG ILRIVER															X	X	X	X	X	X	X	X	J	DTW Only										
13	HEN_XSG01																	X					J	DTW Only											
14	FB																					X	C	SHORT HOLD - NO2											
15	TB1				07-16-24	00:00																X	A	BTEX Only											
16	TB2				dbn 082224																	X	A	BTEX Only											
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION			DATE	TIME	ACCEPTED BY / AFFILIATION			DATE	TIME	SAMPLE CONDITIONS																						
HEN-24Q3 Rev 1			Lorne J. King			7/16/24	1546	[Signature]			7/17/24	0940																							

08/26/24

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ITEM #	<div style="text-align: center;">Section D Required Client Information</div>		Valid Matrix Codes <div>MATRIX CODE</div>	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives									Analysis Test ↑ Y/N ↓	Requested Analysis Filtered (Y/N)								Residual Chlorine (Y/N)	Project No./ Lab I.D.	
						Unpreserved	H ₂ SO ₄					HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	HEN-257-801	HEN-257-802	HEN-257-803		HEN-257-804	HEN-811-801	HEN-845-802-805	HEN-845-803	HEN-845-804	HEN-WPCP-East	HEN-WPCP-West	HEN-000-RAD			HEN-000
1	HEN_45#S												X					X		X	B	SHORT HOLD - NO2										
2	HEN_46															X			X	G												
3	HEN_47												X			X			X	G												
4	HEN_48R												X							I												
5	HEN_49															X		X	X	T	MS/MSD											
6	HEN_50															X		X	X	T												
7	HEN_51															X		X	X	H												
8	HEN_52															X			X	E												
9	HEN_54															X			X	S												
10	HEN_54 FD															X			X	G												
11	HEN_55															X				J	DTW Only											
12	HEN_YSG ILRIVER												X	X	X	X	X	X	X	J	DTW Only											
13	HEN_XSC01															X				J	DTW Only											
14	FB															X		X	C	A	SHORT HOLD - NQ2											
15	TB1																	X		A	BTEX Only											
16	TB2																	X		A	BTEX Only											

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REGULATORY AGENCY		
NPDES	GROUND WATER	DRINKING WATER
UST	RCRA	OTHER
Site Location STATE	IL	

24

58 → 57, 18 → 17, 58 → 57 58 → 57, 18 → 17, 58 → 57
62 → 59, 43 → 42 58 → 57, 18 → 17, 58 → 57

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

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08/26/24

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

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APPENDIX A.
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
HENNEPIN POWER PLANT, LANDFILL
HEN-257-801

Login Sample Receipt Checklist

Client: Vistra Energy Corp

Job Number: 500-253560-3

SDG Number: HEN_257_801

Login Number: 253560

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	4.0,-0.2,0.9,3.1,0.9,0.8,1.6,5.7,11.8,12.7,11.8,9.1,11.3,5.7,1.7,5.7,5.9,4.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	False	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Start Date: 7/16/2024		Time: 0805						
Project Number: 2024.0054		Task #: Same		Finish Date: Same		Time: Same						
WELL INFORMATION												
Well ID: 02		Casing ID: 2"		Well Development Well Volume Approach Sampling		EVENT TYPE Low-Flow / Low Stress Sampling Other (Specify): Low Flow						
YSI SERIAL NO 245160326		Herson # 12083302054FR										
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity/Odor
pre	0	0805		44.88		14.4	7.05	984	7.05	3.17	167.8	Clear
purge	5	0810				14.1	7.05	954	7.05	7.40	169.9	
	10	0815		44.97		14.1	7.04	939	7.04	1.60	171.0	
	15	0820				14.2	7.02	938	6.99	1.51	171.5	
*	20	0825		44.97								
	25											
	30											
	35											
	40											
	45											
	50											
	55											
	60											
NOTES (continued)										ABBREVIATIONS		
Sample ID, date, & time: ID 02 7-16-24 0825										Cond - Actual Conductivity FT - Feet Below Top of Casing mg/L - Milligrams per Liter mm - Not Measured °C - Degrees Celsius		
										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units		

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Start Date: 7/16/2024		Time: 0920						
Project Number: 2024.0054		Task #:		Finish Date: 07/16/24		Time: 1050						
Field Personnel: B. Assoling												
WELL INFORMATION				EVENT TYPE								
Well ID: Hen-038		Inches		Well Development Well Volume Approach Sampling		Low-Flow / Low Stress Sampling Other (Specify): Low Flow						
Casing ID:						YSI SERIAL NO 24A01225						
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity/Odor
pre	0	0925	0.5	34.91	—	13.3	7.19	0.820	4.80	7.88	-14.4	Clear
purge	5	0927	0	34.90	—	18.2	7.20	0.787	0.30	12.03	81.5	↓
↓	10	0932	0.5	34.90	—	18.2	7.21	0.792	0.29	9.16	62.0	↓
↓	15	0937	1	34.90	—	18.3	7.21	0.797	0.27	8.70	71.3	↓
↓	20	0942	2	34.90	—	18.3	7.21	0.797	0.27	8.72	77.6	↓
↓	25	0947	3	34.90	—	18.2	7.21	0.792	0.20	4.88	81.0	↓
↓	30	0952	4									
↓	35	0953										
↓	40											
↓	45											
↓	50											
↓	55											
↓	60											
NOTES (continued)										ABBREVIATIONS		
Sample ID, date, & time: Sampled @ 0953 on 07/16/24										Cond - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable nm - Not Measured		
Sample ID: Hen-038 Duplicate @ 0953 on 07/16/24										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature C - Degrees Celsius		

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra										
Project Number: 2024.0054		Task #: 1045		Time: 1045								
Field Personnel: Lorne		Finish Date: SAME		Time: 1120								
WELL INFORMATION				EVENT TYPE								
Well ID: 05F				Low-Flow / Low Stress Sampling								
Casing ID: 2"				Other (Specify): Low Flow								
				YSI SERIAL NO 24E100326								
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C) +/- 10%	pH (SU) +/- 0.01	SEC or Cond. (µS/cm) +/- 5%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) +/- 10%	ORP (mV) +/- 10%	Visual Clarity/Odor
pre	0	1045		41.11		20.4	7.64	918	1.19	870	160.7	clear
purge	5	1050		41.1		20.5	7.63	918	0.74	776	160.7	
	10	1055				20.3	7.63	915	0.67	701	159.3	
	15	1100		41.11		20.3	7.63	916	0.61	586	159.2	
*	20	1105				20.3	7.63	915	0.60	479	158.6	
	25	1110		41.15		20.3	7.63	914	0.61	390	158.5	
	30	1115				20.4	7.63	917	0.60	335	158.5	
	35	1120										
	40											
	45											
	50											
	55											
	60											
Sample ID, date, & time: ID 05F 7-16-24 Time 1120				NOTES (continued)						ABBREVIATIONS		
Cond. - Actual Conductivity PT BIOC - Feet Below Top of Casing Temp. - Temperature mm - Not Measured C - Degrees Celsius ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units												

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Start Date: 7/16/2024		Time: 1140						
Project Number: 2024.0054		Task #: 5142		Finish Date: Same		Time: 1215						
Field Personnel: Lorne		Finish Date: Same		Time: 1215								
WELL INFORMATION												
Well ID: 5142		Well Development		Well Volume Approach Sampling		EVENT TYPE		YSI SERIAL NO				
Casing ID: 2"		2"		2"		2"		24E100 326				
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 10%	pH (SU) +/- 0.01	SEC or Cond. (µS/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) +/- 10%	ORP (mV) +/- 10%	Visual Clarity/Odor
pre	0	1145		41.11		20.1	7.43	914	3.34	3.36	159.4	clear
purge	5	1150				20.0	7.41	914	3.85	6.60	159.3	
	10	1155		41.11		19.9	7.41	913	3.79	6.22	158.5	
	15	1200				19.9	7.41	913	3.78	6.65	157.8	
*	20	1205		41.11		19.9	7.41	913	3.77	7.49	156.8	
	25	1210				19.9	7.41	913	3.76	7.82	156.1	
	30	1215		41.11								
	35	1220										
	40											
	45											
	50											
	55											
	60											
NOTES (continued)												
Sample ID, date, & time: 7-16-24 Time 1215 ID 5142												
ABBREVIATIONS												
Cond. - Actual Conductivity FT - Feet below top of Casing mg - Not Applicable mm - Not Measured												
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units °C - Degrees Celsius												

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Start Date: 7/15/2024		Time: 1430						
Project Number: 2024.0054		Task #:		Finish Date: 5 June		Time: 1520						
Field Personnel: Lorne F												
WELL INFORMATION												
Well ID: 07		Casing ID: 21		Inches		EVENT TYPE		YSI SERIAL NO				
						Low-Flow / Low Stress Sampling		24E100326				
						Other (Specify Low-Flow)						
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- .001	pH (SU) +/- 0.01	SEC or Cond. (µS/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) +/- 10%	ORP (mV) +/- 10%	Visual Clarity/Odor
pre	0	1430		67.77		89.0						
purge	5	1450				16.4	6.67	1.419	7.35	1.66	182.2	Clear
	10	1455		67.77		16.8	6.67	1.520	7.26	1.99	182.7	
	15	1500				16.9	6.66	1.622	7.04	1.67	189.6	
	20	1505		67.77		16.5	6.65	1.655	6.85	2.00	191.9	
	25	1510				16.4	6.65	1.659	6.84	2.47	191.9	
	30	1515		67.77		16.4	6.65	1.662	6.82	2.66	192.1	
	35	1520										
	40											
	45											
	50											
	55											
	60											
NOTES (continued)												
Sample ID, date, & time: Sample @ 1520												
ABBREVIATIONS												
Cond - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable mm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature °C - Degrees Celsius												

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: <u>Hennepin</u>		Client: <u>Vistra</u>		Start Date: <u>7/16/2024</u>		Time: <u>1510</u>						
Project Number: <u>2024.0054</u>		Task #: <u></u>		Finish Date: <u>07/16/2024</u>		Time: <u>1538</u>						
Field Personnel: <u>G. Acallano</u>												
WELL INFORMATION				EVENT TYPE								
Well ID: <u>Hen-08D</u>		Inches		Well Development Well Volume Approach Sampling				Low-Flow / Low Stress Sampling Other (Specify): <u>Low Flow</u>				YSI SERIAL NO <u>24A101225</u>
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity/Odor
pre	0	1515	—	54.09	—	15.4	7.0	—	—	—	—	—
purge	5	1520	0.5	54.05	—	15.8	6.96	1.862	3.10	4.62	190.0	clear
↓	10	1525	0.5	—	—	15.4	6.68	1.834	0.52	4.23	197.7	clear
↓	15	1530	1	54.09	—	15.5	6.68	1.838	0.48	4.67	197.8	↓
↓	20	1535	1.5	54.08	—	15.4	6.69	1.835	0.22	4.64	197.1	↓
↓	25	1540	1.5	54.06	—	15.3	6.69	1.826	0.18	4.56	196.1	↓
↓	30	1545	2.5	54.08	—	15.4	6.69	1.824	0.28	4.91	195.6	↓
Final	35											
	40											
	45											
	50											
	55											
	60											
NOTES (continued)				ABBREVIATIONS								
Sample ID: <u>Hen-08D</u> on <u>Hen-08D</u>				Cond. - Actual Conductivity PT BOC - Feet Below Top of Casing m - Meters mm - Millimeters °C - Degrees Celsius								
Sampled at 1546 on 07/16/24				ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature °C - Degrees Celsius								

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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Start Date: 7/16/2024		Time: 0915						
Project Number: 2024.0054		Task #: Same		Finish Date: 0945		Time: 0945						
Field Personnel: Lorne												
WELL INFORMATION												
Well ID: 10		Casing ID: 2		Inches		Well Development Well Volume Approach Sampling		EVENT TYPE Low-Flow / Low Stress Sampling Other (Specify): Low Flow		YSI SERIAL NO 24E100326		
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.01	pH (SU) +/- 0.01	SEC or Cond. (µS/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) +/- 10%	ORP (mV) +/- 10%	Visual Clarity/Odor
pre	0	0915		50.67		20.0	7.14	890	2.67	0.92	176.7	Clear
purge	5	0926		50.65		20.2	7.12	893	1.17	0.72	176.9	
	10	0925				20.3	7.12	897	0.99	0.75	174.3	
	15	0930				20.4	7.11	895	0.96	0.96	172.4	
	20	0935				20.3	7.11	894	0.94	0.64	171.7	
	25	0940				20.3	7.11	894	0.93	0.81	176.8	
	30	0945										
	35											
	40											
	45											
	50											
	55											
	60											
NOTES (continued)												
Sample ID, date, & time: ID-10 7-16-24 Time 0945												
ABBREVIATIONS Cond - Actual Conductivity FT BTQC - Feet Below Top of Casing nd - Not Applicable mm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature C - Degrees Celsius												

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Start Date: 7/15/2024		Time: 1500						
Project Number: 2024.0054		Task #: 715/24		Finish Date: 7/15/24		Time: 1600						
Field Personnel: A. Belkoff, P. Asim												
EVENT TYPE												
Well ID: HEN-12		Well Development		Well Volume Approach Sampling		Low-Flow / Low Stress Sampling		YSI SERIAL NO				
Casing ID:		inches				Other (Specify): Low Flow		24101225				
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity/Odor
pre	0	1505	—	51.4	—	18.4	7.60	710	5.47	5.27	46.4	Clear
purge	5	1510	0.5	51.39	0.01	17.4	7.34	677	2.92	5.64	79.6	Clear
↓	10	1515	0.5	51.38	0	17.3	7.33	676	2.85	5.22	88.4	Clear
↓	15	1520	1	51.38	0	17.3	7.33	676	2.82	4.89	95.3	Clear
↓	20	1525	1.5	51.4	0.02	17.3	7.32	677	2.84	4.57	101.0	↓
↓	25	1530	2.5	51.4	0	18.0	7.32	678	2.81	4.02	100.5	↓
↓	30	1535	3.0	51.4	0	18.0	7.32	678	2.79	4.03	108.5	↓
↓	35	1540	3.0	51.4	0	18.0	7.32	678	2.79	4.03	108.5	↓
	40											
	45											
	50											
	55											
	60											
NOTES (continued)										ABBREVIATIONS		
Sample ID, date, & time: <i>At 1525, water level below pump.</i>										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units		
Sampled at: <i>1545 on 7/15/24</i>										Turbidity - NTU - Nephelometric Turbidity Units		
Sample ID: <i>Hen-12</i>										Temp - °C - Degrees Celsius		

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Visira Start Date: 7/15/2024 Time: 1600
Project Number: 2024.0054 Task #: _____
Field Personnel: G. Aschallong Finish Date: 07/15/24 Time: 1640

WELL INFORMATION

Well ID: Hen-13
Casing ID: _____ inches

EVENT TYPE

Well Development
Well Volume Approach Sampling
Low-Flow / Low Stress Sampling
Other (Specify): Low Flow

YSI SERIAL NO
2461225

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity/Odor
pre	0	1610		51.36	0.01	18.1	7.34	307	7.51	9.14	139.3	clear
purge	5	1612	1	51.37	0.01	18.1	7.34	307	7.51	9.14	139.3	clear
↓	10	1617		51.38	0.01	17.8	7.35	685	2.44	4.19	138.9	↓
↓	15	1622	2	51.38	0	17.7	7.35	684	2.38	4.23	138.0	↓
↓	20	1627		51.35		17.6	7.35	684	2.37	4.20	139.1	↓
↓	25	1633	3									↓
↓	30											
↓	35											
↓	40											
↓	45											
↓	50											
↓	55											
↓	60											

NOTES (continued)

Sample ID, date, & time: 1635 07/15/24
sample ID: Hen-13

ABBREVIATIONS

Cond - Actual Conductivity
FEC - Below Top of Casing
na - Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductivity
Temp - Temperature
°C - Degrees Celsius

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin	Client: Vistra	Task #: 1455	Start Date: 7/16/2024	Time: 1455								
Project Number: 2024.0054	Finish Date: Same	Time: 1530										
Field Personnel: Lorne												
WELL INFORMATION					EVENT TYPE							
Well ID: 14	Well Development				Low-Flow / Low Stress Sampling							
Casing ID: 2	Well Volume Approach Sampling				Other (specify): Low Flow							
YSI SERIAL NO 245100326					Heron 17DF2202054FR							
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C) +/- 10%	pH (SU) +/- 0.01	SEC or Cond. (µS/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) +/- 10%	ORP (mV) +/- 10%	Visual Clarity/Odor
pre	0	1455		54.22		21.7	7.25	818	2.06	1.45	216.4	Clear
purge	5	1500				21.9	7.27	822	2.08	1.30	209.5	
	10	1505		54.22		22.0	7.27	822	2.53	1.13	205.5	
	15	1510		54.22		21.9	7.27	823	2.51	1.17	201.0	
*	20	1515				22.0	7.27	823	2.50	1.15	195.9	
	25	1520		54.22		22.0	7.27	823	2.48	1.13	193.5	
	30	1525		54.22		22.1	7.27	823	2.48	1.12	192.9	
	35	1530										
	40											
	45											
	50											
	55											
	60											
NOTES (continued)										ABBREVIATIONS		
Sample ID, date, & time: ID 14 7-16-24 Time 1530										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units		
										m - Not Measured		
										°C - Degrees Celsius		

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Dupe at 1540

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra										
Project Number: 0054		Task #: 8645		Start Date: 8/6/2024 Time: 0845								
Field Personnel: Corne F.		Finish Date: 8/6/2024		Time: 0910								
WELL INFORMATION				EVENT TYPE								
Well ID: 17		Casing ID: 2		Inches		Well Development Well Volume Approach Sampling						
Well ID: 17		Casing ID: 2		Inches		Low-Flow / Low Stress Sampling Other (Specify): Low Flow						
YSI SERIAL NO: 2414101283		Heron Serial NO: 0102172X										
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	0856		56.12		21.9	7.23	.789	6.89	.88	65.6	Clear
Purge	5	0855		56.12		22.5	7.24	.789	6.91	1.43	78.7	
	10	0900		56.12		22.9	7.24	.789	6.89	1.49	80.3	
	15	0905		56.12		23.0	7.24	.789	6.82	1.41	84.2	
*****	20	0910		56.12		23.0	7.24	.789	6.79	1.43	88.7	
Final	25	0915	2.9AL									
	30											
	35											
	40											
	45											
	50											
	55											
	60											
NOTES (continued)										ABBREVIATIONS		
Sample ID: 17										Cond - Actual Conductivity		
Sampled @ 0910 on 8/6/24										FT BTOC - Feet Below Top of Casing na -		
										Not Applicable		
										nm - Not Measured		
										Temp - Temperature		
										°C - Degrees Celsius		

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra										
Project Number: 2024.0054		Task #: 1240		Time: 1240								
Field Personnel: G. Asgari		Finish Date: 07/16/24		Time: 1337								
WELL INFORMATION				EVENT TYPE								
Well ID: Hen-18D		Well Development		Low-Flow / Low Stress Sampling								
Casing ID: inches		Well Volume Approach Sampling		Other (Specify): Low Flow								
YSI SERIAL NO 24A101225												
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity/Odor
pre	0	1241	—	40.45	—	—	—	—	—	—	—	—
purge	5	1245	—	40.40	—	18.1	7.29	0.781	3.23	6.7	162.7	Clear
↓	10	1250	1	40.30	—	18.9	7.19	0.786	2.01	9.53	167.5	↓
↓	15	1255	1.5	40.55	—	18.4	7.18	0.781	0.53	8.00	166.3	↓
↓	20	1300	2	40.57	—	17.8	7.17	0.788	0.45	8.94	164.4	↓
↓	25	1305	2	40.60	—	18.4	7.18	0.787	0.44	9.00	162.5	↓
↓	30	1310	2.5		—	18.4	7.17	0.783	0.69	8.92	160.4	↓
↓	35	1315	3		—	18.5	7.17	0.785	0.66	8.88	159.4	↓
Final	40											
	45											
	50											
	55											
	60											
NOTES (continued)										ABBREVIATIONS		
Sample ID, date, & time: Sample ID: Hen-18&D Sampled at @ 1317										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature °C - Degrees Celsius		

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Start Date: 7/10/2024 Time: 1144								
Project Number: 2024.0054		Task #: 188-6A		Finish Date: 09/16/2024 Time: 1231								
Field Personnel: George Aschley												
WELL INFORMATION												
Well ID: Hen-185		Well Development		Well Volume Approach Sampling		Low-Flow / Low Stress Sampling						
Casing ID:		inches				YSI SERIAL NO 24A101225						
EVENT TYPE												
Low-Flow / Low Stress Sampling												
Other (Specify): Low Flow												
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (feet)	Drawdown (feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity/Odor
pre	0	1144	—	40.39	—	—	—	—	—	—	—	—
purge	5	1145	0	—	—	17.3	7.45	0.903	86.7	3.67	139.0	1200
↓	10	1150	0.5	—	—	18.0	7.36	0.823	0.74	7.65	148.1	↓
↓	15	1155	1	40.41	—	17.9	7.37	0.811	0.32	5.38	148.1	↓
↓	20	1200	1.5	—	—	17.9	7.37	0.810	0.24	5.12	148.2	↓
↓	25	1205	2	—	—	17.9	7.37	0.811	0.21	4.50	147.2	↓
↓	30	1234	—	—	—	—	—	—	—	—	—	—
↓	35	—	—	—	—	—	—	—	—	—	—	—
↓	40	—	—	—	—	—	—	—	—	—	—	—
↓	45	—	—	—	—	—	—	—	—	—	—	—
↓	50	—	—	—	—	—	—	—	—	—	—	—
↓	55	—	—	—	—	—	—	—	—	—	—	—
↓	60	—	—	—	—	—	—	—	—	—	—	—
NOTES (continued)												
Sample ID, date, & time: Sampled @ 1206 Sample ID: Hen-185-6A												
Sample ID: Hen-185-6A												
Abbreviations												
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductivity												
FT BTCC - Feet Below Top of Casing												
na - Not Applicable												
nm - Not Measured												
°C - Degrees Celsius												

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Vistra Task #: 1240 Time: 1240
 Project Number: 8/6/2024
 Field Personnel: G. Assalling Finish Date: 8/6/24 Time: 1340

WELL INFORMATION

Well ID: -21R Inches 2
 Casing ID: 2

EVENT TYPE

Well Development
 Well Volume Approach Sampling
 Low-Flow/Low Stress Sampling Other
 (Specify): Low Flow
 YSI SERIAL NO: U123119X
 Heron Serial NO: U116738x

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1247	—	6.11	—	—	—	—	—	—	—	6h
Purge	5	1250	0.52	6.22	—	16.8	7.46	0.967	2.92	26.64	-94.7	Clear
	10	1255	0.5	6.34	—	14.3	7.42	0.973	2.93	31.41	-126.0	" "
	15	1300	1	6.25	—	14.0	7.42	0.969	3.77	23.62	-136.2	" "
*****	20	1305	2	6.21	—	14.0	7.42	0.970	3.86	21.89	-137.4	" "
✓	25	1310	2.5	6.20	—	13.9	7.42	0.969	3.77	21.59	-139.5	" "
Final	30	1335	4	6.25	—	—	—	—	—	—	—	—
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

ABBREVIATIONS

Cond - Actual Conductivity
 FT BTOC - Feet Below Top of Casing na - Not Applicable
 nm - Not Measured
 ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Siemens Unit
 Temp - Temperature
 °C - Degrees Celsius

Sample ID: -21R, -21RMS -21RMSD
 Sampled @ 1315 on 8/6/24

MSMSD
 21R @ 1315
 21R - MS
 21R - MS - MSD

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Visira Task #: 1525 Time: 1525
 Project Number: 8/15/2024
 Field Personnel: G. Ascalon Finish Date: 8/6/24 Time: 1600

WELL INFORMATION

Well ID: 22 Inches 2'

EVENT TYPE

Well Development
Well Volume Approach Sampling

Low-Flow / Low Stress Sampling Other
(Specify): Low Flow
YSI SERIAL NO: 1725190
Heron Serial NO: 4116738x

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1525	—	18.58	—	—	—	—	—	—	—	—
Purge	5	1530	0.5	18.64	—	16.6	7.66	0.875	4.30	0.77	75.1	Clear
	10	1535	0.5	18.71	—	15.9	7.52	0.871	3.18	1.36	63.1	" "
	15	1540	1	18.69	—	15.9	7.53	0.869	3.19	1.09	56.4	" "
****	20	1545	2	18.63	—	15.9	7.53	0.869	3.16	1.17	55.4	" "
Final	25	1552	—	18.58	—	—	—	—	—	—	—	—
	30											
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: 22
 Sampled @ on 8/16/2024

ABBREVIATIONS

Conds - Actual Conductivity
FT BTOC - Feet Below Top of Casing na -
Units
Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential SEC
Specific Electrical Conductance SU - Standard
Temp. - Temperature
°C - Degrees Celsius

1550

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION			
Site: <u>Hennepin</u>	Client: <u>Vistra</u>	Start Date: <u>8/6/2024</u>	Time: <u>1444</u>
Project Number: <u>6. Assembly</u>	Task #: <u>3/6/24</u>	Finish Date: <u>1525</u>	
Field Personnel: <u>G. Asally</u>			
WELL INFORMATION			
Well ID: <u>ZzD</u>	Well Development: <u>Well Volume Approach Sampling</u>	Event Type: <u>Low Flow Low Stress Sampling Other</u>	YSI SERIAL NO: <u>41223187</u>
Casing ID: <u>2" Inches</u>			Heron Serial NO: <u>4116733x</u>

WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1445	—	20.0	—	—	—	—	—	—	—	—
Purge	5	1450	0.3	20.36	—	17.6	7.31	0.935	3.70	4.65	92.3	Clear
	10	1455	0.5	19.72	—	16.5	7.21	0.947	1.57	3.99	-86.3	" "
	15	1500	1	19.43	—	16.5	7.21	0.950	4.01	3.70	-77.5	" "
*****	20	1505	1.5	19.39	—	16.5	7.22	0.950	1.07	3.56	-84.2	" "
↓	25	1510	2	19.35	—	16.5	7.22	0.951	0.94	3.14	-82.2	" "
Final	30	1522		19.40								
	35											
	40											
	45											
	50											
	55											
	60											
NOTES (continued)												
ABBREVIATIONS												
Cond - Actual Conductivity FT BTOP - Feet Below Top of Casing na Not Applicable nm - Not Measured												
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature C - Degrees Celsius												

Sample ID: -22D

Sampled @ 1515 on 8/6/24

1515



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: <u>Hennepin</u>		Client: <u>Vistra</u>		Task #: _____								
Project Number: <u>2024.0054</u>		Start Date: <u>7/18/2024</u>		Time: <u>0840</u>								
Field Personnel: <u>En. Azevedo</u>		Finish Date: <u>07/18/24</u>		Time: <u>0955</u>								
WELL INFORMATION				EVENT TYPE								
Well ID: <u>Hen-23</u>		Well Development		Low-Flow / Low Stress Sampling		YSI SERIAL NO						
Casing ID: _____		Well Volume Approach Sampling		Other (Specify): Low Flow		<u>41223181</u>						
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µscm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity/Odor
pre	0	0841	—	16.51	—	13.6	7.31	1.077	1.74	10.54	-52.8	—
purge	5	0845	0.5	16.64	—	13.5	7.47	1.076	0.25	9.42	-97.3	Clear
↓	10	0850	0.5	16.72	—	13.5	7.45	1.072	0.21	10.39	-100.3	↓
↓	15	0855	1	16.80	—	13.5	7.48	1.069	0.18	12.60	-99.4	↓
↓	20	0900	2	16.85	—	13.5	7.49	1.068	0.16	19.96	-95.0	↓
↓	25	0905	3	16.79	—	13.6	7.50	1.067	0.16	19.66	-91.3	↓
↓	30	0910	4	16.72	—	13.6	7.51	1.067	0.15	16.58	-87.0	↓
↓	35	0915	4.5	16.77	—	13.6	7.51	1.067	0.14	11.48	-85.3	↓
↓	40	0920	5	16.80	—	13.6	7.51	1.066	0.14	12.54	-82.9	↓
↓	45	0925	5.5	16.82	—	13.6	7.51	1.066	0.14	13.8	-80.4	↓
↓	50	0930	6.5	16.68	—	13.6	7.51	1.065	0.13	15.49	-78.6	↓
↓	55	0935	7	16.72	—	13.6	7.51	1.066	0.13	16.81	-78.1	↓
↓	60	0940	7.5	16.84	—	13.4	7.51	1.066	0.15	6.81	-78.1	↓
NOTES (continued)												
Sample ID, date, & time: <u>Sample ID: Hen-23</u>												
<u>Sampled at 0945 on 7/18/24</u>												

Cond. - Actual Conductivity
mS/cm - Feet Below Top of Casing
Temp. - Temperature
mm - Not Measured

ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units
Temp. - Temperature
°C - Degrees Celsius

ABBREVIATIONS

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Vistra
 Project Number: Task #: Start Date: 8/16/2024 Time: 1018
 Field Personnel: G. Assalony Finish Date: 8/16/2024 Time: 1055

WELL INFORMATION

Well ID: 21 Casing ID: 21 Inches

EVENT TYPE

Well Development
 Well Volume Approach Sampling

Low-Flow / Low Stress Sampling Other
 (Specify): Low Flow

YSI SERIAL NO: 11223182
 Heron Serial NO: 446728 X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1020	0	4.46	—	—	—	—	—	—	—	—
Purge	5	1025	0.52	4.43	—	12.9	7.12	0.950	0.43	10.15	1.9	Clear
	10	1030	1	4.41	—	12.8	7.11	0.950	0.23	7.89	-6.7	" "
	15	1035	1.5	4.43	—	12.8	7.11	0.950	0.16	5.75	-11.3	" "
****	20	1040	3	4.42	—	12.7	7.11	0.949	0.11	6.57	-14.7	" "
End	25	1055	3.5	4.34	—	—	—	—	—	—	—	—
	30											
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: 27
 Sampled @ 1045 on 8/16/2024

ABBREVIATIONS

Cond - Actual Conductivity
 FT BT OC - Feet Below Top of Casing na -
 Specific Electrical Conductance SU - Standing
 Not Applicable
 nm - Not Measured
 Temp - Temperature
 C - Degrees Celsius

ORP - Oxidation-Reduction Potential SEC -

Sampled @ 1045

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Visira
 Project Number: Task #: Start Date: 8/6/2024 Time: 0930
 Field Personnel: G. Asailling Finish Date: 8/6/2024 Time: 1015

WELL INFORMATION

Well ID: 52
 Casing ID: 2 inches

EVENT TYPE

Well Development
 Well Volume Approach Sampling
 Low Flow / Low Stress Sampling Other
 (Specify): Low Flow
 YSI SERIAL NO: 4172318 X
 Heron Serial NO: U116738X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	0930	—	5.48	—	—	—	—	—	—	—	GA
Purge	5	0935	0.37	5.30	—	13.3	7.11	0.821	2.69	16.25	73.5	Clear
	10	0940	2	5.45	—	13.3	7.06	0.819	2.40	3.43	74.1	"
	15	0945	3	5.48	—	13.4	7.05	0.818	0.80	5.72	75.5	"
*****	20	0950	4	5.65	—	13.3	7.08	0.818	0.65	4.26	69.4	"
↓	25	0955	5	5.45	—	13.4	7.06	0.817	0.62	2.25	68.4	"
Final	30	1000	6	5.35	—	—	—	—	—	—	—	—
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: —32
 Sampled @ 1000 on 8/6/2024

ABBREVIATIONS

Cond - Actual Conductivity
 FT BTOC - Feet Below Top of Casing
 Not Applicable
 nm - Not Measured
 ORP - Oxidation-Reduction Potential SEC
 Specific Electrical Conductance SU - Standard Units
 Temp - Temperature
 °C - Degrees Celsius

Sampled @ 1000

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Visira
 Project Number: Task #: Start Date: 8/6/2024 Time: 0847
 Field Personnel: G. Asailler Finish Date: 8/6/2024 Time: 0920

WELL INFORMATION

Well ID: 34
 Casing ID: 2nd Inches

EVENT TYPE

Well Development
 Well Volume Approach Sampling

Low-Flow/~~Low-Flow~~ Stress Sampling Other
 (Specify) Low Flow

YSI SERIAL NO: 412218X
 Heron Serial NO: 4116738X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	0840	—	8.25	—	—	—	—	—	—	—	Col
Purge	5	0845	0.5	8.32	—	12.9	7.20	1.107	3.54	12.49	-75.6	Cl20x
	10	0850	0.5	8.40	—	13.1	7.02	1.071	0.74	15.07	-93.5	" "
	15	0855	1	8.37	—	13.1	6.99	1.075	0.28	14.02	-98.7	" "
*****	20	0900	1.5	8.30	—	13.1	6.98	1.074	0.20	13.17	-100.00	" "
↓	25	0905	2	8.22	—	12.6	6.99	1.082	0.15	13.79	-101.7	" "
Final	30	0915	2.5	8.31	—	—	—	—	—	—	—	—
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: — 34
 Sampled @ 0910 on 8/6/2024

ABBREVIATIONS

Cond - Actual Conductivity
 FT BTOC - Feet Below Top of Casing =
 Not Applicable
 nm - Not Measured
 ORP - Oxidation-Reduction Potential SEC
 Specific Electrical Conductance SU - Standard Units
 Temp - Temperature
 °C - Degrees Celsius

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION Site: <u>Hennepin</u> Project Number: <u>Task #:</u> Client: <u>Visira</u> Start Date: <u>8/6/2024</u> Time: <u>110</u> Finish Date: <u>8/4/2024</u> Time: <u>1200</u>		YSI SERIAL NO: <u>4122318X</u> Heron Serial NO: <u>4116338Y</u>
WELL INFORMATION Well ID: <u>33</u> Casing ID: <u>2</u> inches		EVENT TYPE Low-Flow / Low Stress Sampling Other (Specify): <u>Low Flow</u>

WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1112	—	8.391	—	—	—	—	—	—	—	CAH
Purge	5	1115	0.5	8.45	—	15.9	6.88	1.810	1.00	5.17	106.5	Clear
	10	1120	0.5	8.49	—	15.8	6.85	1.728	0.32	2.07	111.0	" "
	15	1125	1	8.51	—	15.8	6.85	1.718	0.18	6.85	113.5	" "
*****	20	1130	1.5	8.42	—	15.8	6.85	1.723	0.14	6.85	114.6	" "
Final	25	1152	3	8.39	—	—	—	—	—	19.47	—	—
	30											
	35											
	40											
	45											
	50											
	55											
	60											
NOTES (continued)								ABBREVIATIONS				
ANNUAL GROUNDWATER MONITORING AND CORRELATION WITH SURFACE WATER AND COASTAL HENNER												

Sample ID: <u>33</u> Sampled @ <u>1135</u> on <u>8/6/2024</u> Duplicate	NOTES (continued)	ABBREVIATIONS Cond - Actual Conductivity FT BTOC - Feet Below Top of Casing Not Applicable mm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature °C - Degrees Celsius
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Field @ 1135
Dup



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Start Date: 7/16/2024								
Project Number: 2024.0054		Task #: 1440		Time: 1440 GA								
Field Personnel: S. Assa		Finish Date: 07/16/2024		Time: 1452								
WELL INFORMATION		Well ID: H2A-405		Well Development		EVENT TYPE						
Casing ID: inches		Well Volume Approach Sampling		Low-Flow / Low Stress Sampling		YSI SERIAL NO						
				Other (Specify): Low Flow		24A10225						
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity/Odor
pre	0	1421		40.38		17.8	7.84	0.723	0.90		4/- 10.4	GA
purge	5	1425		40.38		17.8	7.84	0.718	0.26	25.21	92.3	1204
↓	10	1430		40.38		17.8	7.84	0.715	0.20	9.90	110.3	↓
↓	15	1435		40.38		17.8	7.83	0.714	0.18	9.03	115.2	↓
↓	20	1440		40.38		17.8	7.83	0.714	0.18	8.50	118.1	↓
↓	25	1445		40.38								
↓	30	1452										
↓	35											
↓	40											
↓	45											
↓	50											
↓	55											
↓	60											
NOTES (continued)										ABBREVIATIONS		
Sample ID: Hen-4045										Cond - Actual Conductivity		
Sampled at 1443 on 07/16/24										FT - Feet below top of Casing		
										m - Not Applicable		
										mm - Not Measured		
										°C - Degrees Celsius		
										ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units		

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: <u>Visira</u>		Start Date: <u>7/16/2024</u>		Time: <u>0807</u>						
Project Number: 2024.0054		Task #: _____		Finish Date: <u>07/16/2024</u>		Time: <u>0907</u>						
Field Personnel: <u>G. Assallery</u>												
WELL INFORMATION		EVENT TYPE										
Well ID: <u>Hen-455</u>		Well Development		Well Volume Approach Sampling		Low-Flow / Low Stress Sampling		YSI SERIAL NO <u>24A101225</u>				
Casing ID: _____		inches				Other (Specify): Low Flow						
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.01	SEC or Cond. (µS/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) +/- 10%	ORP (mV) +/- 10%	Visual Clarity/Odor
pre	0	0807	—	20.26	—	—	—	—	—	—	—	—
purge	5	0810	0	20.24	—	19.7	7.10	0.911	1.73	37.54	13.9	Clear
↓	10	0815	0	20.25	—	19.6	7.08	0.916	0.45	32.18	57.7	↓
↓	15	0820	1	20.23	—	19.6	7.07	0.913	0.21	22.48	76.7	↓
↓	20	0825	1	20.22	—	19.6	7.07	0.911	0.18	16.01	84.9	↓
↓	25	0830	2	20.24	—	19.6	7.07	0.910	0.17	12.34	90.0	↓
↓	30	0835	3	20.23	—	19.7	7.07	0.912	0.18	12.10	94.5	↓
↓	35	0840	4	20.23	—	19.7	7.07	0.911	0.17	12.12	96.2	↓
Final	40	0842	5	20.22	—	—	—	—	—	—	—	—
	45											
	50											
	55											
	60											
NOTES (continued)												
Sample ID, date, & time: Sampled (a) 0842 on 07/16/24												
Sample ID: Hen-455												
ABBREVIATIONS												
Cond - Actual Conductivity m - 100 Feet below Top of Casing Temp - Temperature mm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Turb - Turbidity °C - Degrees Celsius												

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Visira
 Project Number: 6054 Task #: 8/6/2024 Time: 0930
 Field Personnel: LORE F. Finish Date: Same Time: 0955

WELL INFORMATION

Well ID: 46
 Casing ID: 2" Inches

EVENT TYPE

Well Development
 Well Volume Approach Sampling

Low-Flow / Low Stress Sampling Other
 (Specify): Low Flow

YSI SERIAL NO: 249101225
 YSI Serial NO: U102.112X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	0930		51.61								
Purge	5	0935		51.80		19.8	7.32	.859	4.44	1.38	115.5	Clear
	10	0940		51.80		19.7	7.32	.857	2.05	1.50	117.9	
	15	0945		51.80		19.6	7.23	.858	1.97	1.54	117.0	
*****	20	0950		51.83		19.6	7.24	.857	1.96	1.50	116.5	
	25	0955	2.56	51.83		19.5	7.24	.857	1.94	1.51	116.6	
	30											
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: 46
 Sampled @ 0955 on 8/6/24

ABBREVIATIONS

Cond - Actual Conductivity
 FT BTOC - Feet Below Top of Casing na - Not Applicable
 nm - Not Measured
 ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units
 Temp - Temperature
 °C - Degrees Celsius



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Visira
Project Number: 0054 Task #: 100 Start Date: 8/6/2024 Time: 11:00
Field Personnel: Lorne F. Finish Date: 8/6/2024 Time: 11:20

WELL INFORMATION

Well ID: 47 2 Inches
Casing ID: 2

EVENT TYPE

Well Development
Well Volume Approach Sampling
Low-Flow / Low Stress Sampling Other YSI SERIAL NO: 2410225
(Specify) Low Flow Heron Serial NO: 0102112X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1100		55.90								
Purge	5	1105		55.90		18.5	7.14	910	3.46	1.13	143.6	
	10	1110		55.90		18.6	7.17	907	2.88	.33	143.7	
	15	1115		55.90		18.5	7.17	907	2.78	.27	143.5	
*****	20	1120	26 GAL	55.90		18.4	7.17	907	2.77	.44	143.5	
	25											
	30											
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: 47
Sampled @ 1120 on 8/6/24

ABBREVIATIONS

Cons - Actual Conductivity
FT BTOC - Feet Below Top of Casing na -
Units
nm - Not Measured
Temp - Temperature
°C - Degrees Celsius

ORP - Oxidation-Reduction Potential SEC

Specific Electrical Conductance SU - Standard

Units

Temp - Temperature

°C - Degrees Celsius

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Vistra
Project Number: 2024.0054 Task #: Start Date: 7/18/2024 Time: 0830
Field Personnel: Lorne Finish Date: Dave Time:

WELL INFORMATION

Well ID: 484R
Casing ID: 24
Inches: NoBladder
EVENT TYPE: Low-Flow / Low Stress Sampling
YSI SERIAL NO: 245100 326
Other (Specify) Low Flow

WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 10%	pH (SU) +/- 0.01	SEC or Cond. (µs/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) +/- 10%	ORP (mV) +/- 10%	Visual Clarity/Odor
pre	0	0835		40.53		18.6	7.70	909	.50	209.17	127.5	cloudy
purge	5	0845		40.53		18.6	7.70	908	.20	55.29	121.7	↓
	10	0850		40.53		18.5	7.69	909	.19	27.14	115.2	clear
	15	0855		40.53		18.6	7.69	910	.19	13.19	110.3	↓
	20	0900		40.53		18.6	7.69	910	.18	8.56	109.1	↓
	25	0905	2.621	40.53								
	30	0910										
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID, date, & time: ID 484R 7-18-24 @ 0905

ABBREVIATIONS

Cond - Actual Conductivity
FI BOC - Feet Below Top of Casing
N/A - Not Applicable
m - Not Measured
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units
°C - Degrees Celsius

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION												
Site: Hennepin		Client: Vistra		Task #: 1345		Start Date: 08/06/2024		Time: 1345				
Project Number:		Finish Date: 08/06/2024		Time: 1445								
Field Personnel: G. Arraling												
WELL INFORMATION				EVENT TYPE								
Well ID: Hen-49				Well Development		Low-Flow / Low Stress Sampling				YSI SERIAL NO: 412318X		
Casing ID: 2" Inches				Well Volume Approach Sampling		(Specify): Low Flow				Heron Serial NO: 416738X		
WATER QUALITY INDICATOR PARAMETERS (continued)												
Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1350	—	22.71	—	—	—	—	—	—	—	—
Purge	5	1355	0.5	22.42	—	14.7	7.04	0.940	0.67	12.35	54.6	Clear
	10	1400	0.5	21.74	—	15.0	7.03	0.938	0.45	9.58	60.3	" "
	15	1405	1	21.71	—	15.0	7.02	0.937	0.35	2.97	62.3	" "
*****	20	1410	1.5	21.72	—	15.0	7.02	0.939	0.20	2.97	66.4	" "
↓	25	1415	2.5	21.69	—	15.0	7.03	0.939	0.18	3.30	59.7	" "
Final	30	1435	—	21.71	—	—	—	—	—	—	—	—
	35											
	40											
	45											
	50											
	55											
	60											
NOTES (continued)										ABBREVIATIONS		
Sample ID: Hen-49 -49, -49ms, -49msd										Cond - Actual Conductivity		
Sampled @ 1420 on 8/16/2024										FT BTOC - Feet Below Top of Casing na -		
										Not Applicable		
										Temp - Temperature		
										nm - Not Measured		
										°C - Degrees Celsius		

APPENDIX A.
HENNEPIN POWER PLANT, LANDFILL
HEN-257-801

1420

MSMSD

[Signature]



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Vistra
 Project Number: 6054 Task #: 15-10
 Start Date: 8/6/2024
 Field Personnel: Lorne F. Finish Date: 8/6/2024
 Time: 1535

WELL INFORMATION

Well ID: 50-20
 Casing ID: 20 (Inches)

EVENT TYPE

Well Development
 Well Volume Approach Sampling

Low-Flow / Low Stress Sampling Other
 (Specify): Low Flow

YSI SERIAL NO: 24419215
 YSI Serial NO: 0102-112-X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1510		18.37				1.168	1.70	2.69	130.7	Clear
Purge	5	1515		18.37		16.6	7.30	1.176	1.70	1.32	135.4	
	10	1520		18.37		16.4	7.36	1.178	1.13	1.42	136.4	
	15	1525		18.37		16.3	7.36	1.176	1.09	1.37	136.5	
*****	20	1530		18.37		16.3	7.37	1.175	1.00	1.35	136.6	
	25	1535		18.37		16.4	7.37					
	30											
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: 50
 Sampled @ 1535 on 8/6/24

ABBREVIATIONS

Cond - Actual Conductivity
 FT BTOC - Feet Below Top of Casing na
 Specific Electrical Conductance SU - Standard Units
 Temp - Temperature
 °C - Degrees Celsius

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Vistra Task #: 2024.0054 Start Date: 7/18/2024 Time: 1006
Field Personnel: C. Aiso Finish Date: 07/18/24 Time:

WELL INFORMATION

Well ID: HEN-51 inches
Casing ID:

EVENT TYPE

Well Development
Well Volume Approach Sampling
Low-Flow / Low Stress Sampling
Other (Specify): Low Flow

YSI SERIAL NO

4122318X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 10%	pH (SU) +/- 0.01	SEC or Cond. (µS/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) +/- 10%	ORP (mV) +/- 10%	Visual Clarity/Odor
pre	0	1001	—	17.88	—	—	—	—	—	—	—	—
purge	5	1005	0.5	17.92	—	13.4	7.33	0.948	1.12	22.37	-105.3	Clear
↓	10	1010	1	18.05	—	13.8	7.37	0.955	0.50	21.52	-123.3	↓
↓	15	1015	1.5	18.18	—	13.3	7.38	0.956	0.36	19.85	-128.4	↓
↓	20	1020	2			13.7	7.38	0.956	0.32	20.04	-129.1	↓
Final	25	10										
	30											
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID, date, & time:

Well ID: HEN-51
Sampled @ 1025 on 07/18/24

ABBREVIATIONS

Cond - Actual Conductivity
Temp - Below Top of Casing
na - Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential
SEC - Specific Electrical Conductance
SU - Standard Units
°C - Degrees Celsius

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Visira
 Project Number: 0054 Task #: 1145 Start Date: 8/6/2024 Time: 1145
 Field Personnel: Lorne F. Finish Date: Same Time: 1205

WELL INFORMATION

Well ID: 52 Casing ID: 2 (Inches)

EVENT TYPE

Well Development
 Well Volume Approach Sampling

Low-Flow / Low Stress Sampling Other
 (Specify): Low Flow

YSI SERIAL NO: 24A101225
 YSI Serial NO: U102-112X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1145		54.01								
Purge	5	1150		54.01		19.7	7.13	924	3.16	3.54	123.7	Clear
	10	1155		54.01		19.9	7.05	932	1.15	1.39	127.0	
	15	1200		54.05		20.0	7.04	932	1.00	1.29	127.2	
*****	20	1205	2.6A1	54.05		20.0	7.04	932	.98	1.20	126.9	
	25	1210										
	30											
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: 52

Sampled @ 1205 on 8/6/24

ABBREVIATIONS

Cond - Actual Conductivity
 F10C - Feet Below Top of Casing na -
 Not Applicable
 Temp - Temperature
 °C - Degrees Celsius

ORP - Oxidation-Reduction Potential SEC -
 Specific Electrical Conductance SU - Standard
 Units

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Hennepin Client: Visita Start Date: 8/6/2024 Time: 1015
 Project Number: 0054 Task #: Same Finish Date: 1040 Time: 1040
 Field Personnel: Corne F.

WELL INFORMATION

Well ID: 54 Casing ID: 2 (Inches)
 Well Development: Well Volume Approach Sampling
 Event Type: Low-Flow / Low Stress Sampling Other
 YSI SERIAL NO: 244101225
 Heron Serial NO: 0102112-X

WATER QUALITY INDICATOR PARAMETERS (continued)

Sampling Stage	Minutes Elapsed	Time (military)	Volume Removed (gallons)	Depth to Water (Feet)	Drawdown (Feet)	Temp. (°C) +/- 0.1	pH (SU) +/- 0.1	SEC or Cond. (µs/cm) 3%	Dissolved Oxygen (mg/L) 10% or +/- 0.2	Turbidity (NTU) 10% or <10 NTU's	ORP (mV) +/- 10mV	Visual Clarity
Pre	0	1015		53.59				870	5.30	1.11	119.4	Clear
Purge	5	1020		53.60		17.1	7.40	870	5.30	1.11	119.4	Clear
	10	1025		53.62		18.7	7.28	870	5.30	1.11	119.4	Clear
	15	1030		53.64		19.0	7.28	874	3.18	1.47	124.7	Clear
*****	20	1035		53.66		19.0	7.29	874	3.16	1.61	124.8	Clear
	25	1040	2.56	53.68		19.0	7.29	874	3.07	1.81	124.9	Clear
	30											
	35											
	40											
	45											
	50											
	55											
	60											

NOTES (continued)

Sample ID: 54
 Sampled @ 1040 on 8/6/24

ABBREVIATIONS

Cond - Actual Conductivity
 FT BTOC - Feet Below Top of Casing na - Not Applicable
 Temp - Temperature
 nm - Not Measured
 ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Staining Units
 °C - Degrees Celsius

Dupe @ 1045

SAR-3: Episodic Depth to Groundwater Measurements

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Plant: HEN
Event: HEN-24Q3 Rev 0

Well	Unique ID	Date	Time	Measured		Dedicated Pump?	Dedicated Tubing?	Initials
				DTW	Comments			
02 L	HEN_02							
04R L	HEN_04R							
05R L	HEN_05!R							
05DR L	HEN_05&DR							
06	HEN_06	7/15/24	1210	22.72	33.19:DTP	Y	Y	AB
10 L	HEN_10							
11 L	HEN_11							
15 L	HEN_15							
19SR L	HEN_19#SR							
19D L	HEN_19&D							
25	HEN_25	7/15/24	0918	15.80	DTP: 18.15	Y	Y	AB
26	HEN_26	7/15/24	0920	15.94	DTP: 27.4	Y	Y	AB
30	HEN_30	7/15/24	0928	4.5	DTP: 21.3	Y	Y	AB
31	HEN_31	7/15/24	0930	6.43	DTP: 10.25	Y	Y	AB
33	HEN_33	7/15/24	1100	3.72	DTP: 38.21	Y	Y	AB
36	HEN_36	7/15/24	0905	15.3	DTB: 28.8	N	N	AB
40S L	HEN_40#S							
45S	HEN_45#S	7/15/24	1215	11.36	DTP: 38.53	Y	Y	AB
48R L	HEN_48R							
XPW01	HEN_XPW01_pore	7/15/24	1203	11.12	DTB: 19.77	N	N	AB
XPW02	HEN_XPW02_pore	7/15/24	1200	15.33	DTB: 21.75	N	N	AB
XPW03	HEN_XPW03_pore	7/15/24	1130	6.41	DTB: 22.01	N	N	AB
* SG02	HEN_YSG_ILRIVER	see	SAR 4	SG03				

has transducer

U: 05/02/24 JRK

SAR-3: Episodic Depth to Groundwater Measurements

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Plant: HEN
Event: HEN-24Q3 Rev 0

Well	Unique ID	Date	Time	Measured	Comments	Dedicated Pump?	Dedicated Tubing?	Initials
				DTW				
02	HEN_02	7-15-24	1055	45.02		Y	Y	LF
04R	HEN_04R	7-15-24	1155	45.37		Y	Y	LF
05R	HEN_05!R	7-15-24	1240	41.27		Y	Y	LF
05DR	HEN_05&DR	7-15-24	1250	41.23		Y	Y	LF
06	HEN_06							
10	HEN_10	7-15-24	0930	50.78		Y	Y	LF
11	HEN_11	7-15-24	0925	51.03		NO	NO	LF
15	HEN_15	7-15-24	1130	49.65		YES	YES	LF
19SR	HEN_19#SR	7-15-24	1210	37.59		NO	NO	LF
19D	HEN_19&D	7-15-24	1200	40.11		YES	YES	LF
25	HEN_25							
26	HEN_26							
30	HEN_30							
31	HEN_31							
33	HEN_33							
36	HEN_36							
40S	HEN_40#S	7-15-24	1225	40.55		Y	Y	LF
45S	HEN_45#S							
48R	HEN_48R	7-15-24	1230	40.80		N	N	LF
XPW01	HEN_XPW01_pore							
XPW02	HEN_XPW02_pore							
XPW03	HEN_XPW03_pore							
SG02	HEN_YSG_ILRIVER							

53 HEN 53 7-15-24 0955 55.62 U: 05/02/24 JRK NO NO LF

SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Plant: HEN

Event: HEN-24Q3 Rev 0

Well	Unique ID	Date	Time	Measured DTW	On-site Transducer Data					Comments	Dedicated Pump?	Dedicated Tubing?	Initials
					Data Logger Serial No.	Does Data Logger Serial No. Match?	WL Reading on Transducer (ft)	Data down-loaded?	Batt (H/M/L)				
03R	HEN_03R				21615140								
07	HEN_07	7-15-24	1425	67.77	21615139	Yes	450.638	Y	H	DTP 7227	Y	Y	LF
08	HEN_08	7-15-24	1025	53.25	21615138	Yes	447.680	Y	H	DTP 5705	Y	Y	LF
08D	HEN_08&D	7-15-24	1013	54.24	21921673	Yes	447.188	Y	H	DTP 5124	Y	Y	LF DTP 8428
12	HEN_12				21615520								
13	HEN_13				21615515								
16	HEN_16	7-15-24	1105	54.42	21615534	Yes	447.130	Y	H	DTP 6078	Y	Y	LF
17	HEN_17	7-15-24	1125	56.41	21615500	Yes	450.810	Y	H	DTP 6198	Y	Y	LF
18S	HEN_18#S	7-15-24	1310	40.60	21615482	Yes	447.103	Y	H	DTP 4299	Y	Y	LF
18D	HEN_18&D	7-15-24	1300	40.77	21615609	Yes	446.480	Y	H	DTP 7229	Y	Y	LF
21R	HEN_21R				21615613								
22	HEN_22				21615497								
22D	HEN_22&D				21564134								
23	HEN_23				21615600								
27	HEN_27				21615576								
32	HEN_32				21615487								
34	HEN_34				21615509								
35	HEN_35				21615510								
46	HEN_46				21615491								
47	HEN_47				21615505								
49	HEN_49				21629307								
50	HEN_50				21615489								
51	HEN_51				21615608								
52	HEN_52	7-15-24	0940	60.98	21615145	Yes	447.195	Y	H	DTP 6087	Y	Y	LF 60.98
54	HEN_54				21615143								
55	HEN_55				21615612								
XSG01	HEN_XSG01				21768087								
SG03	HEN_YSG03				21768088								

Notes:

Batt = battery
bmp = below measuring point
ft = feet
H = high
L = low
M = medium
R = replaced

U: 05/02/24 JRK

R601-Hen

SAR4

SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Plant: HEN

Event: HEN-24Q3 Rev 0

Well	Unique ID	Date	Time	Measured DTW	On-site Transducer Data					Comments	Dedicated Pump?	Dedicated Tubing?	Initials
					Data Logger Serial No.	Does Data Logger Serial No. Match?	WL Reading on Transducer (ft)	Data down-loaded?	Batt (H/M/L)				
03R	HEN_03R	7/15/24	1305	35.04	21615140	Y	447.19	Y	H	DTP: 77.08	Y	Y	AB
07	HEN_07				21615139								
08	HEN_08				21615138								
08D	HEN_08&D				21921673								
12	HEN_12	7/15/24	1135	51.41	21615520	Y	447.29	Y	H	DTP: 52.32	Y	Y	AB
13	HEN_13	7/15/24	1140	51.34	21615515	Y	444.07	Y	H	DTP: 62.02	Y	Y	AB
16	HEN_16				21615534								
17	HEN_17				21615500								
18S	HEN_18#S				21615482								
18D	HEN_18&D				21615609								
21R	HEN_21R	7/15/24	1010	5.81	21615613	Y	446.52	Y	H	DTP: 45.63	Y	Y	AB
22	HEN_22	7/15/24	1040	18.39	21615497	Y	446.34	Y	H	DTP: 27.4	Y	Y	AB
22D	HEN_22&D	7/15/24	1045	19.11	21564134	Y	446.53	Y	H	DTP: 53.12	Y	Y	AB
23	HEN_23	7/15/24	1025	14.82	21615600	Y	446.77	Y	H	DTP: 35.2	Y	Y	AB
27	HEN_27	7/15/24	0935	4.12	21615576	Y	446.66	Y	M	DTP: 30.41	Y	Y	AB
32	HEN_32	7/15/24	0945	5.01	21615487	Y	446.69	Y	H	DTP: 13.34	Y	Y	AB
34	HEN_34	7/15/24	1000	6.67	21615509	NO TRANSDUCER				DTP: 30.21	Y	Y	AB
35	HEN_35	7/15/24	0910	8.25	21615510	Y	446.43	Y	H	DTP: 14.09	Y	Y	AB
46	HEN_46	7/15/24	1125	51.62	21615491	Y	446.83	Y	H	DTP: 55.00	Y	Y	AB
47	HEN_47	7/15/24	1150	55.87	21615505	Y	447.10	Y	H	DTP: 58.76	Y	Y	AB
49	HEN_49	7/15/24	1030	21.5	21629307	Y	446.89	Y	H	DTP: 38.63	Y	Y	AB
50	HEN_50	7/15/24	0845	18.11	21615489	Y	446.07	Y	H	DTP: 25.2	Y	Y	AB
51	HEN_51	7/15/24	1020	18.29	21615608	Y	446.57	Y	H	DTP: 58.45	Y	Y	AB
52	HEN_52				21615145								
54	HEN_54	7/15/24	1147	53.32	21615143	Y	447.14	Y	H	DTP: 69.14	Y	Y	AB
55	HEN_55	7/15/24	1045	50.91	21615612	Y	447.90	Y	H	DTP: 94.06	Y	Y	AB
XSG01	HEN_XSG01	7/15/24	1120	10.14	21768087	Y	483.47	Y	H	—	N	N	AB
SG03	HEN_YSG03	7/15/24	1230	5.25	21768088	Y	8.835	Y	M	—	N	N	AB

Notes:

Batt = battery
bmp = below measuring point
ft = feet
H = high
L = low
M = medium
R = replaced

U: 05/02/24 JRK

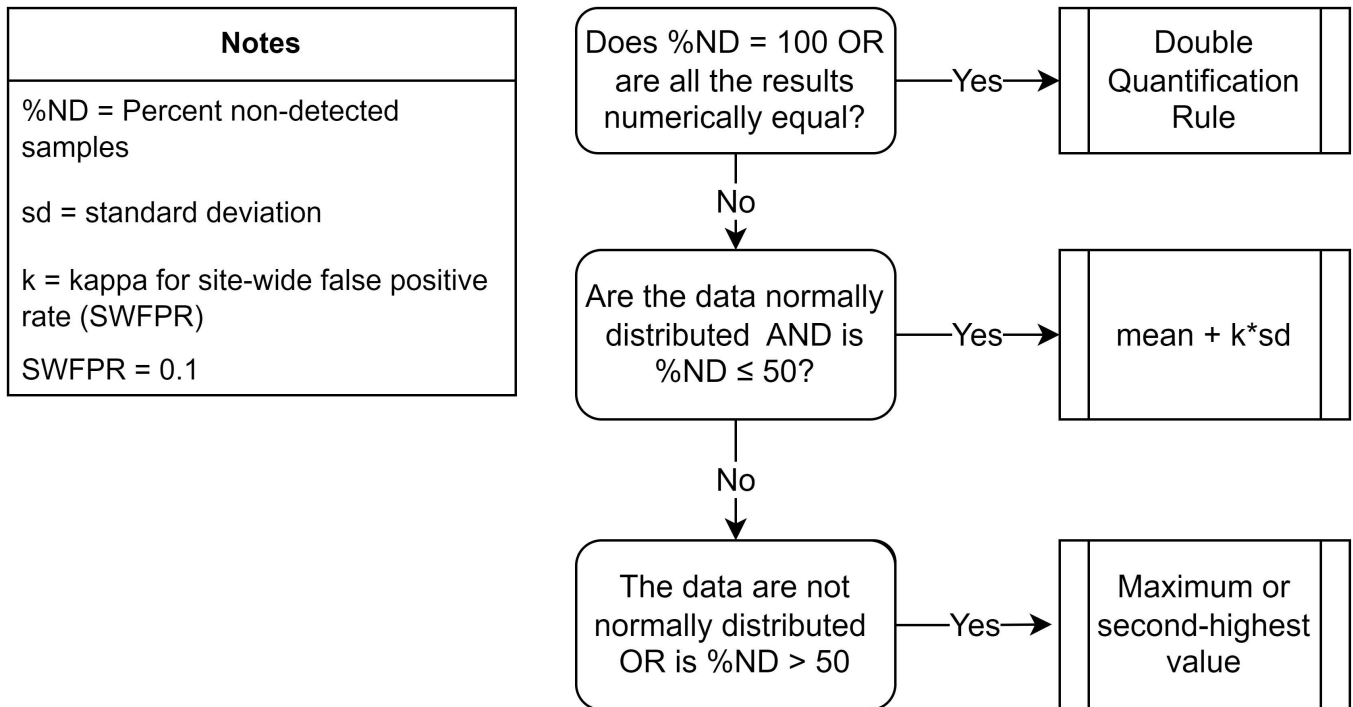
RG01 HEN-RG01
(record serial No.)

7/15/24 data downloaded @ 1300

Serial no:

-52492 or 21628684

APPENDIX B
STATISTICAL METHODOLOGY FOR DETERMINATION
OF BACKGROUND VALUES



When data are not normally distributed or %ND > 50, the maximum value is used if the background sample size is < 60. Where the background sample size is ≥ 60, the achievable per-constituent false positive rates for the maximum and second-highest background values will be compared, and the background value with the achievable per-constituent false positive rate that is closest to, but does not exceed, the target per-constituent false positive rate of 0.015% is used.

APPENDIX C

ALTERNATIVE SOURCE DEMONSTRATIONS

Prepared for

Dynegy Midwest Generation, LLC

Date

May 14, 2024

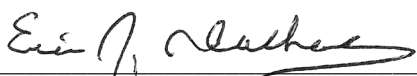
Project No.

1940106781-008

**40 C.F.R. § 257.94(e)(2):
ALTERNATIVE SOURCE
DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS
CCR UNIT 801**

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: May 14, 2024



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: May 14, 2024



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TABLES (IN TEXT)

Table A	Construction Events Affecting AP2 and AP4
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FIGURES (IN TEXT)

Figure A	Box-Whisker Plot Showing Distribution of Total Boron Concentrations in Compliance Monitoring Wells and Landfill Leachate
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FIGURES (ATTACHED)

Figure 1	Monitoring Well Location Map
Figure 2	Potentiometric Surface Map – August 21, 2023

APPENDICES

Appendix A	Selected Groundwater Elevation Contour Maps
Appendix B	Bottom Ash Leachate Data

ACRONYMS AND ABBREVIATIONS

35 I.A.C.	Title 35 of the Illinois Administrative Code
40 C.F.R.	Title 40 of the Code of Federal Regulations
AP2	Ash Pond No. 2
AP4	Ash Pond No. 4
ASD	Alternative Source Demonstration
CCR	coal combustion residuals
CCR Rule	40 C.F.R. § 257 Subpart D
CEC	Civil & Environmental Consultants, Inc.
cm/s	centimeters per second
D13	Detection Monitoring Round 13
EPRI	Electric Power Research Institute
HCR	Hydrogeologic Site Characterization Report
HDPE	high-density polyethylene
Hennepin East	includes Landfill, AP2, AP4, and East Ash Pond
HPP	Hennepin Power Plant
IEPA	Illinois Environmental Protection Agency
LOE(s)	line(s) of evidence
mg/L	milligrams per liter
NAVD88	North American Vertical Datum of 1988
No.	Number
NPDES	National Pollutant Discharge Elimination System
NRT	Natural Resource Technology, Inc.
OBG	O'Brien & Gere Engineers, Inc.
OWAP	Old West Ash Pond
oz/sy	ounce per square yard
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SSI	statistically significant increase

1. INTRODUCTION

Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257.94(e)(2) allows the owner or operator of a coal combustion residuals (CCR) unit 90 days from the date of determination of statistically significant increases (SSI) over background for groundwater constituents listed in Appendix III of 40 C.F.R. § 257 to complete a written demonstration that a source other than the CCR unit being monitored caused the SSI(s) (Alternative Source Demonstration [ASD]), or that the SSI(s) resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

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. § 257.94(e)(2) for the Hennepin Power Plant (HPP) Landfill, located near Hennepin, Illinois.

The most recent Detection Monitoring sampling event (Detection Monitoring Round 13 [D13]) samples were collected on August 23, 24, and 28, 2023 and analytical data were received on November 16, 2023. In accordance with 40 C.F.R. § 257.93(h)(2), statistical analysis of the data to identify SSIs of 40 C.F.R. § 257 Subpart D (CCR Rule) Appendix III parameters over background concentrations was completed by February 14, 2024. The statistical determination identified the following SSIs at compliance monitoring wells:

- Boron at wells 05R, 05DR, 40S, and 48
- pH at wells 05R, 40S, and 48

Pursuant to 40 C.F.R. § 257.94(e)(2), the lines of evidence (LOEs) described in **Section 3** demonstrate that sources other than the Landfill were the cause of the SSIs listed above. This ASD was completed by May 14, 2024, within 90 days of determination of the SSIs, as required by 40 C.F.R. § 257.94(e)(2).

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 Landfill is located east of the HPP, situated less than 200 feet from the south bank of the Illinois River and approximately one mile east of the Big Bend, where the river shifts course from predominantly west to predominantly south.

The Landfill is one of four CCR units regulated under the CCR Rule at the HPP. Three CCR units (the Landfill, Ash Pond Number (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 fourth CCR unit (Old West Ash Pond [OWAP]), is located west of the HPP. Areas surrounding the Landfill include industrial properties to the east and south, agricultural land to the southwest, and the HPP to the west. The CCR units at Hennepin East and surrounding properties are shown on **Figure 1**.

2.2 Groundwater Monitoring

The Landfill groundwater monitoring system for compliance with the CCR Rule consists of five background monitoring wells (07, 08, 08D, 16, and 17) and four compliance monitoring wells (05R, 05DR, 40S, and 48). A map showing the groundwater monitoring system, including the CCR unit and all background and compliance monitoring wells, is presented in **Figure 1**.

Figure 1 also includes monitoring wells for other CCR units located upgradient of the Landfill (12 and 13) which are not part of the Landfill monitoring system but are used to support the LOEs discussed in **Section 3**.

Groundwater samples are collected and analyzed in accordance with the Multi-Site Sampling and Analysis Plan (Ramboll, 2023). Statistical evaluation of analytical data is performed in accordance with the Multi-Site Statistical Analysis Plan (Ramboll, 2022).

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 history of CCR management at Hennepin East is summarized below.

AP2/AP4: AP2 was used to store and dispose fly ash, bottom ash, and other non-CCR waste streams, including coal pile runoff. The pond originally encompassed the area that currently includes the existing AP2, the Landfill, and the Leachate Pond (not a CCR unit). AP2 has been inactive since 1996 and currently encompasses approximately 18 acres. AP2 is unlined with a lowermost, but variable, bottom elevation of 451 feet¹. AP4 (located south of AP2) is an unlined, closed impoundment (capped or otherwise maintained) not subject to CCR Rule requirements.

A Modified Closure Work Plan was submitted to Illinois Environmental Protection Agency (IEPA) in 2010 proposing closure of AP2 by capping with future Landfill phases as they were constructed (Kelron Environmental and Natural Resource Technology, Inc. [NRT], 2010). The Modified

¹ All elevations in this report are referenced to the North American Vertical Datum of 1988 (NAVD88) unless otherwise noted.

Closure Work Plan was approved by IEPA in a letter dated March 3, 2010. The Landfill is Phase I of the Modified Closure Work Plan. The formerly proposed Landfill Phases II, III, and IV will no longer be constructed upon AP2. Therefore, a Closure and Post Closure Care Plan for AP2 was submitted for IEPA approval in February 2018 (Civil & Environmental Consultants, Inc. [CEC], 2018). A Closure Plan Addendum, which incorporates AP4, was submitted in October 2018 (O'Brien & Gere Engineers, Inc. [OBG] and CEC, 2018). IEPA approved the Closure and Post Closure Care Plan for Hennepin AP2/AP4 on February 26, 2020, following correspondence in 2019 (OBG, part of Ramboll, 2019) to address IEPA comments. Closure construction began on May 21, 2020, and was completed on November 17, 2020. The final cover system on AP2/AP4 consists of a 24-inch compacted soil barrier with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/s) overlain by a 6-inch thick vegetative cover layer. The cover system was extended eastward to overlap with the western end of the Landfill geomembrane liner and southward to the side slope of the East Ash Pond. The approximate dates of construction affecting AP2 and AP4 are summarized in **Table A** below (AECOM, 2016).

Table A. Construction Events Affecting AP2 and AP4

Date	Event
1958	Construction of AP2.
1978	Embankment raise of AP2.
1985	Embankment raise of AP2 to elevation 484 feet.
1989	Embankment raise of AP2 to elevation 494 feet.
1996	AP2 was removed from service and completely dewatered.
2009 to 2010	Eastern portion of AP2 was removed to facilitate construction of the Leachate Pond.
2010/2011	Landfill Phase I cell was constructed in 2010 over placed CCR in AP2 adjacent to the Leachate Pond. In February 2011, 7,500 cubic yards of bottom ash was placed into the Phase I cell as a post-construction freeze-protection measure to protect the leachate collection system and geomembrane liner. No other material (fly ash or bottom ash) has been placed in the Landfill since.
2014	North Embankment tree removal, grading, and vegetation re-establishment adjacent to AP2.
2020	AP2 and AP4 closed in place in accordance with IEPA-approved closure plan.

Landfill: The Landfill Phase I cell, covering approximately 4.5 acres, was constructed in 2010 over existing, dewatered CCR in AP2 as part of the Modified Closure Work Plan for AP2. The Phase I cell was constructed with a composite liner (geomembrane over compacted clay) and leachate collection system above the liner that transfers collected precipitation and leachate to the Leachate Pond. Ash fill underlying the Landfill is known to be present to a minimum elevation of 454 feet.

In February 2011, 7,500 cubic yards of bottom ash was placed into the Landfill as a post-construction freeze protection measure to protect the leachate collection system and geomembrane liner. No other material has been placed in the Landfill since.

East Ash Pond: The East Ash Pond was used to store and dispose bottom ash, fly ash, and other non-CCR waste, and to clarify process water prior to discharge in accordance with the plant's National Pollutant Discharge Elimination System (NPDES) permit. The pond was constructed in two phases. The first phase occurred in 1995 when the initial embankment was constructed to a

total height of 32 feet with a lowermost, but variable, bottom elevation of the pond at 458 feet. The original pond bottom was lined with a 4-foot thick layer of compacted clay with a hydraulic conductivity of 1×10^{-7} cm/s, underlain by a 1-foot thick sand layer (AECOM, 2016). The pond depth behind the original embankment was 15 feet with 5 feet of freeboard. The embankment was raised 12 feet in 2003 to a total impoundment depth of 30 feet with 2 feet of freeboard. The liner system of the embankment raise consisted of (from top to bottom) a 45-mil reinforced polypropylene geomembrane, a 1-foot thick clay layer, and an 8 ounce per square yard (oz/sy) polypropylene geotextile fabric. This pond was used for the treatment of bottom ash transport water, miscellaneous low volume wastewater streams, and storage of unsold fly ash until plant operations ceased in November 2019.

Polishing Pond: The Polishing Pond (located east of the East Ash Pond) is not subject to CCR Rule requirements and was constructed in 1995 with a 48-inch-thick compacted clay liner having a vertical hydraulic conductivity of 1×10^{-7} cm/s.

Leachate Pond: The Leachate Pond (located east of the Landfill) is not subject to CCR Rule requirements and is a 25.5-acre-foot pond constructed with a composite liner consisting of 60-mil high-density polyethylene (HDPE) overlying two feet of compacted clay with a vertical hydraulic conductivity of 1×10^{-7} cm/s. Construction was completed December 2010.

2.4 Site Hydrogeology and Stratigraphy

Multiple site investigations have been completed at the HPP to characterize the geology, hydrogeology, and groundwater quality as required by 40 C.F.R. § 257.91 (Groundwater Monitoring Systems). Hennepin East, including the Landfill, has been well characterized and detailed in the Hydrogeologic Site Characterization Reports (HCR) for the HPP, including the most recent HCR for the adjacent East Ash Pond (Ramboll, 2021), that was included with the Operating Permit application submitted to the IEPA under the requirements of Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.

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, a lower river terrace at an elevation of about 450 to 460 feet, and the current river valley filled with alluvium to an elevation of about 445 feet. The HPP, AP2, and the Landfill were constructed on the original narrow lower river terrace between the Illinois River and the upper terrace. The original lower river terrace is approximately 10 to 20 feet above the average river level at the HPP (elevation 443.7 feet) based upon measurements collected between 2003 and 2018 (OBG, part of Ramboll, 2020). The AP2 berm slopes steeply toward the river and its toe is close to the riverbank. The East Ash Pond, Polishing Pond, and AP4 were constructed on the upper river terrace at an elevation of approximately 500 to 505 feet, or 60 to 65 feet above the average river level.

The hydrogeological assessment identified that the stratigraphy within and immediately surrounding Hennepin East consists of fill, unlithified river alluvium, and Pleistocene-age glacial outwash deposits overlying Pennsylvanian-age shale bedrock. Constructed berms consist of a variety of locally available materials, primarily sand, gravel, and coal ash. 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 Hennepin East: alluvium and Henry Formation sands and gravels. The river is immediately adjacent to the lower terrace, east of Hennepin East,

and there is minimal alluvium between Hennepin East and the river. The highly permeable Henry Formation sands and gravels make up the upper and lower terraces and fill the valley beneath the alluvium. The sands and gravels of the two terraces are indistinguishable, consisting of a heterogeneous mixture of silty-sandy gravel with cobble zones and boulders up to several feet in diameter. The Henry Formation is more than 100 feet thick in the river valley and at least 130 feet thick on the upper terrace.

The Henry Formation and alluvium comprise the Uppermost Aquifer at Hennepin East and extend from the water table to the bedrock. The Uppermost Aquifer extends about 7,000 feet upgradient from Hennepin East to the south, where clay-rich glacial till is encountered. Glacial tills such as this typically yield little water.

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 hydraulic gradient within the Uppermost Aquifer in the vicinity of Hennepin East varies with the elevation of the Illinois River (see select groundwater elevation contour maps in **Appendix A**). The direction of groundwater flow is most often toward the river to the north and west, 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 to the north and west.

Groundwater elevations were obtained from measurements in monitoring wells on August 21, 2023, prior to the D13 sampling event at the site. Groundwater elevations for Hennepin East during the D13 sampling event are shown in **Figure 2** and ranged from 446.79 feet (in well 47) to 451.00 feet (in well 17). The groundwater elevation contours on the potentiometric surface map shown in **Figure 2** illustrate the presence of relatively high groundwater elevations originating from the Illinois River to the north, and the routinely upgradient areas to the south and east monitored by the background wells. Under these hydraulic conditions groundwater will flow towards the lower heads in the center of the map as illustrated by the 447-foot contour interval.

3. ALTERNATIVE SOURCE DEMONSTRATION: LINES OF EVIDENCE

As allowed by 40 C.F.R. § 257.94(e)(2), this ASD demonstrates that sources other than the Landfill (the CCR unit) caused the SSIs. LOEs supporting this ASD include the following:

1. Landfill liner design.
2. Concentrations of boron in Landfill leachate are lower than those observed in downgradient groundwater.
3. Concentrations of boron and pH in compliance monitoring wells are not increasing over time.
4. Previous vertical infiltration of surface water through ash fill in AP2.

Data and information supporting these LOEs are discussed in more detail below.

3.1 LOE #1: Landfill Liner Design

The Landfill was constructed in 2010 with a 60-mil HDPE geomembrane overlying three feet of compacted clay with hydraulic conductivity of 1×10^{-7} cm/s (CEC, 2010). Precipitation and/or leachate that collects on top of the liner is removed by a leachate collection system and transferred to the Leachate Pond for management. The Leachate Pond is also lined with a 60-mil HDPE liner overlying two feet of compacted clay.

The IEPA-approved Landfill composite liner system exceeds the design criteria for a composite liner for new CCR landfills established by 40 C.F.R. § 257.70(b). The composite liner design criteria were established to help prevent contaminants in CCR from leaking from the CCR unit and impacting groundwater. Therefore, the presence of the composite liner suggests that the Landfill is not the source of the observed SSIs.

3.2 LOE #2: Concentrations of Boron in Landfill Leachate are Lower than those Observed in Downgradient Groundwater

The only material that has been placed in the lined Landfill consists of a layer of coarse bottom ash (7,500 cubic yards or 11,625 tons) to protect the leachate collection system and geomembrane liner from freezing. There has been no additional CCR landfilling activity within the lined area since the bottom ash freeze protection layer was installed.

Analytical data from two samples of bottom ash leachate derived in the laboratory (extraction method ASTM D3987, shake extraction with water) identified boron concentrations of 0.193 milligrams per liter (mg/L) (2009 sample) and 0.197 mg/L (2008 sample) (**Appendix B**).

A box-whisker plot of total boron concentrations detected between 2015 and D13 at compliance monitoring wells near the Landfill is shown on **Figure A** on the following page. The boron concentrations of 0.193 and 0.197 mg/L detected in the laboratory-derived leachate samples are below the boron concentrations observed in compliance monitoring wells as shown in **Figure A**. Analytical data available for laboratory-derived leachate from the bottom ash placed in the Landfill indicates that the bottom ash is not capable of leaching boron in concentrations observed in the compliance monitoring wells.

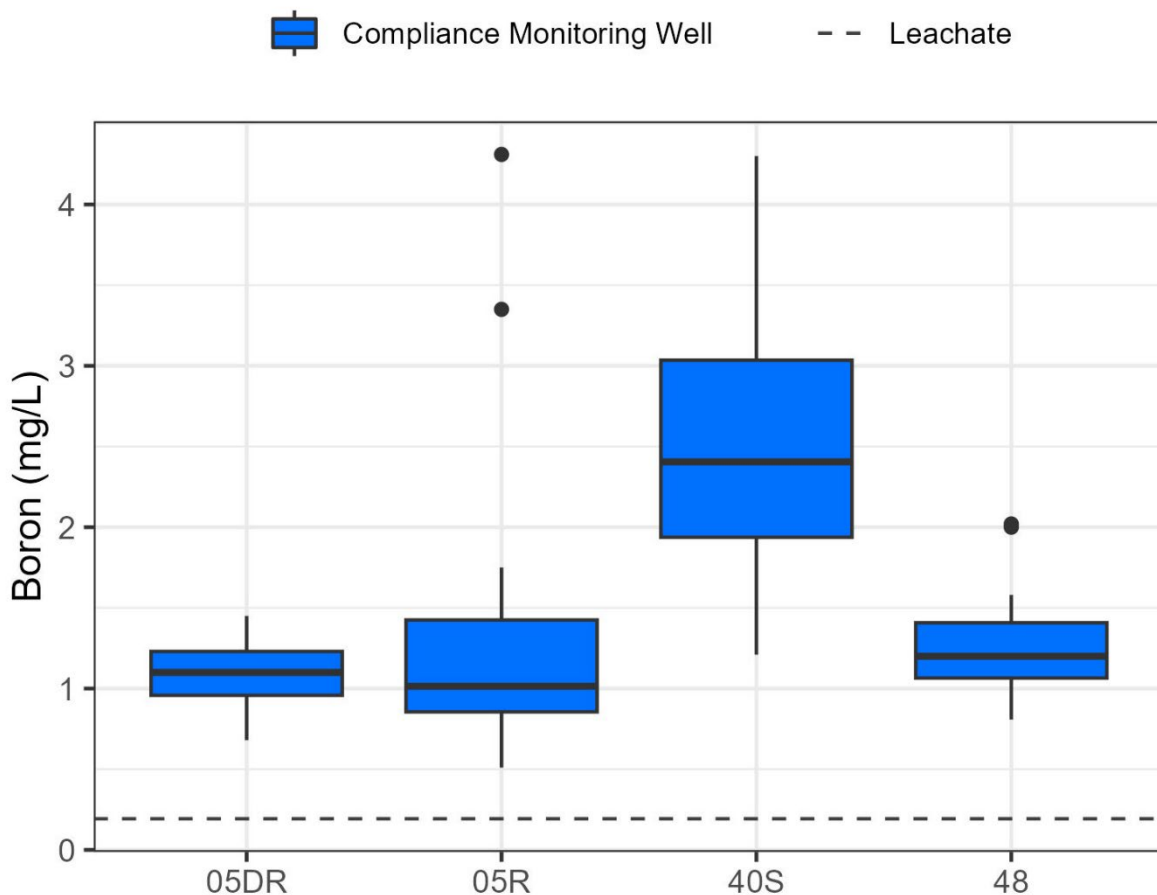


Figure A. Box-Whisker Plot Showing Distribution of Total Boron Concentrations in Compliance Monitoring Wells and Landfill Leachate

3.3 LOE #3: Concentrations of Boron and pH in Compliance Monitoring Wells are not Increasing Over Time

Boron is a common indicator of CCR impacts to groundwater due to its leachability from CCR and mobility in groundwater (Electric Power Research Institute [EPRI], 2012). If the Landfill were a "new" source of boron to groundwater, boron concentrations in the compliance monitoring wells would be expected to increase with time as concentrations in the compliance wells approach levels of boron from within the Landfill. Similarly, if the Landfill were a "new" source of pH to groundwater, pH values would also be expected to increase with time as values in the compliance wells approach those from within the Landfill.

Concentrations in compliance wells are not increasing for boron and pH as shown in **Table B**. Therefore, the Landfill is not the source of boron or pH in groundwater.

Table B. Mann-Kendall Trend Analyses of Total Boron and pH Concentrations in Compliance Monitoring Wells

Sample Location	Mann-Kendall Results - Total Boron Concentrations			
	Start Date	End Date	Sample Count	Trend (95% Confidence)
05R	12/9/2015	8/23/2023	31	Decreasing
05DR	12/9/2015	8/23/2023	31	Decreasing
40S	12/9/2015	8/23/2023	30	No Trend
48	12/9/2015	8/23/2023	25	No Trend

Sample Location	Mann-Kendall Results - pH Concentrations			
	Start Date	End Date	Sample Count	Trend (95% Confidence)
05R	12/9/2015	8/23/2023	38	No Trend
05DR	12/9/2015	8/23/2023	33	No Trend
40S	12/9/2015	8/23/2023	38	No Trend
48	12/9/2015	8/23/2023	26	No Trend

3.4 LOE #4: Previous Vertical Infiltration of Surface Water through Ash Fill in AP2

The Landfill was constructed over the eastern portion of AP2 as Phase I of an IEPA-approved Modified Closure Work Plan for AP2. The portions of AP2 to the west of the Landfill were previously exposed, and subject to infiltration of precipitation and generation of CCR leachate. However, a soil cover designed to minimize surface water infiltration and CCR-impacts to groundwater was constructed over these exposed portions of AP2 in 2020 as part of a Closure and Post Closure Care Plan for AP2 approved by IEPA on February 26, 2020. AP2 is unlined, and prior to capping of the ash pond by construction of the Landfill liner and the AP2 cover system, precipitation that came into contact with CCR in AP2 may have allowed CCR constituents to percolate downward to groundwater. The previously exposed portions of AP2 may be an alternative source for CCR parameters observed in groundwater near the Landfill.

Comparison of groundwater and Illinois River elevation data indicate that natural variation in river elevation related to flood events occasionally causes groundwater flow reversal and increases in groundwater elevations in the Uppermost Aquifer beneath the Landfill. When river elevations rise above 451 to 454 feet, low-lying ash deposits underlying the Landfill have the potential to become partially saturated for a transient period. The short-term, partial saturation may result in a temporary change to some CCR constituent concentrations and pH at some compliance monitoring wells after the predominant groundwater flow direction is reestablished.

Explicit simulation of flood events (OBG, part of Ramboll, 2020) indicates that potential increases in concentrations from flooding of the Illinois River are small and transient, such that long-term concentrations will not be significantly affected.

4. CONCLUSIONS

Based on these four LOEs, it has been demonstrated that the Landfill is not the source of the boron SSIs identified in wells 05R, 05DR, 40S, and 48 and the pH SSIs identified in wells 05R, 40S, and 48.

1. Landfill liner design.
2. Concentrations of boron in Landfill leachate are lower than those observed in downgradient groundwater.
3. Concentrations of boron and pH in compliance monitoring wells are not increasing over time.
4. Previous vertical infiltration of surface water through ash fill in AP2.

Based on the LOEs presented, the following alternative sources are causing the SSIs observed in the Landfill's compliance wells:

- Boron and pH: SSIs for boron and pH may be attributed to portions of AP2 to the west of the Landfill that were previously exposed, and subject to infiltration of precipitation and generation of CCR leachate outside the Landfill boundary.

This information serves as the written ASD report prepared in accordance with 40 C.F.R. § 257.94(e)(2) that SSIs observed during the D13 monitoring event were not caused by the Landfill but were from other sources. Therefore, an Assessment Monitoring Program is not required, and the Landfill will remain in Detection Monitoring.

5. REFERENCES

AECOM, 2016. Hennepin Power Station – History of Construction, 40 CFR § 257.73(c). October 2016.

Civil & Environmental Consultants, Inc. (CEC), 2010. Hennepin CCW Landfill – Phase 1 Construction Completion Report, Hennepin Power Station, Hennepin, Putnam County, Illinois. December 2010.

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Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2023. *Multi-Site Sampling and Analysis Plan, Revision 1*. October 10, 2023.

FIGURES



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

0 175 350
Feet

MONITORING WELL LOCATION MAP

ALTERNATIVE SOURCE DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





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

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



POTENTIOMETRIC SURFACE MAP
AUGUST 21, 2023

ALTERNATE SOURCE DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 2

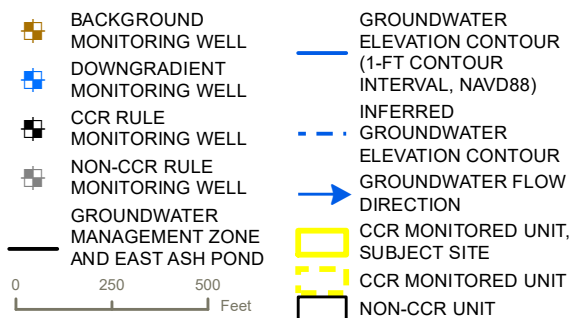
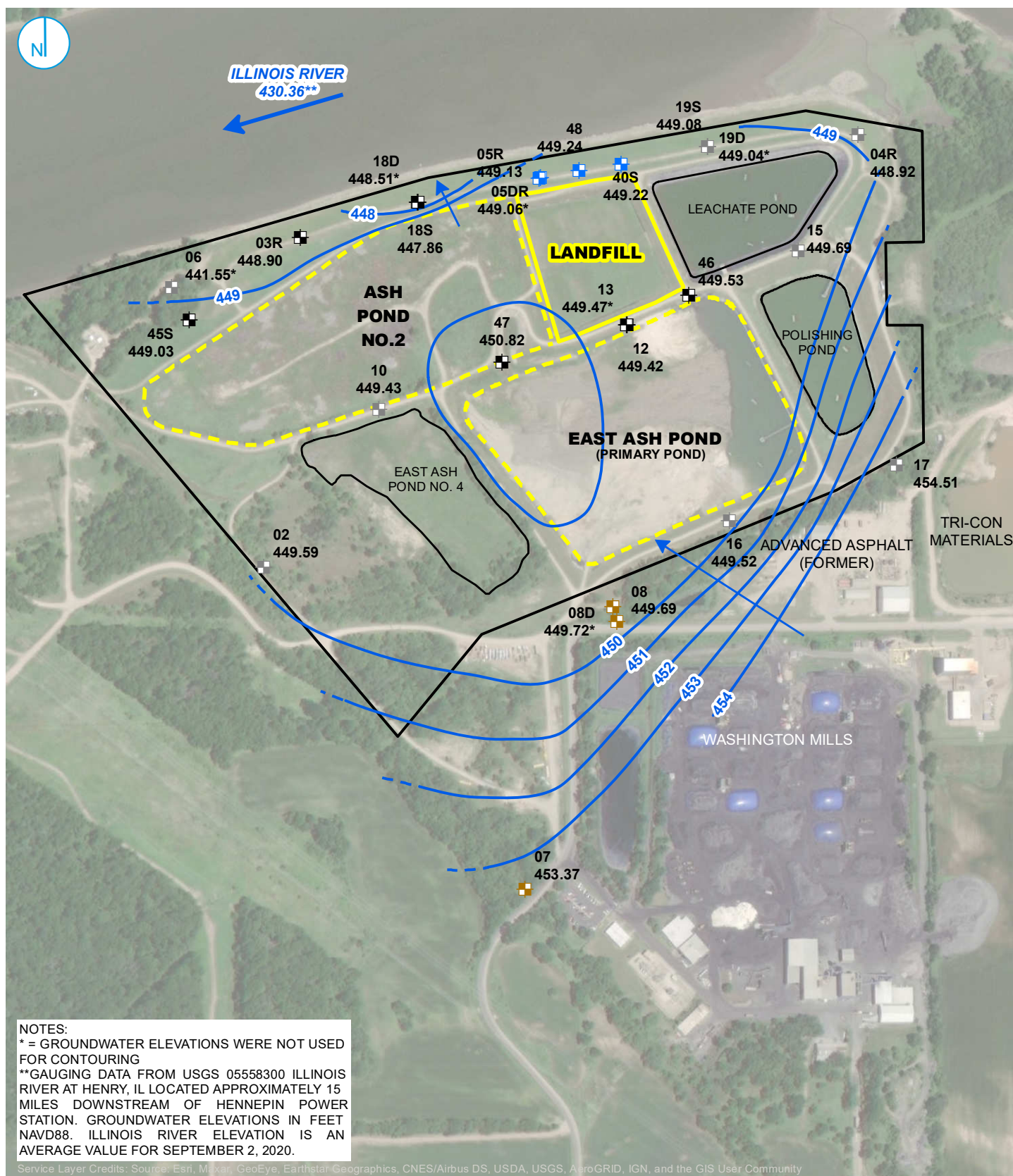
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



APPENDICES

APPENDIX A

SELECTED GROUNDWATER ELEVATION CONTOUR MAPS



GROUNDWATER ELEVATION CONTOUR MAP SEPTEMBER 2, 2020

ALTERNATE SOURCE DEMONSTRATION
HENNEPIN POWER STATION
HENNEPIN, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL



- BACKGROUND WELL
- MONITORING WELL
- SOURCE SAMPLE LOCATION
- STAFF GAGE
- GROUNDWATER ELEVATION CONTOUR (0.5 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW ARROW
- PART 257 REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

NOTE:
*GROUNDWATER ELEVATIONS SHOWN IN FEET, NAVD88. ELEVATIONS IN PARENTHESIS WERE NOT USED FOR CONTOURING.
**GAUGING DATA FROM USGS 05558300 ILLINOIS RIVER AT HENRY, IL LOCATED APPROXIMATELY 15 MILES DOWNSTREAM OF HENNEPIN POWER STATION. SURFACE WATER ELEVATIONS IN FEET NAVD88. ILLINOIS RIVER ELEVATION IS AN AVERAGE VALUE FOR MARCH 18, 2021.

0 175 350
Feet

GROUNDWATER ELEVATION CONTOUR MAP MARCH 17, 2021

ALTERNATE SOURCE DEMONSTRATION
COAL COMBUSTION WASTE LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000X.XXX | DATED: 3/24/2022 | DESIGNER: galammc
Y:\Mapping\Projects\222285\MXD\GW_Contours\Round_2021\HennepinLandfill_801\HEN Landfill GWE Contours D9A4D 20210908.mxd



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

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



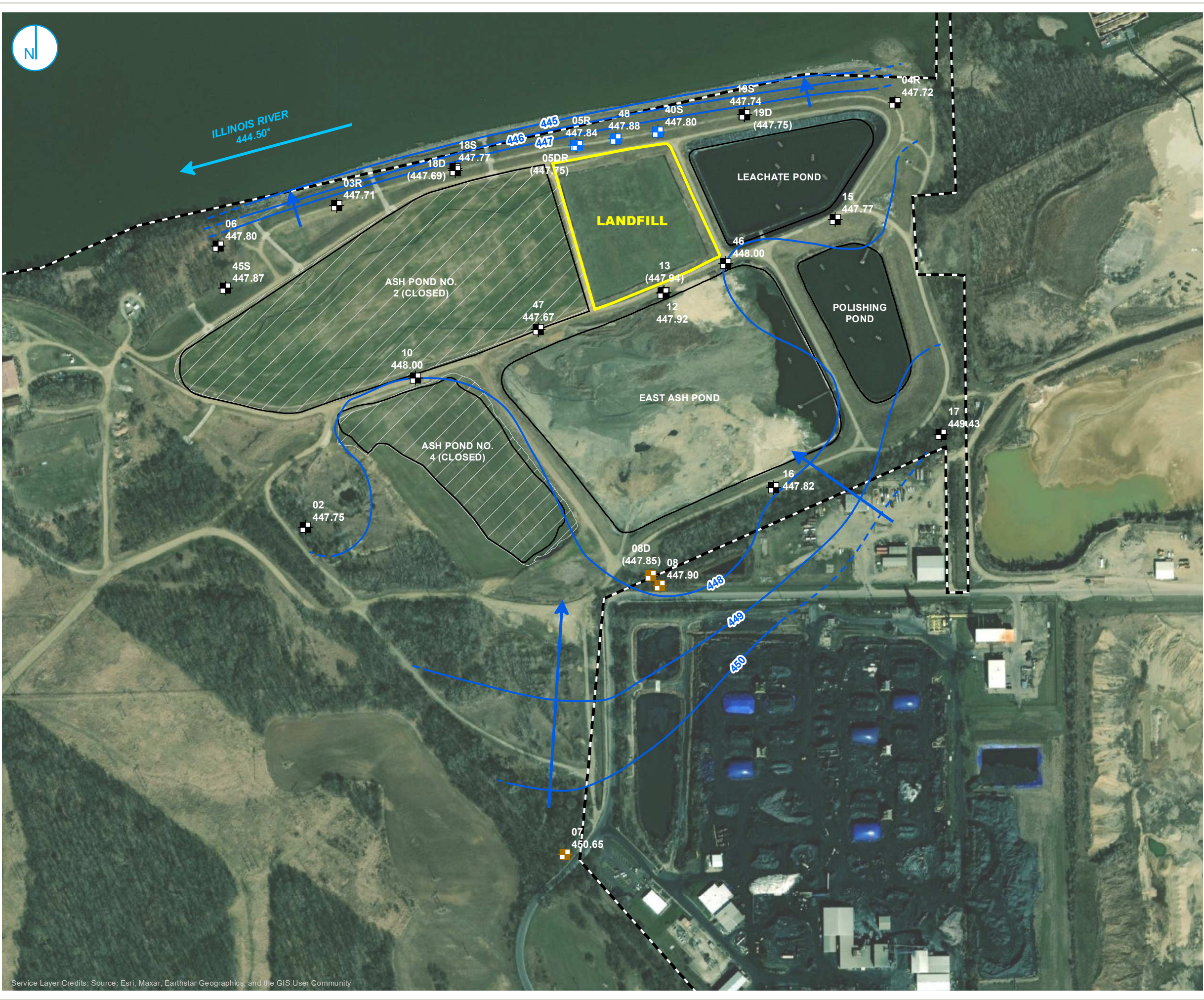
**POTENTIOMETRIC SURFACE MAP
SEPTEMBER 8, 2021**

**2021 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS**

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000XXXX | DATED: 10/18/2022 | DESIGNER: galarmc
Y:\Mapping\Projects\22\2285\MXD\GW_Contours\Round_2022\HennepinLF_801\HEN Landfill 801 Pot Surface 20220321.mxd



- 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)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

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



POTENTIOMETRIC SURFACE MAP
MARCH 21, 2022

2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000XXXXX | DATED: 2/23/2023 | DESIGNER: galammc
Y:\Mapping\Projects\2212285Hennepin East\MXD\2022AR_E\Landfill\Figure 3-3_GWE Contours 20220913.mxd



- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER MANAGEMENT ZONE
- PART 257 REGULATED UNIT (SUBJECT UNIT)
- LIMITS OF FINAL COVER
- SITE FEATURE
- PROPERTY BOUNDARY

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



POTENTIOMETRIC SURFACE MAP
SEPTEMBER 13 AND 14, 2022

ALTERNATE SOURCE DEMONSTRATION
COAL COMBUSTION WASTE LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000XXX | DATED: 9/6/2023 | DESIGNER: GALARNMC
Y:\Mapping\Projects\2212285\MXD\Alt_Source_Dem\HenEast\Landfill_D12\Figure 2_HEN 801 LF Pot Surface 20230228.mxd



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

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



POTENTIOMETRIC SURFACE MAP FEBRUARY 28 AND MARCH 1, 2023

ALTERNATE SOURCE DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



APPENDIX B

BOTTOM ASH LEACHATE DATA

August 03, 2009

John Augspols
Dynergy Midwest Generation
13498 East 800th Street
Hennepin, IL 61327
TEL: (815) 339-9218
FAX:



RE: Hennepin Station Bottom Ash

WorkOrder: 09070896

Dear John Augspols:

TEKLAB, INC received 1 sample on 7/24/2009 9:00:00 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. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

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,

A handwritten signature in black ink that reads "Heather A. White".

Heather A. White
Project Manager
(618)344-1004 ex 20

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: Dynegy Midwest Generation

Project: Hennepin Station Bottom Ash

LabOrder: 09070896

Report Date: 03-Aug-09

CASE NARRATIVE

Cooler Receipt Temp: 22.8 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers

DF - Dilution Factor

RL - Reporting Limit

ND - Not Detected at the Reporting Limit

Surr - Surrogate Standard added by lab

TNTC - Too numerous to count (> 200 CFU)

Q - QC criteria failed or noncompliant CCV

NELAP - IL ELAP and NELAP Accredited Field of Testing

B - Analyte detected in the associated Method Blank

J - Analyte detected below reporting limits

R - RPD outside accepted recovery limits

S - Spike Recovery outside accepted recovery limits

X - Value exceeds Maximum Contaminant Level

- Unknown hydrocarbon

IDPH - IL Dept. of Public Health

C - Client requested RL below PQL

D - Diluted out of sample

E - Value above quantitation range

H - Holding time exceeded

MI - Matrix interference

DNI - Did not ignite

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Dynegy Midwest Generation

WorkOrder: 09070896

Lab ID: 09070896-001

Report Date: 03-Aug-09

Client Project: Hennepin Station Bottom Ash

Client Sample ID: Hennepin Station Bottom Ash

Collection Date: 7/22/2009 11:00:00 AM

Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP</u>								
Arsenic		0.0250		< 0.0250	mg/L	1	7/29/2009 3:49:50 PM	LAL
Barium		0.0050		0.116	mg/L	1	7/29/2009 11:19:44 AM	LAL
Beryllium		0.0010		< 0.0010	mg/L	1	7/29/2009 11:19:44 AM	LAL
Boron		0.0200		0.193	mg/L	1	8/3/2009 10:30:48 AM	LAL
Cadmium		0.0020		< 0.0020	mg/L	1	7/29/2009 3:49:50 PM	LAL
Chromium		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
Cobalt		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
Copper		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
Iron		0.0300		0.0687	mg/L	1	7/29/2009 3:49:50 PM	LAL
Manganese		0.0050		< 0.0050	mg/L	1	7/29/2009 3:49:50 PM	LAL
Nickel		0.0100		< 0.0100	mg/L	1	7/29/2009 3:49:50 PM	LAL
Selenium		0.0500		< 0.0500	mg/L	1	7/29/2009 3:49:50 PM	LAL
Silver		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
Zinc		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
<u>ASTM D3987, SW-846 3020A, METALS IN SHAKE EXTRACT BY GFAA</u>								
Antimony, SHAKE by GFAA	7041	0.0050		< 0.0050	mg/L	1	7/29/2009 2:45:16 PM	MEK
Lead, SHAKE by GFAA	7421	0.0020	J	0.0011	mg/L	1	7/29/2009 10:18:30 AM	MEK
Thallium, SHAKE by GFAA	7841	0.0020		< 0.0020	mg/L	1	7/29/2009 2:41:30 PM	MEK
<u>ASTM D3987, SW-846 7470A IN SHAKE EXTRACT</u>								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	7/28/2009	ALU

Sample Narrative

RECEIVING CHECK LIST

Client: Dynegy Midwest Generation
Project: Hennepin Station Bottom Ash
Lab Order: 09070896
Report Date: 03-Aug-09

Carrier: UPS

Received By: DB

Completed by: *Marvin L. Darling II*

Reviewed by: *Heather A. White*

On:

On:

24-Jul-09

24-Jul-09

Marvin L. Darling

Heather A. White

Pages to follow: Chain of custody

Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 22.8
Type of thermal preservation?	None <input checked="" type="checkbox"/>	Ice <input type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

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 - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

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

Sample id and collection date/time obtained from sample container. Per John Augspols, sample ID and collection/date time on the container are correct. Analyze for the same list of parameters as in 2008. EAH 7/27/09

TEKLAB, INC

5445 Horseshoe Lake Road

Collinsville, IL 62234-7425

TEL: (618) 344-1004

FAX: (618) 344-1005

CHAIN-OF-CUSTODY RECORD

09070896

Page 1 of 1

WorkOrder: 09070896

Client:

Dynegy Midwest Generation

13498 East 800th Street

Hennepin, IL 61327

TEL: (815) 339-9218

FAX:

Project: Hennepin Station Bottom As

24-Jul-09

Sample ID	ClientSampID	Matrix	Date Collected	Bottle	Requested Tests			
					D3987/6010B	D3987/7000 G	D3987/SW74 70A	
09070896-001	Hennipin Station Bottom	Solid	7/22/2009 11:00:00 AM		A	A	A	

Comments:

	Date/Time	22.8°C ICE	Date/Time
Relinquished by: _____		Received by: <u>R. Butty (WPS)</u>	7/24/09 900
Relinquished by: _____		Received by: _____	
Relinquished by: _____		Received by: _____	

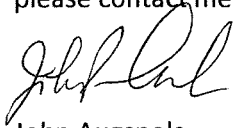
NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Teklab:

7/22/09

Please find enclosed a bottom ash sample to be run for the same parameters as last year. I enclosed those results with the sample. I would like to pay for this with a credit card. If you have any questions please contact me :

A handwritten signature in black ink, appearing to read "John Augspols", written in a cursive style.

John Augspols

Supv. Environmental and Chemistry

(815) 339-9218

Fax (815) 339 -2772

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Dynegy Midwest Generation
WorkOrder: 08060909
Lab ID: 08060909-001
Report Date: 02-Jul-08

Client Project: Hennepin Station Bottom Ash
Client Sample ID: Hennipin Station Botton Ash
Collection Date: 6/24/2008 9:00:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Arsenic		0.0250		< 0.0250	mg/L	1	6/30/2008 12:29:55 PM	LAL
Barium		0.0050		0.0699	mg/L	1	6/30/2008 12:29:55 PM	LAL
Beryllium		0.0010		< 0.0010	mg/L	1	6/30/2008 12:29:55 PM	LAL
Boron		0.0200		0.197	mg/L	1	6/30/2008 12:29:55 PM	LAL
Cadmium		0.0020		< 0.0020	mg/L	1	6/30/2008 12:29:55 PM	LAL
Chromium		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Cobalt		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Copper		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Iron		0.0200		0.110	mg/L	1	6/30/2008 12:29:55 PM	LAL
Manganese		0.0050		< 0.0050	mg/L	1	6/30/2008 12:29:55 PM	LAL
Nickel		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Selenium		0.0500		< 0.0500	mg/L	1	6/30/2008 12:29:55 PM	LAL
Silver		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Zinc		0.0100	J	0.0025	mg/L	1	6/30/2008 12:29:55 PM	LAL
ASTM D3987, SW-846 3020A, METALS IN SHAKE EXTRACT BY GFAA								
Antimony, SHAKE by GFAA 7041		0.0050	J	0.0024	mg/L	1	6/30/2008 11:51:48 AM	JMW
Lead, SHAKE by GFAA 7421		0.0020		< 0.0020	mg/L	1	6/30/2008 9:45:10 AM	JMW
Thallium, SHAKE by GFAA 7841		0.0020	S	< 0.0020	mg/L	1	6/30/2008 11:17:06 AM	JMW
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020	J	0.00006	mg/L	1	6/30/2008	SRH

Sample Narrative

ASTM D3987, SW-846 3020A, Metals in Shake Extract by GFAA

TI - Matrix interference present in sample.

22-8 notice
DB 7/24/09
900 FeUP
DB 7/24/09

Prepared for
Dynegy Midwest Generation, LLC

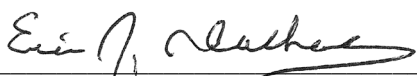
Date
August 19, 2024

Project No.
1940106781-008

**40 C.F.R. § 257.94(e)(2):
ALTERNATIVE SOURCE
DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS
CCR UNIT 801**

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: August 19, 2024



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: August 19, 2024



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Table A	Construction Events Affecting AP2 and AP4
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FIGURES (IN TEXT)

Figure A	Box-Whisker Plot Showing Distribution of Total Boron Concentrations in Compliance Monitoring Wells and Landfill Leachate
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FIGURES (ATTACHED)

Figure 1	Monitoring Well Location Map
Figure 2	Potentiometric Surface Map – January 22 and 23, 2024

APPENDICES

Appendix A	Selected Groundwater Elevation Contour Maps
Appendix B	Bottom Ash Leachate Data

ACRONYMS AND ABBREVIATIONS

35 I.A.C.	Title 35 of the Illinois Administrative Code
40 C.F.R.	Title 40 of the Code of Federal Regulations
AP2	Ash Pond No. 2
AP4	Ash Pond No. 4
ASD	Alternative Source Demonstration
CCR	coal combustion residuals
CCR Rule	40 C.F.R. § 257 Subpart D
CEC	Civil & Environmental Consultants, Inc.
cm/s	centimeters per second
D14	Detection Monitoring Round 14
HCR	Hydrogeologic Site Characterization Report
HDPE	high-density polyethylene
Hennepin East	includes Landfill, AP2, AP4, and East Ash Pond
HPP	Hennepin Power Plant
IEPA	Illinois Environmental Protection Agency
LOE(s)	line(s) of evidence
mg/L	milligrams per liter
NAVD88	North American Vertical Datum of 1988
No.	Number
NPDES	National Pollutant Discharge Elimination System
NRT	Natural Resource Technology, Inc.
OBG	O'Brien & Gere Engineers, Inc.
OWAP	Old West Ash Pond
oz/sy	ounce per square yard
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SSI	statistically significant increase

1. INTRODUCTION

Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257.94(e)(2) allows the owner or operator of a coal combustion residuals (CCR) unit 90 days from the date of determination of statistically significant increases (SSI) over background for groundwater constituents listed in Appendix III of 40 C.F.R. § 257 to complete a written demonstration that a source other than the CCR unit being monitored caused the SSI(s), or that the SSI(s) resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (Alternative 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. § 257.94(e)(2) for the Hennepin Power Plant (HPP) Landfill, located near Hennepin, Illinois.

The most recent Detection Monitoring sampling event (Detection Monitoring Round 14 [D14]) samples were collected on January 24 through 26, 2024 and analytical data were received on February 21, 2024. In accordance with 40 C.F.R. § 257.93(h)(2), statistical analysis of the data to identify SSIs of 40 C.F.R. § 257 Subpart D (CCR Rule) Appendix III parameters over background concentrations was completed by May 21, 2024. The statistical determination identified the following SSIs at compliance monitoring wells:

- Boron at wells 05R, 05DR, and 40S
- pH at wells 05R and 40S

Compliance monitoring well 48 was damaged in late 2023 and unable to be sampled during D14. A replacement well has been installed and will be sampled during the next Detection Monitoring sampling event.

Pursuant to 40 C.F.R. § 257.94(e)(2), the lines of evidence (LOEs) described in **Section 3** demonstrate that sources other than the Landfill were the cause of the SSIs listed above, and that the Landfill did not contribute to the SSIs. This ASD was completed by August 19, 2024, within 90 days of determination of the SSIs, as required by 40 C.F.R. § 257.94(e)(2).

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 Landfill is located east of the HPP, situated less than 200 feet from the south bank of the Illinois River and approximately one mile east of the Big Bend, where the river shifts course from predominantly west to predominantly south.

The Landfill is one of four CCR units regulated under the CCR Rule at the HPP. Three CCR units (the Landfill, Ash Pond Number (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 fourth CCR unit (Old West Ash Pond [OWAP]), is located west of the HPP. Areas surrounding the Landfill include industrial properties to the east and south, agricultural land to the southwest, and the HPP to the west. The CCR units at Hennepin East and surrounding properties are shown on **Figure 1**.

2.2 Groundwater Monitoring

The Landfill groundwater monitoring system for compliance with the CCR Rule consists of five background monitoring wells (07, 08, 08D, 16, and 17) and four compliance monitoring wells (05R, 05DR, 40S, and 48). A map showing the groundwater monitoring system, including the CCR unit and all background and compliance monitoring wells, is presented in **Figure 1**.

Figure 1 also includes monitoring wells for other CCR units located upgradient of the Landfill (e.g., wells 12 and 13) which are not part of the Landfill monitoring system but are used to support the LOEs discussed in **Section 3**.

Groundwater samples are collected and analyzed in accordance with the Multi-Site Sampling and Analysis Plan (Ramboll, 2023). Statistical evaluation of analytical data is performed in accordance with the Multi-Site Statistical Analysis Plan (Ramboll, 2022).

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 history of CCR management at Hennepin East is summarized below.

AP2/AP4: AP2 was used to store and dispose fly ash, bottom ash, and other non-CCR waste streams, including coal pile runoff. The pond originally encompassed the area that currently includes the existing AP2, the Landfill, and the Leachate Pond (not a CCR unit). AP2 has been inactive since 1996 and currently encompasses approximately 18 acres. AP2 is unlined with a lowermost, but variable, bottom elevation of 451 feet¹. AP4 (located south of AP2) is an unlined, closed impoundment (capped or otherwise maintained) not subject to CCR Rule requirements.

A Modified Closure Work Plan was submitted to Illinois Environmental Protection Agency (IEPA) in 2010 proposing closure of AP2 by capping with future Landfill phases as they were constructed (Kelron Environmental and Natural Resource Technology, Inc. [NRT], 2010). The Modified

¹ All elevations in this report are referenced to the North American Vertical Datum of 1988 (NAVD88) unless otherwise noted.

Closure Work Plan was approved by IEPA in a letter dated March 3, 2010. The Landfill is Phase I of the Modified Closure Work Plan. The formerly proposed Landfill Phases II, III, and IV will no longer be constructed upon AP2. Therefore, a Closure and Post Closure Care Plan for AP2 was submitted for IEPA approval in February 2018 (Civil & Environmental Consultants, Inc. [CEC], 2018). A Closure Plan Addendum, which incorporates AP4, was submitted in October 2018 (O'Brien & Gere Engineers, Inc. [OBG] and CEC, 2018). IEPA approved the Closure and Post Closure Care Plan for Hennepin AP2/AP4 on February 26, 2020, following correspondence in 2019 (OBG, part of Ramboll, 2019) to address IEPA comments. Closure construction began on May 21, 2020, and was completed on November 17, 2020. The final cover system on AP2/AP4 consists of a 24-inch compacted soil barrier with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/s) overlain by a 6-inch thick vegetative cover layer. The cover system was extended eastward to overlap with the western end of the Landfill geomembrane liner and southward to the side slope of the East Ash Pond. The approximate dates of construction affecting AP2 and AP4 are summarized in **Table A** below (AECOM, 2016).

Table A. Construction Events Affecting AP2 and AP4

Date	Event
1958	Construction of AP2.
1978	Embankment raise of AP2.
1985	Embankment raise of AP2 to elevation 484 feet.
1989	Embankment raise of AP2 to elevation 494 feet.
1996	AP2 was removed from service and completely dewatered.
2009 to 2010	Eastern portion of AP2 was removed to facilitate construction of the Leachate Pond.
2010/2011	Landfill Phase I cell was constructed in 2010 over placed CCR in AP2 adjacent to the Leachate Pond. In February 2011, 7,500 cubic yards of bottom ash was placed into the Phase I cell as a post-construction freeze-protection measure to protect the leachate collection system and geomembrane liner. No other material (fly ash or bottom ash) has been placed in the Landfill since.
2014	North Embankment tree removal, grading, and vegetation re-establishment adjacent to AP2.
2020	AP2 and AP4 closed in place in accordance with IEPA-approved closure plan.

Landfill: The Landfill Phase I cell, covering approximately 4.5 acres, was constructed in 2010 over existing, dewatered CCR in AP2 as part of the Modified Closure Work Plan for AP2. The Phase I cell was constructed with a composite liner (geomembrane over compacted clay) and leachate collection system above the liner that transfers collected precipitation and leachate to the Leachate Pond. Ash fill underlying the Landfill is known to be present to a minimum elevation of 454 feet.

In February 2011, 7,500 cubic yards of bottom ash was placed into the Landfill as a post-construction freeze protection measure to protect the leachate collection system and geomembrane liner. No other material has been placed in the Landfill since.

East Ash Pond: The East Ash Pond was used to store and dispose bottom ash, fly ash, and other non-CCR waste, and to clarify process water prior to discharge in accordance with the plant's National Pollutant Discharge Elimination System (NPDES) permit. The pond was constructed in two phases. The first phase occurred in 1995 when the initial embankment was constructed to a

total height of 32 feet with a lowermost, but variable, bottom elevation of the pond at 458 feet. The original pond bottom was lined with a 4-foot thick layer of compacted clay with a hydraulic conductivity of 1×10^{-7} cm/s, underlain by a 1-foot thick sand layer (AECOM, 2016). The pond depth behind the original embankment was 15 feet with 5 feet of freeboard. The embankment was raised 12 feet in 2003 to a total impoundment depth of 30 feet with 2 feet of freeboard. The liner system of the embankment raise consisted of (from top to bottom) a 45-mil reinforced polypropylene geomembrane, a 1-foot thick clay layer, and an 8 ounce per square yard (oz/sy) polypropylene geotextile fabric. This pond was used for the treatment of bottom ash transport water, miscellaneous low volume wastewater streams, and storage of unsold fly ash until plant operations ceased in November 2019.

Polishing Pond: The Polishing Pond (located east of the East Ash Pond) is not subject to CCR Rule requirements and was constructed in 1995 with a 48-inch-thick compacted clay liner having a vertical hydraulic conductivity of 1×10^{-7} cm/s.

Leachate Pond: The Leachate Pond (located east of the Landfill) is not subject to CCR Rule requirements and is a 25.5-acre-foot pond constructed with a composite liner consisting of 60-mil high-density polyethylene (HDPE) overlying two feet of compacted clay with a vertical hydraulic conductivity of 1×10^{-7} cm/s. Construction was completed December 2010.

2.4 Site Hydrogeology and Stratigraphy

Multiple site investigations have been completed at the HPP to characterize the geology, hydrogeology, and groundwater quality as required by 40 C.F.R. § 257.91 (Groundwater Monitoring Systems). Hennepin East, including the Landfill, has been well characterized and detailed in the Hydrogeologic Site Characterization Reports (HCR) for the HPP, including the most recent HCR for the adjacent East Ash Pond (Ramboll, 2021), that was included with the Operating Permit application submitted to the IEPA under the requirements of Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.

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, a lower river terrace at an elevation of about 450 to 460 feet, and the current river valley filled with alluvium to an elevation of about 445 feet. The HPP, AP2, and the Landfill were constructed on the original narrow lower river terrace between the Illinois River and the upper terrace. The original lower river terrace is approximately 10 to 20 feet above the average river level at the HPP (elevation 443.7 feet) based upon measurements collected between 2003 and 2018 (OBG, part of Ramboll, 2020). The AP2 berm slopes steeply toward the river and its toe is close to the riverbank. The East Ash Pond, Polishing Pond, and AP4 were constructed on the upper river terrace at an elevation of approximately 500 to 505 feet, or 60 to 65 feet above the average river level.

The hydrogeological assessment identified that the stratigraphy within and immediately surrounding Hennepin East consists of fill, un lithified river alluvium, and Pleistocene-age glacial outwash deposits overlying Pennsylvanian-age shale bedrock. Constructed berms consist of a variety of locally available materials, primarily sand, gravel, and coal ash. 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 Hennepin East: alluvium and Henry Formation sands and gravels. The river is immediately adjacent to the lower terrace, east of Hennepin East,

and there is minimal alluvium between Hennepin East and the river. The highly permeable Henry Formation sands and gravels make up the upper and lower terraces and fill the valley beneath the alluvium. The sands and gravels of the two terraces are indistinguishable, consisting of a heterogeneous mixture of silty-sandy gravel with cobble zones and boulders up to several feet in diameter. The Henry Formation is more than 100 feet thick in the river valley and at least 130 feet thick on the upper terrace.

The Henry Formation and alluvium comprise the Uppermost Aquifer at Hennepin East and extend from the water table to the bedrock. The Uppermost Aquifer extends about 7,000 feet upgradient from Hennepin East to the south, where clay-rich glacial till is encountered. Glacial tills such as this typically yield little water.

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 hydraulic gradient within the Uppermost Aquifer in the vicinity of Hennepin East varies with the elevation of the Illinois River (see select groundwater elevation contour maps in **Appendix A**). The direction of groundwater flow is most often toward the river to the north and west, 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 to the north and west.

Groundwater elevations were obtained from measurements in monitoring wells on January 22 and 23, 2024, prior to the D14 sampling event at the site. Groundwater elevations for Hennepin East during the D14 sampling event are shown in **Figure 2** and ranged from 446.45 feet (in well 54) to 449.49 feet (in well 07). The groundwater elevation contours on the potentiometric surface map shown in **Figure 2** illustrate the presence of relatively high groundwater elevations in wells adjacent to the Illinois River to the north, and the routinely upgradient areas to the south and east monitored by the background wells. Under these hydraulic conditions groundwater will flow towards the lower heads in the center of the map and the Illinois River which have heads around 446.5 feet, as illustrated by the 447-foot contour.

3. ALTERNATIVE SOURCE DEMONSTRATION: LINES OF EVIDENCE

As allowed by 40 C.F.R. § 257.94(e)(2), this ASD demonstrates that sources other than the Landfill (the CCR unit) caused the SSIs and that the Landfill did not contribute to the SSIs. LOEs supporting this ASD include the following:

1. Landfill liner design.
2. Concentrations of boron in Landfill leachate are lower than those observed in downgradient groundwater.
3. Concentrations of boron and pH in compliance monitoring wells are not increasing over time.
4. Previous vertical infiltration of surface water through ash fill in AP2.

Data and information supporting these LOEs are discussed in more detail below.

3.1 LOE #1: Landfill Liner Design

The Landfill was constructed in 2010 with a 60-mil HDPE geomembrane overlying three feet of compacted clay with hydraulic conductivity of 1×10^{-7} cm/s (CEC, 2010). Precipitation and/or leachate that collects on top of the liner is removed by a leachate collection system and transferred to the Leachate Pond for management. The Leachate Pond is also lined with a 60-mil HDPE liner overlying two feet of compacted clay.

The IEPA-approved Landfill composite liner system exceeds the design criteria for a composite liner for new CCR landfills established by 40 C.F.R. § 257.70(b). The composite liner design criteria were established to help prevent contaminants in CCR from leaking from the CCR unit and impacting groundwater. Therefore, the presence of the composite liner suggests that the Landfill is not the source of the observed SSIs.

3.2 LOE #2: Concentrations of Boron in Landfill Leachate are Lower than those Observed in Downgradient Groundwater

The only material that has been placed in the lined Landfill consists of a layer of coarse bottom ash (7,500 cubic yards or 11,625 tons) to protect the leachate collection system and geomembrane liner from freezing. There has been no additional CCR landfilling activity within the lined area since the bottom ash freeze protection layer was installed.

Analytical data from two samples of bottom ash leachate derived in the laboratory (extraction method ASTM D3987, shake extraction with water) identified boron concentrations of 0.193 milligrams per liter (mg/L) (2009 sample) and 0.197 mg/L (2008 sample) (**Appendix B**).

A box-whisker plot of total boron concentrations detected between 2015 and D14 at compliance monitoring wells near the Landfill is shown on **Figure A** on the following page. The boron concentrations of 0.193 and 0.197 mg/L detected in the laboratory-derived leachate samples are below the boron concentrations observed in compliance monitoring wells as shown in **Figure A**. Analytical data available for laboratory-derived leachate from the bottom ash placed in the Landfill indicates that the bottom ash is not capable of leaching boron in concentrations observed in the compliance monitoring wells.

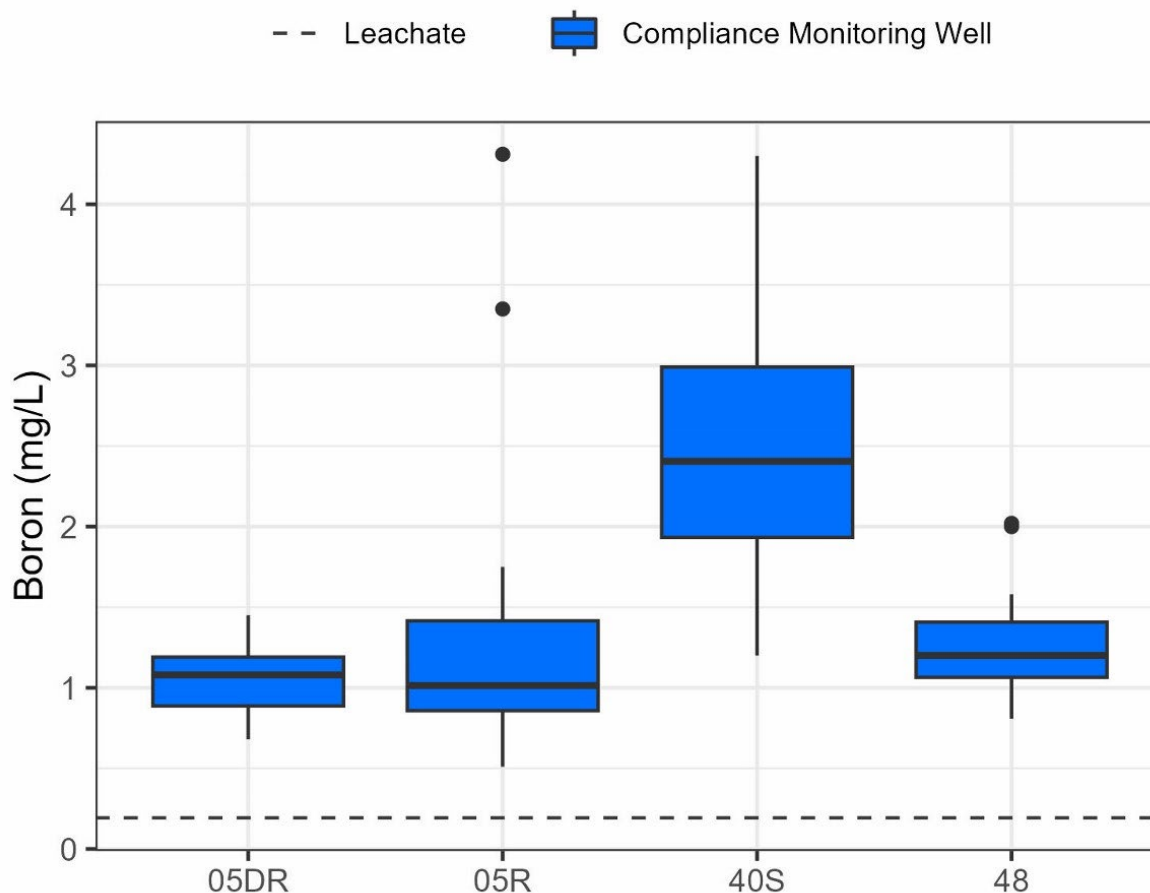


Figure A. Box-Whisker Plot Showing Distribution of Total Boron Concentrations in Compliance Monitoring Wells and Landfill Leachate

3.3 LOE #3: Concentrations of Boron and pH in Compliance Monitoring Wells are not Increasing Over Time

If the Landfill were a “new” source of boron to groundwater, boron concentrations in the compliance monitoring wells would be expected to increase with time as concentrations in the compliance wells approach levels of boron from within the Landfill. Similarly, if the Landfill were a “new” source of pH to groundwater, pH values would also be expected to increase with time as values in the compliance wells approach those from within the Landfill.

Concentrations in compliance wells are not increasing for boron and pH as shown in **Tables B and C** on the following page. Therefore, the Landfill is not the source of boron or pH in groundwater.

Table B. Mann-Kendall Trend Analyses of Total Boron Concentrations in Compliance Monitoring Wells

Sample Location	Mann-Kendall Results - Total Boron Concentrations			
	Start Date	End Date	Sample Count	Trend (95% Confidence)
05R	12/9/2015	1/25/2024	32	Decreasing
05DR	12/9/2015	1/25/2024	32	Decreasing
40S	12/9/2015	1/25/2024	31	Decreasing
48	12/9/2015	8/23/2023	25	No Trend

Table C. Mann-Kendall Trend Analyses of pH Concentrations in Compliance Monitoring Wells

Sample Location	Mann-Kendall Results – pH Concentrations			
	Start Date	End Date	Sample Count	Trend (95% Confidence)
05R	12/9/2015	1/25/2024	35	No Trend
05DR	12/9/2015	1/25/2024	40	No Trend
40S	12/9/2015	1/25/2024	40	No Trend
48	12/9/2015	8/23/2023	26	No Trend

3.4 LOE #4: Previous Vertical Infiltration of Surface Water through Ash Fill in AP2

The Landfill was constructed over the eastern portion of AP2 as Phase I of an IEPA-approved Modified Closure Work Plan for AP2. The portions of AP2 to the west of the Landfill were previously exposed, and subject to infiltration of precipitation and generation of CCR leachate. However, a soil cover designed to minimize surface water infiltration and CCR-impacts to groundwater was constructed over these exposed portions of AP2 in 2020 as part of a Closure and Post Closure Care Plan for AP2 approved by IEPA on February 26, 2020. AP2 is unlined, and prior to capping of the ash pond by construction of the Landfill liner and the AP2 cover system, precipitation that came into contact with CCR in AP2 may have allowed CCR constituents to percolate downward to groundwater. The previously exposed portions of AP2 may be an alternative source for CCR parameters observed in groundwater near the Landfill.

Comparison of groundwater and Illinois River elevation data indicate that natural variation in river elevation related to flood events occasionally causes groundwater flow reversal and increases in groundwater elevations in the Uppermost Aquifer beneath the Landfill. When river elevations rise above 451 to 454 feet, low-lying ash deposits underlying the Landfill have the potential to become partially saturated for a transient period. The short-term, partial saturation may result in a temporary change to some CCR constituent concentrations and pH at some compliance monitoring wells after the predominant groundwater flow direction is reestablished. Explicit simulation of flood events (OBG, part of Ramboll, 2020) indicates that potential increases in concentrations from flooding of the Illinois River are small and transient, such that long-term concentrations will not be significantly affected.

4. CONCLUSIONS

Based on these four LOEs, it has been demonstrated that the Landfill is not the source of the boron SSIs identified in wells 05R, 05DR, and 40S and the pH SSIs identified in wells 05R and 40S.

1. Landfill liner design.
2. Concentrations of boron in Landfill leachate are lower than those observed in downgradient groundwater.
3. Concentrations of boron and pH in compliance monitoring wells are not increasing over time.
4. Previous vertical infiltration of surface water through ash fill in AP2.

Based on the LOEs presented, the SSIs for boron and pH may be attributed to portions of AP2 to the west of the Landfill that were previously exposed, and subject to infiltration of precipitation and generation of CCR leachate outside the Landfill boundary.

This information serves as the written ASD report prepared in accordance with 40 C.F.R. § 257.94(e)(2) that SSIs observed during the D14 monitoring event were not caused by the Landfill but were from other sources. Therefore, an Assessment Monitoring Program is not required, and the Landfill will remain in Detection Monitoring.

5. REFERENCES

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FIGURES



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

0 175 350
Feet

MONITORING WELL LOCATION MAP

ALTERNATIVE SOURCE DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000XXXX | DATED: 3/27/2024 | DESIGNER: GALARNMC
Y:\Mapping\Projects\222285\MXD\GW_Contours\Round_2024\Hennepin\LF_801\LF_2024.aprx\HEN 801 LF Pot Surface 20240122



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

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

0 175 350
Feet

**POTENTIOMETRIC SURFACE MAP
JANUARY 22 AND 23, 2024**

**ALTERNATIVE SOURCE DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS**

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



APPENDICES

APPENDIX A

SELECTED GROUNDWATER ELEVATION CONTOUR MAPS



- BACKGROUND WELL
- MONITORING WELL
- SOURCE SAMPLE LOCATION
- STAFF GAGE
- GROUNDWATER ELEVATION CONTOUR (0.5 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW ARROW
- PART 257 REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

NOTE:
*GROUNDWATER ELEVATIONS SHOWN IN FEET, NAVD88. ELEVATIONS IN PARENTHESIS WERE NOT USED FOR CONTOURING.
**GAUGING DATA FROM USGS 05558300 ILLINOIS RIVER AT HENRY, IL LOCATED APPROXIMATELY 15 MILES DOWNSTREAM OF HENNEPIN POWER STATION. SURFACE WATER ELEVATIONS IN FEET NAVD88. ILLINOIS RIVER ELEVATION IS AN AVERAGE VALUE FOR MARCH 18, 2021.



**GROUNDWATER ELEVATION
CONTOUR MAP
MARCH 17, 2021**

**ALTERNATE SOURCE DEMONSTRATION
COAL COMBUSTION WASTE LANDFILL**
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000X.XXX | DATED: 3/24/2022 | DESIGNER: galammc
Y:\Mapping\Projects\222285\MXD\GW_Contours\Round_2021\HennepinLandfill_801\HEN Landfill GWE Contours D9A4D 20210908.mxd



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

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



**POTENTIOMETRIC SURFACE MAP
SEPTEMBER 8, 2021**

**2021 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS**

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



PROJECT: 169000XXXX | DATED: 10/18/2022 | DESIGNER: galarmc
Y:\Mapping\Projects\22\2285\MXD\GW_Contours\Round_2022\HennepinLF_801\HEN Landfill 801 Pot Surface 20220321.mxd



- 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)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

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



POTENTIOMETRIC SURFACE MAP
MARCH 21, 2022

2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (1 FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER MANAGEMENT ZONE
- PART 257 REGULATED UNIT (SUBJECT UNIT)
- LIMITS OF FINAL COVER
- SITE FEATURE
- PROPERTY BOUNDARY

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



**POTENTIOMETRIC SURFACE MAP
SEPTEMBER 13 AND 14, 2022**

**ALTERNATE SOURCE DEMONSTRATION
COAL COMBUSTION WASTE LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS**

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





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

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

0 175 350
Feet

POTENTIOMETRIC SURFACE MAP FEBRUARY 28 AND MARCH 1, 2023

ALTERNATE SOURCE DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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

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



POTENTIOMETRIC SURFACE MAP AUGUST 21, 2023

ALTERNATE SOURCE DEMONSTRATION
LANDFILL
HENNEPIN POWER PLANT
HENNEPIN, ILLINOIS

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



APPENDIX B

BOTTOM ASH LEACHATE DATA

August 03, 2009

John Augspols
Dynergy Midwest Generation
13498 East 800th Street
Hennepin, IL 61327
TEL: (815) 339-9218
FAX:



RE: Hennepin Station Bottom Ash

WorkOrder: 09070896

Dear John Augspols:

TEKLAB, INC received 1 sample on 7/24/2009 9:00:00 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. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

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,

A handwritten signature in black ink that reads "Heather A. White".

Heather A. White
Project Manager
(618)344-1004 ex 20

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: Dynegy Midwest Generation
Project: Hennepin Station Bottom Ash
LabOrder: 09070896
Report Date: 03-Aug-09

CASE NARRATIVE

Cooler Receipt Temp: 22.8 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers

DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	IDPH - IL Dept. of Public Health	

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Dynegy Midwest Generation

WorkOrder: 09070896

Lab ID: 09070896-001

Report Date: 03-Aug-09

Client Project: Hennepin Station Bottom Ash

Client Sample ID: Hennepin Station Bottom Ash

Collection Date: 7/22/2009 11:00:00 AM

Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP</u>								
Arsenic		0.0250		< 0.0250	mg/L	1	7/29/2009 3:49:50 PM	LAL
Barium		0.0050		0.116	mg/L	1	7/29/2009 11:19:44 AM	LAL
Beryllium		0.0010		< 0.0010	mg/L	1	7/29/2009 11:19:44 AM	LAL
Boron		0.0200		0.193	mg/L	1	8/3/2009 10:30:48 AM	LAL
Cadmium		0.0020		< 0.0020	mg/L	1	7/29/2009 3:49:50 PM	LAL
Chromium		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
Cobalt		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
Copper		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
Iron		0.0300		0.0687	mg/L	1	7/29/2009 3:49:50 PM	LAL
Manganese		0.0050		< 0.0050	mg/L	1	7/29/2009 3:49:50 PM	LAL
Nickel		0.0100		< 0.0100	mg/L	1	7/29/2009 3:49:50 PM	LAL
Selenium		0.0500		< 0.0500	mg/L	1	7/29/2009 3:49:50 PM	LAL
Silver		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
Zinc		0.0100		< 0.0100	mg/L	1	7/29/2009 11:19:44 AM	LAL
<u>ASTM D3987, SW-846 3020A, METALS IN SHAKE EXTRACT BY GFAA</u>								
Antimony, SHAKE by GFAA	7041	0.0050		< 0.0050	mg/L	1	7/29/2009 2:45:16 PM	MEK
Lead, SHAKE by GFAA	7421	0.0020	J	0.0011	mg/L	1	7/29/2009 10:18:30 AM	MEK
Thallium, SHAKE by GFAA	7841	0.0020		< 0.0020	mg/L	1	7/29/2009 2:41:30 PM	MEK
<u>ASTM D3987, SW-846 7470A IN SHAKE EXTRACT</u>								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	7/28/2009	ALU

Sample Narrative

RECEIVING CHECK LIST

Client: Dynegy Midwest Generation
Project: Hennepin Station Bottom Ash
Lab Order: 09070896
Report Date: 03-Aug-09

Carrier: UPS

Received By: DB

Completed by: *Marvin L. Darling II*
On:
24-Jul-09
Marvin L. Darling

Reviewed by: *Heather A. White*
On:
24-Jul-09
Heather A. White

Pages to follow: Chain of custody

Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 22.8
Type of thermal preservation?	None <input checked="" type="checkbox"/>	Ice <input type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

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 - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

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

Sample id and collection date/time obtained from sample container. Per John Augspols, sample ID and collection/date time on the container are correct. Analyze for the same list of parameters as in 2008. EAH 7/27/09

TEKLAB, INC
5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
TEL: (618) 344-1004
FAX: (618) 344-1005

CHAIN-OF-CUSTODY RECORD

09070896

Page 1 of 1

WorkOrder: 09070896

Client:

Dynegy Midwest Generation
13498 East 800th Street
Hennepin, IL 61327

TEL: (815) 339-9218

FAX:

Project: Hennepin Station Bottom As

24-Jul-09

Sample ID	ClientSampID	Matrix	Date Collected	Bottle	Requested Tests			
					D3987/6010B	D3987/7000 G	D3987/SW74 70A	
09070896-001	Hennipin Station Bottom	Solid	7/22/2009 11:00:00 AM		A	A	A	

Comments:

	Date/Time	22.8°C ICE	Date/Time
Relinquished by: _____		Received by: <u>R. Butty (WPS)</u>	7/24/09 900
Relinquished by: _____		Received by: _____	
Relinquished by: _____		Received by: _____	

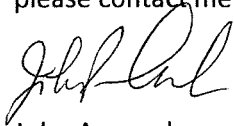
NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Teklab:

7/22/09

Please find enclosed a bottom ash sample to be run for the same parameters as last year. I enclosed those results with the sample. I would like to pay for this with a credit card. If you have any questions please contact me :

A handwritten signature in black ink, appearing to read "John Augspols", written in a cursive style.

John Augspols

Supv. Environmental and Chemistry

(815) 339-9218

Fax (815) 339 -2772

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Dynegy Midwest Generation
WorkOrder: 08060909
Lab ID: 08060909-001
Report Date: 02-Jul-08

Client Project: Hennepin Station Bottom Ash
Client Sample ID: Hennipin Station Botton Ash
Collection Date: 6/24/2008 9:00:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Arsenic		0.0250		< 0.0250	mg/L	1	6/30/2008 12:29:55 PM	LAL
Barium		0.0050		0.0699	mg/L	1	6/30/2008 12:29:55 PM	LAL
Beryllium		0.0010		< 0.0010	mg/L	1	6/30/2008 12:29:55 PM	LAL
Boron		0.0200		0.197	mg/L	1	6/30/2008 12:29:55 PM	LAL
Cadmium		0.0020		< 0.0020	mg/L	1	6/30/2008 12:29:55 PM	LAL
Chromium		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Cobalt		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Copper		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Iron		0.0200		0.110	mg/L	1	6/30/2008 12:29:55 PM	LAL
Manganese		0.0050		< 0.0050	mg/L	1	6/30/2008 12:29:55 PM	LAL
Nickel		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Selenium		0.0500		< 0.0500	mg/L	1	6/30/2008 12:29:55 PM	LAL
Silver		0.0100		< 0.0100	mg/L	1	6/30/2008 12:29:55 PM	LAL
Zinc		0.0100	J	0.0025	mg/L	1	6/30/2008 12:29:55 PM	LAL
ASTM D3987, SW-846 3020A, METALS IN SHAKE EXTRACT BY GFAA								
Antimony, SHAKE by GFAA 7041		0.0050	J	0.0024	mg/L	1	6/30/2008 11:51:48 AM	JMW
Lead, SHAKE by GFAA 7421		0.0020		< 0.0020	mg/L	1	6/30/2008 9:45:10 AM	JMW
Thallium, SHAKE by GFAA 7841		0.0020	S	< 0.0020	mg/L	1	6/30/2008 11:17:06 AM	JMW
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020	J	0.00006	mg/L	1	6/30/2008	SRH

Sample Narrative

ASTM D3987, SW-846 3020A, Metals in Shake Extract by GFAA

TI - Matrix interference present in sample.

22-8 notice
DB 7/24/09
900 FeUP
DB 7/24/09