HALEY ALDRICH

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2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT UTILITY WASTE LANDFILL NEW MADRID POWER PLANT MARSTON, MISSOURI

by
Haley & Aldrich, Inc.
Cleveland, Ohio

for
Associated Electric Cooperative, Inc.
Springfield, Missouri

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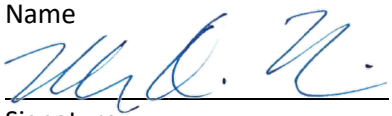
Table of Contents

Mark Nicholls, PG
Name



Signature

Principal Consultant
Title

January 31, 2024
Date

HALEY ALDRICH

List of Tables

List of Figures

1. Introduction

This 2023 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) addresses the Utility Waste Landfill (UWL) at the New Madrid Power Plant (NMPP), operated by the Associated Electric Cooperative, Inc. (AECI). This Annual Report was developed in accordance with the U.S. Environmental Protection Agency Coal Combustion Residual (CCR) Rule effective 19 October 2015 (Rule) including subsequent revisions, specifically Title 40 Code of Federal Regulations (40 CFR), § 257.90(e). The Annual Report documents the groundwater monitoring system for the UWL consistent with applicable sections of 40 CFR §§ 257.90 through 257.98, and describes activities conducted in the prior calendar year (2022) and documents compliance with the Rule. The specific requirements listed in 40 CFR § 257.90(e)(1) through (6) of the Rule are provided in Sections 1 and 2 of this Annual Report and are in bold italic font, followed by a short narrative describing how each Rule requirement has been met.

1.1 40 CFR § 257.90(e)(6) SUMMARY

A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:

1.1.1 40 CFR § 257.90(e)(6)(i) – Initial Monitoring Program

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;

At the start of the current annual reporting period (1 January 2023), the UWL was operating under a detection monitoring program in compliance with 40 CFR § 257.94.

1.1.2 40 CFR § 257.90(e)(6)(ii) – Final Monitoring Program

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;

At the end of the current annual reporting period (31 December 2023), the UWL was operating under a detection monitoring program in compliance with 40 CFR § 257.94.

1.1.3 40 CFR § 257.90(e)(6)(iii) – Statistically Significant Increases

If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to § 257.94(e):

1.1.3.1 40 CFR § 257.90(e)(6)(iii)(a)

Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and

No statistically significant increases (SSI) over background were identified during the previous calendar year (2023).

1.1.3.2 40 CFR § 257.90(e)(6)(iii)(b)

Provide the date when the assessment monitoring program was initiated for the CCR unit.

No SSIs over background were identified during the previous calendar year (2023); therefore, an assessment monitoring program was not initiated for the UWL in 2023.

1.1.4 40 CFR § 257.90(e)(6)(iv) – Statistically Significant Levels

If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV to this part pursuant to § 257.95(g) include all of the following:

1.1.4.1 40 CFR § 257.90(e)(6)(iv)(a) – Statistically Significant Level Constituents

Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;

The UWL remains in detection monitoring and no Appendix IV constituents were collected or analyzed in 2023. Therefore, no statistically significant levels above the groundwater protection standard were identified for the UWL.

1.1.4.2 40 CFR § 257.90(e)(6)(iv)(b) – Initiation of the Assessment of Corrective Measures

Provide the date when the assessment of corrective measures was initiated for the CCR unit;

No assessment of corrective measures was required to be initiated in 2023 for this unit. The UWL remained in detection monitoring during 2023.

1.1.4.3 40 CFR § 257.90(e)(6)(iv)(c) – Assessment of Corrective Measures Public Meeting

Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and

An assessment of corrective measures was not required for the UWL in 2023; therefore, a public meeting was not held.

1.1.4.4 40 CFR § 257.90(e)(6)(iv)(d) – Completion of the Assessment of Corrective Measures

Provide the date when the assessment of corrective measures was completed for the CCR unit.

No assessment of corrective measures was required to be initiated in 2023 for this unit. The UWL remained in detection monitoring during 2023.

1.1.5 40 CFR § 257.90(e)(6)(v) – Selection of Remedy

Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection; and

The UWL remains in detection monitoring, and no remedy was required to be selected.

1.1.6 40 CFR § 257.90(e)(6)(vi) – Remedial Activities

Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.

No remedial activities were required to be initiated in 2023; therefore, no demonstration or certification is applicable for this unit.

2. 40 CFR § 257.90 Applicability

2.1 40 CFR § 257.90(a)

All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under §§ 257.90 through 257.99, except as provided in paragraph (g) [Suspension of groundwater monitoring requirements] of this section.

AECI has installed and certified a groundwater monitoring system at the NMPP UWL. The UWL is the CCR management unit addressed in this report and is subject to the groundwater monitoring and corrective action requirements described under 40 CFR §§ 257.90 through 257.98. This document addresses the requirement for the Owner/Operator to prepare an Annual Report per 40 CFR § 257.90(e) (Rule).

2.2 40 CFR § 257.90(e) – SUMMARY

Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1).

This Annual Report describes monitoring completed and actions taken at the NMPP UWL as required by the Rule. Groundwater sampling and analysis was conducted in accordance with requirements described in 40 CFR § 257.93, and the status of the groundwater monitoring program described in 40 CFR § 257.94 and § 257.95 is also provided in this report. This Annual Report documents the applicable groundwater-related activities completed in the calendar year 2023.

2.2.1 Status of the Groundwater Monitoring Program

Statistical analyses of semi-annual detection monitoring data collected in August 2022 and February 2023 were completed in 2023 and indicated no Appendix III SSIs at the UWL. The unit remains in a detection monitoring program.

2.2.2 Key Actions Completed

The 2022 Annual Groundwater Monitoring and Corrective Action Report was completed in January 2023. Statistical analysis was completed in January 2023 on analytical data from the August 2022 semi-annual detection monitoring sampling event. The statistical analysis indicated no SSIs for Appendix III constituents. Semi-annual detection monitoring events were completed in February and

August 2023. Statistical analysis was completed within 90 days of receipt of verified laboratory data for the February 2023 sampling event. No SSIs were determined for the sampling event. Statistical analysis of the results from the August 2023 semi-annual detection monitoring sampling event are due to be completed in January 2024 and will be reported in the next annual report.

2.2.3 Problems Encountered

Problems encountered during groundwater monitoring activities in 2023 consisted of:

- The well casing at monitoring well B-5R was damaged approximately 3 feet below ground surface, which did not allow for the collection of depth to water measurements at the monitoring well during the February and August 2023 groundwater sampling events. Groundwater samples were successfully collected.
- Difficulties with groundwater sampling of upgradient monitoring well B-126 were observed due to slow groundwater recharge and elevated turbidity during the August 2023 groundwater sampling event. The elevated turbidity observed in the groundwater samples collected during these sampling events resulted in elevated analytical results for select constituents.

2.2.4 Actions to Resolve Problems

In August 2023, actions to resolve the problem of the damaged well casing at monitoring well B-5R were completed, which included the replacement of the top 5 feet of well casing, repairing the surface seal, and installing steel bollard around the surface completion.

The resolution to the elevated turbidity observed at upgradient monitoring well B-126 included the redevelopment of the monitoring well in August 2023. Following redevelopment of the monitoring well, the groundwater recharge rates have improved, and the turbidity measurements have decreased.

2.2.5 Project Key Activities for Upcoming Year

Key activities planned for 2024 include completion of the 2023 Annual Groundwater Monitoring and Corrective Action Report, statistical analysis of detection monitoring analytical data collected in August 2023, and semi-annual detection monitoring and subsequent statistical analyses.

2.3 40 CFR § 257.90(e) – INFORMATION

At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

2.3.1 40 CFR § 257.90(e)(1)

A map, aerial image, or diagram showing the CCR unit and all background (or up gradient) and down gradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

As required by 40 CFR § 257.90(e)(1), a map showing the locations of the CCR unit and associated upgradient and downgradient monitoring wells for the UWL is included in this report as Figure 1. In addition, this information is presented in the CCR Groundwater Monitoring Network Description Report

prepared for AECI, which was placed in the facility's operating record by 17 October 2017 as required by 40 CFR § 257.105(h)(2).

2.3.2 40 CFR § 257.90(e)(2) – Monitoring System Changes

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;

No monitoring wells were installed or decommissioned during 2023.

2.3.3 40 CFR § 257.90(e)(3) – Summary of Sampling Events

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 down gradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

In accordance with 40 CFR § 257.94(b), two independent detection monitoring samples from each background and downgradient monitoring well were collected in 2023. A summary including the sample names, sample dates, field parameters, and analytical data obtained for the groundwater monitoring program for the UWL is shown on Table I of this report.

2.3.4 40 CFR § 257.90(e)(4) – Monitoring Transition Narrative

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 over background levels); and

Data from the groundwater sampling events for the downgradient wells were compared to the calculated prediction limit (PL) for the Appendix III constituents. Once the data is verified, a sample concentration greater than the PL is considered to represent a SSI. The statistical analyses completed in 2023 for the August 2022 and February 2023 semi-annual detection monitoring sampling events indicated no SSIs for Appendix III constituents. The UWL remains in detection monitoring; therefore, there was no transition between monitoring programs in 2023.

2.3.5 40 CFR § 257.90(e)(5) – Other Requirements

Other information required to be included in the annual report as specified in § 257.90 through § 257.98.

This Annual Report documents activities conducted to comply with 40 CFR §§ 257.90 through 257.95 of the Rule. It is understood that there are supplemental references in 40 CFR §§ 257.90 through 257.98 that must be placed in the Annual Report. The following requirements include relevant and required information in the Annual Report for activities completed in calendar year 2023.

2.3.5.1 40 CFR § 257.94(d)(3) – Demonstration for Alternative Detection Monitoring Frequency

The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).

An alternative groundwater detection monitoring sampling and analysis frequency has not been established for this CCR unit; therefore, no demonstration or certification is applicable.

2.3.5.2 40 CFR § 257.94(e)(2) – Detection Monitoring Alternate Source Demonstration

The owner or operator may demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator must complete the written demonstration within 90 days of detecting a statistically significant increase over background levels to include obtaining a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority verifying the accuracy of the information in the report. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with a detection monitoring program under this section. If a successful demonstration is not completed within the 90-day period, the owner or operator of the CCR unit must initiate an assessment monitoring program as required under § 257.95. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

No Appendix III SSIs were indicated by statistical analyses completed in 2023; consequently, no alternative source demonstration or certification is applicable.

2.3.5.3 40 CFR § 257.95(c)(3) – Demonstration for Alternative Assessment Monitoring Frequency

The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).

The UWL remains in detection monitoring and an alternative groundwater assessment monitoring sampling and analysis frequency has not been established for this CCR unit; therefore, no demonstration or certification is applicable.

2.3.5.4 40 CFR § 257.95(d)(3) – Assessment Monitoring Concentrations and Groundwater Protection Standards

Include the recorded concentrations required by paragraph (d)(1) of this section, identify the background concentrations established under § 257.94(b), and identify the groundwater protection standards established under paragraph (d)(2) of this section in the annual groundwater monitoring and corrective action report required by § 257.90(e).

The UWL remains in detection monitoring and no assessment monitoring samples were collected or analyzed in 2023. Consequently, AECI is not required to establish groundwater protection standards for this CCR unit and this criterion is not applicable.

2.3.5.5 40 CFR § 257.95(g)(3)(ii) – Assessment Monitoring Alternate Source Demonstration

Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section and may return to detection monitoring if the constituents in appendices III and IV to this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

Assessment monitoring statistical analyses were not required or completed in 2023. Therefore, this criterion is not applicable.

2.3.5.6 40 CFR § 257.96(a) – Demonstration for Additional Time for Assessment of Corrective Measures

Within 90 days of finding that any constituent listed in Appendix IV to this part has been detected at a statistically significant level exceeding the groundwater protection standard defined under § 257.95(h), or immediately upon detection of a release from a CCR unit, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected area to original conditions. The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective

measures may be extended for no longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

Assessment monitoring statistical analyses were not required or completed in 2023. Therefore, this criterion is not applicable to the CCR unit at this time.

2.4 40 CFR § 257.90(f)

The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

In order to comply with the Rule recordkeeping requirements, the following actions must be completed:

- Pursuant to 40 CFR § 257.105(h)(1), this Annual Report must be placed in the facility's operating record.
- Pursuant to 40 CFR § 257.106(h)(1), notification must be sent to the relevant State Director and/or Tribal authority within 30 days of this Annual Report being placed on the facility's operating record [40 CFR § 257.106(d)].
- Pursuant to 40 CFR § 257.107(h)(1), this Annual Report must be posted to the AECI CCR website within 30 days of this Annual Report being placed on the facility's operating record [40 CFR § 257.107(d)].

TABLE

TABLE I
SUMMARY OF ANALYTICAL RESULTS - 2023 DETECTION MONITORING
ASSOCIATED ELECTRIC COOPERATIVE, INC.
NEW MADRID POWER PLANT - UTILITY WASTE LANDFILL
MARSTON, MISSOURI

Location	Upgradient						Downgradient						
	B-123		B-126		MW-16		B-2		B-5R		B-41		
Measure Point (TOC)	292.7		293.63		292.85		291.91		288.69		294.58		
Sample Name	B-123	B-123	B-126	B-126	MW-16	MW-16	B-2	B-2	B-5R	B-5R	B-41	DUP-UWL	B-41
Sample Date	2/13/2023	8/10/2023	2/14/2023	8/10/2023	2/13/2023	8/10/2023	2/21/2023	MW-2-082223	2/21/2023	8/24/2023	2/21/2023	2/21/2023	8/23/2023
Final Lab Report Date	3/10/2023	9/7/2023	3/10/2023	9/7/2023	3/10/2023	9/7/2023	3/21/2023	9/11/2023	3/21/2023	9/11/2023	3/21/2023	3/21/2023	9/11/2023
Final Lab Report Revision Date	N/A	10/20/2023	N/A	10/20/2023	N/A	10/20/2023	4/12/2023	10/16/2023	4/12/2023	10/16/2023	4/12/2023	4/12/2023	10/16/2023
Lab Data Reviewed and Accepted	5/25/2023	12/8/2023	5/25/2023	12/8/2023	5/25/2023	12/8/2023	5/25/2023	12/8/2023	5/25/2023	12/8/2023	5/25/2023	5/25/2023	12/8/2023
Depth to Water (ft btoc)	21.62	22.89	25.33	23.30	27.16	29.60	23.90	22.94	[1]	[1]	25.80	-	25.34
Temperature (Deg C)	16.4	16.99	16.65	18.42	17.17	17.83	16.55	17.77	17.13	18.49	16.87	-	18.19
Conductivity, Field (µS/cm)	675	646	499	497	916	692	560	538	240	230	132	-	136
pH (field) (su)	6.48	7.14	5.87	5.98	6.49	6.95	5.6	6.51	5.51	6.01	5.37	-	5.95
Turbidity, Field (NTU)	99.8	10.73	298	55	9.6	5.32	3.4	0.44	48.7	22.52	3.9	-	0.74
Boron, Total (mg/L)	**0.049**	**0.072**	**0.069**	**0.12**	**0.086**	**0.11**	**0.045**	**0.055**	**0.019**	**0.021**	**0.012**	**0.012**	**0.012**
Calcium, Total (mg/L)	**74**	**78**	**86**	**78**	**130**	**100**	**74**	**73**	**19**	**18**	**13**	**13**	**12**
Chloride (mg/L)	**2.2**	**2.4**	**8.2**	**6.9**	< 5.0	**4.4**	**6.3**	**7.3**	**5.8**	**5.4**	**1.9**	**2.0**	**1.5**
Fluoride (mg/L)	**0.492**	**0.469**	**0.451**	**0.433**	**1.25**	**1.15**	**0.327**	**0.272**	**0.281**	< 0.250	< 0.250	< 0.250	< 0.250
Sulfate (mg/L)	**30**	**26**	**68**	**50**	**60**	**48**	**41**	**47**	**8.7**	**9.5**	**11**	**11**	**14**
pH (lab) (su)	**7.20**	**7.22**	**6.96**	**6.86**	**6.90**	**6.98**	**6.82**	**7.08**	**6.38**	**6.56**	**6.44**	**6.19**	**6.54**
TDS (mg/L)	**360**	**400**	**360**	**420**	**480**	**420**	**290**	**330**	**120**	**140**	**80**	**90**	**100**

Notes:

[1] Water level unable to be collected due to a damanged well casing. A groundwater sample was successfully collected.

Bold value: *Detection above laboratory reporting limit.*

µS/cm = micro Siemens per centimeter

Deg C = degrees Celsius

ft btoc = feet below top of casing

mg/L = milligrams per liter

N/A = Not Applicable

NTU = Nephelometric Turbidity Unit

su = standard unit

TDS = total dissolved solids

TOC = top of casing

TABLE I
SUMMARY OF ANALYTICAL RESULTS - 2023 DETECTION MONITORING
ASSOCIATED ELECTRIC COOPERATIVE, INC.
NEW MADRID POWER PLANT - UTILITY WASTE LANDFILL
MARSTON, MISSOURI

Location	Downgradient										
	MW-1			MW-2		MW-3		MW-4		MW-5	
Measure Point (TOC)	298.08			297.69		297.18		297.95		296.63	
Sample Name	MW-1	MW-1	DUP-UWL-08-2023	MW-2	MW-2	MW-3	MW-3	MW-4	MW-4	MW-5	MW-5
Sample Date	2/21/2023	8/22/2023	8/22/2023	2/21/2023	8/22/2023	2/21/2023	8/22/2023	2/21/2023	8/22/2023	2/21/2023	8/22/2023
Final Lab Report Date	3/21/2023	9/11/2023	9/11/2023	3/21/2023	9/11/2023	3/21/2023	9/11/2023	3/21/2023	9/11/2023	3/21/2023	9/11/2023
Final Lab Report Revision Date	4/12/2023	10/16/2023	10/16/2023	4/12/2023	10/16/2023	4/12/2023	45215	4/12/2023	10/16/2023	4/12/2023	10/16/2023
Lab Data Reviewed and Accepted	5/25/2023	12/8/2023	12/8/2023	5/25/2023	12/8/2023	5/25/2023	12/8/2023	5/25/2023	12/8/2023	5/25/2023	12/8/2023
Depth to Water (ft btoc)	30.48	29.32	29.32	29.90	29.10	27.95	27.49	29.80	28.36	28.80	27.73
Temperature (Deg C)	17.11	17.97	-	17.35	18.53	16.12	17.41	16.35	17.45	16.72	17.85
Conductivity, Field (µS/cm)	436	431	-	387	373	541	560	504	554	478	517
pH (field) (su)	5.76	5.85	-	5.66	6.73	5.74	6.24	6.15	6.58	6.27	6.27
Turbidity, Field (NTU)	5	0.7	-	10	0.0	3.4	0.35	4.4	0.01	3.8	0.0
Boron, Total (mg/L)	**0.026**	**0.026**	**0.021**	**0.025**	**0.029**	**0.030**	**0.025**	**0.021**	**0.018**	**0.019**	**0.019**
Calcium, Total (mg/L)	**53**	**52**	**52**	**41**	**40**	**67**	**69**	**68**	**74**	**64**	**66**
Chloride (mg/L)	**8.3**	**9.3**	**9.5**	**8.8**	**10**	**3.6**	**5.2**	**6.1**	**6.6**	**6.8**	**7.7**
Fluoride (mg/L)	< 0.250	< 0.250	< 0.250	**0.258**	< 0.250	**0.328**	**0.283**	**0.305**	< 0.250	**0.286**	< 0.250
Sulfate (mg/L)	**43**	**46**	**48**	**13**	**12**	**36**	**40**	**9.5**	**5.5**	**23**	**22**
pH (lab) (su)	**6.60**	**6.85**	**6.79**	**6.57**	**6.81**	**6.69**	**6.87**	**7.16**	**7.54**	**7.10**	**7.17**
TDS (mg/L)	**240**	**290**	**280**	**140**	**240**	**260**	**320**	**220**	**300**	**220**	**330**

Notes:

[1] Water level unable to be collected due to a damanged well casing. A groundwater sample was successfully collected.

Bold value: *Detection above laboratory reporting limit.*

µS/cm = micro Siemens per centimeter

Deg C = degrees Celsius

ft btoc = feet below top of casing

mg/L = milligrams per liter

N/A = Not Applicable

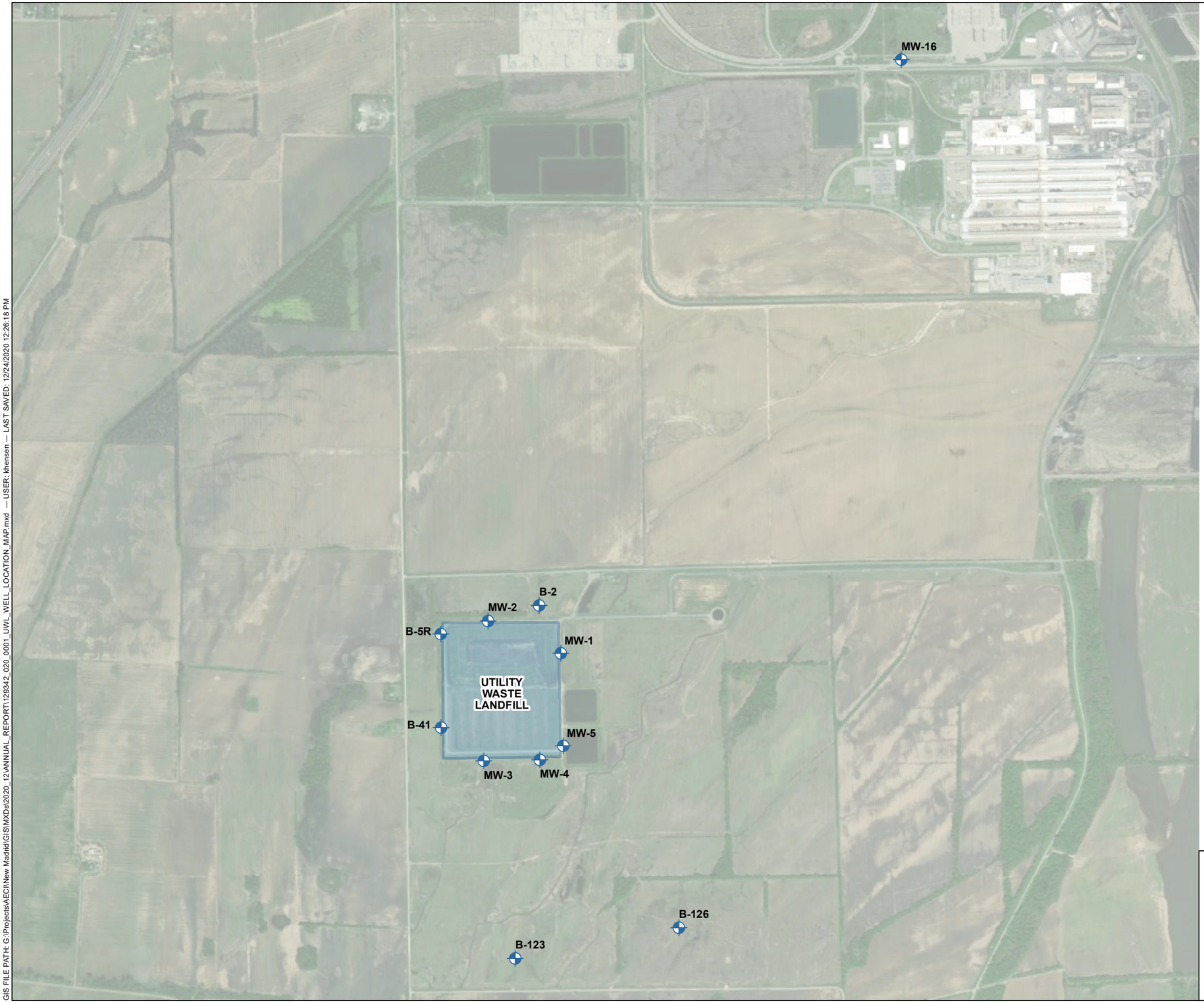
NTU = Nephelometric Turbidity Unit

su = standard unit

TDS = total dissolved solids

TOC = top of casing

FIGURE



LEGEND

MONITORING WELL

UTILITY WASTE LANDFILL (UWL)

NOTES

1. ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

4. AERIAL IMAGERY SOURCE: ESRI, 21 APRIL 2019

N

0 1,200 2,400

SCALE IN FEET

HALEY ALDRICH

ASSOCIATED ELECTRIC COOPERATIVE, INC.
NEW MADRID POWER PLANT
MARSTON, MISSOURI

UTILITY WASTE LANDFILL MONITORING WELL LOCATION MAP

aeci Associated Electric Cooperative, Inc.

JANUARY 2024

FIGURE 1

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