Great River Energy
Stanton Station

Assessment of Corrective Measures – Semi-annual Report, Closed Bottom Ash Landfill

07-31-2026

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REPORT

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Prepared for

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Revisions

Rev	Date	Details
0	07-31-2026	Revision 0

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1. Introduction

WSP USA (WSP) has prepared this Semi-annual Report for the ongoing evaluation of corrective measures for the Bottom Ash Landfill at Great River Energy's (GRE) Stanton Station in accordance with the North Dakota Department of Environmental Quality (NDDEQ) Coal Combustion Residuals (CCR) Rule found in N.D. Admin. Code (NDAC) Title 33.1, Article 20, Chapter 08 (the State CCR rule). This Semi-annual Report was prepared to document progress toward the selection and design of a remedy as part of the groundwater corrective measures to address the statistically significant level (SSL) of arsenic exceeding the groundwater protection standards (GWPS) at monitoring well MW-103, downgradient of the Bottom Ash Landfill. The GWPS for arsenic at the Bottom Ash Landfill is set at the USEPA maximum contaminant level (MCL) of 0.01 milligrams per liter (mg/L).

The SSL for arsenic at MW-103 was originally identified on March 28, 2022, when assessment monitoring statistics were completed following the fourth quarter (Q4) 2021 sampling and testing event. A notification identifying the SSL for arsenic was posted online and submitted to the NDDEQ on April 27, 2022 (within 30 days of identifying the SSL). The assessment of corrective measures (ACM) was initiated on June 24, 2022, within 90 days of identifying the SSL for arsenic. A 60-day extension approved by the NDDEQ on September 16, 2022 (NDDEQ 2022), extended the deadline for completion of the ACM to November 21, 2022, when the ACM was finalized and submitted to the NDDEQ (GAUSA 2022). The NDDEQ approved the ACM on February 21, 2023 (NDDEQ 2023). This Semi-annual Report covers activities conducted since January 2026, following completion of the 2025 Annual Groundwater Monitoring and Corrective Action Report (WSP 2026).

Since completion of the ACM, extensive field, laboratory, and modeling investigations have been conducted in support of final remedy selection. Based on the data evaluated to date, items have been identified that are necessary to resolve prior to remedy selection. Section 3 (including Figure 4) describes the efforts taken to date and anticipated work to be completed for final remedy selection based on the requirements of NDAC 33.1-20-08-06(7).

1.1 Purpose

The purpose of the ACM is to identify potential corrective measures to prevent further releases and to remedy any identified releases to groundwater at the Bottom Ash Landfill. Based on the findings of the ACM, further evaluation is being performed, site-specific studies are being completed, and a final long-term corrective action plan is being developed pursuant to NDAC 33.1-20-08-06(6) and (7). This process is iterative and composed of multiple steps to analyze the effectiveness of corrective measures to address the migration of CCR constituents in groundwater downgradient of the Bottom Ash Landfill.

1.2 Evaluation of corrective measures

Pursuant to NDAC 33.1-20-08-06(6), WSP, on behalf of GRE, is further evaluating the potential corrective measures identified in the ACM Report (GAUSA 2022) to identify a remedy or combination of remedies.

1.2.1 Source control corrective measures

Prior to the initiation of assessment monitoring and the ACM, the Bottom Ash Landfill was closed with an engineered final cover placed over the CCR left in place. Closure in place was completed in accordance with the closure plan (GAI 2019) and was documented in the Construction Quality Assurance (CQA) Report provided to the NDDEQ (GAUSA 2021). The cover system was designed to minimize infiltration and erosion and to meet or exceed the requirements of NDAC 33.1-20-08-07(3)(d)(3). Due to the reduced infiltration through the final cover and the lack of contact between the CCR and groundwater, closure of the Bottom Ash Landfill is anticipated to perform well as a source control measure.

1.2.2 Groundwater remediation corrective measures

In addition to the closure and final cover source control corrective measures, the following groundwater remediation corrective measures are still being evaluated for implementation at the Bottom Ash Landfill:

- MNA and enhanced MNA
- in situ injection

MNA, enhanced MNA, and in situ injection are continuing to be evaluated based on the findings from the Tier I MNA Report (WSP 2023), the Tier II and III MNA Report (WSP 2024a), and two rounds of bench testing for chemical injection as detailed in the 2024 (WSP 2025a) and 2025 Annual Reports (WSP 2026). Findings from these efforts indicate that MNA is occurring and is effective at the site, and that in situ injection may reduce the time required to attain the GWPS by enhancing MNA, provided an appropriate injectate is selected.

If the currently pursued measures prove to be inadequate, other potential corrective measures may be considered in the future.

2. Summary of work completed – January to July 2026

The following subsections summarize field activities, desktop analyses, and supplemental data collected between January and July 2026, following completion of the most recent Annual Report (WSP 2026). This work further delineates the nature and extent of the SSL and continues the evaluation of the potential groundwater remediation corrective measures presented in the ACM Report (GAUSA 2022) and subsequent reporting.

The collected data continues to be used to evaluate the feasibility, mechanisms, rates, and stability of identified potential corrective measure alternatives to address the SSL for arsenic in groundwater downgradient of the Bottom Ash Landfill.

2.1 Groundwater monitoring and analysis activities

CCR compliance monitoring related activities have been conducted at the Bottom Ash Landfill since June 2016. An assessment monitoring program was initiated for the Bottom Ash Landfill in the first quarter (Q1) 2021 following the identification of a statistically significant increase (SSI) for boron at MW-103. Following the transition to assessment monitoring, samples have been collected and analyzed for the assessment and detection monitoring parameter lists.

Since completion of the most recent Annual Report in January 2026 (WSP 2026), additional samples have been collected as required by the assessment monitoring program. Groundwater was sampled in March 2026 and June 2026 from the monitoring network wells and the nature and extent wells. The March 2026 sample is the annual assessment monitoring sample and was analyzed solely for the assessment monitoring parameter list. The June 2026 sample was collected for the semi-annual detection and assessment monitoring sampling event and was analyzed for both the detection monitoring and assessment monitoring parameter lists.

The March 2026 annual assessment monitoring sample for arsenic at MW-103 was 0.0105 mg/L. An SSL for arsenic above the site GWPS continues to be identified based on the confidence interval approach for assessment monitoring statistics at Stanton Station. Notification of the continued SSL was posted to GRE's publicly accessible website and provided to the NDDEQ.

The June 2026 assessment monitoring sample for arsenic at MW-103 was 0.0204 mg/L. Data evaluation and statistical analysis has not yet been completed for the June 2026 sample. Results of the statistical analysis for the June 2026 event will be addressed within the required timeframes stipulated by the State CCR rule, with notifications posted as required and results included in the 2026 Annual Groundwater Monitoring and Corrective Action Report, due in January 2027.

At MW-103, arsenic displays a statistically significant decreasing trend from the beginning of the baseline period in July 2016 through March 2026. However, the arsenic data collected at MW-103 from the beginning of assessment monitoring in March 2021 through March 2026 shows no statistically significant trend.

2.1.1 Groundwater elevations and flow direction

Depth to groundwater measured in March 2026 prior to purging and sampling at the site wells was used to estimate groundwater elevations and groundwater contours around the Bottom Ash Landfill (Figure 1). Based on the Q1 2026 groundwater elevations, shallow groundwater at the Bottom Ash Landfill generally flows to the north and northeast toward the Missouri River.

2.2 Continued nature and extent delineation

The locations of the site monitoring wells and a potentiometric surface contour map showing the March 2026 groundwater contours are shown in Figure 1. Table 1 provides a summary of the construction details for the site monitoring wells.

As discussed in prior reporting (WSP 2024b, WSP 2025a, WSP 2025b, WSP 2026), ongoing issues with high turbidity in several of the nature and extent wells downgradient of the Bottom Ash Landfill have made plume delineation challenging. To aid in plume delineation, both dissolved and total analysis have been conducted for a subset of parameters in 2026. Total analysis captures both the dissolved aqueous concentrations present in samples, as well as the insoluble particulate concentrations. Dissolved concentrations are determined by filtering samples prior to analysis, to remove insoluble particulates greater than 0.45 microns in diameter. In 2026, the assessment monitoring metals and aluminum, iron, and manganese as primary components of most soils have been tested using both total and dissolved analysis.

Comparison of dissolved results to total results for aluminum, iron, and manganese, in samples with high turbidity, can help to determine if the associated total results are representative of site groundwater, or if the results indicate the presence of excessive artificially mobilized particles (i.e., site, soil particles that have entered the water column as a result of the sample methods). Analysis of the aluminum, iron, and manganese total and dissolved data for samples with high turbidity during the Q1 2026 sampling event suggests that total results occurring concurrently with high turbidity measurements reflect the presence of artificially suspended soil particles. The total metals results are not representative samples of the groundwater, based on the reported concentrations and the magnitude of the difference between total and dissolved concentrations.

Review of the total and dissolved arsenic concentrations from the Q1 2026 sampling event suggest that the total concentrations may not be representative of the site groundwater based on the presence of high turbidity at specific wells. Figure 2 shows the total arsenic concentrations measured during the Q1 2026 event, with the corresponding Figure 3 presenting the dissolved arsenic concentrations measured during the same event. In each of the figures, locations that are color-coded orange or red had arsenic

concentrations that are greater than the GWPS (0.01 mg/L) to narrow in upon and bound the highest site concentrations associated with the Bottom Ash Landfill.

As noted in past reporting (WSP 2025b, WSP 2026), locations with consistently low turbidity have total and dissolved arsenic concentrations that are similar in magnitude to one another. Locations where turbidity has remained low across sampling events include MW-103 (the well of interest for the Bottom Ash Landfill), MW-9N, MW-102, and the background locations. While naturally suspended particles are likely present in the total analysis for samples from these wells, the comparison of the total and dissolved arsenic concentrations from event to event suggest that the results of the total analysis are consistently representative of the groundwater within each of these monitoring wells.

For wells installed to determine the nature and extent of the arsenic plume, turbidity measurements and the associated total and dissolved arsenic concentrations have varied significantly from event to event. In 2025, a subset of wells were redeveloped in an attempt to address the identified turbidity issues (WSP 2025a). However, based on the data from Q1 2026, similar turbidity issues are identified at wells MW-215, MW-217, MW-219, and MW-221. Based on the identified differences between the total and dissolved analyses, the extent of the delineated plume will continue to be reviewed through comparison of the total and dissolved analysis until the remaining turbidity issues have been resolved.

2.3 Public meeting

As required by NDAC 33.1-20-08-06(6)(e), a public meeting was held February 5, 2026, to present the findings of the ACM and provide information about possible remedies for addressing the arsenic SSL at the Bottom Ash Landfill. The NDDEQ attended the public meeting. Comments and questions were received both during the meeting and for a 30-day window via GRE's publicly accessible CCR website. The comments received and how the selected remedy will address these concerns will be provided in the Remedy Selection Report.

2.4 Meeting with the NDDEQ

On July 9, 2026, Great River Energy and WSP met with the NDDEQ to discuss the proposed options for remedy selection for the Bottom Ash Landfill. Approaches for finalizing the Remedy Selection Report prior to submittal to the NDDEQ were discussed. Implementation of the final selected remedy will only occur following approval of the Remedy Selection Report by the NDDEQ.

3. Summary of remedy selection process activities

3.1 Work completed to date

The following steps have been taken to progress toward final remedy selection since the identification on an SSL for arsenic at MW-103:

- Completion of the Assessment of Corrective Measures Report in 2022.
- Installation and development of 15 nature and extent wells and two property boundary wells in 2022 and 2023.
- Geochemical and geotechnical testing of aquifer solids collected during drilling in 2022 and 2023.
- In situ hydraulic conductivity testing and analysis in 2023 and 2024.
- Installation of dedicated low-flow pumps in the new wells in 2024.
- Geochemical modeling and evaluation of MNA per the EPA's guidance including Tiers I, II, and II in 2023 and 2024.
- Additional geochemical modeling to supplement chemical injection testing based on site hydrogeological conditions.
- Groundwater sampling and analysis for bench-scale chemical injection testing.
- Initial characterization and bench-scale testing for comparing possible chemical injection additives to site groundwaters.
- Groundwater sampling and analysis from the Bottom Ash Landfill network wells and nature and extent wells to further understand the extent and magnitude of arsenic above the GWPS downgradient of the Bottom Ash Landfill between 2022 and the present.
- Development of a Leapfrog geologic model to better visualize site hydrogeological information in support of the site conceptual model.
- Soil and groundwater sampling for the second phase of laboratory analysis to evaluate the suitability of chemical injection at the site.
- Initial characterization and bench-scale testing for comparison of possible chemical injection additives to site groundwaters and soils as part of the second phase of chemical injection analysis.
- Meeting with the NDDEQ to discuss remedy selection activities.

- Hosting a public meeting and receiving and responding to public comments related to the ACM and possible remedies.
- Meeting with the NDDEQ to discuss the proposed final remedies.

Figure 4 presents a simplified Gantt chart of the work conducted to date and planned activities over the next 6 months (until the next Annual Report), with the intent of selecting a remedy as soon as feasible.

3.2 Remedy Selection

At present, final remedy selection is expected to be based on the following information:

- Plume delineation
  - The arsenic plume downgradient of the Bottom Ash Landfill, based on dissolved arsenic concentrations, is less than 300 feet wide and not extending downgradient beyond the CCR unit boundary by more than 50 to 100 feet).
  - However, with the ongoing identified issues with turbidity at certain nature and extent wells, delineation of the plume has not been finalized.
- GWPS attainment
  - MNA is expected to sufficiently reduce arsenic to attain the GWPS downgradient of the Bottom Ash Landfill.
  - Expansion of the plume and remobilization of arsenic are not expected based on modeling, aquifer solids testing, and monitoring data collected to date. This is supported by the conclusions of the MNA Tier I, II, and III Reports (WSP 2023, WSP 2024a) developed in alignment with USEPA guidance for MNA (USEPA 2015).
  - The modeled amount of time needed to attain the GWPS at MW-103 at the unit boundary of the Bottom Ash Landfill is significant (WSP 2024a). Various conditions not reflected in the modeling may decrease the time to attain the GWPS.
  - Initial modeling and initial bench-scale testing suggests chemical injection with iron will speed up attainment of the GWPS at MW-103 (WSP 2025a).
  - Additional modeling completed in 2025 based on the initial bench-scale testing and updated groundwater sampling data confirmed the prior model results and supported the applicability of chemical injection as a viable remedy for arsenic in the area of MW-103 (WSP 2025b).
  - A second round of bench-scale testing of site groundwater and aquifer solids completed in 2025 indicated that while the tested iron-based injectates were able to reduce arsenic concentrations from groundwater collected from MW-103 and MW-211 in the presence of aquifer solids from the same locations, other assessment monitoring parameters may leach from the reactants at concentrations greater than the associated GWPS values (WSP 2026).

- Further evaluation would be needed to determine the viability and suitability of chemical injection at the Bottom Ash Landfill. This evaluation could include column or field-scale studies and injection modeling.

- Holistic site approach
  - The final remedy selection for the Bottom Ash Landfill will account for the potential for interaction with groundwater from the Bottom Ash Impoundment and the potential to mobilize other assessment monitoring parameters.

4. Planned activities

On behalf of GRE, WSP is implementing activities to support the corrective action remedy selection process. Groundwater monitoring at the site will continue to be used to track site conditions and monitor the impact of continued natural attenuation at the site. GRE and WSP will continue data collection efforts, as necessary, to further refine the site conceptual model and evaluate the feasibility of remedies identified in the ACM Report (GAUSA 2022) in order to select a final remedy.

Supplementary data collection and evaluation activities planned to be completed prior to the next Annual Report in January 2027 include:

- Arsenic delineation.
  - Continue to evaluate wells with high turbidity and significant differences between total and dissolved arsenic concentrations. Determine whether further redevelopment is likely to be successful or if abandonment and replacement of the associated wells is appropriate.
- Groundwater monitoring.
  - Review results of the second quarter (Q2) 2026 semi-annual detection monitoring and assessment monitoring samples.
  - Collect Q4 2026 semi-annual detection monitoring and assessment monitoring samples.
- Complete and submit Remedy Selection Report to the NDDEQ for review and approval.
  - Upon selection of a remedy, a final report will be prepared describing the selected remedy and how the remedy meets the standards in NDAC 33.1-20-08-06(6) and (7). The Final Remedy Selection Report must be approved by the NDDEQ per NDAC 33.1-20-08-06(7)(a). Once the remedy has been selected and approved by the NDDEQ, the implementation of the remedy will be initiated in accordance with NDAC 33.1-20-08-06(8).

On behalf of GRE, WSP will continue to prepare Semi-annual Progress Reports to document the progress in selecting and designing a groundwater remedy in accordance with NDAC 33.1-20-08-06(6) and (7) until a final remedy is selected. The next Semi-annual Report will be included in the 2026 Annual Groundwater Monitoring and Corrective Action Report, due January 31, 2027.

Signature page

WSP USA Inc.

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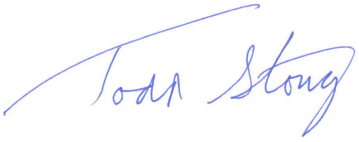

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Tables

Table 1: Stanton Station monitoring well summary – Bottom Ash Landfill

Location	Well ID	Date constructed	TOC elevation[a]	Ground surface elevation[a]	Screen interval	Top of screen elevation	Bottom of screen elevation	Sand pack interval	Geologic unit(s)completed In
			ft AMSL	ft AMSL	ft bgs	ft AMSL	ft AMSL	ft bgs	
Upgradient/side-gradient	MW-6B	9/8/1992	1,711.5	1,709.4	28.4-38.4	1,681.3	1,671.3	19.0-38.5	Outwash
	MW-7A	8/27/1992	1,713.7	1,711.3	7.0-17.0	1,704.1	1,694.1	5.0-18.0	Silty sand/clay
	MW-7B	9/9/1992	1,712.9	1,711.2	28.1-38.1	1,682.7	1,672.7	23.0-38.5	Silty sand/outwash
	MW-8B	9/3/1992	1,749.8	1,747.6	54.0-64.0	1,694.4	1,684.4	49.0-64.5	Outwash
	MW-105	11/18/2015	1,717.0	1,714.0	9.0-19.0	1,705.0	1,695.0	7.0-19.0	Clay/outwash
Bottom Ash Landfill downgradient	MW-9N	7/19/2010	*1,703.5*	*1,701.0*	*11.5-21.5*	1,689.5	1,679.5	*9.5-21.5*	Sand, clayey sand, gravel
	MW-102	11/17/2015	1,712.1	1,708.8	14.0-24.0	1,694.8	1,684.8	12.0-24.0	Silty sand/clay
	MW-103	11/17/2015	1,709.5	1,706.2	14.0-24.0	1,692.2	1,682.2	12.0-24.0	Outwash
Bottom Ash Impoundment downgradient	MW-201	8/10/2020	1,704.9	1,701.9	9.5-19.5	1,692.4	1,682.4	7.0-19.5	Fat clay, sand w/silt
	MW-202	8/10/2020	1,703.7	1,701.6	8.0 - 18.0	1,693.6	1,683.6	6.0-18.0	Fat clay, lean clay w/sand
	MW-203	8/10/2020	1,705.8	1,702.7	6.0 -16.0	1,696.7	1,686.7	5.0-16.0	Sand w/silt, fat clay
Bottom Ash Impoundment non-network wells	MW-1R	11/8/1995	*1,706.7*	*1,703.5*	*23.7-32.7*	1,679.8	1,670.8	*21.7-34.7*	Gravel, fat clay
	MW-104	11/17/2015	1,712.0	1,709.0	14.0-24.0	1,695.0	1,685.0	12.0-24.0	Outwash
Bottom Ash Landfill nature and extent delineation wells	MW-210	5/9/2022	1,703.1	1,699.9	12.0 - 22.0	1,687.9	1,677.9	12.0 - 22.0	Sand w/silt
	MW-211	5/10/2022	1,708.7	1,705.4	12.0 - 22.0	1,693.4	1,683.4	10.0 - 22.0	Lean clay, sand w/silt
	MW-212	5/10/2022	1,709.6	1,706.4	13.5 - 23.5	1,692.9	1,682.9	10.0 - 23.5	Fat clay, lean clay silty sand
	MW-213	5/12/2022	1,706.0	1,702.7	19.5 - 29.5	1,683.2	1,673.2	19.5 - 29.5	Fat clay, lean clay silty sand
	MW-214	5/12/2022	1,709.2	1,705.8	5.0 - 15.0	1,700.8	1,690.8	4.0 - 15.0	Fat clay, silty sand
	MW-215	2/7/2023	1,702.0	1,699.0	9.0 - 19.0	1,690.0	1,680.0	6.0 - 19.0	Silty sand with gravel, poorly graded sand with gravel
	MW-216	2/8/2023	1,702.9	1,699.7	10.0 - 20.0	1,689.7	1,679.7	7.0 - 20.0	Silty sand, poorly graded sand with gravel
	MW-217	2/9/2023	1,700.0	1,697.0	9.5 - 19.5	1,687.5	1,677.5	7.0-19.5	Poorly graded sand with silt and gravel
	MW-218	2/9/2023	1,701.1	1,698.1	9.5 - 19.5	1,688.6	1,678.6	7.0 - 19.5	Silty sand, poorly graded gravel with sand
	MW-219	2/6/2023	1,705.1	1,702.2	10.0 - 20.0	1,692.2	1,682.2	8.0 - 20.0	Silty sand, clayey sand
	MW-220	2/8/2023	1,702.4	1,699.7	25.0 - 35.0	1,674.7	1,664.7	22.0 - 35.0	Poorly graded sand, clayey sand
	MW-221	2/10/2023	1,705.0	1,701.8	22.0 - 32.0	1,679.8	1,669.8	18.0 - 32.0	Poorly graded sand with silt and gravel
	MW-222	2/6/2023	1,721.9	1,719.0	26.0 - 36.0	1,693.0	1,683.0	23.0 - 36.0	Lean clay with sand, poorly graded sand with silt and gravel
	MW-300	2/9/2023	1,700.1	1,696.9	9.0 - 19.0	1,687.9	1,677.9	7.0 - 19.0	Silty sand, poorly graded sand with silt and gravel
	MW-301	2/10/2023	1,698.6	1,695.5	20.0 - 35.0	1,675.5	1,660.5	18.0 - 35.0	Lean clay, lean clay with sand, clayey sand
Property boundary	MW-PB1	8/11/2020	1,698.8	1,695.9	15.0 - 25.0	1,680.9	1,670.9	13.0 - 25.0	Silt w/sand, silty sand
	MW-PB3	2/9/2023	1,701.6	1,698.5	24.0 - 39.0	1,674.5	1,659.5	18.0 - 39.0	Sandy lean clay
	MW-PB1R	6/17/2025	1,699.8	1,695.7	26.0-36.0	1,669.7	1,659.7	24.0-36.0	Clayey Sand

a. TOC (top of casing) and ground surface elevations surveyed by Interstate Engineering, Inc. in September 2020, October 2022, April 2023, and July 2025.

Notes:

Well construction measurements are from the original bore log, well data sheet, or well construction form.

Well construction information for MW-9N and MW-1R shown in italics are estimates based on the original well logs, accounting for the casing reductions completed in June 2020.

ft AMSL: feet above mean sea level; ft bgs = feet below ground surface; GW = groundwater

Figures

LEGEND - Q1 2026 GROUNDWATER CONTOURS

- UPGRADIENT OR SIDEGRADIENT MONITORING WELL
- LANDFILL DOWNGRADIENT MONITORING WELL
- IMPOUNDMENT DOWNGRADIENT MONITORING WELL
- NATURE AND EXTENT WELLS
- CLOSED BOTTOM ASH LANDFILL/IMPOUNDMENT FOOTPRINT
- GENERAL DIRECTION OF GROUNDWATER FLOW
- GROUNDWATER CONTOURS AND ELEVATIONS

NOTE(S)

1. AERIAL IMAGERY OBTAINED FROM UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURE IMAGERY PROGRAM, 2023.
2. GROUNDWATER CONTOURS ARE BASED ON Q1 2026 ELEVATION INFORMATION FROM THE SHOWN MONITORING WELLS, AS WELL AS MONITORING WELLS AND PIEZOMETERS NOT SHOWN.
3. THE NORTH AND CENTER CELLS OF THE BOTTOM ASH IMPOUNDMENT WERE CLOSED BY REMOVAL OF WASTE AND LINER.
4. THE SOUTH CELL OF THE BOTTOM ASH IMPOUNDMENT WAS CLOSED WITH A FINAL COVER OVER PLACED WASTE.
5. THE BOTTOM ASH LANDFILL WAS CLOSED BY CONSOLIDATION OF PLACED WASTE INTO A SMALLER FOOTPRINT AND CONSTRUCTION OF A FINAL COVER.

N

0 200 400
1" = 200' FEET

wsp

BOTTOM ASH LANDFILL MONITORING WELL LOCATIONS AND Q1 2026 GROUNDWATER ELEVATIONS AND CONTOURS
GREAT RIVER ENERGY - STANTON STATION

FIGURE 1

LEGEND - Q1 2026 TOTAL ARSENIC

- RESULT ND < 0.002
- RESULT 0.002 TO < 0.01
- RESULT 0.01 TO < 0.02
- RESULT > 0.02
- CLOSED BOTTOM ASH LANDFILL/IMPOUNDMENT FOOTPRINT
- GENERAL DIRECTION OF GROUNDWATER FLOW
- GROUNDWATER CONTOURS AND ELEVATIONS

NOTE(S)

1. AERIAL IMAGERY OBTAINED FROM UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURE IMAGERY PROGRAM, 2023.
2. GROUNDWATER CONTOURS ARE BASED ON NOVEMBER-DECEMBER 2025 ELEVATION INFORMATION FROM THE SHOWN MONITORING WELLS, AS WELL AS MONITORING WELLS AND PIEZOMETERS NOT SHOWN.
3. THE NORTH AND CENTER CELLS OF THE BOTTOM ASH IMPOUNDMENT WERE CLOSED BY REMOVAL OF WASTE AND LINER.
4. THE SOUTH CELL OF THE BOTTOM ASH IMPOUNDMENT WAS CLOSED WITH A FINAL COVER OVER PLACED WASTE.
5. THE BOTTOM ASH LANDFILL WAS CLOSED BY CONSOLIDATION OF PLACED WASTE INTO A SMALLER FOOTPRINT AND CONSTRUCTION OF A FINAL COVER.
6. TOTAL ARSENIC RESULTS ARE FROM Q1 2026 SAMPLING EVENT.
7. ALL CONCENTRATION AREAS ARE FOR VISUAL PURPOSES. THESE ARE ESTIMATIONS BASED ON THE Q1 2026 SAMPLING EVENT.

N

0 200 400
1" = 200' FEET

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Q1 2026 TOTAL ARSENIC CONCENTRATIONS
GREAT RIVER ENERGY - STANTON STATION
BOTTOM ASH LANDFILL
FIGURE 2

LEGEND - Q1 2026 DISSOLVED ARSENIC

- RESULT ND < 0.002
- RESULT 0.002 TO < 0.01
- RESULT 0.01 TO < 0.02
- RESULT > 0.02
- CLOSED BOTTOM ASH LANDFILL/IMPOUNDMENT FOOTPRINT
- GENERAL DIRECTION OF GROUNDWATER FLOW
- GROUNDWATER CONTOURS AND ELEVATIONS

NOTE(S)

1. AERIAL IMAGERY OBTAINED FROM UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURE IMAGERY PROGRAM, 2023.
2. GROUNDWATER CONTOURS ARE BASED ON NOVEMBER-DECEMBER 2025 ELEVATION INFORMATION FROM THE SHOWN MONITORING WELLS, AS WELL AS MONITORING WELLS AND PIEZOMETERS NOT SHOWN.
3. THE NORTH AND CENTER CELLS OF THE BOTTOM ASH IMPOUNDMENT WERE CLOSED BY REMOVAL OF WASTE AND LINER.
4. THE SOUTH CELL OF THE BOTTOM ASH IMPOUNDMENT WAS CLOSED WITH A FINAL COVER OVER PLACED WASTE.
5. THE BOTTOM ASH LANDFILL WAS CLOSED BY CONSOLIDATION OF PLACED WASTE INTO A SMALLER FOOTPRINT AND CONSTRUCTION OF A FINAL COVER.
6. DISSOLVED ARSENIC RESULTS ARE FROM Q1 2026 SAMPLING EVENT.
7. ALL CONCENTRATION AREAS ARE FOR VISUAL PURPOSES. THESE ARE ESTIMATIONS BASED ON THE Q1 2026 SAMPLING EVENT.

N

0 200 400
1" = 200' FEET

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Q1 2026 DISSOLVED ARSENIC CONCENTRATIONS
GREAT RIVER ENERGY - STANTON STATION
BOTTOM ASH LANDFILL
FIGURE 3

Figure 4 - Bottom Ash Landfill - Assessment of Corrective Measures and Remedy Selection Timeline

Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026
Well Sampling and Analysis																		Well Sampling & Analysis	
SSL																			
	ASD																		
		ACM																	
Drilling, Well Installation, Well Development - Initial Nature and Extent Wells			Drilling, Well Installation, Well Development - Additional Nature and Extent Wells					Dedicated Low-Flow Pumps for Nature and Extent Wells				Redevelop/Replace Nature & Extent Wells with Turbidity Issues							
	Geochemical and Geotechnical Lab Testing of Soil Samples			Geochemical and Geotechnical Lab Testing of Soil Samples															
								Measure Total and Dissolved Metals in Groundwater Samples										Measure Total and Dissolved Metals in Groundwater Samples	
								Evaluate Well Turbidity, Total vs. Dissolved Metals, and Plume Delineation										Evaluate Well Turbidity, Total vs. Dissolved Metals, and Plume Delineation	
					Slug Testing			Slug Testing Analysis											
			MNA Tier I																
						MNA Tier II/III and Modeling of Geochemical Processes													
										Modeling of Geochemical Injection									
										Collection of Groundwater (liquid) for Testing									
											Geochemical Injection Lab Testing - Liquids								
												Drilling and Collection of Samples for Testing - Liquids & Soil							
													Geochemical Injection Lab Testing - Liquids & Soil						
														Injection Modeling (flow and geochemical)					
														Meet with NDDEQ to dsicuss Remedy Selection	Public Meeting	Meet with NDDEQ to dsicuss Remedy Selection	Remedy Selection Report (Submitted to NDDEQ)		

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