



REPORT

Annual Groundwater Monitoring Report – 2022

Nucla Station Ash Disposal Facility

Nucla, Colorado

Submitted to:

Tri-State Generation and Transmission Association, Inc.

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Submitted by:

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31403149.000-002-RPT-0

January 27, 2023



Executive Summary

This report summarizes the groundwater monitoring activities and results for the 2022 detection monitoring program for the coal combustion residuals (CCR) landfill that served the former Nucla Station, along with the comparative statistical analysis. The CCR landfill, which is owned and operated by Tri-State Generation and Transmission Association, Inc., is currently in detection monitoring, and no program transitions occurred in 2022.

Field-measured pH at MO-1 was identified as a verified statistically significant increase (SSI) following both detection monitoring sampling events in 2022. An alternative source demonstration (ASD) previously conducted for field-measured pH at MO-1 is applicable to the 2022 results, and it was recommended that the Facility remain in detection monitoring.

Field-measured pH at MO-5 was identified as a verified SSI following both detection monitoring sampling events in 2022. A demonstration of natural variability for field-measured pH at MO-5 conducted in 2021 is applicable to the 2022 results, and it was recommended that the Facility remain in detection monitoring.

Potential exceedances for field-measured pH at MO-4 and total recoverable boron at MO-5 were identified following the April 2022 sampling event. Confirmatory resampling conducted in June 2022 indicated that the April 2022 results were false-positive SSIs.

No other potential exceedances or false-positive SSIs were identified for the 2022 detection monitoring program.

As described in the Groundwater Monitoring System Certification (Golder 2019) and the Groundwater Statistical Method Certification (Golder 2020b), the groundwater monitoring and analytical procedures for the program meet the requirements of 40 CFR 257 Subpart D (the CCR Rule), and modifications to the monitoring network and sampling program are not recommended at this time.

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FIGURES

Figure 1: Monitoring Well Locations and Groundwater Elevations (April 2022)

Figure 2: Monitoring Well Locations and Groundwater Elevations (October 2022)

1.0 INTRODUCTION

WSP USA Inc. (WSP) prepared this report to describe the 2022 groundwater monitoring activities and comparative statistical analysis for the Nucla Station Ash Disposal Facility (the Facility), which is a coal combustion residuals (CCR) landfill owned by Tri-State Generation and Transmission Association, Inc. (Tri-State) and subject to regulation under 40 CFR 257 Subpart D (the CCR Rule). This report was written to meet the requirements of 40 CFR 257.90(e).

1.1 Facility Information

The Facility serves as the location for containment of CCRs generated at Tri-State's Nucla Station, a retired 110-megawatt coal-fired electric generation plant located near Nucla, Colorado. Nucla Station was retired from service in September 2019. Within the 81.65-acre property of the Facility, the CCR disposal footprint comprises approximately 61 acres. Closure of the Facility was completed in 2022.

1.2 Purpose

The CCR Rule established specific requirements for reporting of groundwater monitoring activities and corrective action in 40 CFR 257.90. Per 40 CFR 257.90(e), no later than January 31, 2018, and annually thereafter, owners or operators of CCR units must prepare an annual groundwater monitoring and corrective action report.

2.0 GROUNDWATER MONITORING PROGRAM STATUS

The groundwater monitoring system for the Nucla Station Ash Disposal Facility consists of five monitoring wells, as described in the Groundwater Monitoring System Certification (Golder 2019). The two upgradient monitoring wells are MO-1 and MO-2. The three downgradient monitoring wells are MO-3, MO-4, and MO-5.

2.1 Completed Key Actions in 2022

The following key actions were completed in 2022:

- The 2021 Annual Groundwater Monitoring Report (Golder 2022) was finalized and placed within the operating record and on Tri-State's publicly accessible CCR website.
- Detection monitoring sampling events were performed in the second quarter, on April 11, 18, and 19, and in the fourth quarter, on October 17, 18, and 24.
- Confirmatory resampling was performed on June 28 for potential exceedances identified following the April 2022 sampling event.

2.2 Installation and Decommissioning of Monitoring Wells

No monitoring wells were installed or decommissioned for the Nucla Station Ash Disposal Facility in 2022.

2.3 Problems and Resolutions

No problems were identified in 2022.

2.4 Proposed Key Activities for 2023

The following key actions are expected to be completed in 2023:

- Detection monitoring sampling events are planned to occur in the second and fourth quarters of 2023.

3.0 GROUNDWATER MONITORING RESULTS AND ANALYSIS

Results from the groundwater monitoring program in 2022 are described in this section.

3.1 Groundwater Flow

The groundwater elevation was measured in each monitoring well prior to purging during each sampling event. Groundwater elevations are presented in Table 1 through Table 5. Groundwater elevations from the April 2022 and October 2022 sampling events are shown in Figure 1 and Figure 2, respectively.

The Morrison aquifer is characterized as highly heterogeneous with zones that are variably transmissive and/or subjected to variable amounts of confining pressure. This characterization is supported by the significant differences in groundwater levels, water column heights, and recovery times observed in the monitoring wells that have been installed to serve as the groundwater monitoring system for the Facility. Sandstone lenses in the Morrison aquifer vary considerably with respect to transmissivity (i.e., thickness and hydraulic conductivity) and horizontal extent due to the alluvial, shoreline, and lacustrine environments that deposited the Salt Wash and Brushy Basin Members of the Morrison Formation, resulting in interbedded siltstone, mudstone, claystone, and shale units. Groundwater elevation data suggest a general southerly groundwater flow direction in the Morrison aquifer near the Nucla Station Ash Disposal Facility. However, the heterogeneity and interbedded nature of the Morrison Formation beneath the Facility and the significant differences in recharge characteristics between monitoring wells suggest a lack of horizontal continuity and confound the ability to precisely discern groundwater flow direction and rate.

3.2 Monitoring Data (Analytical Results)

Analytical results from detection monitoring in 2022 are shown in Table 1 through Table 5.

3.3 Samples Collected

The detection monitoring sampling events were conducted in April and October 2022. Additionally, samples were collected from MO-4 and MO-5 in June 2022 for confirmatory resampling associated with the detection monitoring program.

3.4 Comparative Statistical Analysis

The comparative statistical analysis is summarized below, and the results are presented in Table 6 through Table 10. A full description of the steps taken for the comparative statistical analysis can be found in the Groundwater Statistical Method Certification (Golder 2020b).

3.4.1 Definitions

The following definitions are used in discussion of the comparative statistical analysis:

- SSI – is a statistically significant increase and is defined as an analytical result that exceeds the parametric or non-parametric statistical limit established by the baseline statistical analysis.
- Potential Exceedance – is defined as an initial analytical result that exceeds the parametric or non-parametric statistical limit established by the baseline statistical analysis. Confirmatory resampling is used to determine whether the potential exceedance is a false-positive SSI or a verified SSI.

- **False-positive SSI** – is defined as an analytical result that exceeds the statistical limit but can clearly be attributed to laboratory error or changes in analytical precision or is invalidated through confirmatory resampling.
- **Confirmatory resampling** – is designated as the resampling event that occurs within 90 days of identifying an SSI over the statistical limit for determination of a verified SSI ¹.
- **Verified SSI** – is interpreted as two consecutive SSIs (the original sample and the confirmatory resample for analytical results) for the same constituent at the same monitoring well.

If the data are assessed with a trend test, confirmatory resampling is generally not applicable, and a verified SSI is defined as a statistically significant increasing trend in the eight most recent results.

3.4.2 Potential Exceedances

The field-measured pH in the April 2022 sample collected from MO-4 and the total recoverable boron concentration in the April 2022 sample collected from MO-5 were greater than the statistical limits and were therefore identified as potential exceedances. Results of the confirmatory resampling conducted in June 2022 are discussed in Section 3.4.3.

3.4.3 False-positive Statistically Significant Increases

Confirmatory resampling for potential exceedances associated with the April 2022 sampling event occurred in June 2022. The confirmatory resampling identified the April 2022 field-measured pH result at MO-4 and total recoverable boron result at MO-5 as false-positive SSIs. No further action is needed.

3.4.4 Verified Statistically Significant Increases

The field-measured pH values for the samples collected from MO-1 during both 2022 detection monitoring events indicated verified SSIs ². The detrended pH values at MO-1 were less than the lower statistical limit during the semi-annual compliance events in April and October 2022. In December 2019, an alternative source demonstration (ASD) was prepared for field-measured pH at MO-1, and it was recommended that the Facility remain in detection monitoring (Golder 2020a). Field-measured pH values have been stable since October 2018, and the previous ASD is applicable to the SSIs identified from the 2022 sampling events.

The field-measured pH values for the samples collected from MO-5 during both 2022 detection monitoring events indicated verified SSIs. In October 2021, a demonstration of natural variability was prepared for field-measured pH at MO-5, and it was recommended that the Facility remain in detection monitoring (Golder 2022). The demonstration of natural variability is applicable to the SSIs identified from the 2022 sampling events.

4.0 PROGRAM TRANSITIONS

In the fourth quarter of 2017, the groundwater monitoring program for the Nucla Station Ash Disposal Facility transitioned from the baseline period to detection monitoring. The Facility remains in detection monitoring, and no program transitions occurred in 2022.

¹ Resampling might not occur within 90 days of the sampling event that resulted in the potential exceedance because of the additional time required for activities that must occur before a potential exceedance can be identified. These activities include sample delivery, analytical testing, review of results, and comparative statistical analysis.

² The term SSI is used to be consistent with generally accepted language. However, the SSI is for values less than the lower limit for field-measured pH (which has a two-tailed limit).

4.1 Detection Monitoring

Samples for the detection monitoring program are collected on a semi-annual basis, beginning with the sample collected in October 2017. Tri-State plans to collect samples for the detection monitoring program in the second and fourth quarters of 2023.

4.2 Assessment Monitoring

The groundwater monitoring program for the Facility is not in assessment monitoring. Assessment monitoring has not been triggered as described in 40 CFR 257.95. As such, no ASDs have been made under an assessment monitoring program, and no actions are required.

4.3 Corrective Measures and Assessment

The groundwater monitoring program for the Facility does not indicate the need for corrective measures. An assessment of corrective measures, as described in 40 CFR 257.96, is not required.

5.0 RECOMMENDATIONS AND CLOSING

This report presents the groundwater monitoring activities and results for the 2022 detection monitoring program for the Nucla Station Ash Disposal Facility, along with the comparative statistical analysis. The significant findings from the 2022 monitoring activities and comparative statistical analysis are as follows:

- Field-measured pH at MO-1 was identified as a verified SSI for both detection monitoring samples collected in 2022. An ASD conducted in December 2019 is applicable to the 2022 results, and it was recommended that the Facility remain in detection monitoring. No further actions are required.
- Field-measured pH at MO-5 was identified as a verified SSI for both detection monitoring samples collected in 2022. A demonstration of natural variability conducted in October 2021 is applicable to the 2022 results, and it was recommended that the Facility remain in detection monitoring. No further actions are required.
- Potential exceedances for field-measured pH at MO-4 and total recoverable boron at MO-5 were identified following the April 2022 sampling event. Confirmatory resampling conducted in June 2022 indicated that the April 2022 results were false-positive SSIs. No other potential exceedances or false-positive SSIs were identified for the 2022 detection monitoring program.

As described in the Groundwater Monitoring System Certification (Golder 2019) and the Groundwater Statistical Method Certification (Golder 2020b), the groundwater monitoring and analytical procedures meet the requirements of the CCR Rule, and modifications to the monitoring network and sampling program are not recommended at this time.

Signature Page

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6.0 REFERENCES

Golder (Golder Associates Inc.). 2019. Coal Combustion Residuals Landfill Groundwater Monitoring System Certification, Nucla Station Ash Disposal Facility. Report prepared for Tri-State Generation and Transmission Association, Inc. May 2.

Golder. 2020a. Annual Groundwater Monitoring Report – 2019, Coal Combustion Residuals Landfill, Nucla Station Ash Disposal Facility. Report prepared for Tri-State Generation and Transmission Association, Inc. January 29.

Golder. 2020b. Coal Combustion Residuals Landfill Groundwater Statistical Method Certification, Nucla Station Ash Disposal Facility. Report prepared for Tri-State Generation and Transmission Association, Inc. June 19.

Golder. 2022. Annual Groundwater Monitoring Report – 2021, Coal Combustion Residuals Landfill, Nucla Station Ash Disposal Facility. Report prepared for Tri-State Generation and Transmission Association, Inc. January 28.

Tables

Table 1: Sample Results Summary Table – MO-1

Analytes	Units	4/18/2022	10/24/2022
		Compliance Event	Compliance Event
Static Water Level Elevation	ft amsl	5715.2	5716.0
Appendix III			
Boron, Total Recoverable	mg/L	0.403	0.419
Calcium, Total Recoverable	mg/L	13.1	11.5
Chloride	mg/L	256	249
Fluoride	mg/L	1.78	2.34 B
pH, Field-Measured	pH units	11.9	11.7
Sulfate	mg/L	488	446
Total Dissolved Solids	mg/L	1680	1760

Notes:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

B: Analyte was detected between the method detection limit and the practical quantitation limit

Table 2: Sample Results Summary Table – MO-2

Analytes	Units	4/18/2022	10/24/2022
		Compliance Event	Compliance Event
Static Water Level Elevation	ft amsl	5735.6	5736.2
Appendix III			
Boron, Total Recoverable	mg/L	0.365 B	0.381 B
Calcium, Total Recoverable	mg/L	54.1	51.5
Chloride	mg/L	1930	1950
Fluoride	mg/L	< 12.5 U	0.715 B
pH, Field-Measured	pH units	8.0	7.8
Sulfate	mg/L	1820	1730
Total Dissolved Solids	mg/L	6230	6260

Notes:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

Non-detects are reported as less than the practical quantitation limit

B: Analyte was detected between the method detection limit and the practical quantitation limit

U: Analyte was not detected above the method detection limit

Table 3: Sample Results Summary Table – MO-3

Analytes	Units	4/19/2022	10/18/2022
		Compliance Event	Compliance Event
Static Water Level Elevation	ft amsl	5636.5	5635.4
Appendix III			
Boron, Total Recoverable	mg/L	0.651	0.638
Calcium, Total Recoverable	mg/L	17.7	17.9
Chloride	mg/L	147	143
Fluoride	mg/L	2.43 B	2.69 B
pH, Field-Measured	pH units	7.9	7.9
Sulfate	mg/L	760	721
Total Dissolved Solids	mg/L	2340	2280

Notes:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

B: Analyte was detected between the method detection limit and the practical quantitation limit

Table 4: Sample Results Summary Table – MO-4

Analytes	Units	4/11/2022	6/28/2022	10/17/2022
		Compliance Event	Confirmatory Resample	Compliance Event
Static Water Level Elevation	ft amsl	5638.1	5637.7	5636.8
Appendix III				
Boron, Total Recoverable	mg/L	0.286 B	--	0.369 B
Calcium, Total Recoverable	mg/L	48.4	--	46.6
Chloride	mg/L	936	--	903
Fluoride	mg/L	< 5 U	--	< 12.5 U
pH, Field-Measured	pH units	7.7	7.6	7.6
Sulfate	mg/L	1980	--	1840
Total Dissolved Solids	mg/L	5100	--	4920

Notes:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

Non-detects are reported as less than the practical quantitation limit

B: Analyte was detected between the method detection limit and the practical quantitation limit

U: Analyte was not detected above the method detection limit

Table 5: Sample Results Summary Table – MO-5

Analytes	Units	4/11/2022	6/28/2022	10/18/2022
		Compliance Event	Confirmatory Resample	Compliance Event
Static Water Level Elevation	ft amsl	5662.3	5660.7	5655.6
Appendix III				
Boron, Total Recoverable	mg/L	0.489 B	0.262	0.329
Calcium, Total Recoverable	mg/L	19.1	--	12.1
Chloride	mg/L	903	--	877
Fluoride	mg/L	< 5 U	--	1.02 B
pH, Field-Measured	pH units	8.5	8.5	8.5
Sulfate	mg/L	1800	--	1700
Total Dissolved Solids	mg/L	4880	--	4890 H

Notes:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

Non-detects are reported as less than the practical quantitation limit

B: Analyte was detected between the method detection limit and the practical quantitation limit

U: Analyte was not detected above the method detection limit

H: Analyte was analyzed outside of hold time due to laboratory reanalysis

Table 6: Statistics Summary Table – MO-1

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2022		October 2022	
				Compliance Event (4/18/2022)	SSI Determination	Compliance Event (10/24/2022)	SSI Determination
Appendix III							
Boron, Total Recoverable ⁽¹⁾	mg/L	P-PL	0.43	0.403	No	0.419	No
Calcium, Total Recoverable ⁽¹⁾	mg/L	Trend ⁽²⁾	NL	13.1	No	11.5	No
Chloride	mg/L	P-PL	341	256	No	249	No
Fluoride	mg/L	P-PL	2.8	1.78	No	2.34 B	No
pH, Field-Measured ⁽³⁾	pH units	P-PL	9.8, 10.0	11.9 (6.4)	Verified SSI ⁽⁴⁾	11.7 (5.6)	Verified SSI ⁽⁴⁾
Sulfate	mg/L	Trend ⁽²⁾	NL	488	No	446	No
Total Dissolved Solids	mg/L	Trend ⁽²⁾	NL	1680	No	1760	No

Notes:

NL: Statistical limit was not calculated for analytes for which the Sen's Slope methodology was selected

P-PL: Parametric Prediction Limit

mg/L: milligrams per liter

Once a verified SSI is identified, confirmatory resampling is not necessary for subsequent SSIs.

B: Analyte was detected between the method detection limit and the practical quantitation limit

1) Statistical limits were based on total analyses. Only total recoverable analyses have been conducted for the compliance sampling events and used for comparisons.

2) Baseline data exhibited a statistically significant decreasing trend. Therefore, a trend analysis is used for the determination of SSIs.

3) Statistical limit (two-tailed) was established using detrended data. Compliance data are detrended for comparison to the statistical limit. Detrended value is shown in parentheses.

4) Successful alternative source demonstration prepared in December 2019 is applicable, and the Facility remains in detection monitoring.

Table 7: Statistics Summary Table – MO-2

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2022		October 2022	
				Compliance Event (4/18/2022)	SSI Determination	Compliance Event (10/24/2022)	SSI Determination
Appendix III							
Boron, Total Recoverable	mg/L	P-PL	0.44	0.365 B	No	0.381 B	No
Calcium, Total Recoverable	mg/L	P-PL	64.0	54.1	No	51.5	No
Chloride	mg/L	P-PL	2361	1930	No	1950	No
Fluoride	mg/L	NP-PL	12.5	< 12.5 U	No	0.715 B	No
pH, Field-Measured	pH units	P-PL	7.6, 8.7	8.0	No	7.8	No
Sulfate	mg/L	P-PL	2190	1820	No	1730	No
Total Dissolved Solids	mg/L	P-PL	6679	6230	No	6260	No

Notes:

P-PL: Parametric Prediction Limit

NP-PL: Non-parametric Prediction Limit

mg/L: milligrams per liter

Non-detects are reported as less than the practical quantitation limit.

B: Analyte was detected between the method detection limit and the practical quantitation limit

U: Analyte was not detected above the practical quantitation limit

Table 8: Statistics Summary Table – MO-3

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2022		October 2022	
				Compliance Event (4/19/2022)	SSI Determination	Compliance Event (10/18/2022)	SSI Determination
Appendix III							
Boron, Total Recoverable	mg/L	P-PL	0.73	0.651	No	0.638	No
Calcium, Total Recoverable	mg/L	P-PL	20.2	17.7	No	17.9	No
Chloride	mg/L	P-PL	179	147	No	143	No
Fluoride	mg/L	P-PL	3.25	2.43 B	No	2.69 B	No
pH, Field-Measured	pH units	P-PL	7.6, 8.2	7.9	No	7.9	No
Sulfate	mg/L	P-PL	875	760	No	721	No
Total Dissolved Solids	mg/L	P-PL	2640	2340	No	2280	No

Notes:

P-PL: Parametric Prediction Limit

mg/L: milligrams per liter

B: Analyte was detected between the method detection limit and the practical quantitation limit

Table 9: Statistics Summary Table – MO-4

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2022		June 2022		October 2022	
				Compliance Event (4/11/2022)	SSI Determination	Confirmatory Resample (6/28/2022)	SSI Determination	Compliance Event (10/17/2022)	SSI Determination
Appendix III									
Boron, Total Recoverable	mg/L	P-PL	0.50	0.286 B	No	--	--	0.369 B	No
Calcium, Total Recoverable	mg/L	P-PL	49.2	48.4	No	--	--	46.6	No
Chloride	mg/L	P-PL	1086	936	No	--	--	903	No
Fluoride	mg/L	NP-PL	12.5	< 5 U	No	--	--	< 12.5 U	No
pH, Field-Measured	pH units	NP-PL	7.4, 7.6	7.7	False-positive SSI	7.6	No	7.6	No
Sulfate	mg/L	P-PL	2012	1980	No	--	--	1840	No
Total Dissolved Solids	mg/L	P-PL	5373	5100	No	--	--	4920	No

Notes:

P-PL: Parametric Prediction Limit

NP-PL: Non-parametric Prediction Limit

mg/L: milligrams per liter

Non-detects are reported as less than the practical quantitation limit.

B: Analyte was detected between the method detection limit and the practical quantitation limit

U: Analyte was not detected above the practical quantitation limit

Table 10: Statistics Summary Table – MO-5

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2022		June 2022		October 2022	
				Compliance Event (4/11/2022)	SSI Determination	Confirmatory Resample (6/28/2022)	SSI Determination	Compliance Event (10/18/2022)	SSI Determination
Appendix III									
Boron, Total Recoverable	mg/L	P-PL	0.48	0.489 B	False-positive SSI	0.262	No	0.329	No
Calcium, Total Recoverable	mg/L	Trend ⁽¹⁾	NL	19.1	No	--	--	12.1	No
Chloride	mg/L	P-PL	1180	903	No	--	--	877	No
Fluoride	mg/L	NP-PL	12.5	< 5 U	No	--	--	1.02 B	No
pH, Field-Measured	pH units	NP-PL	7.6, 8.3	8.5	Verified SSI ⁽²⁾	8.5	-- ⁽³⁾	8.5	Verified SSI ⁽²⁾
Sulfate	mg/L	P-PL	1990	1800	No	--	--	1700	No
Total Dissolved Solids	mg/L	P-PL	5495	4880	No	--	--	4890 H	No

Notes:

NL: statistical limit not calculated for analytes for which the Sen's Slope methodology was selected

P-PL: Parametric Prediction Limit

NP-PL: Non-parametric Prediction Limit

mg/L: milligrams per liter

Non-detects are reported as less than the practical quantitation limit.

B: Analyte was detected between the method detection limit and the practical quantitation limit

U: Analyte was not detected above the practical quantitation limit

H: Analyte was analyzed outside of hold time due to laboratory reanalysis

1) Baseline data exhibited a statistically significant decreasing trend. Therefore, a trend analysis is used for the determination of SSIs.

2) Successful demonstration of natural variability prepared in October 2021 is applicable, and the Facility remains in detection monitoring.

3) Field-measured pH is reported for informational purposes. SSI determination for the confirmatory resampling event only applies to parameters identified as potential exceedances from the preceding sampling event.

Figures

P:\IN\TRISTATE GENERATION AND TRANSMISSION\TRISTATE\NUCLA ASH LANDFILL\99_PROJECTS\31403149 | File Name: CCR Well Locations-Aerial-Topo_April22.dwg



LEGEND

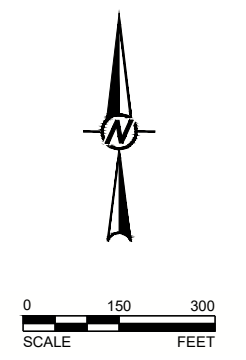
	PROPERTY BOUNDARY
	5990 EXISTING GROUND TOPOGRAPHY (REFERENCE 1)
	MO-1 MONITORING WELL
	5715.2 GROUNDWATER ELEVATION (APRIL 2022, NOTE 1)

NOTE(S)

- GROUNDWATER ELEVATION AT MO-1 AND MO-2 WERE MEASURED ON APRIL 18, 2022. GROUNDWATER ELEVATION AT MO-3 WAS MEASURED ON APRIL 19, 2022. GROUNDWATER ELEVATIONS AT MO-4 AND MO-5 WERE MEASURED ON APRIL 11, 2022.

REFERENCE(S)

- EXISTING GROUND TOPOGRAPHY AND AERIAL IMAGE IN THE LANDFILL AREA OBTAINED BY EPP & ASSOCIATES ON MAY 13, 2022.
- SURROUNDING AERIAL IMAGERY: NATIONAL AGRICULTURAL IMAGERY PROGRAM, UNITED STATES DEPARTMENT OF AGRICULTURE, 2019.



CLIENT		PROJECT	
TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION		NUCLA STATION ASH DISPOSAL FACILITY	
1100 WEST 116TH AVENUE		COAL COMBUSTION RESIDUALS LANDFILL	
WESTMINSTER, COLORADO 80234		ANNUAL GROUNDWATER MONITORING REPORT	
CONSULTANT		YYYY-MM-DD	2023-01-27
	DESIGNED	BJP	
	PREPARED	CGS	
	REVIEWED	SAH	
	APPROVED	JEO	

TITLE		PROJECT NO.	REV.	FIGURE
MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS (APRIL 2022)		31403149.000	B	1

1" IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANS D



LEGEND

--- PROPERTY BOUNDARY

5990 EXISTING GROUND TOPOGRAPHY (REFERENCE 1)

MO-1 MONITORING WELL
GROUNDWATER ELEVATION (OCTOBER 2022, NOTE 1)

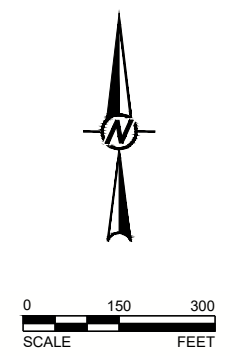
NOTE(S)

1. GROUNDWATER ELEVATIONS AT MO-1 AND MO-2 WERE MEASURED ON OCTOBER 24, 2022. GROUNDWATER ELEVATIONS AT MO-3 AND MO-5 WERE MEASURED ON OCTOBER 18, 2022. GROUNDWATER ELEVATION AT MO-4 WAS MEASURED ON OCTOBER 17, 2022.

REFERENCE(S)

1. EXISTING GROUND TOPOGRAPHY AND AERIAL IMAGE IN THE LANDFILL AREA OBTAINED BY EPP & ASSOCIATES ON MAY 13, 2022.

2. SURROUNDING AERIAL IMAGERY: NATIONAL AGRICULTURAL IMAGERY PROGRAM, UNITED STATES DEPARTMENT OF AGRICULTURE, 2019.



Path: N:\TRISTATE GENERATION AND TRANSMISSION\TRISTATE\NUCLA ASH LANDFILL\99_PROJECTS\31403149 | File Name: CCR Well Locations-Aerial-Tops_October22.dwg

CLIENT		PROJECT	
TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION		NUCLA STATION ASH DISPOSAL FACILITY	
1100 WEST 116TH AVENUE		COAL COMBUSTION RESIDUALS LANDFILL	
WESTMINSTER, COLORADO 80234		ANNUAL GROUNDWATER MONITORING REPORT	
CONSULTANT		YYYY-MM-DD	2023-01-27
	DESIGNED	BJP	
	PREPARED	CGS	
	REVIEWED	SAH	
	APPROVED	JEO	

TITLE		PROJECT NO.	REV.	FIGURE
MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS (OCTOBER 2022)		31403149.000	B	2

1" IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANS D



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