GOLDER

REPORT

Annual Groundwater Monitoring Report – 2020

Active Coal Combustion Residuals Landfill
Escalante Generating Station
Prewitt, New Mexico

Submitted to:

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Submitted by:

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Executive Summary

This report summarizes the groundwater monitoring activities and results for the 2020 detection monitoring program for the active coal combustion residuals (CCR) landfill at Escalante Generating 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 2020.

No statistically significant increases (SSIs) or potential exceedances were identified from the 2020 detection monitoring. As described in the Groundwater Monitoring System Certification (Golder 2017) and the Groundwater Statistical Method Certification (Golder 2020b), the groundwater monitoring and analytical procedures for the program meet the requirements of 40 CFR 257 (the CCR Rule), and modifications to the monitoring network and sampling program are not recommended at this time.

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TABLES

FIGURES

1.0   INTRODUCTION

Golder Associates Inc. (Golder) has prepared this report to describe the 2020 groundwater monitoring activities and comparative statistical analysis for the active coal combustion residuals (CCR) landfill (the Facility) at Escalante Generating Station (the site), which is owned and operated by Tri-State Generation and Transmission Association, Inc. (Tri-State) and subject to regulation under 40 CFR 257 (the CCR Rule). This report was written to meet the requirements of 40 CFR 257.90(e).

1.1   Facility Information

Escalante Generating Station is a 270-megawatt coal-fired electric generation facility located near Prewitt, New Mexico. The generating unit was retired in August 2020. The active CCR landfill at the site contains fly ash, bottom ash, and flue gas desulfurization solids (scrubber solids).

1.2   Purpose

The CCR Rule established specific requirements for reporting of groundwater monitoring activities and corrective action in 40 CFR 257.90. Per part (e) of 40 CFR 257.90, 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 active CCR landfill at Escalante Generating Station consists of six monitoring wells, as shown in Figure 1 (Golder 2017). The two upgradient monitoring wells are TRcpc-1 and TRcpc-2. The four downgradient monitoring wells are TRcpc-15, TRcpc-16, TRcpc-17, and TRcpc-18.

2.1   Completed Key Actions in 2020

The following key actions were completed in 2020:

- The 2019 Annual Groundwater Monitoring Report was finalized and placed within the operating record and on Tri-State's publicly accessible CCR website.

- Confirmatory sampling was performed on January 16, 2020, for potential exceedances identified from the sampling event conducted in November 2019.

- The Groundwater Statistical Method Certification was updated and placed within the operating record and on Tri-State's publicly accessible CCR website (Golder 2020b).

- Detection monitoring sampling events were performed in the second quarter, on April 22 and 23, and in the fourth quarter, on October 20 and November 4.

Additionally, a statistical baseline update was conducted prior to comparative statistical analysis of the April 2020 detection monitoring event. This update included well-constituent pairs with a previously identified statistically significant increase (SSI) where a demonstration was made that the SSI is not related to a release from the Facility, but rather reflects natural variability not captured during the initial baseline period. Either a parametric or non-parametric method was used to generate the updated baseline statistical limit for each constituent. The method varies between well-constituent pairs and is based on the percentage of non-detect values in the baseline period and the baseline data distribution for the well-constituent pair, in accordance with the Unified Guidance (USEPA 2009). A full description of the steps taken for the baseline update can be found in the Groundwater Statistical Method Certification (Golder 2020b), which is available on Tri-State's publicly accessible CCR website.

2.2 Installation and Decommissioning of Monitoring Wells

No monitoring wells were installed or decommissioned for the active CCR landfill at Escalante Generating Station in 2020.

2.3 Problems and Resolutions

The following problem noted in the 2019 Annual Groundwater Monitoring Report (Golder 2020a) was resolved in early 2020:

■ Difficulty in field meter calibration for pH was noted during the November 2019 sampling event. It is likely that this calibration issue resulted in the false-positive SSIs for pH identified from the November 2019 sampling event (refer to Section 3.4.3). No field meter calibration issues were noted in 2020.

The following problem was experienced during the 2020 sampling events:

■ Field-measured pH was not recorded for samples collected from TRcpc-1 and TRcpc-2 during the October 2020 sampling event. Laboratory-measured pH has been reported and utilized for the comparative statistical analysis.

2.4 Proposed Key Activities for 2021

The following key action is expected to be completed in 2021:

■ Detection monitoring sampling events are planned to occur in the second and fourth quarters of 2021.

3.0 GROUNDWATER MONITORING RESULTS AND ANALYSIS

Activities associated with the groundwater monitoring program are described in this section.

3.1 Groundwater Flow

The groundwater elevation was measured in each well prior to purging during each sampling event. Groundwater elevations are presented in Table 1 through Table 6. Groundwater elevations from the April 2020 and October and November 2020 sampling events are shown on Figure 1 and Figure 2, respectively.

Based on the April 2020 and October and November 2020 groundwater elevations, the groundwater in the Correo Sandstone generally flows east with a localized northerly flow component under the active CCR landfill.

The groundwater flow rate was estimated with the equation $V_s = k \times i/n_e$, where:

■ V_s is the groundwater flow rate, in feet per day (ft/day);

■ k is the hydraulic conductivity estimated from site pumping test data, in ft/day;

■ i is the hydraulic gradient calculated based on the difference in groundwater elevations between TRcpc-1 and TRcpc-16 and the distance between these wells, in feet per foot (ft/ft); and

■ n_e is the effective porosity, estimated to be 0.33 based on historical testing results for samples of Correo Sandstone obtained on site.

Groundwater flow velocity estimates range from 0.00004 ft/day to 0.19 ft/day for the April 2020 and October and November 2020 sampling events.

3.2   Monitoring Data (Analytical Results)

Analytical results from detection monitoring in 2020 are shown in Table 1 through Table 6.

3.3   Samples Collected

The detection monitoring sampling events were conducted in April and October 2020 for TRcpc-1, TRcpc-2, TRcpc-15, Trcpc-16, and TRcpc-18 and in April and November 2020 for TRcpc-17. Additionally, samples were collected from TRcpc-1, TRcpc-15, and TRcpc-16 in January 2020 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 7 through Table 12. 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 (SSI) 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 well.

3.4.2   Potential Exceedances

No potential exceedances were identified from the 2020 detection monitoring program.

3.4.3   False-Positive Statistically Significant Increases

Confirmatory resampling for potential exceedances associated with the November 2019 sampling event occurred in January 2020, and the results are summarized in Table 13. Results from the resampling event were compared to the statistical limits that were in place prior to the 2020 baseline update. Four false-positive SSIs associated

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[1]   Resampling may 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 include sample delivery, analytical testing, review of results, and comparative statistical analysis.

with the November 2019 sampling event were identified. These consisted of field-measured pH at TRcpc-1, TRcpc-15, and TRcpc-16 and total recoverable boron at TRcpc-1. No further action is needed.

3.4.4 Verified Statistically Significant Increases

No verified SSIs were identified from the 2020 detection monitoring program.

4.0 PROGRAM TRANSITIONS

In the third quarter of 2017, the groundwater monitoring program for the active CCR landfill at Escalante Generating Station transitioned from the baseline period to detection monitoring. The Facility remains in detection monitoring, and no program transitions occurred in 2020.

4.1 Detection Monitoring

Samples for the detection monitoring program are collected on a semi-annual basis, beginning with the sample collected in August 2017. Tri-State plans to collect semi-annual samples for the detection monitoring program in the second and fourth quarters of 2021.

4.2 Assessment Monitoring

The groundwater monitoring program for the active CCR landfill at Escalante Generating Station is not in assessment monitoring. Assessment monitoring has not been triggered as described in 40 CFR 257.95. As such, no alternative source demonstrations 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 active CCR landfill at Escalante Generating Station 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 2020 detection monitoring program for the active CCR landfill at Escalante Generating Station, along with the comparative statistical analysis. The significant findings from the 2020 monitoring activities and comparative statistical analysis are as follows:

- Confirmatory resampling conducted in January 2020 identified four false-positive SSIs associated with the November 2019 sampling event.

- No verified SSIs were identified from the 2020 detection monitoring program.

No potential exceedances were identified from the 2020 detection monitoring program. As described in the Groundwater Monitoring System Certification (Golder 2017) 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

Golder Associates Inc.

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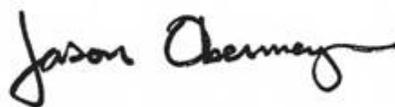
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6.0   REFERENCES

Golder Associates Inc. (Golder). 2017. Active Coal Combustion Residuals Landfill Groundwater Monitoring System Certification, Escalante Generating Station. Report prepared for Tri-State Generation and Transmission Association, Inc. October 13.

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

Golder. 2020b. Active Coal Combustion Residuals Landfill Groundwater Statistical Method Certification, Escalante Generating Station. Report prepared for Tri-State Generation and Transmission Association, Inc. June 29.

United States Environmental Protection Agency (USEPA). 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities: Unified Guidance. March.

Tables

Table 1. Sample Results Summary Table – TRcpc-1

Analytes	Units	Confirmatory Resample (1/16/2020)	Compliance Point (4/23/2020)	Compliance Point (10/20/2020)
Static Water Elevation	ft amsl	6861.3	6861.3	6859.7
Appendix III				
Boron, Total Recoverable	mg/L	1.6	1.5	1.7
Calcium, Total Recoverable	mg/L	--	13	13
Chloride	mg/L	--	620	570
Fluoride	mg/L	--	< 5.0	1.7
pH, Field-Measured	pH units	8.2	8.5	8.4 H[1]
Sulfate	mg/L	--	800	750
Total Dissolved Solids	mg/L	--	2600	3100

NOTES:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

Non-detects are reported as less than the reporting limit

H: Analyte was analyzed outside of hold time

1. Field-measured pH was not recorded during the October 2020 sampling event. Laboratory-measured pH adjusted to 25°C is reported.

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Table 2. Sample Results Summary Table – TRcpc-2

Analytes	Units	Compliance Point (4/29/2020)	Compliance Point (10/20/2020)
Static Water Elevation	ft amsl	6852.1	6852.4
Appendix III			
Boron, Total Recoverable	mg/L	1.4	1.5
Calcium, Total Recoverable	mg/L	14	14
Chloride	mg/L	1100	1100
Fluoride	mg/L	2.0	2.0
pH, Field-Measured	pH units	8.2	8.2 H[1]
Sulfate	mg/L	530	490
Total Dissolved Solids	mg/L	2800	2800

NOTES:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

H: Analyte was analyzed outside of hold time

1. Field-measured pH was not recorded during the October 2020 sampling event.
Laboratory-measured pH adjusted to 25°C is reported.

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Table 3. Sample Results Summary Table – TRcpc-15

Analytes	Units	Confirmatory Resample (1/16/2020)	Compliance Point (4/30/2020)	Compliance Point (10/20/2020)
Static Water Elevation	ft amsl	6829.9	6829.9	6828.9
Appendix III				
Boron, Total Recoverable	mg/L	--	1.3	1.4
Calcium, Total Recoverable	mg/L	--	6.3	6.4
Chloride	mg/L	--	560	530
Fluoride	mg/L	--	2.9	3.0
pH, Field-Measured	pH units	8.3	7.9	8.2
Sulfate	mg/L	--	240	210
Total Dissolved Solids	mg/L	--	1600	1700

NOTES:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

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Table 4. Sample Results Summary Table – TRcpc-16

Analytes	Units	Confirmatory Resample (1/16/2020)	Compliance Point (4/22/2020)	Compliance Point (10/20/2020)
Static Water Elevation	ft amsl	6828.7	6828.8	6828.2
Appendix III				
Boron, Total Recoverable	mg/L	--	1.4	1.5
Calcium, Total Recoverable	mg/L	--	4.9	4.9
Chloride	mg/L	--	440	420
Fluoride	mg/L	--	3.6	3.9
pH, Field-Measured	pH units	8.4	8.3	8.3
Sulfate	mg/L	--	210	210
Total Dissolved Solids	mg/L	--	1500	1500

NOTES:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

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Table 5. Sample Results Summary Table – TRcpc-17

Analytes	Units	Compliance Point (4/22/2020)	Compliance Point (11/4/2020)
Static Water Elevation	ft amsl	6832.1	6831.0
Appendix III			
Boron, Total Recoverable	mg/L	1.3	1.3
Calcium, Total Recoverable	mg/L	18	16
Chloride	mg/L	1500	1500
Fluoride	mg/L	2.7 J	2.2
pH, Field-Measured	pH units	8.0	8.4
Sulfate	mg/L	310	290
Total Dissolved Solids	mg/L	3100	3200

NOTES:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

J: Analyte was detected at a concentration between the method detection limit and the reporting limit, and the concentration is an approximate value

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Table 6. Sample Results Summary Table – TRcpc-18

Analytes	Units	Compliance Point (4/22/2020)	Compliance Point (11/4/2020)
Static Water Elevation	ft amsl	6842.4	6841.5
Appendix III			
Boron, Total Recoverable	mg/L	0.85	0.80
Calcium, Total Recoverable	mg/L	4.3	4.2
Chloride	mg/L	370	340
Fluoride	mg/L	< 5.0	1.5
pH, Field-Measured	pH units	9.9	9.9
Sulfate	mg/L	240	200
Total Dissolved Solids	mg/L	1200	1300

NOTES:

ft amsl: feet above mean sea level

mg/L: milligrams per liter

Non-detects are reported as less than the reporting limit

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Table 7. Statistics Summary Table – TRcpc-1

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2020		October 2020	
				Compliance Point (4/23/2020)	SSI Determination	Compliance Point (10/20/2020)	SSI Determination
Appendix III							
Boron, Total Recoverable	mg/L	NP-PL	1.7	1.5	No	1.7	No
Calcium, Total Recoverable	mg/L	NP-PL	13	13	No	13	No
Chloride	mg/L	P-PL	692	620	No	570	No
Fluoride	mg/L	NP-PL	1.8	< 5.0	No[1]	1.7	No
pH, Field-Measured	pH units	P-PL	7.2, 9.7	8.5	No	8.4 H[2]	No
Sulfate	mg/L	P-PL	922	800	No	750	No
Total Dissolved Solids	mg/L	NP-PL	3200	2600	No	3100	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 reporting limit

H: Analyte was analyzed outside of hold time

1. Result is not considered an SSI because it is a non-detect with a method detection limit of 1.7 mg/L, which is below the statistical limit.

2. Field-measured pH was not recorded during the October 2020 sampling event. Laboratory-measured pH adjusted to 25°C is reported.

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Table 8. Statistics Summary Table – TRcpc-2

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2020		October 2020	
				Compliance Point (4/29/2020)	SSI Determination	Compliance Point (10/20/2020)	SSI Determination
Appendix III							
Boron, Total Recoverable	mg/L	NP-PL	1.6	1.4	No	1.5	No
Calcium, Total Recoverable	mg/L	NP-PL	15	14	No	14	No
Chloride	mg/L	NP-PL	1200	1100	No	1100	No
Fluoride	mg/L	P-PL	2.4	2.0	No	2.0	No
pH, Field-Measured	pH units	NP-PL	7.8, 9.4	8.2	No	8.2 H[1]	No
Sulfate	mg/L	P-PL	624	530	No	490	No
Total Dissolved Solids	mg/L	NP-PL	2900	2800	No	2800	No

NOTES:

P-PL: Parametric Prediction Limit

NP-PL: Non-parametric Prediction Limit

mg/L: milligrams per liter

H: Analyte was analyzed outside of hold time

1. Field-measured pH was not recorded during the October 2020 sampling event. Laboratory-measured pH adjusted to 25°C is reported.

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Table 9. Statistics Summary Table – TRcpc-15

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2020		October 2020	
				Compliance Point (4/30/2020)	SSI Determination	Compliance Point (10/20/2020)	SSI Determination
Appendix III							
Boron, Total Recoverable	mg/L	NP-PL	1.5	1.3	No	1.4	No
Calcium, Total Recoverable	mg/L	P-PL	8.4	6.3	No	6.4	No
Chloride	mg/L	P-PL	620	560	No	530	No
Fluoride	mg/L	NP-PL	3.0	2.9	No	3.0	No
pH, Field-Measured	pH units	NP-PL	7.8, 8.8	7.9	No	8.2	No
Sulfate	mg/L	P-PL	278	240	No	210	No
Total Dissolved Solids	mg/L	NP-PL	2200	1600	No	1700	No

NOTES:

P-PL: Parametric Prediction Limit

NP-PL: Non-parametric Prediction Limit

mg/L: milligrams per liter

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Table 10. Statistics Summary Table – TRcpc-16

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2020		October 2020	
				Compliance Point (4/22/2020)	SSI Determination	Compliance Point (10/20/2020)	SSI Determination
Appendix III							
Boron, Total Recoverable	mg/L	NP-PL	1.6	1.4	No	1.5	No
Calcium, Total Recoverable	mg/L	P-PL	6.4	4.9	No	4.9	No
Chloride	mg/L	NP-PL	540	440	No	420	No
Fluoride	mg/L	P-PL	4.0	3.6	No	3.9	No
pH, Field-Measured	pH units	P-PL	8.0, 9.0	8.3	No	8.3	No
Sulfate	mg/L	P-PL	313	210	No	210	No
Total Dissolved Solids	mg/L	NP-PL	2200	1500	No	1500	No

NOTES:

P-PL: Parametric Prediction Limit

NP-PL: Non-parametric Prediction Limit

mg/L: milligrams per liter

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Table 11. Statistics Summary Table – TRcpc-17

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2020		October 2020	
				Compliance Point (4/22/2020)	SSI Determination	Compliance Point (11/4/2020)	SSI Determination
Appendix III							
Boron, Total Recoverable	mg/L	NP-PL	1.4	1.3	No	1.3	No
Calcium, Total Recoverable	mg/L	P-PL	22	18	No	16	No
Chloride	mg/L	NP-PL	1700	1500	No	1500	No
Fluoride	mg/L	NP-PL	2.7	2.7 J	No	2.2	No
pH, Field-Measured	pH units	P-PL	7.6, 9.2	8.0	No	8.4	No
Sulfate	mg/L	P-PL	398	310	No	290	No
Total Dissolved Solids	mg/L	NP-PL	3600	3100	No	3200	No

NOTES:

P-PL: Parametric Prediction Limit

NP-PL: Non-parametric Prediction Limit

mg/L: milligrams per liter

J: Analyte was detected at a concentration between the method detection limit and the reporting limit, and the concentration is an approximate value

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Table 12. Statistics Summary Table – TRcpc-18

Analytes	Units	Selected Statistical Method	Statistical Limit	April 2020		October 2020	
				Compliance Point (4/22/2020)	SSI Determination	Compliance Point (11/4/2020)	SSI Determination
Appendix III							
Boron, Total Recoverable	mg/L	P-PL	0.95	0.85	No	0.80	No
Calcium, Total Recoverable	mg/L	P-PL	5.3	4.3	No	4.2	No
Chloride	mg/L	NP-PL	380	370	No	340	No
Fluoride	mg/L	P-PL	2.3	< 5.0	No[1]	1.5	No
pH, Field-Measured	pH units	P-PL	8.1, 12.3	9.9	No	9.9	No
Sulfate	mg/L	NP-PL	250	240	No	200	No
Total Dissolved Solids	mg/L	NP-PL	1400	1200	No	1300	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 reporting limit

1. Result is not considered an SSI because it is a non-detect with a method detection limit of 1.7 mg/L, which is below the statistical limit.

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Table 13. Confirmatory Resample Results for the November 2019 Sampling Event

Well	Analyte	Units	Selected Statistical Method[1]	Statistical Limit[1]	Compliance Point (11/4/2019 or 11/5/2019)	Confirmatory Resample (1/16/2020)	SSI Determination
TRcpc-1	Boron, Total Recoverable	mg/L	NP-PL	1.6	1.7	1.6	False-positive SSI
TRcpc-1	pH, Field-Measured	pH units	NP-PL	8.3, 9.1	10.1	8.2	False-positive SSI[2]
TRcpc-15	pH, Field-Measured	pH units	P-PL	8.4, 8.8	9.9	8.3	False-positive SSI[2]
TRcpc-16	pH, Field-Measured	pH units	P-PL	8.3, 8.9	8.2	8.4	False-positive SSI

NOTES:

P-PL: Parametric Prediction Limit

NP-PL: Non-parametric Prediction Limit

mg/L: milligrams per liter

1. November 2019 compliance points and confirmatory resample are compared against the statistical limits that were in place prior to the 2020 baseline update.

2. Compliance point value was above the upper statistical limit for pH, which was not confirmed by a resample value also above the upper statistical limit.

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Figures

6852.1 ⊕ TRcpc-2

6861.3 ⊕ TRcpc-1

6829.9 ⊕ TRcpc-15

INACTIVE CCR
LANDFILL

COAL
PILE

PLANT
AREA

6828.8 ⊕ TRcpc-16

ACTIVE CCR
LANDFILL

6832.1 ⊕ TRcpc-17

RAW WATER
STORAGE POND

6842.4 ⊕ TRcpc-18

STORMWATER CHANNEL

EVAPORATION PONDS

CELL 2A

CELL 3A

CELL 4A

CONTINUOUS WATER
SUPPLY PONDS

EVAPORATION PONDS

CELL 1

CELL 2

CELL 3

CELL 4

CELL 5

LEGEND

⊕ TRcpc-1   UPGRADIENT MONITORING WELL

⊕ TRcpc-18   DOWNGRADIENT MONITORING WELL

6842.4   GROUNDWATER ELEVATION
(APRIL 2020, NOTE 1)

NOTE(S)

1. GROUNDWATER ELEVATION AT TRcpc-1 WAS MEASURED ON APRIL 23, 2020.
   GROUNDWATER ELEVATION AT TRcpc-2 WAS MEASURED ON APRIL 29, 2020.
   GROUNDWATER ELEVATION AT TRcpc-15 WAS MEASURED ON APRIL 30, 2020.
   GROUNDWATER ELEVATIONS AT TRcpc-16, TRcpc-17, AND TRcpc-18 WERE MEASURED ON
   APRIL 22, 2020.

0   300   600

SCALE   FEET

N

CLIENT

TRI-STATE
Generation and Transmission
Association, Inc.
A Touchstone Energy® Cooperative

CONSULTANT

GOLDER

YYYY-MM-DD	2020-12-28
DESIGNED	BJP
PREPARED	AGD
REVIEWED	SAH
APPROVED	JEO

PROJECT
ESCALANTE GENERATING STATION
ACTIVE COAL COMBUSTION RESIDUALS LANDFILL
ANNUAL GROUNDWATER MONITORING REPORT

TITLE
MONITORING WELL LOCATIONS AND GROUNDWATER
ELEVATIONS (APRIL 2020)

PROJECT NO.	REV.	FIGURE
20138860	0	1

Figure 2 — MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS (OCTOBER AND NOVEMBER 2020)

Map labels:

- 6852.4 — TRcpc-2
- 6828.9 — TRcpc-15
- 6859.7 — TRcpc-1
- 6828.2 — TRcpc-16
- 6831.0 — TRcpc-17
- 6841.5 — TRcpc-18
- COAL PILE
- PLANT AREA
- INACTIVE CCR LANDFILL
- ACTIVE CCR LANDFILL
- STORMWATER CHANNEL
- RAW WATER STORAGE POND
- CONTINUOUS WATER SUPPLY PONDS
- EVAPORATION PONDS
- CELL 2A
- CELL 3A
- CELL 4A
- CELL 1
- CELL 2
- CELL 3
- CELL 4
- CELL 5

LEGEND

TRcpc-1   UPGRADIENT MONITORING WELL

TRcpc-18   DOWNGRADIENT MONITORING WELL

6841.5   GROUNDWATER ELEVATION (OCTOBER AND NOVEMBER 2020, NOTE 1)

NOTE(S)

1. GROUNDWATER ELEVATIONS AT TRcpc-1, TRcpc-2, TRcpc-15, AND TRcpc-16 WERE MEASURED ON OCTOBER 20, 2020. GROUNDWATER ELEVATIONS AT TRcpc-17 AND TRcpc-18 WERE MEASURED ON NOVEMBER 4, 2020.

CLIENT: TRI-STATE Generation and Transmission Association, Inc. — A Touchstone Energy Cooperative

CONSULTANT: GOLDER

YYYY-MM-DD	2020-12-28
DESIGNED	BJP
PREPARED	AGD
REVIEWED	SAH
APPROVED	JEO

PROJECT
ESCALANTE GENERATING STATION
ACTIVE COAL COMBUSTION RESIDUALS LANDFILL
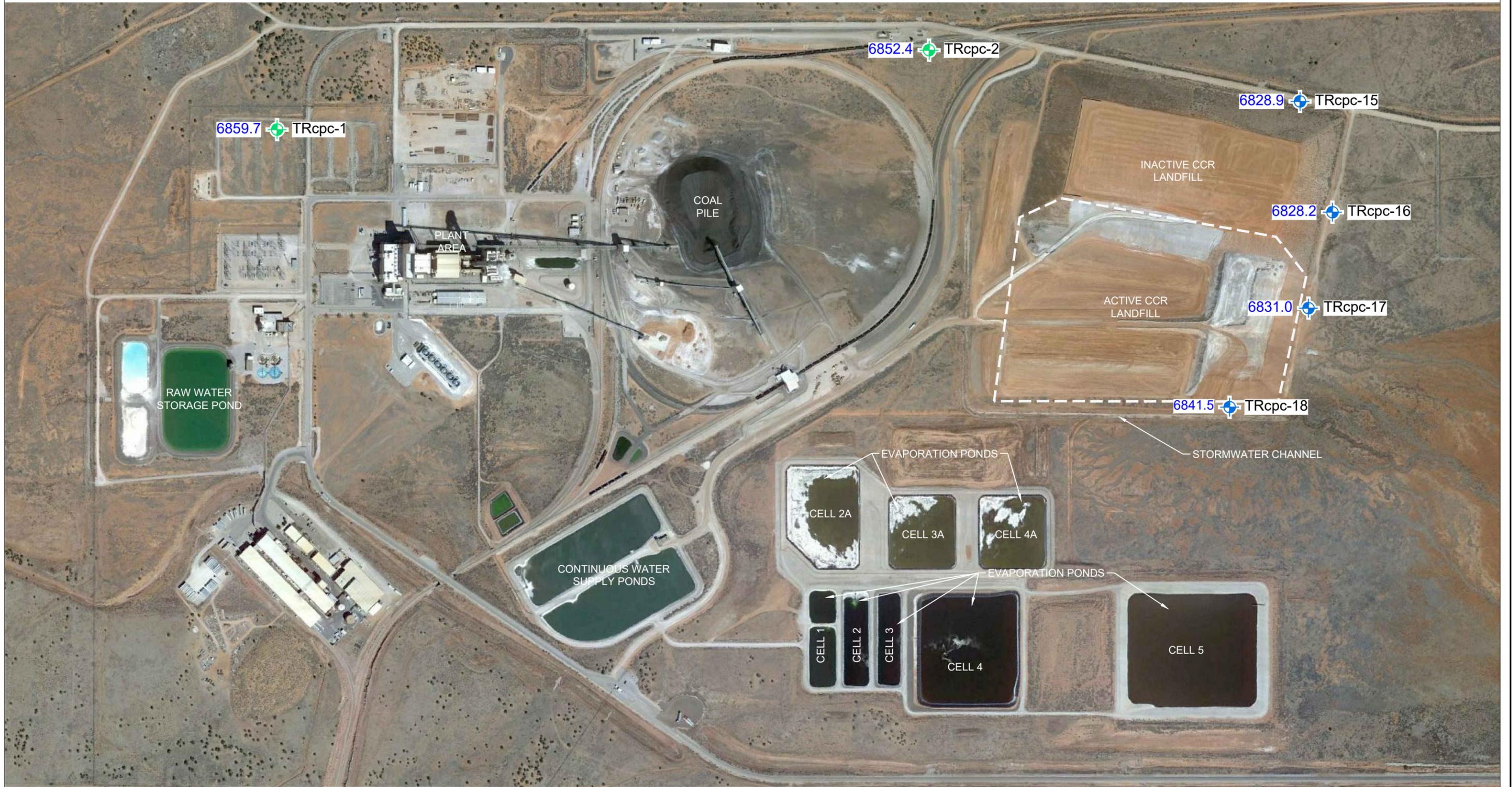ANNUAL GROUNDWATER MONITORING REPORT

TITLE
MONITORING WELL LOCATIONS AND GROUNDWATER
ELEVATIONS (OCTOBER AND NOVEMBER 2020)

PROJECT NO. 20138860   REV. 0   FIGURE 2

SCALE: 0 — 300 — 600 FEET

Path: \\Denver\cad\151\5334\18\PRODUCTION\ | File Name: 20138860_CCR Wells_October20.dwg

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D

GOLDER

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