



1800 Larimer St., Suite 1300
Denver, Colorado 80202

June 28, 2022

Ms. Linda Jacobson
U.S. Environmental Protection Agency
1595 Wynkoop St, 8ENF-RO-R
Denver, Colorado 80202-1129
jacobson.linda@epa.gov

Re: Comanche Station Notification of Groundwater Concentration Exceedances
Comanche Station Consent Agreement and Final Order RCRA-08-2022-0008

Dear Ms. Jacobson,

This letter is to follow up on our June 22, 2022 discussion of the most recent sampling results from the bottom ash impoundment monitoring well network and provide notification under Paragraph 95.d.i of the Compliance Order.

Paragraph 95 – Groundwater Sampling and Analysis (GSA) Plan states (emphasis added)

d - During assessment monitoring, if one or more Constituents in 40 C.F.R. Part 257, Appendix IV are detected above the groundwater protection standard established under 40 C.F.R. § 257.95(h) and this Agreement, Respondent shall, in addition to the requirements of 40 C.F.R. §257.95(g)(2):

i. notify EPA by email as quickly as practicable after validated analytical results are received, and provide sampling results to EPA with the Monthly Progress Report, unless requested to be delivered more quickly by EPA;

a. if validated analytical results are not received within 9 weeks of the sampling event Respondent shall notify EPA as quickly as practicable, and shall submit the unvalidated analytical results with the Monthly Progress Report, unless requested to be delivered more quickly by EPA;

As discussed on the call, we have had previous discussions with EPA regarding the groundwater monitoring status for the bottom ash pond, in the context of our expanding monitoring well network. We recognize that the bottom ash pond is in assessment monitoring, as stipulated in the Compliance Order and based upon SSIs identified in May 2021 in the colluvial wells near the

bottom ash pond, even though there has been some question as to whether the colluvial wells represent the uppermost aquifer (versus perched pond infiltration water) and therefore ‘should have’ triggered assessment monitoring. The original SSIs in the colluvial wells (primarily pH and boron in W-1 and W-6) were determined by comparing to background threshold values (BTVs) in background well W-2A, which is screened in the weathered shale, which was a comparison between potentially different water zones.

Although we are in assessment monitoring, we have also been engaged in consultation with EPA since 2020 to install additional monitoring wells associated with the bottom ash pond in the weathered shale to evaluate whether there are any SSIs in what has since been determined to be the uppermost aquifer. In multiple phases between 2020 and 2021, we installed 18 wells in weathered shale, including two new background wells and 12 downgradient compliance and perimeter/characterization wells. Wells W-3B, W-5B and W-6B were installed in the weathered shale as downgradient compliance wells and W-2C was installed as an additional background well. By December 2021 we were conducting background sampling of these wells on a 5-week frequency for Appendix III and IV constituents. We anticipate completing the 8th background sampling event in August and upon receipt of all results will update the BTVs using W-2C and evaluate the downgradient wells for SSIs. We are also collecting assessment monitoring samples on this 5-week expedited schedule concurrently from the existing and new downgradient compliance wells and perimeter/characterization wells to evaluate for SSLs.

We understand the need for and have agreed with this bifurcated approach, and we are committed to meeting the requirements of both the CCR Rule and the Compliance Order. As we have proceeded to date with assessment monitoring using W-2A as the background well, we previously identified SSLs in November 2021 for molybdenum in W-6 (waste boundary colluvial well) and cobalt in W-7 (weathered shale perimeter well). Based upon these exceedances, in January 2022 we initiated an assessment of corrective measures at the bottom ash pond and in consultation with EPA we constructed three additional monitoring wells screened in the weathered shale to characterize the nature and extent of the GPS exceedances; well W-14 on-site to the southeast and wells W-15 and W-16 off-site to east. Since installation, W-15 has remained dry, but W-14 and W-16 have been sampled twice to date (between March 31-April 6, 2022 and May 2-13, 2022), concurrently with the background and assessment monitoring sampling described above. The final data validation dates for the respective laboratory reports were June 13th and June 22nd.

The March/April sample event results were initially received from the lab on April 25, 2022 and cobalt was reported as non-detect at the method detection limit (MDL) in some wells. However, upon review, the MDL was 0.019 mg/l, which is not low enough to demonstrate that the concentration was below the GPS of 0.0102 mg/l. In prior sampling events at other wells, the MDL had been 0.00019 mg/l. The lab indicated that the increased MDL was due to matrix interference in the sample which required dilution prior to analysis; this is standard practice in groundwater samples with high dissolved solids. HDR followed up with the lab and determined

that MDLs below the GPS for cobalt could be achieved at a different TestAmerica location, even if the samples required dilution. The lab had retained the original samples and re-analyzed them with the lower MDL, which took additional time. However, because this issue was identified and resolved, the results from the May sampling event were reported at the lower MDL, as will continue going forward. We have since sampled all wells discussed in this letter in June (lab results pending) and have additional sampling events scheduled in July and August.

The results of these two sampling events (March/April and May) identified concentrations of beryllium, cadmium, cobalt and molybdenum over the groundwater protection standards (GPS) in some wells, as summarized below and in the attached tables. The GPS values were calculated in accordance with 40 C.F.R. § 257.95(h) using BTVs from well W-2A. We recognize that EPA has requested W-2A be replaced by new background well W-2C, but that well is still in background sampling. Once complete, BTVs will be calculated based on data from that well. This may result in different exceedances to report. The following summarizes the observations to date:

- The single beryllium exceedance was observed in W-3B in the March/April sampling event, but the concentration in the May sample was below the GPS.
- The cadmium exceedances occurred in both sampling events but were limited to wells W-3B and W-6B at the waste boundary and W-7 (perimeter well).
- The exceedances of cobalt ranged from 0.13 mg/l in compliance well W-3B near the bottom ash pond to 0.013 mg/l in perimeter/characterization well W-14, compared with the GPS of 0.0102 mg/l. There was no cobalt exceedance in off-site W-16 in the March/April event, but the concentration of cobalt in W-16 in May was 0.011 mg/l and we are in the process of notifying the landowner.

These exceedances are concentration exceedances over GPS but do not provide enough data to represent statistically significant levels (SSLs) over GPS at this point.

Regarding off-site well W-16, the single GPS exceedance of cobalt was 0.011 mg/l, compared to the GPS of 0.0102 mg/l, a difference of 0.0008 mg/l. We acknowledge that the CCR Rule requires that the extent of the contaminant plume be defined, and that that is determined based upon constituent concentrations above the GPS. We have also observed that the cobalt concentration in the weathered shale has been variable in background wells, and it is possible that a single concentration exceedance of this small amount could be within the natural variability and ultimately may not be statistically significant. Given the slow groundwater velocity in the weathered shale (11 to 40 feet per year) and that the nearest downgradient potential receptor is a well located approximately 0.15 miles (800 ft) to the southeast of W-16, we propose to complete the sampling currently scheduled through August, which will produce three additional data points to evaluate whether an additional downgradient characterization well is warranted. We propose the same for well W-14, which is on Comanche property and the nearest downgradient potential receptor is a well located approximately 0.5 miles to the southeast

of W-14. In the meantime, we will tentatively schedule a driller at the next availability in the event the evaluation determines additional wells are warranted.

We appreciate the ongoing discussions with EPA. We find these calls valuable and agree with your suggestion that we continue with them at an agreed upon frequency. I understand we are in the process of scheduling a follow up call for late July/early August and look forward to discussing this and any other items at that time. In the interim, please call if you have any questions.

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Quinn Kilty
Manager, Environmental Services

cc: Jennifer McCarter

Attach. (1)

Comanche Station CCR Impoundment March/April 2022 Groundwater Sampling Event Wells with Statistically Significant Increases (SSI) over Background Threshold Values (BTV)			
Appendix III Parameters with SSIs	Boron (mg/l)	Chloride (mg/l)	Field pH (standard units)
BTV (Based on Well W-2A)	4.00	897	6.22-6.73
Monitoring Wells with SSIs ¹			
W-3B	--	1,100	--
W-5B	--	--	7.05
W-6B	--	1,300	--
W-1	--	--	7.10
W-3 (Colluvial Downgradient Well)	--	--	7.94
W-4 (Colluvial Downgradient Well)	--	--	7.83
W-5 (Colluvial Downgradient Well)	--	--	7.23
W-6 (Colluvial Downgradient Well)	7.7	--	7.38

¹ W-3B, W-5B and W-6B were installed in late 2021 and have been sampled 4 times on an expedited 5-week frequency. Per 257.94(b) and 257.90(b)(iii) and (iv), the minimum 8 background samples from these wells have not yet been collected.

Comanche Station CCR Impoundment March/April 2022 Groundwater Sampling Event Wells with Concentrations over Groundwater Protection Standards				
Appendix IV Parameters with Concentration Exceedances	Beryllium (mg/L)	Cadmium (mg/L)	Cobalt (mg/L)	Molybdenum (mg/L)
GPS (Based on Well W-2A)	0.004	0.00588	0.0102	0.1
Monitoring Wells with Concentration Exceedances				
W-3B	0.0091	0.0270	0.130	--
W-6B	--	0.0082	0.087	--
W-7	--	0.0069	0.020	--
W-11	--	--	0.017	--
W-12	--	--	0.013	--
W-14	--	--	0.013	--
W-16	--	--	--	--
W-5 (Colluvial Downgradient Well)	--	--	0.036	--
W-6 (Colluvial Downgradient Well)	--	--	--	0.32

Comanche Station CCR Impoundment May 2022 Groundwater Sampling Event Wells with Statistically Significant Increases (SSI) over Background Threshold Values (BTV)			
Appendix III Parameters with SSIs	Boron (mg/l)	Chloride (mg/l)	Field pH (standard units)
BTV (Based on Well W-2A)	4.00	897	6.22-6.73
Monitoring Wells with SSIs ¹			
W-3B	--	--	--
W-5B	--	--	6.98
W-6B	--	1,300	--
W-1	--	--	Not Measured (purged dry and sampled minimal volume no field parameters measured)
W-3 (Colluvial Downgradient Well)	--	--	7.62
W-4 (Colluvial Downgradient Well)	--	--	Dry
W-5 (Colluvial Downgradient Well)	--	--	7.02
W-6 (Colluvial Downgradient Well)	7.6	--	7.24

¹ W-3B, W-5B and W-6B were installed in late 2021 and have been sampled 4 times on an expedited 5-week frequency. Per 257.94(b) and 257.90(b)(iii) and (iv), the minimum 8 background samples from these wells have not yet been collected.

Comanche Station CCR Impoundment May 2022 Groundwater Sampling Event Wells with Concentrations over Groundwater Protection Standards			
Appendix IV Parameters with Concentration Exceedances	Cadmium (mg/L)	Cobalt (mg/L)	Molybdenum (mg/L)
GPS (Based on Well W-2A)	0.00588	0.0102	0.1
Monitoring Wells with Concentration Exceedances			
W-3B	0.017	0.110	--
W-6B	0.009	0.078	--
W-7	0.006	0.019	--
W-11	--	0.017	--
W-12	--	0.030	--
W-14	--	0.011	--
W-16	--	0.011	--
W-6 (Colluvial Downgradient Well)	--	--	0.29