CJK Milling Company LLC
33084 Bergen Mountain Road
Evergreen, Colorado 80439

13 December 2024

Lucas West
Environmental Protection Specialist
Division of Reclamation, Mining and Safety
Colorado Department of Mining and Reclamation
1313 Sherman St., Denver, CO 80203
lucas.west@state.co.us

RE: Leadville Mill, File No. M-1990-057
2nd & 3rd Quarter 2024 Surface Water and Groundwater Monitoring Report
Application Adequacy Review Response

Dear Mr. West,

This document is a response to the Leadville Mill, Permit No. M-1990-057, 2nd and 3rd Quarter Surface Water and Groundwater Monitoring Report Adequacy Review, dated December 2, 2024.

The following are the comments that the Division of Reclamation, Mining, and Safety provided in the adequacy review letter followed by a response for each comment.

Application Form

1. Section 4.0 Water Monitoring Reporting of the approved Water Monitoring Plan state that second quarter data is to be reported by August 1st and third quarter data is to be reported by November 1st. Please provide an explanation as to why the data was not provided on the dates as prescribed in the approved Water Monitoring Plan.

Response:

This requirement was overlooked, in error. Every effort will be made to ensure that reports are submitted on time to the division.

2. The approved Water Monitoring Plan call for duplicate, field blank, and trip blank samples to be taken as part of the quality control process. No duplicate or blank samples were collected during either quarter. Please provide a rationale as to why no QC samples were collected, and a thorough explication as to how the data can be validated to provide defensible results in the absence of such samples.

Response:

Duplicate and blank samples were not collected due to coordination issues with the water testing lab. Field duplicates and equipment blanks will be collected in future monitoring events. Trip blanks are not needed as sampling for VOCs is not conducted. There is no equipment reused for the surface water sampling, so an equipment blank is unnecessary for the surface water sampling. The only equipment reused in the groundwater sampling is a water level indicator. The water level indicator is cleaned with liquinox and distilled water between the wells so cross contamination should not be present, however, equipment blanks will be collected in the future for the groundwater sampling to validate this claim. One field duplicate was collected for the 1st quarter results for both the groundwater and surface water samples which showed good agreement, the largest difference between any groundwater duplicate analytes reported above reporting limits was 6.1% and the largest difference between any surface water duplicate analytes reported above reporting limits was 7.7%. This demonstrates that the sampling techniques produced sample homogeneity for the 1st quarter results. Additionally, after more data has been collected the results that did not have the proper associated duplicates and field blanks can be

statistically compared to the sample results that do have the proper duplicates and blanks. If the data without the proper duplicates/blanks is found to be statistically different than the data with the proper duplicates/blanks, then it will be removed from the dataset. If it is not statistically different then there is no justification that the samples collected for the 2nd and 3rd quarters are not representative samples. This explanation only seeks to allow for the 2nd and 3rd quarter sample results to be used in statistical analyses and does not excuse not collecting these important quality control measures.

3. Sampling at wells LM-MW-3 and LM-MW-2 were not sampled according to the low flow procedures described in the approve Water Monitoring Plan. Please explain what procedure was used and why the approved procedure was not implemented.

Response:

Wells LM-MW-2 and LM-MW-3 had old pumps in them that were not capable of flow rates low enough to conduct low flow sampling. These pumps have since been replaced prior to the 3rd Quarter sampling event with 12V pumps capable of achieving flow rates between 100-500 ml/min in accordance with the EPA low-flow sampling procedures. Note that low-flow pumps were ordered, but were delayed due to back-order situation with the vendor.

The procedure used to purge these wells during the 2nd Quarter sampling event was the multiple volume purging method, a method presented in the EPA document, Groundwater Sampling Operating Procedure. In this method three to five casing volumes are removed from the well. After each casing volume is removed, field parameters are taken. Samples are considered acceptable (the groundwater from the well is considered representative of the surrounding aquifer) if the field parameters stabilize prior to the 4th or 5th casing volumes or if 5 casing volumes have been purged. This is a very common purging method and capable of producing representative groundwater samples as a replacement if low flow purging cannot be achieved.

4. In the approved Water Monitoring Plan specific equipment was approved to be used, specifically for pumping, however in the field sheets provided, it appears that different styles of pumps were utilized on the June 28, 2024 sampling event than the September 30, 2024 sampling event. Furthermore, within the June 28, 2024 sampling event different types of pumps were used between the different sample locations. Please provide an explanation as to why the different types of pumps were utilized.

Response:

The approved Water Monitoring Plan states the use of Bladder pumps, but the pumps that are installed currently are 12V voltage pumps. Voltage pumps operate by connecting the well to a 12V battery via a voltage controller. The controller allows the operator to control the amount of power the pump gets and therefore making for a very effective pump that can easily do low flow purging and sampling. Currently all wells are outfitted with voltage pumps.

The 12V pumps produce low flow rates in accordance with the EPA low-flow sampling producers and are capable of producing representative groundwater samples. Although these pumps are not what was specified in the SAP, there is no reason to believe that the samples obtained from these pumps are not representative samples. As such samples collected with these pumps are acceptable for the detection monitoring program.

As previously noted, the pumps in LM-MW-2 and LM-MW-3 were originally high flow pumps and were replaced with the 12V pumps capable of low flow rates between the 2nd Quarter and 3rd Quarter sampling events.

5. In addition to Item 4 of this review, for the September 30, 2024 sampling event please clarify what style of pump was utilized for purging each of the wells. For example, in addition to the 12V pump listed, additional information was provided that is unclear.

Response:

In the September event all wells utilized voltage pumps. The voltage controller that is used displays a voltage and percentage of power on the display. This additional information provides valuable insight to

the operator to maintain low flow rates. The percentage of power has a finer ability to control flow rates and will be included on the field forms in future reports.

6. In the data submitted via Email, a summary spreadsheet was included with most of the pertinent information, however a comparison to the applicable standards for both surface and groundwater was not. For each of the submitted sample events, and all future events, please provide a table comparing the analytical results to the applicable standards. For surface waters, where the standard is a calculation of Table Value Standards, please perform the calculation, referencing the method used, and displaying the resulting standard on the table.

Response:

Tables comparing the results to the Regulation 41 Basic Standards for Groundwater are attached for the previous events and will be completed in future events. An excel spreadsheet, in database format summarizing all test data is also included in this submission. This could be a useful tool for looking at upgradient to downgradient analyte trends by monitoring well, or other useful database searches. Note that Gross Alpha and Gross Beta values are not in the Q4 data, as these results are not available as of the date of this letter.

Washington County Landfill
Second Half 2020 Detection Monitoring

Comparison of Inorganics to
The Basic Standards for Groundwater

Constituent	Unit	BSGW[1]			BMW-1			PZ-4			MA1TMW-4			LM-MW-3			MW-13			MW-13A			LM-MW-2		
		Table 1	Table 2	Table 3	Q2 2024[2]		Exceeds?[3]	Q2 2024[2]		Exceeds?[3]	Q2 2024[2]		Exceeds?[3]	Q2 2024[2]		Exceeds?[3]	Q2 2024[2]		Exceeds?[3]	Q2 2024[2]		Exceeds?[3]	Q2 2024[2]		Exceeds?[3]
Aluminum	mg/L	--	--	5	0.025(J)	0.025	no	<0.1	--	no	<0.1	--	no	<0.1	--	no	<0.1	--	no	0.44	0.44	no	<0.1	--	no
Antimony	mg/L	0.006	--	--	<0.002	--	no	0.0012(J)	0.0012	no	<0.002	--	no	<0.002	--	no	<0.002	--	no	<0.002	--	no	<0.002	--	no
Arsenic	mg/L	0.01	--	0.1	0.00069(J)	0.00069	no	<0.005	--	no	<0.005	--	no	<0.005	--	no	<0.005	--	no	<0.005	--	no	<0.005	--	no
Barium	mg/L	2	--	--	0.095	0.095	no	0.25	0.25	no	0.024	0.024	no	0.019	0.019	no	0.019	0.019	no	0.0087	0.0087	no	0.026	0.026	no
Beryllium	mg/L	0.004	--	0.1	<0.001	--	no	<0.001	--	no	<0.001	--	no	<0.001	--	no	<0.001	--	no	0.001	0.001	no	<0.001	--	no
Boron		--	--	0.75	0.027(J)	0.027	no	0.0097(J)	0.0097	no	0.069(J)	0.069	no	0.037(J)	0.037	no	0.0043(J)	0.0043	no	0.044(J)	0.044	no	0.052(J)	0.052	no
Cadmium	mg/L	0.005	--	0.01	<0.001	--	no	<0.001	--	no	<0.001	--	no	0.0002(J)	0.0002	no	<0.001	--	no	0.24	0.24	Table 1 3	0.00041(J)	0.0004	no
Chloride	mg/L	--	250	--	1.1(J)	1.1	no	28	28	no	20	20	no	22	22	no	15	15	no	12	12	no	25	25	no
Chromium	mg/L	0.1	--	0.1	<0.003	--	no	<0.003	--	no	<0.003	--	no	<0.003	--	no	0.00076(J)	0.00076	no	<0.003	--	no	<0.003	--	no
Cobalt	mg/L	--	--	0.05	<0.001	--	no	<0.001	--	no	0.00071(J)	0.0007	no	<0.001	--	no	0.0036	0.0036	no	0.0019	0.0019	no	<0.001	--	no
Copper	mg/L	--	1	0.2	<0.002	--	no	<0.002	--	no	<0.002	--	no	0.0019(J)	0.0019	no	<0.002	--	no	0.15	0.15	no	<0.002	--	no
Cyanide	mg/L	0.2	--	--	<0.006	--	no	<0.006	--	no	<0.006	--	no	<0.006	--	no	<0.006	--	no	<0.006	--	no	<0.006	--	no
Fluoride	mg/L	4	--	2	0.31(J)	0.31	no	0.23(J)	0.23	no	<0.5	--	no	<0.5	--	no	0.17(J)	0.17	no	0.33(J)	0.33	no	<0.5	--	no
Gross Alpha	pCi/l	15	--	--	0.695	0.695	no	17	17	Table 1	1.75	1.75	no	8.15	8.15	no	5.37	5.37	no	2.55	2.55	no	9	9	no
Iron	mg/L	--	0.3	5	0.049(J)	0.049	no	<0.1	--	no	<0.1	--	no	<0.1	--	no	<0.1	--	no	<0.1	--	no	<0.1	--	no
Lead	mg/L	0.05	--	0.1	<0.001	--	no	<0.001	--	no	<0.001	--	no	<0.001	--	no	<0.001	--	no	0.00041(J)	0.00041	no	<0.001	--	no
Lithium	mg/L	--	--	2.5	<0.02	--	no	<0.02	--	no	<0.02	--	no	<0.02	--	no	<0.02	--	no	0.0098(J)	0.0098	no	<0.02	--	no
Manganese	mg/L	--	0.05	0.2	<0.003	--	no	<0.003	--	no	0.0031	0.0031	no	0.016	0.016	no	0.011	0.011	no	8.2	8.2	Table 2 3	0.083	0.083	Table 2
Mercury	mg/L	0.002	--	0.01	<0.0002	--	no	<0.0002	--	no	<0.0002	--	no	<0.0002	--	no	<0.0002	--	no	<0.0002	--	no	<0.0002	--	no
Molybdenum	mg/L	0.21	--	--	0.0029	0.0029	no	0.00075(J)	0.00075	no	<0.002	--	no	<0.002	--	no	<0.002	--	no	<0.002	--	no	<0.002	--	no
Nickel	mg/L	0.1	--	0.2	<0.003	--	no	<0.003	--	no	<0.003	--	no	0.0044	0.0044	no	0.00095(J)	0.00095	no	0.054	0.054	no	0.0011(J)	0.0011	no
Nitrate	mg/L	10	--	100	<0.5	--	no	3.6	3.6	no	3	3	no	6.1	6.1	no	4.6	4.6	no	3.3	3.3	no	0.88	0.88	no
Nitrite	mg/L	1	--	10	<0.5	--	no	<0.5	--	no	<0.5	--	no	0.12(J)	0.12	no	0.087(J)	0.087	no	0.071(J)	0.071	no	<0.5	--	no
Nitrate+Nitrite	mg/L	10	--	100	<0.1	--	no	3.8	3.8	no	3.3	3.3	no	6.1	6.1	no	4.8	4.8	no	3.4	3.4	no	0.91	0.91	no
Selenium	mg/L	0.05	--	0.02	<0.005	--	no	<0.005	--	no	<0.005	--	no	<0.005	--	no	0.007	0.007	no	<0.005	--	no	0.0017(J)	0.0017	no
Silver	mg/L	0.05	--	--	0.000057(J)	0.000057	no	0.000069(J)	0.000069	no	<0.001	--	no	<0.001	--	no	<0.001	--	no	0.000053(J)	0.000053	no	<0.001	--	no
Sulfate	mg/L	--	250	--	17	17	no	92	92	no	130	130	no	320	320	Table 2	460	460	Table 2	630	630	Table 2	580	580	Table 2
Thallium	mg/L	0.002	--	--	<0.001	--	no	0.00028(J)	0.00028	no	<0.001	--	no	<0.001	--	no	<0.001	--	no	<0.001	--	no	<0.001	--	no
Uranium	mg/L	0.03	--	--	0.000043(J)	0.000043	no	0.014	0.014	no	0.0032	0.0032	no	0.0061	0.0061	no	0.0098	0.0098	no	0.00015(J)	0.00015	no	0.0027	0.0027	no
Vanadium	mg/L	--	--	0.1	<0.005	--	no	<0.005	--	no	<0.005	--	no	<0.005	--	no	<0.005	--	no	<0.005	--	no	<0.005	--	no
Zinc	mg/L	--	5	2	<0.01	--	no	<0.01	--	no	0.015	0.015	no	0.3	0.3	no	0.0058(J)	0.0058	no	40	40	Table 2 3	0.019	0.019	no

Notes:

(1) 5 CCR 1002-41, REGULATION NO. 41, THE BASIC STANDARDS FOR GROUND WATER

(2) The observed concentration in the stated Quarter and Year

(3) Whether or not the well-constituent pair exceeds a BSGW, and the Regulation 41 Table exceeded

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.

For additional information or clarifications, please contact Nick Michael at 303.947.3499 or nmichael@unionmilling.com.

Sincerely,

CJK Milling Company LLC

[signed]

Gary Knippa
Managing Member

Cc: NMichael
WACincilla
SCraig

attachment