



April 12, 2023

**Via First Class U.S. Mail and
Email (Lucas.West@state.co.us)**

Mr. Lucas J. West
Division of Reclamation, Mining and Safety
1001 E. 62nd Ave., Room 215
Denver, Colorado 80216

Re: Objection to Application of Union Milling Company, LLC
Leadville Mill – File No. M-1990-057
Permit Conversion Application (CN-2)
Conversion to 112(d) Designated Mining Regular Operations Permit

Dear Mr. West:

On behalf of the Leadville Sanitation District (“District”), I am writing to object to the 112(d) Designated Mining Regular Operations Permit Application filed by Union Milling Contractors, LLC (“Applicant”) for the Leadville Mill owned by CJK Milling Company for the reasons set forth below.

The Applicant, which operates the Leadville Mill, plans to significantly increase the size, scope and impact of its current operations. Its proposal to convert its 110d permit to a 112d permit involves doubling the capacity of ore processed from 200 to 400 tons, creating a new Filtered Tailings Deposit (“FTD”), and adding cyanide vat leaching.

The Leadville Sanitation District owns and operates wastewater treatment facilities servicing Leadville and surrounding communities. The District’s facilities are located adjacent and immediately to the east of the Leadville Mill. The District has a sewer line that runs through the site of the Mill and a polishing pond that lies within 200 feet of it. Other District facilities are located nearby on the District’s property. The District is concerned about the impacts this permit conversion and expansion will have on its water treatment operations. A memorandum prepared by JVA Consulting Engineers (“JVA Memo”) explaining some of the District’s technical concerns is attached as **Exhibit A**.

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Water Quality

The District's Colorado Discharge Permit System ("CDPS") permit from the Colorado Department of Public Health and Environment ("CDPHE") requires the District to sample and analyze effluent for the following pollutants: arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, zinc, cyanide, and phenols. The District spends significant amounts of time and money trying to comply with its discharge permit and cannot afford to have its operations jeopardized by any nearby activities that might impact its ability to meet CDPHE's strict permit limits.

The District is also operating under Cease and Desist Order No. DO-181109-1 dated November 9, 2018, issued by CDPHE and requiring the District to comply with permit effluent limitations, specifically for the 30-day average mercury limit of 0.077 µg/L. Low level mercury is present throughout Leadville in the soil, water, and air due to historic mining operations. The District is concerned that the Applicant's proposed increased operations will only make it more difficult to meet the CDPS permit limits and comply with CDPHE's Cease and Desist Order. *See* JVA Memo.

Cyanide

Although processing gold ore with cyanide may be standard in the industry, it is not without risk. The Material Safety Data Sheet ("MSDS") for sodium cyanide shows it to be identified with the following hazards: corrosive to metals, acute oral toxicity, acute dermal toxicity, acute inhalation toxicity, and specific target organ toxicity (single exposure). It is fatal if swallowed, in contact with skin, or inhaled. It is also "[v]ery toxic to aquatic life with long lasting effects." Application, Appendix 21-2. There have been a number of serious incidents around the world involving cyanide spills and leaks. The amount of sodium cyanide the Applicant proposes to use, 1,600 pounds per day, is not insignificant. Application, Exhibit D, Table 4-6. The mere fact of the next door neighbor using so much cyanide gives the District concern.

In addition, the District is concerned that the Applicant has not demonstrated that it has significant experience working and processing ore with cyanide. Showing a high level of expertise should be required before approving the permit conversion.

Air Quality

The Applicant's expanded operations and handling of ore threaten to impact the District's wastewater treatment facility with airborne heavy metals and toxic particulates in the form of fugitive dust leaving the Applicant's property. To the District's knowledge, although the Leadville Mill may have been permitted to process 200 tons per day, it rarely ran continuously at anything near that amount of throughput. The amount of particulates leaving the Mill property will be much higher than it ever was in the past.

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Section 4.3.7 of the Application addresses dust control, but only within the Mill buildings. The Application also indicates that there will be three ore stockpiles, one topsoil stockpile, and one ECS overburden stockpile. The District is concerned that handling large amounts of ore outside will lead to dust blowing onto its polishing pond and aeration basin, potentially impacting its water quality and operations.

Dust from the road running near the District's property boundary and polishing pond is also a concern. At a minimum, this road should be paved. The District is already hard pressed to meet compliance limits imposed by CDPHE. *See JVA Memo*

Filtered Tailings Deposit

The Application has been revised to include a Filtered Tailings Deposit instead of a Tailings Storage Facility (TSF). It will still, however, involve a significant amount of cyanide. Moreover, it will be located uphill and even closer to the District's polishing pond. The District is concerned that runoff or seepage from the FTD could affect the District's operations and water quality. *See JVA Memo*.

Seismic Impacts

The District is also concerned about the potential damage to its facilities from the Applicant's seismic activity. The District's wastewater treatment facility consists of a headworks for screening and grit removal, two aeration basins, two covered clarifiers, a polishing pond, and a chlorine contact chamber for disinfection. The Applicant's operation of crushing equipment next door to the District's infrastructure threatens to crack foundations and pipelines that the District needs to operate its water treatment facilities. *See JVA Memo*.

As explained in the JVA Memo, the District is under a compliance schedule to reduce inflow and infiltration into its collection system. The increased seismic activity nearby could also affect the District's efforts to reduce inflow and infiltration. Damage to the collection system could result in seepage of wastewater into the ground.

For the reasons set forth above and others yet to be determined, the Leadville Sanitation District requests that the Permit Conversion Application be denied.

Very truly yours,



Stephen A. Bain

Enclosure -- JVA Consulting Engineers Memorandum
cc: Joseph Fattor

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Exhibit A

JVA Consulting Engineers Memorandum



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M E M O

TO:	<u>District Board</u>	DATE:	<u>April 12, 2023</u>
FIRM:	<u>Leadville Sanitation District</u>	JOB NO.	<u>1119.2e</u>
ADDRESS:	<u>911 US-24</u>	PROJECT:	<u>CJK Milling – Permit M1990-057</u>
	<u>Leadville, CO 80461</u>	SUBJECT:	<u>District Engineer Objections</u>

Dear District Board,

JVA has reviewed the CJK Milling Company Mill (Mill) revised Permit M1990-057 Version 1 Leadville Mill Permit dated January 2023 as well as the Update & Structure Agreement dated February 1, 2023 and developed a list of objections based on potential impacts and detrimental effects to the Leadville Sanitation District's (District) Wastewater Treatment Facility (WWTF) and sanitary sewer collection system. The Mill is located directly west of the District's WWTF and was constructed in 1989 and operated through 2000 as a stand-alone facility. The District's sanitary sewer collection system runs through the northern part of the property.

In review of the new Mill permit application, JVA understands the Mill has proposed to change the original constructed tailing facility to a double-lined sump to prevent any catastrophic spill into ground or surface water. The filter tailings deposit (FTD) will filter tailings prior to deposition. Seepage from the tailings as well as snow and runoff will be captured in a lined down-gradient catchment pond.

JVA has similar concerns to the previously submitted mill permit application primarily related to seismic activity and low level metals.

The letter states *"Negligible Seismicity. The crusher is small and seismicity during operation will be confined to a small radius around the crusher building."* Although the applicant states the seismicity is small, JVA is still concerned about potential disturbance and impacts to the District's collection system. The District collects and treats wastewater from downtown Leadville as well as developments located west of Leadville. Wastewater flows by gravity through the collection system to the WWTF. Figure 1 below shows the District's existing sanitary sewer line that contains significant wastewater flows that could be directly impacted by the new crushing facility.

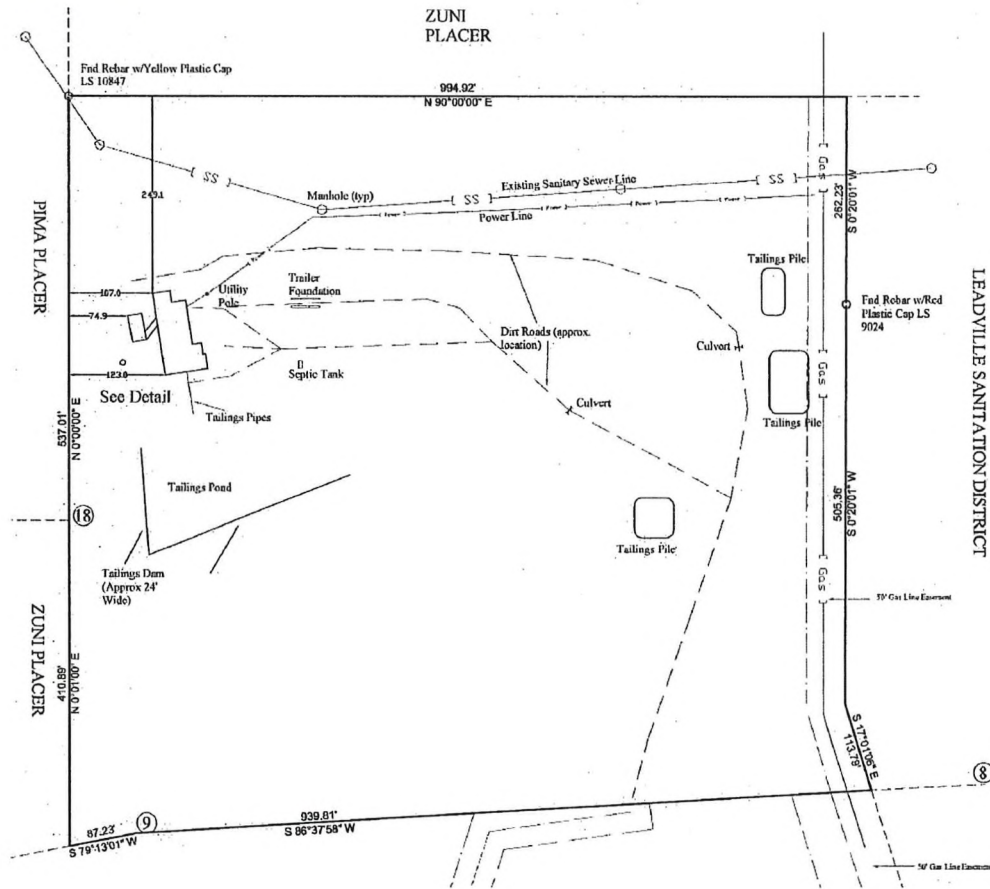


Figure 1. Existing Sanitary Sewer line.

The District is currently under a compliance schedule to reduce inflow and infiltration into the collection system. Inflow is water, other than wastewater, that enters a sewer system from sources such as roof leaders, cellar drains, yard drains, area drains, foundation drains, drains from springs and swampy areas, manhole covers, cross sections between storm drains and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters or other drainage. Inflow does not include, and is distinguished from, infiltration. Infiltration is water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

The new crushing facility could impact the collection system by disturbing the manholes, pipes and service lines resulting in an increase in the infiltration of groundwater into the collection system. This increase in infiltration is in direct conflict with the CDPHE compliance schedule to reduce inflow and infiltration into the collection system. Damage to the collection system could also result in exfiltration or seepage of wastewater into the ground which would be a direction violation of the Clean Water Act. The District's WWTF consists of a headworks for screening and grit removal, two aeration basins, two covered clarifiers, a polishing pond, and a chlorine contact chamber for disinfection. Nearby seismic activity from the proposed Mill could also have detrimental effects to the existing WWTF structures that are required for wastewater treatment and permit compliance.



The District is also under the Colorado Department of Public Health and Environment (CDPHE/Division), Water Quality Control Division Notice of Violation / Cease and Desist Order, Number: DO-181109-1 (NOV/CDO) dated November 9, 2018. The NOV/CDO cited a failure to comply with permit effluent limitations, specifically for the 30-day average mercury limit of 0.077 ug/L. The District is required to follow a compliance schedule to identify sources of mercury to the WWTF and implement strategies to control sources so that compliance with the total mercury effluent limitation could be attained.

Low level mercury is present throughout Leadville in the soil, water and air due to historic mining operations. The potential for increased infiltration into the sewer collection system as previously stated from the new crushing facility could increase mercury and other metal constituents to the WWTF possibly resulting in effluent compliance issues for the District.

The WWTF operates under the Colorado Discharge Permit System Permit Number CO0021164. The District's permit establishes effluent limits for potentially dissolved copper and cadmium ranging from 1.1 to 1.6 ug/L depending on time of year. The permit limit for total mercury is 0.077 ug/L. The permit also establishes limits for potentially dissolved zinc ranging from 2658 to 480 ug/L depending on time of year.

The permit also requires the District to report effluent limits for an extensive list of pollutants including arsenic, chromium, copper, cyanide, iron, lead, manganese, molybdenum, nickel, selenium, silver, uranium, sulfide, nonylphenol, cesium, radium, strontium, thorium, BTEX and benzene. The permit requires only reporting for the previously listed metals so that the Division can review the data and develop potential discharge limits on future discharge permit renewals.

Since the Mill is located directly adjacent to the District's WWTF, the wind transport of metals from trucks entering and leaving the facility as well as ore, topsoil and overburden stockpiles and dust from the crushing facility could have detrimental effects and possibly contaminate the open air wastewater treatment basins at the WWTF. While the applicant proposes dust control for the mill and crusher buildings, JVA does not believe this will be an effective method for removing low level metals from the air. Effects from metals transport by air to the WWTF could be seen immediately or could occur over a period of time since the District has extremely low level metals limits in ug/L and is required to monitor metals on a frequent basis in the wastewater effluent and report this information to CDPHE.

Also, it's important to note that the tailings detection limits per Table 2-2 Mill Tailings TCLP Results below are in mg/L for the metals listed while the District's permit limits are in ug/L. If the Mill is only required to test the tailings to mg/L, they could be reporting non detectable values because of the test methods utilized are not capable of measuring to low level ug/L limits. JVA recommends the testing and reporting of all metals for the Mill be changed to ug/L for low level metals analysis.



Table 2-2: Mill Tailings TCLP Results

EPA Waste No.	Hazardous Constituent	Standard (mg/l)	ALS Test Result (mg/l)	% of Standard
D004	Arsenic	5.000	0.045	0.90%
D005	Barium	100.0	0.182	0.18%
D006	Cadmium	1.000	0.008	0.80%
D007	Chromium	5.000	0.020	0.40%
D008	Lead	5.000	0.037	0.74%
D009	Mercury	0.200	0.00975	4.88%
D010	Selenium	1.000	0.050	5.00%
D011	Silver	5.000	0.010	0.20%

Table 2-3: RCRA Metals Results

Hazardous Constituent	Final Residue Solids (ppm)	TCLP Leachate (ppm)	Limit (ppm)	% Reporting to Final Leachate Residue
Barium	520	0.182	100.	0.04%
Lead	1,500	0.037	5.00	0.00%
Silver	13	0.010	5.00	0.08%
Arsenic	340	0.045	5.00	0.01%
Cadmium	1.6	0.008	1.00	0.50%
Chromium	14	0.020	5.00	0.14%
Selenium	1	0.050	1.00	5.00%
Mercury	5.2	0.00975	0.20	0.19%

Lastly, the Mill is proposing to use a lift station for the sanitary sewer. The lift station will be privately owned, operated and maintained by the Mill. Lastly, another concern is low level metals leaving the facility from employees washing their hands as this wastewater would enter the District's sanitary sewer collection system and ultimately end up at the District's WWTF influent.

This summarizes our review of the Mill permit and objections based on our understanding of the proposed Mill and operations.

Signed:

Cooper Best, P.E.
Senior Project Manager

Copies to: Steve Bain – Welborn Sullivan Meck & Tooley, P.C.

Joseph Fattor – District Attorney