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

12 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
112d-1 Conversion (CN-3)
Application Adequacy Review Response

Dear Mr. West,

Please see responses to your Adequacy Review letter dated August 8, 2024.

Process test work during 2020, prior to CJK Milling Company's LLC (CJK) first permit amendment application indicated that the use of NaCN was required to economically extract metals from remediation activities of historic mine dumps in the Breece Hill (Leadville) area. CJK, as with any mining-related industry, was aware that the use of NaCN would cause concern among stakeholders and considered alternative technologies. No viable technology existed at that time.

Given the anticipated stakeholder concerns, CJK revisited the possibility of using an alternative leaching reagent and discovered a new technology (by Extrakt called TNS) that was advanced to the point of near commercialization by several respectable mining companies. Since this summer, we have been testing this technology as a viable alternative. On November 11, we received positive test results, and CJK is excited to report that we are adopting this technology in the place of NaCN.

Given this change, CJK is in the process of updating Exhibit D and Exhibit U, both of which will be materially different, as well as other Exhibits that are affected by this change. As a result, some of the questions in this AR are no longer relevant, and others cannot be answered at this time, given the information is not yet available. Where this is the case, the **Response** will be highlighted in yellow, and this information will be made available to CDRMS as soon as possible in a Technical Revision (as we have discussed).

Application Form

1. Page One of the Permit Application lists the current Permitted Acreage as 9.9 with the addition of 32.7 Acres for a proposed total Permit Acreage of 42.6, however the currently approved Permit Acreage is 8. Please submit a replacement Page 1 with the correct Permitted Acreage and resulting change in the proposed Acreage. Additionally, please review all other maps and exhibits to ensure that the acreages are correct. Further specific examples will be called out in this review.

Response:

Page 1 of the Application form has been corrected and is provided on the following page. Other maps and exhibits are also corrected.

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

REGULAR (112d) DESIGNATED MINING OPERATION

RECLAMATION PERMIT

APPLICATION FORM

CHECK ONE: ☐ New Application (Rule 1.4.5) ☐ Amendment Application (Rule 1.10)

☑ Conversion Application (Rule 1.11)

Permit No. M-1990-057 (provide for amendments and conversions of existing permits)

The application for a Regular (112d) Designated Mining Operation Reclamation Permit contains three major parts: (1) the application form; (2) Exhibits A-T, Geotechnical Stability Exhibit, the Emergency Response Plan, and Addendum 1, as required by the Office, and outlined in Rules 6.1, 6.2, 6.3, 6.4.19, 6.5, 8.0, and 1.6.2(1)(b); and, (3) the application fee. When you submit your application, be sure to include one (1) **signed and notarized original** and four (4) copies of the application form, five (5) copies of Exhibits A-T, Rule 6.5 Geotechnical Stability Exhibit, the Emergency Response Plan, Addendum 1, and a check for the appropriate application fee (described under Section (4) on Page 2). Exhibits should not be bound or in a 3-ring binders; maps should be folded to 8 ½" X 11" or 8 ½" X 14" size. To expedite processing, please provide the information in the format and order described in this form.

==========

GENERAL OPERATION INFORMATION

Type or print clearly, in the space provided, all information described below.

==========

1. **Applicant/operator or company name (name to be used on permit)**:

Union Milling Company, LLC

1.1 Type of organization (corporation, partnership, etc.): LLC

1.2 I.R.S. Tax ID No. or Social Security Number: 46-1790072

2. **Operation name (pit, mine or site name)**: Leadville Mill

3. **Permitted acreage**: (new or existing site) 8.0 permitted acres

3.1 Change in acreage (+) 34.5 acres

3.2 Total acreage in Permit area 42.5 acres

2. Page 5, item 15 of the application package lists the proposed Designated Chemicals to be used or stored within the Permit Area and the specific chemical formulas are listed. Please provide a replacement Page 5 with a revised item 15 that lists the chemical formula as well as the common or trade name for each Designated Chemical to be used or stored within the Permit Area.

Response:

CJK commits to respond to this question using the updated list of proposed Designated Chemicals.

Exhibit A – Legal Description – Rule 6.4.1

3. Due to the Discrepancy in Acreages in the application form and throughout the Application Exhibits, Please provide a metes and bounds legal description of the Permit Boundary as well as the Affected Area Boundary with the acreages reported pursuant to Rule 6.4.1(1). The metes and bounds survey description with acreage of the Permitted Area shall be performed by a licensed land surveyor.

Response:

The Leadville Mill Property, subject of this Adequacy Response (AR) review as well as the neighboring Arkansas Valley Slag (AVS) project (M2021-58) were surveyed by Southwest Land Surveying LLC, 1205 H Lane, Delta, CO 81416 in 2020. This survey was updated in 2023 to adjust the mine permit boundary. Lake County permitted the construction of a residence proximate to the West side of the existing permitted Leadville Mill (M1990-057) property. Although permissible by Lake County Conditional Use Rules for development set-backs for properties zoned Industrial Mining (IM), CJK was informed that the proximity of a residence to our property would make CUP approval virtually impossible. This effectively sterilized this portion of the property, which was slated for future development.

To accommodate our neighbor, CJK chose to sterilize as much land as possible by creating a buffer. CJK has adjusted its permit boundary for this Permit Amendment Application by creating an approximate 7.5ac buffer zone in the forested between the residence and the proposed Filtered Tailings Deposit (FTD) as well as an approximate 0.3 acre "wedge" between the existing Mill Building and the residence to allow about a 300-ft distance (the maximum) between these 2 structures of undevelopable land.

The updated and corrected acreages are as follows:

Leadville Mill Boundary	**42.8 ac**
Less: "Wedge" Buffer	(0.3) ac
Affected Land	**42.5 ac**
Existing Permit	(8.0) ac
Additional Land in Application	34.5 ac

Metes and Bounds as provided by Southwest Land Surveying are:

> Part of that parcel of land as described in Book 346, Page 490 as recorded in the Clark and Recorder's office Lake County Courthouse, Leadville Colorado, being more particularly described as follows:
>
> Beginning at Corner No. 20 of the Zuni Placer, MS 4436; thence S21º06'41"E, 1091.48ft., dist.; thence N89º00'59"W, 671.32ft., dist.: thence S00º25'33"W, 767.56 t., dist.; thence S16º40'15"E 113.83ft., dist.; to line 8-9 of the said Zuni Placer, MS 4436: thence along line 8-9 of the said Zuni Placer, MS 4436 S86º44'00"W, 939.30ft., dist. to Corner No. 9 of the said Zuni Placer, MS 4436; thence along line 9-10 of the said Zuni Placer, MS 4436 S79º14'18"W, 87.32ft., dist.: thence leaving line 9-10 of the said Zuni Placer, MS 4436, N00º06'40"E, 411.06ft., dist., to Corner No. 18 of the said Zuni Placer, MS 4436; thence along line 18-19 of the said Zuni Placer, MS 4436 N00º05'10"E, 537.05ft., dist.; thence leaving line 18-19 of the said Zuni Placer, MS 4436, S89º32'42"E, 430.00ft., dist.; thence N00º00'00"W, 808.96ft., dist., to line 19-20 of the said Zuni Placer, MS 4436; thence along line 19-20 of the said Zuni Placer, MS 4436 N76º41'25"E, 866.27ft., dist., to Corner No. 20 of the said Zuni Placer, MS 4436 and the point of beginning. Said parcel contains 42.84 acres more or less.

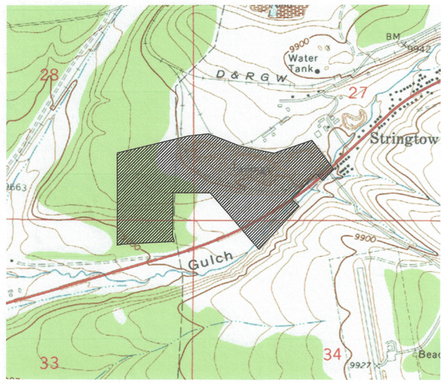
The survey map is shown on the next page.

Results of Survey

CJK Milling Company, LLC

Located in part of Section, 27, 28, 33 and 34, Township 9 South, Range 80 West, of the 6th Principal Meridian
Lake County, Colorado

Vicinity Map N. T. S.



PLAT & DOCUMENT REFERENCES :

1. MS 158 Oro Mining Ditch & Fluming Company's Placer - J. S. Titcomb, approved 10/31/1874.
2. MS 2137B McAllister Mill Site - Max Boehmer, approved 12/03/1881.
3. MS 2407 Uintah Placer - Jesse F. McDonald, approved 04/17/1882.
4. MS 4436 Zuni Placer - Jesse F. McDonald, approved 12/09/1886.
5. Deed Recorded January 3, 1962 in Book 346 Page 490.
6. Quit Claim Deed Recorded November 29, 1971 in Book 390 Page 360.
7. Easement Deed Recorded November 29, 1971 in Book 390 Page 362.

GENERAL NOTES :

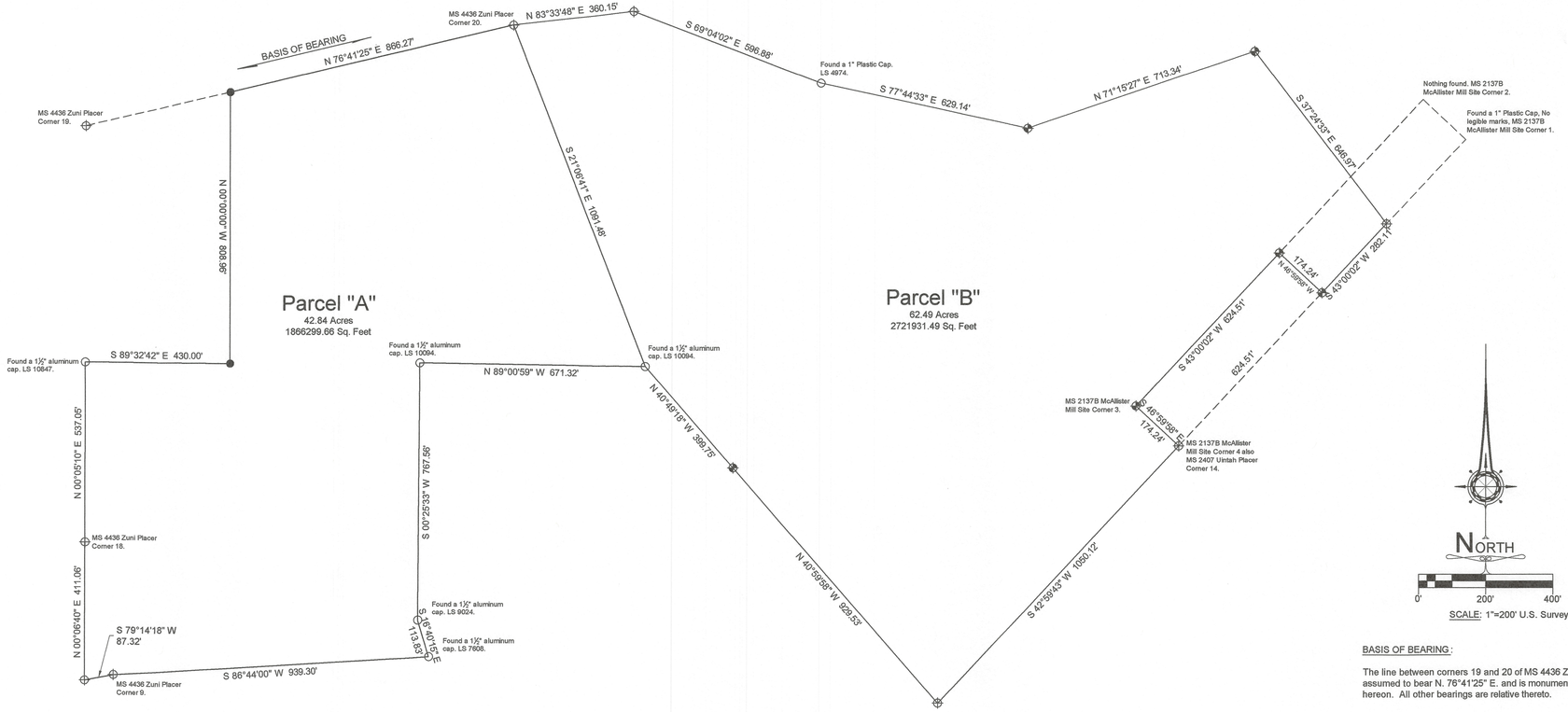
All fence lines shown hereon are for graphical purposes only. They may not be relied upon to establish property boundaries.

This survey was performed without the benefit of a title policy or commitment.

Certifications hereon shall run only to the persons(s) for whom this survey was prepared and on his behalf to the agencies listed on this/these sheet(s). Certifications are not transferable to additional institutions or subsequent owners.

No guarantee as to the accuracy of the information contained on the attached drawing is either stated or implied unless this copy bears an original signature of the professional land surveyor hereon named.

Only prints of this survey marked with an original seal and signature by the surveyor shall be considered true, valid copies.



NORTH

0' 200' 400'

SCALE: 1"=200' U.S. Survey Feet

BASIS OF BEARING :

The line between corners 19 and 20 of MS 4436 Zuni Placer is assumed to bear N. 76°41'25" E. and is monumented as shown hereon. All other bearings are relative thereto.

LEGEND

◈	Found Stone firmly set and properly marked with rail alongside
⊕	Found Rail Road rail
○	Found monument as noted.
●	Set 2-1/2" aluminum cap/#6 rebar - LS 26597
◈	Found 2-1/2" aluminum cap/#6 rebar - LS 26597
———	Boundary Line
–x–	Fence Line
N. T. S.	Not to Scale
(R)	Record

RECORDER'S CERTIFICATE :

This plat was filed for record in the office of the Clerk and Recorder of Lake County, Colorado, at _____ ___m, on the _____ day of _____, 2024, Reception Number _____.

_____, by _____.
County Clerk and Recorder Deputy

CERTIFICATE OF SURVEY:

I, Brian Dirk Hatter, a Registered Land Surveyor in the State of Colorado, do hereby certify that this plat accurately represents that the surveying services addressed herein have been performed by the professional land surveyor or under the professional land surveyor in charge. Is based upon the professional land surveyor's knowledge, information and belief. Is in accordance with applicable standards of practice. Is not a guaranty or warranty, either expressed or implied. I further certify that the monuments shown hereon actually exist, and that their positions are as shown.

Brian Dirk Hatter 26597
Signature
PLS No. 26597
Date 11/26/2024

COLORADO LICENSED Brian Dirk Hatter 26597 PROFESSIONAL LAND SURVEYOR Seal

Legal Description: Parcel "A"

Part of that parcel of land as described in Book 346, Page 490 as recorded in the Clerk and Recorder's office Lake County Courthouse, Leadville Colorado, being more particularly described as follows:

Beginning at Corner No. 20 of the Zuni Placer, MS 4436; thence S. 21°06'41" E., 1091.48 ft., dist.; thence N. 89°00'59" W., 671.32 ft., dist.: thence S. 0°25'33" W., 767.56 ft., dist.; thence S. 16°40'15" E., 113.83 ft., dist.; to line 8-9 of the said Zuni Placer, MS 4436: thence along line 8-9 of the said Zuni Placer, MS 4436 S. 86°44'00" W., 939.30 ft., dist. to Corner No. 9 of the said Zuni Placer, MS 4436; thence along line 9-10 of the said Zuni Placer, MS 4436 S. 79°14'18" W., 87.32 ft., dist.; thence leaving line 9-10 of the said Zuni Placer, MS 4436, N. 0°06'40" E., 411.06 ft., dist., to Corner No. 18 of the said Zuni Placer, MS 4436; thence along line 18-19 of the said Zuni Placer, MS 4436 N. 0°05'10" E., 537.05 ft., dist.; thence leaving line 18-19 of the said Zuni Placer, MS 4436, S. 89°32'42" E., 430.00 ft., dist.; thence N. 0°00'00" W., 808.96 ft., dist., to line 19-20 of the said Zuni Placer, MS 4436; thence along line 19-20 of the said Zuni Placer, MS 4436 N. 76°41'25" E., 866.27 ft., dist., to Corner No. 20 of the said Zuni Placer, MS 4436 and the point of beginning. Said parcel contains 42.84 acres more or less.

Legal Description: Parcel "B"

Part of that parcel of land as described in Book 346, Page 490 as recorded in the Clerk and Recorder's office Lake County Courthouse, Leadville Colorado, being more particularly described as follows:

Beginning at Corner No. 20 of the Zuni Placer, MS 4436; thence N. 83°33'48" E., 360.15 ft., dist.; thence S. 69°04'02" E., 596.88 ft., dist.; thence S. 77°44'33" E., 629.14 ft., dist.; thence N. 71°15'27" E., 713.34 ft., dist.; thence S. 37°24'33" E., 646.97 ft., dist., to line 4-1 of the McAllister mill site, MS 2137B; thence along line 4-1 of the said McAllister mill site, MS 2137B S. 43°00'02" W., 282.11 ft., dist.; thence leaving line 4-1 of the said McAllister mill site, MS 2137B N. 46°59'58" W., 174.24 ft., dist., to line 2-3 of the said McAllister mill site, MS 2137B; thence along line 2-3 of the said McAllister mill site, MS 2137B S. 43°00'02" W., 624.51 ft., dist., to Corner No. 3 of the said McAllister mill site MS 2137B; thence along line 3-4 of the said McAllister mill site, MS 2137B S. 46°59'58" E., 174.24 ft., dist., to Corner No. 4 of the said McAllister mill site, MS 2137B, identical with Corner No. 14 of the Uintah Placer, MS 2407; thence along line 14-15 of the said Uintah Placer, MS 2407 S. 42°59'43" W., 1050.12 ft., dist.; thence leaving line 14-15 of the said Uintah Placer, MS 2407 N. 40°59'58" W., 929.53 ft., dist.; thence N. 40°49'16" W., 399.75 ft., dist.; thence N. 21°06'41" W., 1091.48 ft., dist., to Corner No. 20 of the said Zuni Placer, MS 4436 and the point of beginning. Said parcel contains 62.49 acres more or less.

NOTICE 13-80-105 C.R.S, as amended:

ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVERED SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

U.S. MINERAL SURVEYORS
REGISTERED LAND SURVEYORS
IN COLORADO

SOUTHWEST LAND SURVEYING LLC
1205 H Lane., Delta, CO 81416
(970) 387-0600...Silverton (970) 874-2880...Delta
EMAIL: dhatter@lcresources.us

PLAN SCALE: 1"=200' U.S.S.F
FIELD CREW: BDH, DLR
DRAFTER: BDH
SHEET 1 of 1

REVISIONS:

Results of Survey
Located in part of
Sections 27, 28, 33 and 34, Township 9 South, Range 80 West, 6th Principal Meridian
Lake County, Colorado

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

F/W: 12/06/2024
JOB #: 42-23 Union Milling

Exhibit B – Index Map – Rule 6.4.2

4. Section 2.0 lists the proposed Permit Boundary as 42.93 Acres and the proposed Affected Lands as 42.6 Acres. In conjunction with Item 1 of this review, please update these numbers with the correct value.

Response:

Updated to show permit boundary as 42.8 acres and Affected Land as 42.5 acres. See update on following page.

2.0 RULE 6.3.2: EXHIBIT B–INDEX MAP

The regional location of the Affected Land in **Figure 2-1**. The Permit Boundary is **42.8** acres, and the Affected Land is **42.5** acres, as shown in **Figure 3-4**.

Exhibit C – Mining and Mining Plan Map(s) of Affected Lands – Rule 6.4.3

5. Per Rule 6.2.1(2)(b) maps must be signed by the qualified person that created them. Please update Figure 3-1 through Figure 3-5 to include signatures.

Response:

PE Stamp has been added to updated version of Figures 3-1 through 3-5 (revs 1 12.10.2024). Finalized versions of these figures will be provided in the Technical Revision.

6. In Figure 3-1 it appears that the proposed permit boundary extends into the Leadville Sanitation Facility property. Per Rule 6.4.3(a) please provide an accurate map that shows the permit boundary in relation to surrounding property.

Response:

The red lines in Figure 3-1, as well as the other figures accurately depict the property boundaries. The white lines signify the incorrect property boundaries that are found on the Lake County Assessor website. The white lines are purposefully included in the figures to avoid any future disagreements by neighbors who might look at the Lake County Assessor's website and conclude that CJK is infringing on their property.

7. The 200 ft buffer appears to extend into Hwy 24 on Figure 3-2. Please confirm that the highway is within the buffer and if so please label the highway on Figure 3-2 per Rule 6.4.3(b). Additionally, please see comments in the Exhibit S section of this review for further information regarding the executed Structure Agreements.

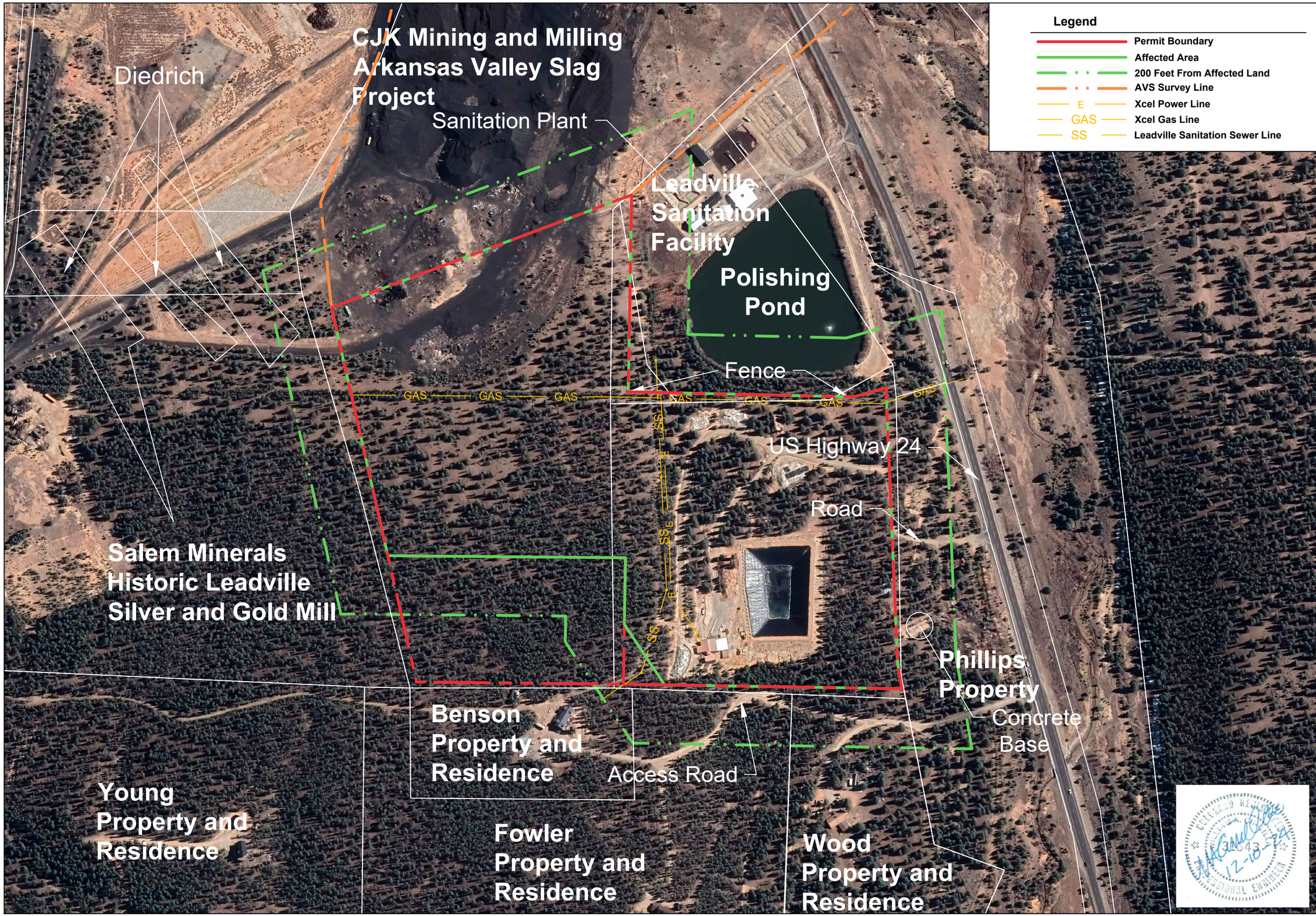
Response:

US Highway 24 is within 200-ft. The figure indicates that it is within 200-ft, however the label was truncated. This has been corrected. See updated figure on following page. The Structure Agreement question is addressed in Question 62. This label has been added to the updated Figure 3-2 (rev 1 12.10.2024).

8. Per Rule 6.4.3(g) please show the owner's name on man-made structures within 200' of the permit boundary.

Response:

Owner's names have been added. See updated figure on the following page. Owner names have been added to updated Figure 3-2 (rev 1 12.10.2024).



AEC AMERICAN ENVIRONMENTAL CONSULTING, LLC.
8191 Southpark Lane, Suite 107, Littleton, CO 80120
phone 303-948-7733 fax 303-948-7739

0 300'

REV. NO.	DATE	REVISION DESCRIPTION
0	12/6/2023	ISSUED FOR CLIENT REVIEW
1	12/10/2024	REVISED FOR COMMENTS

REVISIONS

FEATURES AND STRUCTURES WITHIN 200 FEET

LEADVILL MILL PERMIT APPLICATION

LEADVILLE, COLORADO

FIGURES BASE.dwg

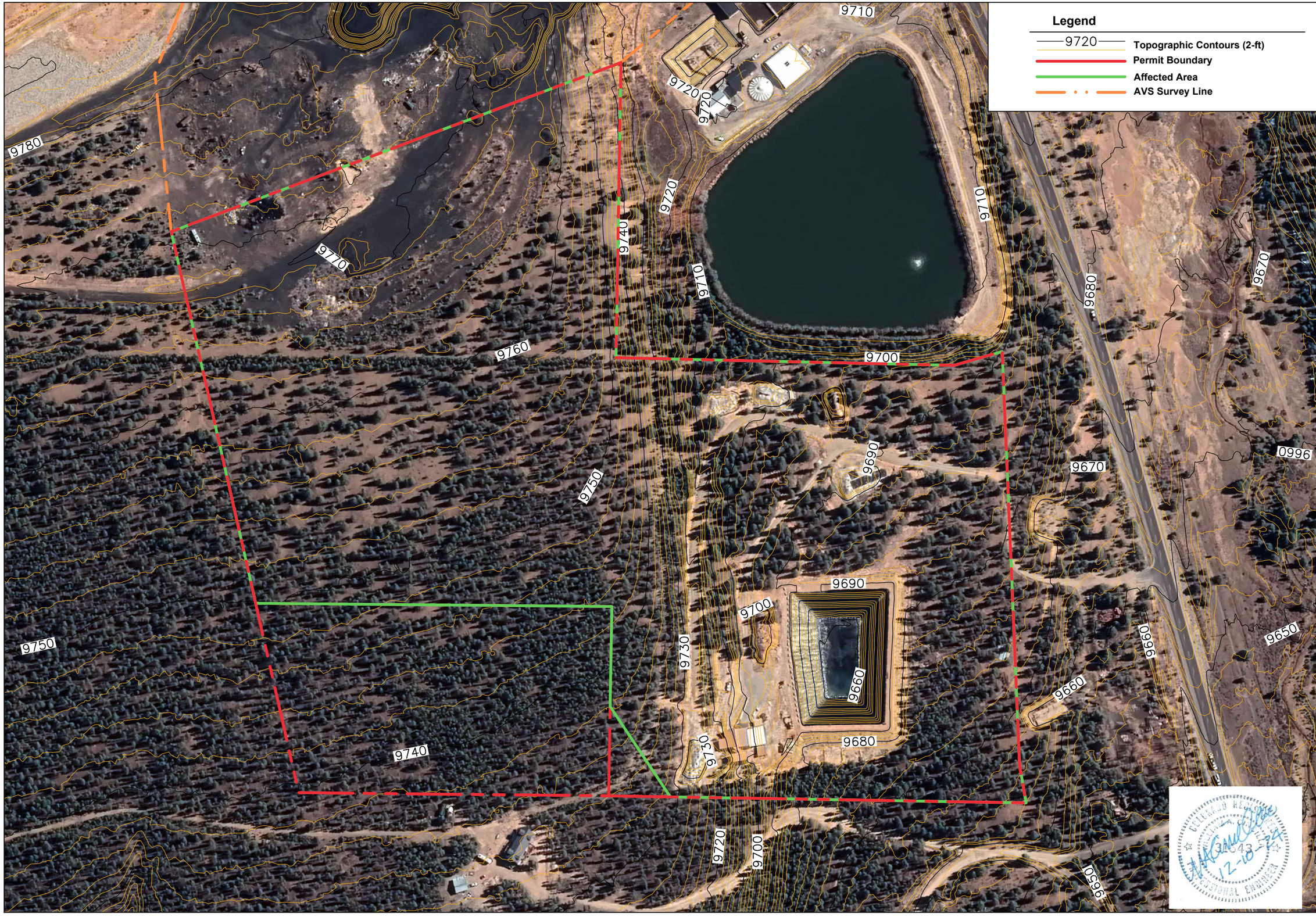
PROJECT NO:	--
DESIGNED BY:	MBT
DRAWN BY:	MBT
APPROVED BY:	WC
DATE:	12/10/2024

FIGURE
3-2 OF 5

9. Page 3-1, Section 3.0 lists that Figure 3-3 depicts the site topography. Figure 3-3 was included in the online submission however no Figure 3-3 was included in the hard copy application materials. Please provide a hard copy of Figure 3-3.

Response:

A hard copy has been mailed to the Division. See the following page for the digital copy.



AEC AMERICAN ENVIRONMENTAL CONSULTING, LLC.
8191 Southpark Lane, Suite 107, Littleton, CO 80120
phone 303-948-7733 fax 303-948-7739

0 200'

REV. NO.	DATE	REVISION DESCRIPTION
0	12/6/2023	ISSUED FOR CLIENT REVIEW
1	12/10/2024	REVISED FOR COMMENTS
		REVISIONS

SITE TOPOGRAPHY

LEADVILL MILL PERMIT APPLICATION

LEADVILLE, COLORADO

FIGURES BASE.dwg

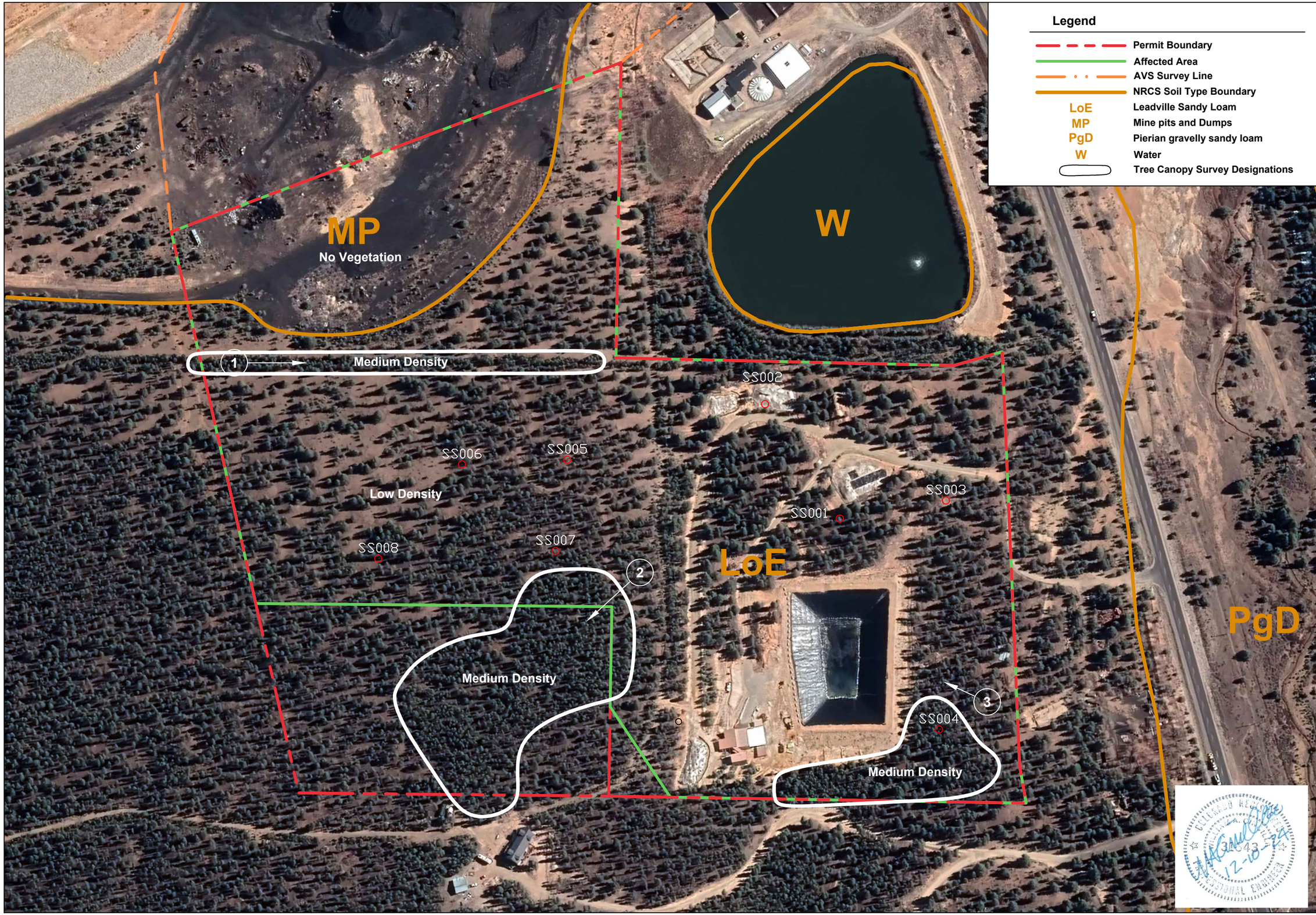
PROJECT NO:	-
DESIGNED BY:	MBT
DRAWN BY:	MBT
APPROVED BY:	WC
DATE:	12/10/2024

FIGURE
3-3 OF 5

10. Figures 3-4 and 3-5 contain map elements that are not fully identified or described in the Legend. Please submit revised maps ensuring that all items depicted in the map are represented in the Legend.

Response:

Figure 3-5 has been corrected and is shown on the following page. Figure 3-4 must also be modified to depict the plant configuration for TNS in place of sodium cyanide as the leachate, and will be included as a Technical Revision.



Legend

- Permit Boundary
- Affected Area
- AVS Survey Line
- NRCS Soil Type Boundary
- LoE — Leadville Sandy Loam
- MP — Mine pits and Dumps
- PgD — Pierian gravelly sandy loam
- W — Water
- Tree Canopy Survey Designations

AEC AMERICAN ENVIRONMENTAL CONSULTING, LLC.
8191 Southpark Lane, Suite 107, Littleton, CO 80120
phone 303-948-7733 fax 303-948-7739

0 200'

REV. NO.	DATE	REVISION DESCRIPTION
0	12/6/2023	ISSUED FOR CLIENT REVIEW
1	12/10/2024	REVISED FOR COMMENTS

REVISIONS

SOILS & VEGETATION

LEADVILL MILL PERMIT APPLICATION

LEADVILLE, COLORADO

FIGURES BASE.dwg

PROJECT NO:	--
DESIGNED BY:	MBT
DRAWN BY:	MBT
APPROVED BY:	WC
DATE:	12/10/2024

FIGURE
3-5 OF 5

COLORADO REGISTERED 43-1 12-10-24 PROFESSIONAL ENGINEER

Exhibit D – Mine Plan (Mill Plan) – Rule 6.4.4

11. Per Rule 6.2.1(2)(b) and 6.2.1(2)(e) maps must be signed by the qualified person that created them and have an appropriate legend. Please update Figure 4-1 to include a signature and legend that contains all of the symbols found on the figure. Additionally, as mentioned in Item 10 of this review, Figure 4-1 contains map elements that are not included in the Legend. Please update the legend to reflect all map elements.

Response:

These items will be included in the updated Exhibit D&U that will be provided at a later date.

12. The Process Material Balance first appears in Table 4-5 and is duplicated in other Exhibits. in the 850 Area- FTD filter Circuit, the table shows there are 16 lbs of Sodium Cyanide in that area. Please provide an in-depth description of where the Cyanide is contained, and what the ultimate fate of the residual cyanide is. Also, if this table requires an update, please ensure to update all other Exhibits as needed to reflect the change.

Response:

This question is not relevant given the new technology. CJK will provide CDRMS with a completely new Exhibit D that is appropriate for the TNS technology. This question will be addressed in the updated Exhibit D as appropriate.

13. The "Operations" section of section 4.2.4 regarding Area 000, discusses the haul route and various road lengths associated with the site, however when compared with Figure 4-1 and using the provided scale, the distances in the narrative are inconsistent with the scaled and measured distances on the map. Please update the narrative with the correct distances, or if Figure 4-1 is in error, please provide an updated figure 4-1.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

14. Page 4-15 explains that lime will be introduced at a rate of 8 lbs per ton onto the crusher conveyor to the MDM to handling of the bulk lime was included. Please provide a revised "Reagents" section discussing the delivery, storage and handling of lime in the crusher circuit. In the revised section please also address how much lime will be stored on site at any given time, its storage location and method. Additionally, please provide containment capacity of the crusher building ensuring sufficient volume exists to contain any potential spills of the material during operations.

Response:

This question is not relevant given the new technology. CJK will provide CDRMS with a completely new Exhibit D that is appropriate for the TNS technology. This question will be addressed in the updated Exhibit D as appropriate.

15. The "Operations" section regarding Area 100- Crushing circuit states that water sprays will be available and operate as required to control dust. Also, the geochemical data, specifically, SPLP and ABA of all ore materials to be stored in the MDM Bunker was not provided. Please provide the SPLP and ABA results for all materials proposed to be processed at the mill facility and differentiate the results from the stockpiles currently on site from the results from the Penn Mine Group. Additionally, it is stated that at steady state there will be up to 8,000 gallons of water in the Bunkers, please provide a drainage control plan to manage the accumulated water. If the results from the SPLP and ABA test identify that the material is acid generating, and or has the potential to leach constituents the MDM will need to be considered an Environmental Protection Facility (EPF) and measures will need to be taken to contain the accumulated dust control water, management of the same and disposal or use of that water. This EPF will be subject to all appropriate Sections of Rule 6.4.21 and Rule 7 including secondary containment requirements and concrete sealant will be required.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

16. Figure 4-5 (S1) appears to show a concrete floor in the MDM however, it does not extend under the feed hopper for the Crusher Circuit. In conjunction with item 15 of this review, if the ore material proposed to be processed is identified as Acid Generating or has the potential to leach constituents of concern, the apron from the MDM will need to be extended to account for spillage during dumping, loading into the hopper and the management of dust control water. Based on the results requested in Item 15, please revise the design of the area between the MDM and the Crusher Building taking these considerations into account.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

17. The "Operations" section regarding Area 300 Leach Circuit states that slurry is piped from the PLT to the ALTs via a 4' diameter pipe inside the mill building and a 4" double walled pipe when outside however no materials, construction or location information related to the piping was provided. Please provide more information regarding the double walled piping including its location, any support facilities, materials to be utilized and provide drawings to support the supplemental information.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

18. Please provide engineered drawings for all plumbing and electrical circuits in addition to the provided structural engineering drawings.

Response:

The Mill, as currently permitted, was constructed circa 1990, and was inspected circa 2012 when we received the current permit. We completed a transformer upgrade under our current permit in 2023, which was also inspected and approved. Remaining upgrades are using the existing switchgear. Drawings of electrical and piping will be completed during detailed engineering which will immediately precede construction. The General Arrangement drawing, updated for TNS technology will indicate plumbing and electric lines.

19. Also, included in the Operations section regarding the Area 300 Leach Circuit, the volumes and capacities of the leach tanks. It is stated that accounting for 1 foot of freeboard, the volume of the tanks is about 21,900 cubic feet and the maximum capacity of the Leach Tanks is 132,000 gallons. Based on the provided dimensions compared to the capacity volumes there appears to be an error. Please clarify the volumetric capacity of each of the 4 Leach Tanks in both Gallons and Cubic Feet, as well as the total volumetric capacity for the 4 tanks combined.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

20. The "Operations" section regarding Area 400, Page 4-39 states that the filters in the PLS clarifiers are rinsed with fresh make-up water and disposed of in the local landfill. Please provide more details on the decontamination efforts necessary to ensure the clarifier filters contain no residual cyanide. Additionally, please further describe the rinse water management during these decontamination efforts to ensure the rinse water is properly characterized and handled should it contain residual Cyanide from the clarifier.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

21. Additionally, in the "Operations" section, Page 4-39, states that "Air, vented from the vacuum pump, contains no pollutants and is vented to the atmosphere." Please provide documentation from the

Colorado Department of Public Health and Environment that an APEN permit is not required. If an APEN Permit is required, please include it in Exhibit M- Other Permits and Licenses.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

22. Pages 4-42 and 43 briefly discuss the Area 500- Cyanide Detoxification, however more detail will be required. Please provide a more in depth description of the Cyanide Detoxification process, including the concentration of Cyanide in solution coming into the system and the concentration of Cyanide leaving the system.

Response:

This question is no longer relevant given TNS Technology.

23. Pages 4-45 and 46 detail the Operations of Area 600 - Refinery. In conjunction with Item 21 of this review, please provide documentation that smelting and refining operations do not require an Air Emissions Permit from CDPHE.

Response:

Due to the change in process flowsheet resulting from the adoption of the TNS Leaching Technology alternative, we are currently working with the CDPHE AQCD to determine the nature and potential implications of requirements for individual air permits for plant components including the refining circuit and whether these elements can be included under the APEN for the operation. If separate permits are required, CJK will commit to proceeding with completion of the required documentation submittals.

24. Pg 4-46 states that flux is used to remove impurities during the refining process, please provide an updated narrative discussing the waste product from refining operations, and include a chemical characterization of said waste. If the waste product is to be considered hazardous, please provide a plan to manage and dispose of the waste.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

25. Table 4-18 on Pg 4-48 is titled the same as Table 4-14 on Pg 4-42 please provide an updated section with the correct table name.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

26. Section 4.2.5 - Reagent Management discusses the reagent delivery and receiving area, stating that there is a 5,000sq. ft. area to facilitate safe unloading of reagents however no drawings were included depicting the area. Please note that the reagent unloading area will be considered an EPF and will require an engineered design, complete with containment capabilities. Please provide a more detailed description of the area, supported by engineered drawings showing the design, including containment facilities to be installed.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

27. Additionally, the entire section dedicated to Reagent Management pgs 4-56 through 4-62 should be located and more detailed in Exhibit U - Environmental Protection Plan. Please revise Exhibit U to include the information contained in section 4.2.5. Further items regarding Designated Chemicals storage, management and use will be further addressed in the Exhibit U section of this review.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

28. Section 4.2.6 discusses the laboratory facilities and various testing that will be performed with that facility. Pgs 4-67 and 4- 68 discuss the specific tests that will be conducted, however there is no mention of sampling or testing in the Cyanide Detoxification circuit to ensure the detoxification is complete, nor is there mention of sampling the Tailings Material before it is transported to the FTD. Please note that the Division will require sampling of both streams. Please provide a revised section detailing the sampling and analysis procedure for the Cyanide Detox Circuit, including a threshold of acceptable detoxification, and the Tailings material prior to transport to the FTD with an emphasis on residual Cyanide.

Response:

This question is no longer relevant given TNS Technology.

29. Pg. 4-68, specifically the Sample Preparation & Testing Section, item 2 states that samples delivered in a 5 gallon bucket will be emptied on the floor of the Conex for composting. Please note that for mixing or handling of samples that contain Cyanide solution, residual cyanide or any other Designated Chemicals, it will need to be handled in a contained environment, and the floor of a Conex container is insufficient. Please provide a more detailed description of the sample preparation process, including the use of some form of containment structure to ensure materials containing Cyanide or other Designated Chemicals is being conducted in a contained manner.

Response:

This question is no longer relevant given TNS Technology.

30. Section 4.3.1, Pg 4-74 states that meteoric water is captured in the ECS and used as process makeup water. However, Colorado State Law requires that any impounded storm water or snowmelt be released within 72 hours unless a storage right and or substitute water supply plan has been issued. No documentation was provided in Exhibit G- Water Information or Exhibit M- Other Permits and Licenses demonstrating those permits are in process, obtained or not required. Please provide the volumetric calculations showing the volume of meteoric water that could be retained in the ECS and provide documentation that a Water Storage Right and or Substitute Water Supply Plan has been obtained. If these permits are not required, please provide documentation from the Division of Water resources, on letterhead stating such.

Response:

Maintaining a minimal amount of water (about 2 ac-ft) in the ECS was intended as ballast for the ECS liner. Any meteoric water captured would be evaporated. Additionally, CPW has requested a game fence as well as bird balls (or netting) to protect wildlife from the water. Given these conditions, it is decided that sand will be used in place of water for ballast. Meteoric water captured in the sump will be immediately evaporated. The TR will address these updated design features. CPW will also be informed of this change.

31. The Spill Containment section beginning on Pg 4-76 briefly discusses containment capacities at the various areas of the Operation. This section should be included in Exhibit U- Environmental Protection Plan, however it is not. Additionally, this section is not supported by drawings and volumetric calculations demonstrating containment capacity. Please revise this section, relocate it to the appropriate section of Exhibit U, and include the volumetric demonstrations of each containment area. Also, of the drawings contained within Exhibit D, none of the drawings depict the conveyance mentioned that would funnel a potential spill from the mill building to the leach pad, then on to the ECS. Please also include the drawings depicting the curbing and containment methods used in each area.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

32. Also, included in the Spill Containment Section, it is stated that the concrete floors in the mill building are sealed, however evidence observed during previous site inspections do not support that the concrete floors have already been sealed. If the floors have already been sealed, please provide more information on the sealant used, including product name, SDS if available, and chemical rating of that product. If the floors have not yet been sealed please provide the above requested information for the

sealant to be used. This information should also be included in Exhibit U- Environmental Protection Plan.

Response:

The floors are not sealed. Sealing will be completed during construction. Concrete work is required primarily within; the mill building, and the leach and FTD filter areas prior to sealing. CJK has obtained sealant information from vendors, but did not decide on a brand pending results from the TNS testing. CJK commits to providing this information in a Technical Revision that will include all requisite updates supporting the use of TNS leaching technology.

33. Section 4.4.2 on Page 4-81 states that testing was done using feed composites assembled from both drilling and bulk samples of the Penn Group dump material, that are located on a different permitted site, however no reference was made to the stockpiles that currently exist on the Leadville Mill site. Please clarify if the tailings and geochemical characterization results included samples from the on site stockpiles or just the material from the Penn Mine. If the currently submitted data and analysis does not include ALL on site stockpiles proposed to be processed, please provide the Division with the Acid Base Accounting and Synthetic Precipitate Leachate Procedure results for the raw material, as well as all appropriate tests conducted after that material has been run through the bench scale testing to generate tailings. Please note that at a minimum the SPLP results must include all constituents in the approved Groundwater Monitoring Plan.

Response:

CJK has recently completed a comprehensive sampling program of the subject stockpiles and SPLP testing including 41-element ICP analysis is currently underway. Once these test data are available, CJK will review the results, considering required handling and management practice. In particular, the individual chemistry will be compared with the body of characterization test data available from the Penn Group materials to determine whether they can be considered to have comparable leaching characteristics and geochemistry, or whether they could produce process residues using the TNS Leach Technology that would make them unacceptable feed materials. If this is the case, CJK may elect to carry out a simple removal action prior to the commencement of milling operations and dispose of these materials in a qualified disposal site yet to be determined.

SPLP testing on the 4 new composite samples from Penn Group Dumps using the non-cyanide TNS Leaching Technology is currently ongoing. Preliminary results for RCRA metals are provided in the table below. This table will be expanded to include results from composite CJK-3, as well as the balance of the data from the 41-element ICP analysis as requested. These data are being provided as an early indication of the very low leachability and residual metal content in the process residue from the TNS Leaching Technology, which is proving to be a very promising alternative to the use of cyanide.

Metal	Units	CKJ-1	CKJ-2	CKJ-4
Arsenic	mg/L	<0.04	<0.04	<0.04
Barium	mg/L	0.0598	0.0619	1.01
Cadmium	mg/L	<0.008	<0.008	<0.008
Chromium	mg/L	0.19	0.02	<0.02
Lead	mg/L	0.489	<0.03	0.037
Mercury	mg/L	0.00475	0.00043	0.00526
Selenium	mg/L	<0.05	<0.05	<0.05
Silver	mg/L	0.075	<0.01	<0.01

34. In addition to the SPLP and ABA of the tailings material, please provide a 40-element analysis of the tailings material for characterization.

Response:

CJK commits to this condition. 41 element ICP analysis has been included and underway in the SPLP lab testing protocols. Results are still pending.

35. The results for the Mill Tailings TCLP as well as the RCRA TCLP Metals included in Tables 4-30 and 4-31 appear to be in conflict with the laboratory data included in the appendices. Please provide an explanation for this apparent discrepancy, or update the tables to reflect the correct values.

Response:

The TCLP values provided on tables 4-30 and 4-31 were those reported from a separate independent test done by ACZ laboratories on a similar but different composite sample and generally represent more conservative results. These are mis-referenced on Table 4-30 as source data from ALS. Since the supplemental characterization test data provided on Table 4-32 was produced by ALS, particularly those data related to acid/base accounting, for consistency Tables 4-30 and 4-31 have been revised and are included below and include only the ALS TCLP data.

Table 4-30 (revised 12.12.2024): Mill Tailings TCLP Results

EPA Waste No.	Hazardous Constituent	Standard (mg/l)	ALS Test Result (mg/l)	% of Standard
D004	Arsenic	5.000	0.020	0.40%
D005	Barium	100.0	0.680	0.68%
D006	Cadmium	1.000	.020	2.00%
D007	Chromium	5.000	0.100	2.00%
D008	Lead	5.000	0.063	1.26%
D009	Mercury	0.200	0.012	6.00%
D010	Selenium	1.000	0.100	10.00%
D011	Silver	5.000	0.005	0.10%

Table 4-31 (revised 12.12.2024): RCRA TCLP Metals Results

Hazardous Constituent	Final Residue Solids (ppm)	TCLP Seepage (ppm)	Limit (ppm)	% Reporting to Final Seepage Residue
Barium	520	0.680	100.00	0.04%
Lead	1,500	0.063	5.00	0.00%
Silver	13	0.005	5.00	0.08%
Arsenic	340	0.020	5.00	0.01%
Cadmium	1.6	0.020	1.00	0.50%
Chromium	14	0.100	5.00	0.14%
Selenium	1	0.100	1.00	5.00%
Mercury	5.2	0.012	0.20	0.19%

36. Pgs 4-81 and 4-82 assert that the tails that will be produced from the proposed operation are definitively non-acid generating, based on the levels of pyritic sulfur as well as the pH of the paste tested. Based off of USGS guidance, materials that have a Net Neutralization Potential (Neutralization Potential-Acid

Potential) of less than 1 are considered acid producing. Based on the data submitted, the Net Neutralization Potential of the Tailings Material is -14. Please provide more information supporting your claim that the Tailings Material is non-Acid- Generating.

Response:

While the neutralization potential of the material is indeed very low based on the static testing results and this leads to a ratio that is generally suggestive of acid generation potential or at least potentially acid generating potential, a second tier of analysis was conducted to determine the forms of sulfur. Total sulfur was determined to be 0.64%, and pyritic sulfur reported only as .01%. In combination with a paste pH for the material that was measured at 8.8, based on guidelines provided by Price et al. (1997), the material can be considered to have no potential for ARD (paste pH >5.5 and pyritic sulfur <0.3%). Furthermore, there is no requirement for additional dynamic testing (column leaching) so long as there are no other metal leaching concerns, which has also been confirmed for this material based on the more conservative TCLP leaching results. We also expect that the character of the final process residue from the TNS process will provide improved environmental performance over the current cyanide leach and detoxification approach and yield greater confidence over the current single-sample results as multiple (4) composite samples of Penn material were employed in this testing program.

37. Section 4.4.2, Pg 4-84 discusses the chemical stabilization of metals based on the cyanide detoxification process proposed to be used at the site, however it also states further testing will be completed to fully validate these results. Please explain what further testing will be required, and how the cyanide detoxification process stabilizes these target metals.

Response:

This question is no longer relevant given TNS Technology.

38. Pg. 4-88 states that the filtrate liquidated that is separated during tailings dewatering will flow to the collection pond at the FTD and then flow via gravity to be used as process make-up water. Please note that the water return line running from the collection pond to the reclaim tanks will be considered an EPF and will require secondary containment for all reaches of the pipeline. Please provide design specifications, supported by figures and or drawings. This information will be required in Exhibit U-Environmental Protection Plan.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

39. Additionally, it is stated that the collection pond will collect snowmelt and surface runoff from the FTD, and that water will be retained and used as process water. In conjunction with Item 30 of this review, please provide a volumetric estimate of the quantity of rain and snowmelt to be collected given the footprint of the FTD as well as documentation from the DWR that a Substitute Water Supply Plan and or Storage Right has been obtained for that volume.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

40. Section 4.4.3 pgs. 88-89 briefly discusses the general concept of slope stability and states that “as validation of this condition, a series of slope stability analyses will be carried out…”. It also goes on to infer that factors of safety for similarly sized material with the same target moisture content and compaction rating have a factor of safety in excess of 2.0. This appears to be theoretical and no actual slope stability analysis has been conducted for specific materials generated during the bench scale testing. Pursuant to Rule 6.5, Please provide a Geotechnical Stability Exhibit with Factor of Safety Calculations, demonstrating the analysis performed on the actual materials to be produced and in the configuration proposed under the FTD Plans.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

41. The "Unit Operations Section" on Pg. 4-96 identifies that Tailings slurry will be pumped from the detoxification tanks at the mill via an HDPE slurry line to the FTD. However, no details on construction or secondary containment was provided. Please note that the Tailings Slurry line from the Mill to the FTD will be considered an EPF and will need to have secondary containment measures in place. Please provide additional information regarding this EPF, All applicable sections of Rules 6.4.21, 7.3 and 7.4 apply.

Response:

This item will be included in the updated Exhibit D&U that will be provided at a later date.

42. The narrative section regarding Filter Cake Seepage Collection on Pg. 4-100 states a 6-inch layer of clean aggregate will be laid directly on top of the primary geosynthetic liner, however the details contained in Figure 4-21 show a 1 foot layer. Please clarify if the drainage layer proposed is to be 6 inches or one foot, and either correct the narrative or the figure respectively.

Response:

The design detail provided on Figure 4-21 shows a geocomposite drainage layer placed directly over the 60-mil HDPE liner. This is then covered with a protective soil layer of 1-foot thickness on top of which the process residue is placed and compacted. Reference to 6 inches of clean gravel refers to the relative minimum equivalent performance of the geocomposite in terms of hydraulic carrying capacity. Any conflicting narrative statements regarding this design feature will be corrected

43. In the narrative and supporting appendices describing the design of the FTD, it is noted that the FTD does not utilize a double lined design with leak detection. Please provide more information as to why the FTD did not include these features.

Response:

The design standard that was applied to disposal of the process residue is consistent with its characterization as non-hazardous under RCRA, as evidenced by the results based on the TCLP leaching protocol. In addition, the material was assessed based on its general acceptability for off-site disposal in a municipal solid waste facility (MSW). In this case, supplemental testing indicated that the material also met current waste acceptance standards for the Lake County Landfill. The design standard that was then applied for the FTD was based on current CDPHE practice that includes a prepared subgrade followed by a geosynthetic clay liner (GCL) and then a 60-mil HDPE main liner. Above the main HDPE liner, a leachate collection layer, consisting of either 1 foot of graded and washed gravel, or a geocomposite layer of equivalent hydraulic performance. The system is completed with the placement of a 1-ft.-thick protective soil cover layer on top of which the dewatered residue is placed in controlled lifts. This is the design that was applied, which is based on material characterization and not presumptive of hazardous classification (although Bevill Exempt) as might be the general case with a typical metal mill tailings material, which would demand an additional leak detection layer installed between two layers of HDPE.

44. Section 4.4.5 FTD Geometry, Capacity & Construction Sequencing a protective soil layer is proposed to be placed on top of the geocomposite and that the demand for this material may be provided by excavated borrow or other suitable sources identified within the site or adjacent properties. Please note that any and all borrow locations within the project need to be identified and accounted for in the Mining and Reclamation Plans. Any material generated from outside of the Proposed Permit Boundary will need to come from a site Permitted by DRMS for that activity. Please identify any and all sources of soil borrow material, if generated onsite, please update Exhibits D and E accordingly, and if generated off-site, please provide the location, site name and DRMS Permit number of that facility.

Response:

All soil borrow that will be used in the operation and reclamation of the FTD will be generated within the permit boundary and no demand for offsite borrow is currently anticipated. The construction of the FTD is generally consistent with MSW landfill practice, where an excavation is created within which the initial waste is placed. The soil borrowed from this box cut is then stockpiled and used for protective soil cover over the geocomposite as well as for the final reclamation cap. In the case of the FTD, approximately 6

feet of cut is required to both create adequate airspace to meet required capacity and geometry, and to provide adequate stockpile of final cover material for the FTD and ancillary facilities reclamation at closure.

45. Section 4.4.6 discusses the salvage and segregation of topsoil and Suitable Plant Growth Material (SPGM) including stockpiling for reclamation. Stabilization efforts including ditches, soil berms or other features will be constructed to prevent erosion, however the Division highly recommends the establishment of temporary vegetative cover to accomplish the stability concerns. Please commit to seeding the topsoil and SPGM stockpiles with either the final reclamation seed mix or propose a temporary seed mix to be employed.

Response:

Operational practice and experience gained during the early operational period of the FTD will determine the need and mechanism for establishment of a temporary vegetative cover. Additional testing is being contemplated that would allow for utilization of organic admixtures (wood chips and mulch) generated during site clearing operations and to confirm the general toxicity of the placed process

Exhibit E – Reclamation Plan – 6.4.5

46. Section 5.1.2 discusses scrap from structure demolition and various equipment to be sent to various recycling facilities or 3rd party purchasers. Please note that the Division cannot account for recycling or post closure sale of equipment. This exhibit will need to be revised to account for the disposal of all materials generated from structure demolition, designate their disposal location (facility) and account for equipment disposal. Please revise this exhibit and account for the disposal of these materials and equipment. Please also update all other applicable sections of this exhibit to reflect this change.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

47. Similarly, the same section discusses the returning of unopened reagents to the manufacturer, and disposal of process water within the ECS to allow the water to evaporate, with on-site disposal of the chemical residue in the ECS. Both of these practices are not authorized by the Division. All unopened reagents must be disposed of in an appropriate hazardous materials disposal facility and any process water containing dissolved reagents must be disposed of at a hazardous waste disposal facility. Please revise the exhibit, identifying the appropriate disposal facility, and provide an estimate of the volume of materials that will be disposed of. Please also update all other applicable sections of this exhibit to reflect this change.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

48. Throughout the exhibit, there is little to no discussion regarding the decontamination of equipment, and handling of the rinsate. In the revised exhibit, please provide an in-depth explanation of the decontamination and shut down procedures required before disposal of equipment. In the revised narrative, please provide a volumetric estimate of the rinse water required, as that rinsate will be considered hazardous waste that will need to be disposed of properly.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

49. Section 5.1.3 identifies the FTD collection pond as a post reclamation feature. Please provide a more detailed rationale for the collection pond to remain, including any post closure monitoring that will be required. Also, Figure 6-2 shows the Gravity Drain to the Mill Building to remain after reclamation. If the pond is still connected to the Mill Building, please describe the use, quality, quantity and ultimate fate of water that will be collected in the pond post closure. Please note, that the Colorado Division of Water

Resources may require additional permitting for the pond. Please consult with DWR and provide documentation of their requirements.

Response:

The pond will be decommissioned and back filled with on-site borrow soils at closure, including removal of any sediment, which will be tested and disposed of either in the ECS, or off site as required. This pond will not remain in service post closure of the facility.

50. Additionally, Section 5.1.3 mentions the ECS Sump will remain in place, post closure however an ECS Sump is not mentioned in any other Exhibits and is not shown in the Reclamation Plan Map, Figure 6-1. Please clarify, what the ECS Sump is, where it is located and how it will be reclaimed.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

51. In addition to Item 46 of this review, for all of the equipment listed in Section 5.2.4, that is proposed to be placed in the ECS. Please provide a volumetric estimate of the equipment to be placed in the ECS ensuring that sufficient capacity is available. Please note that the Division requires on site disposal of material to be buried a minimum of three feet below the final reclamation grade. In the revised portion of this Exhibit please commit to placing all materials disposed in the ECS a minimum of three feet below final grade.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

52. Throughout the Exhibit, various items such as demolition, topsoil handling, placement, etc. will have volumetric numbers associated with them however no volumetrics are given. Please revise the exhibit, including volumetric estimates such as volume of topsoil or overburden to be moved and placed. This information should correlate with the values provided in Exhibit L- Reclamation Cost Estimate to ensure an accurate reclamation cost estimate can be performed by the Division.

Response:

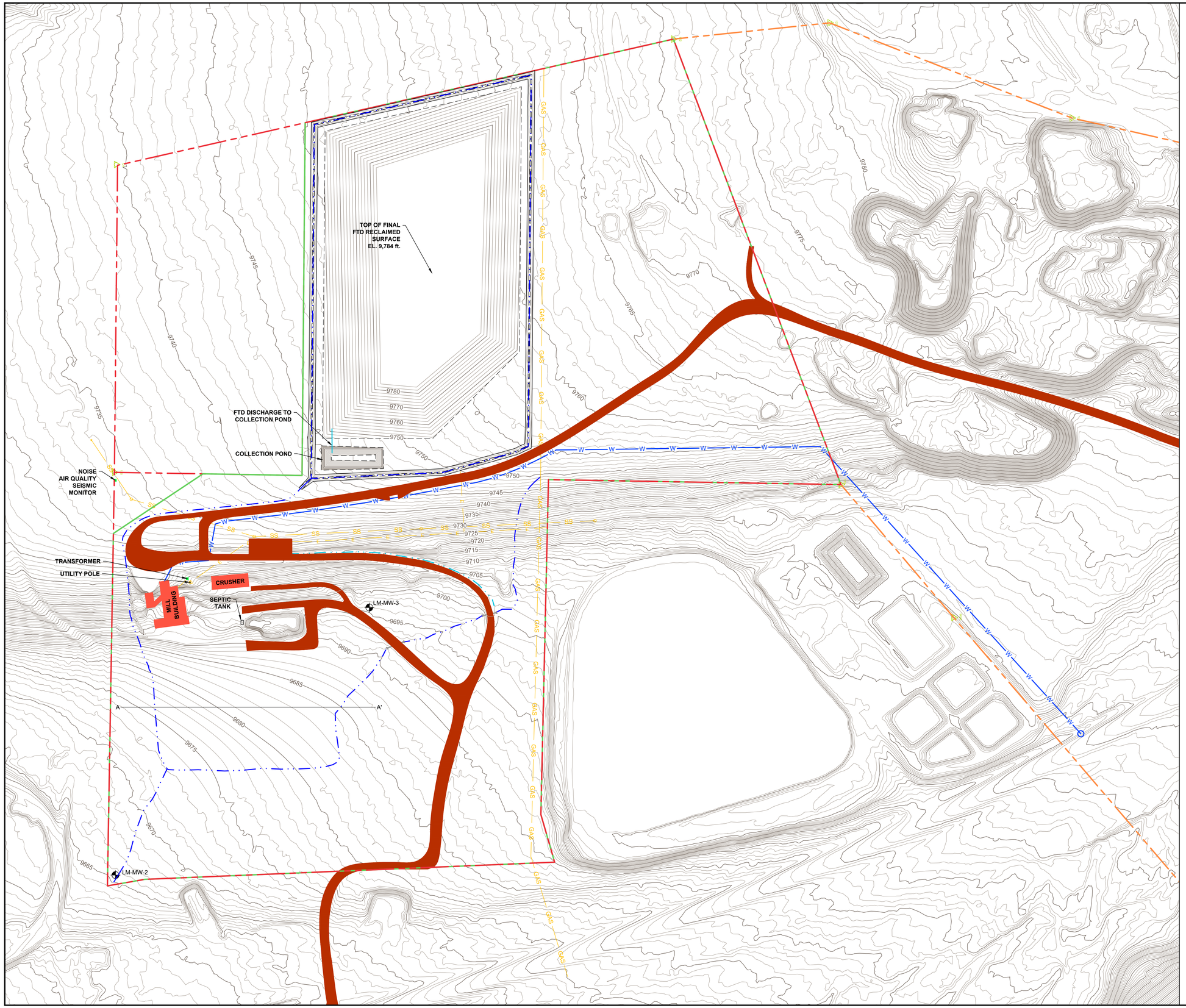
CJK will include these revisions to also reflect changes to the updated process plant design.

Exhibit F - Reclamation Plan Maps – Rule 6.4.6

53. The Reclamation Plan Map Figure 6-1 is not signed, please provide a signed version of Figure 6-1. Also, the topographic contours are not labeled. In the revised map, please ensure the contours are labeled.

Response:

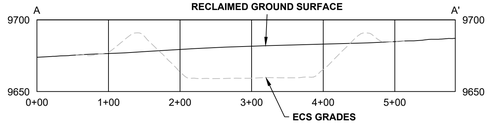
This Figure has been updated and signed as well as the inclusion of labeled topographic contours. As shown on the next page.



LEGEND

- PERMIT BOUNDARY
- AVS BOUNDARY
- AFFECTED AREA BOUNDARY
- SURFACE WATER DRAINAGE DITCH
- WATERSHED SUBCATCHMENT BOUNDARY
- RECLAIMED TOPOGRAPHIC CONTOURS (1-FT INTERVAL)
- W — WATER LINE
- E — XCEL POWER LINE
- GAS — XCEL GAS LINE
- SS — LEADVILLE SANITATION SEWER LINE

ECS RECLAMATION PROFILE



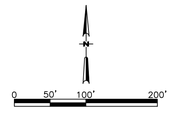


FIGURE 6-1
PROCESS FACILITY RECLAMATION PLAN AND ECS CROSS SECTION
CJK MILLING
LAKE COUNTY, COLORADO

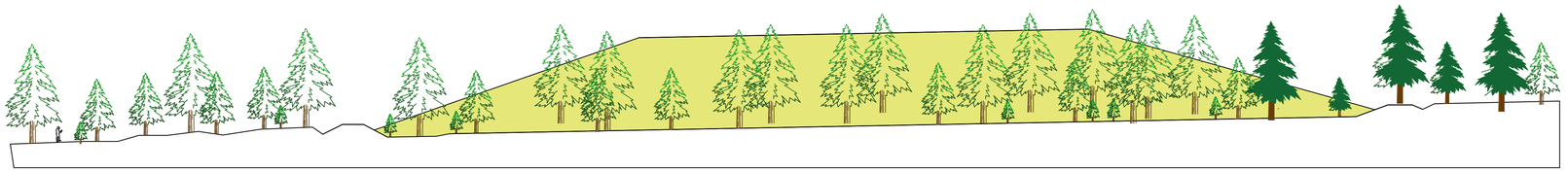
CLIENT: UNION MILLING	
PROJECT: LEADVILLE MILL FTD	
PROJECT NO:	DATE COMPLETED: 12/2023
DESIGNED BY: AEC	APPROVED BY:
DRAWN BY: WAC/MBT	DWG NAME: TD SECTIONS AND DETAILS
REVISION:	REVISED BY: DATE:
1 ISSUED FOR REVIEW	
ISSUED FOR CLIENT REVIEW	

AEC AMERICAN ENVIRONMENTAL CONSULTING, LLC.

54. Map 6-2 is also not signed, please provide a signed version of Figure 6-2.

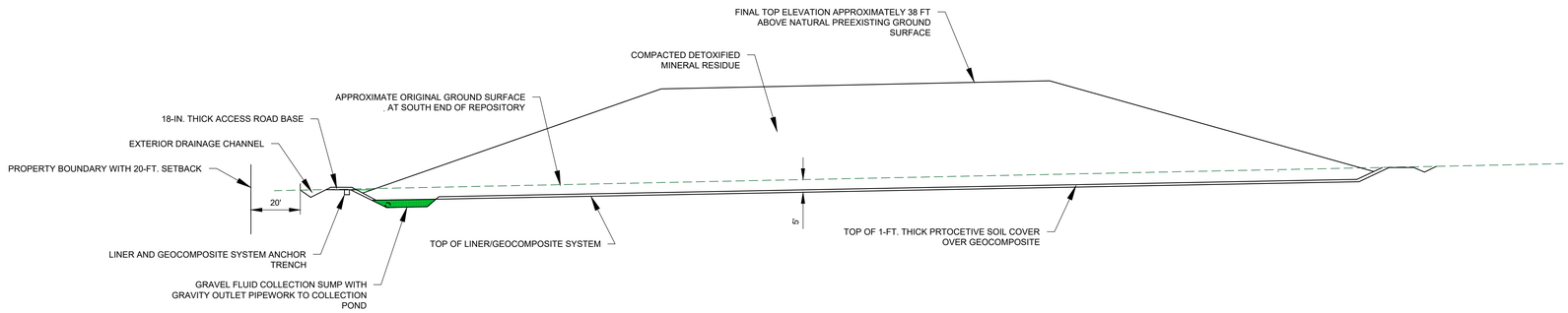
Response:

Map 6-2 has been revised appropriately as shown on the next page.



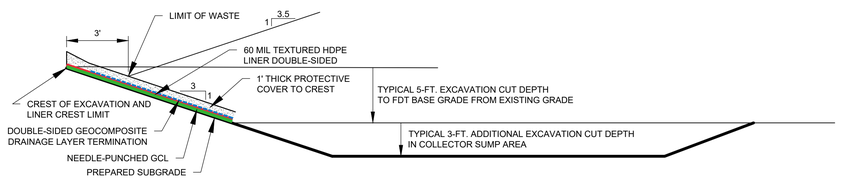
SCHEMATIC SECTION THROUGH FINAL FTD CONFIGURATION WITH TREE CANOPY TO SCALE

DETAIL 10 (3,4 | 6)
SCALE: N.T.S.



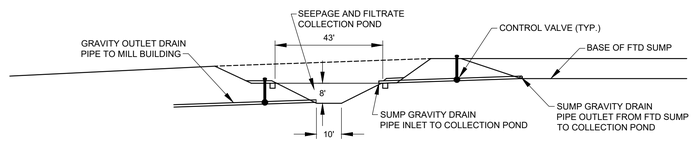
SCHEMATIC SECTION LOOKING NORTH THROUGH FTD SHOWING TYPICAL GEOMETRY AND FEATURES

DETAIL 11 (3,4 | 6)
SCALE: N.T.S.



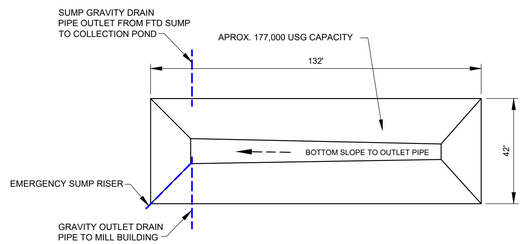
TYPICAL SECTION THROUGH COLLECTOR SUMP SHOWING EXCAVATION PROFILE OF BASE OF FTD

DETAIL 12 (3,4 | 6)
SCALE: N.T.S.



SCHEMATIC SECTION THROUGH FTD COLLECTOR SUMP AND SEEPAGE AND FILTRATE COLLCTOR POND

DETAIL 13 (3,4 | 6)
SCALE: N.T.S.



SCHEMATIC PLAN VIEW OF DOUBLE-LINED SEEPAGE AND FILTRATE COLLECTION POND

DETAIL 14 (3,4 | 6)
SCALE: N.T.S.

FIGURE 6-2
FTD AND SEEPAGE COLLECTION POND SECTIONS AND DETAILS
CJK MILLING
LAKE COUNTY, COLORADO

CLIENT: UNION MILLING	
PROJECT: LEADVILLE MILL FTD	
PROJECT NO:	DATE COMPLETED: 12/2023
DESIGNED BY: AEC	APPROVED BY:
DRAWN BY: WAC/MBT	DWG NAME:TO SECTIONS AND DETAILS
REVISION:	REVISED BY: DATE:
1 ISSUED FOR REVIEW	
ISSUED FOR CLIENT REVIEW	

AEC AMERICAN ENVIRONMENTAL CONSULTING, LLC.

55. Pursuant to Rule 6.4.6(b) on both of the revised maps, please portray the proposed final land use for each portion of the affected lands.

Response:

The adoption of the TNS Leaching Technology will likely have significant impacts on the manner in which the site is decommissioned and the resulting appropriate post-closure land use alternatives available.

Exhibit H – Wildlife Information – Rule 6.4.8

56. Section 8.1 lists the proposed Permit Boundary at 42.93 Acres. In conjunction with the other items in this review related to incorrect acreages please update this section with the correct acreage.

Response:

This has been corrected. The corrected sheet is shown below

8.0 RULE 6.4.8: EXHIBIT H–WILDLIFE INFORMATION

8.1 NARRATIVE

The Permit Boundary is **42.8** acres and the Affected area occupies **42.5** acres, or 99% of the Permit Boundary. See **Figure 3-4**. The property surrounded by the Leadville Sanitation polishing pond on the East, which is fenced, residential houses (on land zoned as Forestry Agriculture) to the West, and US Highway 24 to the South. As a result:

- There is no significant wildlife on the property,
- Limited deer and occasional elk migration, and
- De minimis effect on habitat and food supply.

The Mill and surrounding properties are all privately or municipally-owned. There is no specific seasonal use in the area.

No endangered species have been observed on the site. This has been confirmed by **Colorado Parks and Wildlife (CPW)**.

Due to the Mill's surrounding neighbors and lack of vegetation, wildlife habitat and food supply is minimal and will not be disturbed during and after the proposed operation.

8.2 CPW RECOMMENDATIONS

CPW was contacted to determine effective mitigations for wildlife protection. CPW recommendations and the action plan to address the recommendations are as follows. Correspondence is provided in **Appendix 8-1**.

8.2.1 PIT FENCING-BIG GAME EXCLUSIONARY FENCE

CJK has identified and proposes to install a game fence around the ECS and FTD collection Pond with the following specifications.

- An 8-ft high fence will be installed around the Emergency Containment Sump (ECS). The fence will be installed approximately 2-3-ft downslope from the top or the embankment. The embankment has a 2.5H:1L slope. Placing the

57. Section 8.2.1 discusses the exclusionary fencing to be installed at the recommendation of Colorado Parks and Wildlife including the ECS and FTD Collection pond. However, after reviewing the construction information of the liner in the FTD, the Division recommends that the wildlife exclusion fencing encompass the entire FTD to prevent terrestrial wildlife from crossing exposed sections of the liner, which could result in punctures to the 60 Mil HDPE liner. Please commit to installing the recommended exclusionary fencing around the entire perimeter of the FTD.

Response:

CJK agreed with the need to include an exclusionary fence around the FTD pond during its site visit on 13 October 2023. However, this was not clearly stated in their letter. As discussed in response 30, water will no longer be stored in the ECS.

CJK commits to include this fence around the FTD pond upon construction completion and pond design sign-off by the engineer of record for the FTD facility. CJK appreciates the Division's concern to protect the FTD liner from puncture by terrestrial wildlife. However, the FTD design calls for the liner to be fully covered with a protective soil cover over the entire FTD to protect both the synthetic liner and the geo-composite leachate collection layer as well as to allow access for equipment to place, grade, and compact the filtered tailings material. We therefore believe that fencing around the FTD (excluding the collection pond) is not required.

Exhibit I – Soils Information – Rule 6.4.9

58. The Leadville Sandy Loam is described in section 9.2.3 as being severely limited for use with septic tank absorption fields due to moderately slow permeability. Figures in Exhibit C depict a septic tank in the Leadville Sandy Loam. Please justify locating the septic tank in this soil series.

Response:

Currently there is no septic system on the property.

Lake County required that the Leadville Mill connect to the Leadville Sanitation sewer system as a condition of obtaining its Conditional Use Permit (CUP 11-07) application in 2011. Union Milling Company (UMC) completed this work circa 2012.

The Exhibit C figures correctly show the historic septic tank that was in use prior to 2012. Note on the Exhibit C figures that the sewer line is North of the Mill building and is approximately 30-ft higher in elevation. The septic tank remains in place and is used as a sump from where a lift pump is used to pump sewer waist into the sewer system. This system was approved by the Lake County building engineer in 2012.

Exhibit M- Other Permits and Licenses – Rule 6.4.13

59. As listed previously in this review, additional permitting may be required from the Colorado Division of Water Resources for the retention of waters in the ECS and FTD collection pond as well as for the FTD collection pond post closure. If they are required, please provide documentation of application for those permits, if they are not required, please provide documentation from DWR stating such.

Response:

As described in response 30, water will no longer be stored in the ECS. FTD collection pond water will originate from process water purchased from Parkville Water District and meteoric water which comes in contact with material in the FTD. Neither of these require permits from DWR. The FTD pond will be reclaimed post operations.

60. Exhibit D discusses the use of a nuclear density gauge for field density tests on the FTD. Are licenses required for radioactive materials onsite. If they are required, please provide documentation of application for those permits, if they are not required, please provide documentation from CDPHE stating such.

Response:

CJK will engage a third-party engineering firm to manage the collection of field soil density measurements using a nuclear gage that will be independently licensed.

Exhibit R – Proof of Filing with County Clerk and Recorder – Rule 6.4.18

61. Please note that all submitted documentation requested in this review or provided as responses to any other reviews must be placed for public review with the County Clerk and Recorder in addition to the original application pursuant to Rule 6.4.18. When submitting responses please ensure to include a receipt from the Clerk and Recorder's Office.

Response:

CJK commits to this requirement.

Exhibit S- Permanent Man-made Structures- Rule 6.4.19

62. None of the Structure Agreements provided in the Appendices to Exhibit S are executed by the Structure Owners. Please provide the fully Executed Structure Agreements, Pursuant to Rule 6.4.19. Where an agreement cannot be obtained please provide an engineering evaluation as prescribed in Rule 6.4.19(b).

Response:

No signed Structure Agreements were executed by the Structure Owners. Further, while preparing a response to this AR, it was discovered that Justin and Anne Marie Fowler – represented by Burns, Figa, and Will – apparently sold their property to JoAnna Dara and Todd Fullone of Loxahatchee, Florida. A Structure Agreement (to be added as Appendix 19-7 in the Permit Amendment Document) was mailed to Ms. Dara and Mr. Fullone on October 3, 2024. As of the date of this response letter to the Division, CJK has not received a response. This letter is also included below.

American Engineering Consultants (AEC) prepared an engineering evaluation addressing potential impacts to all Structure Owners. This document is dated March 8, 2024 and is included in the Permit Amendment document as Appendix 19-6.

AEC *AMERICAN ENVIRONMENTAL CONSULTING, LLC*

March 8, 2024

Nick Michael
CJK Milling Company, LLC
P.O. Box 620490
Littleton, CO 80162-0490

Re: Technical Evaluation of Potential Impacts to Adjacent Property Owners and Structures- Leadville Mill – Lake County, Colorado

ELECTRONIC COPY VIA EMAIL: nmichael@unionmilling.com

Dear Nick:

Per your instructions, American Environmental Consulting, LLC (AEC) recently completed an independent site reconnaissance and technical assessment of the potential impacts to structures of landowners adjacent to the Leadville Mill. The attached report provides a summary of the findings of a site assessment, research, and appropriate engineering evaluations supporting your alternative assessment as permitted by the DRMS application process.

Please do not hesitate to contact me if you have any questions.

Respectfully,

American Environmental Consulting, LLC

William A. (Bill) Cincilla, PE
Senior Engineer

ALTERNATIVE STRUCTURES EVALUATION – LEADVILLE MILL

Subject: Stability Evaluation - Permanent Man-Made Structures within 200ft of Leadville Mill Permit Boundary

Location: Leadville Mill
13815 US Highway 24
Leadville, CO 80461

Permit: M1990-057
Union Milling Company, LLC
P.O. Box 620490
Littleton, CO 80126-0490
303-947-3499
nmichael@unionmilling.com

Mill Owner: CJK Milling Company
33084 Bergen Mountain Road
Evergreen, CO 80439
720-412-8838
gknippa@msn.com

Scope:
The Leadville Mill is located about 2.8 miles West of the town of Leadville on US Highway 24.

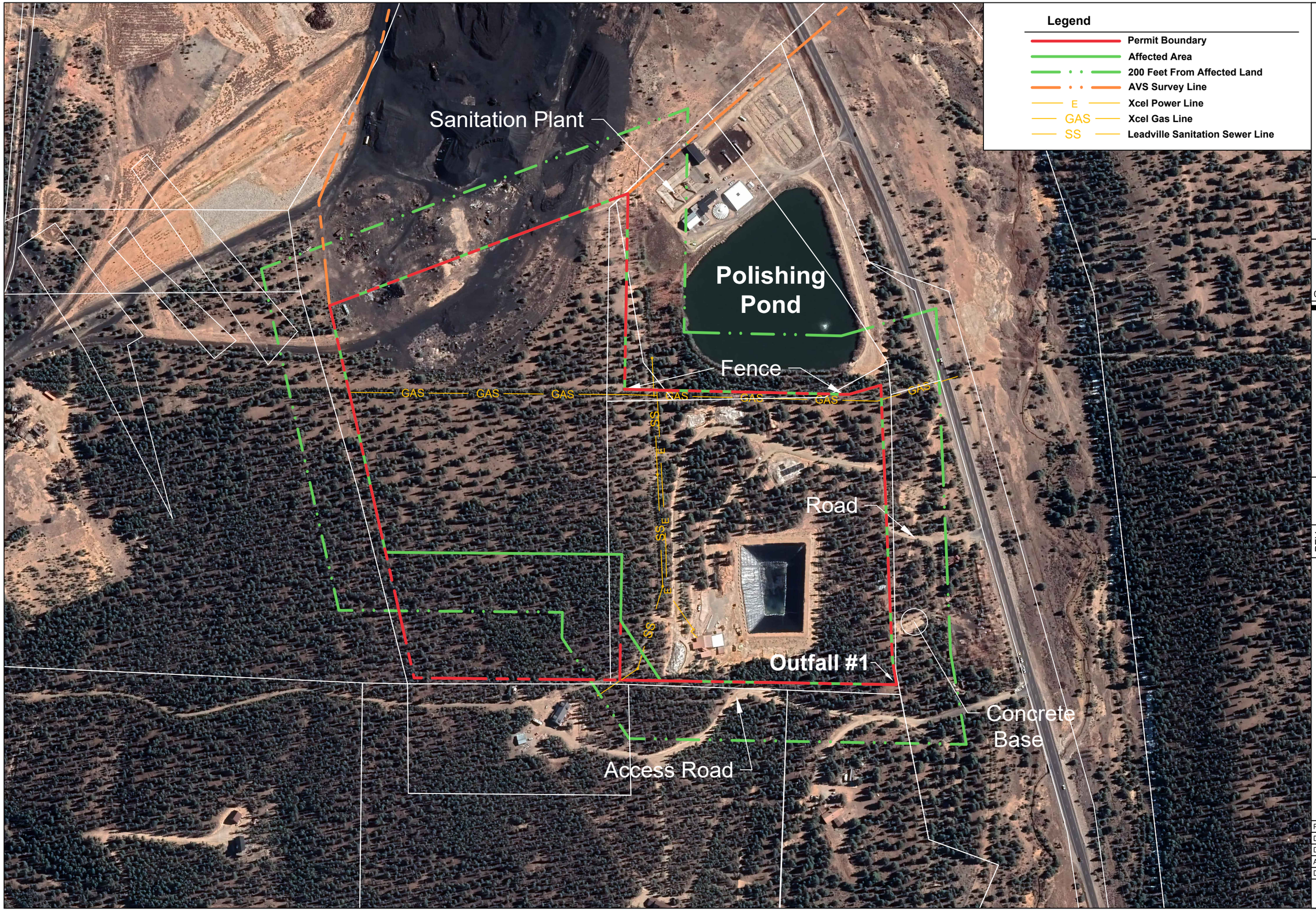
American Environmental Consulting, LLC (AEC) were retained to prepare a report detailing its assessment of permanent man-made structural features associated with the proposed milling operation and the Leadville Mill as required by *Rule 6.4.19* of *Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations, July 2022*.

Structures:
Adjacent property owners within 200 feet of the mill's permit boundary are shown on the attached **Figure 1** (**Figure 3-1** from the DRMS Permit Application) and include the following:

The description outlined below is based on property boundaries as reported on the Lake County Assessor's website. It is known by Lake County that these property boundaries contain known errors and are therefore inaccurately depicted on the official Lake County records and maps, specifically those that define structures within the Benson Fowler, Wood, and Philips properties. Furthermore, the driveway access is located on private property and AEC did not have permission to access those areas during its completion of a site survey. The overall Driveway length is therefore determined using Google Earth, which is considered an adequate source for purposes of the analysis presented.

Benson

- *Residence*. 13769 Highway 24, Leadville. Constructed in 2016. 180-ft from Permit Boundary and 250-ft from Affected Land.
- *Access Driveway (Drive)*. Easement recorded in 2008. The Drive goes through the Philips property and serves as shared access for the Wood, Fowler, and Benson residences from US Highway 24. The Benson Property is at the end of the Drive at a total length of approximately 1,650-ft. There is also a 350-ft secondary access to the Fowler residence. **1,215-ft of Drive are within 200-ft of the Leadville Mill Permit/Affected Area**.



AEC AMERICAN ENVIRONMENTAL CONSULTING, LLC.
8191 Southpark Lane, Suite 107, Littleton, CO 80120
phone 303-948-7733 fax 303-948-7739

0 300'

REVISIONS

REV. NO.	DATE	REVISION DESCRIPTION
0	12/6/2023	ISSUED FOR CLIENT REVIEW

FEATURES AND STRUCTURES WITHIN 200 FEET

LEADVILL MILL PERMIT APPLICATION

LEADVILLE, COLORADO

FIGURES BASE.dwg

PROJECT NO:	--
DESIGNED BY:	MBT
DRAWN BY:	MBT
APPROVED BY:	WC
DATE:	12/6/2023

FIGURE
3-2 OF 5

As described below, 1,215-ft of Drive is within 200-ft of the Leadville Mill Permit Boundary. Starting at US Highway 24 at point 0-ft:

- The Drive goes through the Philips property from 0-435-ft. **235-ft (from 200-435-ft) are within 200-ft of the Leadville Mill Permit/Affected Area**.
- The Drive goes through the Wood Property from 435-705-ft to the Fowler property. **270-ft (from 435-705-ft) are within 200-ft of the Leadville Mill Permit/Affected Area**. Also, within the Wood property at 560-ft there is an approximate 350-ft secondary access to the Fowler residence. **205-ft of this secondary drive are within 200-ft of the Leadville Mill Permit/Affected Area**.
- The Drive goes through the Fowler from 705-1,475-ft to the Benson Property. However, the Drive exceeds 200-ft from the Leadville Mill Permit Boundary for last 265-ft (from 1,210-1475-ft). **505-ft of this secondary drive are within 200-ft of the Leadville Mill Permit/Affected Area**.
- The Drive goes through the Benson property from 1.475-1,650-ft to the Benson residence. **There is no Drive on the Benson property that is within 200-ft of the Leadville Mill Permit/Affected Area.**

Fowler

- *Drive*. See discussion in Benson section. **505-ft of Drive on Fowler property are within 200-ft of the Leadville Permit/Affected Area**.

Wood

- *Drive*. See discussion in Benson section. **475-ft of Drive on Fowler property are within 200-ft of the Leadville Mill Permit/Affected Area**.

Philips

- *Drive*. See discussion in Benson section. **235-ft of Drive on Fowler property are within 200-ft of the Leadville Mill Permit/Affected Area**.
- *Concrete Slab*. Construction date unknown. 20-ft from Permit/Affected Land boundary. This is an approximate 30-ft x 75-ft (2,250ft^2) concrete foundation and slab. CJK have informed AEC that it was constructed in the early-1990's for a future concrete batch plant.
- *Philips Property Driveway*. Construction date unknown. This driveway serves as access from US Highway 24 for the Philips property and as access to the Leadville Mill. CJK Milling Company holds an access agreement with Philips. The driveway is 585-ft in length, of which the first 315-ft are on Philips property. The remaining 270-ft (315-585-ft) are on CJK Milling Company property. **185-ft (from 130-515-ft) are within 200-ft of the Leadville Mill Permit/Affected Area**.

XCEL Energy

- *Gas Pipeline*. Construction date unknown. **The line runs within the entire North-South length of the Permit/Affected Land for 1,770-ft and** parallels the East-Boundary of the Leadville Mill and Leadville Sanitation Facility property.
- *Powerline & Poles*. Construction date unknown. **The power line starts at the northeast corner of the Leadville Mill Building and runs East-West 850-ft to the Leadville Sanitation Facility property line.** The powerline and poles are within the Affected Area. Note that the transformer and switchgear at the Mill Building are CJK Milling Company assets. This line provides power exclusively to the Leadville Mill only.

Leadville Sanitation

- *Sewer Line*. Construction date circa 1970. **The sewer line runs East-West about 150-ft North of the Mill Building and proximate to the XCEL powerline for 990-ft and is entirely within the Affected Area**. Since there was no survey or recorded easement on the sewer line, it was located and surveyed by CJK Milling Company for the benefit of Leadville Sanitation. An easement was generated and recorded by Leadville Sanitation in 2023 using this information.
- *Polishing pond*. **The western 200-ft of the polishing pond and embankment are within 200-ft of the Leadville Mill Permit/Affected Area**.
- *Process Facility Structures*. **The northern-most, building and sewage treatment facility, as well as the eastern-most building within the process facility are within 200-ft of the Leadville Mill Permit/Affected Area**.
- *Fence*. **The Sanitation Facility's West boundary fence with the Leadville Mill runs North-South for 850-ft and is within the process facility are within 200-ft of the Leadville Mill Permit/Affected Area**.

Colorado Department of Transportation (CDOT).

- *US Highway 24*. 280-ft of US Highway 24, and its easement are within 200-ft of the extreme southeast corner of the **Leadville Mill Permit/Affected Area.**

Engineering Evaluation:

Planned operations include receiving and processing historic waste material and on-site road use by tandem truck. Operations are scheduled to commence as early as September 2024. After material is delivered in an open material bunker, all process operations will be conducted in properly engineered and structurally sound buildings and tanks. There is no blasting. No other site activities will be conducted that are not approved by the Colorado Division of Reclamation, Mining and Safety.

Potential Risks

- *Stormwater/Flooding*. All contact water (i.e., waters that have direct contact or potential contact with process residue (tailings) or other process liquids or solids) are managed through engineered control features and in the event of failure of these features and/or simultaneous excessive precipitation events will report to the ECS with no risk of damaging structures. However, non-contact surface water (i.e., surface runoff from rain or snowmelt) could breach surface water control features as these are designed to accommodate 100-yr./24-hr. storm events or lower.
    - **Access Driveways** consist of unpaved dirt roads approximately 20-ft. The roads are privately-owned (and maintained) and appear to have adequate drainage. No culverts or other structures are within the zone of interest. During an extraordinary surface water run-off breaching the site's designed and installed stormwater mitigations, water would exit the property around the "Outfall No. 1" vicinity and could damage the southern portion of the Access Drive on the Philips property. Given the favorable site topography and the robust stormwater design, this is considered a negligible risk.
    - **Leadville Sanitation Facilities** may be affected by an extraordinary storm event. This risk existed historically, currently exists, and will exist in the future regardless of any operation at the Leadville Mill. The Stormwater Management Plan (SWMP) incorporates diversion berms immediately to the North of the Sanitation Facility that will serve to divert flows to "Outfall No.2" and therefore eliminate or reduce the risk of storm water damage to any sanitation facilities.
    - **Benson, Fowler & Wood residences** are up- and/or cross-gradient and will not be impacted by stormwater runoff emanating from the Leadville Mill and surrounds.
    - **Concrete Slab.** The concrete slab will not be affected by stormwater runoff.

- *Seismic Activity.* **Localized seismic activity (i.e., "vibration") from the proposed Mill operations could have detrimental effects to the existing residences, the sewer line, powerline, sanitation facilities and the concrete slab**.

The following is excerpted from the September 9, 2012, New Hampshire Department of Transportation Research Record titled, "*Ground Vibrations for Construction Equipment*".

> *"The 2006 Federal Transit Administration (FTA) manual, "Transit Noise and Vibration Impact Assessment", recommends a procedure for estimating vibration impact from construction activities. The procedure utilizes a reference distance of 25 feet (distance from the source of vibration that the original data was collected) and involves the following three steps:*
>
> *1. Select the type of construction equipment and associated vibration source levels from a table in the FTA manual (reproduced as Table 1 in Appendix D).*
>
> *2. Use the following formula to make the propagation adjustment (based on point sources with normal propagation):*
>
> $$PPV_{equip} = PPV_{ref} (25/D)^{1.5}$$
>
> *Where:*
>
> - PPV_{equip} *is the peak particle velocity (in/sec) of the equipment adjusted for distance.*
> - PPV_{ref} *is the reference peak particle velocity (in/sec) at 25 feet from the FTA table (refer to Appendix D, Table 1)*
> - *D is the distance from the equipment to the receiver*

From *Appendix D, Table 1 referenced above* (and shown in Table 1), A vibratory roller with a PPV of 0.210 in/sec was selected to approximate the crusher. This is considered conservative as compared to a vibratory roller since, (1) the crusher is lower energy – 22Hp vs over 120Hp for a vibratory roller and (2) that the roller runs on the ground and is designed to vibrate the ground vs. the crusher which will be mounted in a fixed location.

Table 1

Vibration Source Levels for Construction Equipment from the FTA, 2006 Manual on Transit Noise and Vibration Assessment

Equipment		PPV (in/sec.) at 25 feet
Pile driver (impact)	upper range	1.518
	typical	0.644
Pile Driver (sonic)	upper range	0.734
	typical	0.170
Clam shovel drop (slurry wall)		0.202
Hydromill (slurry wall)	in soil	0.008
	in rock	0.017
Vibratory Roller		0.210
Hoe Ram		0.089
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003

Source: Information from Vibration Source Levels for Construction Equipment, Federal Transit Administration. 2006, *Transit noise and vibration impact assessment*. FTA-VA-90-1003-06. Office of Planning and Environment, Washington, D.C., Prepared by Harris Miller & Hanson, Inc., Burlington, MA. Vibrations are measured data from the following sources:

PPVs are calculated for the sewer, which at about 125ft from the crusher is the closest structure to the crusher and the sanitation building, which is the furthest from the crusher. The residences would be in between these. See attached **Figure 2** (**Figure 3-2** from the DRMS Permit Application).

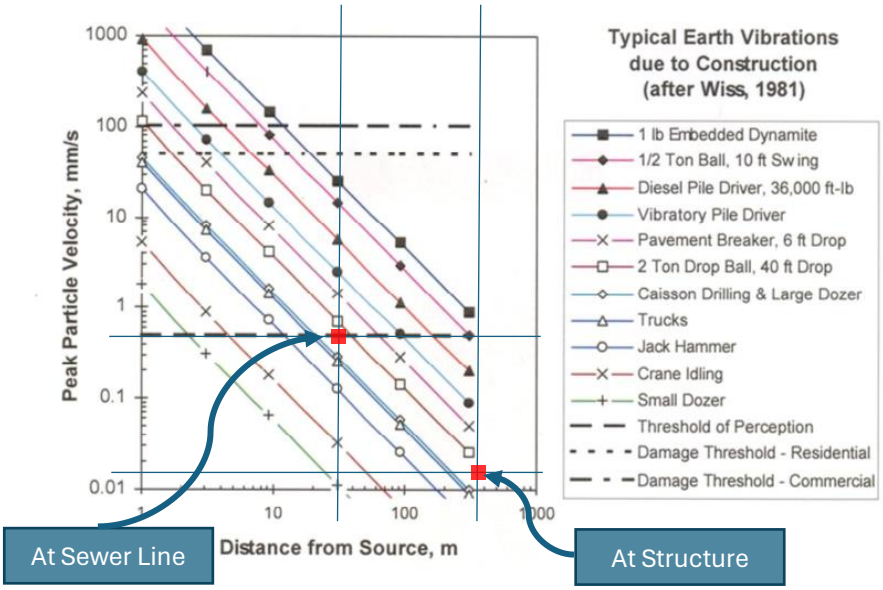
Calculated PPVs are shown in **Table 2**. Values are converted to meters so they can be displayed on **Figure 1**:

Table 2: Vibration Amplitude Estimates

Asset	Distance (ft)	Distance (m)	PPV (inches/sec)	PPV (mm/sec)
Sewer	125	37	0.020	0.507
Building	1,265	386	0.001	0.025

A series of curves for typical earth vibrations, showing peak particle velocity in mm/sec versus distance from source in meters, was developed by Wiss as a comparison of different vibration producing construction activities (Wiss, 1981). See graph below. This illustrates estimated vibrations from multiple machines and provides context to the estimated expected vibrations at the sewer and structure.

Figure 2: Estimated PPV at Sewer Line & WWTF Structure



The NHDOT report also states (with emphasis added):

> *"**Distance from Vibration Source** - Distance from the source of energy is a crucial factor in the intensity of vibrations. Vibrations would theoretically be the same intensity at a given distance in all directions from the energy source if the transmission medium is uniform and homogenous throughout. The conditions at a site are variable both laterally and vertically, encountering materials of different composition, density, water content, layering, etc. A general rule is that if the distance is reduced by half, the intensity of vibration should increase by three times (Oriard, 2002). This relationship is very dependent on the conditions at the site.* ***Vibration intensities at the ground surface are higher than those below ground. In general, the vibration intensity would decrease to approximately 50% of the surface value within 10 to 20 feet below the ground (Oriard, 2002). This is important when assessing the potential impact of vibrations on buried utilities. Buried utilities in good condition and properly installed are not only more confined and more resistant to vibration damage but will experience less vibration intensity than that measured at the surface****."*

This work concludes that:

- Vibration intensity at either the sewer line or anywhere at any structure proximate to the Leadville Mill Permit/Affected Area will be imperceptible;
- Values are well below residential or commercial damage thresholds; and
- Vibrations experienced at the sewer will experience lower vibration intensity than estimated.

- *Filtered Tailings Deposit (FTD)Failure*. **The upgradient location and proximity of the FTD could impact the Sanitation polishing pond. There is no risk of FTD failure affecting any other structure proximate to the Leadville Mill Permit/Affected Area.**

  The FTD design considers: CUP offset requirements, Leadville Sanitation concerns with respect to proximity to WWTF areas (as well as proximity concerns by other neighbors). See **Figure 3** below. The FTD design includes:

  - A 250-ft. offset from the corner of the Leadville Sanitation property corner. See **Figure 4**. This is shown by the yellow circle. This establishes the nearest corner of the FTD about 470ft from the nearest portion of the polishing pond. (The south centerline of the FTD is about 560ft from the nearest point on the polishing pond, which is slightly less than the original TSF- now the ECS).

    The material will be placed on the FTD on a 3.5:1 slope to a maximum height of about 45ft-about the height of the existing trees. This means that the surface elevation of the tailings on the edge of the FTD will be 0 ft and will reach 45 vertical feet over a horizontal distance of 180ft at the highest point. From the 470-ft distance shown on Figure 3, the FTD will reach a maximum height of about 30ft over 120ft.

Figure 3: FTD Location (Typical)

To address the possible degradation of the dewatered tailings solids under vibratory loading or handling at conveyor transfer points, etc., a series of standard tests were conducted by

Patterson & Cooke of Golden, Colorado. The Transportable Moisture Limit (TML) test was applied to reflect the specific water content at which the material would liquefy when subject to vibrational forces and was developed specifically for granular materials being transported via ocean-going vessels or trucks. This is therefore a conservative test as the material is placed, not transported and therefore not subject to the intense vibrations experienced during transport. Furthermore, the operational placement strategy for the dewatered tailings solids includes spreading using low-ground-pressure dozers followed by compaction to yield a stable final engineered fill.

The filtered tailings will have a moisture content of 23-25%. The photos in **Figure 4** show the results of the TML test for a moisture content of 23.9% (which reflects the anticipated average moisture content of the final filtered tailings prior to mechanical placement in the FTD). The photo on the left illustrates the physical condition of the filtered tailings after vibratory loading at the target placement moisture content. The photo on the right shows the physical condition after vibratory loading at its flow moisture point.

Figure 4: TML Test Results (Patterson & Cook)

The test concludes that even after being exposed to extreme vibration, only minor deformation would be observed, a condition analogous to a shallow surface failure of an external slope. Unlike the case of more conventional wet (i.e., slurry) impoundment, creation of a filtered tailings "landfill" eliminates the risk of any releases of liquid off site and is one of the major factors leading to its increased application as standard operating practice in the mining industry.

Also, the gentle (less than 2 percent) northeast to southwest slope of the native ground surface in the footprint of the FTD is away from the Sanitation Facility property area.

This body of evidence, test work, FTD design, size (500,000-ton max storage capacity) , geometry and operational features, and favorable topography strongly support the general conclusion of zero risk of direct impact to any Sanitation facility structures that are proximate to the Leadville Mill Permit/Affected Area.

- *US Highway 24*. US Highway 24 is 600-ft up-gradient of the ECS, which is the nearest feature of the process facility. **There is no foreseeable risk that could affect US Highway 24.**

Conclusion:

Based on the nature of the planned milling activities and our observations and evaluations we conclude that the stability of any structures located within two hundred (200) feet of the operation of affected land will not be damaged or adversely affected by any anticipated activities occurring at the mill or within the Leadville Mill Permit/Affected Area.

Exhibit U – Environmental Protection Plan- Rule 6.4.21

In General, this Exhibit fails to meet the requirements of Rule 6.4.21. Specific items are addressed below, however a majority of the applicable information is presented in Exhibit D, Mining Plan. This information should either be duplicated or relocated to Exhibit U, as the information and drawings apply to the Environmental Protection Plan, and specific information regarding the Environmental Protection Facilities. Please revise the narrative, and supply any supporting maps or drawings as applicable to this Exhibit. Items needing revision include the items listed below, however are not strictly limited to these items.

63. Section 21.2 calls out maps presented in other Exhibits. While this is helpful, the maps do not specifically identify all Environmental Protection Facilities or identify the locations where designated chemicals, toxic or acid-forming materials, which will be used, stored, handled, exposed, disturbed or disposed of within the permit area, and existing or potential sources of acid mine drainage. Please provide additional maps, sketches, plans or other equivalent representations as required by Rule 6.4.21(2) and as necessary to support the revised narrative requested by this review.

Response:

CJK Commits to include this information in Exhibit U. CJK will include these revisions to also reflect changes to the updated process plant design.

64. Per Rule 6.4.21(4)(c) please commit to providing the Office with any additional permit that may be required within 30 days of receipt.

Response:

CJK commits to this requirement.

65. Per Rule 6.4.21(5) please fill out the “use” field in Table 21-3 for all designated chemicals.

Response:

CJK will complete this in the updated Table 21-3.

66. Section 21.6 contains many references to various portions of Section 4 for the required information. This information, though contained in Section 4 should either be moved to, or duplicated in this section. Please revise section 21.6 to address all requirements or Rule 6.4.21(6). Additionally, Rule 6.4.21(6)(a) is not addressed at all in either section. Please fully describe the procedures for the disposal, decommissioning, detoxification or stabilization for all designated chemicals and toxic or acid-forming materials. Please also ensure the revised narrative meets the requirements of each of the other subsections of Rule 6.4.21(6).

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

67. The Facilities Evaluation of Section 21.7 is presented in generalities rather than specifics of each Environmental Protection Facility as required by Rule 6.4.21(7). Several items within this review identify specific additional Environmental Protection Facilities, however that is not intended to construe that these are the only ones. An Environmental Protection Facility means a structure which is identified in the “Environmental Protection Plan” as designed, constructed and operated for control or containment of designated chemicals, uranium, uranium by- products or other radionuclides, acid mine drainage, or toxic or acid forming materials that will be exposed or disturbed as a result of mining or reclamation. This section must also include drawings demonstrating all conveyances and containment structures supported by volumetric demonstrations of their containment capacities. Please revise this section, including all other applicable information required by this review, providing a narrative evaluation of EACH Environmental Protection Facility, supported by drawings and figures.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

68. Please revise 21.8 through 21. 11 to include updated groundwater and surface water information that was submitted during the Division's Preliminary Adequacy Review.

Response:

This information will be provided after CJK has completed it's 5th Quarter sampling in Q2-2025. Quarterly test results are being provided to the Division as they are received from the independent water testing laboratory.

69. In addition to referencing Exhibit K, please discuss climate characteristics in section 21.12 per Rule 6.4.21(13). Specifically, please provide a water balance for contaminants systems open to the environment.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

70. As previously called out in this review, the Geochemical Data Section of Exhibit U, presents the data acceptance criteria based on RCRA Metals, Mercury Analysis and TCLP tests. While this is helpful, the Division requires a 40 Element Analysis, Synthetic Precipitation Leachate Procedure Tests and Acid Base Accounting. Please provide the 40 Element Analysis, SPLP and ABA data for all applicable materials including the stockpiles currently located on site. Please also ensure that the lab reports for ABA are reported in Net Acid Forming Potential v Net Neutralization Potential.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

71. Within Section 21.14 it is stated that "CJK will provide CDRMS with a detailed construction schedule when the conclusion of the permitting process is better understood." This is an acceptable practice, however for Each EPF or group of similar EPF's, a separate Technical Revision will be required that finalizes the design, supported by Issued for Construction Drawings, establishes a Quality Assurance and Quality Control program for construction, sets a specific Construction Schedule with Incremental Inspections and defines acceptance criteria for the certified As-Built Package that will be required. Please commit to submitting a Technical Revision for Each EPF, when appropriate, that will include the items listed above and any other information as deemed necessary by the Division.

Response:

CJK will include these revisions to also reflect changes to the updated process plant design.

72. Sections 21.16- 21.18 all reference information contained in other Exhibits. Please also include the required information in these sections of Exhibit U regardless if they are presented in other Exhibits.

Response:

CJK will complete this in the updated Exhibit U.

73. During the review period of this application, several addendum appendices have been provided such as the updated Stormwater Management Plan and Permit, and documentation from the US Army Corps of Engineers. Due to these additions not being officially submitted they are currently not part of the formal record. Please provide those appendices with your responses to this review and update any and all applicable Exhibits with the updated information.

Response:

CJK will provide these documents in the Updated Exhibit U.

74. Appendix 21-2 provides the applicable Safety Data Sheets for Designated Chemicals however the SDS sheets for Lime and Soda Ash were not provided. Please provide the SDS sheets for Lime and Soda Ash.

Response:

CJK will provide a complete set of SDSs applicable to the updated flowsheet.

Rule 6.5 - Geotechnical Stability Exhibit

75. Please provide the Geotechnical Review of the FTD. The Review should identify all geologic hazards that have the potential to affect the proposed tailings stack and include an engineering stability analysis for proposed final slopes. The Geotechnical Review should also include a geotechnical and stability analysis that demonstrates appropriate factors of safety and that off- site areas will be protected or that there is no potential for off-site impacts.

Response:

The geometry of the planned FTD, the nearly flat site area, and low final height above natural ground surface (< 40 ft.) as well as external berms and separate water management systems to handle both impact and non-impacted snowmelt and runoff all contribute to an overall design philosophy that emphasizes creation of a stable engineered fill that will pose negligible risk in terms of failure. The adoption of the TNS process alternative also brings with it substantial removal of nearly all metals from the final residue, rendering it similar in both chemistry and texture of a natural soil that can be classified as silty sand to sandy silt. The current and ongoing testing of the final TNS residue includes basic soil index testing, as well as moisture-density relationship (Standard proctor) and limited triaxial strength testing for completeness. CJK will follow the collection of this laboratory test data with an updated slope stability analysis that based on the current data is anticipated to generate high factors of safety. Even under a worst-case scenario, only minor, isolated failures of exterior slopes are possible, with any excursion of placed residue outside of the FTD boundaries nearly physically impossible.

Other

76. For Sections 23 and 24, the Emergency Response Plan and CN Management Plan, the Division will review these Exhibits when all other details have been finalized and the changes required during the various Adequacy Reviews have been incorporated into these respective Exhibits.
    a) Please revise the Emergency Response Plan to include loss of containment and spill reporting

Response:

CJK will complete this in the updated Exhibit U.

    b) Please provide a completed Cyanide Management Plan

Response:

This question is no longer relevant given TNS Technology.

    c) The Cyanide Management Plan states that Union Milling will be completing tasks on site during operation. Please clarify of CJK Milling or Union Milling are making the commitments outlined in the plan

Response:

This question is no longer relevant given TNS Technology.

    d) Please revise the cyanide management plan to include MSHA rather than OSHA.

Response:

This question is no longer relevant given TNS Technology.

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
SCraig,