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24 September 2021

Mr. Dustin Czapla
Environmental Protection Specialist
Division of Reclamation, Mining and Safety
Department of Natural Resources
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RE: Leadville Mill, Permit # M-1990-057, 112d Conversion (CN-01) Application Adequacy Review

Dear Mr. Czapla,

Union Milling Contractors (UMC) has prepared the following response to Adequacy Review on behalf of CJK Milling Company LLC (CJK).

Exhibit D – Mining Plan – The mining plan submitted is incomplete. Please provide a mining plan that addresses each of the requirements of Rule 6.4.4.

Please provide the following:

1. **Pursuant to Rule 1.6.2 (1)(g) provide proof of notices provided for in Rule 1.6.2 (1)(e).**

Response

All owners of record of land surface within 200 feet of the Mill boundary have been notified via Structural Agreements of operation/permit application. Please see attached Structural Agreements in Appendix 19-1-Appendix 19-6 for reference.

2. **Rule 6.4.1 Exhibit A – Legal Description**
The application and legal description state the permit area is 20.7 acres. The map, produced by Backlund Land Surveys, included with Exhibit A shows a parcel area of 20.0 acres. Please address this discrepancy and state the correct affected area acreage. The affected area acreage should be consistent with the area shown on maps in Exhibit C.

Response

The original Backlund Land Survey certification from 1990 stated the Mill site was 20.7 acres, however, a new survey was done in 2009 (shown in Exhibit A of permit) stating the Mill site is 20 acres. Permit and application will be modified to meet this change.

3. **Rule 6.4.4 Exhibit D – Mining Plan**
On page 4-20 of Exhibit D the application states "The same 4.6 ac TSF is utilized". Mine plan maps in Exhibit C show a TSF covering an area closer to 2 acres. Please

address this discrepancy and state the correct TSF area. The TSF description should be consistent with the TSF shown on maps in Exhibit C.

Response

The 4.6 acre stated in Exhibit D was in reference to an older design that called for a "Phase 2" TSF expansion. This reference was missed during editing. The actual TSF is about 2.5 acres, and references in Exhibit D, as well as other places in the permit will be appropriately edited.

4. **Rule 6.4.5 Exhibit E – Reclamation Plan**
On page 5-1 of Exhibit E the application states that approximately 1,500 yds of topsoil is currently stockpiled on site. Please describe the Operator's plans to establish a vegetative cover over the stockpiled topsoil in order to prevent deterioration and to ensure it remains in a usable condition for reclamation pursuant to Rule 3.1.9 (1).

Response

We have recently added soil and alternative growth material to the topsoil pile and will generate more topsoil from Storm Water plan implementation. We will re-seed as necessary.

5. **Rule 6.4.5 Exhibit E – Reclamation Plan**
On page 5-1 of Exhibit E the application states that the above existing 1,500 yds. topsoil stockpile will be used for reclamation of the entire affected area. On page 5-5 the application states that the stockpile will be used to provide 4" cover over the TSF. Please clarify.

Response

The TSF is the only area that the topsoil/Suitable Plant Growth Material (SPGM) will be used. Post-reclamation, the roads and buildings will remain, and therefore will not require topsoil.

6. **Rule 6.4.5 Exhibit E – Reclamation Plan**
On pages 5-4 and 5-5 of Exhibit E the application states that the TSF will be covered by 8" of embankment material, then 4" of topsoil and 4" of suitable plant growth material.
Please provide a description of the "suitable plant growth material" that will be used. In order to establish the quality of suitable plant growth material, please sample and provide analysis to the Division.
Additionally, please provide to the Division the amount and stockpile location of this suitable plant growth material that is available at the site.

Response

The section should read "*the TSF will be covered by 8" of embankment till material, then 4" of topsoil and/or 4" of suitable plant growth material*" resulting in a total of 12 inches (8 inches of till and 4 inches of topsoil/SPGM).

See response number 13 for a description of suitable plant growth material.

Suitable plant growth material to be used for reclamation was stockpiled from TSF embankment construction. Upon commencing final reclamation, testing of suitable plant growth material will be appropriately analyzed as described in response to question 23.

The SPGM pile is located on the northeast corner of the TSF and contains approximately 2500yd^3.

7. Rule 6.4.5 Exhibit E – Reclamation Plan

On page 5-5 of Exhibit E the application states that the TSF will be capped with 18" of suitable material. The paragraph preceding this statement describes 16" of cover material. Please clarify this discrepancy.

Response

This statement will be corrected to read "*The TSF will be capped with 8 inches of till and 4 inches of topsoil/SPGM prior to initiating revegetation activities*."

The cover system has been designed based on guidance from the Mine Environment Neutral Drainage (MEND) program and will use construction materials. Emphasis has been placed on optimizing the number of capping materials necessary to complete the closure objectives of the TSF.

Figure 6-1 shows a conceptual plan view of the TSF, and Figure 6-2 is a simplified cross section of the proposed cover system. (See permit for references)

TSF Closure -Cover Reclamation:

A dry cover over the TSF tailings surface will be created by recontouring the earth fill cover to minimize ingress of surface water and to pass runoff into an engineered channel towards the South of the TSF to an ephemeral tributary to California Gulch. This dry closure option will prevent water ponding on the reclaimed TSF surface to promote a dry cover in perpetuity. (See Rule 6.4.5 Exhibit E - Reclamation Plan and Rule 6.4.6 Exhibit F - Reclamation Plan Map Figure 6-1 and Figure 6-2 in permit).

Closure Cover Development:

General aspects of the TSF closure design include:

- The tailings management plan will be designed and operated to keep the supernatant pond away from the embankments and towards the northwest corner of the facility.
- At the end of production, the supernatant pond will be pumped or evaporated prior to TSF reclamation and closure activities. The tailings will be allowed to desiccate to increase their density and bearing capacity prior to placement of capping materials.
- Stockpiled till and topsoil/SPGM will be spread over the tailings surface using a LGP dozer, excavator or other suitable equipment to establish a trafficable surface. Preliminary review shows the results confirm the current estimate for the range of subsidence expected to form at the base of the till material.
- A low permeability glacial till will be placed above the tailings to minimize water infiltration into the tailings deposit.
- A growth medium of topsoil or SPGM will be placed above the till to promote vegetation growth to return the area to the natural pre-mining conditions of the surrounding ecosystem.
- An engineered channel will drain surface water flows (upon meeting the water quality requirements) at the South end of the TSF into the unnamed drainage.

Advantages of TSF closure include:

- Confidence (based on experience) in achieving the required tailings deposition.
- Hazards associated with a pond of standing water or uncapped tailings area are mitigated.

- The low permeable till cap layer isolates surface water from the tailings and minimizes infiltration into the tailings deposit.
- Improved discharge water quality is expected due to the elimination of a standing pond and reduced infiltration.
- Entire TSF area is returned to a terrestrial landscape, as close as practical to pre-mining conditions.

8. Rule 6.4.7 Exhibit G – Water Information

Pursuant to Rule 6.4.7 (3) please provide an estimate of the project water requirements, including flow rates and annual volumes for the development, mining and reclamation phases of the project.

Response

For milling operations, under steady state, we will consume approximately 22.2 gpm. This equates to 32,000 gallons per day, or 11.2 million gallons per year. This is based on 24 hr/day, and 350 days per year. Additionally, it is estimated that 1,000 gallons of water per day will be used for road dust control for 120 days per year.

There is no plan to irrigate reclaimed areas.

9. Rule 6.4.7 Exhibit G – Water Information

Pursuant to Rule 6.4.7 (4) please provide the projected amount from each of the sources of water to supply the project water requirements for the mining operation and reclamation.

Response

Primary source: Parkville Water, 28,000 gallons per day.

Run of Mine ore will contain approximately 4% moisture which equates to 4,000 gallons per day.

10. Rule 6.4.12 Exhibit L – Reclamation Costs

Task 3 of the Reclamation Cost Estimate provided with your application shows removal cost for on-site reagents. Costs for two of the line items, Cyanide and Others were left blank. Please include these costs in your reclamation cost estimate.

Response

A draft version of the reclamation cost estimate was inadvertently included in the permit application. The correct version is attached in Appendix 5-2.

11. Rule 6.4.19 Exhibit S – Permanent Man-made Structures

Your application includes structure agreements that are not executed. Please provide fully executed structure agreements for the following structures located within 200 feet of the affected area:

(1) Leadville Sanitation District sewer pipeline, polishing pond and fence
(2) Benson, George A. and Elizabeth L. access road and residence
(3) Phillips Revocable Trust, access road and concrete structure
(4) Wood, Derrick and Christina access road
(5) Fowler, Justin Brown and Anne Marie access road
(6) Xcel Energy Gas Pipeline and Power Line.

Response

Structural agreements can be found in Appendix 19-1 Through Appendix 19-6. CJK received one signed agreement back from Xcel Energy. A copy of the Engineering report can be found attached (Appendix 19-8). These documents are attached for your reference.

12. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan - Designated Chemical(s) and Material(s) Handling

Pursuant to Rule 6.4.21 (6)(a) please fully describe the procedures for the disposal, decommissioning, detoxification or stabilization for all designated chemicals and toxic or acid-forming materials. Specifically describe measures to be taken to prevent any unauthorized release of pollutants to the environment. Include adequate reclamation and closure practices for such designated chemicals, toxic or acid-forming materials and how unauthorized discharge of acid mine drainage will be prevented.

Also, pursuant to Rule 6.4.21 (6)(b) please submit a narrative description or plan that:

(i) describes how all designated chemicals used in the extractive metallurgical process will be handled during active mining operations, during periods of Temporary Cessation, and disposed or detoxified at the conclusion of operations so as to comply with all applicable environmental protection and reclamation standards and regulations;

Response

CJK will implement the procedures outlined in:

- Section 21.0 Rule 6.4.21 Exhibit U - Designated Mining Operation
- Section 21.5 Process Chemicals, Evaluation Designation
- Section 21.6 Designated Chemicals and Material Handling
- Applicable MSHA and OSHA health and safety regulations and the guidelines summarized the Material Safety Data Sheets

In addition, chemical inventories, chemical acquisition and disposal management, and security protocols will be included in Facility Best Management Operating Procedures.

(ii) describes how materials that have the potential to produce acid mine drainage or are toxic or acid-forming will be handled to ensure that the affected lands will be reclaimed and returned to the approved post-mining land use; and

Response

Currently the ore sources are producing acid mining drainage from historical mine dumps created in the late 1800 and early 1900's. CJK will be removing, processing the acid generating ore such that the material will be in an alkaline, metal stabilizing state that will mitigate the production of acid mine drainage. In addition, the TSF is designed as a "no-discharge" facility. The post milling land use is summarized in section 5. Rule 6.4.5 Exhibit E - Reclamation Plan.

(iii) describes how the Operator/Applicant will prevent adverse off-site impacts during periods of active mine site operations and periods of Temporary Cessation.

Response

Tailings will be discharged to the TSF at a pH greater than 8. Acid producing minerals and potential acid mine drainage concerns are naturally mitigated during the milling process.

During milling and periods of temporary cessation the facility will be inspected, maintained, and monitored by trained personnel in accordance with the mine and other regulatory permit commitments and stipulations.

13. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan – Facilities Evaluation

The Division considers the mill and tailings storage facility to be "Environmental Protection Plan facilities". Pursuant to Rule 6.4.21 (7) please provide a separate evaluation for each of these facilities, describing the expected effectiveness of each facility, taking into consideration the following:

a) site-specific conditions;

Response

TSF

The geology[1], soils and site hydrogeology characteristics are well suited for siting and operating the TSF. (See Geology Rule 6.4.9 Exhibit I, Soils Information, Appendix 9-1); Surface Water (Section 21 Rule 6.4.21 Exhibit U 21-1, 21.10, 21.11) and groundwater (Section 7.0 Rule 6.4.7 Exhibit G, Section 21 Rule 6.4.21 Exhibit U 21-8 and 21-9). See Figure 3-5 (Groundwater wells within 2.0 miles of the Mill, Figure 3-6 EPA Surface & Groundwater Monitoring Locations. Also see the attached Figure 9-1 (Geologic Map of Lake County) and Figure 9-2 (Generalized Stratigraphic Column of Lake County).

(b) designated chemicals, acid mine drainage and toxic or acid-forming materials and associated by-products and sludges that will be retained, either temporarily or permanently, on site by each facility;

Response

The designated chemicals listed in Table 4-9 of the permit document will be retained at the Mill facility as described. Basic (pH > 8.0) process chemicals will be used during the milling prosses which mitigates the potential to generate acid mine drainage.

- The ore, upon arriving on site will be placed in a bunker for containment, and to prevent surface drainage from causing acid runoff. The ore will be loaded into our facility via front end loader, and the loading area will be cleaned daily.
- Crushing will be completed inside a building, which will effectively contain and prevent the ore from entering or interacting with the environment. With this containment, and a dust collection system, we will have strong control of the dry ore.
- The ore will then be moved via conveyor to the fine ore bin in the main building, where it will then be conveyed to our ball mill, which will have a floor sump to collect any spillage, keeping control of the now wet material. The slurry will then be pumped to a thickener then our leach tanks outdoors, which will be protected by a slab with curbs, and a floor sump.

[1] Identifying fractures in till [unconsolidated sands, gravels, and clays], outwash deposits, moraines is difficult or impossible. Glacial deposits have an extremely low earthquake and flooding risks.

- The slurry will next be pumped back into the building for dewatering to separate our value carrying pregnant solution from the tailings.
- Processed material then splits, with the pregnant solution going to the Merrill Crowe circuit for metals recovery, and the dewatered tailings goes to detoxification.
- The Merrill Crowe area will be well contained, spill protected by an area sump, and by floor sumps.
- The detoxification area is where we turn the tailings back into a slurry, to facilitate the cyanide detoxification. The tails will be mixed with process water and then Ferric Sulfite will be added to combine with any remaining cyanide to produce a benign material. The detoxified slurry will then again be dewatered, and conveyed out to the TSF.
- These areas being protected by primary and secondary containment afford us strong control of our material to prevent any emissions into the environment at large.
- Our TSF is designed with a primary containment layer, then a leak detection/conveyance layer, and finally a Geosynthetic Clay Liner (GCL). The leak detection layer reports to a sump, which will be monitored.

(c) naturally occurring geological and geochemical conditions, and alterations of these conditions by the mining and metallurgical process.

Response

Geology

The permit area (See Figure 9-1) and the adjacent properties are underlain by Till of Pinedale glaciation (late Pleistocene) (subangular to subrounded). The till is characterized as unconsolidated, pebble to boulder sized clasts in a clayey, silty sand matrix with an estimated thickness of 10–200 feet. Deposits generally poorly sorted to unsorted. Clasts range up to 30 feet in diameter and are competent, with very little weathering. Deposit is characterized by steep-crested lateral moraines and undrained hummocky depressions within terminal and recessional moraine complexes, deposited directly by glacial ice. Locally it has sorted and bedded lenses of sandy gravels deposited by subglacial streams. Convoluted and disturbed bedding due to minor glacial advances is locally preserved. (Madole, 1986; Nelson and Shroba, 1998; Benson and others, 2004, 2005, Brugger, 2007). A general stratigraphic section is illustrated on Figure 9-2. Representative geologic sections are presented in mill and adjacent landowner well logs (See attached Appendix 7-1).

Faults/Fracture Systems

Glacial tills and outwash sands and gravels make up the geologic foundation within two miles of the Leadville mill with depths exceeding 200 feet. (See attached Appendix 7-1 Diedrich well is located upgradient and East of the Leadville Mill)

Seismic Activity

Geologic mapping by the United States Geological Survey (USGS) indicates that the property is underlain by alluvium. Our subsurface investigation encountered material consistent with this interpretation. The surface and near surface soils are vulnerable to erosion especially from concentrated flows. (See Appendix 21-1-Stormwater Management Plan Erosion Control-BMPs in permit).

Faults are mapped in the Leadville area. A map published by the Colorado Office of Emergency Management in 1999 shows the most recent movement of the faults occurred in the late to middle Quaternary (130 thousand to 750 thousand years ago) The area is considered by the 1997 Uniform Building Code (UBC) its least active zone designation.

Lake County, CO has a low earthquake risk, with one (1) earthquake since 1931. The USGS database shows that there is a 3.53% chance of a major earthquake within 50km of Lake County, CO within the next 50 years. The largest earthquake within 30 miles of Lake County, CO was a 3.1 Magnitude in 1993 (near Twin Lakes). There is less than 0.08% chance that an earthquake of 7.0 would occur over the next 50 years.

The unconsolidated soil and glacial till beneath the tailings are not expected to respond unusually to seismic activity. No other geologic hazards at the site have been identified that would preclude the operation of the approved tailings storage facility.

Soil

Soils within the permit and adjacent area is discussed in Section 9.0 Rule 6.4.9: Exhibit I - Soils Information Appendix 9-1.

The following also presents Mr. John Nelson's (District Conservationist-USDA-SCA-1990) reclamation mill site specific observations and recommendations.

> *"The mill site area is located approximately 2 miles southwest of Leadville, Colorado at an elevation of 9750 feet. This site also falls within the Lake County soil survey of which only one soil series has been mapped, the Leadville sandy loam (LeE)".*

Mr. Nelson's report follows:

> *This site will be used to dispose of mill tailings with a basic pH.*
>
> *All topsoil encountered in this area should be stockpiled for future reclamation work. The above-mentioned seeding recommendations and rates may also be used in the mill site area, especially in areas where topsoil is placed over mill tailings. In addition, the owners have requested that several "seeding test plots" be established at this site to help determine which plant materials will be best suited for reclamation work in higher pH soils. Plant materials and future monitoring of these test plots will be provided by the Lake County Soil Conservation District and the Soil Conservation Service. In addition to the above recommendations, future seedings may been enhanced by the use of fertilizers, mulches and manure. The amount of fertilizer should be determined by use of soil tests. However, nitrogen can be applied at a rate of at least 50 pounds per acre, and phosphate at a rate of 40 pounds per acre. If straw mulches are used, they should be crimped into the soil with a disc, cleats on heavy equipment or with hand tools. Manure should be available locally and would do much to improve the soil condition.*
>
> *Taking care of the seeding during the first year or two of growth may also help in establishing a successful stand of grass. Keeping wildlife and possibly livestock off the seeding during at least the first growing season will help new seedings establish themselves. This may be accomplished with fencing. In addition, if water is available, watering during the first growing season would do more than anything else to help the stand establish itself."*

CJK has provided maps, narrative and effectiveness of the Environmental Protection Plan in (Section 7.0 Rule 6.4.7 Exhibit G Water Information, Section 21.7.4 - Monitoring Systems, Section 21.9 -Groundwater Quality Data, Section 21.12-Mill Water Quality Monitoring Plan, Appendix 21-3 thru Appendix 21-9 and Standard Operating Procedures (SOPs). See Figure 3-6 Surface and groundwater monitoring, Figure 4-1-Flowsheet and Material Balance, Figure 4-8 Leak Detection and Figure 6-1 TSF-Post Mill Reclamation Plan Map in permit.

> **(d) Describe, with maps and narrative, the monitoring systems, monitoring site locations, sample designator, parameters sampled, frequency of sampling, report**

dates, media sampled, method of sampling and analysis employed or to be employed during mining and reclamation operations to evaluate the effectiveness of each Environmental Protection Plan facility and activity.

Response

Please see Section 4 Rule 6.4.4 Exhibit D Mining Plan Emergency Response Plan Sec. 16, Exhibit - Rule 8, (Appendix 14-2-Material Data Sheets) and Cyanide Emergency Response Plan (attached Appendix 23-1) for management and operating practices.

The reagent inventory is shown in Table 4-9 of the permit application document.

(e) Taking into consideration the nature of the chemicals and the risk to human health, property and the environment, describe any release response procedures, redundancies, and "backup" measures necessary, appropriate, and economically reasonable, to control, prevent and mitigate releases of the designated chemicals and toxic or acid-forming materials from the containment facility outside the permit area during mining and reclamation operations.

Response

See attached Appendix 23-1 -Cyanide Emergency and Chemical Response Plan for management and operating practices

(f) Demonstrate that containment facilities shall be of adequate size to provide sufficient reserve capacity to prevent a release of designated chemicals or toxic or acid-forming materials from design storm events plus operational water volumes during worst case conditions as specified by the Office.

Response

See response to section on Mill Facility, part 1.b and 2.a.

14. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan – Groundwater Information

Pursuant to Rule 6.4.21 (8)(b) please identify all known aquifers and related subsurface water-bearing fracture systems within two (2) miles of the affected lands. In addition, provide the general direction and rate of flow of groundwater in these aquifers and fracture systems.

Response

See response to question 15.

15. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan – Groundwater Information

Pursuant to Rule 6.4.21 (8)(e) please describe and illustrate the hydrogeology of the area where surface or groundwater may be impacted by the Designated Mining Operation activities. Include in the description and illustration, those geologic strata and fracture systems that have the potential to transmit groundwater.

Response

Glacial tills and outwash sands and gravels make up the geologic foundation within two miles of the Leadville Mill, with depths exceeding 200 feet. (See attached Appendix 7-1 Diedrich well log located East of the Mill) The unconsolidated material is characterized as being pebble - to boulder-sized clasts in a clayey, silty sand matrix with an estimated thickness of 10–200 feet.

Deposits are generally poorly sorted to unsorted. Because of the lithologic heterogeneity, stratigraphic correlation with the existing regional and areas of interest, lithologic correlation is not feasible

Local groundwater flow is illustrated on Figure 21-1 (See attached Appendix 7-1 Groundwater Flow Network Well Logs). Groundwater information and water quality data is presented in detail in section 21.0 Rule 6.4.21 Section 21.8 and Section 21.9. See response below regarding strata formation, characterization, and earthquakes.

16. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan - Surface Water Control and Containment Facilities Information

Pursuant to Rule 6.4.21 (10)(a) please provide design specifications certified by a licensed professional engineer for all Environmental Protection Facilities (mill and TSF) intended to:

(i) hold, convey, contain, or transport designated chemicals used in the extractive metallurgical process.

Response

The TSF, as currently permitted, is under construction. When completed it will be signed-off by Simbeck Construction, and as-built drawings provided by the contractor. In addition, we will provide design specifications for all overpack containers that will hold reagents prior to use once purchased.

CJK commits to make approval of the above item as condition of permit approval.

17. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan – Water Quality Monitoring Plan

Your application provides a water quality monitoring plan pursuant to Rule 6.4.21 (12) on page 21-24 of the application. The application describes two existing monitoring wells, MW- 2 and MW-3. Figure 3-3 of Exhibit E shows MW-3 up-gradient of the existing 110 permit affected area and MW-2 as the point of compliance well at the southwest corner of the property. In order to monitor water quality potentially affected by the mill area the Division would like to see another down-gradient monitoring well installed southwest of the mill building and northwest of the TSF, near the west permit boundary at approximate coordinates 39.230008°, -106.333338°. Please commit to installation of this additional monitoring well and incorporation into the proposed water quality monitoring plan.

Response

As suggested, CJK will install an additional monitoring well[2] (See Figure 21-2) and sample per CJK's approved groundwater monitoring program.

Section 7.0 Rule 6.4.7 Exhibit G Water Information, Section 21.7.4-Monitoring Systems, Section 21.9 - Groundwater Quality Data, Section 21.12 - Mill Water Quality Monitoring Plan, Appendix 21-3 thru Appendix 21-9 Standard Operating Procedures (SOPs) in permit.

18. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan - Climate

Pursuant to Rule 6.4.21 (13)(a) provide adequate climatic data representative of the site to perform an acceptable "water balance" for all liquid containment systems

[2] Approximate coordinates 39.230008°, -106.333338°.

open to the environment and intended to contain designated chemicals or acid mine drainage, and demonstrate that the amount of evaporation required to maintain reserve facility capacity will occur, or that there is sufficient reserve capacity to compensate for the uncertainty associated with the data.

Response

See response to Request #19.

19. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan - Climate

Pursuant to Rule 6.4.21 (13)(b) provide the following information regarding climatic factors (data may be provided from existing stations within the vicinity of the Permit area):

(i) the mean annual precipitation for a minimum of five (5) years and, where available, one set of data for the wettest year on record for the area;

(ii) the average direction and velocity of the prevailing winds;

(iii) the mean monthly temperature and temperature ranges for a minimum of five (5) years;

(iv) site-specific evaporation and sublimation rates for the proposed site.

Response

General climatic information is presented in Section 12 Rule 6.4.11 Exhibit I.

In summary:

Period between 1981-2010 Station (0548884) Leadville Airport

- The average maximum temperature is 32.7º F (See attached Appendix 11-1)
- The average minimum temperature ii 13.4º F (See attached Appendix 11-1)
- The average total precipitation is 12.78 inches (See attached Appendix 11-1)
- Wind speed and direction characteristics is summarized in (attached Appendix 11-1)
- The maximum monthly precipitation is 1.75 inches recorded in 1973 (See attached Appendix 11-1)
- The maximum daily precipitation (rainfall) of 0.5 inches was recorded in 1958 (See attached Appendix 11-1 period of record between 1948 and 2012)
- The monthly total precipitation between 1948 and 1982 is summarized in attached Appendix 11-2
- Evapotranspiration[3] rates for Lake County are estimated to range between 12-16 inches, (Figure 11-1, attached)
- Solar radiation is summarized in attached Appendix 11-1

Calculating evaporation and sublimation is defined using Colorado Division of Water Resources specified method (See Depletion Analysis Below).

[3] Estimation of Evapotranspiration Across the Conterminous United States using Regression with Climate and Land Cover Data, February 2013 – Journal of American Water Resources Association

Division of Water Resources-Depletion Analysis Example

"Evaporation: Gross evaporation (free water surface) shall be calculated based upon evaporation atlases in NOAA Technical Report NWS 33 or more site-specific information if available. Any other estimate should be within 10% of the NOAA estimate. Any credits to offset gross evaporation must be pursuant to state statutes and state engineering policy. The total gross evaporation estimate from NOAA 33 shall be distributed to all months. *The monthly distribution for elevations below 6500 feet msl is: Jan-3.0%, Feb-3.5%, Mar-5.5%, Apr-9.0%, May-12.0%, Jun-14.5%, Jul-15.0%, Aug-13.5%, Sep-10.0%, Oct-7.0%, Nov-4.0%, and Dec-3.0%. The monthly distribution for elevations above 6500 feet msl is: Jan-1.0%, Feb-3.0%, Mar-6.0%, Apr-9.0%, May-12.5%, Jun-15.5%, Jul-16.0%, Aug-13.0%, Sep-11.0%, Oct-7.5%, Nov-4.0%, and Dec-1.5%.". (Office of the State Engineer-Policy 2003[4])"*

In accordance with DWR's policy the annual depletion (evaporation plus sublimation) is presented in the following table. As an example, if one acre foot is consumed over a year the following water deletion in gallons per month is summarized.

Table 3
Representative
TSF Sublimation and Evaporative Characteristics

Evaporation Sublimation Factor	TSF Surface Area[2] Total Gallons Acre Foot	Consumptive Use Gallons/Month	
1.00%	325,829	3,258	Jan
3.00%	325,829	9,775	Feb
5.50%	325,829	19,550	Mar
9.00%	325,829	29,325	Apr
12.00%	325,829	40,729	May
14.50%	325,829	50,503	June
15.00%	325,829	52,133	July
13.50%	325,829	42,358	Aug
11.00%	325,829	35,841	Sept
7.50%	325,829	24,437	Oct
4.00%	325,829	13,033	Nov
1.50%	325,829	4,887	Dec
	325,829		

1. Evaporation/Sublimation Water Right Depletion Factors (Office of the State Engineer Policy 2003)
2. TSF – maximum storage capacity surface water area gallons in one acre
3. May Through September = Summer Evaporation
4. October Through April = Average Winter Sublimation

20. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan - Geochemical Data and Analysis

Pursuant to Rule 6.4.21 (14) please submit geochemical evaluations of any material that will be placed in on-site solution containment systems or facilities, stockpiled, or disposed of on the affected land, and that has the potential to cause acid mine drainage or to release designated chemicals, or toxic or acid-forming materials.

[4] Section 37-92-308, C.R.S. follow the guidance provided for in 37-92-308 (e.g. 37-92-308(3))

(a) Such evaluations shall be site specific and appropriate for the types of materials exposed or to be exposed by the mining and reclamation operations.

(b) Such evaluations shall be conducted on materials that are representative of the composition of the mineral, rocks or materials that are exposed or to be exposed during the proposed life of the mining operations.

(c) Such evaluations shall be appropriate for the intended use or fate of the material exposed or to be exposed during the proposed life of the mining operations, and on a case-by-case basis shall include evaluation of weathering effects, shall simulate, to the extent reasonable, the conditions under which the material will be used, stockpiled or disposed and which shall reasonably be expected to prevail after mining and reclamation operations have ceased.

(d) Such evaluations shall be performed on both ore and overburden, and shall identify the most reasonable sources, probable fate, and transport mechanisms of metal and acid- producing minerals that may be mobilized by ordinary weathering reactions that are likely to prevail after mining and reclamation operations have ceased. Such analyses may include only those tests that are necessary to satisfy the conditions of Rule 6.4.21(14)(c), and such evaluations may be prioritized, in descending order of importance, as follows:

(i) mineralogical analyses;

(ii) trace element analyses;

(iii) major element analyses;

(iv) microprobe or other comparable analyses.

(e) Where a net neutralizing, metal adsorption or metal ion exchange potential over the long- term cannot be demonstrated, the Operator/Applicant shall fully describe measures to prevent unpermitted discharges, and how reclamation, sufficient to achieve the post-mine land use will be assured.

Response

The geochemical characteristics of the material to be processed is yet to be determined. Processed ore will be deposited in the TSF in an alkaline (pH >8) slurry in a non-discharging structure. The slurry will have a moisture content equal to or less than 30% and over time the material will desiccate and compact to form a mineral waste encapsulated mass. There is little probability the encapsulated mass has the potential to cause acid mine drainage or to release designated chemicals, or toxic or acid-forming materials.

21. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan - Construction Schedule Information

Pursuant to Rule 6.4.21(15) please provide a detailed construction schedule for the following:

(a) all facilities designed to contain or transport toxic or acid-forming materials or designated chemicals used in the extractive metallurgical process; and

(b) all facilities proposed to contain, hold, or for disposal of material that has the potential to cause acid mine drainage.

Response

6.4.21(a) Primary containment of spills within the existing mill building will be contained in the sump area. This sump area – with a capacity of about 5,000 gallons - is already in place and will be expanded to contain a total of 6,800 gallons and will be sealed with an approved sealant prior to commencement of operations. In addition, the leach tank area will also include primary containment, but is not yet constructed. The constructed containment area will have a capacity of about 9,900 gallons. Secondary containment, in the unlikely event of a catastrophic leak will be the TSF. The TSF will at a minimum maintain a 3-ft freeboard. The bottom 1-ft of this freeboard will have the capacity to contain 650% of all plant solutions.

The schedule to complete this is:

- The TSF will be completed on approximately Sept. 25th 2021.
- Reclamation Permit approval October 11th 2021
- CUP Submittal October 18th 2021
- CUP Approval December 17th 2021
- Construction of the leach tank area will be complete on March 17th 2022 depending on permit and CUP approval, and weather/season.
- Lining of the sump will be done in conjunction with the re-fit of the mill, and completed approximately January 14th, 2022 depending on the permit and CUP approval.

CJK commits to inform CDRMS as soon as our construction schedule is confirmed.

CJK commits to make approval of the above item as condition of permit approval.

22. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan – Quality Assurance and Control

Pursuant to Rule 6.4.21(16) please describe the Quality Assurance and Quality Control program and measures to be employed during construction of those Environmental Protection Facilities that typically warrant Quality Assurance and Quality Control.

Response

New structures requiring a permit will be designed and engineered by licensed professional engineers and follow the inspection process dictated by Lake County.

23. Rule 6.4.21 EXHIBIT U – Environmental Protection Plan – Plant Growth Medium

In order to assure that acceptable plant growth medium is preserved, and to determine what soil amendments may be necessary to promote reclamation, pursuant to Rule 6.4.21(17) please:

(a) provide a soil survey map of the proposed affected area that delineates soil units, soil texture, estimated cubic yards of soil and subsoils available for reclamation and if saved, where such material will be stockpiled for reclamation;

(b) such map shall be based on site specific soils investigations and shall be on such a scale as to provide a basis for soil management recommendations and be the same scale as the reclamation map; and

(c) provide, for each soil map unit, in tabular form, all data from analyses of representative samples of surface and subsurface soil units as to:

(i) soil pH, texture, electrical conductivity, sodium adsorption ratio and any other parameters that the Operator/Applicant or Office deems necessary for proper soils characterization;

(ii) indicate on a map, or in the soils narrative the location of each soil unit on the affected area where the above soil characteristics may be problematic as to suitability for a plant growth medium; and

(iii) type, form and amounts of any soil amendments that may be necessary or recommended by the local Soil Conservation Service, Conservation District, or other qualified special district, and standard soil laboratory analyses and fertilizer recommendations (if available) for the types of plant species proposed to be established; or

(iv) provide, as an alternative to Rule 6.4.21(17)(c), a plan of experiments to determine the type, form and amount of any soil amendments that may be necessary to fulfill the requirements of the Reclamation Plan.

Response

Prior to utilizing stockpiled topsoil or suitable alternative material, CJK will obtain representative soil samples and determine the following soil chemical characteristics: pH, electrical conductivity (EC), phosphorus (P), organic content (OC), cation exchange capacity (CEC) and particle size. Utilizing the laboratory data, CJK will decide if soil amendments are required to support the post mine reclamation effort. See Section 5.0 Rule 6.4.5: Reclamation Plan, Section 9.0 Rule 6.49 Exhibit I-Soils Information for details. If necessary, vegetative test plots will be established in accordance with an approved CDRMS technical revision.

24. Domestic water wells, Derrick Wood permit # 83329 (Constructed 8/8/1976) and Harry Hodson permit # 6616 (Constructed 8/15/1960), exist approximately 500 feet west and hydrologically down-gradient from the TSF and mill facility. Any failure of the TSF or mill containments pose serious risk to the wells and human health and safety. Please describe how the proposed operation can operate in a manner that will be protective of water quality and human health and safety.

Response

Mill processed ore will be disposed of in a multi-lined tailings disposal structure with leak detection. Leak detection is to confirm the structure is functioning as designed. In addition, surface and groundwater monitoring will provide analytical data to determine if the facility is functioning as designed. If design components fail, approved CDRMS corrective procedures and protocols will be implemented.

See attached Appendix 7-1 Adjacent Landowners DWR permitted wells and their associated lithologic well. From a geologic perspective the wells downgradient of the mill are completed in glacial heterogenous till, sands, and gravels, may be as deep as 150 feet.

CKL implemented operating and monitoring plan is designed to mitigate adverse environment and human health risks.

Derrick Wood Permit #83320 (See attached Appendix 7-1) was approved by CDWR's, however, well completion records have not been filed or DWR has not posted Wood's well log data

Harry Hodson well (permit #6616) (See attached Appendix 7-1) has not been located, and if the well exists, the well is not being used. Hodson's well is located on property currently owned by Phillips. The well log suggests the well completed in alluvial materials appears to be is

unrelated to the Mill's geologic strata. If the well is found, and access is granted, CJK will obtain a sample per CJK sampling protocols (See Appendix 21-9 in permit application).

The operation has adopted a health and safety program, a mill emergency response plan (See Section 21, Exhibit U - DMO Environmental Protection Plan Section 21.6, Rule 8, Emergency Response & Management Plan, and a Cyanide and Hazardous Chemical Emergency Response Plan attached Appendix 23-1).

25. The TSF will be constructed with a leak detection system. What backup protective measures will be in place to prevent migration of contaminants into the ground water system should a leak be detected?

Response

In the unlikely event of a leak from the Mill, an investigation of potential sources (onsite and offsite) (natural and induced) and the potential causes for deviations from baseline water quality characteristics will be performed. Surface and groundwater samples will be obtained. Tanks, pipes, conveyance systems, pads, pumps, containment systems etc. will be investigated to determine if the facility engineering components are functioning as designed. If a leak is confirmed, CJK will obtain CDRMS approval (Technical Revision) to implement corrective action. In the event, the leak cannot be structurally or technically associated with the Mill or TSF, a human health risk assessment may be undertaken.

If a leak is detected via the TSF sump, the liquid will be sampled and tested to determine the source. If the signature indicates the leak came from the TSF, then sources will be investigated, and the liquid from the sump will be pumped out of the sump into the TSF. If the chemical signature indicates ground water, it will be pumped into TSF.

Reference: Cyanide and Hazardous Chemicals Emergency Response attached Appendix 23-1.

Mill Facility

The Division considers the mill facility to be an Environmental Protection Facility (EPF). As such, the application will need to address all sections of Rule 6.4.21 applicable to the mill. Please provide the following:

1. Mill Facility Construction Details – should include:
   a. General Design Summary

Response

The Mill is generally a metal post and beam structure bearing on 10-inch concrete foundation walls, which in turn bear on spread footings. Two additions, the office area and the leaching room were constructed more recently and consist of wood framing on a conventional spread footer foundation. The main structure, built in 1988, has stood up well, with little to no cracking. From soils reports for the TSF, the supporting soils have high bearing pressures, contributing to a well-built structure. During construction of the office and leaching room construction additions, the soils directly adjacent to the structure were observed, and were consistent to the TSF soils report.

b. Details regarding how the concrete foundation and containment structures were designed and built, including any coatings applied to the floor and or walls.

Response

The structure was designed and built under the authority of the Lake County building department, with the appropriate permits and inspections. Coatings will be applied to areas such as floors and sumps which will potentially see chemical laden liquids.

c. If available, provide any QA/QC documentation for the construction.

Response

No QA/QC other than a Certificate of Occupancy exist for the older parts of the structure, but inspection reports for newer construction are available, along with drawings certified by professional engineers.

d. Drawings and narrative of piping and delivery systems of designated chemicals, verification that the entire length of delivery lines exist within a form of secondary containment.

Response

Piping within the structure will be protected by secondary containment, and pipes passing between the main building and the leach area will be double walled. Any vessel will be protected by a sump, equal or greater in volume than the largest vessel in the area. Should a major leak occur for the leach tanks, secondary containment will be the TSF, which is directly adjacent to the leach tanks, via a pipe. Detailed drawings of piping routs will be supplied upon completion of the design.

2. Secondary and tertiary containment structures

a. Details regarding the secondary containment structures. This should include calculations demonstrating maximum containment volumes of each area, as well as details regarding sump systems and where they report to.

Response

The main building stair steps down a natural slope, which allows us to employ a sump at the lowest point of the building. This sump is sufficient to contain the volume of the largest vessel in the building. This sump, if overwhelmed by a catastrophic rupture event, ultimately reports via pipe to the TSF. The sump will be able to contain approximately 6,800 gallons, which is larger than the largest vessel (See Volumes Table 4).

Table 4

Volume of Solution Containers

Vessel	E.Q. List #	Size				Size	
		Width	Length	Height	Diameter	Vol. cu ft	Gallons
Fresh Water Storage	700-TK-001.1 700-TK-001.2			10' 11'	10' 8'	790 550	5,900 4,100
Crusher Sump	100-SP-001	2'	2'	2'	n/a	8	60
Reclaim Tank #1	700-TK-002.1					307	2,300
Reclaim Tank #2	700-TK-002.2					214	1,600
Ball Mill*	200-BM-001		5'		4'	31	232
Ball Mill Sump	200-TK-001					361	2,700
Leach Thickener	200-TK-002			8'	12'	904	6,762
L. Thickener Overflow	200-TK-004					27	200
Ball Mill Area Sump	200-SP-001	2'	2'	2'	n/a	8	60
Leach Tank #1	300-TK-001			31'	15'	5,475	40,953
Leach Tank #2	300-TK-002			31'	15'	5,475	40,953
Leach Tank #3	300-TK-003			31'	15'	5,475	40,953
Leach Tank #4	300-TK-004			31'	15'	5,475	40,953
Leach Area Sump	300-SP-004	2'	2'	2'	n/a	8	60
Leach Holding Tank	350-TK-005			24'	12'	2,713	20,293
Pregnant Soln. Tank	400-TK-001					668	5,000
Vacuum Tower	400-VT-001			11'	2'	35	262
Lead Nitrate Mix Tank	400-TK-010					13	100
Merrill Crowe Area Sump	400-SP-005	2'	2'	2'	n/a	8	60
Re Pulp Tank	500-TK-001			9'	9'	572	4,279
Detox Tank #1	500-TK-002			9'	9'	572	4,279
Detox Tank #2	500-TK-003			9'	9'	572	4,279
Detox Area Sump	500-SP-006	2'	2'	2'	n/a	8	60
Refining Area Sump(opt.)							0
Cyanide Mix Tank	700-TK-003					53	400
Cyanide Day Tank	700-TK-004					53	400
D.E. Mix Tank	400-TK-002					27	200
Ferric Sulfite Mix Tank	800-TK-002					13	100
Floc Mix Tank	800-TK-003					13	100
Floc Day Tank	800-TK-004					27	200
							227,796

*Ball mill lays on its side, therefore solution volume=1/2 of total volume

b. Details regarding tertiary containment if any.

Response

Tertiary containment is the TSF. We need 341,700 gallons of capacity (150% of total solution) for a catastrophic leak event (all vessels rupture simultaneously), and under normal conditions, we are required to maintain three feet of free board. At near maximum capacity of the TSF, the volume required to contain the total contents of the mill will take up less than 1foot of depth.

3. Milling Process

a. A detailed narrative of the milling process, including the use and application of designated chemicals in the milling process. The narrative should also include the nature of the chemicals used, their hazards, SDS sheets, and all storage locations within the Mill Facility, delivery of reagents into the milling process, piping systems etc.

Response

CJK Milling will comply with Federal Mine and Safety and Health Act of 1977 as amended by the Miner Act of 2006, MSHA -30 CFR Chapter 1 Parts 1-199 Chapter 1 Subchapter H Education and Training, Part 47 -Hazard Communication, Part 48 Training and Retraining, and Part 49 Subchapter K Metal and Non-metal Mining Safety and Health regulations and when applicable OSHA regulations specifically related to managing, and handling of designated hazardous materials[5].

CJK Milling will manage, handle, and dispose designated chemicals in accordance with Section 21.7 Facilities Evaluation (Sec. 6.4.21(7) and Appendix 21-2 Material Data Sheets criteria.

Ore will be delivered and dumped into a bunker adjacent to the crushing building. From there, the ore will be fed into a hopper by a front-end loader. This hopper will feed the material into the crusher building, where the ore will be reduced in size for grinding. Dry lime will be added in the crusher building before exiting. The crushed material will be conveyed to a fine ore bin, which will feed the ball mill. The product of the ball mill will run through hydro cyclones for sizing, the oversize material being fed back into the ball mill, and the undersize material goes to a thickener for moisture content adjusting. A flocculent will be added here as needed. The material from the thickener will be pumped to the leach tanks, for liberation of the valued metals. A solution of cyanide will be added here. Upon exiting the leach circuit, the slurry containing tails and the pregnant solution will be pumped to a drum filter for dewatering. At this point, our stream splits: our pregnant solution containing the valued metals will go to the Merrill Crowe circuit, and the tailings will go to the cyanide detox circuit. The pregnant solution entering the Merrill Crowe circuit will be dearated, filtered (aided by the addition of diatomaceous earth (D.E.), and then the valued metals will be precipitated out with zinc and lead nitrate, and the remaining solution will be recycled. The cyanide detox circuit will repulp the tailings, and ferric sulfite will be added to the slurry to combine with the remaining cyanide to produce ferro cyanide. This resultant slurry will then be dewatered in a second drum filter, and transported to the TSF, and the filtered water will be recycled.

The MSDS sheets, containing their nature, and hazards are contained in Table 21-3 on page 21-7 of Exhibit U.

Reagents will be stored in the following areas: Lime will be stored in the crusher building, Flocculent will be mixed and administered from an area next to our fine ore bin, which is on the uppermost level, Zinc, lead nitrate, and D.E. will be stored and administered in the leachate room. Ferric sulfite for cyanide destruct will be stored and administered near the detox circuit, on the lower level. Cyanide will be stored on the lower level, and mixed/administered in a day tank outside next to the leach tanks on a sealed concrete pad with a curb.

[5] The Bevill Amendment exempts from Subtitle C **regulation "solid waste from the extraction, beneficiation, and processing of ores, and minerals."** EPA has interpreted the terms "extraction," "beneficiation," and "mineral processing" as describing the sequence of events needed to produce a saleable mineral.

b. Diagrams and drawings demonstrating the flow of material from source to sink including crusher circuit, flotation circuit, drying and packaging as well as tailings flow path.

Response

Details addressing the requested crusher, flotation, drying is presented in detail in Section 4.0 Rule 6.4.4. Exhibit D - Mining Plan

See attached process flow sheet, and general arrangement plan.

c. Tailings Chemistry

Response

The Leadville Mill is a toll mill accepting approved ores from different mining sources. Each source will be analyzed to determine process and environmental acceptability. (See Ore Acceptance Criteria Appendix 21-9 in permit) Tailing's chemistry for the accepted ores, except for gold content, is like the chemical properties logged in for processing. If deemed necessary and warranted, TSF tailings geochemical analysis will be undertaken. CJK will routinely analytically test water discharged to the TSF for pH, and cyanide. When pH is less than 8.0, lime will be added to the discharged water to maintain a pH above 8.0 and when total cyanide exceeds 1.0 ppm, the cyanide detoxification process will be modified to limit total cyanide concentration to levels to be statistically equal to or less than 1.0 ppm.

d. Milling capacity, including maximum output and an average range of material processed.

Response

The mill is designed to handle approximately 400 tpd, using our currently identified input ore. If/when we accept ore from other sources, this output may change, due to ore characteristics such as grindability and crushing. We do not foresee producing more than 400 tpd with our current configuration.

4. As Built Certifications

a. Engineering evaluations and stamped certified as-built documentation should be submitted for the Mill building foundation, secondary containment structures, and for the milling and tailings handling equipment. The certifications should also include the credentials of the individual or team certifying the review.

Response

This work is underway, and will be completed upon conditional permit approval by the Division. CJK commits to providing this documentation to the Division as a condition of final permit approval.

Tailings Storage Facility (TSF)

The application proposes doubling the operating capacity of the mill, from 200 tons per day to 400 tons per day and adding a cyanide circuit to the milling process. Under the current 110d permit, through AM-01 and TR-04, a TSF design was approved by the Division. The current application proposes operations that would result in significant changes in the tailings volume and tailings composition (i.e. doubling the production rate and addition of cyanide to the system). The Division considers the TSF to be an Environmental Protection Facility (EPF). As such, the

application will need include TSF design plans and construction details adequate to address all sections of Rule 6.4.21 applicable to the TSF, that are based on the mining plan proposed in this application.

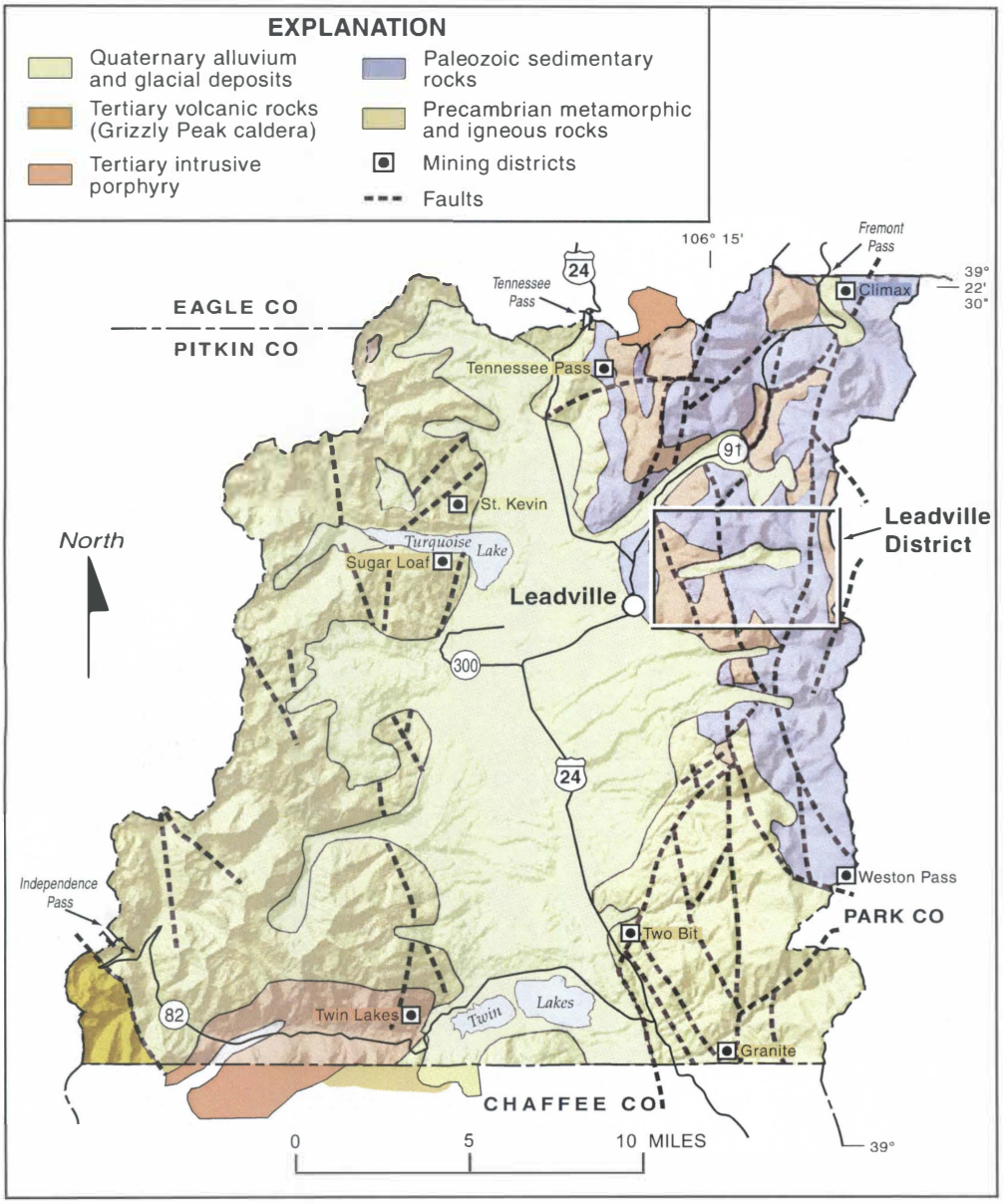
Response

This work is underway and will be completed upon conditional permit approval by the Division. CJK commits to providing this documentation to the Division as a condition of final permit approval.

Please contact me for additional information or clarifications. I may be reached by phone at 303-947-3499, nmichael@unionmilling.com.

Sincerely,

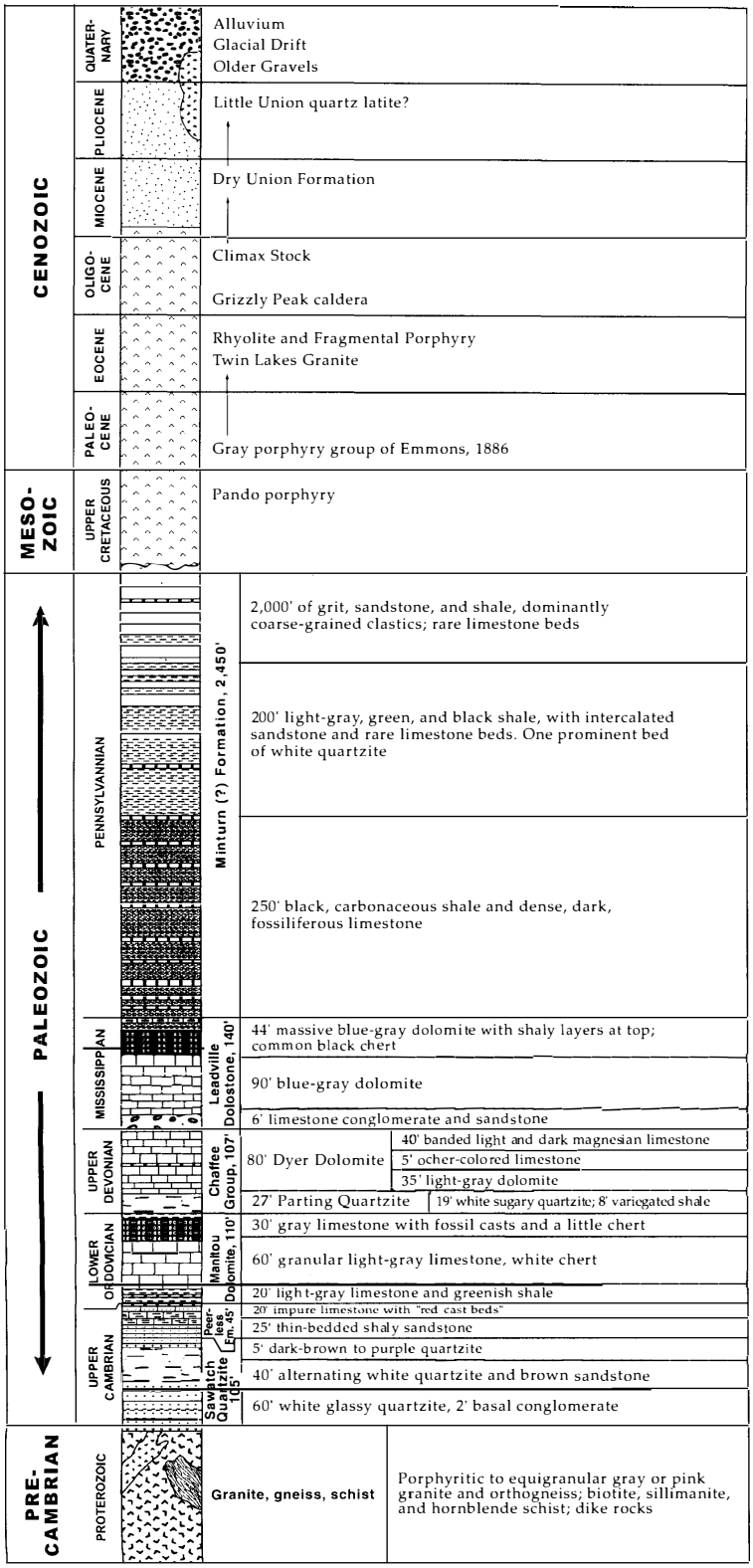
Nick Michael, Member
Union Milling Contractors, LLC



Simplified geologic map of Lake County with mining districts.

Colorado Geological Survey

FIGURE 1



Generalized strati-graphic column of Lake County; thickness in feet; full thickness of Minturn Formation not shown.

CJK Milling LLC	Figure 9-2: Mill Lake County Stratigraphic Section

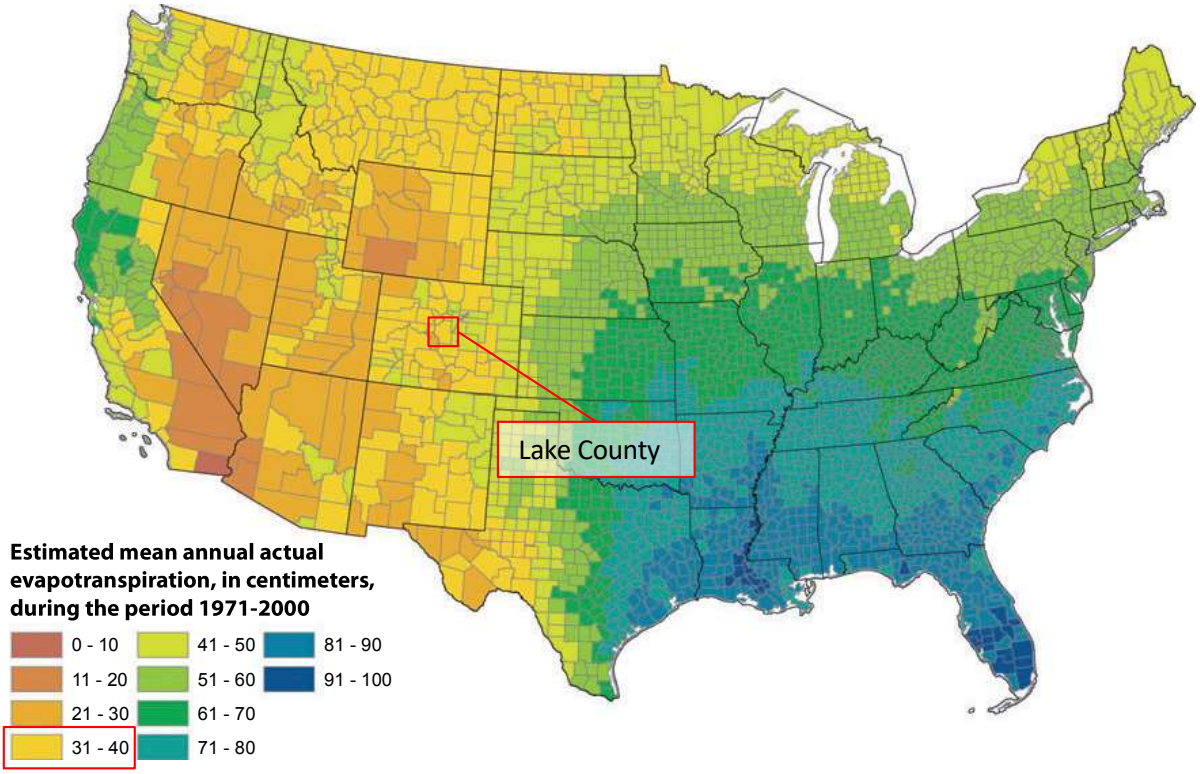


FIGURE 14. Map of Estimated Mean Annual Actual Evapotranspiration (ET) for the Conterminous U.S. for the Period 1971-2000. Estimates are based on the regression equation of ET/*P* in Table 1 that includes land cover multiplied by the mean annual precipitation from the PRISM climate data for the same period. Calculations of ET were made first at the 800-m resolution of the PRISM climate data. The mean values for the counties (shown) were then calculated by averaging the 800-m values within each county.

watersheds to compile a proxy dataset of observed ET. Climate and precipitation data at these same watersheds were then used as parameters in a regression equation to create a best fit to the observed data. The result was a regression equation that can predict ET at any given site based solely on climate, or climate and land-cover, variables with an R^2 value of 0.87 or greater. By then applying this regression equation to climate and land-cover values for each county across the entire conterminous U.S., maps were created for ET and ET/*P* for the country. The ET/*P* map illustrates that, in certain regions, such as the High Plains and the Central Valley of California, ET exceeds precipitation because of the import of water other than that available from local precipitation. These maps should be useful for regional water managers, and the method useful for application in more detail at the state level or in other regions of the world where climate and land-cover data are plentiful.

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article:

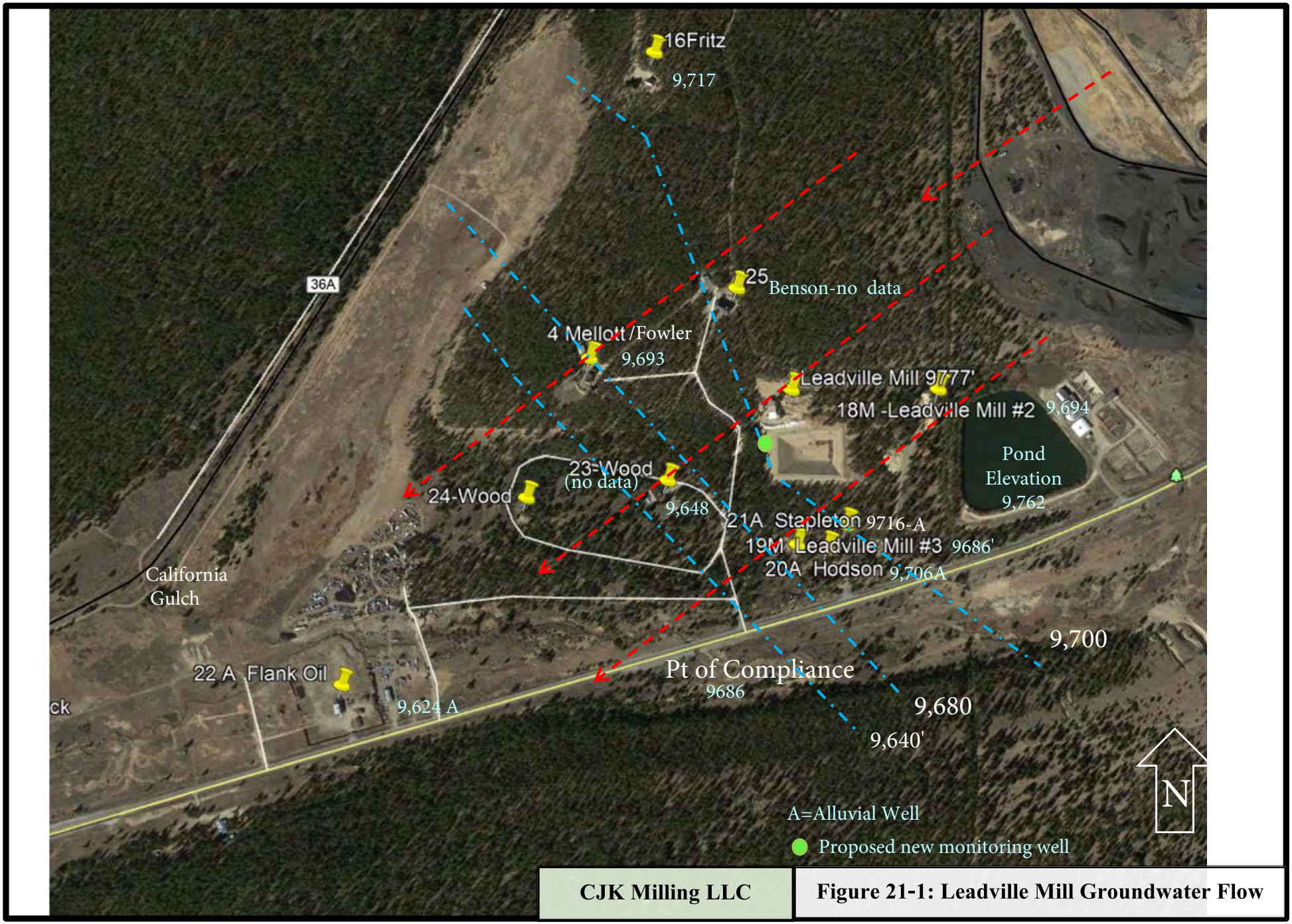
Table S1. Data associated with the 838 watersheds used to create the regression equation.

Table S2. Data associated with the 342 large watersheds used to test the validity of the regression equation.

LITERATURE CITED

Allen, R.G., 1997. Self-Calibrating Method for Estimating Solar Radiation From Air Temperature. Journal of Hydrologic Engineering 2(2):56-67.

Baldocchi, D., E. Falge, L. Gu, R. Olson, D. Hollinger, S. Running, P. Anthoni, C. Bernhofer, K. Davis, R. Evans, J. Fuentes, A. Goldstein, G. Katul, B. Law, X. Lee, Y. Malhi, T. Meyers, W. Munger, W. Oechei, K.T. Paw, K. Pilegaard, H.P. Schmid, R. Valentini, S. Verma, T. Vesala, K. Wilson, and S. Wofsy, 2001.



CJK Milling LLC

Figure 21-1: Leadville Mill Groundwater Flow

CJK Milling LLC	**Figure 21-2: New Monitoring Well**

APPENDIX 5-2

RECLAMATION COST SUMMARY

Attachment
Reclamation Cost Estimate
Leadville Mill
Lake County, Colorado

Reclamation Summary	Task				Cost
		DIRECT COSTS			
	1 Reclaim Tailing Storage Facility			$	21,190.35
	2 Cap Monitoring Wells			$	1,225.00
	3 Remove On-Site Chemicals			$	6,250.00
	4 Process Remaining ROM Materials			$	3,432.00
	5 Removal Mill Equipment			$	26,200.00
	6 Mobilization -Demobilation			$	2,440.00
	SUBTOTAL			**$**	**60,737.35**
	-				
	INDRECT COSTS				
	Indirect Costs				
	Mobilization/Demobilization				
	Liability Insurance	0.025	%	$	1,518.43
	Performance Bond	0.015	%	$	911.06
	Contractor Profit	0.15	%	$	9,110.60
	Project Management	0.05	%	$	3,036.87
	SUBTOTAL			$	14,576.96
				$	**29,153.93**
Reclamation Cost Estimate				**$**	**89,891.28**

Attachment
Reclamation Cost Estimate
Leadville Mill
Lake County, Colorado

Task 1 Reclaim Tailings Storage Facility	No.	Task Description		Unit Rate	Cost ($)	Notes
a) See Figures 6-3 and 6-4 in Permit Application. b) Estimates based on productivity indecies and work performed by contractors to construct TSF emabankment. c) Costs escalated to 4Q 2020 d) Area of TSF surface area is 109,207ft2. 2.51 acres. e) Topsoil required at 4" thickness is 1500yd3. I) Seed mix requirement 18.9lbs/acre @ S425/ac per ArkansasValleyFeed & Seed. g) Mulch applied at rate of tons/acre at cost of $250/acre. Estimate for straw delivered. h) Apply mulch and crimp using agricultural implement.	1	Grade Embankment(Dozer)	4,000	$ 1.83	$ 7,320.00	Grade embankment to cover tailings and establish
	2	Move SPGM to TSF	700	$ 2.19	$ 1,533.00	
	3	LoadTopsoil @ Stockpile	648	$ 2.60	$ 1,684.80	
	4	Haul Topsoil to TSF (Truck)	648	$ 1.55	$ 1,004.40	Truck productivity is loader limited
	5	Spread Topsoil	1,500	$ 3.65	$ 5,475.00	Average thickness of 4 inches
	6	Remove & Dispose Debris	ls	$ 1,500.00	$ 1,500.00	Estimate
	7	Seed Mix (Acres)	2.51	$ 425.00	$ 1,066.75	Seed cost expressed in $/acre
	8	Broadcast Seed (Acre)	2.51	$ 160.00	$ 401.60	Broadcast manually with hand spreader
	9	Mulch seeded area	2.51	$ 230.00	$ 577.30	Mulch cost expressed in $/acre
	10	Apply and crimp mulch	2.51	$ 250.00	$ 627.50	
					$ -	
					$ -	
Task 1 Reclaim Tailings Storage Facility cost estimte total					**$ 21,190.35**	

Task 2 Cap Monitoring Wells	No.	Task Description	Qty(yd3)	Rate($/yd3)	Cost ($)	Notes
a) 2 wells each at 100ft well @ 4in dia. Approx 2.5 b) Use -1inch aggregate to fill well. Delivered c) Use 90-lb sacks concrete, hand mix to fill last 2 ft	1	Mobilize Equipment & Labor	ls		$ 1,000.00	Deliver aggregate and labor to complete tasks
	2	Fill Wells with Aggregate	2.5	$ 50.00	$ 125.00	
	3	Fill Wells with Concrete	ls		$ 100.00	
Task 2: Cap Monitoring Wells cost estimte total					**$ 1,225.00**	

Attachment
Reclamation Cost Estimate
Leadville Mill
Lake County, Colorado

Task 3 Remove On-Site Reagents	No.	Task Description	Qty Unit	Unit Cost	Cost ($)	Notes
Reagentswill be picked up at site by approved hazardous waste disposal company, and hauled to EPA-approved disposal facility with chain-of-custodydocumentaiot n.	1	Flocculent	250 lb	$ 250.00	$ 250.00	Will be sold to lab or other producer. $250 to ship 1 pallet.
	2	Lime-CaO	24 ton	$ -	$ -	Will be used to further neutralize tailings in TSF
	2	Sodium Cyanide	6 ton	$ 500.00	$ 3,000.00	Will be sold to lab or other producer. $500/t shipment.
	3	Sodium Bisulfate	3 ton	$ 500.00	$ 1,500.00	Will be sold to lab or other producer. $500/t shipment.
	4	Copper Sulfate	50 lb	$ 250.00	$ 250.00	Will be sold to lab or other producer. $250 to ship 1 pallet.
	5	Lead Nitrate	0 lb	$ -	-	Not used
	6	Zinc Oxide	1 ton	$ 500.00	$ 500.00	Will be sold to lab or other producer. $500/t shipment.
		Borax	200 lb	$ -	$ -	Inert. Will be deposited in tailings dam
		Soda Ash	100 lb	$ -	$ -	Will be used to further neutralize tailings in TSF
		Silica Sand	400 lb	$ -	-	Inert. Will be deposited in tailings dam
		Potassium Nitrate	150 lb	$ 500.00	$ 500.00	Will be sold to lab or other producer. $500/t shipment.
		Flourspar	5 lb	$ -	$ -	Inert. Will be deposited in tailings dam
		Silicon Carbide Cement	50 lb	$ -	$ -	Inert. Will be deposited in tailings dam
		Diesel Fuel	125 gal	$ -	$ -	Truck with fuel tank will be driven off-site.
		Hydraulic Fluid	10 gal	$ 250.00	$ 250.00	Will be sold to lab or other producer. $250 to ship 1 pallet.
		Oil - Gear Boxes	10 gal	$ 250.00	$ -	included above
		Gear Lube	10 gal	$ 250.00	$ -	included above
Task 3: Remove On-Site Reagents cost estimte total					**$ 6,250.00**	

Attachment
Reclamation Cost Estimate
Leadville Mill
Lake County, Colorado

Task 4 Process Remaining RoM Material	No.	Task Description	Qty Unit	Rate($/ton)	Cost ($)	Notes
a) Assume plant is at full capacity at time of reclamation. Dry materialtotal 351 coarse ore bin, 100t fine ore bin = 1351total material. b) Operatingcosts based on UMC's TechnicalE-conomicModel at 75Vd (3.75Vh @ 20hr/day) c) All material and water in ball mill, conditioning tank, float cells and thickeners will be pumped out at same cost as dry material. Material will be run through ball mill, then routed through float cells and to tailings thickener before reporting to TSF. d) Lime will be added at ball mill to neutralize material. Metallurgical testwork on CrossMine ore indicates 3.4kg of lime [Ca(OHb] is requiredto bring pH to 9.0. For purpose of this estimate, assume 2X this amount will be required. 6.8kg/tonne= 13.6lb/st = 0.007stlime per st-ore. Given 135 st of ore must be treated, then: 0.007st-lime /st-ore x 135st-ore = 0.945st-lime is required. Assume 1 st lime will be required. d) Process water 3,900galwill be pumped through float cells and concentrate and tailings thickener to TSF. Reagents in the system will also be pumped out with the process water. This will dilute the reagents and flush out the process system. Reagent amount in the system is minir and will have di minimus affect on tailings chemist ry in the TSF. e) Fresh water 10,600galwill be drained into sewer system via gravity.	1	Crush Coarse Ore	35 tons	$ 4.11	$ 144.00	Based on UMC Technical Model
	2	Grind Coarse Ore and Fine Ore	135 tons	$ 2.62	$ 354.00	$4.72 basis without recirculatingload factor, 1.8
	3	Neutralize material with Lime	1 ton	$ 400.00	$ 400.00	$400/st-deliveredprice.
	4	Flush System with process water	135 tons	$ 0.25	$ 34.00	Pumpingcost.
	5	Labor (2 personnel)	. .		$ 2,500.00	2 personnel each @ $35/hr

Task 4: Process Remaining RoM cost estimte total $ 3,432.00

Attachment
Reclamation Cost Estimate
Leadville Mill
Lake County, Colorado

Task 5 Remove Mill Equipment	No.	Task Description	-	-	Cost	Notes
a) Remove all mill equipment from site. Equipment is salvaged, sent to recycle yard 1 mile west of property on Highway 24. b) Building/structure will remain for post-mliling industrial use. c) Assumes all equipment is salvage. Most equipment will, however, have economic value.	1	Coarse Ore Bin & Grizzly			$ 1,825.00	
	2	Crusher			$ 1,500.00	
	3	Conveyors (1 Bucket & 5 Belt Units)			$ 1,875.00	
	4	Fine Ore Bin			$ 2,675.00	Other cost is torch cutting.
	5	Ball Mill			$ 2,225.00	
	6	Dust Collector & Ductwork			$ 1,275.00	
	7	Water Storage Tanks			$ 1,150.00	
	8	Hydrocylcones			$ 750.00	
	9	Conditioning Tank			$ 425.00	
	10	Gravity Circuit (Concentrator & Table)			$ 450.00	
	11	Flotation Cells			$ 1,075.00	
	12	Concentrate Thickener			$ 925.00	
	13	Filter Press			$ 1,375.00	
	14	Tailings Thickener			$ 1,075.00	
	15	Disk Filter			$ 875.00	
	16	Concentrate Hopper			$ 425.00	
	17	Air Compressor			$ 350.00	
	18	Receiver Tank			$ 475.00	
	19	Pumps & Piping			$ 1,950.00	
	20	Building)			$ 525.00	
	21	Dump Fee			$ 3,000.00	
	Task 5: Remove Mill Equipment				**$ 26,200.00**	

Task 6 Mobilization & Demobilization	No.	Description	Round Trips	-	Cost ($)	Notes
	1	Tractor/Lowboy	4		$ 2,200.00	Rental rates include labor and contractor margins
	2	Front-End Loader	1		$ 60.00	
	3	Bulldozer	1		$ 60.00	
	4	Water Truck	1		$ 60.00	
	5	Boom Truck	1		$ 60.00	
	Task 6 Mobilization & Demobilization				**$ 2,440.00**	

APPENDIX 7-1

LEADVILLE FLOW MONITORING NETWORK COMPOSITE

Appendix 7-1
Adjacent Land Owners and Mill Well Logs

(See Figure 21-1-Adjacent Land Owner Well Locations and Groundwater Flow Base Map)

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

#13

894

WELL PERMIT NUMBER 269503 - -
DIV. 2 WD 11 DES. BASIN MD

APPLICANT

SMITH

BRAD & DIANE SMITH
2005 N HANCOCK
ARLINGTON, VA 22201-

(703) 528-4334

APPROVED WELL LOCATION
LAKE COUNTY
NE 1/4 SW 1/4 Section 28
Township 9 S Range 80 W Sixth P.M.

DISTANCES FROM SECTION LINES
2611 Ft. from South Section Line
2027 Ft. from West Section Line

UTM COORDINATES (Meters,Zone:13,NAD83)
Easting: Northing:

PERMIT TO CONSTRUCT A WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(II)(A) as the only well on a tract of land of 39.71 acres described as the NE 1/4 of the SW 1/4, Sec. 28, Twp. 9 S, Rng. 80 W, Sixth P.M., Lake County.
4) The use of ground water from this well is limited to fire protection, ordinary household purposes inside not more than three (3) single family dwellings, the watering of poultry, domestic animals and livestock on a farm or ranch and the irrigation of not more than one (1) acre of home gardens and lawns.
5) The pumping rate of this well shall not exceed 15 GPM.
6) The return flow from the use of this well must be through an individual waste water disposal system of the non-evaporative type where the water is returned to the same stream system in which the well is located.
7) This well shall be constructed not more than 200 feet from the location specified on this permit.
   NOTE: This section is short in the east-west and north-south directions. CDK 6/22/06

APPROVED
CDK

State Engineer

By

Receipt No. 3605378 DATE ISSUED 06-22-2006 EXPIRATION DATE 06-22-2008

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

#14

894

WELL PERMIT NUMBER 271566 - - -
DIV. 2 WD 11 DES. BASIN MD

Lot: Block: Filing: 5 Subdiv: BEARD RANCH

APPLICANT

HAYNES

EDWARD A & TERESA HAYNES
416 E 4TH STREET
LEADVILLE, CO 80461-

(719) 486-3292

APPROVED WELL LOCATION
LAKE COUNTY
SE 1/4 NE 1/4 Section 28
Township 9 S Range 80 W Sixth P.M.

DISTANCES FROM SECTION LINES
Ft. from Section Line
Ft. from Section Line

UTM COORDINATES (Meters,Zone:13,NAD83)
Easting: Northing:

PERMIT TO CONSTRUCT A WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(II)(A) as the only well on a tract of land of 41.32 acres described as the Industrial Parcel, Tract 5, Beard Ranch division of land, Lake County.
4) The use of ground water from this well is limited to fire protection, ordinary household purposes inside not more than three (3) single family dwellings, the watering of poultry, domestic animals and livestock on a farm or ranch and the irrigation of not more than one (1) acre of home gardens and lawns.
5) The pumping rate of this well shall not exceed 15 GPM.
6) The return flow from the use of this well must be through an individual waste water disposal system of the non-evaporative type where the water is returned to the same stream system in which the well is located.
7) Pursuant to Rule 6.2.3 of the Water Well Construction Rules, the well construction contractor shall submit the as-built well location on work reports required by Rule 17.3 within 60 days of completion of the well. The measured location must be accurate to 200 feet of the actual location. The location information must include either the 1/4, 1/4, Section, Township, Range, and distances from section lines, or a GPS location pursuant to the Division of Water Resources' guidelines.

NOTICE: This permit has been approved subject to the following change: the name of the parcel was obtained from the plat map submitted with the applicaiton. You are hereby notified that you have the right to appeal the issuance of this permit, by filing a written request with this office within sixty (60) days of the date of issuance, pursuant to the State Administrative Procedures Act. (See Section 24-4-104 through 106, C.R.S.) CDK 11/15/06

APPROVED
CDK

Hal D. Simpson
State Engineer

Clay Kinman
By

Receipt No. 3609776 DATE ISSUED 11-15-2006 EXPIRATION DATE 11-15-2008

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

#16

1455

WELL PERMIT NUMBER 283678 - - -
DIV. 2 WD 11 DES. BASIN MD

APPLICANT

FRITZ
EST. EL 9,775 FT

ROBERT FRITZ
500 E 7TH ST
LEADVILLE, CO 80461-

(321) 794-9857

APPROVED WELL LOCATION
LAKE COUNTY
NW 1/4 SE 1/4 Section 28
Township 9 S Range 80 W Sixth P.M.

DISTANCES FROM SECTION LINES
Ft. from Section Line
Ft. from Section Line

UTM COORDINATES (Meters,Zone:13,NAD83)
Easting: 384677 Northing: 4343755

PERMIT TO CONSTRUCT A WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.

3) Approved pursuant to CRS 37-92-602(3)(b)(II)(A) as the only well on a tract of land of 39.60 acres described as the NW 1/4 of the SE 1/4, Sec. 28, Twp. 9 S, Rng. 80 W, Sixth P.M., Lake County.

4) The use of ground water from this well is limited to fire protection, ordinary household purposes inside not more than three (3) single family dwellings, the watering of poultry, domestic animals and livestock on a farm or ranch and the irrigation of not more than one (1) acre of home gardens and lawns.

5) The pumping rate of this well shall not exceed 15 GPM.

6) The return flow from the use of this well must be through an individual waste water disposal system of the non-evaporative type where the water is returned to the same stream system in which the well is located.

7) Pursuant to Rule 6.2.3 of the Water Well Construction Rules, the well construction contractor shall submit the as-built well location on work reports required by Rule 17.3 within 60 days of completion of the well. The measured location must be accurate to 200 feet of the actual location. The location information must include a GPS location (UTM coordinates) pursuant to the Division of Water Resources' guidelines.

NOTE: This permit will expire on the expiration date unless the well is constructed by that date. A Well Construction and Test Report (GWS-31) must be submitted to the Division of Water Resources to verify the well has been constructed. An extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: http://www.water.state.co.us/pubs/forms.asp

APPROVED
SMJ

Receipt No. 3646375

State Engineer Dick Wolfe

DATE ISSUED 08-02-2010

By Sandy Johnson

EXPIRATION DATE 08-02-2012

11

COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES
1313 SHERMAN ST., RM 818, DENVER, CO 80203
phone – info: (303) 866-3587 main: (303) 866-3581
fax: (303) 866-3589 http://www.water.state.co.us

Office Use Only

Form GWS-44 (06/2006)

WATER RESOURCES
STATE ENGINEER
COLO

JUL 13 2010

RECEIVED

RESIDENTIAL Note: Also use this form to apply for livestock watering

Water Well Permit Application

Review instructions on reverse side prior to completing form.
The form must be completed in black or blue ink or typed.

1. Applicant Information

Name of applicant: Robert Fritz

Mailing address: 500 E. 7th Street

City: Leadville | State: CO | Zip code: 80461

Telephone #: 321-794-9857 | E-mail (optional): gardenofrock@hotmail.com

2. Type Of Application (check applicable boxes)

- [x] Construct new well
- [ ] Use existing well
- [ ] Replace existing well
- [ ] Change or increase use
- [ ] Change source (aquifer)
- [ ] Reapplication (expired permit)
- [ ] Other:

3. Refer To (if applicable)

Well permit #: | Water Court case #:

Designated Basin Determination #: | Well name or #:

4. Location Of Proposed Well

County: LAKE | ____ 1/4 of the ____ 1/4

Section	Township	N or S	Range	E or W	Principal Meridian
28	9	☐ ☒	80	☐ ☒	

Distance of well from section lines (section lines are typically not property lines)
Ft. from ☐ N ☐ S | Ft. from ☐ E ☐ W

For replacement wells only – distance and direction from old well to new well
feet direction

Well location address (include City, State, Zip) ☐ Check if well address is same as in Item 1.

Optional: GPS well location information in UTM format. GPS unit settings are as follows:
Format must be UTM
☐ Zone 12 or ☒ Zone 13
Units must be Meters
Datum must be NAD83
Unit must be set to true north
Was GPS unit checked for above? ☒ YES
Easting: 0384677
Northing: 4343755
Remember to set Datum to NAD83

5. Parcel On Which Well Will Be Located
(PLEASE ATTACH A CURRENT DEED FOR THE SUBJECT PARCEL)

A. You must check and complete *one* of the following:

- [ ] Subdivision: Name ____ Lot 13 Block ____ Filing/Unit ____
- [ ] County exemption (attach copy of county approval & survey): Name/# ____ Lot # ____
- [ ] Parcel less than 35 acres, not in a subdivision, attach a deed with metes and bounds description recorded prior to June 1, 1972, and a current deed
- [ ] Mining claim (attach a copy of the deed or survey): Name/# ____
- [ ] Square 40 acre parcel as described in Item 4
- [x] Parcel of 35 or more acres (attach a metes and bounds description or survey)
- [ ] Other (attach metes & bounds description or survey and supporting documents)

B. # of acres in parcel:

C. Are you the owner of this parcel? ☐ YES ☐ NO (if no – see instructions)

D. Will this be the only well on this parcel? ☐ YES ☐ NO (if no – list other wells)

E. State Parcel ID# (optional):

6. Use Of Well (check applicable boxes)

See instructions to determine use(s) for which you may qualify

- [ ] A. Ordinary household use in one single-family dwelling (no outside use)
- [x] B. Ordinary household use in 1 to 3 single-family dwellings: Number of dwellings: 1
  - [ ] Home garden/lawn irrigation, not to exceed one acre: area irrigated ____ ☐ sq. ft. ☐ acre
  - [ ] Domestic animal watering – (non-commercial)
- [ ] C. Livestock watering (on farm/ranch/range/pasture)

7. Well Data (proposed)

Maximum pumping rate		Annual amount to be withdrawn
15	gpm	acre-feet
Total depth		**Aquifer**
150	feet	Tributary

8. Water Supplier

Is this parcel within boundaries of a water service area? ☐ YES ☒ NO
If yes, provide name of supplier:

9. Type Of Sewage System

- [x] Septic tank / absorption leach field
- [ ] Central system: District name:
- [ ] Vault: Location sewage to be hauled to:
- [ ] Other (attach copy of engineering design and report)

10. Proposed Well Driller License #(optional): 1455

11. Signature Of Applicant(s) Or Authorized Agent

The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.

Sign here (Must be *original* signature): Robert W. Fritz | Date: 7/12/10

Print name & title: Robert W. Fritz (owner)

Office Use Only

USGS map name	DWR map no	Surface elev.

NW, SE
19 96S
208 0E

39.60 ac parcel

Receipt area only

Trans Number: 3646375
7/13/2010 1:17:32 PM
Debbie Gonzales (20)
Total Trans Amt: $100.00
CHECK
Check Number: 1891
Check Amount: $100.00

WE ✓
WR ✓
CWCB ✓
TOPO ✓
MYLAR
SBS

DIV 2 WD 4 BA ____ MD ____

349517 7/9/2008 3:40 PM Patricia Berger
1 of 2 QCD R$11.00 D$0.00 Lake County Recorder

STATE DOCUMENTARY FEE
LAKE COUNTY COLORADO

LF298-04
R298-04

QUITCLAIM DEED

THIS QUITCLAIM DEED, executed this 12th day of September, 2007, by first party, Grantor, William H. Fritz and Lorraine C. Fritz whose post office address is 4274 Fenrose Circle Melbourne, FL 32940 to second party, Grantee, Robert W. Fritz whose post office address is 4274 Fenrose Cir Melbourne, FL 32940

WITNESSETH, That the said first party, for good consideration and for the sum of Ten dollars and other good + valuable consideration Dollars ($ 10.00) paid by the said second party, the receipt whereof is hereby acknowledged, does hereby remise, release and quitclaim unto the said second party forever, all the right, title, interest and claim which the said first party has in and to the following described parcel of land, and improvements and appurtenances thereto in the County of Lake, State of Colorado to wit:

LOT 13 28-09-80 containing 39.60 AC
496/695-8 500/334 547/91 POA 567/796-7 567/798
Easement 567/700-5 567/799-80 468/905 590/274

AQAB

349517 7/9/2008 3:40 PM Patricia Berger
2 of 2 QCD R$11.00 D$0.00 Lake County Recorder

IN WITNESS WHEREOF, The said first party has signed and sealed these presents the day and year first above written. Signed, sealed and delivered in presence of:

Signature of Witness

Rebecca Stafford
Print name of Witness

Signature of Witness

Mark G. Thompson
Print name of Witness

x William H Fritz
Signature of First Party

William H Fritz
Print name of First Party

x Lorraine C. Fritz
Signature of First Party

Lorraine C. Fritz
Print name of First Party

State of Florida
County of Brevard
On Sept 12, 2007 before me,
appeared William H. Fritz and Lorraine C. Fritz
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
WITNESS my hand and official seal.

Shirley M. Bradley
Signature of Notary

Affiant ____ Known ✓ Produced ID
Type of ID _____
(Seal)

NOTARY PUBLIC-STATE OF FLORIDA
Shirley M. Bradley
Commission # DD732519
Expires: FEB. 27, 2012
BONDED THRU ATLANTIC BONDING CO., INC.

State of Florida
County of Brevard
On Sept 12, 2007 before me,
appeared William H. Fritz and Lorraine C. Fritz
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
WITNESS my hand and official seal.

Shirley M. Bradley
Signature of Notary

NOTARY PUBLIC-STATE OF FLORIDA
Shirley M. Bradley
Commission # DD732519
Expires: FEB. 27, 2012
BONDED THRU ATLANTIC BONDING CO., INC.

Affiant ____ Known ✓ Produced ID
Type of ID _____
(Seal)

Robert W. Fritz
Signature of Preparer

Robert W. Fritz
Print Name of Preparer

4274 Fennse Circle
Address of Preparer

Melbourne, FL 32940

AQAB

Johnson, Sandy

From: Rob Fritz [gardenofrock@hotmail.com]
Sent: Friday, July 30, 2010 2:52 PM
To: Johnson, Sandy
Subject: Well Permit - Fritz, Robert - eadville, Co

Sandy,

Thank you for working on my well permit today. After our conversation, I met with Howard A. Tritz, Lake County Assessor, and he confirmed that I own the whole quarter as we discussed.
Under section 4 of the well permit: Location of Proposed Well - He added the following information: County of course is Lake. "NW 1/4 of the SE 1/4" is what he added. .
Principal Meridain - 6th (he added that also). Thank you for using the Rule 6.2.3 in processing this application also.

Please let me know if you have any other questions. My cell coverage in Leadville is spotty at times, but I will get back with you as soon as possible if I don't grab the phone.
Thanks again, and have a nice weekend,

Rob Fritz
321-794-9857
Property section 28, township 9, range 80W Prin Merid 6th - Robert Fritz (owner)

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

#

388

WELL PERMIT NUMBER 246992 - - -
DIV. 2 WD 11 DES. BASIN MD

APPLICANT

Lot: 5 Block: Filing: Subdiv: BEARD RANCH TRACT 5

APPROVED WELL LOCATION
LAKE COUNTY
NE 1/4 NE 1/4 Section 28
Township 9 S Range 80 W Sixth P.M.

FRANK M NICKLE
7437 S WASHINGTON ST
LITTLETON, CO 80122-

DISTANCES FROM SECTION LINES
494 Ft. from North Section Line
4885 Ft. from West Section Line

UTM COORDINATES
Northing: Easting:

(303) 797-1742

PERMIT TO CONSTRUCT A WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(II)(A) as the only well on a tract of land of 35.018 acres described as parcel 5, tract 5, Beard Ranch division of land, Lake County.
4) The use of ground water from this well is limited to fire protection, ordinary household purposes inside not more than three (3) single family dwellings, the irrigation of not more than one (1) acre of home gardens and lawns, and the watering of domestic animals.
5) The maximum pumping rate of this well shall not exceed 15 GPM.
6) The return flow from the use of this well must be through an individual waste water disposal system of the non-evaporative type where the water is returned to the same stream system in which the well is located.
7) This well shall be constructed not more than 200 feet from the location specified on this permit.

NOTICE: This permit has been approved subject to the following changes: the quarter/quarter and quarter section were determined from distances from section lines. You are hereby notified that you have the right to appeal the issuance of this permit, by filing a written request with this office within sixty (60) days of the date of issuance, pursuant to the State Administrative Procedures Act. (See Section 24-4-104 through 106, C.R.S.)

January 13, 2002
MPS

APPROVED
MPS

Hal D. Simpson
State Engineer

By

Receipt No. 0503875

DATE ISSUED 01-13-2003

EXPIRATION DATE 01-13-2005

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

LIC

WELL PERMIT NUMBER 293115 - - -
DIV. 2 WD 11 DES. BASIN MD

Lot: 2 Block: 5 Filing: 5 Subdiv: BEARD RANCH

APPLICANT

#17
SMITH

BRAD SMITH
2005 N HANCOCK
ARLINGTON, VA 22201-

(703) 980-6416

APPROVED WELL LOCATION
LAKE COUNTY
SE 1/4 NW 1/4 Section 28
Township 9 S Range 80 W Sixth P.M.

DISTANCES FROM SECTION LINES
Ft. from North Section Line
Ft. from West Section Line

UTM COORDINATES (Meters,Zone:13,NAD83)
Easting: 384461 Northing: 4344019

PERMIT TO CONSTRUCT A WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(II)(A) as the only well on a tract of land of 36.13 acres described as parcel 2, tract 5, filing 5, Beard Ranch division of land, Lake County.
4) The use of ground water from this well is limited to fire protection, ordinary household purposes inside not more than three (3) single family dwellings, the watering of poultry, domestic animals and livestock on a farm or ranch and the irrigation of not more than one (1) acre of home gardens and lawns.
5) The pumping rate of this well shall not exceed 15 GPM.
6) The return flow from the use of this well must be through an individual waste water disposal system of the non-evaporative type where the water is returned to the same stream system in which the well is located.
7) Pursuant to Rule 6.2.3 of the Water Well Construction Rules, the well construction contractor shall submit the as-built well location on work reports required by Rule 17.3 within 60 days of completion of the well. The measured location must be accurate to 200 feet of the actual location. The location information must include a GPS location (UTM coordinates) pursuant to the Division of Water Resources' guidelines.

NOTE: The approved well location, above, is for internal mapping purposes only and is not meant to constrain the location of the well. The well may be located anywhere on the previously described tract of land as designated herein.

NOTE: This permit will expire on the expiration date unless the well is constructed by that date. A Well Construction and Test Report (GWS-31) must be submitted to the Division of Water Resources to verify the well has been constructed. An extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: http://www.water.state.co.us

APPROVED
MP2

Dick Wolfe
State Engineer

Melissa S. Peterson
By

Receipt No. 3662583 DATE ISSUED 12-20-2013 EXPIRATION DATE 12-20-2015

719-486-7255

COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES
1313 SHERMAN ST., Ste 821, DENVER, CO 80203
Main: (303) 866-3581 Fax: (303) 866-2223 dwrpermitsonline@state.co.us

Office Use Only RECEIVED DEC 18 2013 WATER RESOURCES STATE ENGINEER COLO

Form GWS-44 (7/2012) RECEIVED NOV 21 2013 WATER RESOURCES STATE ENGINEER COLO

RESIDENTIAL Note Also use this form to apply for livestock watering
Water Well Permit Application

Review form instructions prior to completing form.
Hand completed forms must be completed in black or blue ink or typed.

1. Applicant Information

Name(s)
Brad Smith

Mailing address
2005 North Hancock

City: Arlington | State: VA | Zip code: 22201

Telephone (w/area code): (703) 980-6416 | E-mail: smithb@sainc.com

2. Type Of Application (check applicable boxes)

- ■ Construct new well
- ☐ Replace existing well
- ☐ Use existing well
- ☐ Change or increase use
- ☐ Change source (aquifer)
- ☐ Reapplication (expired permit)
- ☐ Rooftop precip. collection
- ☐ Other:

3. Refer To (if applicable)

Well permit # | Water Court case #

Designated Basin Determination # | Well name or #

4. Location Of Proposed Well (Important! See Instructions)

County: Lake | SE 1/4 of the NW 1/4

Section: 28 | Township: 9 N or S: ☐ N ☒ S | Range: 80 E or W: ☐ E ☒ W | Principal Meridian: 6th

Distance of well from section lines (section lines are typically not property lines)
2440 Ft. from ☒ N ☐ S 2400 Ft. from ☐ E ☒ W

For replacement wells only – distance and direction from old well to new well
feet Direction

Well location address (include City, State, Zip) ☐ Check if well address is same as in item 1

1642 A County Rd 36, Leadville, CO 80461

Optional: GPS well location information in UTM format. GPS unit settings are as follows:
Format must be UTM
☐ Zone 12 or ☐ Zone 13
Units must be Meters
Datum must be NAD83
Unit must be set to true north
Was GPS unit checked for above? ☐ YES

Easting 384460.5
Northing 4344019.3
Remember to set Datum to NAD83

5. Parcel On Which Well Will Be Located
(You must attach a current deed for the subject parcel)

A. You must check and complete one of the following:
- ☐ Subdivision, Name Beard Ranch
  Lot 2 Block 5 Filing/Unit 5
- ☐ County exemption (attach copy of county approval & survey)
  Name/#: _____ Lot #: _____
- ☐ Parcel less than 35 acres, not in a subdivision attach a deed with metes & bounds description recorded prior to June 1, 1972, and current deed
- ☐ Mining claim (attach copy of deed or survey) Name/#: _____
- ☐ Square 40 acre parcel as described in item 4
- ■ Parcel of 35 or more acres (attach metes & bounds description or survey)
- ☐ Other: (attach metes & bounds description or survey)

B. # of acres in parcel: 36.135

C. Are you the owner of this parcel? ☒ YES ☐ NO

D. Will this be the only well on this parcel? ☒ YES ☐ NO (if no – list other wells)

E. State Parcel ID# (optional)

6. Use Of Well (check applicable boxes)

See instructions to determine use(s) for which you may qualify
- ☐ A. Ordinary household use in one single-family dwelling (no outside use)
- ■ B. Ordinary household use in 1 to 3 single-family dwellings:
  Number of dwellings: 2
  - ☐ Home garden/lawn irrigation, not to exceed one acre:
    area irrigated _____ ☐ sq. ft. ☐ acre
  - ☐ Domestic animal watering – (non-commercial)
- ☐ C. Livestock watering (on farm/ranch/range/pasture)

7. Well Data (proposed)

Maximum pumping rate: 15 gpm | Annual amount to be withdrawn: 1/3 acre-feet
Total depth: 160 feet | Aquifer:

8. Water Supplier

Is this parcel within boundaries of a water service area? ☐ YES ☒ NO
If yes, provide name of supplier.

9. Type Of Sewage System

- ■ Septic tank / absorption leach field
- ☐ Central system. District name: _____
- ☐ Vault: Location sewage to be hauled to: _____
- ☐ Other (explain) _____

10. Proposed Well Driller License #(optional):

11. Sign or Enter Name of Applicant(s) or Authorized Agent

The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.

Sign or enter name(s) of person(s) submitting application: [signature] Date (mm/dd/yyyy): 11/15/2013

If signing print name and title: Brad Smith, Owner

Office Use Only

USGS map name | DWR map no | Surface elev

Receipt area only

AQUAMAP
WE
WR
CWCB
TOPO
MYLAR
SBS

Transaction # 3662583
Date 11/21/2013 10:49:00 AM
Transaction Total $100.00
CHECK #28694 $100.00

DIV 2 WD 11 BA ____ MD ____

Best Copy Available

355170

355170 10/7/2010 10:55 AM Patricia Berger
1 of 2 WD R$16.00 D$17.00 Lake County Reco

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WARRANTY DEED

THIS DEED, is dated the 6th day of October, 2010, and is made between

STATE DOCUMENTARY FEE
$17.00
LAKE COUNTY COLORADO

Jason Senecal

(whether one, or more than one), the "Grantor," of the County of Chatham and State of Georgia and

Diane Marburger Smith and Bradford Lee Smith Jr.

the "Grantees," whose legal address is: 2005 N. Hancock St, Arlington VA 22201 of the County of Arlington and State of Virginia

WITNESS, that the Grantor, for and in consideration of the sum of **($10.00) Ten dollars and Zero cents,** the receipt and sufficiency of which is hereby acknowledged, hereby grants, bargains, sells, conveys and confirms unto the Grantees and the Grantees' heirs and assigns forever, not in tenancy in common but in joint tenancy, all the real property, together with any improvements thereon, located in the County of Lake and State of Colorado described as follows:

See "Exhibit A" attached hereto
also known by street and number as: V/L - Pcl 2 Tr 5 Beard Ranch #5, Leadville, CO 80461

TOGETHER with all and singular the hereditaments and appurtenances thereto belonging, or in anywise appertaining, the reversions, remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the Grantor, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances;

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the Grantees, and the Grantees' heirs and assigns forever.

The Grantor, for the Grantor and the Grantor's heirs and assigns, does covenant, grant, bargain, and agree to and with the Grantees, and the Grantees' heirs and assigns: that at the time of the ensealing and delivery of these presents, the Grantor is well seized of the premises above described; has good, sure, perfect, absolute and indefeasible estate of inheritance, in law, and in fee simple; and has good right, full power and lawful authority to grant, bargain, sell and convey the same in manner and form as aforesaid; and that the same are free and clear from all former and other grants, bargains, sales, liens, taxes, assessments, encumbrances and restrictions of whatever kind or nature soever, except and subject to:

General taxes for the year 2010 and subsequent years; and those specific exceptions described by reference to recorded documents as reflected in the Title Documents accepted by Grantee(s) in accordance with Section 8.1 (Title Review) of the Contract to Buy and Sell Real Estate relating to the above described real property; distribution utility easements (including, cable TV); those specifically described rights of third parties not shown by the public records of which Grantee(s) has actual knowledge and which were accepted by Grantee(s) in accordance with Section 8.2 (Matters Not Shown by the Public Records) and Section 8.3 (Survey Review) of the Contract to Buy and Sell Real Estate relating to the above described real property; inclusion of the Property within any special taxing district; the benefits and burdens and of any recorded declaration and party wall agreements, if any.

And the Grantor shall and will WARRANT AND FOREVER DEFEND the above-described premises, *but not any adjoining vacated street or alley*, if any, in the quiet and peaceable possession of the Grantees, and the heirs and assigns of the Grantees, against all and every person or persons lawfully claiming the whole or any part thereof.

IN WITNESS WHEREOF, the Grantor has executed this deed on the date set forth above.

Jason Senecal

State of Florida)
) ss.
County of Orange)

The foregoing instrument was acknowledged before me this 30th day of Sept., 2010 by Jason Senecal

Witness my hand and official seal.

Notary Public: Mrie A. Bauer
My commission expires: March 26, 2014

State of Georgia and

Diane Marburger Smith and Bradford Lee Smith Jr.

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STATE ENGINEER
COLO

the "Grantees," whose legal address is: 2005 N. Hancock St, Arlington VA 22201 of the County of Arlington and State of Virginia

WITNESS, that the Grantor, for and in consideration of the sum of **($10.00) Ten dollars and Zero cents,** the receipt and sufficiency of which is hereby acknowledged, hereby grants, bargains, sells, conveys and confirms unto the Grantees and the Grantees' heirs and assigns forever, not in tenancy in common but in joint tenancy, all the real property, together with any improvements thereon, located in the County of Lake and State of Colorado described as follows:

See "Exhibit A" attached hereto
also known by street and number as: V/L - Pcl 2 Tr 5 Beard Ranch #5, Leadville, CO 80461

TOGETHER with all and singular the hereditaments and appurtenances thereto belonging, or in anywise appertaining, the reversions, remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the Grantor, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances;

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the Grantees, and the Grantees' heirs and assigns forever.

The Grantor, for the Grantor and the Grantor's heirs and assigns, does covenant, grant, bargain, and agree to and with the Grantees, and the Grantees' heirs and assigns: that at the time of the ensealing and delivery of these presents, the Grantor is well seized of the premises above described; has good, sure, perfect, absolute and indefeasible estate of inheritance, in law, and in fee simple; and has good right, full power and lawful authority to grant, bargain, sell and convey the same in manner and form as aforesaid; and that the same are free and clear from all former and other grants, bargains, sales, liens, taxes, assessments, encumbrances and restrictions of whatever kind or nature soever, except and subject to:

General taxes for the year 2010 and subsequent years; and those specific exceptions described by reference to recorded documents as reflected in the Title Documents accepted by Grantee(s) in accordance with Section 8.1 (Title Review) of the Contract to Buy and Sell Real Estate relating to the above described real property; distribution utility easements (including, cable TV); those specifically described rights of third parties not shown by the public records of which Grantee(s) has actual knowledge and which were accepted by Grantee(s) in accordance with Section 8.2 (Matters Not Shown by the Public Records) and Section 8.3 (Survey Review) of the Contract to Buy and Sell Real Estate relating to the above described real property; inclusion of the Property within any special taxing district; the benefits and burdens and of any recorded declaration and party wall agreements, if any.

And the Grantor shall and will WARRANT AND FOREVER DEFEND the above-described premises, *but not any adjoining vacated street or alley*, if any, in the quiet and peaceable possession of the Grantees, and the heirs and assigns of the Grantees, against all and every person or persons lawfully claiming the whole or any part thereof.

IN WITNESS WHEREOF, the Grantor has executed this deed on the date set forth above.

Jason Senecal

State of Florida)
) ss.
County of Orange)

The foregoing instrument was acknowledged before me this 30th day of Sept., 2010 by Jason Senecal

Witness my hand and official seal.

Terri A. Bauer
Notary Public:
My commission expires: March 26, 2014

TERRI A BAUER
Notary Public - State of Florida
My Comm. Expires Mar 26, 2014
Commission # DD 957089
Bonded Through National Notary Assn

355170

355170
2 of 2 WD 10/7/2010 10:55 AM R$16.00 D$17.00

Patricia Berger
Lake County Recorder

Exhibit A
LEGAL DESCRIPTION

File Number: 934181

PARCEL 2-TRACT 5—Beard Ranch

A parcel of land located in the North ½ of Section 28, Township 9 South, Range 80 West of the 6th Principal Meridian, Lake County, Colorado and being described as follows:

Commencing at the West ¼ Corner of said Section 28, a U.S.B.L.M. pipe and brass cap, thence S. 89° 14' 35" E. a distance of 2308.40 feet to the point of beginning for this description.

Thence N. 00° 00' 00" E. a distance of 901.91 feet to the approximate south edge of Lake County Road 36.

Thence along said County Road 36 for the following 6 courses:

N. 84° 29' 30" E. a distance of 309.24 feet;
N. 83° 22' 07" E. a distance of 731.92 feet;
N. 79° 14' 27" E. a distance of 65.55 feet;
N. 73° 53' 15" E. a distance of 96.62 feet;
N. 65° 27' 58" E. a distance of 485.59 feet;
N. 67° 02' 23" E. a distance of 491.87 feet.

Thence S. 32° 55' 39" W. leaving said County Road 36, a distance of 1743.87 feet to a point on the south line of the North ½ of said Section 28.

Thence N. 89° 14' 34" W. along said south line a distance of 1138.91 feet to the point of beginning.

NOTE: The basis of the bearings for this description is the line between the North ¼ Corner and the Northeast Corner of Section 28, Township 9 South, Range 80 West being monumented at each end with a BLM pipe and brass cap, this line bears S. 88° 30' 05" E.

LESS AND EXCEPT THE FOLLOWING PARCEL OF LAND

A parcel of land being a portion of the Union Pacific Railroad right-of-way located in the Northeast ¼ of Section 28, Township 9 South, Range 80 West of the 6th Principal Meridian, Lake County, Colorado and being described as follows:

Commencing at the West ¼ Corner of said Section 28, a U.S.B.L.M. pipe and brass cap, thence S. 89° 14' 34" E. a distance of 2999.04 feet to a point on the south line of the Northeast ¼ and being the point of beginning for this description.

Thence N. 32° 55' 39" E. along the Westerly right-of-way line of the Union Pacific Railroad, a distance of 1412.94 feet to the approximate south edge of Lake County Road 36.

Thence N. 65° 27' 58" E. along said County Road 36 a distance of 92.96 feet.

Thence S. 32° 55' 39" W. along the Easterly right of way of said Union Pacific Railroad a distance of

PARCEL 2-TRACT 3—Beard Ranch

A parcel of land located in the North ½ of Section 28, Township 9 South, Range 80 West of the 6th Principal Meridian, Lake County, Colorado and being described as follows:

Commencing at the West ¼ Corner of said Section 28, a U.S.B.L.M. pipe and brass cap, thence S. 89° 14' 35" E. a distance of 2308.40 feet to the point of beginning for this description.

Thence N. 00° 00' 00" E. a distance of 901.91 feet to the approximate south edge of Lake County Road 36.

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Thence along said County Road 36 for the following 6 courses:

N. 84° 29' 30" E. a distance of 309.24 feet;
N. 83° 22' 07" E. a distance of 731.92 feet;
N. 79° 14' 27" E. a distance of 65.55 feet;
N. 73° 53' 15" E. a distance of 96.62 feet;
N. 65° 27' 58" E. a distance of 485.59 feet;
N. 67° 02' 23" E. a distance of 491.87 feet.

Thence S. 32° 55' 39" W. leaving said County Road 36, a distance of 1743.87 feet to a point on the south line of the North ½ of said Section 28.

Thence N. 89° 14' 34" W. along said south line a distance of 1138.91 feet to the point of beginning.

NOTE: The basis of the bearings for this description is the line between the North ¼ Corner and the Northeast Corner of Section 28, Township 9 South, Range 80 West being monumented at each end with a BLM pipe and brass cap, this line bears S. 88° 30' 05" E.

LESS AND EXCEPT THE FOLLOWING PARCEL OF LAND

A parcel of land being a portion of the Union Pacific Railroad right-of-way located in the Northeast ¼ of Section 28, Township 9 South, Range 80 West of the 6th Principal Meridian, Lake County, Colorado and being described as follows:

Commencing at the West ¼ Corner of said Section 28, a U.S.B.L.M. pipe and brass cap, thence S. 89° 14' 34" E. a distance of 2999.04 feet to a point on the south line of the Northeast ¼ and being the point of beginning for this description.

Thence N. 32° 55' 39" E. along the Westerly right-of-way line of the Union Pacific Railroad, a distance of 1412.94 feet to the approximate south edge of Lake County Road 36.

Thence N. 65° 27' 58" E. along said County Road 36 a distance of 92.96 feet.

Thence S. 32° 55' 39" W. along the Easterly right of way of said Union Pacific Railroad a distance of 1459.85 feet to a point on the south line of the Northeast ¼ of said Section 28.

Thence N. 89° 14' 34" W. along said south line a distance of 59.07 feet to the point of beginning.

LEADVILLE MILL

STATE OF COLORADO

Application Receipt Nos. 3666028A & B

Foy - DNR, Caleb <caleb.foy@state.co.us> Mon, Sep 8, 2014 at 1:18 PM
To: hmichael@unionmilling.com

Good Afternoon,

I am writing in regards to the above-referenced applications submitted to our office for 2 monitoring well permits on property owned by Constructive Investments, LLC. According to the Lake County Assessor's database, it appears the property is located in the SE 1/4 of Sec. 28 and the NE 1/4 of Sec. 33, Twp. 9S, Rng. 80W, In order to complete evaluation of the well permit applications, I will need one of the following pieces of information:

1. A description of the 20.7 acre on which the wells will be located (such that the permits can be issued with the floating well location Rule 6.2.3)

OR

2. A point location for each one of the applications, in which case the permits will be issued with a condition that the well is constructed within 200 feet of the permitted location.

Should you have any questions, please feel free to contact me directly.

Sincerely,

Caleb Foy, E.I.T.
Water Resource Engineer

COLORADO
Division of Water Resources
Department of Natural Resources

P 303.866.3581, x8272 | F 303.866.2223
1313 Sherman Street, Room 818, Denver, CO 80203
Caleb.Foy@state.co.us | www.water.state.co.us

Holly Michael <hmichael@unionmilling.com> Thu, Sep 11, 2014 at 1:27 PM
To: "Foy - DNR, Caleb" <caleb.foy@state.co.us>

Caleb,

Please find below the GPS coordinates for our two monitoring wells.

Well located at the SW corner of the property: 39 Deg-13'-44.07" N by 106 Deg-20'-00.72" W (This equates to the well at: S-33, T-9 South, R-80 West)

Well located at the road by the old ball mill: 39 Deg-13'-49.94" N by 106 Deg-19'-53.77" W (This equates to the well at: S-28, T-9 South, R-80 West)

Please let me know if you need anything else.

Thanks,

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

#18

LIC

WELL PERMIT NUMBER 295655 - - -
DIV. 2 WD 11 DES. BASIN MD

APPLICANT

LEADVILLE MILL
MONITORING WELL #3

UNION MILLING COMPANY LLC
PO BOX 620490
LITTLETON, CO 80162-

(303) 947-7837

PERMIT TO CONSTRUCT A WELL

APPROVED WELL LOCATION
LAKE COUNTY
NW 1/4 NE 1/4 Section 33
Township 9 S Range 80 W Sixth P.M.

DISTANCES FROM SECTION LINES
379 Ft. from North Section Line
1333 Ft. from East Section Line

UTM COORDINATES (Meters,Zone:13,NAD83)
Easting: 384988 Northing: 4343027

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(I) for uses as described in CRS 37-92-602(1)(f). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Records of water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Division of Water Resources upon request.
6) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
7) The owner shall mark the well in a conspicuous place with the well permit number and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
8) This well must be constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules. If non-standard construction is anticipated, a variance request must be submitted in accordance with Rule 18 and approved prior to well construction.
9) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.
10) This well shall be constructed not more than 200 feet from the location specified on this permit.

NOTE: Issuance of this permit does not guarantee that this well can be converted to a production well under a future permit. Additionally, pursuant to Rule 14.2 of the Water Well Construction Rules (2 CCR 402-2), monitoring holes constructed pursuant to a monitoring hole notice shall not be converted to a production well. (Upon obtaining a permit from the State Engineer, a monitoring hole may be converted to a monitoring well, recovery well for remediation of the aquifer, or a dewatering system for dewatering the aquifer.)

NOTE: This permit will expire on the expiration date unless the well is constructed by that date. A Well Construction and Test Report (GWS-31) must be submitted to the Division of Water Resources to verify the well has been constructed. An extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: http://www.water.state.co.us

NOTICE: This permit has been approved subject to the following changes: The distances from section lines, quarter/quarter, and quarter were determined from GPS coordinates provided by the applicant The distances from section lines, quarter/quarter, quarter, Section, Township, Range and P.M. were determined from UTM coordinate values provided with the permit application You are hereby notified that you have the right to appeal the issuance of this permit, by filing a written request with this office within sixty (60) days of the date of issuance, pursuant to the State Administrative Procedures Act. (See Section 24-4-104 through 106, C.R.S.)

APPROVED
CRF

Dick Wolfe
State Engineer

By

Receipt No. 3666028B DATE ISSUED 09-11-2014 EXPIRATION DATE 09-11-2016

LEADVILLE MILL

COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES
1313 SHERMAN ST., Ste 821, DENVER CO 80203
Phone: (303) 866-3581 Fax: (303) 866-2223 dwrpermitsonline@state.co.us

Office Use Only

Form GWS-46 (11/2011)

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WATER RESOURCES
STATE ENGINEER
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MONITORING/OBSERVATION Water Well Permit Application

Review instructions on reverse side prior to completing form.
The form must be typed, completed online or in black or blue ink.

1. Well Owner Information

Name of well owner: Union Milling Company, LLC

Mailing address: P.O. Box 620490

City	State	Zip code
Littleton	CO	80162

Telephone #	E-Mail (If filing online it is required)
303-947-7837	hmichael@unionmilling.com

2. Type Of Application (check applicable boxes)

- ☐ Use existing well
- ■ Construct new well
- ☐ Other:
- ☐ Replacement for existing monitoring well: Permit no.:

3. Refer To (if applicable)

Monitoring hole acknowledgment	Well name or #
MH-	

4. Location Of Proposed Well (Important! See Instructions)

County: Lake

_____ 1/4 of the _____ 1/4

Section	Township	N or S	Range	E or W	Principal Meridian
33	9	☐ ☒	80	☐ ☒	6th

Distance of well from section lines (section lines are typically not property lines)
Ft. from ☐ N ☐ S Ft. from ☐ E ☐ W

For replacement wells only – distance and direction from old well to new well
feet direction

Well location address (Include City, State, Zip) ☐ Check if well address is same as Item 1
13815 Highway 24, Leadville CO 80461

Optional: GPS well location information in UTM format
You must check GPS unit for required settings as follows:

Format must be UTM
☐ Zone 12 or ☒ Zone 13
Units must be Meters
Datum must be NAD83
Unit must be set to true north
Was GPS unit checked for above? ☐ YES

Easting _____
Northing _____
Remember to set Datum to NAD83

5. Property Owner Information

Name of property owner: Constructive Investments, LLC

Mailing address: P.O. Box 620490

City	State	Zip Code
Littleton	CO	80162

Telephone #: 303-947-7837

6. Use Of Well

Use of this well is limited to monitoring water levels and/or water quality sampling

7. Well Data (proposed)

Total depth	Aquifer
100 feet	Glacial Fill

8. Consultant Information (if applicable)

Name of contact person

Company name

Mailing address

City	State	Zip Code

Telephone #

9. Proposed Well Driller License #(optional):

10. Name of Well Owner or Authorized Agent

The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). *I have read the statements herein, know the contents thereof and state that they are true to my knowledge.*

Sign or enter full name here	Date (mm/dd/yyyy)
Holly Michael, Member	08/04/2014

If signing print name. Print title if other than land owner

Office Use Only

USGS map name	DWR map no.	Surface elev.

39° 13' 41.07"
-106° 20' 0.72"

E: 384897.9
N: 4343027.4

Receipt area only

NW, NE 33-9S-80W
379' NSL, 1333' ESL

Transaction #: 3666028 B
Date: 8/5/2014 9:50:35 AM
Transaction Total $200.00
CREDIT CARD $200.00

DIV 2 WD 11 BA ____ MD ____

Print Details

Property Detail	
Account	10024904
Name	CONSTRUCTIVE INVESTMENTS, LLC
Address line 1	
Address line 2	
Address line 3	P O BOX 620490
Address line 4	LITTLETON
State	CO
Zip Code	80162-0490
File Flag	M
Legal Description	PT ZUNI PLACER IN SE 1/4 OF28-9-80 & NE 1/4 33-9-80 U.S. SURVEY #4436 CONTAINING 20.7 A 480/327 487/26 507/715-716 528/183
Address (Property)	4436 ZUNI
Master Acres	20.7

Values	
Land	$4,554.00
Building	$0.00
Extra Features	$0.00
Total	$4,554.00

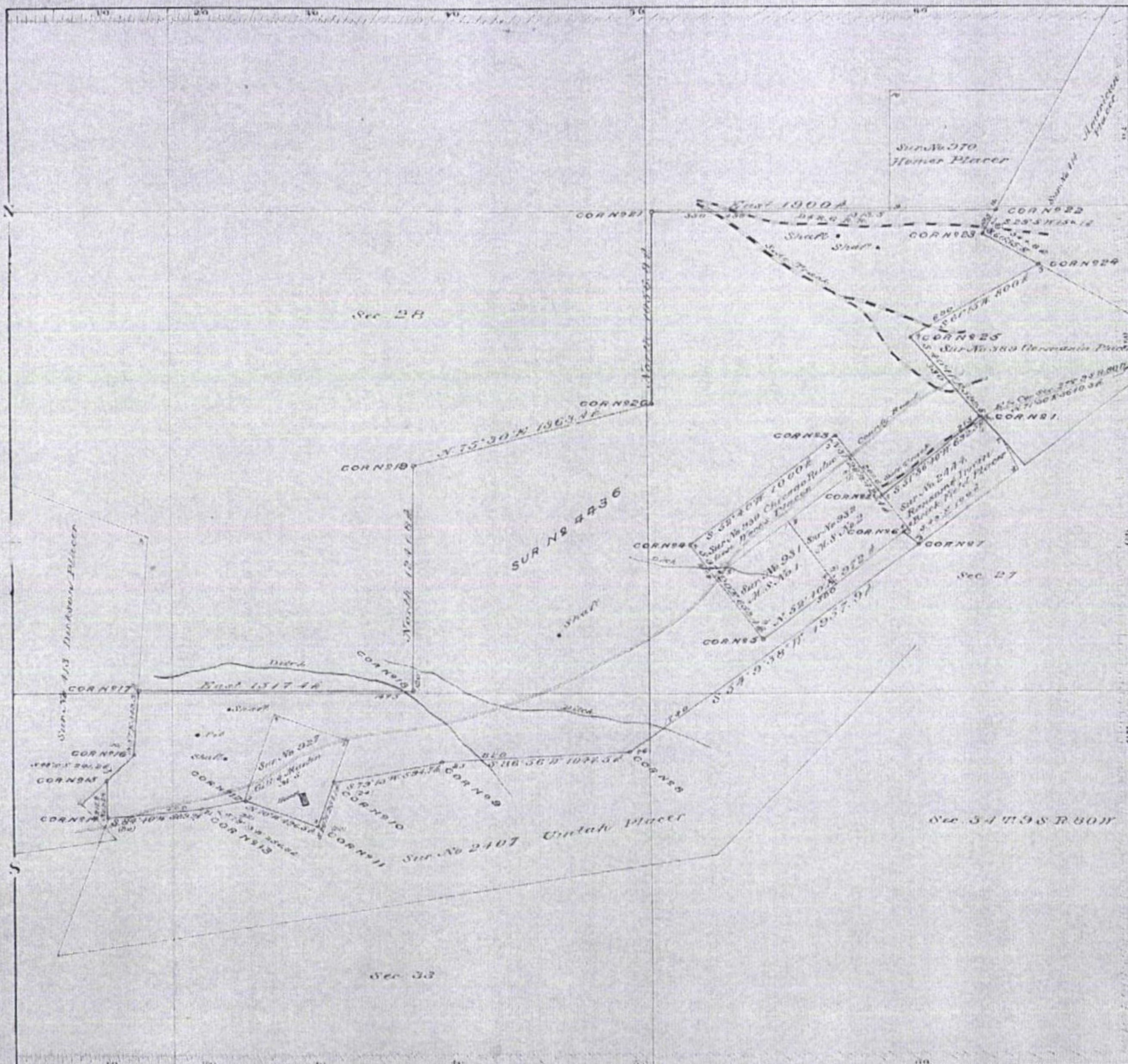
Previous Sales

Date	Price	Book	Page	Buyer/Grantee	Seller/Grantor	Reception Number	Sales Instrument Type
11/04/2008	$0.00				HAZLITT, JOHN SCOTT - V P - MINE DEVELOPMENT	350506	STATE OF AUTHORITY
11/04/2008	$0.00				MICHAEL, NICK - MANAGER *	350508	WARRANTY DEED
11/04/2008	$53,200.00			CONSTRUCTIVE INVESTMENTS, LLC *	CAPITAL GOLD CORPORATION		N/A

Photo unavailable

Sketch unavailable

Print Details



Date of Amended Location
September 28th 1886

SURVEY Nº 4436
Mineral District Nº 3

PLAT

OF THE CLAIM OF

S. J. Searl, et al

UPON THE

ZUNI PLACER

CALIFORNIA MINING DISTRICT
LAKE COUNTY.
STATE OF COLORADO.

Containing an Area of 147.4 Acres
Scale of 500 Feet to the inch.
Variation 15° East.

SURVEYED BY

Jesse F. McDonald
U.S. Deputy Mineral Surveyor
October 7th 1886

The original Field Notes of the Survey of the Claim of
S. J. Searl et al
upon the
Zuni Placer
from which this plat has been made, have been examined and approved, and are on file in this office; and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects, and permanent monuments as will perpetuate and fix the locus thereof. I further certify that the value of the labor and improvements placed thereon by the applicant or their grantors is not less than Five Hundred Dollars, and that said improvements consist of
four shafts

as appears by the affidavit of the deputy surveyor. And I further certify that this is a correct Plat of said Mining Claim, made in conformity with said original field notes of the survey thereof.

U.S. Surveyor General's Office
Denver, Colorado
December 9th 1886

Jas. A. Dawson.
U.S. Surveyor General for Colorado

STATE OF COLORADO

DWRPermitsOnline, DNR <dnr_dwrpermitsonline@state.co.us>

Applications for 2 Monitoring Wells

Holly Michael <hmichael@unionmilling.com> Mon, Aug 4, 2014 at 10:10 AM
To: DWRpermitsonline@state.co.us

Please find attached applications for two monitoring wells. If there are any questions I can be reached at my contact information below.

Thank you,

–
Holly Michael
Union Milling Company, LLC
303-947-7837
hmichael@unionmilling.com

2 attachments

gws-46 Mon well Ap SW Corner well.pdf
71K

gws-46 Mon well Ap N well.pdf
71K

STATE OF COLORADO

Application Receipt Nos. 3666028A & B

Foy - DNR, Caleb <caleb.foy@state.co.us> Mon, Sep 8, 2014 at 1:18 PM
To: hmichael@unionmilling.com

Good Afternoon,

I am writing in regards to the above-referenced applications submitted to our office for 2 monitoring well permits on property owned by Constructive Investments, LLC. According to the Lake County Assessor's database, it appears the property is located in the SE 1/4 of Sec. 28 and the NE 1/4 of Sec. 33, Twp. 9S, Rng. 80W, In order to complete evaluation of the well permit applications, I will need one of the following pieces of information:

1. A description of the 20.7 acre on which the wells will be located (such that the permits can be issued with the floating well location Rule 6.2.3)

OR

2. A point location for each one of the applications, in which case the permits will be issued with a condition that the well is constructed within 200 feet of the permitted location.

Should you have any questions, please feel free to contact me directly.

Sincerely,

Caleb Foy, E.I.T.
Water Resource Engineer

COLORADO
Division of Water Resources
Department of Natural Resources

P 303.866.3581, x8272 | F 303.866.2223
1313 Sherman Street, Room 818, Denver, CO 80203
Caleb.Foy@state.co.us | www.water.state.co.us

Holly Michael <hmichael@unionmilling.com> Thu, Sep 11, 2014 at 1:27 PM
To: "Foy - DNR, Caleb" <caleb.foy@state.co.us>

Caleb,

Please find below the GPS coordinates for our two monitoring wells.

Well located at the SW corner of the property: 39 Deg-13'-44.07" N by 106 Deg-20'-00.72" W (This equates to the well at: S-33, T-9 South, R-80 West)

Well located at the road by the old ball mill: 39 Deg-13'-49.94" N by 106 Deg-19'-53.77" W (This equates to the well at: S-28, T-9 South, R-80 West)

Please let me know if you need anything else.

Thanks,

#19

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

LIC

WELL PERMIT NUMBER 295654 - - -
DIV. 2 WD 11 DES. BASIN MD

APPLICANT

LEADVILLE MILL #2
MONITORING WELL
UNION MILLING COMPANY LLC
PO BOX 620490
LITTLETON, CO 80162-

(303) 947-7837

PERMIT TO CONSTRUCT A WELL

APPROVED WELL LOCATION
LAKE COUNTY
SE 1/4 SE 1/4 Section 28
Township 9 S Range 80 W Sixth P.M.

DISTANCES FROM SECTION LINES
208 Ft. from South Section Line
791 Ft. from East Section Line

UTM COORDINATES (Meters,Zone:13,NAD83)
Easting: 385067 Northing: 4343204

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(b)(I) for uses as described in CRS 37-92-602(1)(f). Use of this well is limited to monitoring water levels and/or water quality sampling.
4) This well must be equipped with a locking cap or seal to prevent well contamination or possible hazards as an open well. The well must be kept capped and locked at all times except during sampling or measuring.
5) Records of water level measurements and water quality analyses shall be maintained by the well owner and submitted to the Division of Water Resources upon request.
6) Upon conclusion of the monitoring program the well owner shall plug this well in accordance with Rule 16 of the Water Well Construction Rules. A Well Abandonment Report must be completed and submitted to the Division of Water Resources within 60 days of plugging.
7) The owner shall mark the well in a conspicuous place with the well permit number and name of aquifer as appropriate, and shall take necessary means and precautions to preserve these markings.
8) This well must be constructed by or under the supervision of a licensed well driller or other authorized individual according to the Water Well Construction Rules. If non-standard construction is anticipated, a variance request must be submitted in accordance with Rule 18 and approved prior to well construction.
9) A Well Construction and Test Report (Form GWS-31), including lithologic log must be submitted by the individual authorized to construct the well. For non-standard construction, the report must include an as-built drawing showing details such as depth, casing, perforated zones, and a description of the grouting type and interval.
10) This well shall be constructed not more than 200 feet from the location specified on this permit.

NOTE: Issuance of this permit does not guarantee that this well can be converted to a production well under a future permit. Additionally, pursuant to Rule 14.2 of the Water Well Construction Rules (2 CCR 402-2), monitoring holes constructed pursuant to a monitoring hole notice shall not be converted to a production well. (Upon obtaining a permit from the State Engineer, a monitoring hole may be converted to a monitoring well, recovery well for remediation of the aquifer, or a dewatering system for dewatering the aquifer.)

NOTE: This permit will expire on the expiration date unless the well is constructed by that date. A Well Construction and Test Report (GWS-31) must be submitted to the Division of Water Resources to verify the well has been constructed. An extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: http://www.water.state.co.us

NOTICE: This permit has been approved subject to the following changes: The distances from section lines, quarter/quarter, and quarter were determined from GPS coordinates provided by the applicant. You are hereby notified that you have the right to appeal the issuance of this permit, by filing a written request with this office within sixty (60) days of the date of issuance, pursuant to the State Administrative Procedures Act. (See Section 24-4-104 through 106, C.R.S.)

APPROVED
CRF

Dick Wolfe
State Engineer

By

Receipt No. 3666028A DATE ISSUED 09-11-2014 EXPIRATION DATE 09-11-2016

COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES
1313 SHERMAN ST., Ste 821, DENVER CO 80203
Phone: (303) 866-3581 Fax: (303) 866-2223 dwrpermitsonline@state.co.us

Office Use Only

RECEIVED
AUG 05 2014
WATER RESOURCES
STATE ENGINEER
COLO

Form GWS-46 (11/2011)

MONITORING/OBSERVATION Water Well Permit Application

Review instructions on reverse side prior to completing form.
The form must be typed, completed online or in black or blue ink.

1. Well Owner Information

Name of well owner: Union Milling Company, LLC

Mailing address: P.O. Box 620490

City: Littleton | State: CO | Zip code: 80162

Telephone #: 303-947-7837 | E-Mail (If filing online it is required): hmichael@unionmilling.com

2. Type Of Application (check applicable boxes)

☐ Use existing well
■ Construct new well
☐ Other:
☐ Replacement for existing monitoring well:
Permit no.:

3. Refer To (if applicable)

Monitoring hole acknowledgment: MH-
Well name or #:

4. Location Of Proposed Well (Important! See Instructions)

County: Lake
____ 1/4 of the ____ 1/4

Section	Township	N or S	Range	E or W	Principal Meridian
28	9	☐ ☒	80	☐ ☒	6th

Distance of well from section lines (section lines are typically not property lines)
Ft. from ☐ N ☐ S Ft from ☐ E ☐ W

For replacement wells only – distance and direction from old well to new well
feet direction

Well location address (Include City, State, Zip) ☐ Check if well address is same as Item 1.
13815 Highway 24, Leadville CO 80461

Optional: GPS well location information in UTM format
You must check GPS unit for required settings as follows:

Format must be UTM
☐ Zone 12 or ☒ Zone 13
Units must be Meters
Datum must be NAD83
Unit must be set to true north
Was GPS unit checked for above? ☐ YES

Easting ____
Northing ____
Remember to set Datum to NAD83

5. Property Owner Information

Name of property owner: Constructive Investments, LLC

Mailing address: P.O. Box 620490

City: Littleton | State: CO | Zip Code: 80162

Telephone #: 303-947-7837

6. Use Of Well

Use of this well is limited to monitoring water levels and/or water quality sampling

7. Well Data (proposed)

Total depth: 100 feet | Aquifer: Glacial Fill

8. Consultant Information (if applicable)

Name of contact person
Company name
Mailing address
City | State | Zip Code
Telephone #

9. Proposed Well Driller License #(optional):

10. Name of Well Owner or Authorized Agent

The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.

Sign or enter full name here: Holly Michael, Member | Date (mm/dd/yyyy): 08/04/2014

If signing print name. Print title if other than land owner.

Office Use Only

USGS map name | DWR map no. | Surface elev

Receipt area only

39° 13' 49.94"
-106 19' 53.77"
E: 385066.5
N: 4343203.8

SE,SE 28-9S-80W
208' SSL, 791' ESL

Transaction #: 3666028 A
Date: 8/5/2014 9:50:35 AM
Transaction Total: $200.00
CREDIT CARD: $200.00

DIV 2 WD 11 BA ____ MD ____

Print Details

Property Detail	
Account	10024904
Name	CONSTRUCTIVE INVESTMENTS, LLC
Address line 1	
Address line 2	
Address line 3	P O BOX 620490
Address line 4	LITTLETON
State	CO
Zip Code	80162-0490
File Flag	M
Legal Description	PT ZUNI PLACER IN SE 1/4 OF28-9-80 & NE 1/4 33-9-80 U.S. SURVEY #4436 CONTAINING 20.7 A 480/327 487/26 507/715-716 528/183
Address (Property)	4436 ZUNI
Master Acres	20.7

Values	
Land	$4,554.00
Building	$0.00
Extra Features	$0.00
Total	$4,554.00

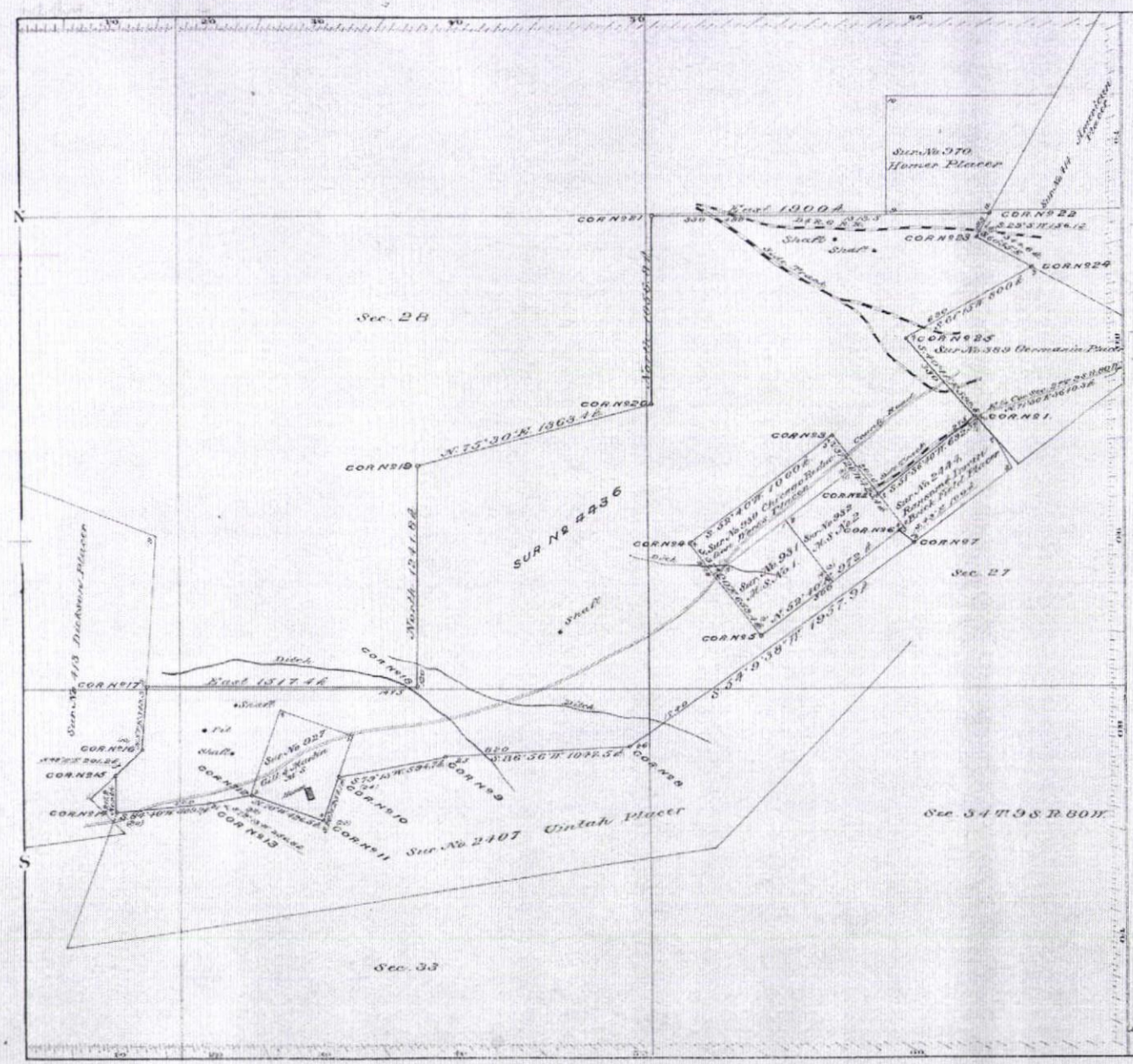
Previous Sales

Date	Price	Book	Page	Buyer/Grantee	Seller/Grantor	Reception Number	Sales Instrument Type
11/04/2008	$0.00				HAZLITT, JOHN SCOTT - V P - MINE DEVELOPMENT	350506	STATE OF AUTHORITY
11/04/2008	$0.00				MICHAEL, NICK - MANAGER *	350508	WARRANTY DEED
11/04/2008	$53,200.00			CONSTRUCTIVE INVESTMENTS, LLC *	CAPITAL GOLD CORPORATION		N/A

Photo unavailable

Sketch unavailable

Print Details



Date of Amended Location
September 26th 1886

SURVEY Nº 4436

Mineral District, Nº 3

PLAT

OF THE CLAIM OF

S. J. Seurl, et al

UPON THE

ZUNI PLACER

CALIFORNIA MINING DISTRICT.

LAKE COUNTY.

STATE OF COLORADO.

Containing an Area of 147.4 Acres.

Scale of 500 Feet to the inch.

Variation 15° East.

SURVEYED BY

Jesse F. Mc Donald

U.S. Deputy Mineral Surveyor

October 7th 1886

The original Field Notes of the Survey of the Claim of S. J. Seurl et al upon the Zuni Placer from which this plat has been made, have been examined and approved, and are on file in this office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will if incorporated into a patent serve fully to identify the premises, and that such reference is made therein to natural objects, and permanent monuments as will perpetuate and fix the locus thereof. I further certify that the value of the labor and improvements placed thereon by the applicant or grantees is not less than Five Hundred Dollars, and that said improvements consist of

Four shafts

as appears by the affidavit of the deputy surveyor. And I further certify that this is a correct Plat of said Mining Claim made in conformity with said original field notes of the survey thereof.

U.S. Surveyor General's Office
Denver Colorado
December 9th 1886

Jas. A. Dawson
U.S. Surveyor General for Colorado

COLORADO
Division of Water Resources
Department of Natural Resources

#23-24
WOOD

Well Permit Summary Report

THIS PAGE IS NOT THE ACTUAL PERMIT

The information contained on this page is a summary of the permit file and may not reflect all details of the well permit. See full disclaimer below.

Permit Number:	83329-	Receipt:	9088602
Permit Category:	Residential	WDID:	
Permit Status:	Well Constructed		

Physical Location

Division:	2	Designated Basin:	Outside
District:	11	Management District:	Outside
County:	LAKE	Denver Basin Aquifer:	Outside

Feature Type	Dist N/S	Dist E/W	Q10	Q40	Q160	Sec	Township	Range	PM	UTMx	UTMy	Latitude	Longitude	Location Accuracy
Well (Application/Permit)	320 N	1650 E		NW	NE	33	9.0 S	80.0 W	S	384801.7	4343047.0	39.229080	-106.334651	Spotted from section lines

Physical Address: 13765 U.S. 24

City & State: LEADVILLE, CO

Zip: 80461

Parcel Type:

Parcel Name:

Lot, Block, Filing

No available data

Permit Details

Acres In Parcel:

Parcel ID:

Use(s): Household use only

Limits: Yield Amount Depth (T) Depth (B)

Aquifer(s): ALL UNNAMED AQUIFERS

Area Irrigated:

Within Water Service Area:

Water Supplier Name:

Type of Sewage System:

Sewer System Details:

Statute:

Follow Up Permit Conditions (see actual permit for more information)

Abandonment Required:	See imaged well permit
Meter Required:	See imaged well permit
Geophysical Log Required:	See imaged well permit
Rule 6.2.2.1 (Notice):	See imaged well permit
Rule 6.2.3 (Floating Permit):	See imaged well permit

Construction/Pump Installation Details

Driller:

Construction Date: 8/8/1976

Completed Well Depth:

Perforated Casing Top:

Perforated Casing Bottom:

Static Water Level:

Well Yield Estimate (GWS-31): 15.00

Pump Installer:

Last Pump Installation Date:

Production Test Yield:

Application/Permit History

Action	Action Date	Date Received	Comment
First Beneficial Use	8/8/1976		
Change in Owner Name / Mailing Address	1/13/2020	1/13/2020	

Applicant/Contact

Start Date	End Date	Association Type	Contact Name	Address	City	State	Zip Code
1/1/1900	1/12/2020	Owner	WIBBENMEYER, DALE J	416 E 5TH	LEADVILLE	CO	80461
1/13/2020		Owner	WOOD, DERRICK	PO BOX 920	LEADVILLE	CO	80461
1/13/2020		Owner	WOOD, CHRISTINA	PO BOX 920	LEADVILLE	CO	80461

Permit Details

DIEDRICH #26

Acres In Parcel:

Parcel ID:

Use(s): Industrial

Limits: Yield Amount Depth (T) Depth (B)

Aquifer(s): ALL UNNAMED AQUIFERS

Area Irrigated:

Within Water Service Area:

Water Supplier Name:

Type of Sewage System:

Sewer System Details:

Statute:

Follow Up Permit Conditions (see actual permit for more information)

Abandonment Required:	See imaged well permit
Meter Required:	See imaged well permit
Geophysical Log Required:	See imaged well permit
Rule 6.2.2.1 (Notice):	See imaged well permit
Rule 6.2.3 (Floating Permit):	See imaged well permit

Associated Permit(s)

No available data

Associated Case Number(s)

No available data

Well AKA(s)

Source	AKA Name
WDID	1105193-LEADVILLE CORP WELL NO 2

Construction/Pump Installation Details

Driller:

Construction Date:

Completed Well Depth:

Perforated Casing Top:

Perforated Casing Bottom:

Static Water Level:

Well Yield Estimate (GWS-31):

Pump Installer:

Last Pump Installation Date:

Production Test Yield:

Applicant/Contact

Start Date	End Date	Association Type	Contact Name	Address	City	State	Zip Code
1/1/1900		Owner	DIEDRICH, W O	PO BOX 915	LEADVILLE	CO	80461

DIEDRICH #27

Form E (Rev.)
9-57-8M

Entered

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF THE STATE ENGINEER
GROUND WATER SECTION

MAY 5 - 1959
GROUND WATER
COLORADO
STATE ENGINEER

Index No. 60
HDWD 2-11
Use Industrial
Registered 2/27/59
Cards Typed 6-11-59

LOG AND HISTORY OF WELL
PERMIT NO. 2011-F
Lic.

Drilled by Layne-Western Co. No. 162

Owner ~~American Smelting & Refining Co.~~ W. O. Diedrich 915

Address P.O.Box ~~975~~, Leadville, Colo.

Tenant

Used for Industrial

on or by
(description of site or land)

Date Started December 3, 1958

Date Completed February 11, 1959

Date Tested February 9, 1959

Yield 180 gpm cfs

Pump type Test Submersible Outlet Size 4

Driven by 40 HP @ RPM 3600

Depth to Water 34 Ft. Draw down 95 Ft.

Depth to Inlet 450 Ft.; Bowl Ft.

Size and Kind of Casing:

From 0 to 16 Type 12" Wt. 32#

From 0 to 173 Type 9-5/8 Wt. 29#

From 0 to 477 Type 7-5/8 Wt. 26#

Perforations: Size and Type

From 161 to 477 Type Torch Size 1/8"

From to Type Size

From to Type Size

Well description: Total Depth 477 Ft.

Hole Diam. (from 0 to 16, 12-3/4 in.
(from 16 to 173, 9-5/8 in.
(from 173 to 477, 8-3/4 in.

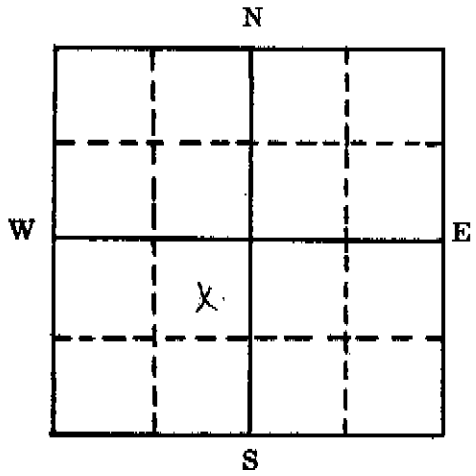
WELL LOCATION

Lake 33 County

NE 1/4 of SW 1/4 of Sect. 27

Twp. 9S, Rge. 80W, 6 PM

LOCATE WELL ACCURATELY IN THE SMALL SQUARES REPRESENTING 40 ACRES



If the above is not applicable fill in:

Town or Subdivision

Street Address or Lot & Block

Ground elevation 10,400 Approximately
(if known)

How Drilled: Cable Tool to 173
Rotary to 477

REMARKS

Cementing, Packing, Type of Shut-off, Depth to Shut-off, etc.
PUT LOG OF WELL ON REVERSE SIDE

TO BE MADE OUT IN QUADRUPLICATE: Original Blue and Duplicate Green to State Engineer's Office, White copy to Owner, and Yellow copy to Driller.

LOG OF WELL
(ADD SPACES AS NEEDED)

From 0 ft. to 205 ft.	Rocks and Brown Clay
205 ft. to 250 ft.	Gravel and Brown Clay
250 ft. to 270 ft.	Gravel
270 ft. to 430 ft.	Clay, Shale, Rock
430 ft. to 476 ft.	Rock and Shale

DIEDRICH #27

2011-F 8-20-1968
Leadville Colo.

I W. O Diedrich of Leadville Colorado Have Purchased the A S & R Smelter Property South West Of Leadville and I am the Owner I Request transfer of Well Registration From A S & R to W. O. Diedrich 2011-F

Box 915
Leadville
Colo.

RECEIVED
AUG 20 1968
GROUND WATER
COLORADO
STATE ENGINEER

Diedrich

Thanking You.
W. O. Diedrich.

Receipt #3011
8-20-68

Form C(Rev.)
7-58/5M

STATE OF COLORADO
APPLICATION FOR USE OF GROUND WATER
(Use Indelible Pencil or Typewriter)

SEP 26 1958
GROUND WATER SECT.
COLORADO
STATE ENGINEER

Applicant American Smelting and Refining Company

P.O. Address 973, Leadville, Colorado
Quantity applied for 130 gpm or
AF Storage

Used for Lead Smelting Purposes

on/at SW ¼ Sec. 27, T 9S, R80W, 6th P.M.
(legal description of land site)
Industrial Uses
Total acreage irrigated and other rts.

ESTIMATED DATA OF WELL
Hole size 9 5/8 in. to 50 ft.
in. to ft.

Casing Plain 9" in. from 0 to 40 ft.
in. from to ft.
Perf. 9" in. from 40 to 50 ft.
in. from to ft.

PUMP DATA: Type Not Established HP . Size Outlet

Use initiation date Appr. Nov. 15 1958.
(Use Supplemental pages for additional data)

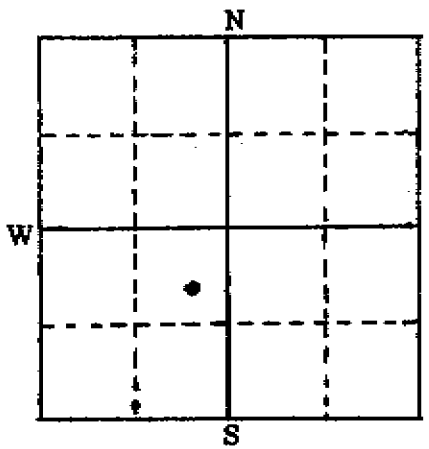
THIS APPLICATION APPROVED
NO. 2011-F
DATE SEP 26 1958 19

LOCATION OF WELL
County Lake

NE ¼ SW ¼ Sec. 27, Twp. 9S,
Rge. 80W, 6th P.M. OR

Street Address or Lot & Block No.

Town or Subdivision



Locate well in 40 acre (small) square as near as possible.

$25.00 fee required for Industrial, Commercial or Irrigation uses.

Applicant Arkansas Valley Plant

Driller Layne-Western Co. No. 162
8301 EAST ILIFF AVE
Address Denver, Colorado

NOTE — SATISFACTORY COMPLETION REQUIRED FOR APPROVAL OF APPLICATION

DIEDRICH #27

APPENDIX 11-1

LEADVILLE PRECIPITATION, WEATHER, AND TEMPERATURE

Appendix 11-1

Leadville Precipitation

Maximum and Minimum

LEADVILLE, CO

Maximum of Precipitation (Inches)

(054884)

File last updated on September 10, 2021
a = 1 day missing, b = 2 days missing, c = 3 days, ..etc..,
z = 26 or more days missing, A = Accumulations present
Long-term means based on columns; thus, the monthly row may not sum (or average) to the long-term annual value.
MAXIMUM ALLOWABLE NUMBER OF MISSING DAYS : 5
Individual Months not used for annual or monthly statistics if more than 5 days are missing.
Individual Years not used for annual statistics if any month in that year has more than 5 days missing.

YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1948	-----z	-----z	-----z	-----z	-----z	-----z	-----z	0.21	0.29	0.34	0.29	0.70	-----z
1949	0.20	0.19	0.17	0.24	1.00	0.93	0.34	0.27	0.53	0.38	0.04	0.11	1.00
1950	0.46	0.35b	0.40a	1.07	0.88	0.27	0.50	0.53	0.33	0.20	0.41	0.46	1.07c
1951	0.64	0.40	0.27	0.43	0.24	0.26	0.34	1.11	0.25	0.29	0.33	1.10	1.11
1952	0.34	0.35	0.54	0.72	0.19	0.12	1.08	0.24	0.31	0.01	0.44	0.38	1.08
1953	0.25	0.44	0.39	0.21	0.53	0.19	0.44	0.21	0.44	0.98	0.44	0.15	0.98
1954	0.18	0.28	0.29	0.27	0.28	0.08	0.71	0.29	0.45	0.41	0.49	0.25	0.71
1955	0.13	0.50	0.89	0.11	0.35	0.23	0.43	0.56	0.08	0.35	0.32	0.32	0.89
1956	0.38	0.38	0.20	0.48a	0.15	0.56	0.23	0.58	0.06	0.41	0.46	0.43	0.58a
1957	0.80	0.31	0.55	0.65	1.19	0.22	0.89	0.38	0.17	0.18	0.20	0.63	1.19
1958	0.31	0.53	0.33	0.85	0.22	0.70	0.11	0.47	0.21	0.07	0.40	1.32	1.32
1959	0.55	0.71	0.28	0.43	0.41	0.40b	0.42g	0.32	1.25	1.22	0.42	0.10	1.25i
1960	0.23	1.31	0.30a	0.30	0.39	0.28	0.69	0.19	0.19	0.42	0.30	0.48	1.31a
1961	0.15	0.22	0.44	0.40	0.27	0.16	0.30	0.39	0.70	0.50	0.46	0.27	0.70
1962	0.70	0.50	0.19	0.72	0.32	0.13	0.41	0.53	0.12	0.78	0.30	0.48	0.78
1963	0.92	0.44	0.32	0.17	0.19	0.53	0.45	0.73	-----z	0.92	0.09	0.31	-----z
1964	-----z	0.07	0.22	0.25	0.25	0.18	0.43	0.38	0.26	0.22	0.43	0.54	-----z
1965	0.50	0.26	0.65	0.12	0.40	0.55	0.88	0.53	0.28	0.32	0.29	0.43	0.88
1966	0.08	0.28	0.35	0.34	0.36	0.93	0.62	0.89	0.26	0.22	0.54	1.08	1.08
1967	0.63	0.37	0.35	0.48	0.41	0.26	0.62	0.50	0.28	0.19	0.34	0.44	0.63
1968	0.22	0.36	0.36	0.24	0.16	0.12	0.78	0.73	0.65	0.15	0.34	0.19	0.78
1969	0.43	0.07	0.11	0.30	0.96	0.45	0.85	0.38	0.34	0.98	0.13	0.67	0.98
1970	0.33	0.18	0.21	0.68	0.21	0.43	0.32	0.79	0.76	0.52	0.29	0.17	0.79

1971	0.25	0.59	0.45	0.65	0.21	0.58	0.39	0.49	1.15	-----z	-----z	-----z	-----z
1972	0.29	0.33	0.31	0.20	0.35	0.11	0.45	0.18	0.39	0.22	0.49	0.34	0.49
1973	0.02	0.07	-----z	0.33	0.37	0.36	0.88	0.27	0.09	0.09	-----z	-----z	-----z
1974	0.30	0.09	0.23	0.15	0.23	-----z	0.32	0.41	0.20	0.18	0.32	0.35	-----z
1975	0.58	0.53	0.45	0.20a	0.38	0.20a	0.59	1.16	0.01r	0.14a	0.21i	-----z	-----z
1976	0.14	0.31c	-----z	0.13c	0.29h	0.05q	-----z	-----z	-----z	-----z	-----z	-----z	-----z
1977	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z
1978	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z
1979	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z
1980	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z
1981	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	-----z	0.43	0.44	0.81	-----z
1982	0.43	0.20	0.40	0.21	0.92	-----z	-----z	0.49	-----z	-----z	-----z	-----z	-----z

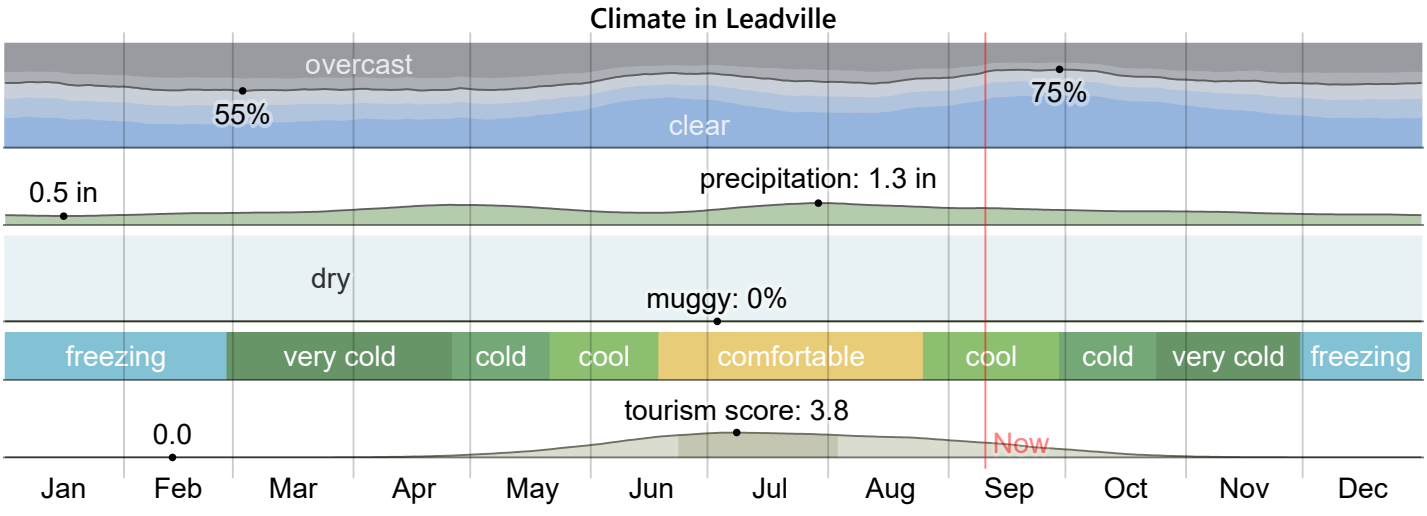
Period of Record Statistics

MEAN	0.37	0.37	0.36	0.39	0.42	0.35	0.54	0.49	0.39	0.40	0.35	0.48	0.92
S.D.	0.22	0.24	0.16	0.25	0.29	0.24	0.24	0.26	0.30	0.31	0.13	0.31	0.23
SKEW	0.66	2.00	1.35	1.02	1.43	1.05	0.45	1.08	1.56	1.21	-0.81	1.15	-0.00
MAX	0.92	1.31	0.89	1.07	1.19	0.93	1.08	1.16	1.25	1.22	0.54	1.32	1.32
MIN	0.02	0.07	0.11	0.11	0.15	0.08	0.11	0.18	0.06	0.01	0.04	0.10	0.49
YRS	28	29	27	29	28	26	26	29	26	28	26	26	20

Leadville Climate Weather

Climate and Average Weather Year Round in Leadville Colorado, United States

In Leadville, the summers are comfortable and dry; the winters are long, freezing, and snowy; and it is partly cloudy year round. Over the course of the year, the temperature typically varies from 5°F to 69°F and is rarely below -9°F or above 75°F.

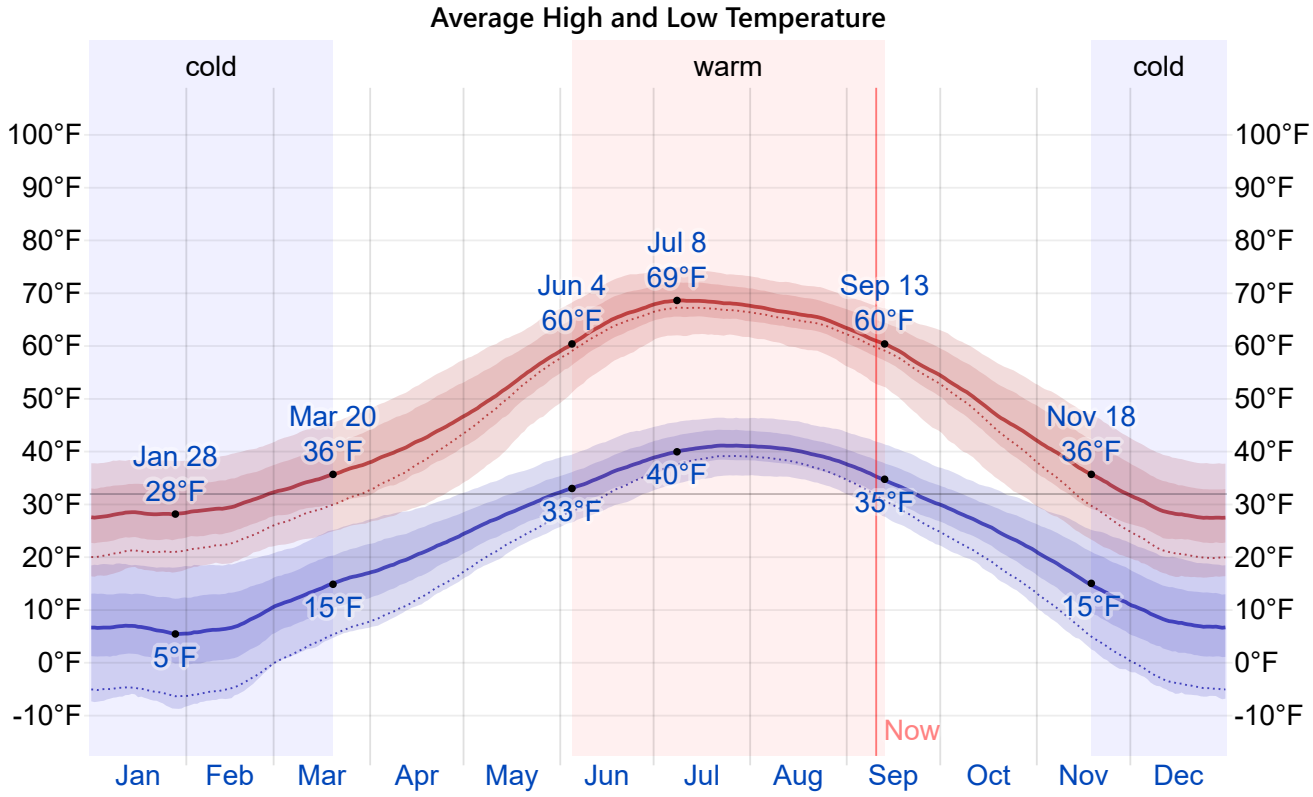


Leadville weather by month.

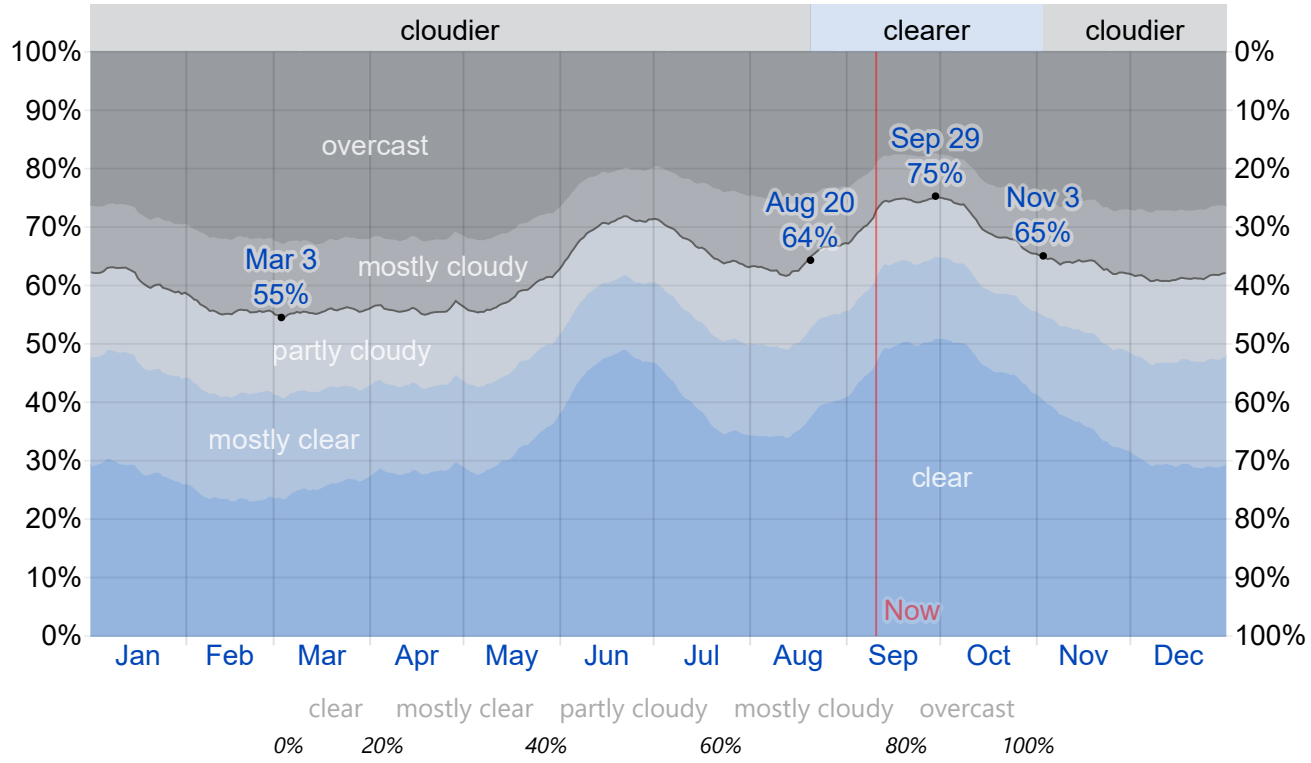
Average Temperature in Leadville

The warm season lasts for 3.3 months, from June 4 to September 13, with an average daily high temperature above 60°F. The hottest day of the year is July 8, with an average high of 69°F and low of 40°F.

The cold season lasts for 4.0 months, from November 18 to March 20, with an average daily high temperature below 36°F. The coldest day of the year is January 28, with an average low of 5°F and high of 28°F.



The daily average high (red line) and low (blue line) temperature, with 25th to 75th and 10th to 90th percentile bands. The thin dotted lines are the corresponding average perceived temperatures.



The percentage of time spent in each cloud cover band, categorized by the percentage of the sky covered by clouds.

Precipitation

A wet day is one with at least 0.04 inches of liquid or liquid-equivalent precipitation. The chance of wet days in Leadville varies throughout the year.

The wetter season lasts 5.0 months, from April 8 to September 9, with a greater than 22% chance of a given day being a wet day. The chance of a wet day peaks at 32% on July 23.

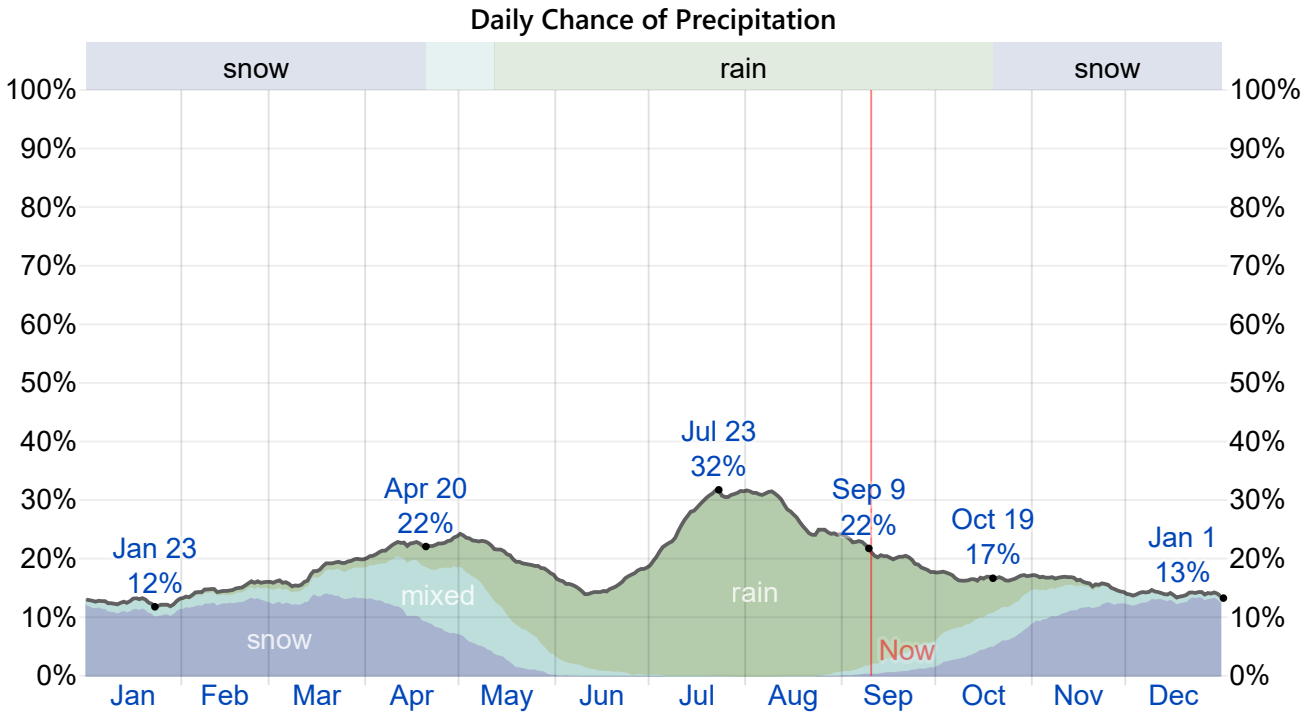
The drier season lasts 7.0 months, from September 9 to April 8. The smallest chance of a wet day is 12% on January 23.

Among wet days, we distinguish between those that experience rain alone, snow alone, or a mixture of the two. Based on this categorization, the most common form of precipitation in Leadville changes throughout the year.

Snow alone is the most common for 6.0 months, from October 19 to April 20. The highest chance of a day with snow alone is 14% on March 19.

Rain alone is the most common for 5.3 months, from May 12 to October 19. The highest chance of a day with rain alone is 32% on July 23.

Mixed snow and rain is the most common for 3.1 weeks, from April 20 to May 12. The highest chance of a day with mixed snow and rain is 12% on May 1.



The percentage of days in which various types of precipitation are observed, excluding trace quantities: rain alone, snow alone, and mixed (both rain and snow fell in the same day).

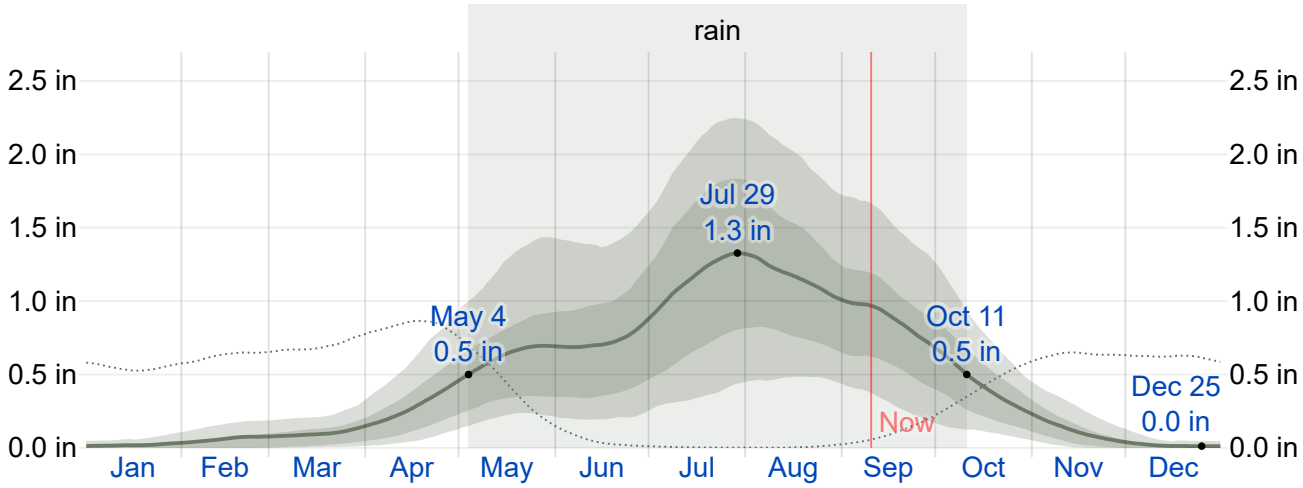
Rainfall

To show variation within the months and not just the monthly totals, we show the rainfall accumulated over a sliding 31-day period centered around each day of the year. Leadville experiences some seasonal variation in monthly rainfall.

The rainy period of the year lasts for 5.2 months, from May 4 to October 11, with a sliding 31-day rainfall of at least 0.5 inches. The most rain falls during the 31 days centered around July 29, with an average total accumulation of 1.3 inches.

The rainless period of the year lasts for 6.8 months, from October 11 to May 4. The least rain falls around December 25, with an average total accumulation of 0.0 inches.

Average Monthly Rainfall



The average rainfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average liquid-equivalent snowfall.

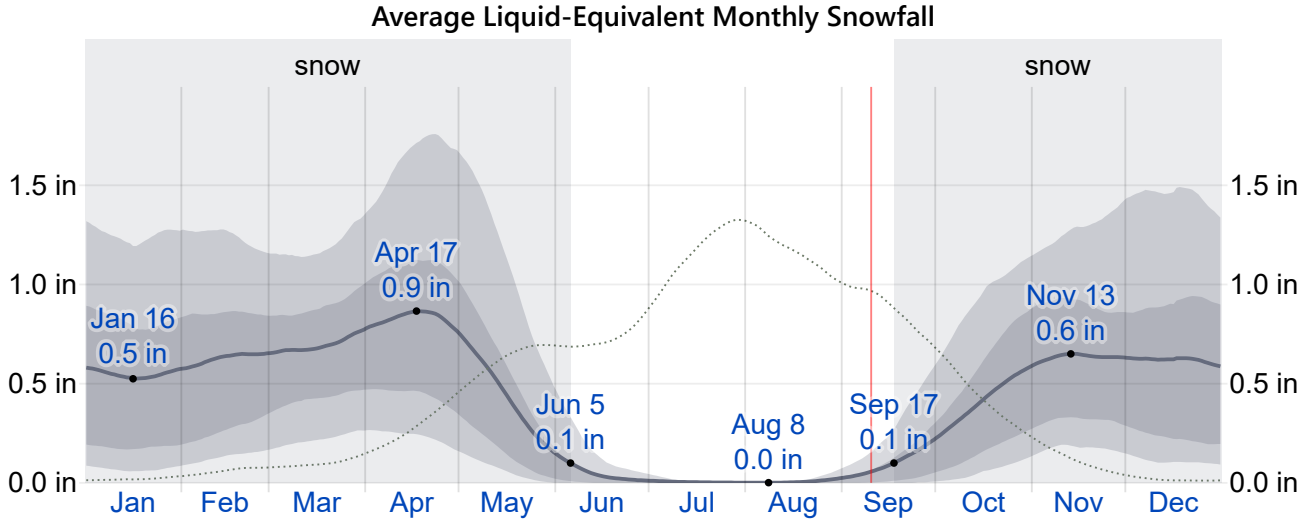
Snowfall

We report snowfall in liquid-equivalent terms. The actual depth of new snowfall is typically between 5 and 10 times the liquid-equivalent amount, assuming the ground is frozen. Colder, drier snow tends to be on the higher end of that range and warmer, wetter snow on the lower end.

As with rainfall, we consider the snowfall accumulated over a sliding 31-day period centered around each day of the year. Leadville experiences some seasonal variation in monthly liquid-equivalent snowfall.

The snowy period of the year lasts for 8.6 months, from September 17 to June 5, with a sliding 31-day liquid-equivalent snowfall of at least 0.1 inches. The most snow falls during the 31 days centered around April 17, with an average total liquid-equivalent accumulation of 0.9 inches.

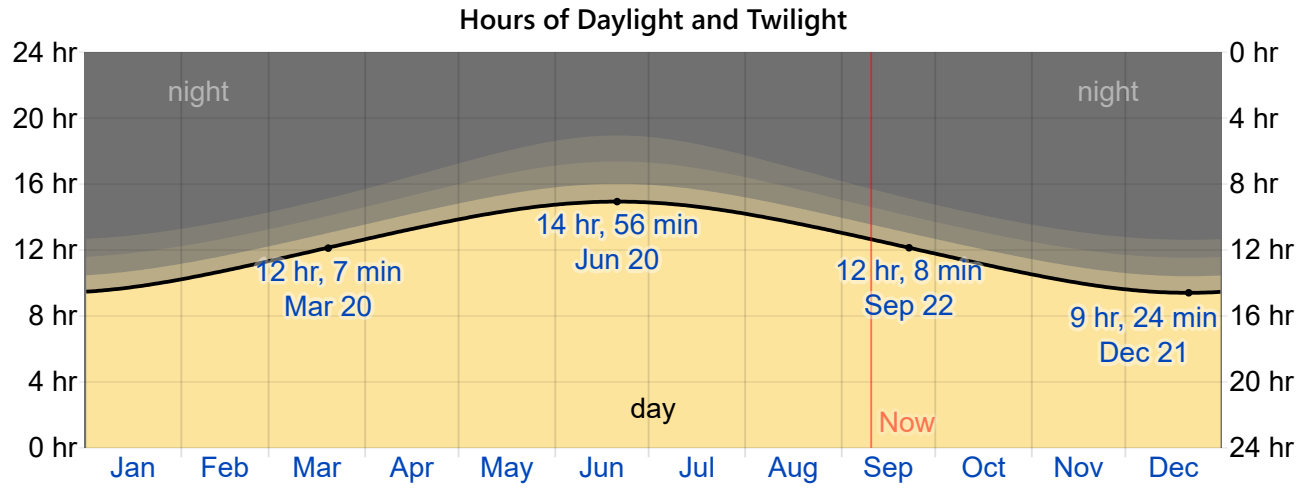
The snowless period of the year lasts for 3.4 months, from June 5 to September 17. The least snow falls around August 8, with an average total liquid-equivalent accumulation of 0.0 inches.



The average liquid-equivalent snowfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average rainfall.

Sun

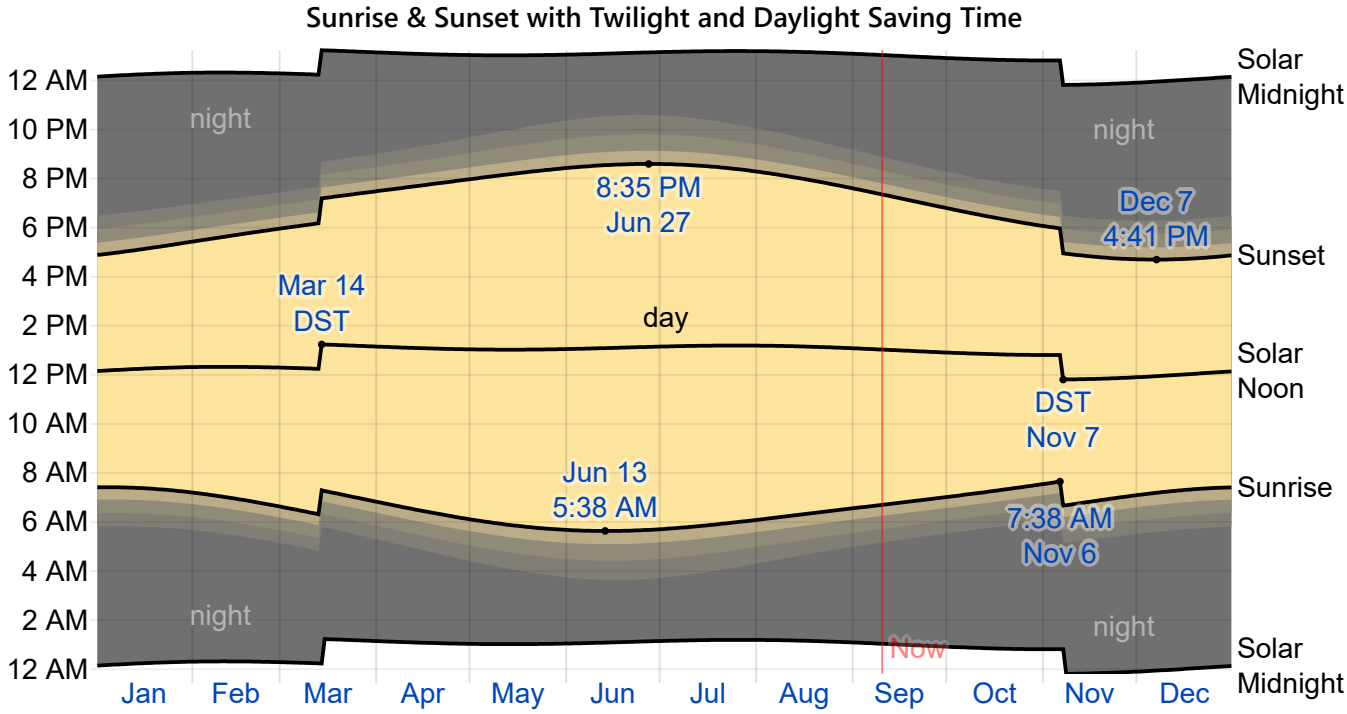
The length of the day in Leadville varies significantly over the course of the year. In 2021, the shortest day is December 21, with 9 hours, 24 minutes of daylight; the longest day is June 20, with 14 hours, 56 minutes of daylight.



The number of hours during which the Sun is visible (black line). From bottom (most yellow) to top (most gray), the color bands indicate: full daylight, twilight (civil, nautical, and astronomical), and full night.

The earliest sunrise is at 5:38 AM on June 13, and the latest sunrise is 2 hours, 1 minute later at 7:38 AM on November 6. The earliest sunset is at 4:41 PM on December 7, and the latest sunset is 3 hours, 54 minutes later at 8:35 PM on June 27.

Daylight saving time (DST) is observed in Leadville during 2021, starting in the spring on March 14, lasting 7.8 months, and ending in the fall on November 7.



The solar day over the course of the year 2021. From bottom to top, the black lines are the previous solar midnight, sunrise, solar noon, sunset, and the next solar midnight. The day, twilights (civil, nautical, and astronomical), and night are indicated by the color bands from yellow to gray. The transitions to and from daylight saving time are indicated by the 'DST' labels.

55°F 60°F 65°F 70°F 75°F

The percentage of time spent at various humidity comfort levels, categorized by dew point.

Wind

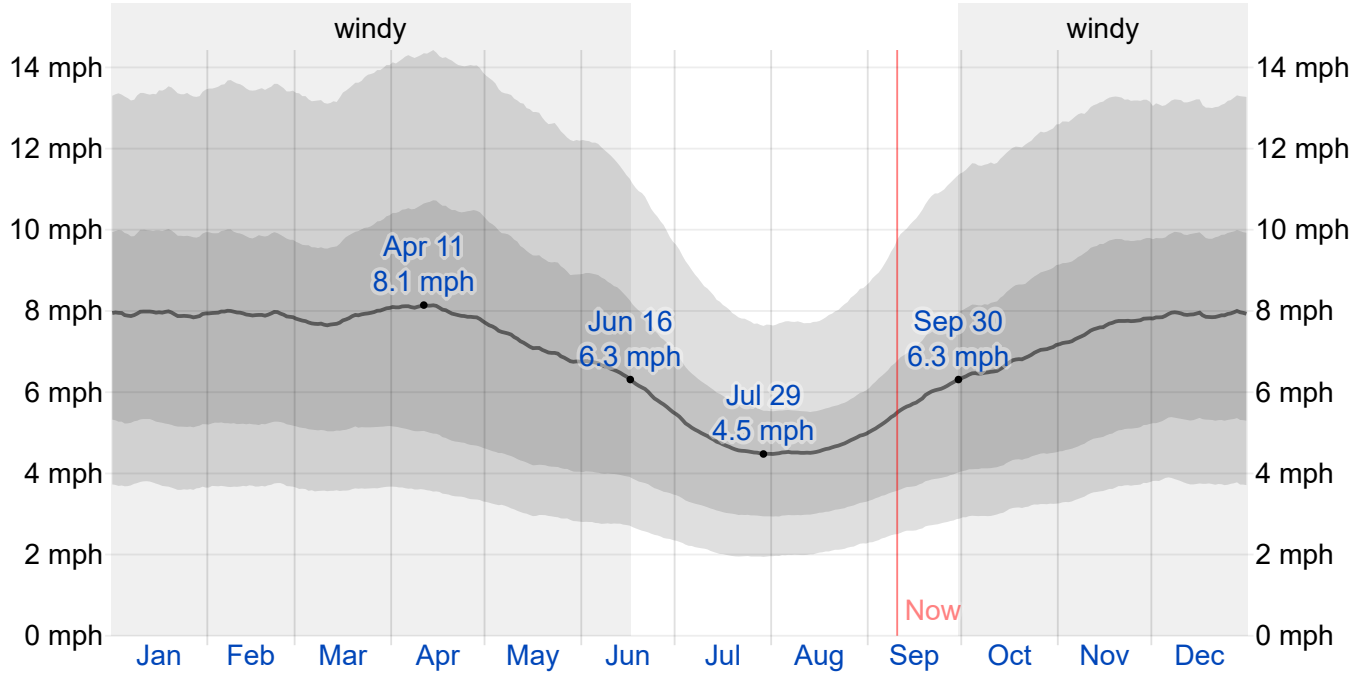
This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages.

The average hourly wind speed in Leadville experiences significant seasonal variation over the course of the year.

The windier part of the year lasts for 8.6 months, from September 30 to June 16, with average wind speeds of more than 6.3 miles per hour. The windiest day of the year is April 11, with an average hourly wind speed of 8.1 miles per hour.

The calmer time of year lasts for 3.4 months, from June 16 to September 30. The calmest day of the year is July 29, with an average hourly wind speed of 4.5 miles per hour.

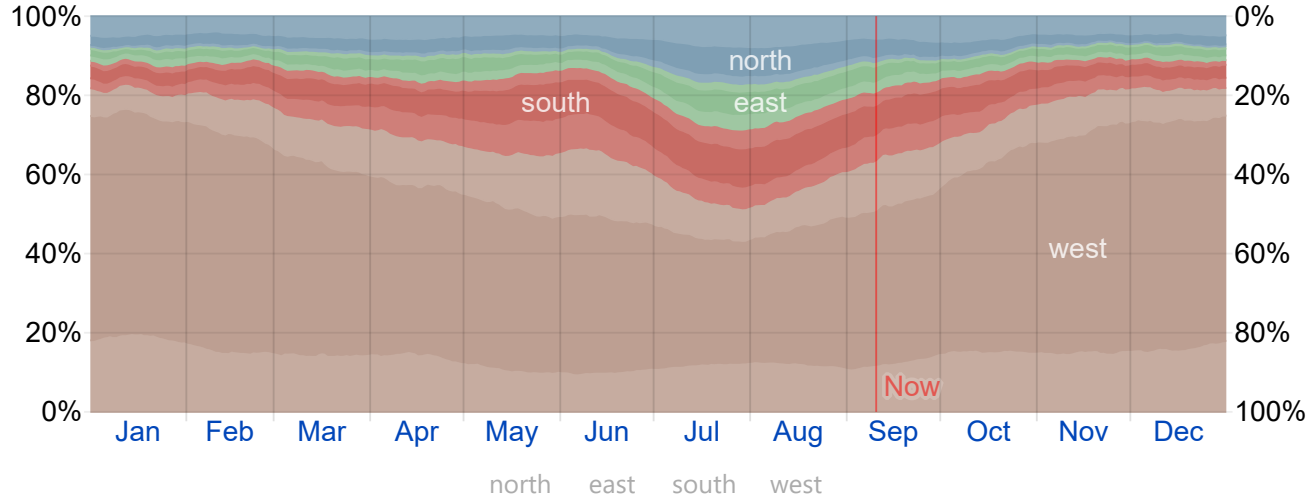
Average Wind Speed



The average of mean hourly wind speeds (dark gray line), with 25th to 75th and 10th to 90th percentile bands.

The predominant average hourly wind direction in Leadville is from the west throughout the year.

Wind Direction



The percentage of hours in which the mean wind direction is from each of the four cardinal wind directions, excluding hours in which the mean wind speed is less than 1.0 mph. The lightly tinted areas at the boundaries are the percentage of hours spent in the implied intermediate directions (northeast, southeast, southwest, and northwest).

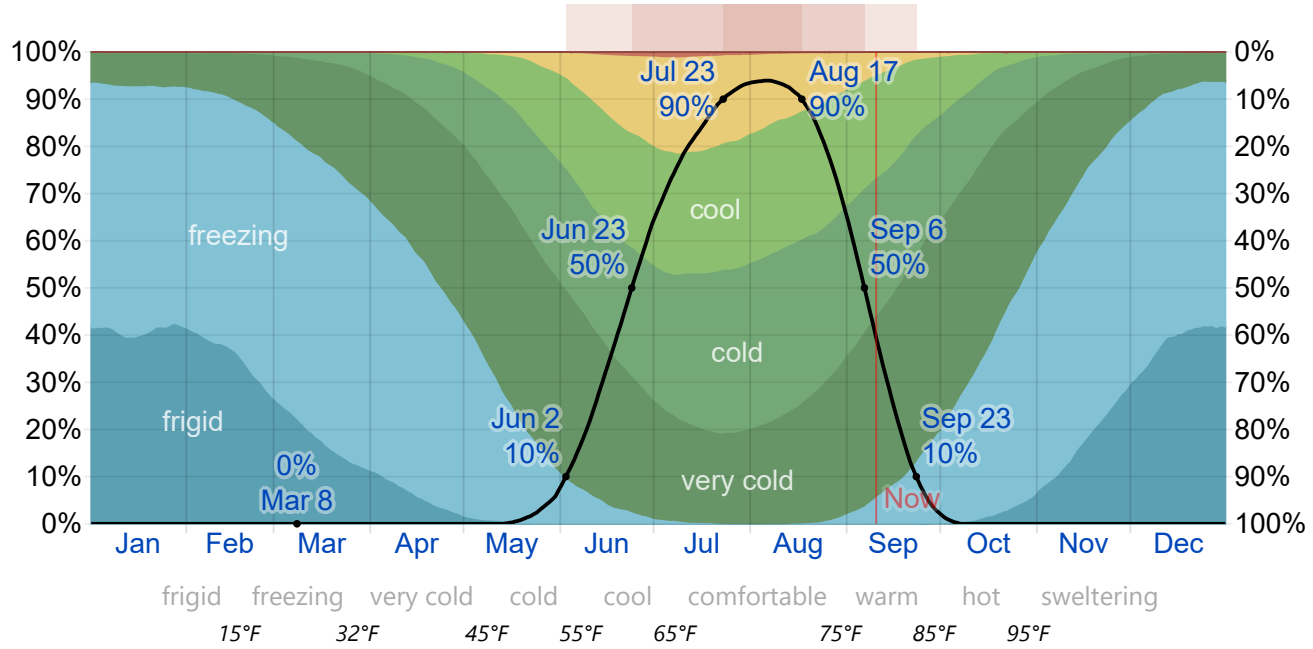
Beach/Pool Score

Growing Season

Definitions of the growing season vary throughout the world, but for the purposes of this report, we define it as the longest continuous period of non-freezing temperatures (≥ 32°F) in the year (the calendar year in the Northern Hemisphere, or from July 1 until June 30 in the Southern Hemisphere).

The growing season in Leadville typically lasts for 2.4 months (75 days), from around June 23 to around September 6, rarely starting before June 2 or after July 23, and rarely ending before August 17 or after September 23.

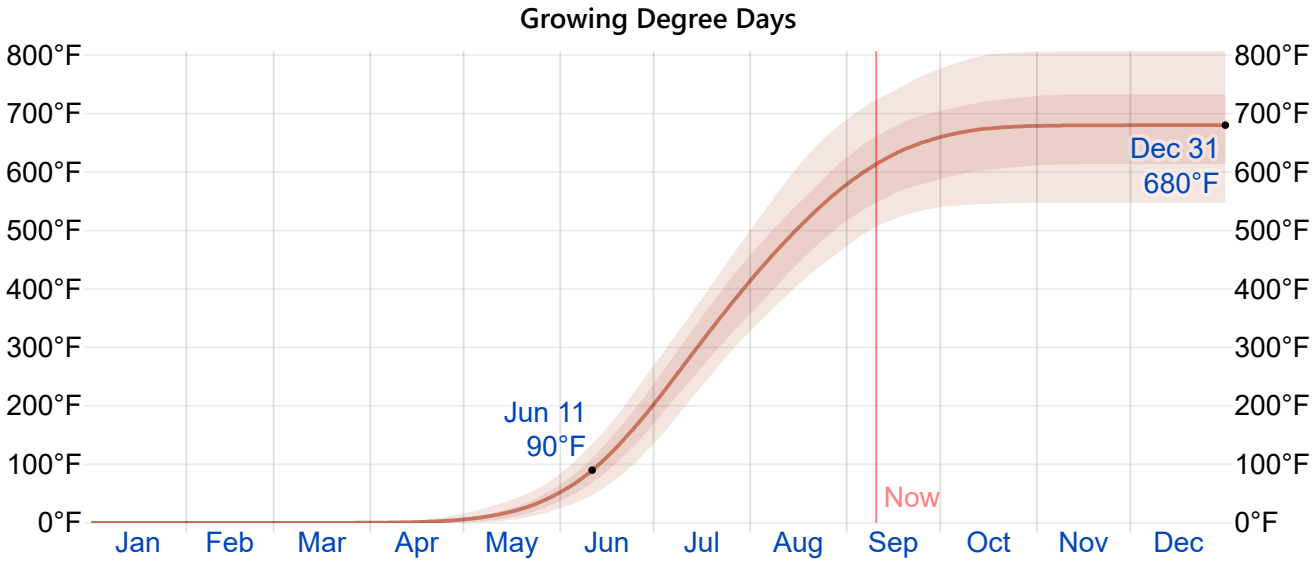
Time Spent in Various Temperature Bands and the Growing Season



The percentage of time spent in various temperature bands. The black line is the percentage chance that a given day is within the growing season.

Growing degree days are a measure of yearly heat accumulation used to predict plant and animal development, and defined as the integral of warmth above a base temperature, discarding any excess above a maximum temperature. In this report, we use a base of 50°F and a cap of 86°F.

Based on growing degree days alone, the first spring blooms in Leadville should appear around June 11, only rarely appearing before June 2 or after June 22.



The average growing degree days accumulated over the course of the year, with 25th to 75th and 10th to 90th percentile bands.

Solar Energy

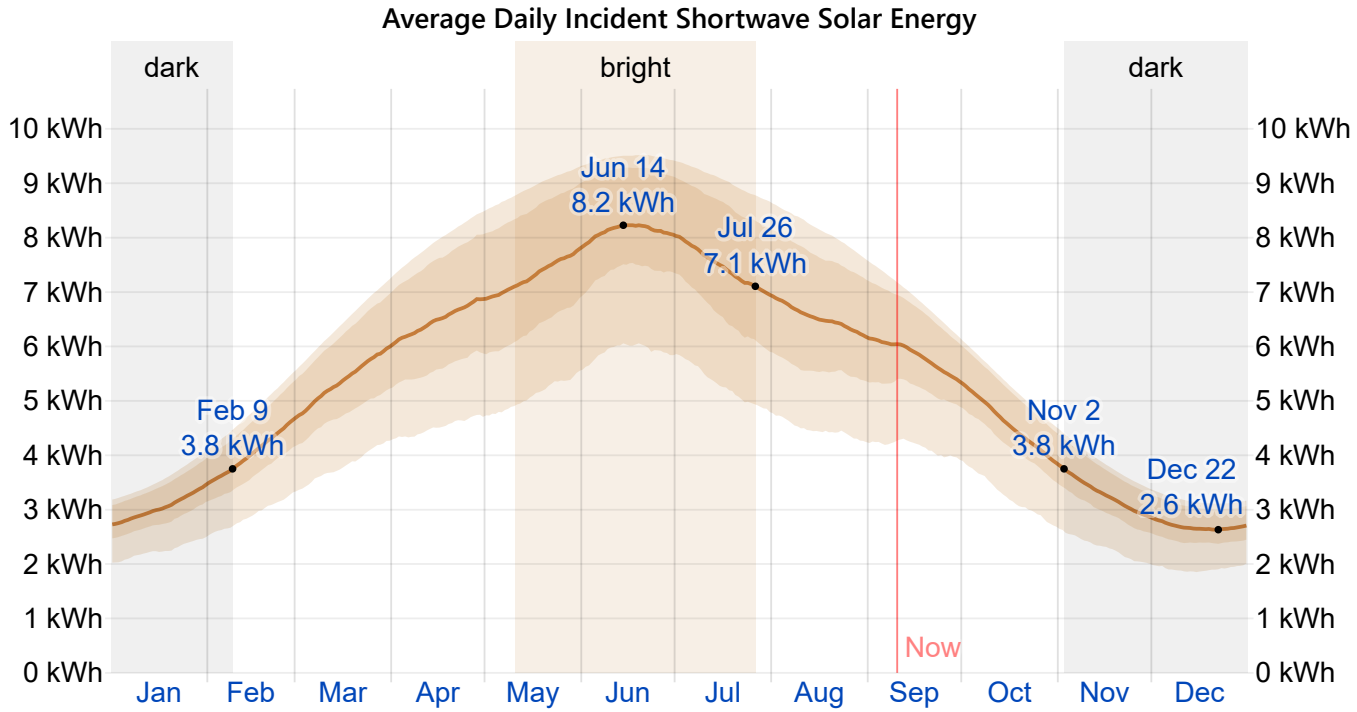
This section discusses the total daily incident shortwave solar energy reaching the surface of the ground over a wide area, taking full account of seasonal variations in the length of the day, the elevation of the Sun above the horizon, and absorption by clouds and other atmospheric constituents. Shortwave radiation includes visible light and ultraviolet

radiation.

The average daily incident shortwave solar energy experiences extreme seasonal variation over the course of the year.

The brighter period of the year lasts for 2.5 months, from May 10 to July 26, with an average daily incident shortwave energy per square meter above 7.1 kWh. The brightest day of the year is June 14, with an average of 8.2 kWh.

The darker period of the year lasts for 3.2 months, from November 2 to February 9, with an average daily incident shortwave energy per square meter below 3.8 kWh. The darkest day of the year is December 22, with an average of 2.6 kWh.



The average daily shortwave solar energy reaching the ground per square meter (orange line), with 25th to 75th and 10th to 90th percentile bands.

Topography

For the purposes of this report, the geographical coordinates of Leadville are 39.251 deg latitude, -106.293 deg longitude, and 10,161 ft elevation.

The topography within 2 miles of Leadville contains very significant variations in elevation, with a maximum elevation change of 1,224 feet and an average elevation above sea level of 10,207 feet. Within 10 miles contains very significant variations in elevation (4,898 feet). Within 50 miles also contains extreme variations in elevation (8,264 feet).

The area within 2 miles of Leadville is covered by trees (62%) and shrubs (36%), within 10 miles by trees (50%) and grassland (22%), and within 50 miles by trees (53%) and shrubs (20%).

Data Sources

This report illustrates the typical weather in Leadville, based on a statistical analysis of historical hourly weather reports and model reconstructions from January 1, 1980 to December 31, 2016.

Temperature and Dew Point

There are 3 weather stations near enough to contribute to our estimation of the temperature and dew point in Leadville.

For each station, the records are corrected for the elevation difference between that station and Leadville according to the International Standard Atmosphere (https://en.wikipedia.org/wiki/International_Standard_Atmosphere), and by the relative change present in the MERRA-2 satellite-era reanalysis (https://gmao.gsfc.nasa.gov/reanalysis/MERRA-2/) between the two locations.

The estimated value at Leadville is computed as the weighted average of the individual contributions from each station, with weights proportional to the inverse of the distance between Leadville and a given station.

The stations contributing to this reconstruction are: Lake County Airport (/y/145632/Average-Weather-at-Lake-County-Airport-Colorado-United-States-Year-Round) (KLXV, 93%, 3.2 kilometers, southwest); Copper Mountain, Red Cliff Pass (/y/145631/Average-Weather-at-Copper-Mountain-Red-Cliff-Pass;-Colorado;-United-States-Year-Round) (KCCU, 3.9%, 27 kilometers, northeast); and Wilkerson Pass (K4BM, 2.9%, 71 kilometers, east).

Other Data

All data relating to the Sun's position (e.g., sunrise and sunset) are computed using astronomical formulas from the book, Astronomical Algorithms 2nd Edition (https://www.amazon.com/Astronomical-Algorithms-Jean-Meeus/dp/0943396611), by Jean Meeus.

All other weather data, including cloud cover, precipitation, wind speed and direction, and solar flux, come from NASA's MERRA-2 Modern-Era Retrospective Analysis (https://gmao.gsfc.nasa.gov/reanalysis/MERRA-2/). This reanalysis combines a variety of wide-area measurements in a state-of-the-art global meteorological model to reconstruct the hourly history of weather throughout the world on a 50-kilometer grid.

Land Use data comes from the Global Land Cover SHARE database (http://www.fao.org/land-water/land/land-governance/land-resources-planning-toolbox/category/details/en/c/1036355/), published by the Food and Agriculture Organization of the United Nations.

Elevation data comes from the Shuttle Radar Topography Mission (SRTM) (http://www2.jpl.nasa.gov/srtm/), published by NASA's Jet Propulsion Laboratory.

Names, locations, and time zones of places and some airports come from the GeoNames Geographical Database (http://www.geonames.org/).

Time zones for airports and weather stations are provided by AskGeo.com (https://askgeo.com/).

Disclaimer

The information on this site is provided as is, without any assurances as to its accuracy or suitability for any purpose. Weather data is prone to errors, outages, and other defects. We assume no responsibility for any decisions made on the basis of the content presented on this site.

We draw particular cautious attention to our reliance on the MERRA-2 model-based reconstructions for a number of important data series. While having the tremendous advantages of temporal and spatial completeness, these reconstructions: (1) are based on computer models that may have model-based errors, (2) are coarsely sampled on a 50 km grid and are therefore unable to reconstruct the local variations of many microclimates, and (3) have particular difficulty with the weather in some coastal areas, especially small islands.

We further caution that our travel scores are only as good as the data that underpin them, that weather conditions at any given location and time are unpredictable and variable, and that the definition of the scores reflects a particular set of preferences that may not agree with those of any particular reader.

Leadville Colorado Temperature

Back to:
State Map
Western U.S. map
Home Page

NOTE:
To print data frame (right side), click on right frame before printing.

1981 - 2010

- Daily Temp. & Precip.
- Daily Tabular

LEADVILLE, COLORADO (054884)

1981-2010 Monthly Climate Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	27.1	34.1	39.4	44.0	45.9	7.1	8.2	52.5	14.9	43.6	41.5	32.1	32.7
Average Min. Temperature (F)	4.6	6.9	12.8	16.4	22.5	3.8	4.7	31.1	8.4	21.8	17.4	9.3	13.4
Average Total Precipitation (in.)	1.77	0.54	1.57	0.87	1.15	0.00	0.14	2.01	0.35	1.09	0.82	2.48	12.78

Unofficial values based on averages/sums of smoothed daily data. Information is computed from available daily data during the 1981-2010 period. Smoothing, missing data and observation-time changes may cause these 1981-2010 values to differ from official NCDC values. This table is presented for use at locations that don't have official NCDC data. No adjustments are made for missing data or time of observation. Check NCDC normals table for official data.

Western Regional Climate Center, wrcc@dri.edu

APPENDIX 11-2

PRECIPITATION DATA LEADVILLE

LEADVILLE, COLORADO

Period of Record General Climate Summary - Precipitation

Station:(054884) LEADVILLE

From Year=1948 To Year=2012

	Precipitation											Total Snowfall		
	Mean	High	Year	Low	Year	1 Day Max.		>= 0.01 in.	>= 0.10 in.	>= 0.50 in.	>= 1.00 in.	Mean	High	Year
	in.	in.	-	in.	-	in.	dd/yyyy or yyyymmdd	# Days	# Days	# Days	# Days	in.	in.	-
January	1.39	3.89	1962	0.10	1973	0.92	25/1963	12	5	0	0	16.8	35.1	1975
February	1.17	3.04	1960	0.26	1974	1.31	09/1960	12	4	0	0	13.1	27.6	1968
March	1.35	2.29	1961	0.22	2012	0.89	10/1955	14	5	0	0	16.9	37.1	1965
April	1.31	2.95	1957	0.32	1955	1.07	15/1950	12	4	0	0	14.7	28.5	1973
May	1.12	3.31	1957	0.34	1970	1.19	15/1957	10	3	0	0	6.6	26.4	1969
June	0.90	3.11	1949	0.13	1968	0.93	04/1949	8	3	0	0	2.1	9.5	1969
July	1.90	3.28	1957	0.28	1958	1.08	28/1952	13	6	1	0	0.0	0.0	1949
August	1.75	4.00	1963	0.34	1960	1.16	13/1975	13	6	0	0	0.0	0.2	1964
September	1.18	3.75	1959	0.15	1956	1.25	29/1959	9	4	0	0	3.5	36.5	1959
October	1.00	3.20	1969	0.01	1952	1.22	01/1959	7	3	0	0	7.4	34.5	1969
November	1.02	1.85	1952	0.11	1949	0.54	08/1966	9	4	0	0	12.5	24.1	1964
December	1.46	3.97	1951	0.15	1959	1.32	12/1958	12	5	0	0	23.2	50.2	1964
Annual	15.53	22.14	1957	11.08	1972	1.32	19581212	130	50	4	0	116.9	165.0	1969
Winter	4.02	7.93	1962	1.24	1973	1.32	19581212	36	13	1	0	53.1	84.8	1965

Spring	3.77	8.13	1957	1.52	2012	1.19	19570515	35	12	1	0	38.2	55.5	1965
Summer	4.55	6.97	1965	2.08	1972	1.16	19750813	34	14	1	0	2.2	9.5	1969
Fall	3.20	7.02	1959	1.71	1958	1.25	19590929	25	10	1	0	23.4	63.0	1959

Table updated on Oct 31, 2012
For monthly and annual means, thresholds, and sums:
Months with 5 or more missing days are not considered
Years with 1 or more missing months are not considered
Seasons are climatological not calendar seasons

Winter = Dec., Jan., and Feb. Spring = Mar., Apr., and May

Summer = Jun., Jul., and Aug. Fall = Sep., Oct., and Nov.

APPENDIX 19-1

LEADVILLE SANITATION

Union Milling Contractors
PO Box 620490
Littleton, CO 80162
+1.720.413.5943

Certified Mail -

November 19, 2020

Leadville Sanitation District
PO Box 253
Leadville, CO 80461

Dear Leadville Sanitation Board,

Union Milling Contractors, LLC (UMC), operator of the Leadville Mill, 13815 Hwy 24, Leadville, CO, is preparing permit filings on behalf of the owner CJK Milling Company, LLC (CJK) for inclusion in a 112(d) Designated Mining Regular Operations permit in accordance with the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board. This filing requires CJK to contact owners of structures within 200ft of the mill disturbance area (red outline). The Mill general facilities arrangement is attached. The green line indicates the disturbance area and the yellow line indicates your permanent structures.

Leadville Sanitation District has; a sewer line, a finishing pond and embankment, and a fence located within the 200ft disturbance area.

CJK requests that you provide a notarized agreement between the applicant (CJK) and the person(s) having an interest (Leadville Sanitation District) in the structures, that CJK is to provide compensation for any damage to the structures. CJK has provided a Structure Agreement, approved by the Colorado Mined Land Reclamation Board for this use.

If you have any questions, I can be reached at 720-413-5943 or smichael@unionmilling.com.

Sincerely,

Stephanie Michael
Union Milling Contractors, LLC
Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), andC.RS. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4) (d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Sewer Line North of Mill Building
2. Finishing Pond and Embankment to the East
3. Fence on the West Boundary of Leadville Sanitation Property
4.
5.

(Please list additional structures on a separate page)

COPY

CERTIFICATION

The Applicant **CJK Milling Company, LLC**, By **Stephanie Michael**, as **Manager, Union Milling Contractors, LLC**, does hereby certify that **Leadville Sanitation District** shall be compensated for any damage from the proposed mining operation to the above listed structures located on or within 200 feet of the proposed affected area described within Exhibit A of the Reclamation Permit Application for **Leadville Mill**, File Number **M1990 - 057**.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant CJK Milling Company LLC Representative Name Stephanie Michael

Date 11-19-20 Title Manager

STATE OF Colorado)

)ss.

COUNTY OF Jefferson)

The foregoing was acknowledged before me this 19 day of November, 2020, by Stephanie Michael as Manager of Union Milling Contractors, LLC

Betty Yexley My Commission Expires: 06/29/2022

Notary Public

BETTY YEXLEY
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19944010215
MY COMMISSION EXPIRES 06/29/2022

_____ My Commission Expires: _____

Notary Public

NOTARY FOR PERMIT STRUCTURE OWNER

ACKNOWLEGED BY:

Applicant _____ Representative Name _____

Date _____ Title _____

STATE OF _____)

)ss.

COUNTY OF _____)

The foregoing was acknowledged before me this _____day of _____, 20____, by

_____ as _____ of _____.

_____ My Commission Expires: _____

Notary Public

APPENDIX 19-2

BENSON

Union Milling Contractors
PO Box 620490
Littleton, CO 80162
+1.720.413.5943

Certified Mail -

November 19, 2020

George and Elizabeth Benson
PO Box 1607
Leadville, CO 80461

Dear George and Elizabeth,

Union Milling Contractors, LLC (UMC), operator of the Leadville Mill, 13815 Hwy 24, Leadville, CO, is preparing permit filings on behalf of the owner CJK Milling Company, LLC (CJK) for inclusion in a 112(d) Designated Mining Regular Operations permit in accordance with the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board. This filing requires CJK to contact owners of structures within 200ft of the mill disturbance area (red circle). The Mill general facilities arrangement is attached. The green line indicates the disturbance area and the yellow line/circle indicates your permanent structure.

You maintain a general access road to the East of the mill and your residence North East of the mill within the 200ft disturbance area. Mill activities within 200ft of the general access road involve mill operations and impoundment of mill tailings. The general access road is located within 200ft of the constructed impoundment. Please note that your house is located within 200ft of the disturbance area, however, the mill's plans are to move tailings to the South of the mill and the Northwest portion of our disturbed area will be undisturbed at this time.

CJK requests that you provide a notarized agreement between the applicant (CJK) and the person(s) having an interest (yourselves) in the structures, that CJK is to provide compensation for any damage to the structures. CJK has provided a Structure Agreement, approved by the Colorado Mined Land Reclamation Board for this use.

If you have any questions, I can be reached at 720-413-5943 or smichael@unionmilling.com.

Sincerely,

Stephanie Michael
Union Milling Contractors, LLC
Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), andC.RS. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4) (d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Road East of Mill
2. Residence Northwest of Mill
3.
4.
5.

(Please list additional structures on a separate page)

Copy

CERTIFICATION

The Applicant **CJK Milling Company, LLC**, By **Stephanie Michael**, as **Manager, Union Milling Contractors, LLC**, does hereby certify that **George and Elizabeth Benson** shall be compensated for any damage from the proposed mining operation to the above listed structures located on or within 200 feet of the proposed affected area described within Exhibit A of the Reclamation Permit Application for **Leadville Mill**, File Number **M1990 - 057**.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant CJK Milling Company LLC Representative Name Stephanie Michael

Date 11-19-20 Title Manager

STATE OF Colorado)

)ss.

COUNTY OF Jefferson)

The foregoing was acknowledged before me this 19 day of November, 2020, by Stephanie Michael as Manager of Union Milling Contractors, LLC

Betty Yexley My Commission Expires: 06/29/2022

Notary Public

BETTY YEXLEY
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19944010215
MY COMMISSION EXPIRES 06/29/2022

My Commission Expires: _____

Notary Public

NOTARY FOR PERMIT STRUCTURE OWNER

ACKNOWLEGED BY:

Applicant _____ Representative Name _____

Date _____ Title _____

STATE OF _____)

)ss.

COUNTY OF _____)

The foregoing was acknowledged before me this _____day of _____, 20____, by

_____ as _____ of _____.

_____ My Commission Expires: _____

Notary Public

APPENDIX 19-3

PHILLIPS

Union Milling Contractors
PO Box 620490
Littleton, CO 80162
+1.720.413.5943

Certified Mail -

November 19, 2020

Allen K & Barbara J Phillips
7780 North Paseo Monserrat
Tucson, AZ 85704

Dear Al and Barbara,

Union Milling Contractors, LLC (UMC), operator of the Leadville Mill, 13815 Hwy 24, Leadville, CO, is preparing permit filings on behalf of the owner CJK Milling Company, LLC (CJK) for inclusion in a 112(d) Designated Mining Regular Operations permit in accordance with the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board. This filing requires CJK to contact owners of structures within 200 feet of the mill disturbance area (red circle). The Mill general facilities arrangement is attached. The green line indicates the disturbance area and the yellow line indicates your permanent structure.

You maintain a general access road and concrete foundation to the south of the mill within the 200ft disturbance area. Mill activities within 200ft of the general access road involve mill operations and impoundment of mill tailings. The general access road and concrete foundation are located within 200ft of the constructed impoundment.

CJK requests that you provide a notarized agreement between the applicant (CJK) and the person(s) having an interest (yourselves) in the structures, that CJK is to provide compensation for any damage to the structures. CJK has provided a Structure Agreement, approved by the Colorado Mined Land Reclamation Board for this use.

If you have any questions, I can be reached at 720-413-5943 or smichael@unionmilling.com.

Sincerely,

Stephanie Michael
Union Milling Contractors, LLC
Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), andC.RS. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4) (d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Road South of Mill
2. Concrete Foundation South of Mill
3.
4.
5.

(Please list additional structures on a separate page)

Copy

CERTIFICATION

The Applicant **CJK Milling Company, LLC**, By **Stephanie Michael**, as **Manager, Union Milling Contractors, LLC**, does hereby certify that **Allen K & Barbara J Phillips** shall be compensated for any damage from the proposed mining operation to the above listed structures located on or within 200 feet of the proposed affected area described within Exhibit A of the Reclamation Permit Application for **Leadville Mill**, File Number **M1990 - 057**.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant CJK Milling Company LLC Representative Name Stephanie Michael

Date 11-19-20 Title Manager

STATE OF Colorado)

)ss.

COUNTY OF Jefferson)

The foregoing was acknowledged before me this 19 day of November, 2020, by Stephanie Michael as Manager of Union Milling Contractors, LLC

Betty Yexley My Commission Expires: 06/22/2022

Notary Public

BETTY YEXLEY
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19944010215
MY COMMISSION EXPIRES 06/29/2022

_____ My Commission Expires: _____

Notary Public

NOTARY FOR PERMIT STRUCTURE OWNER

ACKNOWLEGED BY:

Applicant _____ Representative Name _____

Date _____ Title _____

STATE OF _____)

)ss.

COUNTY OF _____)

The foregoing was acknowledged before me this _____day of _____, 20____, by

_____ as _____ of _____.

_____ My Commission Expires: _____

Notary Public

APPENDIX 19-4
WOOD

Union Milling Contractors
PO Box 620490
Littleton, CO 80162
+1.720.413.5943

Certified Mail -

November 19, 2020

Derrick & Christina Wood
PO Box 920
Leadville, CO 80461

Dear Derrick and Christina,

Union Milling Contractors, LLC (UMC), operator of the Leadville Mill, 13815 Hwy 24, Leadville, CO, is preparing permit filings on behalf of the owner CJK Milling Company, LLC (CJK) for inclusion in a 112(d) Designated Mining Regular Operations permit in accordance with the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board. This filing requires CJK to contact owners of structures within 200ft of the mill disturbance area (red circle). The Mill general facilities arrangement is attached. The green line indicates the disturbance area and the yellow line indicates your permanent structure.

You maintain a general access road to the East of the mill within the 200ft disturbance area. Mill activities within 200ft of the general access road involve mill operations and impoundment of mill tailings. The general access road is located within 200ft of the constructed impoundment.

CJK requests that you provide a notarized agreement between the applicant (CJK) and the person(s) having an interest (yourselves) in the structure, that CJK is to provide compensation for any damage to the structure. CJK has provided a Structure Agreement, approved by the Colorado Mined Land Reclamation Board for this use.

If you have any questions, I can be reached at 720-413-5943 or smichael@unionmilling.com.

Sincerely,

Stephanie Michael
Union Milling Contractors, LLC
Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), andC.RS. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4) (d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Road West of Mill
2.
3.
4.
5.

(Please list additional structures on a separate page)

CERTIFICATION

COPY

The Applicant **CJK Milling Company, LLC**, By **Stephanie Michael**, as **Manager, Union Milling Contractors, LLC**, does hereby certify that **Derrick and Christina Wood** shall be compensated for any damage from the proposed mining operation to the above listed structure located on or within 200 feet of the proposed affected area described within Exhibit A of the Reclamation Permit Application for **Leadville Mill**, File Number **M1990 - 057**.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant CJK Milling Company LLC Representative Name Stephanie Michael

Date 11-19-20 Title Manager

STATE OF Colorado)

)ss.

COUNTY OF Jefferson)

The foregoing was acknowledged before me this 19 day of November, 2020, by Stephanie Michael as Manager of Union Milling Contractors, LLC

Betty Yexley My Commission Expires: 06/29/2022

Notary Public

BETTY YEXLEY
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19944010215
MY COMMISSION EXPIRES 06/29/2022

_____ My Commission Expires: _____

Notary Public

NOTARY FOR PERMIT STRUCTURE OWNER

ACKNOWLEGED BY:

Applicant _____ Representative Name _____

Date _____ Title _____

STATE OF _____)

)ss.

COUNTY OF _____)

The foregoing was acknowledged before me this _____day of _____, 20____, by

_____ as _____ of _____.

_____ My Commission Expires: _____

Notary Public

APPENDIX 19-5
FOWLER

Union Milling Contractors
PO Box 620490
Littleton, CO 80162
+1.720.413.5943

Certified Mail -

February 17, 2021

Justin and Anne Marie, Fowler
758 Fillmore St
Denver, CO 80206

Dear Justin and Anne Marie,

Union Milling Contractors, LLC (UMC), operator of the Leadville Mill, 13815 Hwy 24, Leadville, CO, is preparing permit filings on behalf of the owner CJK Milling Company, LLC (CJK) for inclusion in a 112(d) Designated Mining Regular Operations permit in accordance with the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board. This filing requires CJK to contact owners of structures within 200ft of the mill disturbance area (red circle). The Mill general facilities arrangement is attached. The green line indicates the disturbance area and the yellow line indicates your permanent structure.

You maintain a general access road to the East of the mill within the 200ft disturbance area. Mill activities within 200ft of the general access road involve mill operations and impoundment of mill tailings. The general access road is located within 200ft of the constructed impoundment.

CJK requests that you provide a notarized agreement between the applicant (CJK) and the person(s) having an interest (yourselves) in the structure, that CJK is to provide compensation for any damage to the structure. CJK has provided a Structure Agreement, approved by the Colorado Mined Land Reclamation Board for this use.

If you have any questions, I can be reached at 720-413-5943 or smichael@unionmilling.com.

Sincerely,

Stephanie Michael
Union Milling Contractors, LLC
Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), andC.RS. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4) (d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Road West of Mill
2.
3.
4.
5.

(Please list additional structures on a separate page)

COPY

CERTIFICATION

The Applicant **CJK Milling Company, LLC**, By **Stephanie Michael**, as **Manager, Union Milling Contractors, LLC**, does hereby certify that **Justin and Anne Marie Fowler** shall be compensated for any damage from the proposed mining operation to the above listed structure located on or within 200 feet of the proposed affected area described within Exhibit A of the Reclamation Permit Application for **Leadville Mill**, File Number **M1990 - 057**.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant CJK Milling Company LLC Representative Name Stephanie Michael

Date 11-19-20 Title Manager

STATE OF Colorado)

)ss.

COUNTY OF Jefferson)

The foregoing was acknowledged before me this 19 day of November, 2020, by Stephanie Michael as Manager of Union Milling Contractors, LLC

Betty Yexley My Commission Expires: 06/29/2022

Notary Public

BETTY YEXLEY
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19944010215
MY COMMISSION EXPIRES 06/29/2022

_____ My Commission Expires: _____

Notary Public

NOTARY FOR PERMIT STRUCTURE OWNER

ACKNOWLEGED BY:

Applicant _____ Representative Name _____

Date _____ Title _____

STATE OF _____)

)ss.

COUNTY OF _____)

The foregoing was acknowledged before me this _____day of _____, 20____, by

_____ as _____ of _____.

_____ My Commission Expires: _____

Notary Public

APPENDIX 19-6
XCEL

Union Milling Contractors
PO Box 620490
Littleton, CO 80162
+1.720.413.5943

Certified Mail -

November 19, 2020

Xcel Energy
1123 W 3rd Ave
Denver, CO 80223

Dear Excel,

Union Milling Contractors, LLC (UMC), operator of the Leadville Mill, 13815 Hwy 24, Leadville, CO, is preparing permit filings on behalf of the owner CJK Milling Company, LLC (CJK) for inclusion in a 112(d) Designated Mining Regular Operations permit in accordance with the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board. This filing requires CJK to contact owners of structures within 200ft of the mill disturbance area (red circle). The Mill general facilities arrangement is attached. The green line indicates the disturbance area and the yellow line indicates your permanent structure.

Xcel Energy supplies electrical power to the Leadville Mill facility with an overhead power line located within the 200ft disturbance area. This power line has been in existence for over 20 years and any additional disturbance conforms to normal building construction and maintenance. The pole line closest to the mill facility (approximately 160ft of line) is within 200ft of a constructed impoundment. There is a natural gas line on the east boundary of the property. There is also an overhead powerline powering the residence to the Northwest of permitted area.

CJK requests that you provide a notarized agreement between the applicant (CJK) and the person(s) having an interest (Xcel) in the structures, that CJK is to provide compensation for any damage to the structures. CJK has provided a Structure Agreement, approved by the Colorado Mined Land Reclamation Board for this use.

If you have any questions, I can be reached at 720-413-5943 or smichael@unionmilling.com.

Sincerely,

Stephanie Michael
Union Milling Contractors, LLC

Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), andC.RS. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4) (d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Gas Line on East Side of CJK Property
2. Overhead Powerline Providing Power to Mill
3. Overhead Powerline West of CJK Property Powering 13769 Highway 24
4.
5.

(Please list additional structures on a separate page)

CERTIFICATION

The Applicant **CJK Milling Company, LLC**, By **Stephanie Michael**, as **Manager, Union Milling Contractors, LLC**, does hereby certify that **Xcel Energy** shall be compensated for any damage from the proposed mining operation to the above listed structures located on or within 200 feet of the proposed affected area described within Exhibit A of the Reclamation Permit Application for **Leadville Mill**, File Number **M1990 - 057**.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant CJK Milling Company LLC Representative Name Stephanie Michael

Date 11-19-20 Title Manager

STATE OF Colorado)

)ss.

COUNTY OF Jefferson)

The foregoing was acknowledged before me this 19 day of November, 2020, by Stephanie Michael as Manager of Union Milling Contractors, LLC

Betty Yexley My Commission Expires: 06/29/2022

Notary Public

BETTY YEXLEY
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19944010215
MY COMMISSION EXPIRES 06/29/2022

_____ My Commission Expires: _____

Notary Public

NOTARY FOR PERMIT STRUCTURE OWNER

ACKNOWLEGED BY:

Applicant Richard J. Grady

Date 12/16/2020

Representative Name _____

Title Richard J. Grady
~~Manager, Siting and Land Rights,~~
Right of Way & Permits Department
Public Service Company of Colorado

STATE OF _____)

)ss.

COUNTY OF _____)

The foregoing was acknowledged before me this _____ day of _____, 20____, by

Richard J. Grady as Authorized Agent of ~~Public Service Co. of Colorado~~, D.B.A. Xcel Energy

Robert E. Blu, II

Notary Public

My Commission Expires: _____

ROBERT E. BLU, II
Notary Public
State of Colorado
Notary ID # 20104014057
My Commission Expires 04-22-2022

APPENDIX 19-8
ENGINEERING REPORT

July 11, 2021

Leadville Mill
4436 Zuni Street
Leadville, CO 80439

Subject: **Stability Evaluation**
Permanent Man-Made Structures
Leadville Mill, Lake County, Colorado

Permit M1990-057
Owner: CJK Milling Company, LLC
Operator: Union Milling Contractors, LLC

1.0 Introduction

At the request of CJK Milling Company (Applicant), R Squared, Inc. (R^2) has been retained to prepare a permanent man-made structural engineering report in connection with the Leadville Mill, in Leadville, Colorado. Colorado Division of Reclamation Mining and Safety (CDRMS) regulations (Section 6.4.19 Exhibit S) requires the Applicant to provide information sufficient to demonstrate that the stability of any structures located within two hundred (200) feet of the mine permit boundary not be damaged by activities occurring at the mill.

2.0 Background

The Leadville Mill, located at 4436 Zuni, Leadville, Colorado, is approximately 21 miles southwest of town of Leadville (see Figure 1- General Location map). The mill is situated on a 20.97-acre parcel (the property) that is zoned Commercial/industrial (mining/milling). It was constructed in 1989, permitted in 1991 (M1990-057), and ceased operation later that year.

Adjacent property owners within 200 feet of the mill's permit boundary (See Figure 2 and 3) include the following:

- Benson
  - Residence and Domestic Water Well, 13769 Highway 24, Leadville. Constructed in 2016.
  - Unpaved access road, easement recorded in 2008.
- Fowler- Residence and unpaved access road, easement recorded in 2008.
- Wood - Residence unpaved access Unpaved Road, recorded in 2008.
- Phillips - Concrete slab. Construction date unknown.
- CJK, LLC Milling Company –Applicant owns the parcel that borders the north side of the Property. No structural agreement is required.
- Xcel

  - Gas Pipeline parallels the permitted mill area and is within 20 feet of the east side of permit boundary.
  - Power line - Located in the northern quadrant of the permit area, provides electric power to the mill.

- Leadville Sanitation
  - Fence -Parallels the east side of the mill, approximately 20 feet outside of the existing permit boundary.
  - Sewer line - crosses the north end of the property.
  - Polishing Pond - Between 80 and 100 feet east of the property.

- Phillips Leadville Mill Access Road
  - Unpaved access road approximately 25 feet wide. (See Attachment C-signed easement agreement)

The attached Figure 2, a County residential plat, shows the location of adjacent landowner properties, and Figure 3 presents a Leadville mill aerial photograph illustrating adjacent landowners and other entities of interests. Relevant County Assessor's documents are presented in Appendix A. Signed easement agreements for Leadville Sanitation and Phillips Leadville Mill access road are presented in Attachment B. Property owners that have declined to sign easement agreements are summarized in Appendix C. Applicant has delivered via certified mail a structural damage compensation agreement for review and notary-witnessed signature (Attachment B). To date none of these agreements have been received.

3.0 Engineering Evaluations

Planned mining operations include receiving and processing ore and on-site road use by mining vehicles. The milling equipment is scheduled to be installed before September 2021. Milling will be conducted in a structurally sound building and no excess mill vibration is believed to have an adverse effect on the adjacent access road or residences. In addition, no blasting will be conducted on site, and no other site activities will be conducted that is not approved by the Colorado Division of Reclamation, Mining and Safety.

The access roads/driveways to the Benson, Wood and Fowler residences are unpaved dirt roads approximately twenty feet wide (Figure 3). The roads are privately maintained and appear to have adequate drainage. No culverts or other structures are within the zone of interest. A fence parallel to and between the private access roads and zone of interest is owned and maintained by Applicant.

The Benson residence includes a domestic well located approximately 150 feet west of the mill permit boundary and approximately 575 feet from the mill building. The residence, from a groundwater perspective, is located hydraulically up gradient of the mill. The hydraulic setting precludes any adverse effect on water quality or quantity from onsite mining/milling activities.

Mill vibrations from milling activities will be naturally attenuated, no blasting will be conducted, and no other site activities will be conducted that are not approved by the CDRMS.

Leadville Sanitation structures polishing pond and fence both of which are located approximately 50 feet from the planned milling operations.

4.0 Conclusions

The mill is permitted in an area zoned as Industrial/Commercial (mining/milling). The area in and adjacent to the Leadville mill is located on placer claims. No mining will occur within the mill permit area. No blasting will be conducted on site. No vehicles serving the mill will use the adjacent private unpaved access road. (Vehicles serving the mill will gain access to the mill via the Phillip's right-of-way lease agreement.) The access road from Highway 24 to the mill will be maintained by the Leadville Mill and public access will be prevented. Leadville mill fences will be maintained, and appropriate "no trespassing" signage will be appropriately posted. 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 by activities occurring at the mine.

If you have any questions, please contact us.

Sincerely yours,

R Squared Incorporated

George M.L. Robinson
Professional Geologist

John Erich Rauber, P.E.
Civil Engineer

GMLR/JER:er

Enclosures

APPENDIX 23-1

CYANIDE AND HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN

CYANIDE AND HAZARDOUS MATERIALS

EMERGENCY RESPONSE PLAN

LEADVILLE MILL

CJK MILLING COMPANY

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I. Introduction

This Cyanide Response Plan (CRP) describes CJK Milling Company (CJK) standard procedures in the event of an unplanned release of cyanide from its operations. While CJK has a general Emergency Response Plan (ERP) (See Chapter 23), this plan is specific to cyanide. The CRP and ERP may be used as appropriate during responses to cyanide-related emergencies.

CJK has designed and constructed its facilities, developed its Standard Operating Practices (SOP's), and trained its employees to minimize the potential for release of and exposure to cyanide. However, given the toxicity of cyanide, it is prudent to prepare for possible releases and exposures so that if a release or exposure does occur, adverse environmental or health impacts can be prevented or appropriately mitigated.

The CRP identifies potential release scenarios and specific response actions to stop or contain cyanide release. Emergency Response Coordinators and Responders are identified along with necessary contact information summarized in Chapter 23. The location of equipment that may be used for response and remediation is provided and monitoring and clean-up procedures are described. Internal and external spill notifications and follow-up actions are also discussed.

In general terms, CJK's plan for emergency response to cyanide releases and exposures includes the following elements:

- Upon discovery of a cyanide release or exposure, personnel are to immediately notify CJK management.
- Personnel shall attempt to stop or contain a release if this can be accomplished safely.
- CJK's designated responsible party will direct the Emergency Response, as necessary, to stop the release and contain any released cyanide.
- CJK management will notify regulatory agencies, outside responders, and other stakeholders, as necessary.
- Released cyanide will be recovered, treated, and cleaned up and contaminated material properly disposed of in accordance with regulations.
- CJK will investigate the cause of the release and implement measures designed to prevent its re-occurrence.
- CJK will evaluate its response to the release and modify the CRP and/or training, as necessary, to ensure an effective response to any future releases.

II. Plan Development

CJK has developed this CRP with input from key employees. CJK consults with its employees periodically to assure that the CRP addresses current conditions and risks.

III. Emergency Response Scenarios

CJK has evaluated the potential for releases of cyanide at its operations and subsequent exposures. Based on this evaluation, CJK determined that some potential, whether an occurrence is probable or not, may exist for the following release and exposure scenarios to occur under extreme upset conditions.

i. Release of hydrogen cyanide gas from cyanide storage or process facilities.

ii. Transportation accidents occurring on-site.

iii. Releases during unloading cyanide.

iv. Releases during mixing of cyanide.

v. Releases due to fires and/or explosions in the process plant.

vi. Ruptures or leaks in pipes, valves, and/or tanks containing cyanide solution.

vii. Overtopping of the internal cyanide solution tanks.

viii. Pump failures.

ix. Uncontrolled seepage from the TSF.

x. Structural failure of the TSF.

xi. Solution release potential flow paths.

Each of these release potentials is discussed in additional detail below:

i. Release of Hydrogen Cyanide Gas from Cyanide Storage or Process Facilities

A significant release of hydrogen cyanide gas could result from mixing cyanide reagent or process solution with acidic solution.

Such a release is unlikely as the facility is designed to ensure the physical separation of acids and cyanide solution, and all personnel are trained to operate the facility to avoid mixing.

CJK's procedures for regular inspections and preventative maintenance of all cyanide management facilities and employee training in the proper operating procedures for off-loading and use of acids and cyanide minimize the risk of an incident. Further, separate secondary containment is provided for acid and cyanide storage including delivery pumps and piping.

ii. Transportation Accidents Occurring On-Site

Transportation accidents on-site could occur but are minimized by the short distance from the guard gate to the cyanide off load containment pad. Cyanide is shipped as dry product and in specially designed high strength trailers designed to withstand highway level impacts. Any on-site accident, should one occur, would reasonably be at low speed given the area of cyanide delivery truck operation. Since product is shipped dry; should a release occur, dry clean up procedures would be used.

iii. Releases During Mixing of Cyanide

Potential releases during mixing of cyanide are possible but minimized through implementation of procedures and by facility design. Mixing of cyanide occurs during the off-loading process as alkaline solution is circulated through the dry product in the delivery truck and the resulting solution is pumped to storage tanks within secondary containment. Written procedures will be in place for cyanide off loading and mixing. Controls are in place to assure that the mixing solution is of appropriate alkaline pH (pH of 10 or greater).

iv. Releases Due to Fires and/or Explosions in the Process Plant

Risk of fire in the facility is minimal but could possibly occur due to maintenance activities such as welding or electrical fires. The storage is equipped with fire extinguishers which are placed throughout the facility in appropriate locations. Fire extinguishers are routinely inspected, thus assuring properly functioning should a fire occur. If a fire were to occur, it is unlikely that it would be catastrophic, resulting in the release of cyanide solution, but would likely be confined

to a particular section of the facility. The Mill has a concrete floor, metal exterior sides, and contains primarily steel piping and vessels. The presence of combustible materials is minimized. In addition to on-site fire suppression capabilities, including large water trucks, a fire response agreement is in place with Lake County to provide additional resources if needed. Moreover, the Mill facility is tied to the TSF thus any flow from the fire suppression system would be contained.

v. Ruptures or Leaks in Pipes, Valves, and/or Tanks Containing Cyanide Solution

Rupture or leaks in pipes, valves, and/or tanks containing cyanide solution is possible but would likely be contained by facility design. The facility is designed for solution containment through floor-sumps, curbing, and passive overflow outlets to the TSF. Further, containment liner and routing of released solution to the TSF for external tankage spillage is in place on the TSF side of the Mill and has been tested at significant flows. Handling of overflows within the Mill is largely handled passively through gravity drainage to local floor sumps and the TSF.

vi. Overtopping of the Internal Solution Tanks

The solution storage tanks are managed and monitored daily to assure appropriate solution levels.

vii. Power Outages Including Failure of Backup Generator Power

Commercial power loss can occur. In the event of loss of commercial power, CJK has in place generator capacity to power the primary systems to assure solution can be moved from the tanks to the Mill and to the TSF, thus preventing overtopping of the tanks. In the event of mechanical failure of one of the generators, use of available power would be prioritized to the appropriate pumps.

viii. Pump Failures

Upon pump failure, water supply will be shut off followed by shutting off upstream and downstream pumps.

ix. Seepage From the TSF

The TSF is monitored several times each week at the leak detection system. If seepage should occur, there should be sufficient warning through the monitoring systems for early identification and possible TSF modification solution management to minimize seepage.

x. Failure of the Emergency Cyanide Treatment System for the External Leach Tanks

Failure of the emergency cyanide treatment system is possible. Should failure occur and solution needed to be moved into the TSF the cyanide solution would be treated as a batch with ferric sulfite.

If needed the TSF will be outfitted with a bird hazing activities which will be activated to minimize potential for wildlife exposure. Additional hazing techniques, including stationing personnel at the pond to haze birds until levels were reduced below the 40 ppm, can be implemented readily.

xi. Structural Failure of the TSF

Major structural failure of the TSF could occur but is highly unlikely. The toe berm is an engineered structure certified by a competent third-party engineer. It is reviewed routinely by operating staff in the area. The site is in a low seismic region and the TSF has been designed considering such potential seismic activity.

xii. Solution Release Potential Flow Paths

Potential solution release flow paths in the vicinity of the Mill and TSF are as follows:

The Mill and supporting facilities handling cyanide solution are sealed and protected by sumps that are either pumped to the TSF or flow passively to the TSF. A solution release outside of the building envelope in the Mill area would likely flow onto the relatively flat area surrounding the Mill. Should sufficient solution be released to move solution distant from the Mill, additional unlined storm water catchment basins are in place between the Mill and the ephemeral streams.

Any potential flows that may be seen at the leak detection trenches would likely be of low volume given that the details in the foundation materials of the TSF and beneath GCL. The leak detection layer reports to a sump where flows can be captured and pumped back to the TSF.

IV. Response Actions

Initial Notification

Any employee identifying a release of cyanide off containment shall immediately notify Steve Craig.

Survey the Scene

The individual must STOP, survey the scene, and determine his/her safety and the safety of others prior to proceeding with any response actions.

Measures to Stop Release

All reasonable steps will be taken to stop the source of the release insofar as such actions can be done safely.

Measures to Contain Release

All reasonable steps will be taken to contain the release insofar as such actions can be done safely. These measures include use of equipment to build dikes, berms, sumps, or other containment structures.

Worker Health and Safety

Worker health and safety is paramount when responding to incidents involving cyanide. If in doubt about safe conditions, err on the safe side. The mine rescue team has appropriate equipment to respond to cyanide incidents including self-contained breathing apparatus, vinyl raingear, face gear, monitoring equipment, and antidotes.

Antidotes

Antidotes are also available at the following locations: Lab, Mill, and the chemical storage room.

Emergency Response Coordinator

The Primary Response Coordinator is Steve Craig or his designee.

Alternate Emergency Response Coordinators

Lake County Office of Emergency Management upon request from a supervisor will immediately contact Steve Craig in the event of a cyanide-related emergency. If Steve Craig cannot be reached, Gary Slifka shall authorize the call-out of the Mine Rescue Team and is responsible for coordinating all on-site response measures. Procedures for first aid treatment of cyanide exposure and transporting patients for follow-up treatment is included in Chapter 23. In

addition, all employees are taught first aid treatment for cyanide exposures during New Miner Training and at the Annual Refresher.

Steve Craig and his designated representative shall be thoroughly familiar with all aspects of the cyanide emergency response plan, all operations and activities at the Mill involving cyanide, the locations and characteristics of cyanide, cyanide solutions and cyanide facilities, the location of pertinent records, and the facility layout. Steve Craig or his designated representative has the authority to commit the resources needed to carry out the cyanide related emergency response plan. CJK has committed to periodically test the ability to respond to a cyanide related incident and to implement appropriate first aid procedures.

Notification to Emergency Agencies or Outside Responders

A member of senior site management is responsible for determining if outside emergency assistance is required and responsible for resolving the cyanide emergency.

Evacuation of Process or Laboratory Facility

Evacuation of the Mill, laboratory, or other process facility would likely only be done in the event of either catastrophic failure, fire, or a release of HCN gas resulting from mixing of cyanide solution with acid. In the event the Mill or Lab is evacuated, the Security Post and adjoining offices also should be evacuated. Evacuation will be initiated and accomplished through personal contact, mine radio, telephone, or loudspeaker.

Evacuation of Affected Parties Off Site

This plan does not anticipate a scenario that would require evacuation of off-site parties from residences or businesses other than in an unforeseen catastrophic event.

The portion of Highway 24 adjacent to the Mill could be closed if necessary to protect the public from:

· Potential exposure from a fire or other catastrophe at the Mill or Lab. Public Safety agencies (Sheriff, Police, and State Patrol) would be called to coordinate a road closure. Contact information for these agencies is located in Table 23-2.

· If a catastrophic fire or gas release occurred at the Mill, and there is a potential for a smoke plume to impact private residences in unincorporated areas, such areas will be notified to evacuate. The appropriate law enforcement, fire departments, and emergency response offices will be notified and apprised. Contact information for these agencies is in Table 23-2.

Evacuation will be effected through use of local emergency personnel as described above.

Notification of Affected Parties Off Site

In the unlikely event of a catastrophic release of solution downstream in the unnamed dry tributary to California Gulch, downstream water users will be notified by public emergency agencies of Lake County. Contact information for these agencies is in Table 23-2.

Notification of Outside Agencies.

Notification of regulatory agencies will only be done by Steve Craig or his designated representative.

V. Response Equipment

CJK maintains and inspects the equipment necessary to implement this CRP.

VI. Notification

Notification will be performed in accordance with the Emergency Response Procedures (ERP). All contact information for both internal and external contacts can be found in Chapter 23.

VII. Monitoring and Remediation

Releases to the Land

All releases of cyanide or cyanide solution to the land will be cleaned up as soon as practicable. Spills of solid cyanide will be picked up by shovel such that all visible cyanide is recovered.

Releases of cyanide solution shall be recovered, if practicable, treated in place and contaminated soil shall be excavated.

Where ground conditions allow, the extent of contamination resulting from a release of cyanide solution will be determined visually. After treatment, solution spills will be over-excavated to remove all wet soil.

Where soil already was wet prior to the release or in other situations where the extent of potential contamination cannot be determined visually, CJK initially shall excavate soil believed to be contaminated.

Contaminated soil shall be placed in the TSF or disposed of in compliance with applicable hazardous waste regulations.

A report of the spill and its remediation shall be retained in the Mill files.

Releases to Surface Water

In the unlikely event that cyanide solution is released to the dry tributary adjacent to the Mill, CJK shall sample the solution released (if possible), at established surface water sampling locations. Standard sampling, preservation, handling, and analytical methods shall be used and coordinated by the Steve Craig or his designated representative.

In no case shall CJK attempt to oxidize, neutralize, or otherwise treat cyanide once it has entered the ephemeral drainage channel. Since all cyanide treatment chemicals are themselves toxic to aquatic life, and in-situ treatment is only marginally effective at best, all efforts must focus on preventive containment measures.

Releases to Ground Water

CJK operates a TSF monitoring system and groundwater monitoring wells to determine if releases are occurring from its operations. Releases to groundwater, should they occur, are generally not rapid or instantaneous, thus providing appropriate time for evaluation and remediation. CJK is committed to conduct appropriate sampling necessary to document if remedial activities have been successful.

Spill Path Monitor

If a spill or leak has the potential to migrate from the point of occurrence, spill monitoring will be implemented following clean up. Development of the monitoring plan will be determined by the nature and extent of the spill and the potential environmental effects created by the spill. All monitoring and sampling will be completed under the direction of Steve Craig or his designated representative.

The potential for spills to migrate from the point of occurrence is minimal. These materials will be quickly absorbed into soil material. If a spill of these materials has the potential to migrate to

surface water, berm(s) will be placed upgradient of the potential point of entry to the water and surface water monitoring will be implemented downstream, if necessary. All monitoring and sampling will be completed under the direction of Steve Craig or his designated representative.

Spill monitoring equipment is available on site. Soil along the spill pathway will be monitored and decontaminated and/or moved as necessary. If there is potential for the spill to migrate off site samples will be obtained expeditiously down-gradient, existing surface and groundwater sampling stations and any additional water monitoring points deemed appropriate to monitor the potential migration pathways. The spilled material also may be tested to evaluate the effectiveness of mitigation.

VIII. Review, Evaluation, and Revision of Response Procedures

All exposure and release incidents and accidents shall be evaluated to identify their cause and determine the measures to be implemented and designed to prevent their reoccurrence. Such measures may include equipment changes, revised standard operating procedures, or new or enhanced worker training.

CJK shall review and evaluate the response plan annually and after any incident requiring its implementation. Based on these reviews, the response plan shall be revised as necessary to ensure that it remains current and effective. The date of the most recent review shall be noted on the response plan page.

CJK shall conduct mock emergency drills annually to test its response procedures and capabilities. Some of these drills may be specific to cyanide releases while others may simulate fires, explosions, releases of other hazardous chemicals, or other emergency situations. Documentation of these mock drills shall be retained in the Mill files.