

**FACT SHEET**  
(Pursuant to Nevada Administrative Code (NAC) 445A.401)

Permittee Name: **US Mine Corp**

Project Name: **Victoria Copper Mine Project**

Permit Number: **NEV2016105**

Review Type/Year/Revision: **Renewal 2024, Fact Sheet Revision 00**

**A. Location and General Description**

**Location:**

The facility is located on private land in Elko County, within Section 5, Township 28 North, Range 66 East, Mount Diablo Baseline and Meridian in the Dolly Varden Mountain Range, approximately 38 miles southwest of the town of Wendover, Nevada. From West Wendover take State Route 93A South bound 38 miles to Elko County Road 795. Then go northwest on Elko County Road 795 approximately 7.5 miles, then approximately 4.0 miles southwest, up Dolly Varden Canyon, to the Victoria patented claims.

**General Description:**

US Mine Corp, the Permittee, is proposing to reopen the Victoria Copper Mine (Victoria) for the purpose of mining copper ore on the 7030 level and above. Further development of the ore body at the lower levels is planned to be conducted concurrently with mining operations. Until such time that a 500 ton per day processing mill can be permitted and constructed for the Project, the ore will be transported to an alternate offsite location for milling. The destination offsite facility will either be an existing facility permitted by the Division or an out of state facility. The Permit allows for underground mining of copper ore at a rate of 150,000 tons per year.

Included in the Permittee's operation plan is the rehabilitation of the existing decline, the erection of a steel headframe and the rehabilitation of the existing shaft. Semi-developed ore draw points underground will be completed and additional draw points will be developed. The rehabilitation phase will be necessary to collect ore samples for mineral evaluation per NAC 445A.396. The underground workings are flooded up to approximately the 7030 level or approximately 270 feet below the shaft collar. Rehabilitation of the mine will require dewatering of the underground workings which will be facilitated through a separate Nevada Division of Environmental Protection (NDEP) Temporary Discharge Permit.

## **B. Synopsis**

### History:

Mining at Victoria began in the 1930's after an initial exploration program and was owned and operated by Anaconda. In 1943, the shaft was sunk to develop the lower levels. Underground mining occurred through the 1960's until Anaconda began an open pit with a 1,000-ton-per-day mill in the 1970's operating until a north wall failure occurred in 1975. The pit ceased operations and mining was only conducted underground until copper prices dropped forcing the operation to shut down. Day Mines purchased and operated the underground portion of the Victoria for several months until 1980 when Hecla purchased the mine and shut it down. Approximately 1 million tons of copper ore was removed and processed throughout the life of the mine. Taylor Western Resources, LLC purchased the Victoria from Hecla after reclamation was completed. There has been no mining activity at the Victoria since 1980, however, a significant amount of proven ore remains at and below the 7030 level. The Permittee entered into an agreement with Taylor Western to permit, rehabilitate, and operate the Project for copper ore production.

The Permittee plans to incorporate sublevel caving as the mining method for ore extraction and to utilize the shaft to remove all waste rock during development and ore during production. Rubber tire equipment (i.e. haul trucks) will not be used to transport material from underground. Ore and waste rock will be moved to the surface exclusively through the shaft with the skip.

### Geology:

The Dolly Varden Range consists largely of a thick sequence of Mississippian to Triassic age carbonate and clastic sedimentary rocks, which exhibit a generally moderate easterly dip, but are locally strongly folded and faulted. Near the center of the range, a late Jurassic/early Cretaceous porphyritic quartz monzonite pluton, referred to as the Melrose stock, has intruded the sedimentary rocks.

Tertiary volcanic flows, pyroclastic rocks, and calcareous and tuffaceous sediments cover much of the eastern half of the Dolly Varden Range. Late Tertiary block faulting elevated parts of the range and tilted the rocks 20 to 25 degrees eastward. Subsequent erosion exposed most of the previously covered central contact aureole and the Victoria mineralization.

The Victoria property is situated in an area of very complex geology, with folding, faulting, igneous intrusion, and intense alteration. Mineralization at the mine is in an elongate, elliptically shaped breccia pipe formed on the nose and south limbs of an east-west trending anticline. Limestone, dolomite, and sandstone/quartzite of the Permian Pequop Formation and the Park City Group host the breccia pipe. Anaconda's geologists believed the breccia pipe formed in response to hydrothermal fluidization stoping and magma withdrawal prior to and contemporaneous with collapse and brecciation of the walls of the pipe. The

anticlinal fold may have served as a structural locus for a deep, underlying offshoot of the Melrose stock, which in turn furnished the hydrothermal fluids responsible for magmatic stopping, alteration, and mineralization.

The breccia consists of mixed fragments of sandstone/quartzite and limestone/dolomite in a matrix consisting of diopside, calcite, quartz, sulfides and clay minerals. From maps of the lower mine levels and from drilling, it appears that mineralization migrates south and southeasterly around the crescent with increasing depth.

The copper mineralization at the Victoria Mine is dominated by the Victoria Mine Breccia. The breccia body in the existing open pit runs east-west, elliptical in shape, and has nearly vertical planar contacts on the north and south margins. At depth, the north and south contacts dip outward from 60 to 80 degrees, while the western contact dips outward at 45 degrees. Although the eastern limit is currently unknown, the presence of an actinolite diorite, a pre-Melrose Stock intrusive, may have limited the breccia pipe to the east thereby structurally controlling, to some degree, the location of the Victoria Mine Breccia. These contact margins of the Victoria Mine Breccia contain unique mineralogical features that strongly suggest the presence of a concentric fracture pattern around the pipe at the time of mineralization.

Breccia mapped in the mine includes clasts derived initially from four rock types; sandstone and limestone from the Pequop formation, minor amounts of quartz latite porphyry, and diorite. Clasts range in size from microscopic to large slabs 170 feet long by 50 feet thick. Most clasts are angular but tend to have more or less similar shapes. The most common breccia observed in the mine consist of clasts of locally uniform lithology, apparently derived from a single bed within any given area. The matrix of this type of breccia consists of small fragments, cemented by calcite and lesser amounts of diopside, garnet, quartz, pyrite, and chalcopyrite. In the upper parts of the mine, part of the breccia consists of large slabs of limestone or sandstone. Another distinctly different type of breccia contains a bimodal clast assemblage containing sand and carbonate with a rock flour matrix that may be replaced by diopside or garnet. Alteration of sedimentary rocks to calc-silicates occurred throughout the breccia. Near the surface, a few clasts are unaltered limestone, whereas others are well-rounded. The bulk of the fragments, however, consist of fine-grained to medium-grained hornfels. Calcite is a common constituent, generally interstitial with diopside, but in some cases forms the bulk of the rock. A minor amount of supergene enrichment was noted in the upper part of the orebody. Thin films of chalcopyrite occur on abundant fractures spaced a few millimeters apart. Other supergene minerals include native copper, chrysocolla, azurite, and malachite. Other metals that are typically associated with supergene enrichment, such as nickel, lead, and zinc, are lacking.

Mining:

The headframe to be utilized for the Victoria Mine was designed and constructed for the Gooseberry Mine located in Storey County Nevada in the 1970's. The headframe was purchased, dismantled, and delivered to the Victoria patented claim in 2012. A 24-inch by 36-inch jaw crusher will be installed underground to crush all ore to a 3-inch minus for

transport to the surface via the Victoria shaft. There will be no other process components utilized for this Permit other than a 40-foot by 60-foot shop building and the hoist house which is an extension of the headframe.

Due to the mining method of sublevel caving, waste rock will be skipped to the surface and deposited directly into the existing pit. Extracted ore will be crushed to 3-inch minus underground, skipped to surface, and deposited into a 400-ton ore bin adjacent to the headframe. The ore will be loaded onto road trucks through a chute below the bin, thereby minimizing contamination at the surface.

Other than mining and crushing underground, skipping waste rock to the surface for deposit in the existing pit, and skipping ore to an ore bin attached to the headframe, there will be no beneficiation of ore on site. There will be no processing that requires ponds, fluids, or additional structures other than what has already been listed. This Permit is solely for the purpose of extracting the ore using the sub-level caving mining method, crushing underground, transporting and loading into an ore bin via the shaft, loading into road trucks at the surface, and transporting off-site to a Nevada Permitted ore processing facility or a facility outside the state of Nevada.

#### Shaft Rehabilitation:

The Permittee intends to utilize the existing Victoria shaft for underground mining operations. The shaft has been backfilled with waste rock from the open pit area. The shaft is expected to be filled with roughly 1000 tons of waste rock, if filled completely. The condition of the backfilled shaft is not known; however, it is expected that a plug occurs at the water level due to damming of old mine timber that has fallen down the shaft. The wood is most likely floating at the static water level creating a logjam stopping the material from going to the bottom.

There is hard rock on the north side of the shaft, but the other three sides are covered with loose fill. The safest approach to clear the shaft is to use an excavator and cut a work platform on the east or west side of the collar. After establishing the outline of the shaft, compressed air can be used to remove the loose muck and expose the original timber. The wall plates are believed to be oriented east-west which will put the hoist house on the south side of the shaft.

After the headframe is erected and the hoist set, the shaft will be refurbished by hanging steel sets on 6-foot centers. The ribs of the shaft will be stabilized using 3-inch Coeur d'Alene lagging. A Cryderman will be used to muck the shaft. A 2-ton sinking bucket will be used to haul waste material to the surface. All waste material will be discharged into a 300-ton bin where it can be handled with front end loaders or a discharge belt. All rubbish removed from the shaft will be loaded into 20 cubic yard waste transfer containers and shipped to the Wendover transfer station. Rock material removed from the shaft will be characterized for its potential to degrade waters of the state and disposed of either in the pit or the Wendover transfer station.

#### Ore Characterization:

The Permittee intends to conduct ore rock characterization from material that will be collected from an underground exploration and sampling program. In order to collect material characteristic of ore, the decline will have to be refurbished to allow safe entry into the mine workings. Analysis of ore samples taken from an underground drilling program will follow the submission of this application.

#### Waste Rock Characterization:

NAC 445A.396 4.(b) requires the analysis of waste rock to evaluate its potential to release pollutants while other provisions of NAC 445A require assurances that waters of the state will not be degraded by any proposed mining operation. Acid-base accounting (ABA) has been established as the way to determine the acid generating potential of these materials. The Meteoric Water Mobility Procedure (MWMP) is designed to determine the potential for release of chemical constituents from a solid that is exposed to precipitation (rain or snow melt). These two analytical procedures have been conducted to characterize the waste for the Project.

In order to characterize the waste material that will be brought to the surface, a composite sample was collected from drill core material from a drill hole that penetrated next to the Victoria shaft (Victoria LS Core). The core material consisted of weakly altered limestone, which is the predominant waste rock material at the mine. The core material was delivered to Sierra Environmental Monitoring Inc. (SEM) of Reno, Nevada for ABA testing using the Nevada Modified Sobek Procedure to determine the acid generating potential (AGP) and the acid neutralizing potential (ANP) of the waste material.

The ANP/AGP ratios were calculated using the AGP from sulfide sulfur results. The result of the ABA analysis was an ANP/AGP ratio of 114:1, indicating the waste rock is highly neutralizing and is not potentially acid generating.

The MWMP was also performed by SEM on the Victoria LS Core sample. Profile I concentrations were all within NDEP reference value standards except for antimony at 0.007 milligrams per liter (mg/L) and arsenic at 0.014 mg/L which were slightly above the reference values of 0.006 mg/L for antimony and 0.010 mg/L for arsenic.

#### Waste Rock Disposal:

The Permittee intends to place the waste rock in the existing pit approximately 130 feet from the shaft. The volume of waste material is expected to be minimal because the mining method of sublevel caving of ore minimizes the extraction of waste rock.

Because the waste rock will be deposited into the pit that will be bermed to eliminate post reclamation access, slope stabilization of the waste may not be necessary. Disposal of the waste rock in the existing pit is contingent on initial results of MWMP and ANP/AGP

analysis and Division approval of the waste rock generated. Continuing quarterly analysis of the waste rock for these parameters is a condition of the Permit.

#### Ancillary Facilities:

Water for drilling and dust control will be pumped from the underground workings via a 4-inch high density polyethylene pipe line and discharged into a 4,000-gallon water truck and a 1,000-gallon surface tank for drill water. In addition, a 30,000-gallon fire suppression water storage tank will be installed per Elko County fire Marshal. The tank will have to be installed in the ground with 2-foot minimum cover for freeze protection.

Diesel fuel will be stored in an elevated 500-gallon storage tank with a 150 percent secondary containment. A fuel spill kit will remain at the location of the fuel tank with designated equipment fueling location over a 6-inch concrete slab.

### C. Receiving Water Characteristics

Springs outside of one mile from the Project have been monitored to characterize the existing condition of spring and ground water chemistry. For this evaluation, it was assumed that any spring or seep with recorded flows during the month of August, September, or October was perennial and dependent on ground water discharge. Conversely, springs and seeps that did not have reported flow during the late summer and early fall months were assumed to be ephemeral or intermittent.

A study was conducted to characterize surface water by compiling analyses of samples collected from three springs surrounding the Project area. Dolly Varden Spring is located approximately 6 miles easterly and is downgradient of the Project. Cottonwood Spring is located approximately 0.65 miles northeasterly of the northeast corner of the Project boundary and is also downgradient. Horse Canyon Spring is located approximately 0.55 miles northwest of the northwest Project boundary and is up-gradient. In addition, water samples were collected from the historic Anaconda underground workings at the water table level. The first round of sampling of these springs was conducted in June 2010 and subsequent follow up sampling was conducted in August 2010. Attempts were made during both of the sampling programs to also sample two other historic springs, Flowing Well and Austin Spring. However, due to several consecutive dry winters in the area, neither of these springs was flowing.

All spring and seep underground water samples were analyzed for Profile I constituents including weak acid dissociable (WAD) cyanide analyses. The surface water quality data for the study area show a relatively consistent range of composition both upgradient and downgradient of the Project area. All of the springs and seeps, as well as the underground samples, have a near-neutral to alkaline pH, indicating a strong neutralizing potential of bedrock in the Project vicinity. The analyses indicate a very good quality of groundwater exists in the vicinity of the Project area. Metal concentrations in all of the water samples are well below NDEP reference values. Only nitrate in the underground water sample

slightly exceeds the NDEP reference value. Selenium in the underground sample is at the NDEP reference value.

The underground workings are flooded at approximately 270 feet below ground surface at the portal. Oral reports from a former Anaconda employee indicates that the workings were very dry during the Anaconda operation time frame. This condition required the importation of water from wells in the valley to the east for process water and dust control. It is presumed that once the underground is dewatered, the requirement for water importation will resume.

**D. Procedures for Public Comment**

The Notice of the Division's intent to issue a Permit authorizing the facility to construct, operate, and close, subject to the conditions within the Permit, is being published on the Division website: <https://ndep.nv.gov/posts/category/land>. The Notice is being mailed to interested persons on the Bureau of Mining Regulation and Reclamation mailing list. Anyone wishing to comment on the proposed Permit can do so in writing within a period of 30 days following the date of public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected intrastate agency, or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.403 through NAC 445A.406.

**E. Proposed Determination**

The Division has made the tentative determination to issue the renewed Permit.

**F. Proposed Limitations, Schedule of Compliance, Monitoring, Special Conditions**

See Section I of the Permit.

**G. Rationale for Permit Requirements**

The facility is located in an area where annual evaporation is greater than annual precipitation. Therefore, it must operate under a standard of performance which authorizes no discharge(s) except for those accumulations resulting from a storm event beyond that required by design for containment.

The primary method for identification of escaping process solution will be placed on required routine sampling downgradient monitoring well(s). Specific monitoring requirements can be found in the Water Pollution Control Permit.

## **H. Federal Migratory Bird Treaty Act**

Under the Federal Migratory Bird Treaty Act, 16 U.S. Code 701-718, it is unlawful to kill migratory birds without license or permit, and no permits are issued to take migratory birds using toxic ponds. The Federal list of migratory birds (50 Code of Federal Regulations 10, 15 April 1985) includes nearly every bird species found in the State of Nevada. The U.S. Fish and Wildlife Service (the Service) is authorized to enforce the prevention of migratory bird mortalities at ponds and tailings impoundments. Compliance with State permits may not be adequate to ensure protection of migratory birds for compliance with provisions of Federal statutes to protect wildlife.

Open waters attract migratory waterfowl and other avian species. High mortality rates of birds have resulted from contact with toxic ponds at operations utilizing toxic substances. The Service is aware of two approaches that are available to prevent migratory bird mortality: 1) physical isolation of toxic water bodies through barriers (e.g., by covering with netting), and 2) chemical detoxification. These approaches may be facilitated by minimizing the extent of the toxic water. Methods which attempt to make uncovered ponds unattractive to wildlife are not always effective. Contact the U.S. Fish and Wildlife Service at 2800 Cottage Way, Room W-2606, Sacramento, California 95825, (916) 414-6464, for additional information.

Prepared by: Allie Thibault

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