FACT SHEET
(pursuant to NAC 445A.401)

Permittee Name: **Sunrise Minerals, LLC**

Project Name: **Section 17 Project**

Permit Number: **NEV2005110**
Review Type/Year/Revision: **Renewal 2016, Fact Sheet Revision 00**

A. Location and General Description

Location: The **Section 17 Project** is located on private land in northeast Pershing County, Nevada, within the southeast quarter of Section 17, Township 33 North, Range 36 East, Mount Diablo Baseline and Meridian, 8 miles northeast of the town of Mill City and 20 miles southwest of the city of Winnemucca. The Section 17 Project is located in the historic Sierra Mining District (also referred to as the Dun Glen and Chafey mining districts).

Site Access: The Project facilities may be accessed by traveling approximately 27 miles west from Winnemucca on Interstate-80 to "*Exit 151--Dun Glen*"; proceed east approximately 0.5 mile on a county-maintained gravel road "*NF-415*" to a 'fork' in the road; turn left at the 'fork' onto "*Dun Glen Canyon Road*" and continue approximately 4 miles to the Project site.

General Description: The Section 17 Project consists of a physical separation facility, pursuant to Nevada Administrative Code (NAC) 445A.414, with an estimated maximum production rate of 450,000 tons (300,000 cubic yards) per year. Sunrise Minerals, LLC (the Permittee) mines gold-bearing placer gravels from an ancient river channel bed with gold recovery via a gravity concentration circuit. The life expectancy of the Section 17 Project is currently estimated at less than 10 years.

Chemicals are not approved for use in the gold recovery process (with the exception of a Nevada Division of Environmental Protection-Bureau of Mining Regulation [the Division] approved biodegradable surfactant and/or flocculant). Make-up water is obtained from a well within the Section 17 Lease Area (e.g. "1990 Well"). The facility is designed and constructed to operate and close without any discharge or release from the fluid management system except meteorological events that exceed the design storm limit. The Project site is located in an area of significant historical disturbance and the Permittee will perform concurrent reclamation on all new disturbances and has committed to reclaim as much of the historical disturbances where economically feasible.

B. Synopsis

Background: The Section 17 Project is located in an area characterized by extensive un-reclaimed disturbances from historic, pre-regulation mining operations throughout the floor of Dun Glen Canyon. Placer gold has been mined intermittently from the Dun Glen Canyon floor since the mid 1920's with limited success.

Placer gold deposits are reported to occur along a 5- to 6-mile stretch of Dun Glen Creek and the floor of Dun Glen Canyon. The gold-bearing "pay gravel" zones are estimated to be up to 1,000 feet wide but average between 200 and 400 feet in width. Drilling results indicate bedrock occurs at a depth of approximately 30 to 50 feet below ground surface. The pay gravels are reported to occur in zones just above to as much as 15 feet above the bedrock surface. Gold-bearing reserves are estimated to consist of approximately 2.5 million cubic yards (cu yd) of creek bed gravel and 5 million cu yd of terrace gravel.

Mining: The Permittee recovers particulate gold from the terrace placer gravels using conventional gravity separation (physical separation) methods and potentially recover coarse placer gravel (plus 3/8 inch) for sale as construction aggregate, however no parties have expressed any interest in using these gravels.

The placer gravels are mined at a rate between 1,000 and 1,500 cu yd per day (1,500 to 2,500 tons per day). Mining is typically conducted 10 hours per day, 5 days per week for approximately 200 days per year. Tonnage mined is estimated between 300,000 and 450,000 tons annually. Front-end loaders, tracked excavators and/or shovels are used to remove the gravels, which are then loaded into dump trucks and hauled to the process facility for gold recovery via gravity separation. A small, portable gravity plant (2 to 15 cu yd per hour throughput), is often utilized used to evaluate the behavior and characteristics of the placer material prior to its introduction into the full-scale gravity plant.

Processing: Mined material from the full-scale gravity plant is either stockpiled at the plant site or fed directly to the gravity concentration circuit. The circuit consists of a feed hopper, grizzly, trommel screen, sluice boxes, a classifier, and a settling pond system. As stated previously, chemicals are not authorized for use in the gravity concentration process; the only exceptions being biodegradable flocculants and surfactants approved by the Division to aid in the settling of sediments.

Oversize cobbles (plus 4-inch material) are removed by the grizzly, characterized, and stockpiled for resale as construction aggregate or returned to the mined area for reclamation. The undersize material (minus 4-inch material) is conveyed to a trommel screen where it is further separated into plus 3/8-inch and minus 3/8-inch size fractions.

The oversize (plus 3/8-inch) pebbles are removed, characterized, and stockpiled for resale as construction aggregate or returned to the mined area for reclamation. The undersize material is conveyed to an array of sluice boxes to produce a rougher concentrate via gravity separation. The rougher concentrate is collected and transported off site for additional concentration and gold recovery.

The rougher tail from the sluice array is collected and conveyed to a classifier for separation into plus 200-mesh and minus 200-mesh size fractions. The coarse size fraction is removed, stockpiled, and allowed to dry, and eventually returned to the mined area for reclamation.

Fine material from the Section 17 gravity concentration circuit is currently discharged to the settling system, consisting of three un-lined settling ponds (SP-1, SP-2 and SP-3) and the clay-amended Freshwater/Recycle Water Pond (FRWP-1).

SP-1 is approximately 75 feet by 100 feet by 10 feet deep, SP-2 is approximately 75 feet by 300 feet by 10 feet deep, and SP-3 is approximately 50 feet by 100 feet by 10 feet deep. A temporary access road with a steel culvert crosses SP-2 creating the impression of two separate ponds when it is not. All settling ponds have a freeboard depth of two feet. Combined capacity (at freeboard) for SP-1 through SP-3 is 2.09 million gallons. FRWP-1 is approximately 75 feet by 200 feet by 10 feet deep with a freeboard depth of two feet. Capacity for the Freshwater/Recycle Water Pond is approximately 900,000 gallons.

Settling Pond 1 (SP-1) receives gravity plant discharge for initial sedimentation of the solids. Clean decant water from SP-1 is allowed to overflow via a culvert or conduit to SP-2 for additional sedimentation and then to SP-3. Sediment is removed periodically from the ponds and characterized, stockpiled, recombined with the coarse classifier fraction (plus 200-mesh material) and eventually returned to the mined area for use as backfill. Clean decant water from SP-3 is allowed to overflow via a culvert or conduit underneath a 25-foot wide berm to the Fresh Water/Recycle Water Pond (FRWP-1).

The Fresh Water/Recycle Water Pond (FRWP-1) is amemded with compacted bentonite clay to serve as a seal for the pond and minimize fresh water/recycle water loss. The 150-cubic-yard-per-hour gravity separation plant requires approximately 1,500 gallons per minute of water. Make-up water is obtained from the production well capable of delivering water in excess of 200 gallons per minute. However, supplemental water for the gravity plant is obtained from FRWP-1 where it is combined with the production well water and then returned to the gravity separation plant.

Ancillary Activities: Permanent facilities have not and will not be constructed on the Project site. Fuels, lubricants and other motor vehicle fluids will be stored in above-ground tanks or drums within a bermed polyvinyl chloride (PVC)-lined

basin (with a minimum capacity of 110 percent of the largest storage container) or in a trailer-type storage container. Any petroleum contaminated soil (PCS) generated will be collected and disposed of off-site at a Division-approved facility.

C. Receiving Water Characteristics

Surface Water: The only surface waters within 1/2 mile of the Project site are two small ponds located in the adjoining Section 16 within the intermittent stream reach of Dun Glen Canyon. Dun Glen Creek is ephemeral within this stretch, but has perennial flow up stream. There are several ephemeral washes within 1/2 mile of the Project site that flow southwesterly and southeasterly upgradient from and around the site. Note that all washes naturally flow away from and not through the Project site. Consequently, the construction of engineered diversion structures to control stormwater is not necessary at this time.

Dun Glen Creek perennially flows southwest within Dun Glen Canyon south of the Project area. Dun Glen Creek is a tributary of the Humboldt River. Flow rates are estimated to range seasonally from 200 to 2,000 gpm, dependent upon ephemeral flow contributions from several small tributaries also located on the west side of the East Range mountains. In the Project area, water from Dun Glen Creek has historically been used for stock watering and mining purposes. At several locations within the Project area, the creek bed has been displaced by historic mining activities.

As a tributary of the Humboldt River, Dun Glen Creek is subject to the designated beneficial uses and surface water quality standards specified at NAC 445A.1446, which apply to the reach of the Humboldt River between the Comus Gage and Imlay and to all tributaries to that reach, including Dun Glen Creek, regardless of whether or not Dun Glen Creek typically flows continuously to the Humboldt River. Dun Glen Creek is also subject to the water quality standards specified at NAC 445A.1236, which lists standards for toxic materials applicable to designated beneficial uses.
Groundwater: As stated previously, water for the gravity separation circuit is obtained from the refurbished "1990 Well". The "1990 Well" (NDWR Well Log #54276) was completed to a depth of 420 feet with a static water level of 180 feet below ground surface (bgs). The well was gravel packed from 60 to 420 feet bgs and sealed with cement grout from the surface to a depth of 60 feet bgs. The well was packed and sealed shortly after it was drilled.

Groundwater quality at the Section 17 site is good and meets the Division Profile I groundwater quality reference values. Historic and recent surface water samples from the nearby Dun Glen Creek report values for pH, total dissolved solids, aluminum, iron, lead, and manganese that are, from time to time, elevated slightly above the Profile I reference values. These anomalies are attributed to weathering

of natural rock constituent concentrations have not negatively impacted by the proposed activities.

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 sent to the **Lovelock Review-Miner** for publication. The Notice is being mailed to interested persons on our 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 Permit renewal.

F. Proposed Limitations, Schedule of Compliance, Monitoring, and 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 visual component inspections and routine sampling of the production well and surface water. 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 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 1340 Financial Boulevard, Suite 234, Reno, Nevada 89502-7147, (775) 861-6300, for additional information.

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