



GRASSY MOUNTAIN MINE PROJECT

Reclamation Plan

Submitted to:

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EXECUTIVE SUMMARY

Calico Resources USA Corp. (Calico), a wholly-owned subsidiary of Paramount Gold Nevada Corp. (Paramount), owns and controls 100 percent of the mineral tenure of the unpatented mining claims, patented mining claims, and mining leases that comprise the Grassy Mountain Mine Project (Project). The Project consists of two claims groups that are situated near the western edge of the Snake River Plain in eastern Oregon, 22 miles south-southwest of Vale, Oregon, and about 70 miles west of Boise, Idaho.

Calico proposes to mine approximately 2.07 million short tons (US) (Mst) of mill-grade ore and 0.27 Mst of waste rock for a Mine life of approximately 7.8 years. The Tailings Storage Facility (TSF) has been designed to be constructed in three phases. Phase I has been designed to contain 0.98 Mst, Phase II has been designed to contain 2.04 Mst, and Phase III has been designed to contain 3.64 Mst. Phase II of the TSF design is adequate to meet the tailings storage needs for the proposed Mine plan; however, Phase III has been designed and is being permitted to allow for additional storage should additional reserves be identified.

The material (both ore and waste) will be extracted from the underground mine using conventional underground mining techniques, including drilling, blasting, mucking, loading, and hauling at a rate of approximately 1,200 short tons per day (stpd), four days per week. Calico will use hydraulic loaders to load the ore and waste into the haul trucks. The haul trucks will transport the waste rock to the Temporary Waste Rock Storage Facility (TWRSF) near the TSF and transport the ore to the ore stockpile adjacent to the crushing and milling facilities. The ore will be crushed and leached in a carbon-in-leach (CIL) processing plant at a rate of 750 stpd, seven days per week. The leached tailings will then be pumped in a slurry to the TSF, with supernatant solution recovered and pumped back to the Mill.

The key objectives of the Reclamation Plan are to satisfy the requirements of state and federal regulatory requirements by achieving the following:

- Provide a stable post-closure landscape that supports defined land uses of livestock grazing or range land, wildlife habitat, and recreational land, with opportunities to consider mineral exploration and development when feasible;
- Maintain existing access to private land;
- Minimize erosion damage and protect water resources through control of water runoff and stabilization of components;
- Establish post-closure surface soil conditions conducive to the regeneration of a stable plant community;
- Revegetate disturbed areas with appropriate plant species in order to establish long-term, stable plant communities compatible with existing land uses; and
- Maintain public safety by stabilizing or limiting access to landforms that could constitute a public hazard.

The Reclamation Cost Estimate (RCE) was developed in accordance with regulations at Subpart 43 Code of Federal Regulations (CFR) 3809.522, 3809.553, and Oregon Revised Statutes (ORS) 517.810. The Nevada Standardized Reclamation Cost Estimator (SRCE) was used to estimate the RCE. The SRCE model contains

standardized cost data to calculate reclamation bonding requirements for the reclamation of mine sites based on reclamation areas and volumes using geometry parameters defined by the user. The model uses a first-principals approach to reclamation cost estimating, using built-in worksheets with either fixed or user-defined labor and equipment rates for the calculation of reclamation activities that are specific to a mining project.

Calico will use a phased-bonding approach and will work out suitable milestone events with respect to Project development with the Bureau of Land Management (BLM) and Oregon Department of Geology and Mineral Industries (DOGAMI). Calico will provide a reclamation surety in accordance with regulations at 43 CFR 3809.522, 3809.553, and at ORS 517.810 based on the reclamation tasks at the cessation of mining. Calico will update the surety to reflect the actual disturbance and whatever additional disturbance is planned for the subsequent period. Any changes to equipment, consumable, and labor costs will also be incorporated during the updates.

A total reclamation cost of \$~~11,565,744~~12,416,573 has been calculated, including indirect costs such as contingency and contractor profit utilizing the Nevada SRCE Beta Version 2.0. This reclamation cost is based on the completion of the Phase II TSF, which aligns with the current Mine plan and resources identified to support the 8-year Mine life presented.

During a June 1, 2022 meeting (SLR, 2022), the BLM requested that Calico present the reclamation cost estimate for a “fully built out” (FBO) scenario, which assumes the following:

- 135,000 tons of waste rock has been stockpiled in the TWRSF and will be excavated, hauled to the backfill plant located at the Portal Pad and placed underground as Cemented Rock Fill (CRF). 135,000 tons of waste rock is the maximum volume of waste rock planned to be stored on the TWRSF and is planned to occur in year one of operation; and
- 3,000 tons of ore in the Ore Stockpile has been stockpiled and will be excavated, hauled to the backfill plant located at the Portal Pad and placed underground as CRF. This is the maximum volume of ore planned to be stored in the Ore Stockpile and will occur routinely during operation.

The reclamation costs associated with the FBO scenario described results in an estimated reclamation cost of \$3,546,923.

The Reclamation Plan will be performed in the following five stages, with various activities and monitoring occurring at and in between each stage:

- Stage 1 begins immediately following the cessation of mining operations, (closure year 1), with closure activities focused on facilities that are not related to the tailings underflow. This generally includes reclamation of the Underground Mine; TSF Embankment; TWRSF; Process Plant, including associated yards, infrastructure, and ancillary facilities (minus the administrative building and various support buildings and yards); Growth Medium Stockpiles 2 and 3; and select roads.
- Stage 2 (closure year 2) will commence once the flow rate from the tailings underflow can be actively managed on approximately 25 percent of the TSF Impoundment surface and the TSF Impoundment surface is suitable for construction activities (estimated to be one year). Stage 2

reclamation will **generally** include regrading the entirety of the TSF Impoundment surface, and reclaiming 75 percent of the TSF Impoundment surface and Growth Media Stockpile 1.

- Stage 3 (**closure year 3**) will commence once the flow rate from the tailings underflow can be passively managed within the Evaporation Cell (E-Cell), and the unreclaimed portion of the Tailings Impoundment surface is suitable for construction activities (estimated to be one year). Stage 3 reclamation will include reclaiming the remaining 25 percent of TSF Impoundment surface, Quarry, yards, Reclamation Borrow Areas, and remaining haul roads, and converting the Reclaim Pond to an E-cell.
- ~~As the majority of reclamation activities will be completed and the facility will be monitored as part of closure,~~ Stage 4 will **commence upon completion of Stage 3 and will** include the reclamation of **the ancillary facilities, such as** the power supply (power lines); water supply; other areas (including the perimeter fence, and meteorological monitoring station); and the administrative building in the Process Plant, including associated yards, infrastructure, and ancillary facilities.

Following Stage 4, all that will remain on site will be the E-cell, groundwater monitoring wells, and the Mine access road to allow for **approximately 27 years of** post-closure monitoring- **and inspections**

- Stage 5 will commence approximately **3029** years following cessation of mining, at the conclusion of post-closure monitoring for all mining facilities. Stage 5 reclamation will include reclaiming all groundwater monitoring wells and the Mine access road.

Post-closure monitoring will be undertaken in accordance with the detailed Post-closure Monitoring Plan submitted to the BLM and DOGAMI, and will begin immediately following cessation of mining and conclude following acceptance of closure.

ACRONYMS

bcy	bank cubic yards
BLM	Bureau of Land Management
BMP	best management practice
Calico	Calico Resources USA Corp.
CFR	Code of Federal Regulations
CIL	carbon-in-leach
CRF	cemented rock fill
cy	cubic yards
DOGAMI	Department of Geology and Mineral Industries
DST	double-sided textured
E-Cell	Evaporation Cell
EFU	Exclusive Farm Use
ERU	Exclusive Range Use
FBO	fully built out
ft	feet / foot
H:1V	horizontal to one vertical
kV	kilovolt
LLDPE	linear low-density polyethylene
MCC	Malheur County Code
MCE	maximum credible earthquake
Mst	million short tons (US)
NaCN	sodium cyanide
OAR	Oregon Administrative Rule
ODEQ	Oregon Department of Environmental Quality
ORS	Oregon Revised Statutes
OWRD	Oregon Water Resources Department
oz/yd ²	ounce per square yard
Paramount	Paramount Gold Nevada Corp.
Project	Grassy Mountain Mine Project

RCE	Reclamation Cost Estimate
RF	rock fill
SEORMP	Southeastern Oregon Resource Management Plan
stpd	short tons per day
SRCE	Standardized Reclamation Cost Estimate
TSF	Tailings Storage Facility
TWRSF	Temporary Waste Rock Storage Facility
U.S.C.	United States Code
WBS	Work Breakdown Structure
WPCF	Water Pollution Control Facility

1. INTRODUCTION

Calico Resources USA Corp. (Calico), a wholly-owned subsidiary of Paramount Gold Nevada Corp. (Paramount), owns and controls 100 percent of the mineral tenure of the unpatented mining claims, patented mining claims, and mining leases that comprise the Grassy Mountain Mine Project (Project). The Project consists of two claims groups that are situated near the western edge of the Snake River Plain in eastern Oregon, 22 miles south-southwest of Vale, Oregon, and about 70 miles west of Boise, Idaho. The Project location is presented in Figure 1.

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In general, the proposed mining and metal processing operations will consist of an underground mine and ore processing facilities, including a conventional mill and TSF, a TWRSF, and other support facilities. The Project will include the following major components:

- An underground mine, with Mine portal, decline, and ventilation shaft;
- TSF with Tailings Embankment, Tailings Impoundment, and Reclaim Pond;
- TWRSF;
- Process Plant area, which includes the Process Plant building, control room, crushing facilities, conveyors, ore bins, control rooms, CIL processing plant, reagent storage building (including chemical and reagent storage), gold room, and Collection Pond;
- Infrastructure and ancillary facilities that include Project site main gate and guard house, administration office and change house, assay laboratory and sample preparation area, truck workshop and warehouse, wash pads, Process Plant workshop and warehouse, meteorological station, explosive magazines, parking areas, ore stockpiles, solid and liquid hazardous waste storage, and fuel storage and dispensing area;
- Roads, including upgrades to the Twin Springs and Cow Hollow roads, and construction of the Mine access, internal access, and Mine haul roads;
- Yards and laydown areas;

- Growth Media Stockpiles;
- Water supply, including Production Wellfield, water pipeline, raw water storage tank, and Potable Water Treatment Plant;
- Power supply that includes a power substation, upgraded 14.4 kilovolt (kV) overland power transmission system, new 14.4 kV overland power transmission system, onsite power lines, and generators;
- Permanent and temporary stormwater diversion channels;
- Other areas, including the exploration areas, septic system, and perimeter fence;
- Quarry; and
- Reclamation Borrow Areas.

The general arrangements of the facilities during operations are shown in Figure 2.

1.1 PROJECT DESCRIPTION

Reclamation of disturbed areas resulting from activities outlined in this Reclamation Plan will be completed in accordance with the Bureau of Land Management (BLM), Oregon Department of Geology and Mineral Industries (DOGAMI), and Oregon Department of Environmental Quality (ODEQ) regulations. The purpose of Subpart 43 Code of Federal Regulations (CFR) 3809 - Surface Management is to prevent unnecessary or undue degradation of public lands by operations authorized by the mining laws. Anyone intending to develop mineral resources on public lands must prevent unnecessary or undue degradation of the land and reclaim disturbed areas. This subpart establishes procedures and standards to ensure that operators and mining claimants meet this responsibility and provide for the maximum possible coordination with appropriate state agencies to avoid duplication and to ensure that operators prevent unnecessary or undue degradation of public lands by operations authorized by the mining laws. The State of Oregon requires that a reclamation plan be developed for any new chemical mining project and for expansions of existing operations (Oregon Administrative Rules [OAR] 632-037-0070) and for the quarry (OAR 632-030-0027). The regulatory framework for the development of this Reclamation Plan is described in greater detail in Section 3.1.

The Project disturbance areas are summarized in Table 1. The areas proposed for disturbance is divided into the following:

- Underground Mine;
- TSF;
- TWRSF;
- Process Plant;
- Infrastructure and ancillary facilities;
- Roads;
- Yards and laydown areas;
- Growth Media Stockpiles;
- Water supply;
- Power supply;
- Stormwater diversion channels;
- Quarry;

- Reclamation Borrow Areas;
- Monitoring;
- Exploration; and
- Disturbed area.

Table 1. Project Disturbance Areas

Facility	Area (acres)
Underground Mine	6.7
Tailings Storage Facility	99.8
Temporary Waste Rock Storage Facility	5.7
Process Plant	2.5
Infrastructure & Ancillary Facilities	17.8
Roads	34.9
Yards & Laydown Areas	10.0
Growth Media Stockpiles	7.7
Water Supply	7.9
Power Supply	61.1
Stormwater Diversion Channels	11.8
Quarry	48.2
Reclamation Borrow Areas ¹	55.9
Monitoring	0.0
Exploration	10.0
Disturbed Area ²	107.8
Total	487.9

¹ The maximum available growth media identified at the two Reclamation Borrow Areas.

² Disturbed areas are 50-foot buffers along facilities such as roads, yards, and laydown areas, and the TSF that may be disturbed during construction. These areas will be reclaimed following construction activities are completed during operations.

Costs to support financial surety associated with this Reclamation Plan are provided in Section 8.

2. LAND USE

2.1 CURRENT

The Land Use Study Area is zoned Exclusive Range Use (ERU) and Exclusive Farm Use (EFU) in the Malheur County Code (MCC). Land in and near the Land Use Study Area is currently used for grazing and dispersed recreation and supports an existing road network that provides local access. Grazing is a farm use and is allowed by right in the Land Use Study Area. Most of the land is administered by the BLM; therefore, dispersed recreation, such as hiking and camping, is managed in accordance with BLM policies.

Mining and associated infrastructure proposed as part of the Project is an allowed use of BLM-administered land in and near the Land Use Study Area if the Project can be developed in a manner that protects other sensitive resources, per the Southeastern Oregon Resource Management Plan (SEORMP) energy and mineral resource objectives.

The Land Use Study Area does not support any areas of critical environmental concern, wild and scenic rivers, wilderness study areas, sage grouse lek sites, or riparian conservation areas. Information in the SEORMP indicates that portions of the Land Use Study Area are in or near areas that are open to mining but subject to operational timing limitations. Factors that would affect the operational timing limitations include proximity to occurrences of special status plants and mule deer winter range. Surveys of the Permit Area and a 2-mile radius did not locate any threatened or endangered species.

Malheur County approved the Conditional Use Permit to construct an underground gold and silver mine on private lands zoned for ERU on May 23, 2019, and issued the Land Use Compatibility Statement to Calico on July 30, 2019.

2.2 POST-CLOSURE

The proposed post-closure land uses for the Project are livestock grazing or range land, wildlife habitat, and recreational land, with opportunities to consider mineral exploration and development when feasible. Where practical, areas impacted by the Project will be returned to conditions that existed prior to mining and mineral processing and provide for the post-closure land uses described above. In some cases, habitat conditions may be improved from the pre-project conditions as a result of the monitoring and noxious weed control measures described in the Noxious Weed Monitoring and Control Plan. Post-closure land uses are in conformance with the BLM Vale District Management Plan and Malheur County Land Use Plans. This goal is achieved through the placement of adequate growth media and revegetation using a BLM-prescribed seed mix, that is intended to provide for wildlife habitat and forage.

3. LEGAL REQUIREMENTS AND OTHER REGULATORY FACTORS

3.1 REGULATORY FRAMEWORK

Reclamation of disturbed areas resulting from proposed mining activities outlined in this Reclamation Plan will be completed in accordance with the BLM and the State of Oregon DOGAMI and ODEQ regulations. The purpose of 43 CFR 3809 (Surface Management) is to prevent unnecessary or undue degradation of public lands by operations authorized by the mining laws. Anyone intending to develop mineral resources on public lands must prevent unnecessary or undue degradation of the land and reclaim disturbed areas. This subpart establishes procedures and standards to ensure that operators and mining claimants meet this responsibility and provide for the maximum possible coordination with appropriate state agencies to avoid duplication and to ensure that operators prevent unnecessary or undue degradation of public lands by operations authorized by the mining laws. The State of Oregon requires that a reclamation plan be developed for any new chemical mining project and for expansions of existing operations (OAR 632-037-0070) and for the quarry (OAR 632-030-0027).

Surface management regulations at 43 CFR 3809.420 establish the performance standards that apply to this Reclamation Plan. The State of Oregon has established mining, reclamation, water quality, and air quality regulations. The following measures, designed to prevent unnecessary or undue degradation, will be implemented during the design, construction, operation, and reclamation of the Project:

- All regulated components of the facility will be designed and constructed to meet or exceed design criteria approved by BLM, DOGAMI, ODEQ, and the State of Oregon Water Resources Department (OWRD).
- Mineral exploration and development drill holes, monitoring and observation wells, and production wells subject to State of Oregon regulations will be properly abandoned to prevent potential contamination of water resources in accordance with OAR 690-220.
- Roads will be constructed to the minimum necessary width.
- Regulated wastes will be managed according to applicable regulations.
- Surface disturbance will be minimized while optimizing the recovery of mineral resources.
- Fugitive dust and other air emissions from disturbed and exposed surfaces will be controlled in accordance with ODEQ regulations and permits.
- Calico will comply with applicable federal and state water quality standards, including the Federal Water Pollution Control Act, as amended (30 United States Code [U.S.C.] 1151 et seq.).
- Through successful revegetation utilizing the seed mix provided by the BLM and recontouring of the topography to mimic the surrounding environment, wildlife habitat will be rehabilitated pursuant to requirements at 43 CFR 3809.401(b)(3)(v) and 43 CFR 3809.420(b)(3)(iii)(E).
- Surface water drainage control will be accomplished by diverting stormwater, isolating facility runoff, and minimizing erosion.
- Where suitable, surface soils and alluvium will be managed as a growth media resource and removed, stockpiled, and replaced during reclamation.

- A reclamation plan will be implemented that addresses earthwork and re-contouring; re-vegetation and stabilization; detoxification and disposal; and monitoring operations necessary to satisfactorily reclaim the proposed disturbance, including roads, ponds, tailings facilities, stockpiles, buildings, and equipment.

3.2 REGULATORY REQUIREMENTS

This Reclamation Plan was developed to satisfy the requirements of the following state and federal regulatory requirements:

- OAR 632-037-0070, Consolidated Permitting of Mining Operations Reclamation and Closure Plan;
- OAR 340-043-0080, Guidelines for the Design, Construction, Operation and Closure of Chemical Mining Operations: General Provisions;
- OAR 340-043-0090, Guidelines for the Design, Construction, Operation and Closure of Chemical Mining Operations: Control of Surface Water Run-On and Run-Off;
- OAR 340-043-0100, Guidelines for the Design, Construction, Operation and Closure of Chemical Mining Operations: Physical Stability of Retaining Structures and Emplaced Mine Materials;
- OAR 340-043-0110, Guidelines for the Design, Construction, Operation and Closure of Chemical Mining Operations: Protection of Wildlife;
- OAR 340-043-0130, Guidelines for the Design, Construction, Operation and Closure of Chemical Mining Operations: Guidelines for Disposal of Mill Tailings;
- OAR 340-043-0150, Guidelines for the Design, Construction, Operation and Closure of Chemical Mining Operations: Guidelines for Heap-Leach and Tailings Disposal Facility Closure;
- OAR 340-043-0160, Guidelines for the Design, Construction, Operation and Closure of Chemical Mining Operations: Post-Closure Monitoring;
- OAR 632-030-0027, Minimum Standards for a Reclamation Plan (Applicable to the Quarry);
- 43 CFR 3809.420(3), Reclamation; and
- Other state and federal permits required for the operation of the Project.

The regulatory requirements are provided in Appendix A.

4. RECLAMATION OBJECTIVES

4.1 OBJECTIVES

The key objectives of the Reclamation Plan are to satisfy the requirements of state and federal regulatory requirements (Section 3.2 and Appendix A) **and establish a sustainable ecosystem similar to pre-mining conditions**, by achieving the following:

- Provide a stable post-closure landscape that supports defined land uses of livestock grazing or range land, wildlife habitat, and recreational land, with opportunities to consider mineral exploration and development when feasible;
- Maintain existing access to private land;
- Minimize erosion damage and protect water resources through control of water runoff and stabilization of components;
- Establish post-closure surface soil conditions conducive to the regeneration of a stable plant community;
- Revegetate disturbed areas with appropriate plant species in order to establish long-term, stable plant communities compatible with existing land uses; and
- Maintain public safety by stabilizing or limiting access to landforms that could constitute a public hazard.

4.2 PURPOSE AND APPROACH

Generally, the proposed reclamation activities are intended to promote the establishment of a self-sustaining ecosystem consistent with the biotic communities consistent with the surrounding area, with consideration of the specific conditions that currently exist at the Project. Reclaimed areas will support a self-sustaining ecosystem dominated by local plant species, and mitigate long-term impacts on regional water resources. The reclaimed Project will be accessible to the public; however, public access to unsafe areas will be restricted. Post-closure monitoring and maintenance will follow reclamation to ensure success of the program and compliance with performance criteria as defined by the BLM and the State of Oregon.

This Reclamation Plan incorporates the following approaches and engineering design to address the following key concerns:

- **Access.** While single-lane access will be needed to monitor the water quality at the Evaporation Cell (E-Cell), the Reclamation Plan will limit access to mining features such as the E-Cell and the top of the Quarry to minimize exposure and corresponding risk. Access to potentially unsafe areas will be impeded by safety fences for the E-Cell and the berm/diversion ditch at the top of the Quarry.
- **Physical Stability.** The Reclamation Plan will provide for the long-term, physical stability of the post-closure landforms that will remain, specifically the TSF and the Quarry. This includes demonstrating that the tailings facilities will be physically stable for the maximum credible

earthquake (MCE) event and that the Quarry high walls are reclaimed to comply with OAR 532-030-0027.

Pending confirmation of competent foundation soils, the design slopes of 2.5 horizontal to 1 vertical (2.5H:1V) will be adequate for reclamation stability for the TSF, and 1.5H:1V for the Quarry, both of which will be constructed at the final stable slope as part of construction/operations.

- **Erosional Stability.** The post-closure landforms will be designed to be stable and respond to erosive forces in a similar manner to equivalent naturally occurring landforms composed of similar rock and soil types. This applies to the reclaimed TSF, TWRSF, roads, former building locations, yards, and Quarry areas.
- **Revegetation.** The Reclamation Plan will return the Project to pre-mining land uses, including potential recreational uses, livestock grazing, wildlife habitat, and/or mineral exploration. To the extent practicable, and in accordance with the applicable regulations and guidelines, the portions of the Project used for mining and mineral processing will be revegetated to a condition similar to the surrounding area using local native species appropriate for the area. The established vegetative cover will be self-sustaining and show progression towards the surrounding undisturbed vegetation in terms of species diversity and plant density.
- **Water Management.** The approach to water management during and following reclamation will be to minimize environmental impacts to groundwater and to achieve passive surface water and stormwater drainage across the Project. The planned water management ponds for operations will be decommissioned, with the exception of the Reclaim Pond, which will be converted to an E-Cell for the management of tailings underflow from the reclaimed TSF; although, the timing of decommissioning will be contingent on the evaporative potential of the E-Cell.

All permanent stormwater diversion channels will remain in place following reclamation and have been designed to safely convey runoff from the reclaimed facilities to the natural drainages while controlling erosion.

- **Water Quality** (surface water and groundwater). The Reclamation Plan will ensure that the mining facilities will not contribute to groundwater degradation or contamination during and following reclamation.

A low permeability cover will be installed over the tailings in the TSF to impede infiltration into the tailings material and reduce the tailings underflow reporting to the Reclaim Pond. The tailings cover configuration is discussed in Section 6.2.2.

- **Compliance.** The Reclamation Plan will be in compliance with state and federal requirements, stakeholder commitments, and internal Calico requirements, and will be approved prior to implementation.

5. RECLAMATION IMPLEMENTATION

5.1 METHODOLOGY

The Reclamation Plan will generally consist of the following activities:

- **Demolition and Salvage.** Generally, buildings will be torn down, reduced to rubble, and the debris disposed of offsite in accordance with applicable local, state, and federal regulatory requirements. Because most buildings onsite will be constructed on concrete slab foundations, the slabs will be broken and buried, covered with growth media, and revegetated. If economically feasible, salvage companies will be encouraged to recycle the re-usable construction materials, such as steel I-beams, galvanized siding, pipes, electrical gear, and some lumber.
- **Chemicals, Reagents, and Petroleum Products.** All chemicals, reagents, and petroleum products, such as diesel fuel, lubricants, and gasoline, will be sold, used at another site, recycled where possible, or be disposed of offsite in accordance with applicable local, state, and federal regulatory requirements. Storage tanks and pipelines will be removed and salvaged, or disposed of offsite in accordance with applicable local, state, and federal regulatory requirements.
- **Regrading and Recontouring.** The disturbed surfaces within the Project will generally be regraded and recontoured to provide long-term stability, mimic adjacent landforms, facilitate revegetation, control drainage, and minimize erosion. This will be accomplished by reshaping the disturbed areas to achieve overall desired slope angles and recontouring specific areas, as needed, to promote natural drainage. Where practicable, the natural pre-mining drainage patterns will be re-established. Where the post-closure landform does not allow for the re-establishment of pre-mining drainage patterns, drainage will be engineered so that natural drainage is complemented.

To facilitate revegetation and to improve aesthetics, steep slopes will be recontoured to achieve the desired slope reduction that will provide for a structurally and erosionally stable surface for revegetation.

- **Growth Media Salvage.** As outlined in Table 2, there are 17 soil map units. Each map unit description provides basic information about the map unit, such as predominant soil or soils of the unit, slope, and rock fragment content.

Table 2. Soil Survey Map Unit Descriptions

Map Unit ¹	Name - Description
1	Farmell-Rock outcrop complex, 8% to 30% slopes
2	Farmell-Chardoton very cobbly soil, 15% to 30% slopes
3	Farmell-Chardoton very cobbly soil, 4% to 15% slopes
4	Farmell-Chardoton extremely stony soil, 4% to 15% slopes
5	Farmell-Chardoton soil, 8% to 15% slopes
6	Ruckles very stony loam, 8% to 30% slopes
7	Shano silt loam, 2% to 6% slopes
8	Soil A extremely gravelly sandy loam, 15% to 30% slope
9	Virtue loam, 2% to 8% slopes
10	Xeric Torriorthents, 8% to 30% slopes
11	Soil B very gravelly sandy loam, 8% to 30% slopes
12	Nyssa silt loam, 2% to 6% slopes
13	Drewsey very fine sandy loam, 2% to 6% slopes
14	Ruclick cobbly loam, 4% to 15% slopes
15	Drewsey-Quincy-Solarview Complex, 8% to 30% slopes
16	Owsel silt loam, 2% to 6% slopes
17	Powder silt loam, 0 to 3% slopes
¹ Map units 1-11 were obtained from IMS report (IMS, Inc., 1989, 1991)	

Table 3 provides further details on the taxonomic classification of the soil units.

Table 3. Taxonomic Classification of Soil Series

Series	Family
Chardoton ¹	Fine, montmorillontic, mesic Xerollic Paleargids
Farmell ¹	Fine, montmorillontic, mesic Xerollic Haplargids
Ruckles ¹	Clayey-skeletal, montmorillontic, mesic lithic Argixerolls
Shano ¹	Coarse-silty, mixed, mesic Xerollic Camborthids
Soil A ¹	fine-loamy, mixed mesic Xerollic Haplargids
Soil B ¹	Clayey-skeletal, montmorillontic, mesic Xerollic Durargids
Virtue ¹	Fine-silty, mixed, Xerollic Duragids
	Xeric Torriorthents ¹
Nyssa	Coarse-silty, mixed, mesic Xeric Haplodurids
Drewsey	Coarse-loamy, mixed, mesic Xeric Haplocambids
Ruclick	Clayey-skeletal, smectitic, mesic Aridic Argixerolls
Owsel	Fine-silty, mixed, mesic Durinodic Xeric Haplargids
Powder	Coarse-silty, mixed, mesic Cumulic Haploxerolls
Source: IMS, Inc., 1989, 1991	
¹ Soil Series data obtained from IMS report (IMS Inc., 1989, 1991)	

Soil found on the ridges is typically less than 30 inches deep and is high in rock fragments throughout the profile. Farmell and Chardoton soil, with high amounts of clay in the sub-soil and varying amounts of surficial rock fragments, is found throughout the Mine and Process Area. The moderately fine textured Virtue soil has a hard silica and carbonate hard pan layer at about 20 to 30 inches below the surface. Deep, coarse-textured Shano soil is found along drainage channels. Ruckles soil is typically found over areas where the underlying bedrock is basalt. Soils A and B have high percentages of surficial rock fragments. Soil A is found on slopes of 15 to 30 percent. Soil B is found in areas with slopes of approximately 8 percent.

The soils located in the valleys consist predominately of alluvium, loess (wind-blown silt) and eolian (wind-blown) sand. These soils belong to the Drewsey, Shano, Power, and Owsel series. The Drewsey series is a deep, coarse-textured soil with a weakly-developed subsoil. The Owsel series is a deep, finer soil with a well-developed subsoil. The Shano series is similar to the Owsel series but lacks a well-developed subsoil. Nyssa soil, encountered sporadically, are generally silty throughout the profile and exhibit a cemented silica and carbonate layer between 25 to 30 inches. Soils located on and along ridges were formed from the underlying bedrock, which generally consisted of conglomerate sandstone and basalt. The soils underlain by basalt were predominantly the Ruclick series, a moderately deep, fine-textured soil. These soils exhibited many surficial and subsurface coarse fragments. The soils underlain by conglomerate sandstone were the Drewsey and the Drewsey-Quincy-Solarview complex. These soils were generally deeper to rock and coarser-textured. Soils further south along Twin Springs Road generally consist of the Shano series and Farnell-Chardoton complex. The Farnell-Chardoton complex exhibited high amounts of clay and rock throughout the profile. The map unit characteristics of these soils are listed in Table 3. Suitability for reclamation is also included in the table.

Salvageable growth media from the Project surface disturbance will be stockpiled at three centralized Growth Medium Stockpiles, as shown on Figure 2. Growth media will be salvaged for reclamation activities at the commencement of construction of each Project component. **Stockpiled growth media will be characterized prior to use as growth media to identify the viability of the material and determine if soil amendments are required.** Soil on slope at 15 percent or less will be salvaged up to a depth of 2 feet (ft). Soils on slopes greater than 15 percent will be salvaged up to a depth of 1 ft. Growth media will consist of soils and alluvium stripped prior to surface disturbance activities.

As outlined in Table **5-34**, approximately **1,220,002089,000** bank cubic yards (bcy) of growth media will be salvaged from the footprints of the Project facilities and available for borrow from the Reclamation Borrow Areas. Facilities that will not have growth media salvaged include the water wells and pipeline, fence, Growth Media Stockpiles, and exploration areas, because these facilities are on the ground surface or are near surface within the soil horizon. This volume could change based on actual field conditions encountered during growth media salvage. On sloped terrain, some soil may be salvaged by pushing available natural growth media cover downhill with a dozer to construct toe berms to prevent rocks from scattering on the hillside below the stockpile toes.

Based on the soil survey completed in the Project area, the following amounts of growth media, as outlined in Table 4, are available and will be salvaged from various Mine components prior to component construction.

Table 4. Growth Media Salvaged and Available

Facility	Area (acres)	Growth Media Depth (ft) ¹	Volume (cy ²)
Underground Mine	6.7	0	-
TSF	99.8	0.5	80,528
TWRSF	5.7	0.5	4,611
Process Plant	2.5	0	-
Infrastructure & Ancillary Facilities	17.8		-
Roads	34.9	0.5	28,190
Yards & Laydown Areas	10.0	0	-
Growth Media Stockpiles	7.7	0	-
Water Supply	7.9	0	-
Power Supply	61.1	0	-
Stormwater Diversion Channels	11.8	0.5	9,521
Quarry	48.2	0.5	38,842
Reclamation Borrow Areas	55.9	Variable (8 to 15)	1,089,000 220,002
Monitoring	0.0	0	-
Exploration	10.0	0	-
Disturbed Areas	107.8	0	-
Total	487.9	-	1,250,691 1,381,694

¹ The growth media depth on the perimeter fence, water tank, water wells and pipeline, Growth Media Stockpiles, and the exploration is set at zero because the construction of these facilities will incorporate the soils into the construction and reclamation, and there will be no growth media applied. The diversion ditches and sediment basins and the borrow pit will be permanent features, and no growth media will be applied. Any remaining waste rock in the TWRSF would be moved to the TSF as part of reclamation and the Site reclaimed at the original grade.

² The maximum available growth media identified at the two Reclamation Borrow Areas.

Any growth media remaining in the stockpiles for one or more planting seasons will be seeded with an interim seed mix to stabilize the material to reduce erosion and minimize the establishment of undesirable weeds. **The interim seed mix, application rate, and application method will be the same that is currently being utilized for the reclamation of disturbances associated with exploration and the same as proposed for long-term reclamation and is presented in Table 5.**

Erosion berms or swaddles will be placed around the growth medial stockpiles to prevent erosion and the Growth Media Stockpiles will be periodically inspected to monitor, and if necessary, improve the stabilization measures taken.

- **Growth Media Placement.** Growth media will be obtained from onsite sources and will be placed on disturbed areas, such as the final TSF cover layer and the Quarry floor, to facilitate the establishment of a sustainable native ecosystem and an erosionally stable surface.
- **Revegetation.** Revegetation will consist of scarifying the ground surface or growth media surface and the application of a site-specific, native, seed mix to promote the establishment of a self-sustaining native ecosystem. Seed will be applied with either a rangeland drill or with a

mechanical broadcaster and harrow, depending on accessibility. Seedbed preparation and seeding will take place in the fall after grading and growth media application to the reclaimed areas.

Reclamation seed mixtures and application rates are based on BLM requirements. This mixture will provide forage and cover species similar to the pre-disturbance conditions, facilitating the post-closure land uses of livestock grazing and wildlife habitat. In addition, the seed mix has been determined according to the species' effectiveness in providing erosion protection, the ability to grow within the constraints of the low annual precipitation experienced in the region, suitability for site aspect, and the elevation and soil type. The proposed seed mixture for the Project is provided in Table 5.

Table 5. Estimate of Closure Materials Needed

Species Common Name (Species Scientific Name)¹	Pounds / Acre (PLS)²
Shrubs	
Wyoming Big Sagebrush	0.1
Grasses	
Bluebunch wheatgrass	8.0
Bottlebrush squirreltail	2.0
Sandbergs Bluegrass	1.0

¹ Early contemporaneous re-vegetation will be monitored, and final seed mixtures will be evaluated and modified depending on monitoring results, in consultation with the BLM.

² Pure live seed. The proposed seed mixture and application rates are subject to modification by the BLM. The actual seed mixture and application rates will be determined prior to reseeding based on the results of reclamation in other areas of the Mine, concurrent reclamation, or changes by the BLM in its seed mix requirements.

6. RECLAMATION PLAN

6.1 UNDERGROUND MINE

6.1.1 MINE PORTAL

The Mine portal will be reclaimed as follows:

- The Mine portal will be plugged with rock approximately 100 ft inside the portal entrance, using the material that was used to construct the portal pad (i.e., local material or Basalt from the Quarry).
- The slopes in the vicinity of the portal area (portal pad) will be returned to near original grade with cover material to promote natural drainage or regraded to a maximum 2.5H:1V.
- The final regraded surface will be covered with 12 inches of growth media and revegetated.

6.1.2 VENTILATION SHAFT

The Ventilation Shaft will be reclaimed as follows:

- The shaft will be sealed with a reinforced concrete plug.
- The shaft will be covered with 12 inches of cover material, followed by 12 inches of growth media, and revegetated.

6.1.3 DECLINE

Removal of underground facilities and equipment will consist of the following steps:

- Underground piping, pumps, tanks, and pumping equipment will be removed and salvaged, or disposed of in an approved offsite solid waste disposal facility.
- Fans, motors, pumps, compressors, power supply, electrical distribution equipment, ventilation curtains and ducts, and other equipment will be removed, as practicable, and salvaged for use at another facility or disposed of in an approved offsite solid waste disposal facility.
- Remaining fuel, lubricants, and explosives will be removed from the underground workings and transported to other sites or disposed of offsite according to federal and state standards and regulations.

All salvageable equipment, instrumentation, and unused petroleum products and chemicals, and solid wastes from the underground mine will be used or recycled if possible. Examples include piping, pumps, diesel, and lubricating fluids. Used and waste petroleum products and chemicals will be disposed of at a Class I landfill. Non-hazardous solid wastes will be disposed of at an offsite landfill.

6.2 TAILINGS STORAGE FACILITY

The Reclamation Plan presented in this section will apply to Phase III of the TSF, if realized.

6.2.1 TAILINGS EMBANKMENT

The Tailings Embankment will be constructed at the final slope configuration, with slopes no steeper than 2.5H:1V on the embankment face to provide for long-term stability. The embankment face will be covered with 12 inches of growth media and revegetated.

6.2.2 TAILINGS IMPOUNDMENT

The tailings distribution pipeline ~~and will be drained to the TSF and the~~ tailings reclaim water pipeline will be ~~removeddrained to the Reclaim Pond prior to pipelines the removal and disposeddisposal of the pipelines~~ offsite.

After approximately one year, the tailings are expected to consolidate sufficiently to allow for the Tailings Impoundment surface regrading and cover placement to begin, and the tailings underflow reporting from the TSF to the Reclaim Pond reduced such that it can be managed within the footprint of Reclaim Pond/E-Cell.

The Tailings Impoundment surface will be regraded to relocate the low point of the surface from the eastern edge of the Tailings Impoundment to the northeast corner of the Tailings Impoundment where the spillway will be constructed. The Tailings Impoundment surface will provide positive drainage, with a slope between 1.5 percent and 2 percent. Upon completion of grading the Tailings Impoundment surface, the Tailings Impoundment cover will be installed, which will consist of the following (from bottom to top):

- Prepared tailings surface,
- 60 mil double-sided textured (DST) linear low-density polyethylene (LLDPE) geomembrane,
- 12 inches of a granular drainage layer,
- 12 ounce per square yard (oz/yd²) non-woven geotextile, and
- 12 inches of growth media.

The surface of the growth media will be revegetated.

6.2.3 RECLAIM POND / E-CELL

Upon completion of mining operations, active deposition into the TSF will cease. The tailings underflow will be managed by a regime of passive evaporation within the supernatant pool, the pumping of solution from the Reclaim Pond to the Tailings Impoundment for passive evaporation, and finally passive evaporation with the Reclaim Pond, which will be converted to an E-Cell. As the tailings underflow is removed from inventory through evaporation and the flow rate of tailings underflow into the Reclaim Pond can be passively evaporated within the Reclaim Pond footprint, the Tailings Impoundment surface will be reclaimed and covered as described in Section 6.2.2. This approach acknowledges the initially

higher flow rates from the tailings underflow and the need to prevent release from the system, while effectively reducing, and ultimately eliminating, underflow inventory.

To address the long-term tailings underflow discharge, and pursuant to the requirements of ODEQ OAR 340-043-130, the Reclaim Pond will be converted to an E-Cell by covering the geomembrane-lined pond with 12 inches of growth media and revegetated.

The fence surrounding the Reclaim Pond, now converted to an E-Cell, will remain to restrict access to the E-Cell. The E-Cell will be maintained until the TSF is fully drained and there are no tailings underflow. For the purpose of the development of this Reclamation Plan, E-Cell ~~maintenance monitoring~~ is estimated to be 20 years.

6.3 TEMPORARY WASTE ROCK STORAGE FACILITY

The waste rock generated from the underground mining operations will be used as rock fill (RF), amended with cement, and placed back underground as ~~cemented rock fill (CRF)~~ during operations. Therefore, no waste rock is planned to be present on the TWRSF at closure; ~~however, a minor volume of waste rock may remain on the TWRSF at the time of closure.~~ Should this occur, any remaining waste rock in the TWRSF will be ~~removed~~ excavated, hauled to the backfill plant located at the Portal Pad and ~~placed on the Tailings Impoundment surface prior to closure of the TSF. If necessary, the waste rock may be amended with lime to address any pH issues.~~ utilized as CRF.

The TWRSF lining system will be cut, removed, and disposed of offsite. The underdrain and Leakage Collection and Recovery System will be drained, removed, and disposed of offsite. The embankment will be utilized to regrade the ground surface beneath the TWRSF to prevent ponding, promote natural drainage to the reclaimed TSF, generally match native ground, and to promote vegetation growth. After regrading, 12 inches of growth media will be placed over the regraded surface and revegetated.

6.4 PROCESS PLANT

6.4.1 BUILDINGS AND ANCILLARY FACILITIES DEMOLITION AND REMOVAL

The buildings and structures erected during the mining operation will be decommissioned and dismantled, and materials will be salvaged, sold, used elsewhere, or removed and disposed of offsite in an authorized landfill. These buildings and structures include:

- Administrative building,
- Plant and Mine offices,
- Change house,
- Assay laboratory and sample preparation area,
- Truck workshop and warehouse,
- Wash pads,
- Process Plant workshop and warehouse,
- Process Plant building,

- Control room,
- Crushing facilities,
- Conveyors,
- Ore bins,
- Control rooms,
- CIL processing plant,
- Reagent storage building (including chemical and reagent storage), and
- Gold room.

The administration building and parking lot area will remain for Calico and contractor staff during reclamation and initial stages of post-closure monitoring. The administration building and parking lot area will be reclaimed at Stage 4 as described above.

6.4.2 FOUNDATIONS AND CONCRETE

After buildings and ancillary facilities are removed, the concrete foundations and slabs will be broken using a trackhoe-mounted hydraulic hammer, or similar methods, and buried in place under approximately 36 inches of material in such a manner to prevent ponding, promote natural drainage, generally match native ground, and to promote vegetation growth. After demolition and salvage operations are complete, the disturbed areas will be covered with 12 inches of growth media and revegetated.

6.4.3 HAZARDOUS WASTE DISPOSAL (CHEMICALS AND REAGENTS)

All chemicals and reagents (including sodium cyanide), petroleum products, solvents, and other hazardous or toxic materials in the mill, not salvaged, will be removed from the Project and either reused or disposed of offsite in accordance with federal and state regulations.

Chemical and reagent containment and conveyance (i.e., tanks, piping, etc.) will be removed and disposed of offsite in accordance with federal and state regulations. Concrete that may be contaminated through exposure to chemicals and reagents will be characterized, excavated, and disposed of offsite in accordance with federal and state regulations.

6.4.4 COLLECTION POND

The Collection Pond lining system will be folded in on itself and buried in place. The ground surface will be regraded to prevent ponding, promote natural drainage, generally match native ground, and to promote vegetation growth. After regrading, 12 inches of growth media will be placed over the regraded surface and revegetated.

6.4.5 SEPTIC SYSTEM

The septic system will be closed by a qualified contractor by first having the vault pumped to remove any remaining sanitary waste. The vault will then be filled with a lean sand to the top of the openings. The buried drain field will be closed by leaving it in place, **in accordance with OAR 340-071-0185**.

6.5 INFRASTRUCTURE AND ANCILLARY FACILITIES

6.5.1 BUILDINGS AND ANCILLARY FACILITIES DEMOLITION AND REMOVAL

The buildings and structures erected during the mining operation will be decommissioned, dismantled and materials will be salvaged, sold, used elsewhere, or removed and disposed of offsite in an authorized landfill. These buildings and structures include:

- Main gate and guard house, and
- Meteorological station.

6.5.2 FOUNDATIONS AND CONCRETE

After buildings and ancillary facilities are removed, the concrete foundations and slabs will be broken using a trackhoe-mounted hydraulic hammer, or similar methods, and buried in place under approximately 36 inches of material in such a manner to prevent ponding, promote natural drainage, generally match native ground, and to promote vegetation growth. After demolition and salvage operations are complete, the disturbed areas will be covered with 12 inches of growth media and revegetated.

6.5.3 PERIMETER FENCE

A perimeter fence road will be constructed for the fence construction. Growth media will be windrowed during construction and a fence that consists of an 8-ft-high chain link fence with a 0.5-inch galvanized hardware cloth mesh that extended a minimum of 18 inches below the ground surface and 30 inches above the ground surface (total height 48 inches).

Upon completion of the Mine closure construction, the perimeter fence will be removed and disposed of offsite, and the perimeter fence road will be ripped, revegetated and reclaimed.

A fence will be installed around the perimeter of the Reclaim Pond and E-Cell. The E-Cell and corresponding fence will be maintained until the flow rate from the tailings underflow poses no risk to water resources, wildlife, or livestock. Upon state acceptance of the Mine closure and the cessation of operation of the E-Cell, the fence will be removed and disposed of offsite.

6.5.4 PARKING AREAS

Reclamation will consist of regrading to prevent ponding, promote natural drainage, generally match native ground and to promote vegetation growth. Where the area is located on fill, the side slopes will be rounded and regraded to no steeper than 2.5H:1V. After regrading, it was assumed that 25 percent of the area will be covered with 12 inches of growth media ~~from the Reclamation Borrow Areas~~ and revegetated. ~~It was also assumed that 75 percent of the Parking Areas will be covered with 12 inches of growth media from the berms and other material generated during regrading.~~ Any compacted surface will be ripped ~~and prior to regrading,~~ covered with 12 inches of growth media and revegetated.

6.5.5 ORE STOCKPILES

There is no plan to stockpile ore at closure because ore stockpiles will be used during operations. ~~However, a minor volume of ore may remain at the time of closure.~~ Should this occur, any remaining ore will be removed and placed on the TSF surface prior to closure of the TSF. If necessary, the waste rock may be amended with lime to address any pH issues.

Reclamation will consist of regrading the stockpile foundation area to prevent ponding, promote natural drainage, generally match native ground and to promote vegetation growth. Where the area is located on fill, the side slopes will be rounded and regraded to no steeper than 2.5H:1V. Any compacted surface will be ripped and covered with 12 inches of growth media and revegetated.

6.5.6 HAZARDOUS WASTE DISPOSAL

All chemical reagents, petroleum products, solvents, and other hazardous or toxic materials that have not been used during operations will be removed and either reused or disposed offsite in accordance with federal and state regulations.

Hazardous waste containment and conveyance (i.e., tanks, piping, etc.) will be removed and disposed of offsite in accordance with federal and state regulations. Concrete that may be contaminated through exposure to chemicals and reagents will be characterized, excavated and disposed of offsite in accordance with federal and state regulations.

6.5.7 FUEL STORAGE AND DISPENSING AREA

Remaining fuel and lubricants will be transported to other sites for reuse or disposed of offsite according to federal and state standards and regulations.

Fuel tanks to be decommissioned and salvaged or will be disposed of offsite according to federal and state standards and regulations.

6.6 ROADS

The reclamation of the roads at the Project will occur in a phases based on the use of the road for reclamation and post-closure monitoring activities.

6.6.1 COW HOLLOW ROAD AND TWIN SPRINGS ROAD

The Cow Hollow and Twin Springs roads, including all improvements and upgrades, will be transferred to Malheur County and will not be reclaimed.

6.6.2 MINE ACCESS ROAD

The Mine access road, which connects the Twin Springs Road to the Mine, will remain in place during reclamation to allow for contractor access. Upon reclamation of the TSF and Quarry, which are the final two major facilities to be reclaimed, the Mine access road will be reclaimed from a two-way gravel road to a one-way primitive road to allow for the post-closure monitoring of the Project. The Mine access road will be completely removed and reclaimed at the completion of the groundwater and E-Cell post-closure monitoring activities.

Reclamation will consist of regrading to prevent ponding, promote natural drainage, generally match native ground and to promote vegetation growth. Where the road is located on fill, the side slopes will be rounded and regraded to no steeper than 2.5H:1V. Finished slopes will be relatively similar to the surrounding topography. Compacted road surfaces will be ripped and revegetated.

6.6.3 INTERNAL ACCESS ROADS, HAUL ROADS, AND PERIMETER FENCE ROAD

Internal access and haul roads that are not required for reclamation activities will be reclaimed immediately following cessation of operations upon reclamation of the TSF and Quarry, which are the final two major facilities to be reclaimed.

Reclamation will consist of regrading to prevent ponding, promote natural drainage, generally match native ground and to promote vegetation growth. Where the road is located on fill, the side slopes will be rounded and regraded to no steeper than 2.5H:1V. Finished slopes will be relatively similar to the surrounding topography. Compacted road surfaces will be ripped and revegetated. The perimeter fence road will be ripped and revegetated with no growth media placed due to the inactivity of the road.

6.7 YARDS, LAYDOWN AREAS, AND STOCKPILES

6.7.1 YARDS AND LAYDOWN AREAS

All yard features, including parking areas, will be reclaimed concurrently as they are no longer required for reclamation activities.

Reclamation will consist of regrading to prevent ponding, promote natural drainage, generally match native ground and to promote vegetation growth. Where the yards are located in fill, the side slopes will be rounded and regraded to no steeper than 2.5H:1V. Finished slopes will be relatively similar to the surrounding topography. The surface will be ripped, covered with 12 inches of growth media, and revegetated.

6.7.2 GROWTH MEDIA STOCKPILES

The reclaimed growth media surface will be completed at a slope to prevent ponding, promote natural drainage, generally match native ground and to promote vegetation growth. **The native soils beneath the stockpiled growth media will be characterized prior to ripping and revegetation to identify the viability of the material and determine if soil amendments are required.** Following removal of growth media the area will be **ripped and** revegetated.

~~6.8~~ ~~WATER SUPPLY~~

~~6.8.16.7.3~~ PRODUCTION WELLFIELD

Water supply wells will be permanently abandoned in such a manner that vertical movement of water within the well bore, including vertical movement of water within the annular space surrounding the well casing, is effectively and permanently prevented, per OAR 690-220-0030. If a dry or non-producing water supply well is to be permanently abandoned, it shall be abandoned in accordance with these standards. All permanent water supply well abandonments shall be performed by a licensed Water Supply Well Constructor.

Perimeter fences will be constructed around the production wells that consists of an 8-ft-high chain link fence with a 0.5-inch galvanized hardware cloth mesh that extended a minimum of 18 inches below the ground surface and 30 inches above the ground surface (total height 48 inches). During water supply well abandonment, the fences will be removed and disposed of offsite.

~~6.8.26.7.4~~ WATER PIPELINES

Any surface water pipelines will be removed and salvaged or disposed of offsite. Buried water pipelines will be drained, ends cut and capped a minimum of 12 inches below grade, covered with 12 inches of growth media and revegetated.

~~6.8.36.7.5~~ RAW WATER STORAGE TANK

The raw water storage tank will be decommissioned and dismantled, and materials will be salvaged, sold, used elsewhere, or removed and disposed of offsite in an authorized landfill. Any concrete foundations and slabs will be broken using a trackhoe-mounted hydraulic hammer, or similar methods, and buried in place under approximately 36 inches of material in such a manner to prevent ponding, promote natural drainage, generally match native ground, and to promote vegetation growth. After demolition and salvage operations are complete, the disturbed areas will be covered with 12 inches of growth media and revegetated.

~~6.8.46.7.6~~ POTABLE WATER TREATMENT

The potable water treatment unit will be decommissioned and dismantled, and materials will be salvaged, sold, used elsewhere, or removed and disposed of offsite in an authorized landfill.

6.96.8 POWER SUPPLY

6.9.16.8.1 SUBSTATION AND UPGRADED TRANSMISSION LINE

The substation and upgraded transmission line, including all improvements and upgrades, will be transferred to the local power authority and will not be reclaimed.

6.9.26.8.2 NEW TRANSMISSION LINE, ONSITE POWER LINES, AND GENERATORS

The new 14.4 kV overland power transmission system and onsite power lines constructed for the operation of the Mine will be demolished and disposed of offsite. Power poles will be cut off at the ground surface and disposed of offsite. **The areas where disturbances occur due to the removal of the transmission lines will be revegetated.**

The two onsite generators will be salvaged, sold, used elsewhere, or removed for offsite disposal.

6.106.9 STORMWATER MANAGEMENT FACILITIES

6.10.16.9.1 PERMANENT STORMWATER DIVERSION CHANNELS

The two permanent diversion channels, i.e., the TSF stormwater diversion channel and the Quarry stormwater diversion channel, will not be reclaimed and will remain to promote natural drainage and act as a deterrent to the public from the Quarry highwalls.

6.10.26.9.2 TEMPORARY STORMWATER DIVERSION CHANNELS

Any temporary diversion channels are generally considered within the footprint of a road, yard, stockpile, etc., and will be reclaimed as part of the reclamation activities for those facilities described previously in Section 6.7.

6.10.36.9.3 SEDIMENT AND COLLECTION BASINS

The reclamation of the Collection Pond will be in accordance with the Water Pollution Control Facility (WPCF) permit, as required by the ODEQ, WPCF, and Stormwater Management Plan. The Collection Pond will be pumped dry, backfilled assuming 25 percent of the pond capacity is filled with sediment, graded to promote positive drainage, covered with 12 inches of growth media, and revegetated.

~~6.11 QUARRY~~

6.10 QUARRY

The Quarry floor will be developed in single benches during operations (approximately 60-degree-high walls with 37-ft-wide benches), resulting in overall Quarry slopes no steeper than 1.5H:1V during

operation and at reclamation in compliance with OAR 632-030-0027. No growth media or vegetation will be placed on the side slopes.

The Quarry floor will be excavated during operations to promote positive drainage to prevent ponding, promote natural drainage, and will generally match native ground at the low point of the Quarry floor. At reclamation, 12 inches of growth media will be placed over the Quarry floor and revegetated.

The Quarry stormwater diversion channel berm and surface water run-on diversion berms will remain in place. An earth berm will be constructed along the perimeter of the high walls to reduce access. During operations, large boulders and rock that are not used for development and maintenance of the Project will be placed along the Quarry stormwater diversion channel and berm to provide long-term wildlife habitat and act as a public access deterrent following reclamation. **Large boulders will also be stockpiled within the Quarry during operation and be placed along the access points at the bottom of the Quarry to deter public access to the Quarry post-closure.**

~~6.126.11~~ RECLAMATION BORROW AREAS

The slopes will be graded during reclamation (excavation of borrow material) to prevent ponding, promote natural drainage, generally match native ground, and to promote vegetation growth. The side slopes will be constructed to be no steeper than 2.5H:1V. The entire disturbed footprint will be ripped and revegetated.

~~6.13~~ MONITORING

6.12 MONITORING

Groundwater monitoring wells subject to OWRD regulations will be abandoned in accordance with applicable rules and regulations (OAR 690-220-0005 through 690-220-0140). Drill holes will be sealed to prevent cross contamination between aquifers, and the required shallow seal will be placed to prevent contamination by surface access.

Roads and pads associated with the groundwater monitoring wells will be reclaimed and regraded to prevent ponding, promote natural drainage, generally match native ground, and to promote vegetation growth. Where the road is located on fill, the side slopes will be rounded and regraded to no steeper than 2.5H:1V. Finished slopes will be relatively similar to the surrounding topography. Compacted road surfaces and drill pads will be ripped, covered with approximately 12 inches of growth media from the safety berms or road fill, and revegetated.

~~6.14~~ ~~EXPLORATION~~

6.13 EXPLORATION

Mineral exploration drillholes subject to OWRD regulations will be abandoned in accordance with applicable rules and regulations (OAR 690-220-0005 through 690-220-0140). Drill holes will be sealed to prevent cross contamination between aquifers, and the required shallow seal will be placed to prevent contamination by surface access.

Roads and pads associated with the exploration will be reclaimed and regraded to prevent ponding, promote natural drainage, generally match native ground, and to promote vegetation growth. Where the road is located on fill, the side slopes will be rounded and regraded to no steeper than 2.5H:1V. Finished slopes will be relatively similar to the surrounding topography. Compacted road surfaces and drill pads will be ripped, covered with approximately 12 inches of growth media from the safety berms or road fill, and revegetated.

7. POST-CLOSURE CARE AND MONITORING

7.1 INSTRUMENTATION AND MONITORING

Monitoring that will be performed post-reclamation includes the following and is based on the *Monitoring Proposal for Groundwater and Facilities* in [Appendix D5](#) of the Mine Plan of Operations:

- Groundwater monitoring will consist of 15 groundwater monitoring wells, including seven existing wells and eight proposed wells to be constructed. The new wells to be constructed to include one monitoring well upgradient of the facility, six monitoring wells downgradient of the TSF, and one monitoring well downgradient of the Collection Pond;
- Underflow and leakage detection flow rate to the Reclaim Pond/E-Cell monitoring; and
- Revegetation success.

A detailed post-closure monitoring plan, including monitoring methodology, parameters, and frequencies, will be submitted to the BLM and DOGAMI prior to execution.

7.2 POST-CLOSURE MONITORING

Post-closure monitoring and maintenance performed by Calico will include the following:

- The fence surrounding the E-Cell will be inspected routinely during the post-closure monitoring period. Maintenance may consist of repairs to the fence and fence posts. This activity will be conducted until closure has been approved and the bond released.
- Vegetation monitoring of the reclaimed facilities will be conducted at the various mining facilities at the Project 5 years after revegetation activities have been completed. The monitoring will involve photo-documentation and be conducted during the “peak green” spring season. This program will be coordinated with the BLM and DOGAMI to facilitate coordination between the agencies. Reclaimed areas not meeting regulatory standards would be evaluated and corrective actions implemented. These measures could include, if necessary, additional soil amendments, reseeding, and installation of erosion control measures, followed by monitoring consistent with what was conducted previously. This obligation will cease when the reclamation goals and requirements have been achieved and upon release of all related reclamation bonds.
- The flow rate of the tailings underflow from the TSF to the Reclaim Pond/E-Cell will be routinely monitored.
- Groundwater quality will be routinely collected, tested, and reported to respective regulatory agencies to demonstrate reclamation compliance in the 15 monitoring wells according to the requirements established by the ODEQ upon approval of the Chemical Mining Permit. This activity will be conducted until closure has been approved and the bond released, estimated to be a period of 30 years. Groundwater monitoring will be conducted in three ~~stages~~phases:
 - ~~Stage~~Phase 1 includes quarterly monitoring for a period of 5 years.
 - ~~Stage~~Phase 2 includes semi-annual monitoring for a period of 10 years.
 - ~~Stage~~Phase 3 includes annual monitoring for a period of 15 years.

- Noxious weed monitoring and control will be implemented during operations and for a period of 5 years following the cessation of operation.
- Stormwater diversion channels will be inspected during the reclamation monitoring period to ensure that sediment has not accumulated and that the lining in the channels (riprap, concrete, etc.) has not been compromised, thereby reducing the design capacity of the structure.
- ~~Surface water~~Stormwater samples from the permitted outfalls will be collected, tested, and reported to respective regulatory agencies to demonstrate reclamation compliance where necessary.

8. RECLAMATION COST ESTIMATE

8.1 PURPOSE OF ESTIMATE

The Reclamation Cost Estimate (RCE) was developed in accordance with regulations at 43 CFR 3809.522, 3809.553, and ORS 517.810. The Nevada SRCE Version 2.0 was used to estimate the RCE. The reclamation cost estimate was calculated for the Phase II TSF. If the Phase III of the TSF is realized, the bond will be updated accordingly. The SRCE model contains standardized cost data to calculate reclamation bonding requirements for the reclamation of mine sites based on reclamation areas and volumes using geometry parameters defined by the user. The model uses a first-principals approach to reclamation cost estimating, using built-in worksheets with either fixed or user-defined labor and equipment rates for the calculation of reclamation activities that are specific to a mining project.

8.2 UNITS OF MEASUREMENT

All units are imperial, unless otherwise noted.

8.3 KEY ASSUMPTIONS

The SRCE model assumed the following:

- The TSF will be constructed to Phase II;
- The seed mix for revegetation is presented in Section 5.1;
- The model assumed an average operator, working 50 minutes per hour;
- ~~The RCE was modeled at the end of the Project, assuming no concurrent reclamation has been performed during operations (i.e., the Tailings Embankment was reclaimed during the reclamation period and not during operations);~~
- Unit costs were user-defined for the following categories, based on northern Nevada rates:
 - Labor rates,
 - Equipment rates,
 - Material costs,
 - Miscellaneous unit costs, and
 - Indirect costs.

~~The RCE was modeled at the end of the Project, or at the cessation of planned mining conditions, assuming no concurrent reclamation has been performed during operations (i.e., the Tailings Embankment was reclaimed during the reclamation period and not during operations). However, during a June 1, 2022 meeting (SLR, 2022), the BLM requested that Calico present the reclamation cost estimate for a “fully built out” (FBO) scenario, which assumes the following:~~

- ~~135,000 tons of waste rock in the TWRSF has been stockpiled and will be excavated, hauled to the backfill plant located at the Portal Pad and placed underground as CRF. 135,000 tons of waste~~

rock is the maximum volume of waste rock planned to be stored on the TWRSF and is planned to occur in year one of operation; and

- 3,000 tons of ore in the Ore Stockpile has been stockpiled and will be excavated, hauled to the backfill plant located at the Portal Pad and placed underground as CRF. This is the maximum volume of ore planned to be stored in the Ore Stockpile and will occur routinely during operation.

The reclamation costs associated with the FBO scenario described above are included in the SRCE model as Stage 0.

8.4 TAKE-OFF PROCEDURE, ALLOWANCES, AND FACTORS

Reclamation costs were estimated assuming SRCE-defined crews and fleets to perform the closure activities. The model uses several different sources and methods for calculating equipment productivities. The primary source is the Caterpillar® Performance Handbook (CAT Handbook). Other sources include the R.S. Means Heavy Construction Cost Data (R.S. Means, 2006), equipment and material suppliers, and local contractors. In some instances, such as exploration roads, and drill hole and well abandonment, productivity data was collated from actual work performed in the field and used to adjust the calculated numbers to reflect actual data.

The compositions and productivities of crews included in the SRCE calculations were derived from the R.S. Means Heavy Construction Cost Data (R.S. Means, 2006). These are used to calculate task-specific unit rates utilizing labor, equipment, and material rates defined for the Project. The cost data date for the SRCE model was October 6, 2021.

8.5 INDIRECT COSTS

The indirect costs calculations were revised to reflect cost categories, percentages and calculation methods provided in the Guidelines. The following indirect costs are included in the RCE:

- Engineering Design: \$400,000
- Contractor Overhead and Profit: Calculated as 10 percent of the total Direct Costs
- Contract Administration: Calculated as 8 percent of the total Direct Costs

8.5.1 CONTINGENCY

Contingency is defined as an allowance to cover unforeseeable items within the scope of this estimate. Contingency can arise due to currently undefined items of work or equipment, lack of site-specific geotechnical data, or uncertainty in the estimated quantities and unit prices for labor, equipment, and materials. Contingency does not cover scope changes, nor the Project exclusions noted.

The contingency was calculated as 8 percent of the total direct costs.

8.6 WORK BREAKDOWN STRUCTURE

A Work Breakdown Structure (WBS) for the reclamation activities was developed, and the areas are summarized below and are shown in Figure 2 and presented in Table 1.

- Underground Mine,
- TSF,
- TWRSF,
- Process Plant,
- Infrastructure and Ancillary Facilities,
- Roads,
- Yards and Laydown Areas,
- Growth Media Stockpiles,
- Water Supply,
- Power Supply,
- Stormwater Diversion Channels,
- Quarry,
- Reclamation Borrow Areas, and
- Monitoring.

8.7 RECLAMATION COST WORKSHEETS

The following SRCE worksheets were used to generate the RCE:

- Waste Rock Dumps SRCE worksheet was used to estimate the placement of growth media and revegetate the TWRSF footprint following removal and disposal of the liner, underdrain system, and Leakage Collection and Recovery System.
- Tailings SRCE worksheet was used to estimate the regarding, placement of the drainage layer, placement of the growth media and revegetate the embankment and top of the TSF.
- Solutions Management SRCE worksheet was used to estimate the pumping of seepage from the Reclaim Pond to the TSF during Stage 1 and Stage 2 of the Reclamation Plan.
- Quarries & Borrow Pits SRCE worksheet was used to estimate the regrading, placement of growth media and revegetate the Quarry and Borrow Pits.
- Underground Openings SRCE worksheet was used to estimate the backfilling and plugging of the portal and the Ventilation Shaft.
- Roads SRCE worksheet was used to estimate the regarding, placement of growth media and revegetate the Mine Access Road, internal roads and haul roads.
- Process Ponds SRCE worksheet was used to estimate the conversion of the Reclaim Pond to the E-Cell and the liner cutting, backfilling, growth media placement, and revegetate the Collection Pond.
- Yards, Etc. SRCE worksheet was used to estimate the regrading, placement of growth media, and revegetate the yards and parking lots.

- Foundations & Buildings SRCE worksheet was used to estimate the demolition of the Process Plant and other buildings, including the breaking of foundations, regrading, placement of cover material, placement of growth media, and revegetate.
- Other Demo & Equip Removal SRCE worksheet was used to estimate the removal of the TWRSF liner, underdrain system, and Leakage Collection and Recovery System, removal of the water tank, removal of the oil water separator, removal of the backup generators, and removal of the fuel tank.
- Well Abandonment SRCE worksheet was used to estimate the abandonment of the planned production wells and new monitoring wells.
- Waste Disposal SRCE worksheet was used to estimate the offsite disposal of the TWRSF liner and Leakage Collection System, Process Plant demolition waste, solid and liquid hazardous waste offsite disposal, and miscellaneous Site cleanup.
- Misc. Costs SRCE worksheet was used to estimate the removal of the Perimeter Fence and other fences associated with the Project, removal of culverts and removal of the power lines and power poles.
- Exploration SRCE worksheet was used to estimate the abandonment of future exploration drillholes.
- Expl. Roads & Pads SRCE worksheet was used to estimate the regrading, placement of growth media, and revegetate the roads associated with future exploration.
- Monitoring SRCE worksheet was used to estimate the post-closure reclamation monitoring and groundwater monitoring.
- Recl. Maint SRCE worksheet was used to estimate the potential maintenance of revegetation and cover.
- Constr. Mgmt SRCE worksheet was used to estimate the management of construction for all stages of reclamation and the maintenance of roads during and post-closure.
- Other User SRCE worksheet was used to estimate the placement of the liner and geotextile on the TSF, drilling and blasting for the generation of the drainage layer for the TSF, spillway construction for the TSF, and spillway construction for the TWRSF.
- Mobilization SRCE worksheet was used to estimate the mobilization and demobilization costs for each stage, based on the equipment estimated in the Equip Use worksheet.
- LOM Schedule SRCE worksheet was used to estimate the indirect costs, including engineering, design and construction planning, contingency, contractor overhead and profit, and contract administration.
- Reclamation Acct Codes worksheet was used to summarize the cost by facility, in addition to the contingency, contractor overhead and profit, and contract administration costs.

8.8 RECLAMATION COST ESTIMATE

Calico will use a phased-bonding approach and will work out suitable milestone events with respect to Project development with the BLM and the DOGAMI. Calico will provide a reclamation surety in accordance with regulations at 43 CFR 3809.522, 3809.553, and at ORS 517.810 based on the reclamation tasks at the cessation of mining. Calico will update the surety to reflect the actual disturbance and whatever additional disturbance is planned for the subsequent period. Any changes to equipment, consumable, and labor costs will also be incorporated during the updates.

A total reclamation cost of \$~~11,565,744~~12,416,573 has been calculated at cessation of planned mining, including contingency, with a summary presented in Table 6. ~~The~~Files generated from the SRCE ~~file in~~ Microsoft Excel format ~~is~~model presenting quantities, unit rates, etc. are provided in Appendix B.

Table 6. Reclamation Cost Estimate

Closure Items	Total
Underground Mine	\$84,600
Tailings Storage Facility	\$5,237,100
Temporary Waste Rock Storage Facility	\$195,215
Process Plant	\$712,280
Infrastructure & Ancillary Facilities	\$139,497
Roads	\$136,108
Yards & Laydown Areas	\$53,381
Growth Media Stockpiles	\$42,088
Water Supply	\$111,026
Power Supply	\$1,166,026
Stormwater Diversion Channels	\$0
Exploration	\$7,914
Quarry	\$180,161
Reclamation Borrow Areas	\$34,024
Post-closure Monitoring	\$1,076,742
Exploration Mobilization / Demobilization	\$7,914
Subtotal	\$9,179,162
Indirect Costs	\$2,386,582
Total	\$11,565,744
FBO Conditions (Direct)	\$2,815,019
FBO Conditions (Indirects)	\$731,904
Total and FBO Reclamation Costs	\$15,963,496

8.9 GROWTH MEDIA MASS BALANCE

Growth media for the reclamation of the Project facilities will be sourced from the Growth Media Stockpiles and the Reclamation Borrow Areas during construction (Figure 2). The Growth Media Stockpiles during construction will be supplemented as needed by the Reclamation Borrow Areas. A growth media balance for the Project, provided in Table 7, indicates approximately 242,124 bcy of material will be required to establish growth media on the Project facilities to the depths specified, depending on the facility component.

Table 7. Estimate of Growth Media Needed and Available

Facility	Area (acres)	Growth Media Depth Needed (inches)	Volume Needed (bcy)	Volume Available (cy)
Underground Mine	6.7	12	10,270	
TSF	99.8	12	124,856	80,528
TWRSF	5.7	12	9,680	4,611
Process Plant	2.5	12	8,497	
Infrastructure & Ancillary Facilities	17.8	12	-	
Roads	34.9	0	-	28,190
Yards & Laydown Areas	10.0	12	9,437	
Growth Media Stockpiles	7.7	0	-	
Water Supply	7.9	12	733	
Power Supply	61.1	12	81	
Stormwater Diversion Channels	11.8	0	-	9,521
Quarry	48.2	12	77,440	38,842
Reclamation Borrow Areas	55.9	0	-	
Monitoring	0.0	0	-	
Exploration	10.0	12	1,130	
Disturbed Areas	107.8	0	-	
Total	487.9	-	242,124	
Growth Media Stockpile No. 1	-	-		85,103
Growth Media Stockpile No. 2	-	-		38,881
Growth Media Stockpile No. 3	-	-		7,018
Reclamation Borrow Area No. 1	-	-	-	451,000
Reclamation Borrow Area No. 2	-	-	-	638,000
Total	-	-	-	1,220,002
Net Excess	-	-	-	977,878

For the purpose of reclamation cost estimation, Calico assumed that each of the Reclamation Borrow Areas would be excavated to the limits shown on the figures, and the plans for the Reclamation Borrow Areas will be adjusted prior to reclamation. For example, should the growth media excavated and stockpiled during construction be less than planned, the Reclamation Borrow Areas will be excavated deeper to obtain additional growth media; or should the growth media excavated and stockpiled during construction be greater than planned, the footprint of the Reclamation Borrow Areas may be reduced.

Following growth media stripping during construction of the Project (TSF, Quarry, Process Plant area, etc.), growth media will be stockpiled in one of three Growth Media Stockpiles for use at reclamation. The Growth Media Stockpiles will generally be located adjacent to the facilities, as such that they will not be disturbed by mining operations. The surfaces of the stockpiles will be graded with slopes no steeper than 2.5H:1V to reduce erosion. To further minimize wind and water erosion, Growth Media Stockpiles will be vegetated after grading. Temporary stormwater diversion channels and/or berms will be constructed

around the stockpiles, as needed, to prevent erosion from overland runoff. Best Management Practices (BMPs), such as silt fences or staked weed-free straw bales, will be used as necessary to contain sediment in runoff and prevent the loss of stockpiled growth media.

9. RECLAMATION SCHEDULE

9.1 RECLAMATION SCHEDULE AND CONSTRUCTION SEQUENCING

The Reclamation Plan will be performed in five stages, with various activities and monitoring occurring at and in between each stage. A description of activities for each stage is presented below as follows:

- ~~Stage 1~~Stage 0 (Closure Year -1) was developed for the FBO scenario per a BLM request, but was not incorporated into the overall reclamation schedule:
 - Removal of 135,000 tons of waste rock from the TWRSF and placed underground as CRF; and
 - Removal of 3,000 tons of ore in the Ore Stockpile and placed underground as CRF.
- Stage 1 (Closure Year 1) begins immediately following the cessation of mining operations, with activities being performed in this general sequence development:
 - Cessation of ore processing and placement of tailings;
 - Removal of underground mine equipment and chemicals and reagents;
 - ~~Closure of the Mine Portal;~~
 - Closure of the Ventilation Shaft;
 - ~~Closure of the Mine Portal;~~
 - TSF underflow passive evaporation on the surface of the TSF (12-month period);
 - Placement of growth media and revegetation of the TSF Embankment;
 - If present, removal of waste rock from the TWRSF;
 - Closure of the TWRSF and overflow spillway;
 - Closure of the ore stockpiles;
 - Removal and disposal of hazardous waste, chemicals, and reagents;
 - Closure of the fuel storage and dispensing area;
 - Closure of the Process Plant buildings and ancillary facilities, including foundations and offsite disposal (except some of the support buildings and years that will be reclaimed in Stage 3 and the administration building, which that will remain through be reclaimed in Stage 4);
 - Closure of the Collection Pond;
 - Closure of the parking areas (except the parking lot adjacent to the administration building, which will remain through Stage 4); and
 - Closure of the internal access and haul roads not required for Stage 2 and Stage 3 reclamation activities.
- Stage 2 (Closure Year 2) will commence approximately one year following Stage 1, at the time when the surface of the TSF is suitable for construction activities. The following activities will be performed in this general sequence:
 - Regrading of the entirety of the TSF surface;
 - Closure of approximately 75 percent of the surface of the TSF (the remaining 25 percent will be utilized for evaporation of seepage collected in the Reclaim Pond); and
 - TSF underflow passive evaporation on the surface of the TSF (12-month period).

- Stage 3 (Closure Year 3) will commence approximately 2 years following Stage 1, at the time when the flow rate from the tailings underflow can be passively managed within the E-Cell, resulting in the final closure of the TSF. The following activities will be performed in this general sequence:
 - Closure of the remaining 25 percent of the surface of the TSF, and construction of the overflow spillway;
 - Conversion of the Reclaim Pond to the E-Cell;
 - Closure of the Quarry;
 - Closure of the remaining internal Mine roads;
 - Closure of the structures and yards for the visitor parking, security, contractor laydown, contractor office and weather station areas; and
 - Closure of the Growth Media Stockpiles and Reclamation Borrow Areas.
- Stage 4 (Closure Year 4) will commence approximately 3 years following Stage 1, and upon the completion of Stage 3. The following activities will be performed in this general sequence:
 - Closure of the Perimeter Fence;
 - Closure of the administration building and adjacent parking lot;
 - Closure of the Water Supply, including the Wellfield and associated pipelines, and well houses, fences and pads, raw water storage tank, septic tank, and potable water treatment unit;
 - Closure of the Power Supply, including generator, overhead lines and poles;
 - Closure of the remaining internal Mine roads;
 - Reduction of Mine Access Road from two lanes to one lane with the exception of the county road that will remain;
 - Closure of the Water Supply, including the Wellfield and associated pipelines, raw water storage tank, and potable water treatment unit;
 - Closure of the Power Supply, including lines and poles; and
 - Closure of the Growth Media Stockpiles and Reclamation Borrow Areas.

Upon completion of Stage 4, there will ~~commence~~ approximately 327 years following the completion of Stage 1 and consists of post-closure monitoring and inspections.
- Stage 5 (Closure Year 30) will commence approximately 29 years following the completion of Stage 1, at the conclusion of post-closure monitoring for all mining facilities. The following activities will be performed in this general sequence:
 - Closure of the groundwater monitoring wells, and
 - Closure of the final Growth Media Stockpile; and
 - Closure of the Mine Access Road.

The sequencing of the facility reclamation is presented in Figure 3 through Figure 9.

10. REFERENCES

Caterpillar® Performance Handbook (CAT Handbook).

IMS, Inc. (IMS). 1991. *Soils Resources of the Grassy Mountain Area*. April 1991.

_____. 1989. *Final Report: Soil, Vegetation and Wildlife Resources of the Grassy Mountain Project Area*. December 1989.

Means, R.S. 2006. R.S. Means Heavy Construction Data.

Nevada Standardized Reclamation Cost Estimator (SRCE) version 2.0.

FIGURES

APPENDIX A

REGULATORY REQUIREMENTS

APPENDIX B

STANDARDIZED RECLAMATION COST ESTIMATE ~~—MICROSOFT EXCEL FILES IN ADDITIONAL FILES FOLDER~~EXPORTED FILES

~~(click here)~~

- ~~• SRCE_2.0_GrassyMountain_Beta05_PhII_TSF.xlsm — Launches the SRCE model application~~

~~SRCE_Cost_data_USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm — Includes unit rates that are linked to the SRCE model~~

APPENDIX C

ONSITE CHEMICALS TO BE REMOVED AS PART OF RECLAMATION

Chemicals Stored Onsite

Chemical and Purpose	Agency Classification as Toxic or Hazardous Substance	Onsite Storage Capacity
Ammonium nitrate fuel oil (ANFO) as blasting agent	OSHA (see SDS)	Seven 2,800-lb totes stored in explosive magazine
	DOT Div 1.1, 1.2, 1.3, 1.5 (Explosive)	
	Oregon RQ (500 lbs)	
Carbon - Dry, Sulfide-impregnated	DOT Class 4.2 (Spontaneous Combustible)	Forty 50-lb sacks
	Oregon RQ (500 lbs)	
Copper Sulfate Pentahydrate, 98% by weight as catalyst for cyanide detoxification	OSHA (see SDS)	One 2000-lb bulk bag
	DOT Class 9	
	CERCLA (RQ 10 lbs)	
	Oregon RQ (10 lbs)	
Diesel	OSHA (see SDS)	8,250 gallons
	DOT Class 3 (Combustible)	
	Oregon RQ (500 gallons)	
Hydrochloric Acid (HCL) - Liquid 32% in the elution circuit to Reagent Grade in the assay and metallurgy laboratory	CERCLA (RQ 5000 lbs)	3,000 gallons storage. Shipped in 265-gallon totes.
	OSHA (see SDS)	Four 1 gallon containers (Reagent Grade)
	DOT Class 8 (Corrosive)	
	Oregon RQ (500 gallons)	
Hydrogen Peroxide to provide oxygen to the intensive-leach reactor	EHS – EPCRA (RQ/TPQ 1000 lbs)	One 265-gallon tote
	OSHA (see SDS)	
	DOT Class 5.1 (Oxidizer)	
	Oregon EHS RQ (5 gallons)	
Lead Nitrate (PbNO3)- Dry	CERCLA (RQ 10 lbs)	One 20-lb bag
	OSHA (see SDS)	
	DOT Class 5.1 (Oxidizer)	
	Oregon EHS RQ (10 lbs)	
Lime/Calcium Oxide (CaO)- Dry pebble 90% for leaching and detoxification pH control	OSHA (see SDS)	One 25-ton truckload
	DOT Class 8 (Corrosive)	
	Oregon RQ (500 lbs)	
Mercury	CERCLA (RQ 1 lb)	One 80-lb flask

Chemical and Purpose	Agency Classification as Toxic or Hazardous Substance	Onsite Storage Capacity
	OSHA (see SDS)	
	DOT Class 8 (Corrosive), Class 6.1 (Poison)	
	Oregon EHS RQ (10 lbs)	
Sodium Cyanide (NaCN) – Mixed to 30% in leaching as a lixiviant and in elution as a carbon stripping aid	OSHA (see SDS)	Eight 1-ton bulk bags. Dissolved in water, transferred to 10,000 gallon storage tank
	EHS – EPCRA (RQ 10 lbs, TPQ 100 lbs)	
	CERCLA (RQ 10 lbs)	
	DOT Class 6.1 (Poison)	
Sodium Cyanide, Reagent Grade (Solid)	Oregon EHS RQ (10 lbs)	Ten 5-lb boxes
Sodium Hydroxide (NaOH) Caustic Soda- - Liquid 50% in intensive cyanidation as a pH modifier and in elution circuit to prepare the stripping solution to recover gold from loaded carbon	OSHA (see SDS)	One 265-gallon tote
	CERCLA (RQ 1000 lbs)	4,887-gallon tank
	OSHA (see SDS)	
	DOT Class 8 (Corrosive)	
	Oregon RQ (500 gallons)	
Sodium Metabisulfite (SMBS) is the source for SO ₂ in the cyanide detoxification circuit	OSHA (see SDS)	One 1.1-ton bag to supply SMBS at 20% strength in storage tank
	Transport – Not regulated	
	Oregon RQ (500 lbs)	
Acetylene	OSHA (see SDS)	Eighteen Size 45 industrial Acetylene Cylinders
	DOT Class 2.1 (Flammable Gas)	
	Oregon RQ (500 cubic feet)	
Buffer Solution (Acetate) Reagent Grade - Dry	OSHA (see SDS)	Ten 5-lb boxes
	CERCLA RQ 5000 lbs (as Acetic Acid)	
	Oregon RQ (500 lbs)	
Feldspar - Dry	OSHA (see SDS)	Five 50-lb sacks
	Oregon RQ (500 lbs)	
Hydrofluoric Acid (HFI) Reagent Grade	EHS - EPCRA (RQ/TPQ 100 lbs)	Two 1 gallon containers
	CERCLA (RQ 100 lbs)	
	OSHA (see SDS)	
	DOT Class 8 (Corrosive)	
	Oregon EHS RQ (5 gallons)	

Chemical and Purpose	Agency Classification as Toxic or Hazardous Substance	Onsite Storage Capacity
Lead Oxide- Reagent Grade	OSHA (see SDS)	One 80-lb pail
	DOT Class 5.1 (Oxidizer)	
	Oregon RQ (500 lbs)	
Methyl Ethyl Ketone (MEK)	CERCLA (RQ 5000 lbs)	One 5-gallon pail
	OSHA (see SDS)	
	DOT Class 3 (Explosive)	
	Oregon RQ (500 gallons)	
Nitric Acid (HNO ₃) Reagent Grade	EHS - EPCRA (RQ/TPQ 1000 lbs)	Ten 1 gallon containers
	CERCLA (RQ 1000 lbs)	
	OSHA (see SDS)	
	DOT Class 8 (Corrosive)	
	Oregon EHS RQ (5 gallons)	
Potassium Nitrate (Niter) (NaNO ₃) - Dry	OSHA (see SDS)	Five 50-lb sacks
	DOT Class 5.1 (Oxidizer)	
	Oregon RQ (500 lbs)	
Silica (SiO ₂) - Dry	OSHA (see SDS)	Ten 50-lb sacks
	Oregon RQ (500 lbs)	
Sulfuric Acid (H ₂ SO ₄) Reagent Grade	EHS - EPCRA (RQ/TPQ 1000 lbs)	Six 1 gallon containers
	CERCLA (RQ 1000 lbs)	
	OSHA (see SDS)	
	DOT Class 8 (Corrosive)	
	Oregon EHS RQ (5 gallons)	