GRASSY MOUNTAIN MINE PROJECT

Reclamation Plan

Submitted to:

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Superseded

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CALICO RESOURCES

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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 contains 0.98 Mst, Phase II has been designed to contains 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.

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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;
- Coordinate with agencies to implement and monitor the reclamation using quantitative measures for evaluating habitat diversity, wildlife species diversity, and plant community composition, structure and utilization by wildlife;
- 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 self-sustaining, 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 $12,419,957 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.

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During a June 1, 2023 meeting (SLR, 2023), 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 cost for the FBO scenario described above is not included in the total reclamation cost of $12,419,957 because these activities are not part of the Reclamation Plan described in Sections 6.3 and 6.5.5.

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.

- 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 29 years of post-closure monitoring and inspections.

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- Stage 5 will commence approximately 29 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

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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

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1. INTRODUCTION

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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.

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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	488.9

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[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 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.

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Malheur County approved the Conditional Use Permit to construct an underground gold and silver mine on private lands zoned for EPBOT 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:

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- 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)(I).
- 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 632-030-0007, Minimum Standards for a Reclamation Plan (Applicable to the Quarry);
- OAR 635-420-0110, Certification of Self-Sustaining Ecosystem;
- OAR 635-420-0060, Wildlife Mitigation Plan;
- 43 CFR 3809.420(3), Reclamation; and
- Other state and federal permits required for the operation of the Project.

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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.

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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.

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  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.

Superseded

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.

Superseded

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.

Superseded

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 4, approximately 1,089,000 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)	1,220,002
Monitoring	0.0	0	-
Exploration	10.0	0	-
Disturbed Areas	107.8	0	-
Total	**487.9**	**-**	**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.

Superseded

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.

Superseded

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.

Superseded

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 will be drained to the TSF and the tailings reclaim water pipeline will be drained to the Reclaim Pond prior to pipelines the removal and disposal 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):

Superseded

- Prepared tailings surface,
- 60 mil double-sided textured (LST) linear low-density polyethylene (LLDPE) geomembrane,
- 12 inches of granular drainage layer,
- 12 ounce per square yard (oz/yd^2) 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 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 CRF during operations. Therefore, no waste rock is planned to be present on the TWRSF at closure. Should this occur, any remaining waste rock in the TWRSF will be excavated, hauled to the backfill plant located at the Portal Pad and 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

Superseded

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

Superseded

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.

Superseded

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 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. . The stockpile lining system will be cut, removed, and disposed of offsite. 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.

Superseded

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.

Superseded

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.

6.7.3 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.

6.7.4 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.

6.7.5 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.

6.7.6 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.

6.8 POWER SUPPLY

Superseded

6.8.1 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.

6.8.2 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.

6.9 STORMWATER MANAGEMENT FACILITIES

6.9.1 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.

6.9.2 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.

6.9.3 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. Closure is described in Section 6.4.4.

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.

Superseded

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.

6.11 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.

6.12 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.

6.13 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.

Superseded

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
- The post-closure vegetative success criteria and monitoring methodology are provided in Appendix C.

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:

Superseded

- 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. Post-closure E-Cell fence monitoring will be conducted in three phases:
  - Phase 1 includes quarterly monitoring for a period of 5 years.
  - Phase 2 includes semi-annual monitoring for a period of 10 years.
  - Phase 3 includes annual monitoring for a period of 15 years.
- 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 phases:

  - Phase 1 includes quarterly monitoring for a period of 5 years.
  - Phase 2 includes semi-annual monitoring for a period of 10 years.
  - Phase 3 includes annual monitoring for a period of 15 years.

- Noxious weed monitoring and control will be implemented during operations and for a minimum period of 5 years following the cessation of operation.
- Stormwater diversion channels will be inspected during the reclamation monitoring period (15 years) 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.
- Stormwater samples from the permitted outfalls will be collected, tested, and reported to respective regulatory agencies to demonstrate reclamation compliance where necessary.

Superseded

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:

Superseded

- The TSF will be constructed to Phase II.
- The seed mix for revegetation is presented in Section 5.4.2.
- The quantities of hazardous materials utilized for cost estimating assumed all containers were full and are presented in Appendix D.
- The model assumed an average operator, working 50 minutes per hour.
- 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.

Superseded

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.

Superseded

- 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.
- Acct Codes worksheet was used to summarize the cost by facility, in addition to the contingency, contractor overhead and profit, and contract administration costs.

Superseded

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 $12,416,573 has been calculated at cessation of planned mining, including contingency, with a summary presented in Table 6. Files generated from the SRCE 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	$5,023,500
Temporary Waste Rock Storage Facility	$195,215
Process Plant	$608,166
Infrastructure & Ancillary Facilities	$86,097
Roads	$136,108
Yards & Laydown Areas	$53,381
Growth Media Stockpiles	$42,088
Water Supply	$111,026
Power Supply	$1,179,503
Stormwater Diversion Channels	$0
Exploration	$7,914
Quarry	$180,161
Reclamation Borrow Areas	$34,024
Post-closure Monitoring	$1,960,409
Mobilization / Demobilization	$154,918
Subtotal	**$9,857,108**
Indirect Costs	$2,562,149
Total	**$12,419,857**

Superseded

During a June 1, 2022, meeting (SLR, 2022), the BLM requested that Calico present the reclamation cost estimate for a 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 cost for the FBO scenario described above is not included in the total reclamation cost of $12,419,957 because these activities are not part of the Reclamation Plan described in Sections 6.3 and 6.5.5.

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**

Superseded

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 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 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 that will 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).

Superseded

- 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;
  - Reduction of Mine Access Road from two lanes to one lane with the exception of the county road that will remain.

  Upon completion of Stage 4, there will be approximately 27 years of post-closure monitoring and inspections.

Superseded

- 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,
  - 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.

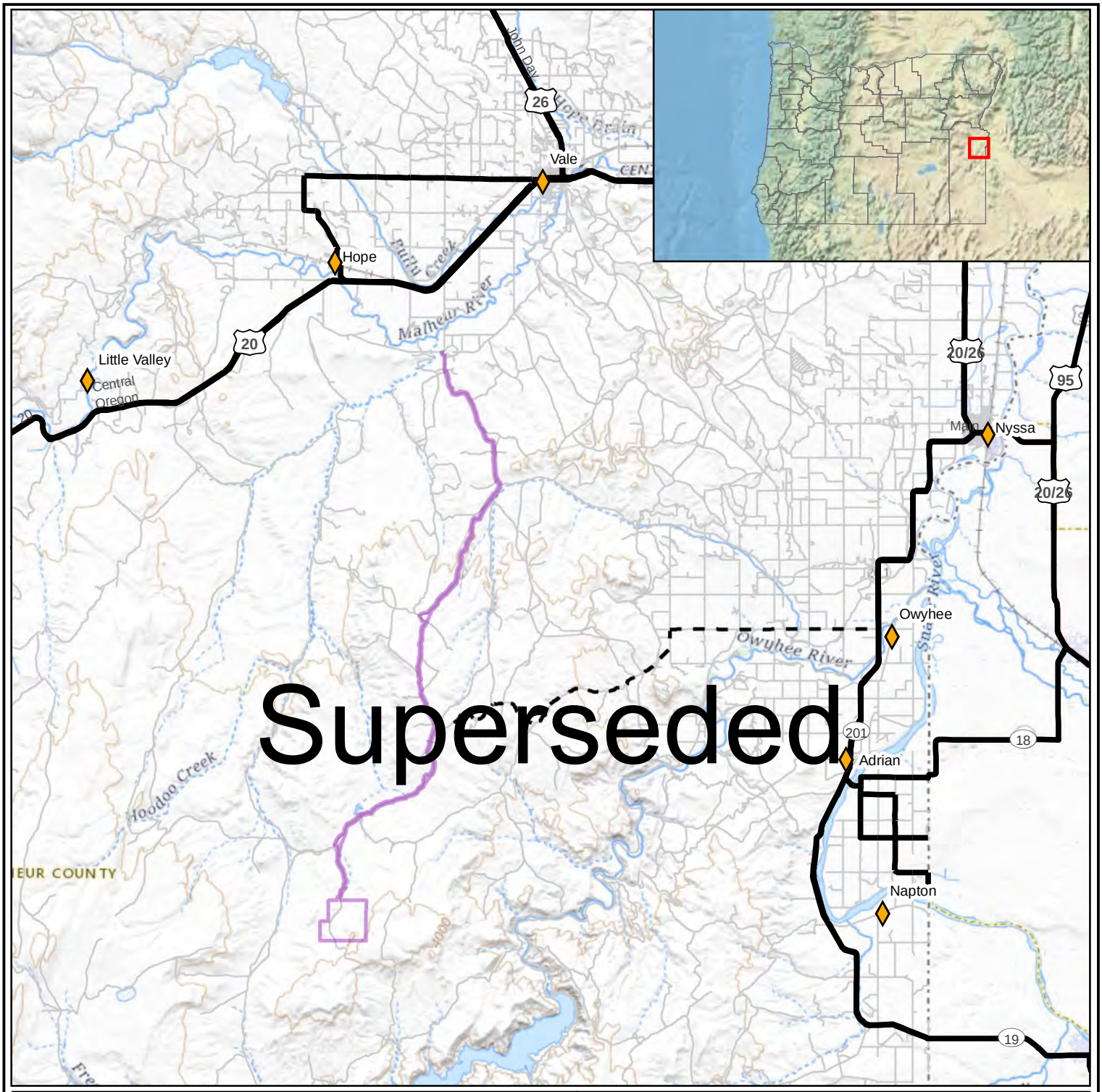
Means, R.S. 2006. R.S. Means Heavy Construction Data.

Nevada Standardized Reclamation Cost Estimator (SRCE) version 2.0.

Superseded

FIGURES

Superseded



Legend

- PoO Boundary
- Emergency Access Road
- Roads

1 ":4 Miles

0 1 2 4Miles

Scale as shown when plotted at 8.5"x11".

N W E S

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Road and highway system were referenced from the Bureau of land Management.

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

Reclamation Plan

Figure:

Location Map

SLR / CALICO RESOURCES	Date: December, 2021		Figure: 1
	Project No: 108.02203.00001		
	By: MS	Chk'd: TM	

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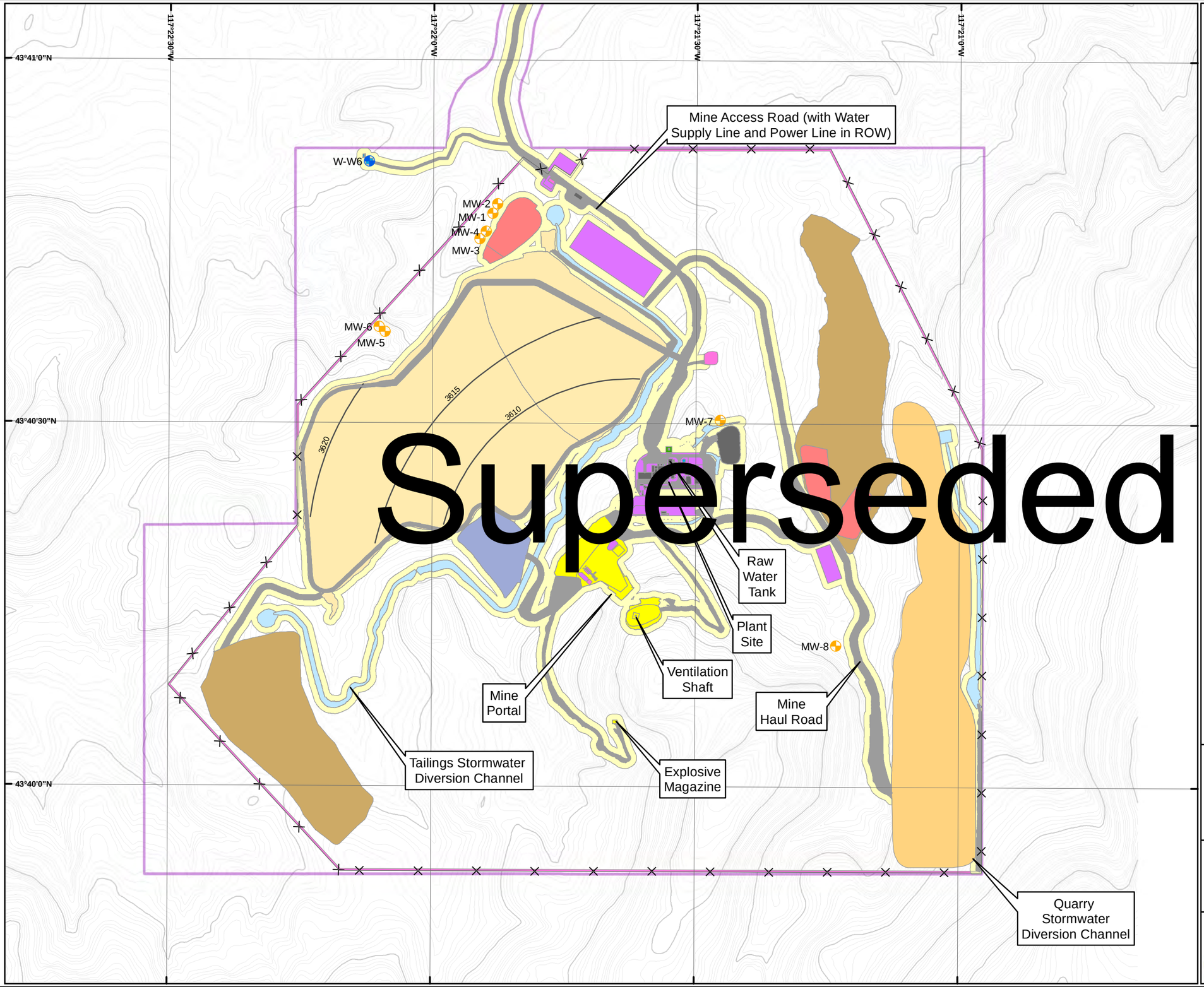

Superseded

Legend

- PoO Boundary
- Fence Line
- Production Well
- Monitoring Well
- Quarry
- Reclamation Borrow Areas
- Growth Media Stockpiles
- Yards, Laydown Areas, and Stockpiles
- Underground Mine
- Process Plant
- Infrastructure & Ancillary Facilities
- Power Supply
- Temporary Waste Rock Storage Facility
- Tailings Storage Facility
- Water Supply
- Roads
- Stormwater Diversion Channel
- Disturbed Area
- Existing 25ft Elevation Contour
- Existing 5ft Elevation Contour

1 ":800 '
0 200 400 800 Feet

N W E S

Scale as shown when plotted at 11"x17".

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Topography and facility layout provided by others.

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

Reclamation Plan

Figure:

Currently Proposed Mine Layout

SLR / CALICO RESOURCES	Date: October, 2022	Figure: 2
	Project No: 108.02203.00001	
	By: MS	Chk'd: TM

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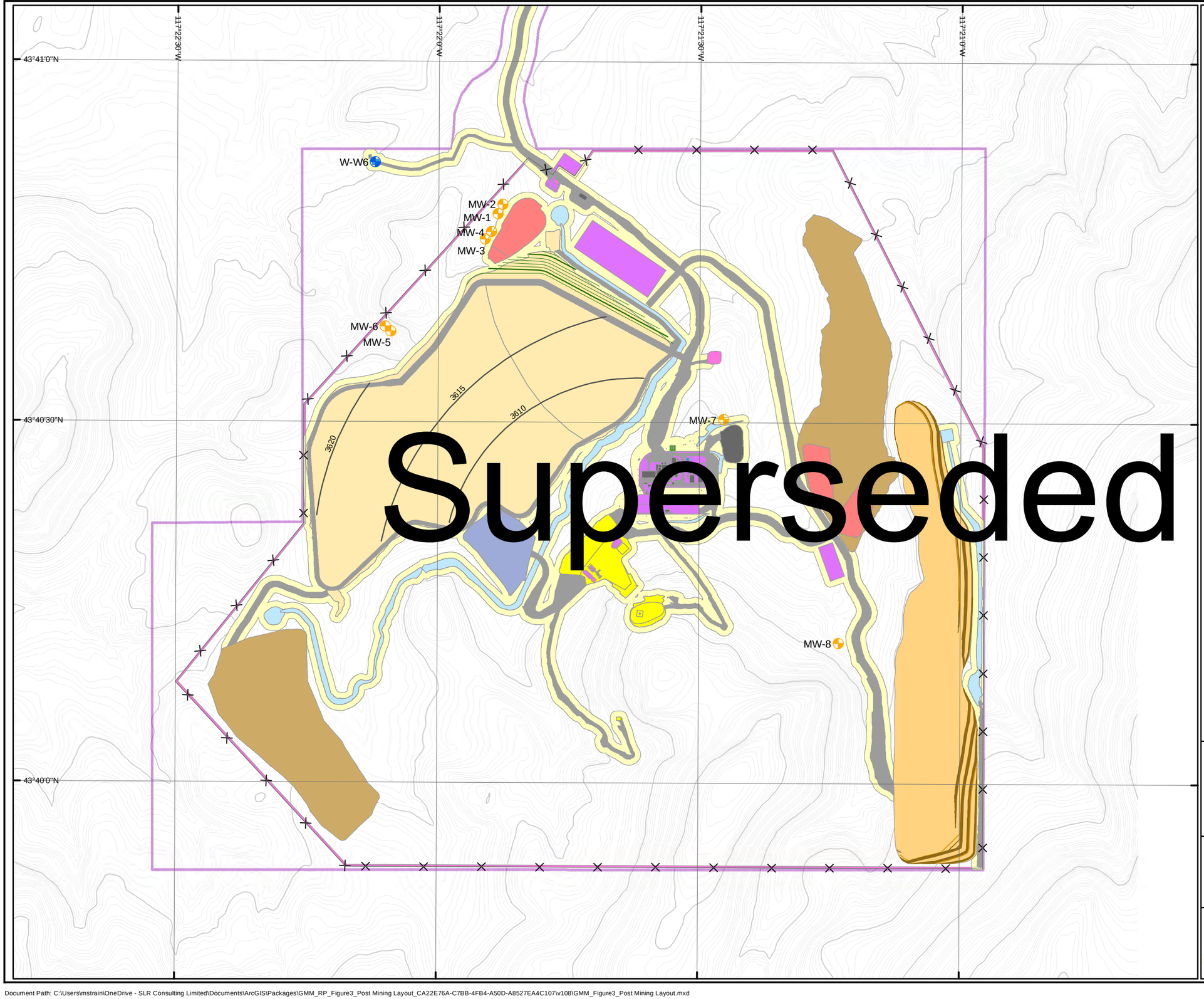


Superseded

Legend

- PoO Boundary
- Fence Line
- Production Well
- Monitoring Well
- Quarry
- Reclamation Borrow Areas
- Growth Media Stockpiles
- Yards, Laydown Areas, and Stockpiles
- Underground Mine
- Process Plant
- Infrastructure & Ancillary Facilities
- Power Supply
- Temporary Waste Rock Storage Facility
- Tailings Storage Facility
- Water Supply
- Roads
- Stormwater Diversion Channel
- Disturbed Area
- Reclaimed 25ft Elevation Contours
- Reclaimed 5ft Elevation Contours
- Existing 25ft Elevation Contour
- Existing 5ft Elevation Contour

1 ":800 '

0 200 400 800 Feet

N W E S

Scale as shown when plotted at 11"x17".

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Topography and facility layout provided by others.

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

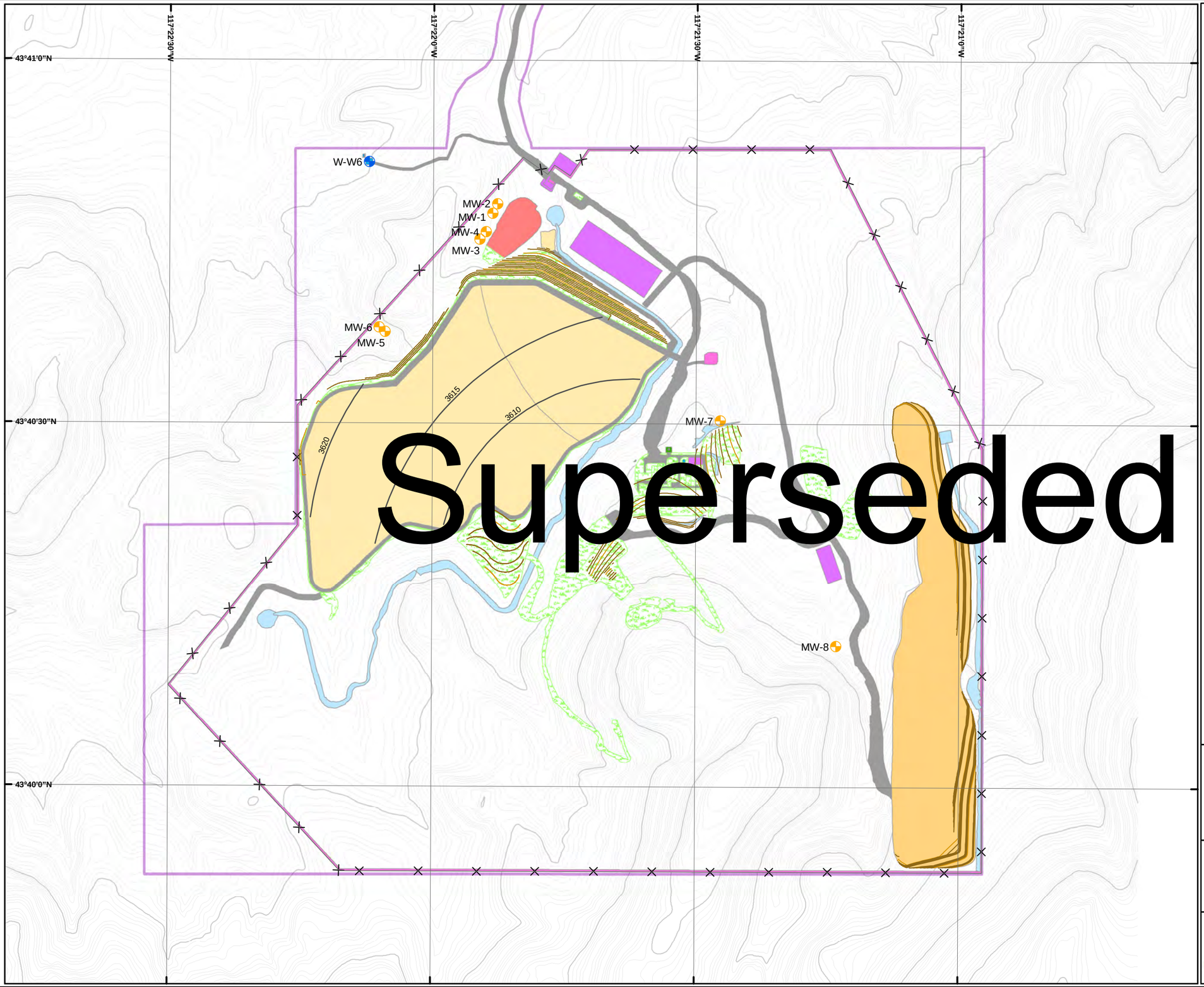
Reclamation Plan

Figure:

Post Mining Layout

SLR / CALICO RESOURCES	Date: October, 2022		Figure: 3
	Project No: 108.02203.00001		
	By: MS	Chk'd: TM	

Document Path: C:\Users\mstrain\OneDrive - SLR Consulting Limited\Documents\ArcGIS\Packages\GMM_RP_Figure3_Post Mining Layout_CA22E76A-C7BB-4FB4-A50D-A8527EA4C107\v108\GMM_Figure3_Post Mining Layout.mxd



Superseded

Legend

- PoO Boundary
- Fence Line
- Production Well
- Monitoring Well
- Quarry
- Growth Media Stockpiles
- Yards, Laydown Areas, and Stockpiles
- Process Plant
- Infrastructure & Ancillary Facilities
- Power Supply
- Tailings Storage Facility
- Water Supply
- Roads
- Stormwater Diversion Channel
- Reclaimed 25ft Elevation Contours
- Reclaimed 5ft Elevation Contours
- Existing 25ft Elevation Contour
- Existing 5ft Elevation Contour
- Revegetated Area

1 ":800 '

0 200 400 800 Feet

N W E S

Scale as shown when plotted at 11"x17".

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Topography and facility layout provided by others.
3. Stage 1 reclamation to include underground mine, tailings storage facility embankment, temporary waste rock storage facility, process plant (minus administrative building), growth media stockpiles 2 and 3, and select roads and yards.

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

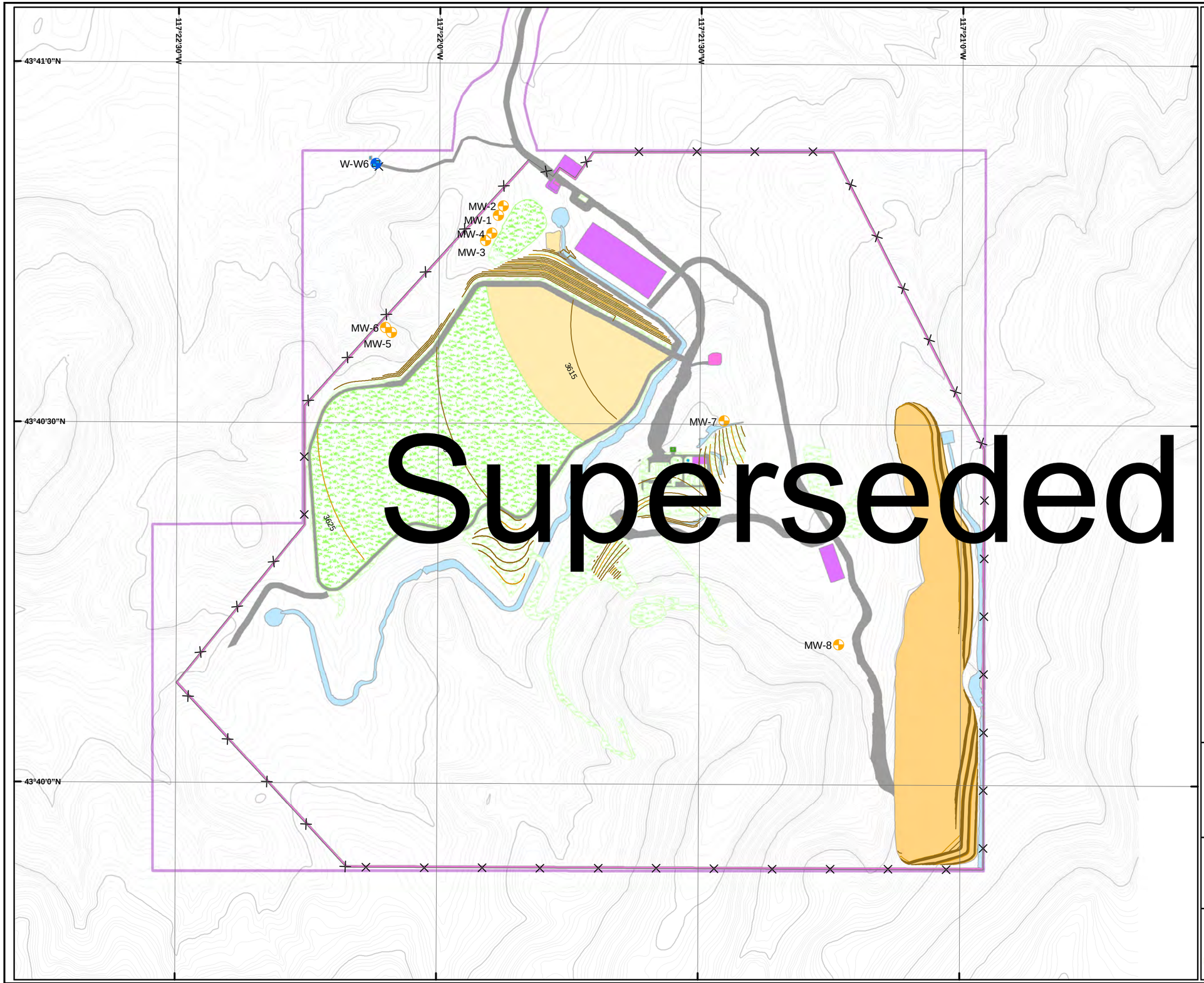
Reclamation Plan

Figure:

Stage 1 Reclamation

SLR / CALICO RESOURCES	Date: December, 2021	Figure: 4
	Project No: 108.02203.00001	
	By: MS	Chk'd: TM

Document Path: C:\Users\mstrain\OneDrive - SLR Consulting Limited\Grassy Mountain Mine\100 Supporting Deliverables\036 Reclamation_Plan\03 Figures\GMM_Figure4_Stage 1 Reclamation.mxd



Superseded

Legend

- PoO Boundary
- Fence Line
- Production Well
- Monitoring Well
- Quarry
- Yards, Laydown Areas, and Stockpiles
- Process Plant
- Infrastructure & Ancillary Facilities
- Power Supply
- Tailings Storage Facility
- Water Supply
- Roads
- Stormwater Diversion Channel
- Reclaimed 25ft Elevation Contours
- Reclaimed 5ft Elevation Contours
- Existing 25ft Elevation Contour
- Existing 5ft Elevation Contour
- Revegetated Area
- Revegetated Area From Previous Stage

1 ":800 '
0 200 400 800 Feet

N
W E
S

Scale as shown when plotted at 11"x17".

Notes:
1. Figure references 1983 UTM zone 11N datum.
2. Topography and facility layout provided by others.
3. Stage 2 reclamation to include regrading tailings impoundment surface and reclaiming 75% of the tailings impoundment surface.

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

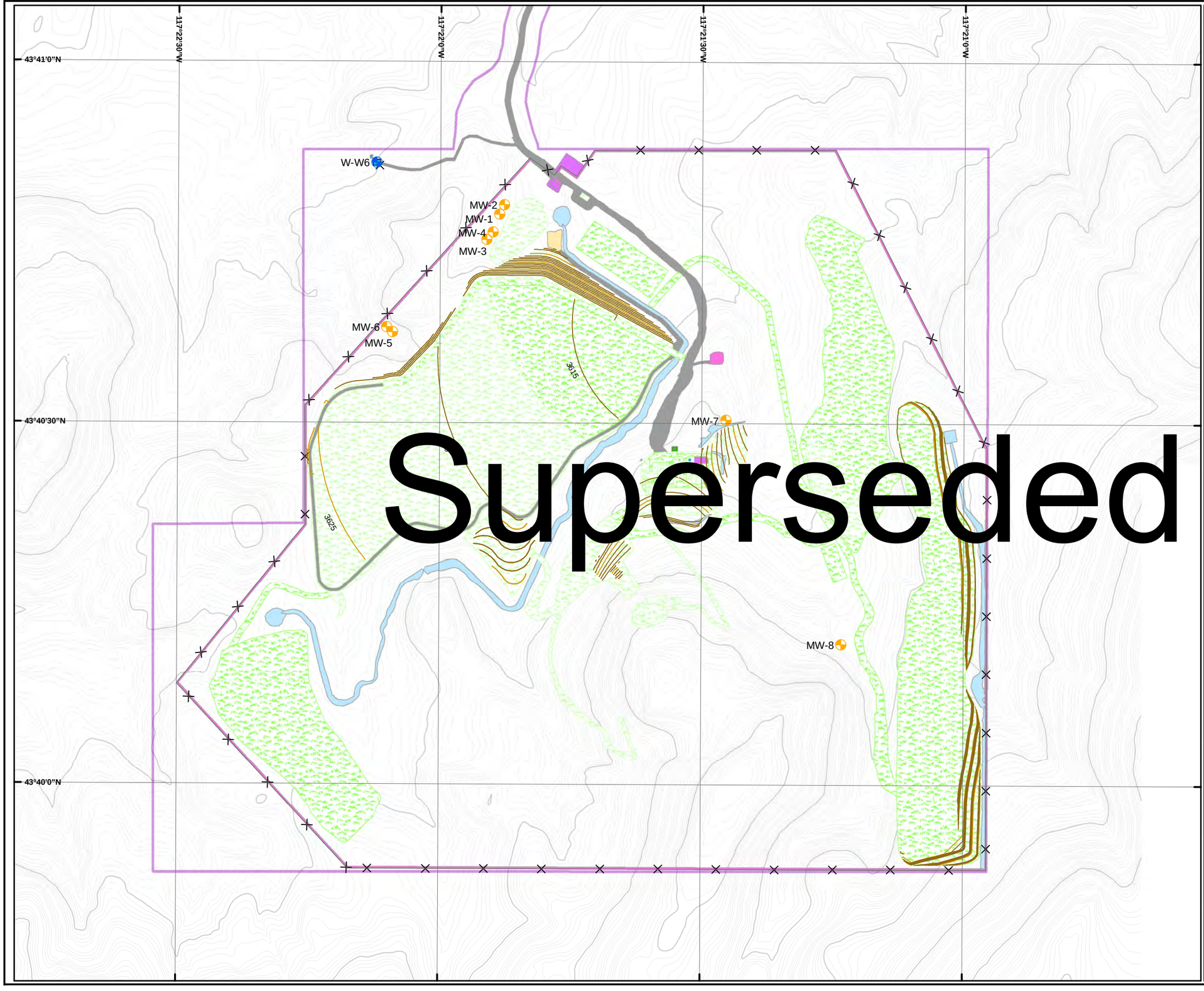
Reclamation Plan

Figure:

Stage 2
Reclamation

SLR / CALICO RESOURCES	Date: December, 2021		Figure: 5
	Project No: 108.02203.00001		
	By: MS	Chk'd: TM	

Document Path: C:\Users\mstrain\OneDrive - SLR Consulting Limited\Grassy Mountain Mine\100 Supporting Deliverables\036 Reclamation_Plan\03 Figures\GMM_Figure5_Stage 2 Reclamation.mxd



Superseded

Legend

- PoO Boundary
- Fence Line
- Production Well
- Monitoring Well
- Yards, Laydown Areas, and Stockpiles
- Process Plant
- Infrastructure & Ancillary Facilities
- Power Supply
- E-Cell
- Water Supply
- Roads
- Stormwater Diversion Channel
- Reclaimed 25ft Elevation Contours
- Reclaimed 5ft Elevation Contours
- Existing 25ft Elevation Contour
- Existing 5ft Elevation Contour
- Revegetated Area
- Revegetated Area From Previous Stage

1 ":800 '

0 200 400 800 Feet

N W E S

Scale as shown when plotted at 11"x17".

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Topography and facility layout provided by others.
3. Stage 3 reclamation to include remaining 25% of tailings impoundment surface, quarry, contractor laydown areas, reclamation borrow areas, and remaining haul roads.

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

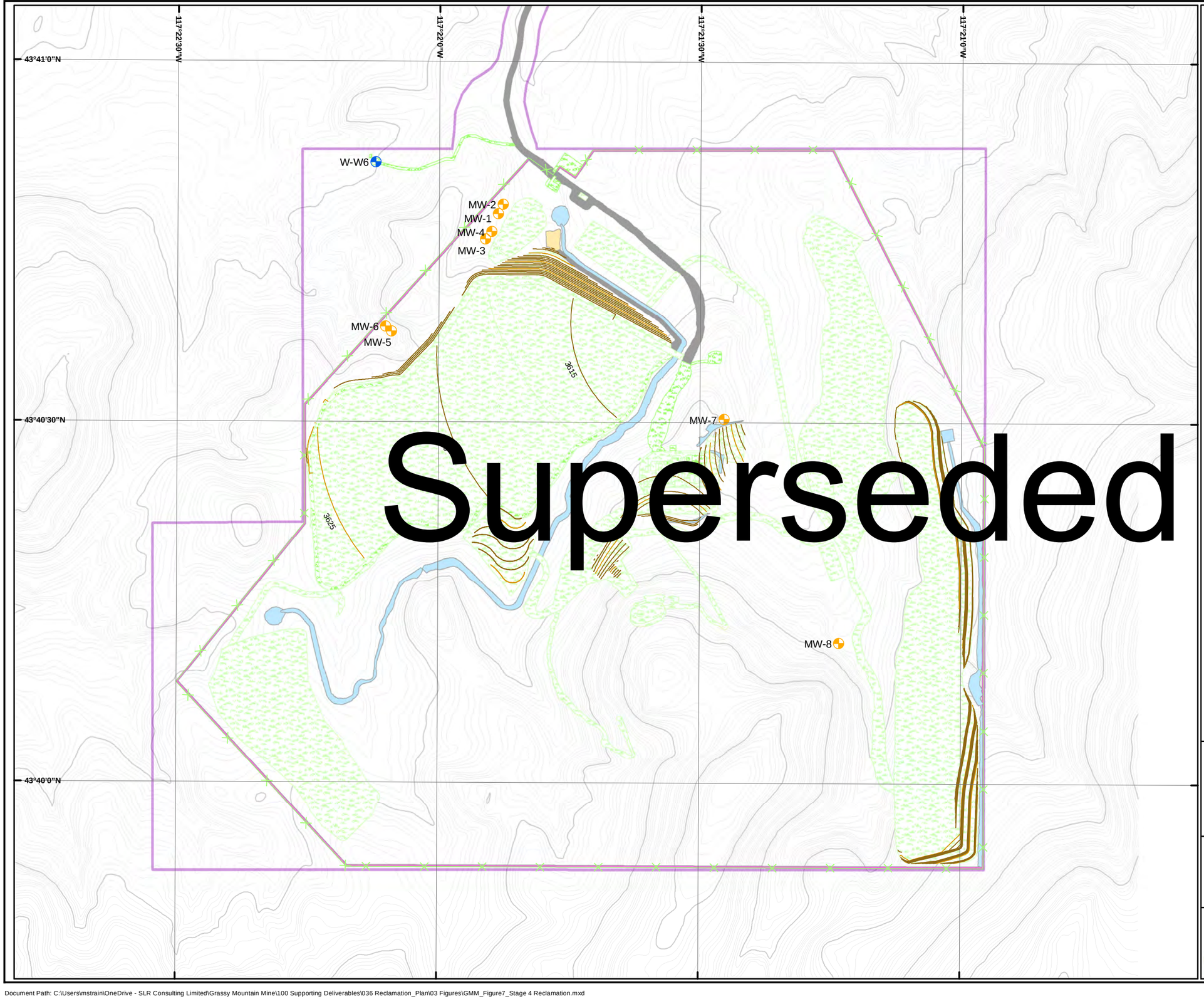
Reclamation Plan

Figure:

Stage 3
Reclamation

SLR / CALICO RESOURCES	Date: December, 2021		Figure: 6
	Project No: 108.02203.00001		
	By: MS	Chk'd: TM	

Document Path: C:\Users\mstrain\OneDrive - SLR Consulting Limited\Grassy Mountain Mine\100 Supporting Deliverables\036 Reclamation_Plan\03 Figures\GMM_Figure6_Stage 3 Reclamation.mxd



Legend

- PoO Boundary
- Production Well
- Monitoring Well
- E-Cell
- Infrastructure & Ancillary Facilities
- Roads
- Stormwater Diversion Channel
- Reclaimed 25ft Elevation Contours
- Reclaimed 5ft Elevation Contours
- Existing 25ft Elevation Contour
- Existing 5ft Elevation Contour
- Revegetated Area
- Revegetated Area From Previous Stage

1 ":800 '

0 200 400 800 Feet

N W E S

Scale as shown when plotted at 11"x17".

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Topography and facility layout provided by others.
3. Stage 4 reclamation to include powerlines, water supply, fence, meteorological station, and administrative building (some facilities not shown in figure).

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

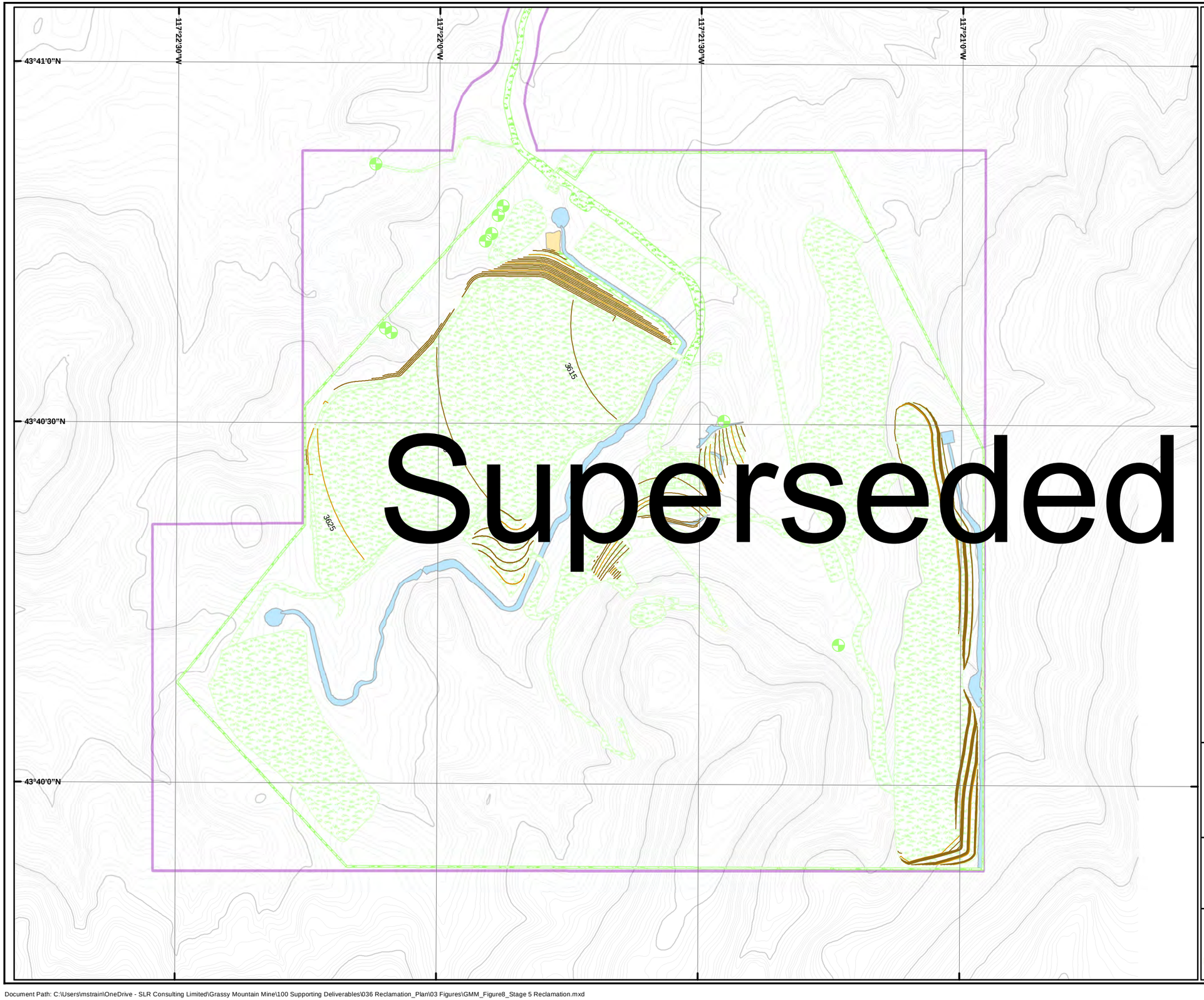
Reclamation Plan

Figure:

Stage 4
Reclamation

SLR / CALICO RESOURCES	Date: December, 2021	Figure: 7
	Project No: 108.02203.00001	
	By: MS Chk'd: TM	

Document Path: C:\Users\mstrain\OneDrive - SLR Consulting Limited\Grassy Mountain Mine\100 Supporting Deliverables\036 Reclamation_Plan\03 Figures\GMM_Figure7_Stage 4 Reclamation.mxd



Superseded

Legend

- PoO Boundary
- Revegetated Area
- E-Cell
- Stormwater Diversion Channel
- Reclaimed 25ft Elevation Contours
- Reclaimed 5ft Elevation Contours
- Existing 25ft Elevation Contour
- Existing 5ft Elevation Contour
- Revegetated Area
- Revegetated Area From Previous Stage

1 ":800 '

0 200 400 800 Feet

N W E S

Scale as shown when plotted at 11"x17".

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Topography and facility layout provided by others.
3. Stage 5 reclamation to include all monitoring wells and mine access road (some facilities not shown in figure).

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

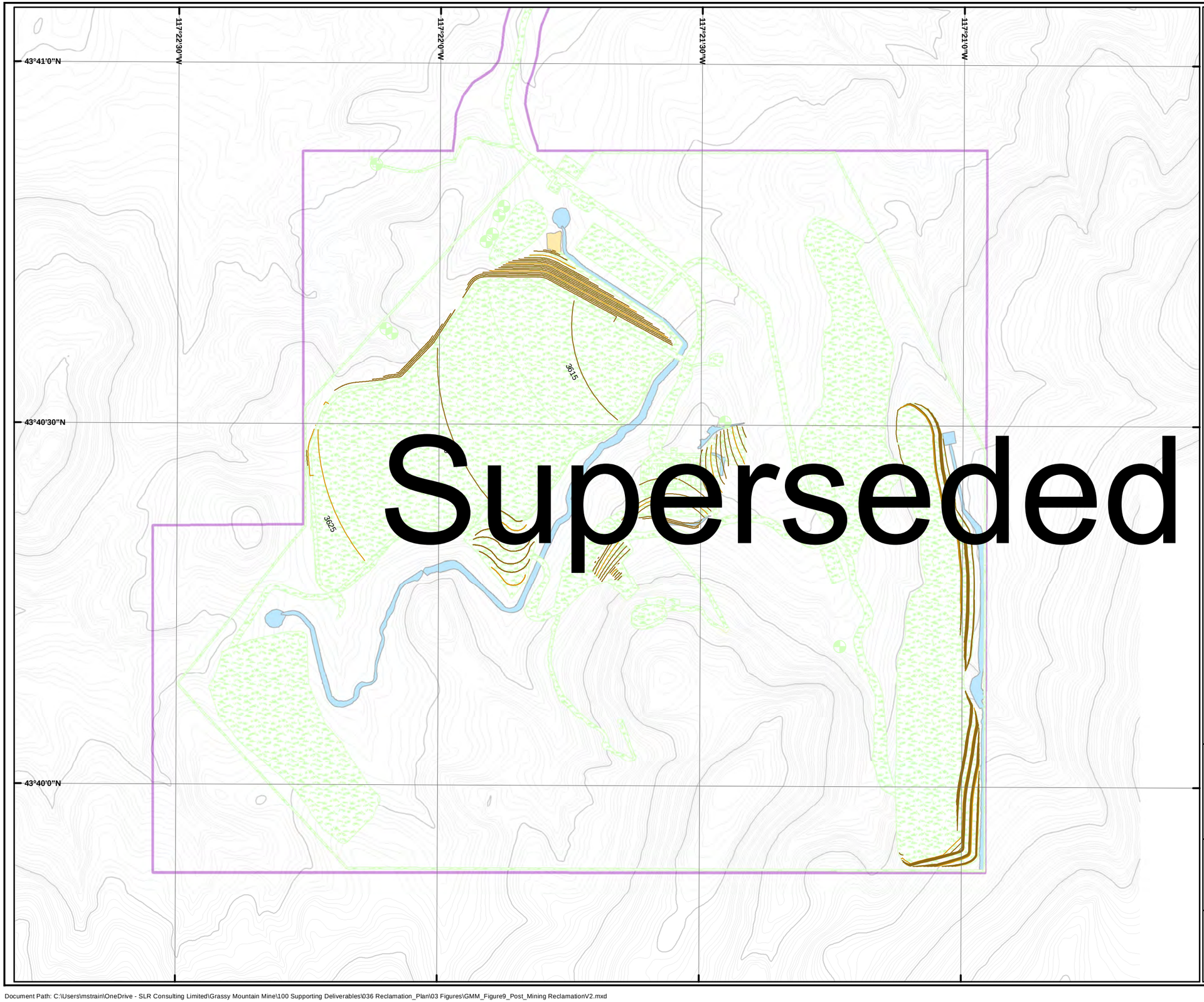
Reclamation Plan

Figure:

Stage 5
Reclamation

SLR / CALICO RESOURCES	Date: December, 2021		Figure: 8
	Project No: 108.02203.00001		
	By: MS	Chk'd: TM	

Document Path: C:\Users\mstrain\OneDrive - SLR Consulting Limited\Grassy Mountain Mine\100 Supporting Deliverables\036 Reclamation_Plan\03 Figures\GMM_Figure8_Stage 5 Reclamation.mxd



Superseded

Legend

- PoO Boundary
- Revegetated Area
- E-Cell
- Stormwater Diversion Channel
- Reclaimed 25ft Elevation Contours
- Reclaimed 5ft Elevation Contours
- Existing 25ft Elevation Contour
- Existing 5ft Elevation Contour
- Revegetated Area

1 ":800 '

0 200 400 800 Feet

N W E S

Scale as shown when plotted at 11"x17".

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Topography and facility layout provided by others.

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

Reclamation Plan

Figure:

Post Mining Reclamation

SLR / CALICO RESOURCES	Date: December, 2021		Figure: 9
	Project No: 108.02203.00001		
	By: MS	Chk'd: TM	

Document Path: C:\Users\mstrain\OneDrive - SLR Consulting Limited\Grassy Mountain Mine\100 Supporting Deliverables\036 Reclamation_Plan\03 Figures\GMM_Figure9_Post_Mining ReclamationV2.mxd

APPENDIX A

REGULATORY REQUIREMENTS

Superseded

OAR 340-043-0080 GUIDELINES FOR THE DESIGN, CONSTRUCTION, OPERATION AND CLOSURE OF CHEMICAL MINING OPERATIONS: GENERAL PROVISIONS

(1) Facilities permitted under either a WPCF or NPDES permit shall not discharge wastewater or process solutions to surface water, groundwater or soils, except as expressly allowed by the permit.

(2) Facilities subject to these rules shall not be sited in 100-year floodplains or wetlands. A buffer zone (a minimum of 200 feet wide) shall be established between waste disposal facilities and surface waters.

(3) All chemical conveyances (ditches, troughs, pipes, etc.) shall be equipped with secondary containment and leak detection means for preventing and detecting release of chemicals to surface water, groundwater or soils.

(4) Acid water accumulation in open pits resulting from the mining operation must be prevented by appropriate mining practices, by measures taken in the closure process, or be treated to control pH and toxicity, for the life of the pit.

(5) Construction of surface impoundment liner systems shall conform generally to the principles and practices described in EPA/600/2-88/052, Lining of Waste Containment and Other Impoundment Facilities, September 1988.

Superseded

(6) The Department may require the permittee to hire a third-party contractor to perform the functions set forth below. Selection of the contractor shall be subject to Department approval:

(a) Review and evaluate the design and construction specifications of all mined-materials disposal facilities permitted under this Division for functional adequacy and conformance with Department requirements. The Department shall not approve construction of the disposal facilities until the design and construction specifications have been evaluated;

(b) Monitor the course of construction of all mined-materials facilities for compliance with the approved design and construction specifications. The third-party contractor shall regularly document the progress of construction and the Department shall require the permittee to take corrective action if construction does not satisfactorily conform to the approved design and construction specifications;

(c) Provide on-site inspections during ongoing operations, including but not limited to the loading of the heap, to assure protection of the integrity of the liner system and other environmental protection measures.

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

(1) Surface water run-on and run-off shall be controlled such that it will not endanger the facility or become contaminated by contact with process materials or loaded with sediment. The control systems shall be designed to accommodate a 100-year, 24-hour storm event, or any other defined climatic event that is more appropriate to the site, and be placed so as to allow for restoration of the natural drainage network, to the maximum extent practicable, upon facility closure.

(2) All mined materials shall be properly placed and protected from surface water and precipitation so as not to be eroded and contribute sediment to site stormwater run-off or to otherwise contaminate surface water.

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

(1) Permit applicants must demonstrate to the Department that the design of chemical processing facilities and waste disposal facilities is adequate to ensure the stability of all structural components of the facilities during operation, closure and post closure.

(2) Retaining structures, foundations and mine materials emplacements shall be designed by a qualified, registered professional and be constructed for long-term stability under anticipated loading and seismic conditions.

Superseded

(3) Temporary structures and materials emplacements may, with written approval from the Department, be constructed to a lesser standard if it can be shown that they pose no, or minimal, threat to public safety or the environment.

OAR 340-043-0110 GUIDELINES FOR THE DESIGN, CONSTRUCTION, OPERATION AND CLOSURE OF CHEMICAL MINING OPERATIONS: PROTECTION OF WILDLIFE

(1) Wildlife shall be positively excluded from contact with chemical processing solutions and wastewaters containing chemicals.

(2) The Department may waive the positive exclusion requirement if the Oregon Department of Fish and Wildlife (ODF&W) certifies to the Department that the project is designed such that it will adequately protect wildlife.

OAR 340-043-0130 GUIDELINES FOR THE DESIGN, CONSTRUCTION, OPERATION AND CLOSURE OF CHEMICAL MINING OPERATIONS: GUIDELINES FOR DISPOSAL OF MILL TAILINGS

(1) Mill tailings shall be treated by cyanide removal, reuse, or destruction prior to disposal to reduce the amount of cyanide introduced into the tailings pond to the lowest practicable level. The permittee shall

conduct laboratory column tests on mill tailings to determine the lowest practicable concentration to which the WAD cyanide (weak-acid dissociable cyanide as measured by ASTM Method D2036-82 C) can be reduced. In no event, shall the permitted WAD cyanide concentration in the liquid fraction of the tailings be greater than 30 ppm.

(2) The permittee shall determine the potential for acid-water formation from the tailings by means of acid-base accounting and other suitable laboratory static and dynamic tests. If acid formation can occur, basic materials shall be added to the tailings in the amount of three (3) times the acid formation potential or to give a net neutralization potential of at least 20 tons of CaCO3 per 1,000 tons of tailings, whichever is greater, before placing tailings in the disposal facility.

(3) The disposal facility shall be lined with a composite double liner consisting of a flexible-membrane synthetic top liner in tight contact with an engineered, stable, soil/clay bottom liner (maximum coefficient of permeability of 10-7 cm/sec) having a minimum thickness of 36 inches. Construction of the liner shall generally follow the principles and practices contained in EPA/600/2-88/052, Lining of Waste Containment and Other Impoundment Facilities, September, 1988.

(4) The disposal facility shall be provided with a leachate collection system above the liner suitable for monitoring, collecting and treating potential acid drainage.

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

Superseded

(1) The waste disposal facilities shall be closed under these rules in conjunction with the reclamation requirements of DOGAMI (Oregon Department of Geology and Mineral Industries).

(2) An updated closure plan and post-closure monitoring and maintenance plan shall be submitted to the Department by the permittee at least 180 days prior to beginning closure operations or making any substantial changes to the operation. The closure plan must be compatible with DOGAMI's reclamation plan and may be part of it.

(3) Chemical conveyances (ditches, troughs, pipes, etc.) not necessary for post-closure monitoring shall be removed. The secondary containment systems shall be checked before closure for process-chemical contamination, and contaminated soil or other materials, if any, shall be removed to an acceptable disposal facility.

(4) Closure of the heap-leach facility:

(a) The heap shall be detoxified over a suitable period of time prior to closure, using rinse/rest cycles of rinsing and chemical oxidation, if necessary. The WAD cyanide concentration in the rinsate shall be no greater than 0.2 ppm;

(b) Following detoxification as defined in subsection (a) of this section, the heap shall be closed in place on the pad by covering the heap with a cover designed to prevent water and air infiltration. The cover should consist, at a minimum, of a low-permeability layer and suitable drainage and soil layers to prevent erosion and damage by animals and to sustain vegetation growth, in accordance with DOGAMI's reclamation rules;

(c) The ponds associated with the heap shall be closed by folding in the synthetic liners and filling and contouring the pits with inert material. Residual sludge may be disposed of in one of the on-site waste disposal facilities, provided it meets the criteria for such wastes in these guidelines. The process chemical collection system of the heap shall be maintained in operative condition so that it can be used to monitor the amount and quality of infiltrated water, if any, draining from the heap.

(5) The tailings disposal facility shall be closed by covering with a composite cover designed to prevent water and air infiltration and be environmentally stable for an indefinite period of time. Maximum effort shall be made to isolate the tailings from the environment. Construction of the cover shall generally follow the principles and practices contained in EPA/530-SW-89-047. Technical Guidance Document — Final Covers on Hazardous Waste Landfills and Surface Impoundments.

OAR 340-043-0160 GUIDELINES FOR THE DESIGN, CONSTRUCTION, OPERATION AND CLOSURE OF CHEMICAL MINING OPERATIONS: POST-CLOSURE MONITORING

Superseded

(1) The Department may continue its permit in force for thirty (30) years after closure of the operation and will include permit requirements for periodic monitoring to determine if release of pollutants is occurring.

(2) Monitoring data will be reviewed regularly by the Department to determine the effectiveness of closure of the disposal facilities. The Department will consult with DOGAMI on release of security funds that would otherwise be needed to correct problems resulting from ineffective closure.

OAR 632-037-0070 RECLAMATION AND CLOSURE PLAN FOR CHEMICAL PROCESSING MINING

The Reclamation and Closure Plan section of a consolidated application shall include, but not be limited to the following provisions for the protection of public health, safety, and the environment:

(1) Procedures for the salvage, storage and replacement of topsoil or acceptable substitute.

(2) Provisions for recontouring, stabilization and topsoil replacement of all disturbed areas, where appropriate.

(3) Provisions for the revegetation of all disturbed areas consistent with the establishment of a self-sustaining ecosystem, comparable to undamaged ecosystems in the area of the mine. This shall include but not be limited to seedbed preparation, mulching, fertilizing, species selection, seeding planting rates and schedules. If applicable, the applicant shall include a plan for control of noxious weeds as identified by the Department of Agriculture.

(4) Characterization and management plan for all wastes, including quantity and quality.

(5) Provisions for specifying adequate setbacks from adjacent property boundaries and from surface waters or other resources when necessary to ensure compliance with environmental standards.

(6) Procedures for all impacted or reconstructed stream channels, riparian area vegetation and stream banks to be rehabilitated or restored so as to maximize water retention and to minimize bank erosion, channel scour, siltation, and increased water temperatures.

(7) Provisions for prevention of stagnant water may be required by the Department.

(8) Provisions for the establishment of required slopes, including reclaimed highwalls and in-water slopes.

(9) Provisions for visual screening of proposed operation if the permit area is visible from a public highway or residential area. Techniques for visual screening include but are not limited to vegetation, fencing or berms.

(10) Procedures for the removal or disposal of all equipment, refuse, structures and foundations from the permit area.

(11) Provisions to maintain access to utilities when a utility company right-of-way exists.

Superseded

(12) Procedures for information for decommissioning mine facilities including but not limited to:

(a) Procedures for ore storage sites to meet decommissioning performance standards for protection of air quality, surface and ground water quantity and quality and living resources and to achieve reclamation requirements;

(b) Procedures for tailing disposal facility to meet decommissioning performance standards for long-term stability, protection of air quality, surface and ground water quantity and quality and living resources and to provide for attainment of reclamation objectives;

(c) Removal of all process chemicals;

(d) Appropriate isolation or removal of waste material; and

(e) Monitoring systems by which the success of the proposed reclamation and closure can be measured for bond release.

(13) An estimate of the total cost of reclamation consistent with the standards imposed under ORS 517.750 to 517.955.

OAR 632-030-0027 MINING STANDARDS FOR A RECLAMATION PLAN FOR THE QUARRY

OAR 632-030-0027 is applicable to the quarry at the site and is not applicable to the other mining features, which fall under OAR 632-037-0070.

A reclamation plan submitted under 632-030-0025 (Requirements for an Operating Permit and Reclamation Plan) must meet the following minimum standards:

(1)Final slopes must be stable. Reclaimed cutbanks may not have slopes exceeding 1-1⁄2 horizontal to 1 vertical (1-1/2H:1V). Final slopes may be blasted or sculpted to blend into adjacent landforms or for creation of habitat. The Department may require the submission of a reclamation blast plan to assure stable slopes will be created and adjacent property will be protected. The Department may also grant exceptions for slopes steeper than 1-1/2H:1V when the applicant can document that the slopes will be stable and if the steeper slopes:

(a)Blend into the adjacent terrain;

(b)Existed prior to mining; or

(c)Are consistent with the approved subsequent beneficial use.

(2)Interim and final above-water cutslopes for sites located within the boundaries of a 100-year floodplain can be no steeper than 3H:1V.

(3)Slope requirements.

(a)Fill slopes must be 2 horizontal to 1 vertical (2H:1V) or flatter.

Superseded

(b)Fill slopes steeper than 2H:1V may be approved if technical data supporting slope stability is approved by the Department.

(c)In unconsolidated material or when slope length exceeds 100 lineal feet, 3H:1V slopes or flatter may be required to assure long-term stability.

(d)Complex slope formations may be necessary to enhance habitat and post-mine landscape diversity.

(e)Flatter slopes (5H:1V to 10H:1V) will be needed where wetland creation is proposed.

(f)For sites within the 100-year floodplain, final above-water fill slopes can only be placed over cutslopes that are 3H:1V, or flatter, unless the Department agrees in writing to a different ratio based on a determination that the flood potential is very low.

(4)Generally, final revegetation with native species of all disturbed areas consistent with future use is required unless the Department finds it unreasonable. The Department will, in most instances, consider revegetation successful if it provides a similar plant density in terms of ground or canopy cover and it is comparable to undisturbed areas in similar landscape positions. In arid or semi-arid regions, the Department may allow three years of growth prior to a revegetation evaluation. Otherwise, revegetation will be evaluated after one growing season. Vegetation test plots may be required to ensure establishment feasibility and/or long-term habitat goals in the reclamation plan. Vegetation monitoring may also be required to insure success of the approved plan.

(5)Establishment of 3H:1V slopes from ordinary high-water level extending to six feet below ordinary low-water level for permanent water impoundments is required. In addition to the 3H:1V slopes, the Department may approve other sloping configurations where horizontal benches are incorporated as habitat features.

(a)Other above- and below-water bank sloping may be approved for constructed alcoves or other habitat features or projects.

(b)Establishment of a stable slope angle or benching for below-water slopes to insure an adequate foundation for the proposed in-water and above-water slopes or fills is required.

(c)A geotechnical study may be required to address slope stability.

(6)All stream channels and stream banks must be rehabilitated using procedures that minimize bank erosion, channel scour, and sedimentation; and maximize habitat.

(7)Reclamation must be completed in a timely manner. If there is no production at a mine site for a period of five or more consecutive years, the permittee shall submit a report to the Department on the remaining reserves. The report must include an estimate of the quantity of the remaining mineral reserves. The report must be signed by a professional geologist or include drill logs or other quantitative analysis acceptable to the Department. If the submission of such data poses a financial hardship to the permittee, the Department will attempt to work with the permittee to provide the necessary geologic expertise as Department staff resources allow or the Department may waive this requirement. Any waiver provided by the Department must be in writing and must specify the duration for which the requirement is waived.

Superseded

(8)If the Department determines that the reserves are insignificant or the operator is unlikely to be able to economically mine the site in the reasonably foreseeable future, the Department will order reclamation and may establish a reasonable period for its completion.

43 CFR 3809.420(3)

Components of reclamation include, where applicable:

(1) Isolation, control, or removal of acid-forming, toxic, or deleterious substances;

(2) Regrading and reshaping to conform with adjacent landforms, facilitate revegetation, control drainage, and minimize erosion;

(3) Rehabilitation of fisheries or wildlife habitat;

(4) Placement of growth medium and establishment of self-sustaining revegetation;

(5) Removal or stabilization of buildings, structures, or other support facilities;

(6) Plugging of drill holes and closure of underground workings; and

(7) Providing for post-mining monitoring, maintenance, or treatment.

ADDITIONAL STATE AND FEDERAL REGULATORY REQUIREMENTS

Additional state and federal permits are required for the operation of the Site that include requirements for reclamation including:

(1) Fill and removal permits required under ORS 196.600 to 196.665 and 196.800 to 196.900.

(2) Permits to appropriate surface water or ground water under ORS 537.130 and 537.615, to store water under ORS 537.400 and impoundment structure approval under ORS 540.350 to 540.390.

(3) National Pollutant Discharge Elimination System permit under ORS 468.740.

(4) Water pollution control facility permit under ORS 468.740.

(5) Air contaminant discharge permit under ORS 468.310 to 468.330.

(6) Solid waste disposal permit under ORS 459.205.

(7) Permit for use of power driven machinery on forestland under ORS 477.625.

(8) Permit to clear right of way on forestland where clearing constitutes a fire hazard under ORS 477.685.

Superseded

(9) Permit for placing explosives or harmful substances in waters of the state under ORS 509.140.

(10) Hazardous waste storage permit under ORS 466.005 to 466.385.

(11) Land use permit, if applicable consistent with the Department's state agency coordination agreement, including relevant sections of OAR chapter 632, division 001.

(12) Any other state permit required for the proposed mining operation.

APPENDIX B

STANDARDIZED RECLAMATION COST ESTIMATE EXPORTED FILES

Superseded

Closure Cost Estimate
Property Information

STANDARDIZED RECLAMATION COST ESTIMATOR

Version 2.0
Build - Beta 01j

COST DATA FILE INFORMATION

File Name:	SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Cost Data File:	SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Data Date:	October 6, 2021
Cost Data Basis:	User Data
Data Cost Units:	Imperial
Author/Source:	2018 Nevada Division of Environmental Protection (NDEP) & NV BLM-inflated

PROJECT INFORMATION

Property/Mine Name:	Grassy Mountain
Property Code:	
Project Name:	Grassy Mountain Mine
Date of Submittal:	August 2022
Average Elevation:	00
Units of Measure:	Metric (m, km, ha, etc.) / Imperial (ft, mi, acres, etc.)
Currency Symbol:	Dollar (USD)
Project Type:	Mine Operations Plan
Land Type:	Public + Private Land
Cost Basis Category:	Northern Nevada - Imperial Units
Cost Basis Description:	**Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%**

Superseded

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Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
									$	$						$		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	WASTE ROCK DUMPS								**22,306**	**22,306**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22,306**	**0**
	1	LOM	Waste Rock Dump Area	WD01	Temporary Waste Rock S	Stg1			22,306	22,306	2035					0			0	0	0	0	0	0	0	0	0	0	22,306	0
			Regrading						0							0	0%													
			Cover 1 Placement						0							0	0%													
			Cover 2 Placement						0							0	0%													
			Growth Media Placement						19,565	19,565		**2035**	**2035**	**2040**	100%	0	0%												100.00%	
			Ripping/Scarifying						0							0	0%													
			Revegetation						2,741	2,741		**2035**	**2035**	**2040**	100%	0	0%												100.00%	
	TAILINGS IMPOUNDMENTS								**1,207,015**	**1,207,015**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28,139**	**945,190**
	1	LOM	Phase II TSF - Stage 1 - Embankment Revegetatio	T02	Tailings Storage Facility	Stg1			28,139	28,139	2035					0			0	0	0	0	0	0	0	0	0	0	28,139	0
			Embankment Regrading						0							0	0%													
			Surface Regrading						0							0	0%													
			Cover 1 Placement						0							0	0%													
			Cover 2 Placement						0							0	0%													
			Growth Media Placement						24,500	24,500		**2035**	**2035**	**2040**	100%	0	0%												100.00%	
			Ripping/Scarifying						0							0	0%													
			Revegetation						3,639	3,639		**2035**	**2035**	**2040**	100%	0	0%												100.00%	
	2	LOM	Phase II TSF - Stage 2 - 100 % Regrade	T01	Tailings Storage Facility	Stg2			249,498	249,498	2036					0			0	0	0	0	0	0	0	0	0	0	0	249,498
			Embankment Regrading						0							0	0%													
			Surface Regrading						249,498	249,498		**2036**	**2036**	**2041**	100%	0	0%													100.00%
			Cover 1 Placement						0							0	0%													
			Cover 2 Placement						0							0	0%													
			Growth Media Placement						0							0	0%													
			Ripping/Scarifying						0							0	0%													
			Revegetation						0							0	0%													
	3	LOM	Phase II TSF - Stage 2 - 75% Cover & GM (GM1)	T01	Tailings Storage Facility	Stg2			650,941	650,941	2036					0			0	0	0	0	0	0	0	0	0	0	0	650,941
			Embankment Regrading						0							0	0%													
			Surface Regrading						0							0	0%													
			Cover 1 Placement						494,715	494,715		**2036**		**2041**		0	0%													100.00%
			Cover 2 Placement						0							0	0%													
			Growth Media Placement						149,367	149,367				**2041**	100%	0	0%													100.00%
			Ripping/Scarifying						0							0	0%													
			Revegetation						6,859	6,859		**2036**	**2036**	**2041**	100%	0	0%													100.00%
	4	LOM	Phase II TSF - Stage 2 - 75% Cover & GM (GM2)	T01	Tailings Storage Facility	Stg2			44,751	44,751	2036					0			0	0	0	0	0	0	0	0	0	0	0	44,751
			Embankment Regrading						0							0														
			Surface Regrading						0				**2036**	**2041**		0	0%													100.00%
			Cover 1 Placement						32,651	32,651		**2036**	**2036**	**2041**	100%	0	0%													100.00%
			Cover 2 Placement						0							0	0%													
			Growth Media Placement						11,662	11,662		**2036**	**2036**	**2041**	100%	0	0%													100.00%
			Ripping/Scarifying						0							0	0%													
			Revegetation						438	438		**2036**	**2036**	**2041**	100%	0	0%													100.00%
	5	LOM	Phase II TSF - Stage 3 - 25% Cover & GM (BM1)	T01	Tailings Storage Facility	Stg3			233,686	233,686	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0							0	0%													
			Surface Regrading						0							0	0%													
			Cover 1 Placement						175,494	175,494		**2037**	**2037**	**2042**	100%	0	0%													
			Cover 2 Placement						0							0	0%													
			Growth Media Placement						55,759	55,759		**2037**	**2037**	**2042**	100%	0	0%													
			Ripping/Scarifying						0							0	0%													
			Revegetation						2,433	2,433		**2037**	**2037**	**2042**	100%	0	0%													
	HEAP LEACH FACILITIES								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	PITS								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	QUARRIES & BORROW PITS								**214,185**	**214,185**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Quarry 1	QP01	Quarry	Stg3			180,161	180,161	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			**2037**	**2037**	**2042**		0	0%													
			Cover 1 Placement						0			**2037**	**2037**	**2042**		0	0%													
			Cover 2 Placement						0			**2037**	**2037**	**2042**		0	0%													
			Growth Media Placement						158,595	158,595		**2037**	**2037**	**2042**	100%	0	0%													
			Ripping/Scarifying						0			**2037**	**2037**	**2042**		0	0%													
			Revegetation						21,566	21,566		**2037**	**2037**	**2042**	100%	0	0%													
			Berm Construction						0			**2037**	**2037**	**2042**		0	0%													
			Berm Revegetation						0			**2037**	**2037**	**2042**		0	0%													
	2	LOM	Borrow Pit 2	BP02	Reclamation Borrow Area	Stg3			17,012	17,012	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			**2037**	**2037**	**2042**		0	0%													
			Cover 1 Placement						0			**2037**	**2037**	**2042**		0	0%													
			Cover 2 Placement						0			**2037**	**2037**	**2042**		0	0%													
			Growth Media Placement						0			**2037**	**2037**	**2042**		0	0%													
			Ripping/Scarifying						4,432	4,432		**2037**	**2037**	**2042**	100%	0	0%													
			Revegetation						12,580	12,580		**2037**	**2037**	**2042**	100%	0	0%													
			Berm Construction						0			**2037**	**2037**	**2042**		0	0%													
			Berm Revegetation						0			**2037**	**2037**	**2042**		0	0%													
	3	LOM	Borrow Pit 3	BP03	Reclamation Borrow Area	Stg3			17,012	17,012	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			**2037**	**2037**	**2042**		0	0%													
			Cover 1 Placement						0			**2037**	**2037**	**2042**		0	0%													
			Cover 2 Placement						0			**2037**	**2037**	**2042**		0	0%													
			Growth Media Placement						0			**2037**	**2037**	**2042**		0	0%													
			Ripping/Scarifying						4,432	4,432		**2037**	**2037**	**2042**	100%	0	0%													
			Revegetation						12,580	12,580		**2037**	**2037**	**2042**	100%	0	0%													
			Berm Construction						0			**2037**	**2037**	**2042**		0	0%													
			Berm Revegetation						0			**2037**	**2037**	**2042**		0	0%													
	PORTALS, DECLINES & ADITS								**512**	**512**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**512**	**0**
	1	LOM	Portal	U01	Underground Mine	Stg1			512	512	2035					0			0	0	0	0	0	0	0	0	0	0	512	0
			Plugging						512	512		**2035**	**2035**	**2040**	100%	0	0%												100.00%	
	SHAFTS								**4,371**	**4,371**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4,371**	**0**
	1	LOM	Vent Shaft #1	U02	Underground Mine	Stg1			4,371	4,371	2035					0			0	0	0	0	0	0	0	0	0	0	4,371	0
			Cap/Backfill/Cover						4,371	4,371		**2035**	**2035**	**2040**	100%	0	0%												100.00%	
	ROADS								**58,388**	**58,388**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10,535**	**0**
	1	LOM	Access Road	R01	Roads	Stg4			3,686	3,686	2038					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0	0		**2038**	**2038**	**2043**			0%													
			Growth Media Placement									**2038**	**2038**	**2043**		#VALUE!	0%													
			Ripping/Scarifying						950	950		**2038**	**2038**	**2043**	100%	0	0%													

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
																2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
									$	$																				
	WASTE ROCK DUMPS								**22,306**	**22,306**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Waste Rock Dump Area	WD01	Temporary Waste Rock S	Stg1			22,306	22,306	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0																					
			Cover 1 Placement						0																					
			Cover 2 Placement						0																					
			Growth Media Placement						19,565	19,565		**2035**	**2035**	**2040**	100%															
			Ripping/Scarifying						0																					
			Revegetation						2,741	2,741		**2035**	**2035**	**2040**	100%															
	TAILINGS IMPOUNDMENTS								**1,207,015**	**1,207,015**						**233,686**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Phase II TSF - Stage 1 - Embankment Revegetatio	T02	Tailings Storage Facility	Stg1			28,139	28,139	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																					
			Surface Regrading						0																					
			Cover 1 Placement						0																					
			Cover 2 Placement						0																					
			Growth Media Placement						24,500	24,500		**2035**	**2035**	**2040**	100%															
			Ripping/Scarifying						0																					
			Revegetation						3,639	3,639		**2035**	**2035**	**2040**	100%															
	2	LOM	Phase II TSF - Stage 2 - 100 % Regrade	T01	Tailings Storage Facility	Stg2			249,498	249,498	2036					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																					
			Surface Regrading						249,498	249,498		**2036**	**2036**	**2041**	100%															
			Cover 1 Placement						0																					
			Cover 2 Placement						0																					
			Growth Media Placement						0																					
			Ripping/Scarifying						0																					
			Revegetation						0																					
	3	LOM	Phase II TSF - Stage 2 - 75% Cover & GM (GM1)	T01	Tailings Storage Facility	Stg2			550,941		2036					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																					
			Surface Regrading						0																					
			Cover 1 Placement						494,715	494,715		**2036**		**041**																
			Cover 2 Placement						0																					
			Growth Media Placement						149,367	149,367				**041**	100%															
			Ripping/Scarifying						0																					
			Revegetation						6,859	6,859		**2036**	**2036**	**041**	100%															
	4	LOM	Phase II TSF - Stage 2 - 75% Cover & GM (GM2)	T01	Tailings Storage Facility	Stg2			44,751	44,751	036					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																					
			Surface Regrading						0				**2036**	**041**																
			Cover 1 Placement						32,651	32,651		**2036**	**2036**	**2041**	100%															
			Cover 2 Placement						0																					
			Growth Media Placement						11,662	11,662		**2036**	**2036**	**2041**	100%															
			Ripping/Scarifying						0																					
			Revegetation						438	438		**2036**	**2036**	**2041**	100%															
	5	LOM	Phase II TSF - Stage 3 - 25% Cover & GM (BM1)	T01	Tailings Storage Facility	Stg3			233,686	233,686	2037					233,686	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																					
			Surface Regrading						0																					
			Cover 1 Placement						175,494	175,494		**2037**	**2037**	**2042**	100%	100.00%														
			Cover 2 Placement						0																					
			Growth Media Placement						55,759	55,759		**2037**	**2037**	**2042**	100%	100.00%														
			Ripping/Scarifying						0																					
			Revegetation						2,433	2,433		**2037**	**2037**	**2042**	100%	100.00%														
	HEAP LEACH FACILITIES								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	PITS								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	QUARRIES & BORROW PITS								**214,185**	**214,185**						**214,185**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Quarry 1	QP01	Quarry	Stg3			180,161	180,161	2037					180,161	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			**2037**	**2037**	**2042**																
			Cover 1 Placement						0			**2037**	**2037**	**2042**																
			Cover 2 Placement						0			**2037**	**2037**	**2042**																
			Growth Media Placement						158,595	158,595		**2037**	**2037**	**2042**	100%	100.00%														
			Ripping/Scarifying						0			**2037**	**2037**	**2042**																
			Revegetation						21,566	21,566		**2037**	**2037**	**2042**	100%	100.00%														
			Berm Construction						0			**2037**	**2037**	**2042**																
			Berm Revegetation						0			**2037**	**2037**	**2042**																
	2	LOM	Borrow Pit 2	BP02	Reclamation Borrow Area	Stg3			17,012	17,012	2037					17,012	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			**2037**	**2037**	**2042**																
			Cover 1 Placement						0			**2037**	**2037**	**2042**																
			Cover 2 Placement						0			**2037**	**2037**	**2042**																
			Growth Media Placement						0			**2037**	**2037**	**2042**																
			Ripping/Scarifying						4,432	4,432		**2037**	**2037**	**2042**	100%	100.00%														
			Revegetation						12,580	12,580		**2037**	**2037**	**2042**	100%	100.00%														
			Berm Construction						0			**2037**	**2037**	**2042**																
			Berm Revegetation						0			**2037**	**2037**	**2042**																
	3	LOM	Borrow Pit 3	BP03	Reclamation Borrow Area	Stg3			17,012	17,012	2037					17,012	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			**2037**	**2037**	**2042**																
			Cover 1 Placement						0			**2037**	**2037**	**2042**																
			Cover 2 Placement						0			**2037**	**2037**	**2042**																
			Growth Media Placement						0			**2037**	**2037**	**2042**																
			Ripping/Scarifying						4,432	4,432		**2037**	**2037**	**2042**	100%	100.00%														
			Revegetation						12,580	12,580		**2037**	**2037**	**2042**	100%	100.00%														
			Berm Construction						0			**2037**	**2037**	**2042**																
			Berm Revegetation						0			**2037**	**2037**	**2042**																
	PORTALS, DECLINES & ADITS								**512**	**512**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Portal	U01	Underground Mine	Stg1			512	512	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Plugging						512	512		**2035**	**2035**	**2040**	100%															
	SHAFTS								**4,371**	**4,371**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Vent Shaft #1	U02	Underground Mine	Stg1			4,371	4,371	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Cap/Backfill/Cover						4,371	4,371		**2035**	**2035**	**2040**	100%															
	ROADS								**58,388**	**58,388**						**36,780**	**9,826**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Access Road	R01	Roads	Stg4			3,686	3,686	2038					0	3,686	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			**2038**	**2038**	**2043**			100.00%													
			Growth Media Placement									**2038**	**2038**	**2043**			100.00%													
			Ripping/Scarifying						950	950		**2038**	**2038**	**2043**	100%		100.00%													

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
									$	$						2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
	WASTE ROCK DUMPS								**22,306**	**22,306**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Waste Rock Dump Area	WD01	Temporary Waste Rock S	Stg1			22,306	22,306	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0																			
			Cover 1 Placement						0																			
			Cover 2 Placement						0																			
			Growth Media Placement						19,565	19,565		2035	2035	2040	100%														
			Ripping/Scarifying						0																			
			Revegetation						2,741	2,741		2035	2035	2040	100%														
	TAILINGS IMPOUNDMENTS								**1,207,015**	**1,207,015**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Phase II TSF - Stage 1 - Embankment Revegetatio	T02	Tailings Storage Facility	Stg1			28,139	28,139	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																			
			Surface Regrading						0																			
			Cover 1 Placement						0																			
			Cover 2 Placement						0																			
			Growth Media Placement						24,500	24,500		2035	2035	2040	100%														
			Ripping/Scarifying						0																			
			Revegetation						3,639	3,639		2035	2035	2040	100%														
	2	LOM	Phase II TSF - Stage 2 - 100 % Regrade	T01	Tailings Storage Facility	Stg2			249,498	249,498	2036					0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																			
			Surface Regrading						249,498	249,498		2036	2036	2041	100%														
			Cover 1 Placement						0																			
			Cover 2 Placement						0																			
			Growth Media Placement						0																			
			Ripping/Scarifying						0																			
			Revegetation						0																			
	3	LOM	Phase II TSF - Stage 2 - 75% Cover & GM (GM1)	T01	Tailings Storage Facility	Stg2			150,941		2036					0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																			
			Surface Regrading						0																			
			Cover 1 Placement						494,715	494,715		2036		2041														
			Cover 2 Placement						0																			
			Growth Media Placement						149,367	149,367				2041	100%													
			Ripping/Scarifying						0																			
			Revegetation						6,859	6,859		2036	2036	2041	100%													
	4	LOM	Phase II TSF - Stage 2 - 75% Cover & GM (GM2)	T01	Tailings Storage Facility	Stg2			44,751	44,751	2036					0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																			
			Surface Regrading						0				2036	2041														
			Cover 1 Placement						32,651	32,651		2036	2036	2041	100%													
			Cover 2 Placement						0																			
			Growth Media Placement						11,662	11,662		2036	2036	2041	100%													
			Ripping/Scarifying						0																			
			Revegetation						438	438		2036	2036	2041	100%													
	5	LOM	Phase II TSF - Stage 3 - 25% Cover & GM (BM1)	T01	Tailings Storage Facility	Stg3			233,686	233,686	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Embankment Regrading						0																			
			Surface Regrading						0																			
			Cover 1 Placement						175,494	175,494		2037	2037	2042	100%													
			Cover 2 Placement						0																			
			Growth Media Placement						55,759	55,759		2037	2037	2042	100%													
			Ripping/Scarifying						0																			
			Revegetation						2,433	2,433		2037	2037	2042	100%													
	HEAP LEACH FACILITIES								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	PITS								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	QUARRIES & BORROW PITS								**214,185**	**214,185**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Quarry 1	QP01	Quarry	Stg3			180,161	180,161	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2037	2037	2042														
			Cover 1 Placement						0			2037	2037	2042														
			Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						158,595	158,595		2037	2037	2042	100%													
			Ripping/Scarifying						0			2037	2037	2042														
			Revegetation						21,566	21,566		2037	2037	2042	100%													
			Berm Construction						0			2037	2037	2042														
			Berm Revegetation						0			2037	2037	2042														
	2	LOM	Borrow Pit 2	BP02	Reclamation Borrow Area	Stg3			17,012	17,012	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2037	2037	2042														
			Cover 1 Placement						0			2037	2037	2042														
			Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						0			2037	2037	2042														
			Ripping/Scarifying						4,432	4,432		2037	2037	2042	100%													
			Revegetation						12,580	12,580		2037	2037	2042	100%													
			Berm Construction						0			2037	2037	2042														
			Berm Revegetation						0			2037	2037	2042														
	3	LOM	Borrow Pit 3	BP03	Reclamation Borrow Area	Stg3			17,012	17,012	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2037	2037	2042														
			Cover 1 Placement						0			2037	2037	2042														
			Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						0			2037	2037	2042														
			Ripping/Scarifying						4,432	4,432		2037	2037	2042	100%													
			Revegetation						12,580	12,580		2037	2037	2042	100%													
			Berm Construction						0			2037	2037	2042														
			Berm Revegetation						0			2037	2037	2042														
	PORTALS, DECLINES & ADITS								**512**	**512**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Portal	U01	Underground Mine	Stg1			512	512	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Plugging						512	512		2035	2035	2040	100%													
	SHAFTS								**4,371**	**4,371**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Vent Shaft #1	U02	Underground Mine	Stg1			4,371	4,371	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Cap/Backfill/Cover						4,371	4,371		2035	2035	2040	100%													
	ROADS								**58,388**	**58,388**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,247**
	1	LOM	Access Road	R01	Roads	Stg4			3,686	3,686	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2038	2038	2043														
			Growth Media Placement									2038	2038	2043														
			Ripping/Scarifying						950	950		2038	2038	2043	100%													

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period	26 years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
									$	$						$		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
			Revegetation						2,736	2,736		2038	2038	2043	100%	0	0%													
	2	LOM	Plant Road	R02	Roads	Stg3			774	774	2037					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2037	2037	2042		0	0%													
			Growth Media Placement									2037	2037	2042		#VALUE!	0%													
			Ripping/Scarifying						158	158		2037	2037	2042	100%	0	0%													
			Revegetation						616	616		2037	2037	2042	100%	0	0%													
	3	LOM	Mine Road	R03	Roads	Stg1			1,160	1,160	2035					#VALUE!			0	0	0	0	0	0	0	0	0	0	1,160	0
			Regrading						617	617		2035	2035	2040	100%	0	0%													
			Growth Media Placement									2035	2035	2040		#VALUE!	0%													
			Ripping/Scarifying						158	158		2035	2035	2040	100%	0	0%													
			Revegetation						385	385		2035	2035	2040	100%	0	0%													
	4	LOM	Mine Road	R04	Roads	Stg3			7,647	7,647	2037					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						3,088	3,088		2037	2037	2043	100%	0	0%													
			Growth Media Placement									2037	2037	2043		#VALUE!	0%													
			Ripping/Scarifying						1,108	1,108		2037	2037	2043	100%	0	0%													
			Revegetation						3,451	3,451		2037	2037	2043	100%	0	0%													
	5	LOM	Mine Road	R05	Roads	Stg5			1,247	1,247	2064					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						617	617		2064	2064	2069	100%	0	0%													
			Growth Media Placement									2064	2064	2069		#VALUE!	0%													
			Ripping/Scarifying						158	158		2064	2064	2069	100%	0	0%													
			Revegetation						472	472		2064	2064	2069	100%	0	0%													
	6	LOM	Mine Road	R06	Roads	Stg1			639	639	2035					#VALUE!			0	0	0	0	0	0	0	0	0	0	639	0
			Regrading						309	309		2035	2035	2040	100%	0	0%													
			Growth Media Placement									2035	2035	2040		#VALUE!	0%													
			Ripping/Scarifying						158	158		2035	2035	2040	100%	0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%													
	7	LOM	Mine Road	R07	Roads	Stg3			630	630	2037					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2037	2037	2042	100%	0	0%													
			Growth Media Placement									2037	2037	2042		#VALUE!	0%													
			Ripping/Scarifying						158	158		2037	2037	2042	100%	0	0%													
			Revegetation						163	163		2037	2037	2042	100%	0	0%													
	8	LOM	Mine Road	R08	Roads	Stg1			685	685	2035					#VALUE!			0	0	0	0	0	0	0	0	0	0	685	0
			Regrading						309	309		2035	2035	2040	100%	0	0%													
			Growth Media Placement									2035	2035	2040		#VALUE!	0%													
			Ripping/Scarifying						158	158		2035	2035	2040	100%	0	0%													
			Revegetation						218	218		2035	2035	2040	100%	0	0%													
	9	LOM	Mine Road	R09	Roads	Stg1			1,282	1,282	2035					#VALUE!			0	0	0	0	0	0	0	0	0	0	1,282	0
			Regrading						309	309		2035	2035	2040	100%	0	0%													
			Growth Media Placement									2035	2035	2040		#VALUE!	0%													
			Ripping/Scarifying						317	317		2035	2035	2040	100%	0	0%													
			Revegetation						656	656		2035	2035	2040	100%	0	0%													
	10	LOM	Mine Road	R10	Roads	Stg1			1,556	1,556	2035					#VALUE!			0	0	0	0	0	0	0	0	0	0	1,556	0
			Regrading						926	926		2035	2035	2040	100%	0	0%													
			Growth Media Placement									2035	2035	2040		#VALUE!	0%													
			Ripping/Scarifying						158	158		2035	2035	2040	100%	0	0%													
			Revegetation						472	472		2035	2035	2040	100%	0	0%													
	11	LOM	Mine Road	R11	Roads	Stg4			790	790	2038					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2038	2038	2043	100%	0	0%													
			Growth Media Placement									2038	2038	2043		#VALUE!	0%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%	0	0%													
			Revegetation						323	323		2038	2038	2043	100%	0	0%													
	12	LOM	Mine Road	R12	Roads	Stg4			345	345	2038					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2038	2038	2043		0	0%													
			Growth Media Placement									2038	2038	2043		#VALUE!	0%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%	0	0%													
			Revegetation						187	187		2038	2038	2043	100%	0	0%													
	13	LOM	Perimeter Fence Road	R13	Roads	Stg4			5,005	5,005	2038					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2038	2038	2043	100%	0	0%													
			Growth Media Placement									2038	2038	2043		#VALUE!	0%													
			Ripping/Scarifying						1,425	1,425		2038	2038	2043	100%	0	0%													
			Revegetation						3,271	3,271		2038	2038	2043	100%	0	0%													
	14	LOM	Haul Road	HR01	Roads	Stg1			756	756	2035					#VALUE!			0	0	0	0	0	0	0	0	0	0	756	0
			Regrading						309	309		2035	2035	2040	100%	0	0%													
			Growth Media Placement									2035	2035	2040		#VALUE!	0%													
			Ripping/Scarifying						158	158		2035	2035	2040	100%	0	0%													
			Revegetation						289	289		2035	2035	2040	100%	0	0%													
	15	LOM	Haul Road	HR02	Roads	Stg3			18,579	18,579	2037					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						14,511	14,511		2037	2037	2042	100%	0	0%													
			Growth Media Placement									2037	2037	2042		#VALUE!	0%													
			Ripping/Scarifying						1,108	1,108		2037	2037	2042	100%	0	0%													
			Revegetation						2,960	2,960		2037	2037	2042	100%	0	0%													
	16	LOM	Haul Road	HR03	Roads	Stg1			4,457	4,457	2035					#VALUE!			0	0	0	0	0	0	0	0	0	0	4,457	0
			Regrading						3,088	3,088		2035	2035	2040	100%	0	0%													
			Growth Media Placement									2035	2035	2040		#VALUE!	0%													
			Ripping/Scarifying						317	317		2035	2035	2040	100%	0	0%													
			Revegetation						1,052	1,052		2035	2035	2040	100%	0	0%													
	17	LOM	Haul Road	HR04	Roads	Stg3			6,909	6,909	2037					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						4,632	4,632		2037	2037	2042	100%	0	0%													
			Growth Media Placement									2037	2037	2042		#VALUE!	0%													
			Ripping/Scarifying						633	633		2037	2037	2042	100%	0	0%													
			Revegetation						1,644	1,644		2037	2037	2042	100%	0	0%													
	18	LOM	Haul Road	HR05	Roads	Stg3			2,241	2,241	2037					#VALUE!			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						1,544	1,544		2037	2037	2042	100%	0	0%													
			Growth Media Placement									2037	2037	2042		#VALUE!	0%													
			Ripping/Scarifying						158	158		2037	2037	2042	100%	0	0%													
			Revegetation						539	539		2037	2037	2042	100%	0	0%													
	PROCESS PONDS								**16,872**	**16,872**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15,503**	**0**
	1	LOM	Reclaim Pond	PP01	Tailings Storage Facility	Stg3			1,369	1,369	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Liner Cutting and Folding						0			2037	2037	2042		0	0%													
			Backfill/Cover 1 Placement						0			2037	2037	2042		0	0%													

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**

Cost type:	LOM

Current Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period	26 years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
														3																
														4																
														5																
														6																
														7																
														8																
														9																
														10																
														11																
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														45																
														46																
														47																
														48																
														49																
														50																
														51																
			Revegetation						2,736	2,736		2038	2038	2043	100%		100.00%														
	2	LOM	Plant Road	R02	Roads	Stg3			774	774	2037					774	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2037	2037	2042		100.00%														
			Growth Media Placement									2037	2037	2042		100.00%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	100.00%														
			Revegetation						616	616		2037	2037	2042	100%	100.00%														
	3	LOM	Mine Road	R03	Roads	Stg1			1,160	1,160	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						617	617		2035	2035	2040	100%															
			Growth Media Placement									2035	2035	2040																
			Ripping/Scarifying						158	158		2035	2035	2040	100%															
			Revegetation						385	385		2035	2035	2040	100%															
	4	LOM	Mine Road	R04	Roads	Stg3			7,647	7,647	2037					7,647	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						3,088	3,088		2037	2037	2043	100%	100.00%														
			Growth Media Placement									2037	2037	2043		100.00%														
			Ripping/Scarifying						1,108	1,108		2037	2037	2043	100%	100.00%														
			Revegetation						3,451	3,451		2037	2037	2043	100%	100.00%														
	5	LOM	Mine Road	R05	Roads	Stg5			1,247	1,247	2064					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						617	617		2064	2064	2069	100%															
			Growth Media Placement									2064	2064	2069																
			Ripping/Scarifying						158	158		2064	2064	2069	100%															
			Revegetation						472	472		2064	2064	2069	100%															
	6	LOM	Mine Road	R06	Roads	Stg1			639	639	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2035	2035	2040	100%															
			Growth Media Placement									2035	2035	2040																
			Ripping/Scarifying						158	158		2035	2035	2040	100%															
			Revegetation						172	172		2035	2035	2040	100%															
	7	LOM	Mine Road	R07	Roads	Stg3			630	630	2037					630	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2037	2037	2042		100.00%														
			Growth Media Placement									2037	2037	2042		100.00%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	100.00%														
			Revegetation						163	163		2037	2037	2042	100%	100.00%														
	8	LOM	Mine Road	R08	Roads	Stg1			685	685	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2035	2035	2040	100%															
			Growth Media Placement									2035	2035	2040																
			Ripping/Scarifying						158	158		2035	2035	2040	100%															
			Revegetation						218	218		2035	2035	2040	100%															
	9	LOM	Mine Road	R09	Roads	Stg1			1,282	1,282	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2035	2035	2040	100%															
			Growth Media Placement									2035	2035	2040																
			Ripping/Scarifying						317	317		2035	2035	2040	100%															
			Revegetation						656	656		2035	2035	2040	100%															
	10	LOM	Mine Road	R10	Roads	Stg1			1,556	1,556	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						926	926		2035	2035	2040	100%															
			Growth Media Placement									2035	2035	2040																
			Ripping/Scarifying						158	158		2035	2035	2040	100%															
			Revegetation						472	472		2035	2035	2040	100%															
	11	LOM	Mine Road	R11	Roads	Stg4			790	790	2038					0	790	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2038	2038	2043	100%		100.00%													
			Growth Media Placement									2038	2038	2043			100.00%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%		100.00%													
			Revegetation						323	323		2038	2038	2043	100%		100.00%													
	12	LOM	Mine Road	R12	Roads	Stg4			345	345	2038					0	345	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2038	2038	2043			100.00%													
			Growth Media Placement									2038	2038	2043			100.00%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%		100.00%													
			Revegetation						187	187		2038	2038	2043	100%		100.00%													
	13	LOM	Perimeter Fence Road	R13	Roads	Stg4			5,005	5,005	2038					0	5,005	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2038	2038	2043	100%		100.00%													
			Growth Media Placement									2038	2038	2043			100.00%													
			Ripping/Scarifying						1,425	1,425		2038	2038	2043	100%		100.00%													
			Revegetation						3,271	3,271		2038	2038	2043	100%		100.00%													
	14	LOM	Haul Road	HR01	Roads	Stg1			756	756	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2035	2035	2040	100%															
			Growth Media Placement									2035	2035	2040																
			Ripping/Scarifying						158	158		2035	2035	2040	100%															
			Revegetation						289	289		2035	2035	2040	100%															
	15	LOM	Haul Road	HR02	Roads	Stg3			18,579	18,579	2037					18,579	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						14,511	14,511		2037	2037	2042	100%	100.00%														
			Growth Media Placement									2037	2037	2042		100.00%														
			Ripping/Scarifying						1,108	1,108		2037	2037	2042	100%	100.00%														
			Revegetation						2,960	2,960		2037	2037	2042	100%	100.00%														
	16	LOM	Haul Road	HR03	Roads	Stg1			4,457	4,457	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						3,088	3,088		2035	2035	2040	100%															
			Growth Media Placement									2035	2035	2040																
			Ripping/Scarifying						317	317		2035	2035	2040	100%															
			Revegetation						1,052	1,052		2035	2035	2040	100%															
	17	LOM	Haul Road	HR04	Roads	Stg3			6,909	6,909	2037					6,909	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						4,632	4,632		2037	2037	2042	100%	100.00%														
			Growth Media Placement									2037	2037	2042		100.00%														
			Ripping/Scarifying						633	633		2037	2037	2042	100%	100.00%														
			Revegetation						1,644	1,644		2037	2037	2042	100%	100.00%														
	18	LOM	Haul Road	HR05	Roads	Stg3			2,241	2,241	2037					2,241	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						1,544	1,544		2037	2037	2042	100%	100.00%														
			Growth Media Placement									2037	2037	2042		100.00%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	100.00%														
			Revegetation						539	539		2037	2037	2042	100%	100.00%														
	PROCESS PONDS								**16,872**	**16,872**						**1,369**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Reclaim Pond	PP01	Tailings Storage Facility	Stg3			1,369	1,369	2037					1,369	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Liner Cutting and Folding						0			2037	2037	2042																
			Backfill/Cover 1 Placement						0			2037	2037	2042																

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
									$	$						2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
			Revegetation						2,736	2,736		2038	2038	2043	100%													
	2	LOM	Plant Road	R02	Roads	Stg3			774	774	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2037	2037	2042														
			Growth Media Placement									2037	2037	2042														
			Ripping/Scarifying						158	158		2037	2037	2042	100%													
			Revegetation						616	616		2037	2037	2042	100%													
	3	LOM	Mine Road	R03	Roads	Stg1			1,160	1,160	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						617	617		2035	2035	2040	100%													
			Growth Media Placement									2035	2035	2040														
			Ripping/Scarifying						158	158		2035	2035	2040	100%													
			Revegetation						385	385		2035	2035	2040	100%													
	4	LOM	Mine Road	R04	Roads	Stg3			7,647	7,647	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						3,088	3,088		2037	2037	2043	100%													
			Growth Media Placement									2037	2037	2043														
			Ripping/Scarifying						1,108	1,108		2037	2037	2043	100%													
			Revegetation						3,451	3,451		2037	2037	2043	100%													
	5	LOM	Mine Road	R05	Roads	Stg5			1,247	1,247	2064					0	0	0	0	0	0	0	0	0	0	0	0	1,247
			Regrading						617	617		2064	2064	2069	100%													100.00%
			Growth Media Placement									2064	2064	2069														100.00%
			Ripping/Scarifying						158	158		2064	2064	2069	100%													100.00%
			Revegetation						472	472		2064	2064	2069	100%													100.00%
	6	LOM	Mine Road	R06	Roads	Stg1			639	639	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2035	2035	2040	100%													
			Growth Media Placement									2035	2035	2040														
			Ripping/Scarifying						158	158		2035	2035	2040	100%													
			Revegetation						172			2035	2035	2040	100%													
	7	LOM	Mine Road	R07	Roads	Stg3			630	630	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2037	2037	2042														
			Growth Media Placement									2037	2037	2042														
			Ripping/Scarifying						158	158		2037	2037	2042														
			Revegetation						163	163		2037	2037	2042	100%													
	8	LOM	Mine Road	R08	Roads	Stg1			685	685	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2035	2035	2040	100%													
			Growth Media Placement									2035	2035	2040														
			Ripping/Scarifying						158	158		2035	2035	2040	100%													
			Revegetation						218	218		2035	2035	2040	100%													
	9	LOM	Mine Road	R09	Roads	Stg1			1,282	1,282	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2035	2035	2040	100%													
			Growth Media Placement									2035	2035	2040														
			Ripping/Scarifying						317	317		2035	2035	2040	100%													
			Revegetation						656	656		2035	2035	2040	100%													
	10	LOM	Mine Road	R10	Roads	Stg1			1,556	1,556	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						926	926		2035	2035	2040	100%													
			Growth Media Placement									2035	2035	2040														
			Ripping/Scarifying						158	158		2035	2035	2040	100%													
			Revegetation						472	472		2035	2035	2040	100%													
	11	LOM	Mine Road	R11	Roads	Stg4			790	790	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2038	2038	2043	100%													
			Growth Media Placement									2038	2038	2043														
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						323	323		2038	2038	2043	100%													
	12	LOM	Mine Road	R12	Roads	Stg4			345	345	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2038	2038	2043														
			Growth Media Placement									2038	2038	2043														
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						187	187		2038	2038	2043	100%													
	13	LOM	Perimeter Fence Road	R13	Roads	Stg4			5,005	5,005	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2038	2038	2043	100%													
			Growth Media Placement									2038	2038	2043														
			Ripping/Scarifying						1,425	1,425		2038	2038	2043	100%													
			Revegetation						3,271	3,271		2038	2038	2043	100%													
	14	LOM	Haul Road	HR01	Roads	Stg1			756	756	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						309	309		2035	2035	2040	100%													
			Growth Media Placement									2035	2035	2040														
			Ripping/Scarifying						158	158		2035	2035	2040	100%													
			Revegetation						289	289		2035	2035	2040	100%													
	15	LOM	Haul Road	HR02	Roads	Stg3			18,579	18,579	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						14,511	14,511		2037	2037	2042	100%													
			Growth Media Placement									2037	2037	2042														
			Ripping/Scarifying						1,108	1,108		2037	2037	2042	100%													
			Revegetation						2,960	2,960		2037	2037	2042	100%													
	16	LOM	Haul Road	HR03	Roads	Stg1			4,457	4,457	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						3,088	3,088		2035	2035	2040	100%													
			Growth Media Placement									2035	2035	2040														
			Ripping/Scarifying						317	317		2035	2035	2040	100%													
			Revegetation						1,052	1,052		2035	2035	2040	100%													
	17	LOM	Haul Road	HR04	Roads	Stg3			6,909	6,909	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						4,632	4,632		2037	2037	2042	100%													
			Growth Media Placement									2037	2037	2042														
			Ripping/Scarifying						633	633		2037	2037	2042	100%													
			Revegetation						1,644	1,644		2037	2037	2042	100%													
	18	LOM	Haul Road	HR05	Roads	Stg3			2,241	2,241	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						1,544	1,544		2037	2037	2042	100%													
			Growth Media Placement									2037	2037	2042														
			Ripping/Scarifying						158	158		2037	2037	2042	100%													
			Revegetation						539	539		2037	2037	2042	100%													
	PROCESS PONDS								16,872	16,872						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Reclaim Pond	PP01	Tailings Storage Facility	Stg3			1,369	1,369	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Liner Cutting and Folding						0			2037	2037	2042														
			Backfill/Cover 1 Placement						0			2037	2037	2042														

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period	26 years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
																		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
									$	$						$														
			Backfill/Cover 2 Placement						0			2037	2037	2042		0	0%														
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%	0	0%														
			Revegetation						203	203		2037	2037	2042	100%	0	0%														
			E-Cell/ET-Cell Liner						0			2037	2037	2042		0	0%														
			E-Cell/ET-Cell Piping						0			2037	2037	2042		0	0%														
	2	LOM	Collection Pond	CP01	Process Plant	Stg1			15,503	15,503	2035					0			0	0	0	0	0	0	0	0	0	0	15,503	0
			Liner Cutting and Folding						6,749	6,749		2035	2035	2040	100%	0	0%													100.00%	
			Backfill/Cover 1 Placement						6,848	6,848		2035	2035	2040	100%	0	0%													100.00%	
			Backfill/Cover 2 Placement						0			2035	2035	2040		0	0%														
			Growth Media Placement						1,580	1,580		2035	2035	2040	100%	0	0%													100.00%	
			Revegetation						326	326		2035	2035	2040	100%	0	0%													100.00%	
			E-Cell/ET-Cell Liner						0			2035	2035	2040		0	0%														
			E-Cell/ET-Cell Piping						0			2035	2035	2040		0	0%														
	YARDS								207,173	207,173						0			0	0	0	0	0	0	0	0	0	0	104,838	0
	1	LOM	Upper Process Plant Bench	Y01	Process Plant	Stg1			26,741	26,741	2035					0			0	0	0	0	0	0	0	0	0	0	26,741	0
			Regrading						15,196	15,196		2035	2035	2040	100%	0	0%													100.00%	
			Cover 1 Placement						0			2035	2035	2040		0	0%														
			Cover 2 Placement						0			2035	2035	2040		0	0%														
			Growth Media Placement						9,484	9,484		2035	2035	2040	100%	0	0%													100.00%	
			Ripping/Scarifying						633	633		2035	2035	2040	100%	0	0%													100.00%	
			Revegetation						1,428	1,428		2035	2035	2040	100%	0	0%													100.00%	
	2	LOM	Substation	Y02	Power Supply	Stg4			1,475	1,475	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%	0	0%														
			Cover 1 Placement						0			2038	2038	2043		0	0%														
			Cover 2 Placement						0			2038	2038	2043		0	0%														
			Growth Media Placement						978	978		2038	2038	2043	100%	0	0%														
			Ripping/Scarifying						158	158		2038	2038	2043	100%	0	0%														
			Revegetation						22	22		2038	2038	2043	100%	0	0%														
	3	LOM	Admin Building Parking Lot	Y03	Process Plant	Stg4			2,948	2,948	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						791	791		2038	2038	2043	100%	0	0%														
			Cover 1 Placement						0			2038	2038	2043		0	0%														
			Cover 2 Placement						0			2038	2038	2043		0	0%														
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%	0	0%														
			Ripping/Scarifying						158	158		2038	2038	2043	100%	0	0%														
			Revegetation						81	81		2038	2038	2043	100%	0	0%														
	4	LOM	Portal Pad	Y04	Underground Mine	Stg1			40,088	40,088	2035					0			0	0	0	0	0	0	0	0	0	0	40,088	0
			Regrading						23,268	23,268		2035	2035	2040	100%	0	0%													100.00%	
			Cover 1 Placement						0			2035	2035	2040		0	0%														
			Cover 2 Placement						0			2035	2035	2040		0	0%														
			Growth Media Placement						13,695	13,695		2035	2035	2040	100%	0	0%													100.00%	
			Ripping/Scarifying						950	950		2035	2035	2040	100%	0	0%													100.00%	
			Revegetation						2,175	2,175		2035	2035	2040	100%	0	0%													100.00%	
	5	LOM	Visitor Security Parking Lot	Y05	Infrastructure & Ancillary	Stg3			4,713	4,713	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						2,374	2,374		2037	2037	2042	100%	0	0%														
			Cover 1 Placement						0			2037	2037	2042		0	0%														
			Cover 2 Placement						0			2037	2037	2042		0	0%														
			Growth Media Placement						1,957	1,957		2037	2037	2042	100%	0	0%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	0	0%														
			Revegetation						224	224		2037	2037	2042	100%	0	0%														
	6	LOM	Security Yard	Y06	Infrastructure & Ancillary	Stg3			2,364	2,364	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						950	950		2037	2037	2042	100%	0	0%														
			Cover 1 Placement						0			2037	2037	2042		0	0%														
			Cover 2 Placement						0			2037	2037	2042		0	0%														
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%	0	0%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	0	0%														
			Revegetation						90	90		2037	2037	2042	100%	0	0%														
	7	LOM	Contractor Laydown Yard	Y07	Yards & Laydown Areas	Stg3			42,180	42,180	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						22,635	22,635		2037	2037	2042	100%	0	0%														
			Cover 1 Placement						0			2037	2037	2042		0	0%														
			Cover 2 Placement						0			2037	2037	2042		0	0%														
			Growth Media Placement						16,630	16,630		2037	2037	2042	100%	0	0%														
			Ripping/Scarifying						791	791		2037	2037	2042	100%	0	0%														
			Revegetation						2,124	2,124		2037	2037	2042	100%	0	0%														
	8	LOM	Contractor Office Laydown	Y08	Yards & Laydown Areas	Stg3			8,494	8,494	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						4,115	4,115		2037	2037	2042	100%	0	0%														
			Cover 1 Placement						0			2037	2037	2042		0	0%														
			Cover 2 Placement						0			2037	2037	2042		0	0%														
			Growth Media Placement						3,835	3,835		2037	2037	2042	100%	0	0%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	0	0%														
			Revegetation						386	386		2037	2037	2042	100%	0	0%														
	9	LOM	Weather Station	Y09	Yards & Laydown Areas	Stg3			2,707	2,707	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						1,266	1,266		2037	2037	2042	100%	0	0%														
			Cover 1 Placement						0			2037	2037	2042		0	0%														
			Cover 2 Placement						0			2037	2037	2042		0	0%														
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%	0	0%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	0	0%														
			Revegetation						117	117		2037	2037	2042	100%	0	0%														
	10	LOM	Vent Shaft #1 Pad	Y10	Underground Mine	Stg1			11,154	11,154	2035					0			0	0	0	0	0	0	0	0	0	0	11,154	0
			Regrading						6,331	6,331		2035	2035	2040	100%	0	0%													100.00%	
			Cover 1 Placement						0			2035	2035	2040		0	0%														
			Cover 2 Placement						0			2035	2035	2040		0	0%														
			Growth Media Placement						3,913	3,913		2035	2035	2040	100%	0	0%													100.00%	
			Ripping/Scarifying						317	317		2035	2035	2040	100%	0	0%													100.00%	
			Revegetation						593	593		2035	2035	2040	100%	0	0%													100.00%	
	11	LOM	Explosive Magazine	Y11	Underground Mine	Stg1			1,307	1,307	2035					0			0	0	0	0	0	0	0	0	0	0	1,307	0
			Regrading						158	158		2035	2035	2040	100%	0	0%													100.00%	
			Cover 1 Placement						0			2035	2035	2040		0	0%														
			Cover 2 Placement						0			2035	2035	2040		0	0%														
			Growth Media Placement						978	978		2035	2035	2040	100%	0	0%													100.00%	
			Ripping/Scarifying						158	158		2035	2035	2040	100%	0	0%													100.00%	

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis:** Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
									$	$						2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
			Backfill/Cover 2 Placement						0			2037	2037	2042																
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%	100.00%														
			Revegetation						203	203		2037	2037	2042	100%	100.00%														
			E-Cell/ET-Cell Liner						0			2037	2037	2042																
			E-Cell/ET-Cell Piping						0			2037	2037	2042																
	2	LOM	Collection Pond	CP01	Process Plant	Stg1			15,503	15,503	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Liner Cutting and Folding						6,749	6,749		2035	2035	2040	100%															
			Backfill/Cover 1 Placement						6,848	6,848		2035	2035	2040	100%															
			Backfill/Cover 2 Placement						0			2035	2035	2040																
			Growth Media Placement						1,580	1,580		2035	2035	2040	100%															
			Revegetation						326	326		2035	2035	2040	100%															
			E-Cell/ET-Cell Liner						0			2035	2035	2040																
			E-Cell/ET-Cell Piping						0			2035	2035	2040																
	YARDS								207,173	207,173						60,458	23,421	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Upper Process Plant Bench	Y01	Process Plant	Stg1			26,741	26,741	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						15,196	15,196		2035	2035	2040	100%															
			Cover 1 Placement						0			2035	2035	2040																
			Cover 2 Placement						0			2035	2035	2040																
			Growth Media Placement						9,484	9,484		2035	2035	2040	100%															
			Ripping/Scarifying						633	633		2035	2035	2040	100%															
			Revegetation						1,428	1,428		2035	2035	2040	100%															
	2	LOM	Substation	Y02	Power Supply	Stg4			1,475	1,475	2038					0	1,475	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%		100.00%													
			Cover 1 Placement						0			2038	2038	2043																
			Cover 2 Placement						0			2038	2038	2043																
			Growth Media Placement						978			2038	2038	2043	100%															
			Ripping/Scarifying						158			2038	2038	2043																
			Revegetation						22	22		2038	2038	2043			100.00%													
	3	LOM	Admin Building Parking Lot	Y03	Process Plant	Stg4			2,948	2,948	2038					0	2,948	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						791	791		2038	2038	2043	100%		100.00%													
			Cover 1 Placement						0			2038	2038	2043																
			Cover 2 Placement						0			2038	2038	2043																
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%		100.00%													
			Revegetation						81			2038	2038	2043																
	4	LOM	Portal Pad	Y04	Underground Mine	Stg1			40,088	40,088	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						23,268	23,268		2035	2035	2040	100%															
			Cover 1 Placement						0			2035	2035	2040																
			Cover 2 Placement						0			2035	2035	2040																
			Growth Media Placement						13,695	13,695		2035	2035	2040	100%															
			Ripping/Scarifying						950	950		2035	2035	2040	100%															
			Revegetation						2,175	2,175		2035	2035	2040	100%															
	5	LOM	Visitor Security Parking Lot	Y05	Infrastructure & Ancillary	Stg3			4,713	4,713	2037					4,713	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						2,374	2,374		2037	2037	2042	100%	100.00%														
			Cover 1 Placement						0			2037	2037	2042																
			Cover 2 Placement						0			2037	2037	2042																
			Growth Media Placement						1,957	1,957		2037	2037	2042	100%	100.00%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	100.00%														
			Revegetation						224	224		2037	2037	2042	100%	100.00%														
	6	LOM	Security Yard	Y06	Infrastructure & Ancillary	Stg3			2,364	2,364	2037					2,364	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						950	950		2037	2037	2042	100%	100.00%														
			Cover 1 Placement						0			2037	2037	2042																
			Cover 2 Placement						0			2037	2037	2042																
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%	100.00%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	100.00%														
			Revegetation						90	90		2037	2037	2042	100%	100.00%														
	7	LOM	Contractor Laydown Yard	Y07	Yards & Laydown Areas	Stg3			42,180	42,180	2037					42,180	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						22,635	22,635		2037	2037	2042	100%	100.00%														
			Cover 1 Placement						0			2037	2037	2042																
			Cover 2 Placement						0			2037	2037	2042																
			Growth Media Placement						16,630	16,630		2037	2037	2042	100%	100.00%														
			Ripping/Scarifying						791	791		2037	2037	2042	100%	100.00%														
			Revegetation						2,124	2,124		2037	2037	2042	100%	100.00%														
	8	LOM	Contractor Office Laydown	Y08	Yards & Laydown Areas	Stg3			8,494	8,494	2037					8,494	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						4,115	4,115		2037	2037	2042	100%	100.00%														
			Cover 1 Placement						0			2037	2037	2042																
			Cover 2 Placement						0			2037	2037	2042																
			Growth Media Placement						3,835	3,835		2037	2037	2042	100%	100.00%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	100.00%														
			Revegetation						386	386		2037	2037	2042	100%	100.00%														
	9	LOM	Weather Station	Y09	Yards & Laydown Areas	Stg3			2,707	2,707	2037					2,707	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						1,266	1,266		2037	2037	2042	100%	100.00%														
			Cover 1 Placement						0			2037	2037	2042																
			Cover 2 Placement						0			2037	2037	2042																
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%	100.00%														
			Ripping/Scarifying						158	158		2037	2037	2042	100%	100.00%														
			Revegetation						117	117		2037	2037	2042	100%	100.00%														
	10	LOM	Vent Shaft #1 Pad	Y10	Underground Mine	Stg1			11,154	11,154	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						6,331	6,331		2035	2035	2040	100%															
			Cover 1 Placement						0			2035	2035	2040																
			Cover 2 Placement						0			2035	2035	2040																
			Growth Media Placement						3,913	3,913		2035	2035	2040	100%															
			Ripping/Scarifying						317	317		2035	2035	2040	100%															
			Revegetation						593	593		2035	2035	2040	100%															
	11	LOM	Explosive Magazine	Y11	Underground Mine	Stg1			1,307	1,307	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						158	158		2035	2035	2040	100%															
			Cover 1 Placement						0			2035	2035	2040																
			Cover 2 Placement						0			2035	2035	2040																
			Growth Media Placement						978	978		2035	2035	2040	100%															
			Ripping/Scarifying						158	158		2035	2035	2040	100%															

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
									$	$						2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
			Backfill/Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%													
			Revegetation						203	203		2037	2037	2042	100%													
			E-Cell/ET-Cell Liner						0			2037	2037	2042														
			E-Cell/ET-Cell Piping						0			2037	2037	2042														
	2	LOM	Collection Pond	CP01	Process Plant	Stg1			15,503	15,503	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Liner Cutting and Folding						6,749	6,749		2035	2035	2040	100%													
			Backfill/Cover 1 Placement						6,848	6,848		2035	2035	2040	100%													
			Backfill/Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						1,580	1,580		2035	2035	2040	100%													
			Revegetation						326	326		2035	2035	2040	100%													
			E-Cell/ET-Cell Liner						0			2035	2035	2040														
			E-Cell/ET-Cell Piping						0			2035	2035	2040														
	YARDS								207,173	207,173						0	0	0	0	0	0	0	0	0	0	0	0	18,456
	1	LOM	Upper Process Plant Bench	Y01	Process Plant	Stg1			26,741	26,741	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						15,196	15,196		2035	2035	2040	100%													
			Cover 1 Placement						0			2035	2035	2040														
			Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						9,484	9,484		2035	2035	2040	100%													
			Ripping/Scarifying						633	633		2035	2035	2040	100%													
			Revegetation						1,428	1,428		2035	2035	2040	100%													
	2	LOM	Substation	Y02	Power Supply	Stg4			1,475	1,475	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%													
			Cover 1 Placement						0			2038	2038	2043														
			Cover 2 Placement						0			2038	2038	2043														
			Growth Media Placement						978	978		2038	2038	2043	100%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						22	22		2038	2038	2043	100%													
	3	LOM	Admin Building Parking Lot	Y03	Process Plant	Stg4			2,948	2,948	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						791	791		2038	2038	2043	100%													
			Cover 1 Placement						0			2038	2038	2043														
			Cover 2 Placement						0			2038	2038	2043														
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						81			2038	2038	2043	100%													
	4	LOM	Portal Pad	Y04	Underground Mine	Stg1			50,068		2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						23,268	23,268		2035	2035	2040	100%													
			Cover 1 Placement						0			2035	2035	2040														
			Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						13,695	13,695		2035	2035	2040	100%													
			Ripping/Scarifying						950	950		2035	2035	2040	100%													
			Revegetation						2,175	2,175		2035	2035	2040	100%													
	5	LOM	Visitor Security Parking Lot	Y05	Infrastructure & Ancillary	Stg3			4,713	4,713	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						2,374	2,374		2037	2037	2042	100%													
			Cover 1 Placement						0			2037	2037	2042														
			Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						1,957	1,957		2037	2037	2042	100%													
			Ripping/Scarifying						158	158		2037	2037	2042	100%													
			Revegetation						224	224		2037	2037	2042	100%													
	6	LOM	Security Yard	Y06	Infrastructure & Ancillary	Stg3			2,364	2,364	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						950	950		2037	2037	2042	100%													
			Cover 1 Placement						0			2037	2037	2042														
			Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%													
			Ripping/Scarifying						158	158		2037	2037	2042	100%													
			Revegetation						90	90		2037	2037	2042	100%													
	7	LOM	Contractor Laydown Yard	Y07	Yards & Laydown Areas	Stg3			42,180	42,180	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						22,635	22,635		2037	2037	2042	100%													
			Cover 1 Placement						0			2037	2037	2042														
			Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						16,630	16,630		2037	2037	2042	100%													
			Ripping/Scarifying						791	791		2037	2037	2042	100%													
			Revegetation						2,124	2,124		2037	2037	2042	100%													
	8	LOM	Contractor Office Laydown	Y08	Yards & Laydown Areas	Stg3			8,494	8,494	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						4,115	4,115		2037	2037	2042	100%													
			Cover 1 Placement						0			2037	2037	2042														
			Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						3,835	3,835		2037	2037	2042	100%													
			Ripping/Scarifying						158	158		2037	2037	2042	100%													
			Revegetation						386	386		2037	2037	2042	100%													
	9	LOM	Weather Station	Y09	Yards & Laydown Areas	Stg3			2,707	2,707	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						1,266	1,266		2037	2037	2042	100%													
			Cover 1 Placement						0			2037	2037	2042														
			Cover 2 Placement						0			2037	2037	2042														
			Growth Media Placement						1,166	1,166		2037	2037	2042	100%													
			Ripping/Scarifying						158	158		2037	2037	2042	100%													
			Revegetation						117	117		2037	2037	2042	100%													
	10	LOM	Vent Shaft #1 Pad	Y10	Underground Mine	Stg1			11,154	11,154	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						6,331	6,331		2035	2035	2040	100%													
			Cover 1 Placement						0			2035	2035	2040														
			Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						3,913	3,913		2035	2035	2040	100%													
			Ripping/Scarifying						317	317		2035	2035	2040	100%													
			Revegetation						593	593		2035	2035	2040	100%													
	11	LOM	Explosive Magazine	Y11	Underground Mine	Stg1			1,307	1,307	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						158	158		2035	2035	2040	100%													
			Cover 1 Placement						0			2035	2035	2040														
			Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						978	978		2035	2035	2040	100%													
			Ripping/Scarifying						158	158		2035	2035	2040	100%													

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period	26 years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
									$	$						$		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
			Revegetation						13	13		2035	2035	2040	100%	0	0%												100.00%	
	12	LOM	Well Pad	Y12	Water Supply	Stg4			2,429	2,429	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%	0	0%													
			Cover 1 Placement						0			2038	2038	2043		0	0%													
			Cover 2 Placement						0			2038	2038	2043		0	0%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%	0	0%													
			Revegetation						36	36		2038	2038	2043	100%	0	0%													
	13	LOM	Well Pad	Y13	Water Supply	Stg4			1,651	1,651	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						475	475		2038	2038	2043	100%	0	0%													
			Cover 1 Placement						0			2038	2038	2043		0	0%													
			Cover 2 Placement						0			2038	2038	2043		0	0%													
			Growth Media Placement						978	978		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%	0	0%													
			Revegetation						40	40		2038	2038	2043	100%	0	0%													
	14	LOM	Well Pad	Y14	Water Supply	Stg4			1,677	1,677	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%	0	0%													
			Cover 1 Placement						0			2038	2038	2043		0	0%													
			Cover 2 Placement						0			2038	2038	2043		0	0%													
			Growth Media Placement						1,166	1,166		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%	0	0%													
			Revegetation						36	36		2038	2038	2043	100%	0	0%													
	15	LOM	Well Pad	Y15	Water Supply	Stg4			1,463	1,463	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						475	475		2038	2038	2043	100%	0	0%													
			Cover 1 Placement						0			2038	2038	2043		0	0%													
			Cover 2 Placement						0			2038	2038	2043		0	0%													
			Growth Media Placement						790	790		2038	2038	2043		0	0%													
			Ripping/Scarifying						158	158		2038	2038	2043		0	0%													
			Revegetation						40	40		2038	2038	2043	100%	0	0%													
	16	LOM	Well Pad	Y16	Water Supply	Stg4			1,301	1,301	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%	0	0%													
			Cover 1 Placement						0			2038	2038	2043		0	0%													
			Cover 2 Placement						0			2038	2038	2043		0	0%													
			Growth Media Placement						790	790		2038	2038	2043		0	0%													
			Ripping/Scarifying						158			2038	2038	2043		0	0%													
			Revegetation						36			2038	2038	2043	100%	0	0%													
	17	LOM	Growth Media Stockpile	GM01	Growth Media Stockpiles	Stg5			18,456	18,456	2064					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						16,304	16,304		2064	2064	2069	100%	0	0%													
			Cover 1 Placement						0			2064	2064	2069		0	0%													
			Cover 2 Placement						0			2064	2064	2069		0	0%													
			Growth Media Placement						0			2064	2064	2069		0	0%													
			Ripping/Scarifying						633	633		2064	2064	2069	100%	0	0%													
			Revegetation						1,519	1,519		2064	2064	2069	100%	0	0%													
	18	LOM	Growth Media Stockpile	GM02	Growth Media Stockpiles	Stg1			12,417	12,417	2035					0			0	0	0	0	0	0	0	0	0	0	12,417	0
			Regrading						10,922	10,922		2035	2035	2040	100%	0	0%												100.00%	
			Cover 1 Placement						0			2035	2035	2040		0	0%													
			Cover 2 Placement						0			2035	2035	2040		0	0%													
			Growth Media Placement						0			2035	2035	2040		0	0%													
			Ripping/Scarifying						475	475		2035	2035	2040	100%	0	0%												100.00%	
			Revegetation						1,020	1,020		2035	2035	2040	100%	0	0%												100.00%	
	19	LOM	Growth Media Stockpile	GM03	Growth Media Stockpiles	Stg1			11,215	11,215	2035					0			0	0	0	0	0	0	0	0	0	0	11,215	0
			Regrading						9,814	9,814		2035	2035	2040	100%	0	0%												100.00%	
			Cover 1 Placement						0			2035	2035	2040		0	0%													
			Cover 2 Placement						0			2035	2035	2040		0	0%													
			Growth Media Placement						0			2035	2035	2040		0	0%													
			Ripping/Scarifying						475	475		2035	2035	2040	100%	0	0%												100.00%	
			Revegetation						926	926		2035	2035	2040	100%	0	0%												100.00%	
	20	LOM	UG Backfill Aggregate Stockpile	SP01	Underground Mine	Stg1			524	524	2035					0			0	0	0	0	0	0	0	0	0	0	524	0
			Regrading						475	475		2035	2035	2040	100%	0	0%												100.00%	
			Cover 1 Placement						0			2035	2035	2040		0	0%													
			Cover 2 Placement						0			2035	2035	2040		0	0%													
			Growth Media Placement						0			2035	2035	2040		0	0%													
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						49	49		2035	2035	2040	100%	0	0%												100.00%	
	21	LOM	Power line revegetation (5 ft x 25.1 miles)	PL05	Power Supply	Stg4			10,477	10,477	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2038	2038	2043		0	0%													
			Cover 1 Placement						0			2038	2038	2043		0	0%													
			Cover 2 Placement						0			2038	2038	2043		0	0%													
			Growth Media Placement						0			2038	2038	2043		0	0%													
			Ripping/Scarifying						3,641	3,641		2038	2038	2043	100%	0	0%													
			Revegetation						6,836	6,836		2038	2038	2043	100%	0	0%													
	22	LOM	ROM Stockpile	SP02	Process Plant	Stg1			1,392	1,392	2035					0			0	0	0	0	0	0	0	0	0	0	1,392	0
			Regrading						1,266	1,266		2035	2035	2040	100%	0	0%												100.00%	
			Cover 1 Placement						0			2035	2035	2040		0	0%													
			Cover 2 Placement						0			2035	2035	2040		0	0%													
			Growth Media Placement						0			2035	2035	2040		0	0%													
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						126	126		2035	2035	2040	100%	0	0%												100.00%	
LANDFILLS									**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HAUL MATERIAL									**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
BUILDINGS AND FOUNDATIONS									**331,056**	**331,056**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**261,269**	**0**	
	1	LOM	Administration Building	FB01	Process Plant	Stg4			28,563	28,563	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						22,000	22,000		2038	2038	2043	100%	0	0%													
			Wall Demolition						798	798		2038	2038	2043	100%	0	0%													
			Slab Demolition						3,192	3,192		2038	2038	2043	100%	0	0%													
			Cover Placement						1,580	1,580		2038	2038	2043	100%	0	0%													
			Growth Media Placement						790	790		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						203	203		2038	2038	2043	100%	0	0%													
	2	LOM	Assy Lab	FB02	Process Plant	Stg1			9,878	9,878	2035					0			0	0	0	0	0	0	0	0	0	0	9,878	0

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021		
First Year of Operation:	2025		
Closure Year 1:	2035		
Closure Period:	4	years	
Post Closure Period	26	years	

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
																2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
									$	$																				
			Revegetation						13	13		2035	2035	2040	100%															
	12	LOM	Well Pad	Y12	Water Supply	Stg4			2,429	2,429	2038					0	2,429	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%		100.00%													
			Cover 1 Placement						0			2038	2038	2043																	
			Cover 2 Placement						0			2038	2038	2043																	
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%		100.00%													
			Revegetation						36	36		2038	2038	2043	100%		100.00%													
	13	LOM	Well Pad	Y13	Water Supply	Stg4			1,651	1,651	2038					0	1,651	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						475	475		2038	2038	2043	100%		100.00%													
			Cover 1 Placement						0			2038	2038	2043																	
			Cover 2 Placement						0			2038	2038	2043																	
			Growth Media Placement						978	978		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%		100.00%													
			Revegetation						40	40		2038	2038	2043	100%		100.00%													
	14	LOM	Well Pad	Y14	Water Supply	Stg4			1,677	1,677	2038					0	1,677	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%		100.00%													
			Cover 1 Placement						0			2038	2038	2043																	
			Cover 2 Placement						0			2038	2038	2043																	
			Growth Media Placement						1,166	1,166		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%		100.00%													
			Revegetation						36	36		2038	2038	2043	100%		100.00%													
	15	LOM	Well Pad	Y15	Water Supply	Stg4			1,463	1,463	2038					0	1,463	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						475	475		2038	2038	2043	100%		100.00%													
			Cover 1 Placement						0			2038	2038	2043																	
			Cover 2 Placement						0			2038	2038	2043																	
			Growth Media Placement						790	790		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%		100.00%													
			Revegetation						40	40		2038	2038	2043	100%		100.00%													
	16	LOM	Well Pad	Y16	Water Supply	Stg4			1,301	1,301	2038					0	1,301	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%		100.00%													
			Cover 1 Placement						0			2038	2038	2043																	
			Cover 2 Placement						0			2038	2038	2043																	
			Growth Media Placement						790	790		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%		100.00%													
			Revegetation						36	36		2038	2038	2043	100%		100.00%													
	17	LOM	Growth Media Stockpile	GM01	Growth Media Stockpiles	Stg5			18,456	18,456	2064					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						16,304	16,304		2064	2064	2069	100%															
			Cover 1 Placement						0			2064	2064	2069																	
			Cover 2 Placement						0			2064	2064	2069																	
			Growth Media Placement						0			2064	2064	2069																	
			Ripping/Scarifying						633	633		2064	2064	2069	100%																
			Revegetation						1,519	1,519		2064	2064	2069	100%																
	18	LOM	Growth Media Stockpile	GM02	Growth Media Stockpiles	Stg1			12,417	12,417	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						10,922	10,922		2035	2035	2040	100%															
			Cover 1 Placement						0			2035	2035	2040																	
			Cover 2 Placement						0			2035	2035	2040																	
			Growth Media Placement						0			2035	2035	2040																	
			Ripping/Scarifying						475	475		2035	2035	2040	100%																
			Revegetation						1,020	1,020		2035	2035	2040	100%																
	19	LOM	Growth Media Stockpile	GM03	Growth Media Stockpiles	Stg1			11,215	11,215	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						9,814	9,814		2035	2035	2040	100%															
			Cover 1 Placement						0			2035	2035	2040																	
			Cover 2 Placement						0			2035	2035	2040																	
			Growth Media Placement						0			2035	2035	2040																	
			Ripping/Scarifying						475	475		2035	2035	2040	100%																
			Revegetation						926	926		2035	2035	2040	100%																
	20	LOM	UG Backfill Aggregate Stockpile	SP01	Underground Mine	Stg1			524	524	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						475	475		2035	2035	2040	100%															
			Cover 1 Placement						0			2035	2035	2040																	
			Cover 2 Placement						0			2035	2035	2040																	
			Growth Media Placement						0			2035	2035	2040																	
			Ripping/Scarifying						0			2035	2035	2040																	
			Revegetation						49	49		2035	2035	2040	100%																
	21	LOM	Power line revegetation (5 ft x 25.1 miles)	PL05	Power Supply	Stg4			10,477	10,477	2038					0	10,477	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2038	2038	2043																	
			Cover 1 Placement						0			2038	2038	2043																	
			Cover 2 Placement						0			2038	2038	2043																	
			Growth Media Placement						0			2038	2038	2043																	
			Ripping/Scarifying						3,641	3,641		2038	2038	2043	100%																
			Revegetation						6,836	6,836		2038	2038	2043	100%		100.00%													
	22	LOM	ROM Stockpile	SP02	Process Plant	Stg1			1,392	1,392	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						1,266	1,266		2035	2035	2040	100%															
			Cover 1 Placement						0			2035	2035	2040																	
			Cover 2 Placement						0			2035	2035	2040																	
			Growth Media Placement						0			2035	2035	2040																	
			Ripping/Scarifying						0			2035	2035	2040																	
			Revegetation						126	126		2035	2035	2040	100%																
	LANDFILLS								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	HAUL MATERIAL								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	BUILDINGS AND FOUNDATIONS								**331,056**	**331,056**						**6,054**	**63,733**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Administration Building	FB01	Process Plant	Stg4			28,563	28,563	2038					0	28,563	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						22,000	22,000		2038	2038	2043	100%		100.00%													
			Wall Demolition						798	798		2038	2038	2043	100%		100.00%													
			Slab Demolition						3,192	3,192		2038	2038	2043	100%		100.00%													
			Cover Placement						1,580	1,580		2038	2038	2043	100%		100.00%													
			Growth Media Placement						790	790		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043			100.00%													
			Revegetation						203	203		2038	2038	2043	100%		100.00%													
	2	LOM	Assy Lab	FB02	Process Plant	Stg1			9,878	9,878	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period	26 years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
																2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
									$	$																		
			Revegetation						13	13		2035	2035	2040	100%													
	12	LOM	Well Pad	Y12	Water Supply	Stg4			2,429	2,429	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%													
			Cover 1 Placement						0			2038	2038	2043														
			Cover 2 Placement						0			2038	2038	2043														
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						36	36		2038	2038	2043	100%													
	13	LOM	Well Pad	Y13	Water Supply	Stg4			1,651	1,651	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						475	475		2038	2038	2043	100%													
			Cover 1 Placement						0			2038	2038	2043														
			Cover 2 Placement						0			2038	2038	2043														
			Growth Media Placement						978	978		2038	2038	2043	100%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						40	40		2038	2038	2043	100%													
	14	LOM	Well Pad	Y14	Water Supply	Stg4			1,677	1,677	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%													
			Cover 1 Placement						0			2038	2038	2043														
			Cover 2 Placement						0			2038	2038	2043														
			Growth Media Placement						1,166	1,166		2038	2038	2043	100%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						36	36		2038	2038	2043	100%													
	15	LOM	Well Pad	Y15	Water Supply	Stg4			1,463	1,463	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						475	475		2038	2038	2043	100%													
			Cover 1 Placement						0			2038	2038	2043														
			Cover 2 Placement						0			2038	2038	2043														
			Growth Media Placement						790	790		2038	2038	2043	100%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						40	40		2038	2038	2043	100%													
	16	LOM	Well Pad	Y16	Water Supply	Stg4			1,301	1,301	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						317	317		2038	2038	2043	100%													
			Cover 1 Placement						0			2038	2038	2043														
			Cover 2 Placement						0			2038	2038	2043														
			Growth Media Placement						790	790		2038	2038	2043	100%													
			Ripping/Scarifying						158	158		2038	2038	2043	100%													
			Revegetation						36	36		2038	2038	2043	100%													
	17	LOM	Growth Media Stockpile	GM01	Growth Media Stockpiles	Stg5			18,456	18,456	2064					0	0	0	0	0	0	0	0	0	0	0	0	18,456
			Regrading						16,304	16,304		2064	2064	2069	100%													100.00%
			Cover 1 Placement						0			2064	2064	2069														
			Cover 2 Placement						0			2064	2064	2069														
			Growth Media Placement						0			2064	2064	2069														
			Ripping/Scarifying						633	633		2064	2064	2069	100%													100.00%
			Revegetation						1,519	1,519		2064	2064	2069	100%													100.00%
	18	LOM	Growth Media Stockpile	GM02	Growth Media Stockpiles	Stg1			12,417	12,417	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						10,922	10,922		2035	2035	2040	100%													
			Cover 1 Placement						0			2035	2035	2040														
			Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						0			2035	2035	2040														
			Ripping/Scarifying						475	475		2035	2035	2040	100%													
			Revegetation						1,020	1,020		2035	2035	2040	100%													
	19	LOM	Growth Media Stockpile	GM03	Growth Media Stockpiles	Stg1			11,215	11,215	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						9,814	9,814		2035	2035	2040	100%													
			Cover 1 Placement						0			2035	2035	2040														
			Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						0			2035	2035	2040														
			Ripping/Scarifying						475	475		2035	2035	2040	100%													
			Revegetation						926	926		2035	2035	2040	100%													
	20	LOM	UG Backfill Aggregate Stockpile	SP01	Underground Mine	Stg1			524	524	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						475	475		2035	2035	2040	100%													
			Cover 1 Placement						0			2035	2035	2040														
			Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						0			2035	2035	2040														
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						49	49		2035	2035	2040	100%													
	21	LOM	Power line revegetation (5 ft x 25.1 miles)	PL05	Power Supply	Stg4			10,477	10,477	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						0			2038	2038	2043														
			Cover 1 Placement						0			2038	2038	2043														
			Cover 2 Placement						0			2038	2038	2043														
			Growth Media Placement						0			2038	2038	2043														
			Ripping/Scarifying						3,641	3,641		2038	2038	2043	100%													
			Revegetation						6,836	6,836		2038	2038	2043	100%													
	22	LOM	ROM Stockpile	SP02	Process Plant	Stg1			1,392	1,392	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						1,266	1,266		2035	2035	2040	100%													
			Cover 1 Placement						0			2035	2035	2040														
			Cover 2 Placement						0			2035	2035	2040														
			Growth Media Placement						0			2035	2035	2040														
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						126	126		2035	2035	2040	100%													
	LANDFILLS								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	HAUL MATERIAL								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	BUILDINGS AND FOUNDATIONS								**331,056**	**331,056**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Administration Building	FB01	Process Plant	Stg4			28,563	28,563	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						22,000	22,000		2038	2038	2043	100%													
			Wall Demolition						798	798		2038	2038	2043	100%													
			Slab Demolition						3,192	3,192		2038	2038	2043	100%													
			Cover Placement						1,580	1,580		2038	2038	2043	100%													
			Growth Media Placement						790	790		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						203	203		2038	2038	2043	100%													
	2	LOM	Assy Lab	FB02	Process Plant	Stg1			9,878	9,878	2035					0	0	0	0	0	0	0	0	0	0	0	0	0

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period	26 years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
									$	$						$		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
			Building Demolition						6,765	6,765		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						449	449		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						912	912		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	3	LOM	Crusher Area Electrical Room	FB03	Process Plant	Stg1			4,279	4,279	2035					0			0	0	0	0	0	0	0	0	0	0	4,279	0
			Building Demolition						1,840	1,840		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						231	231		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	4	LOM	Crusher Wall	FB04	Process Plant	Stg1			9,752	9,752	2035					0			0	0	0	0	0	0	0	0	0	0	9,752	0
			Building Demolition						135	135		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						7,409	7,409		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	5	LOM	Fine Ore Bin	FB05	Process Plant	Stg1			3,981	3,981	2035					0			0	0	0	0	0	0	0	0	0	0	3,981	0
			Building Demolition						1,563	1,563		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						210	210		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	6	LOM	Gold Room	FB06	Process Plant	Stg1			5,048	5,048	2035					0			0	0	0	0	0	0	0	0	0	0	5,048	0
			Building Demolition						2,563	2,563		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						277	277		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	7	LOM	Security Guard House	FB07	Infrastructure & Ancillary	Stg3			6,054	6,054	2037					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						3,510	3,510		2037	2037	2042	100%	0	0%													
			Wall Demolition						336	336		2037	2037	2042	100%	0	0%													
			Slab Demolition						456	456		2037	2037	2042	100%	0	0%													
			Cover Placement						790	790		2037	2037	2042	100%	0	0%													
			Growth Media Placement						790	790		2037	2037	2042	100%	0	0%													
			Ripping/Scarifying						0			2037	2037	2042		0	0%													
			Revegetation						172	172		2037	2037	2042	100%	0	0%													
	8	LOM	Leach & CIL Circuit	FB08	Process Plant	Stg1			49,699	49,699	2035					0			0	0	0	0	0	0	0	0	0	0	49,699	0
			Building Demolition						43,090	43,090		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						844	844		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						3,192	3,192		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						1,580	1,580		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						203	203		2035	2035	2040	100%	0	0%												100.00%	
	9	LOM	Plant Services Grinding	FB09	Process Plant	Stg1			23,435	23,435	2035					0			0	0	0	0	0	0	0	0	0	0	23,435	0
			Building Demolition						18,105	18,105		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						811	811		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						2,736	2,736		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						203	203		2035	2035	2040	100%	0	0%												100.00%	
	10	LOM	Plant Workshop and Warehouse	FB10	Process Plant	Stg1			9,665	9,665	2035					0			0	0	0	0	0	0	0	0	0	0	9,665	0
			Building Demolition						6,560	6,560		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						441	441		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						912	912		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	11	LOM	Process Plant Electrical Room	FB11	Process Plant	Stg1			9,056	9,056	2035					0			0	0	0	0	0	0	0	0	0	0	9,056	0
			Building Demolition						5,980	5,980		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						412	412		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						912	912		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	12	LOM	Septic Tank	FB12	Process Plant	Stg4			2,750	2,750	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						420	420		2038	2038	2043	100%	0	0%													
			Wall Demolition						122	122		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						790	790		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	13	LOM	Truck Scale	FB13	Process Plant	Stg1			9,880	9,880	2035					0			0	0	0	0	0	0	0	0	0	0	9,880	0
			Building Demolition						6,750	6,750		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						466	466		2035	2035	2040	100%	0	0%												100.00%	

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021		
First Year of Operation:	2025		
Closure Year 1:	2035		
Closure Period:	4	years	
Post Closure Period	26	years	

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
																2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
									$	$																				
			Building Demolition						6,765	6,765		2035	2035	2040	100%															
			Wall Demolition						449	449		2035	2035	2040	100%															
			Slab Demolition						912	912		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	3	LOM	Crusher Area Electrical Room	FB03	Process Plant	Stg1			4,279	4,279	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,840	1,840		2035	2035	2040	100%															
			Wall Demolition						231	231		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	4	LOM	Crusher Wall	FB04	Process Plant	Stg1			9,752	9,752	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						135	135		2035	2035	2040	100%															
			Wall Demolition						7,409	7,409		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	5	LOM	Fine Ore Bin	FB05	Process Plant	Stg1			3,981	3,981	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,563	1,563		2035	2035	2040	100%															
			Wall Demolition						210			2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	6	LOM	Gold Room	FB06	Process Plant	Stg1			5,048	5,048	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,563	2,563		2035	2035	2040	100%															
			Wall Demolition						277			2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	7	LOM	Security Guard House	FB07	Infrastructure & Ancillary	Stg3			6,054	6,054	2037					6,054	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						3,510	3,510		2037	2037	2042	100%	100.00%														
			Wall Demolition						336	336		2037	2037	2042	100%	100.00%														
			Slab Demolition						456	456		2037	2037	2042	100%	100.00%														
			Cover Placement						790	790		2037	2037	2042	100%	100.00%														
			Growth Media Placement						790	790		2037	2037	2042	100%	100.00%														
			Ripping/Scarifying						0			2037	2037	2042																
			Revegetation						172	172		2037	2037	2042	100%	100.00%														
	8	LOM	Leach & CIL Circuit	FB08	Process Plant	Stg1			49,699	49,699	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						43,090	43,090		2035	2035	2040	100%															
			Wall Demolition						844	844		2035	2035	2040	100%															
			Slab Demolition						3,192	3,192		2035	2035	2040	100%															
			Cover Placement						1,580	1,580		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						203	203		2035	2035	2040	100%															
	9	LOM	Plant Services Grinding	FB09	Process Plant	Stg1			23,435	23,435	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						18,105	18,105		2035	2035	2040	100%															
			Wall Demolition						811	811		2035	2035	2040	100%															
			Slab Demolition						2,736	2,736		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						203	203		2035	2035	2040	100%															
	10	LOM	Plant Workshop and Warehouse	FB10	Process Plant	Stg1			9,665	9,665	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						6,560	6,560		2035	2035	2040	100%															
			Wall Demolition						441	441		2035	2035	2040	100%															
			Slab Demolition						912	912		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	11	LOM	Process Plant Electrical Room	FB11	Process Plant	Stg1			9,056	9,056	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						5,980	5,980		2035	2035	2040	100%															
			Wall Demolition						412	412		2035	2035	2040	100%															
			Slab Demolition						912	912		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	12	LOM	Septic Tank	FB12	Process Plant	Stg4			2,750	2,750	2038					0	2,750	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						420	420		2038	2038	2043	100%		100.00%													
			Wall Demolition						122	122		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						790	790		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	13	LOM	Truck Scale	FB13	Process Plant	Stg1			9,880	9,880	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						6,750	6,750		2035	2035	2040	100%															
			Wall Demolition						466	466		2035	2035	2040	100%															

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
									$	$						2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
			Building Demolition						6,765	6,765		2035	2035	2040	100%													
			Wall Demolition						449	449		2035	2035	2040	100%													
			Slab Demolition						912	912		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	3	LOM	Crusher Area Electrical Room	FB03	Process Plant	Stg1			4,279	4,279	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,840	1,840		2035	2035	2040	100%													
			Wall Demolition						231	231		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	4	LOM	Crusher Wall	FB04	Process Plant	Stg1			9,752	9,752	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						135	135		2035	2035	2040	100%													
			Wall Demolition						7,409	7,409		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	5	LOM	Fine Ore Bin	FB05	Process Plant	Stg1			3,981	3,981	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,563	1,563		2035	2035	2040	100%													
			Wall Demolition						210			2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040														
			Cover Placement						790	790		2035	2035	2040														
			Growth Media Placement						790	790		2035	2035	2040														
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	6	LOM	Gold Room	FB06	Process Plant	Stg1			5,048	5,048	35					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,563	2,563		2035	2035	2040	100%													
			Wall Demolition						277	277		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	7	LOM	Security Guard House	FB07	Infrastructure & Ancillary	Stg3			6,054	6,054	2037					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						3,510	3,510		2037	2037	2042	100%													
			Wall Demolition						336	336		2037	2037	2042	100%													
			Slab Demolition						456	456		2037	2037	2042	100%													
			Cover Placement						790	790		2037	2037	2042	100%													
			Growth Media Placement						790	790		2037	2037	2042	100%													
			Ripping/Scarifying						0			2037	2037	2042														
			Revegetation						172	172		2037	2037	2042	100%													
	8	LOM	Leach & CIL Circuit	FB08	Process Plant	Stg1			49,699	49,699	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						43,090	43,090		2035	2035	2040	100%													
			Wall Demolition						844	844		2035	2035	2040	100%													
			Slab Demolition						3,192	3,192		2035	2035	2040	100%													
			Cover Placement						1,580	1,580		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						203	203		2035	2035	2040	100%													
	9	LOM	Plant Services Grinding	FB09	Process Plant	Stg1			23,435	23,435	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						18,105	18,105		2035	2035	2040	100%													
			Wall Demolition						811	811		2035	2035	2040	100%													
			Slab Demolition						2,736	2,736		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						203	203		2035	2035	2040	100%													
	10	LOM	Plant Workshop and Warehouse	FB10	Process Plant	Stg1			9,665	9,665	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						6,560	6,560		2035	2035	2040	100%													
			Wall Demolition						441	441		2035	2035	2040	100%													
			Slab Demolition						912	912		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	11	LOM	Process Plant Electrical Room	FB11	Process Plant	Stg1			9,056	9,056	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						5,980	5,980		2035	2035	2040	100%													
			Wall Demolition						412	412		2035	2035	2040	100%													
			Slab Demolition						912	912		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	12	LOM	Septic Tank	FB12	Process Plant	Stg4			2,750	2,750	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						420	420		2038	2038	2043	100%													
			Wall Demolition						122	122		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						790	790		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	13	LOM	Truck Scale	FB13	Process Plant	Stg1			9,880	9,880	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						6,750	6,750		2035	2035	2040	100%													
			Wall Demolition						466	466		2035	2035	2040	100%													

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
									$	$						$		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
			Slab Demolition						912	912		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	14	LOM	Truck Workshop and Warehouse	FB14	Process Plant	Stg1			22,432	22,432	2035					0			0	0	0	0	0	0	0	0	0	0	22,432	0
			Building Demolition						17,600	17,600		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						769	769		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						2,280	2,280		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						203	203		2035	2035	2040	100%	0	0%												100.00%	
	15	LOM	Well #3 Well House	FB15	Water Supply	Stg4			3,874	3,874	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%	0	0%													
			Wall Demolition						113	113		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	16	LOM	Well #4 Well House	FB16	Water Supply	Stg4			3,874	3,874	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%	0	0%													
			Wall Demolition						113	113		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	17	LOM	Well #5 Well House	FB17	Water Supply	Stg4			3,874	3,874	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%	0	0%													
			Wall Demolition						113	113		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	18	LOM	Well #6 Well House	FB18	Water Supply	Stg4			3,874	3,874	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%	0	0%													
			Wall Demolition						113	113		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	19	LOM	Well #7 Well House	FB19	Water Supply	Stg4			3,874	3,874	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%	0	0%													
			Wall Demolition						113	113		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	20	LOM	15 kV circuit breaker	PD01	Power Supply	Stg4			2,897	2,897	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						563	563		2038	2038	2043	100%	0	0%													
			Wall Demolition						126	126		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						790	790		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	21	LOM	Bag House	PD02	Process Plant	Stg1			2,486	2,486	2035					0			0	0	0	0	0	0	0	0	0	0	2,486	0
			Building Demolition						202	202		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						76	76		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	22	LOM	Chiller	PD03	Process Plant	Stg1			1,045	1,045	2035					0			0	0	0	0	0	0	0	0	0	0	1,045	0
			Building Demolition						45	45		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						38	38		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						0			2035	2035	2040		0	0%													
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						0			2035	2035	2040		0	0%													
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	23	LOM	Concrete Pad	PD04	Process Plant	Stg1			2,454	2,454	2035					0			0	0	0	0	0	0	0	0	0	0	2,454	0
			Building Demolition						175	175		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						71	71		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	24	LOM	Concrete Pad	PD05	Process Plant	Stg1			2,726	2,726	2035					0			0	0	0	0	0	0	0	0	0	0	2,726	0
			Building Demolition						400	400		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						118	118		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
									$	$						2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
			Slab Demolition						912	912		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	14	LOM	Truck Workhshop and Warehouse	FB14	Process Plant	Stg1			22,432	22,432	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						17,600	17,600		2035	2035	2040	100%															
			Wall Demolition						769	769		2035	2035	2040	100%															
			Slab Demolition						2,280	2,280		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						203	203		2035	2035	2040	100%															
	15	LOM	Well #3 Well House	FB15	Water Supply	Stg4			3,874	3,874	2038					0	3,874	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%		100.00%													
			Wall Demolition						113	113		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	16	LOM	Well #4 Well House	FB16	Water Supply	Stg4			3,874	3,874	2038					0	3,874	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%		100.00%													
			Wall Demolition						113	113		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	17	LOM	Well #5 Well House	FB17	Water Supply	Stg4			3,874	3,874	2038					0	3,874	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%		100.00%													
			Wall Demolition						113	113		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	18	LOM	Well #6 Well House	FB18	Water Supply	Stg4			3,874	3,874	2038					0	3,874	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%		100.00%													
			Wall Demolition						113	113		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	19	LOM	Well #7 Well House	FB19	Water Supply	Stg4			3,874	3,874	2038					0	3,874	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%		100.00%													
			Wall Demolition						113	113		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	20	LOM	15 kV circuit breaker	PD01	Power Supply	Stg4			2,897	2,897	2038					0	2,897	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						563	563		2038	2038	2043	100%		100.00%													
			Wall Demolition						126	126		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						790	790		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	21	LOM	Bag House	PD02	Process Plant	Stg1			2,486	2,486	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						202	202		2035	2035	2040	100%															
			Wall Demolition						76	76		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	22	LOM	Chiller	PD03	Process Plant	Stg1			1,045	1,045	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						45	45		2035	2035	2040	100%															
			Wall Demolition						38	38		2035	2035	2040	100%															
			Slab Demolition						0			2035	2035	2040																
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						0			2035	2035	2040																
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	23	LOM	Concrete Pad	PD04	Process Plant	Stg1			2,454	2,454	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						175	175		2035	2035	2040	100%															
			Wall Demolition						71	71		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	24	LOM	Concrete Pad	PD05	Process Plant	Stg1			2,726	2,726	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						400	400		2035	2035	2040	100%															
			Wall Demolition						118	118		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
									$	$						2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
			Slab Demolition						912	912		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	14	LOM	Truck Workshop and Warehouse	FB14	Process Plant	Stg1			22,432	22,432	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						17,600	17,600		2035	2035	2040	100%													
			Wall Demolition						769	769		2035	2035	2040	100%													
			Slab Demolition						2,280	2,280		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						203	203		2035	2035	2040	100%													
	15	LOM	Well #3 Well House	FB15	Water Supply	Stg4			3,874	3,874	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%													
			Wall Demolition						113	113		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	16	LOM	Well #4 Well House	FB16	Water Supply	Stg4			3,874	3,874	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%													
			Wall Demolition						113	113		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	17	LOM	Well #5 Well House	FB17	Water Supply	Stg4			3,874	3,874	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%													
			Wall Demolition						113	113		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	18	LOM	Well #6 Well House	FB18	Water Supply	Stg4			3,874	3,874	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%													
			Wall Demolition						113	113		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	19	LOM	Well #7 Well House	FB19	Water Supply	Stg4			3,874	3,874	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						425	425		2038	2038	2043	100%													
			Wall Demolition						113	113		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						1,918	1,918		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	20	LOM	15 kV circuit breaker	PD01	Power Supply	Stg4			2,897	2,897	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						563	563		2038	2038	2043	100%													
			Wall Demolition						126	126		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						790	790		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	21	LOM	Bag House	PD02	Process Plant	Stg1			2,486	2,486	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						202	202		2035	2035	2040	100%													
			Wall Demolition						76	76		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	22	LOM	Chiller	PD03	Process Plant	Stg1			1,045	1,045	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						45	45		2035	2035	2040	100%													
			Wall Demolition						38	38		2035	2035	2040	100%													
			Slab Demolition						0			2035	2035	2040														
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						0			2035	2035	2040														
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	23	LOM	Concrete Pad	PD04	Process Plant	Stg1			2,454	2,454	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						175	175		2035	2035	2040	100%													
			Wall Demolition						71	71		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	24	LOM	Concrete Pad	PD05	Process Plant	Stg1			2,726	2,726	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						400	400		2035	2035	2040	100%													
			Wall Demolition						118	118		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
									$	$						$		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	25	LOM	Crusher Pad	PD06a	Process Plant	Stg1			3,649	3,649	2035					0			0	0	0	0	0	0	0	0	0	0	3,649	0
			Building Demolition						1,210	1,210		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						231	231		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	26	LOM	Crusher Pad	PD06b	Process Plant	Stg1			3,401	3,401	2035					0			0	0	0	0	0	0	0	0	0	0	3,401	0
			Building Demolition						1,008	1,008		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						185	185		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	27	LOM	Crusher Pad	PD06c	Process Plant	Stg1			2,532	2,532	2035					0			0	0	0	0	0	0	0	0	0	0	2,532	0
			Building Demolition						240	240		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						84	84		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	28	LOM	Cyanide Storage Tank	PD07	Process Plant	Stg1			4,106	4,106	2035					0			0	0	0	0	0	0	0	0	0	0	4,106	0
			Building Demolition						1,680	1,680		2035		2040		0	0%												100.00%	
			Wall Demolition						218	218				2040		0													100.00%	
			Slab Demolition						456	456				2040	100%	0													100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	29	LOM	Cyanide Unloading Pad	PD08	Process Plant	Stg1			5,471	5,471	2035					0			0	0	0	0	0	0	0	0	0	0	5,471	0
			Building Demolition						2,940	2,940		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						323	323		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	30	LOM	Emergency Power Generator	PD09	Process Plant	Stg4			2,717	2,717	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						400	400		2038	2038	2043	100%	0	0%													
			Wall Demolition						109	109		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						790	790		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	31	LOM	Fuel Storage Pad	PD10a	Process Plant	Stg1			2,991	2,991	2035					0			0	0	0	0	0	0	0	0	0	0	2,991	0
			Building Demolition						600	600		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						183	183		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	32	LOM	Fuel Storage Pad	PD10b	Process Plant	Stg1			4,228	4,228	2035					0			0	0	0	0	0	0	0	0	0	0	4,228	0
			Building Demolition						1,785	1,785		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						235	235		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	33	LOM	Lime Silo	PD11	Process Plant	Stg1			3,169	3,169	2035					0			0	0	0	0	0	0	0	0	0	0	3,169	0
			Building Demolition						810	810		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						151	151		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	34	LOM	Potable Water Treatment Plant	PD12	Water Supply	Stg4			2,726	2,726	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						400	400		2038	2038	2043	100%	0	0%													
			Wall Demolition						118	118		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						790	790		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	35	LOM	Ramp	PD13	Process Plant	Stg1			2,563	2,563	2035					0			0	0	0	0	0	0	0	0	0	0	2,563	0
			Building Demolition						263	263		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						92	92		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period	26 years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
									$	$						2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	25	LOM	Crusher Pad	PD06a	Process Plant	Stg1			3,649	3,649	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,210	1,210		2035	2035	2040	100%															
			Wall Demolition						231	231		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	26	LOM	Crusher Pad	PD06b	Process Plant	Stg1			3,401	3,401	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,008	1,008		2035	2035	2040	100%															
			Wall Demolition						185	185		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	27	LOM	Crusher Pad	PD06c	Process Plant	Stg1			2,532	2,532	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						240	240		2035	2035	2040	100%															
			Wall Demolition						84	84		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	28	LOM	Cyanide Storage Tank	PD07	Process Plant	Stg1			4,106	4,106	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,680	1,680		2035		2040																
			Wall Demolition						218	218				2040																
			Slab Demolition						456	456				2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035		2040																
			Ripping/Scarifying						0			2035		2040																
			Revegetation						172	172		2035	2035	2040																
	29	LOM	Cyanide Unloading Pad	PD08	Process Plant	Stg1			5,471		2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,940	2,940		2035	2035	2040	100%															
			Wall Demolition						323	323		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	30	LOM	Emergency Power Generator	PD09	Process Plant	Stg4			2,717	2,717	2038					0	2,717	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						400	400		2038	2038	2043	100%		100.00%													
			Wall Demolition						109	109		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						790	790		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	31	LOM	Fuel Storage Pad	PD10a	Process Plant	Stg1			2,991	2,991	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						600	600		2035	2035	2040	100%															
			Wall Demolition						183	183		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	32	LOM	Fuel Storage Pad	PD10b	Process Plant	Stg1			4,228	4,228	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,785	1,785		2035	2035	2040	100%															
			Wall Demolition						235	235		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	33	LOM	Lime Silo	PD11	Process Plant	Stg1			3,169	3,169	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						810	810		2035	2035	2040	100%															
			Wall Demolition						151	151		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	34	LOM	Potable Water Treatment Plant	PD12	Water Supply	Stg4			2,726	2,726	2038					0	2,726	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						400	400		2038	2038	2043	100%		100.00%													
			Wall Demolition						118	118		2038	2038	2043	100%		100.00%													
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%													
			Cover Placement						790	790		2038	2038	2043	100%		100.00%													
			Growth Media Placement						790	790		2038	2038	2043	100%		100.00%													
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%													
	35	LOM	Ramp	PD13	Process Plant	Stg1			2,563	2,563	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						263	263		2035	2035	2040	100%															
			Wall Demolition						92	92		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
																2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
									$	$																		
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040															
			Revegetation						172	172		2035	2035	2040	100%													
	25	LOM	Crusher Pad	PD06a	Process Plant	Stg1			3,649	3,649	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,210	1,210		2035	2035	2040	100%													
			Wall Demolition						231	231		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	26	LOM	Crusher Pad	PD06b	Process Plant	Stg1			3,401	3,401	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,008	1,008		2035	2035	2040	100%													
			Wall Demolition						185	185		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	27	LOM	Crusher Pad	PD06c	Process Plant	Stg1			2,532	2,532	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						240	240		2035	2035	2040	100%													
			Wall Demolition						84	84		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	28	LOM	Cyanide Storage Tank	PD07	Process Plant	Stg1			4,106	4,106	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,680	1,680		2035		2040														
			Wall Demolition						218	218		2035		2040														
			Slab Demolition						456	456		2035		2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035		2040														
			Ripping/Scarifying						0			2035		2040														
			Revegetation						172	172		2035	2035	2040	100%													
	29	LOM	Cyanide Unloading Pad	PD08	Process Plant	Stg1			5,471	5,471	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,940	2,940		2035	2035	2040	100%													
			Wall Demolition						323	323		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	30	LOM	Emergency Power Generator	PD09	Process Plant	Stg4			2,717	2,717	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						400	400		2038	2038	2043	100%													
			Wall Demolition						109	109		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						790	790		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	31	LOM	Fuel Storage Pad	PD10a	Process Plant	Stg1			2,991	2,991	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						600	600		2035	2035	2040	100%													
			Wall Demolition						183	183		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	32	LOM	Fuel Storage Pad	PD10b	Process Plant	Stg1			4,228	4,228	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						1,785	1,785		2035	2035	2040	100%													
			Wall Demolition						235	235		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	33	LOM	Lime Silo	PD11	Process Plant	Stg1			3,169	3,169	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						810	810		2035	2035	2040	100%													
			Wall Demolition						151	151		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	34	LOM	Potable Water Treatment Plant	PD12	Water Supply	Stg4			2,726	2,726	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						400	400		2038	2038	2043	100%													
			Wall Demolition						118	118		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						790	790		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	35	LOM	Ramp	PD13	Process Plant	Stg1			2,563	2,563	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						263	263		2035	2035	2040	100%													
			Wall Demolition						92	92		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
																		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
									$	$						$														
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	36	LOM	Ramp	PD14	Process Plant	Stg1			2,476	2,476	2035					0			0	0	0	0	0	0	0	0	0	0	2,476	0
			Building Demolition						192	192		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						76	76		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	37	LOM	Ramp	PD15	Process Plant	Stg1			2,454	2,454	2035					0			0	0	0	0	0	0	0	0	0	0	2,454	0
			Building Demolition						175	175		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						71	71		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	38	LOM	Reagent Storage	PD16	Process Plant	Stg1			20,842	20,842	2035					0			0	0	0	0	0	0	0	0	0	0	20,842	0
			Building Demolition						16,088	16,088		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						722	722		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						2,280	2,280		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	39	LOM	Truck Wash	PD17	Process Plant	Stg1			5,294	5,294	2035					0			0	0	0	0	0	0	0	0	0	0	5,294	0
			Building Demolition						2,800	2,800		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						286	286		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	40	LOM	UG Backfill Plant	PD18	Underground Mine	Stg1			17,310	17,310	2035					0			0	0	0	0	0	0	0	0	0	0	17,310	0
			Building Demolition						13,125	13,125		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						609	609		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						1,824	1,824		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	41	LOM	Vent Shaft #1 Foundation	PD19	Underground Mine	Stg1			9,334	9,334	2035					0			0	0	0	0	0	0	0	0	0	0	9,334	0
			Building Demolition						6,250	6,250		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						420	420		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						912	912		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	42	LOM	Wet Scrubber	PD20	Process Plant	Stg1			2,363	2,363	2035					0			0	0	0	0	0	0	0	0	0	0	2,363	0
			Building Demolition						100	100		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						55	55		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	43	LOM	Water Tank	WT01	Water Supply	Stg4			4,710	4,710	2038					0			0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,250	2,250		2038	2038	2043	100%	0	0%													
			Wall Demolition						252	252		2038	2038	2043	100%	0	0%													
			Slab Demolition						456	456		2038	2038	2043	100%	0	0%													
			Cover Placement						790	790		2038	2038	2043	100%	0	0%													
			Growth Media Placement						790	790		2038	2038	2043	100%	0	0%													
			Ripping/Scarifying						0			2038	2038	2043		0	0%													
			Revegetation						172	172		2038	2038	2043	100%	0	0%													
	44	LOM	Process Water Tank	WT02	Process Plant	Stg1			3,270	3,270	2035					0			0	0	0	0	0	0	0	0	0	0	3,270	0
			Building Demolition						902	902		2035	2035	2040	100%	0	0%												100.00%	
			Wall Demolition						160	160		2035	2035	2040	100%	0	0%												100.00%	
			Slab Demolition						456	456		2035	2035	2040	100%	0	0%												100.00%	
			Cover Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						790	790		2035	2035	2040	100%	0	0%												100.00%	
			Ripping/Scarifying						0			2035	2035	2040		0	0%												100.00%	
			Revegetation						172	172		2035	2035	2040	100%	0	0%												100.00%	
	DIVERSION DITCHES								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	SEDIMENT PONDS								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	OTHER DEMOLITION & EQUIPMENT REMOVAL																													
	Other Demolition								**0**	**0**									**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Equipment Removal								**46,966**	**46,966**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,685**	**43,090**	**0**
	1	LOM	Water Tank removal	WT01	Water Supply	Stg4			510	510	2038	2038	2038	2043	100%	0	0%													
	2	LOM	TWRSF - Closure(Leakage Detection Removal)	WD01	Temporary Waste Rock S	Stg1			15,047	15,047	2035	2035	2035	2040	100%	0	0%												100.00%	
	3	LOM	TWRSF - Closure(HDPE Liner Removal , OffSite D	WD01	Temporary Waste Rock S	Stg1			26,852	26,852	2039	2035	2035	2040	100%	0	0%												100.00%	
	4	LOM	Oil-Water Separator	PD17	Process Plant	Stg1			681	681	2035	2035	2035	2040	100%	0	0%												100.00%	
	5	LOM	Generator removal (2)		Process Plant	Stg4			681	681	2038	2038	2038	2043	100%	0	0%													
	6	LOM	Fuel Tank removal	PD10a	Process Plant	Stg1			510	510	2035	2035	2035	2040	100%	0	0%												100.00%	
	7	LOM	Ore Stockpile - Closure(HDPE Liner Removal , Off	ST02	Process Plant	Stg1			2,685	2,685	2034	2034	2034	2035	100%	0	0%											100.00%		
	EXPLORATION																													
	Drillholes								**413**	**413**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**413**	**0**
	1	LOM	Drill Holes		Exploration	Stg1			413	413	2035	2035	2035	2040	100%	0	0%												100.00%	
	Trenches								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	EXPLORATION ROADS AND PADS								**7,501**	**7,501**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7,501**	**0**

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
									$	$						2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
			Revegetation						172	172		2035	2035	2040	100%															
	36	LOM	Ramp	PD14	Process Plant	Stg1			2,476	2,476	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						192	192		2035	2035	2040	100%															
			Wall Demolition						76	76		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	37	LOM	Ramp	PD15	Process Plant	Stg1			2,454	2,454	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						175	175		2035	2035	2040	100%															
			Wall Demolition						71	71		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	38	LOM	Reagent Storage	PD16	Process Plant	Stg1			20,842	20,842	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						16,088	16,088		2035	2035	2040	100%															
			Wall Demolition						722	722		2035	2035	2040	100%															
			Slab Demolition						2,280	2,280		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	39	LOM	Truck Wash	PD17	Process Plant	Stg1			5,294	5,294	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,800	2,800		2035	2035	2040	100%															
			Wall Demolition						286	286		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	40	LOM	UG Backfill Plant	PD18	Underground Mine	Stg1			17,310	17,310	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						13,125			2035	2035	2040																
			Wall Demolition						609			2035	2035	2040	100%															
			Slab Demolition						1,824	1,824		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	41	LOM	Vent Shaft #1 Foundation	PD19	Underground Mine	Stg1			9,334	9,334	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						6,250	6,250		2035	2035	2040	100%															
			Wall Demolition						420	420		2035	2035	2040	100%															
			Slab Demolition						912	912		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	42	LOM	Wet Scrubber	PD20	Process Plant	Stg1			2,363	2,363	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						100	100		2035	2035	2040	100%															
			Wall Demolition						55	55		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
	43	LOM	Water Tank	WT01	Water Supply	Stg4			4,710	4,710	2038					0	4,710	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,250	2,250		2038	2038	2043	100%		100.00%														
			Wall Demolition						252	252		2038	2038	2043	100%		100.00%														
			Slab Demolition						456	456		2038	2038	2043	100%		100.00%														
			Cover Placement						790	790		2038	2038	2043	100%		100.00%														
			Growth Media Placement						790	790		2038	2038	2043	100%		100.00%														
			Ripping/Scarifying						0			2038	2038	2043																
			Revegetation						172	172		2038	2038	2043	100%		100.00%														
	44	LOM	Process Water Tank	WT02	Process Plant	Stg1			3,270	3,270	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						902	902		2035	2035	2040	100%															
			Wall Demolition						160	160		2035	2035	2040	100%															
			Slab Demolition						456	456		2035	2035	2040	100%															
			Cover Placement						790	790		2035	2035	2040	100%															
			Growth Media Placement						790	790		2035	2035	2040	100%															
			Ripping/Scarifying						0			2035	2035	2040																
			Revegetation						172	172		2035	2035	2040	100%															
DIVERSION DITCHES									**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SEDIMENT PONDS									**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
OTHER DEMOLITION & EQUIPMENT REMOVAL																														
Other Demolition									**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Equipment Removal									**46,966**	**46,966**						**0**	**1,191**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Water Tank removal	WT01	Water Supply	Stg4			510	510	2038	2038	2038	2043	100%		100.00%														
	2	LOM	TWRSF - Closure(Leakage Detection Removal)	WD01	Temporary Waste Rock S	Stg1			15,047	15,047	2035	2035	2035	2040	100%																
	3	LOM	TWRSF - Closure(HDPE Liner Removal , OffSite D	WD01	Temporary Waste Rock S	Stg1			26,852	26,852	2035	2035	2035	2040	100%																
	4	LOM	Oil-Water Separator	PD17	Process Plant	Stg1			681	681	2039	2035	2035	2040	100%																
	5	LOM	Generator removal (2)		Process Plant	Stg4			681	681	2038	2038	2038	2043	100%		100.00%														
	6	LOM	Fuel Tank removal	PD10a	Process Plant	Stg1			510	510	2035	2035	2035	2040	100%																
	7	LOM	Ore Stockpile - Closure(HDPE Liner Removal , Off	ST02	Process Plant	Stg1			2,685	2,685	2034	2034	2034	2035	100%																
EXPLORATION																														
Drillholes									**413**	**413**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Drill Holes		Exploration	Stg1			413	413	2035	2035	2035	2040	100%																
Trenches									**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
EXPLORATION ROADS AND PADS									**7,501**	**7,501**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
																2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
									$	$																		
			Revegetation						172	172		2035	2035	2040	100%													
	36	LOM	Ramp	PD14	Process Plant	Stg1			2,476	2,476	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						192	192		2035	2035	2040	100%													
			Wall Demolition						76	76		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	37	LOM	Ramp	PD15	Process Plant	Stg1			2,454	2,454	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						175	175		2035	2035	2040	100%													
			Wall Demolition						71	71		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	38	LOM	Reagent Storage	PD16	Process Plant	Stg1			20,842	20,842	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						16,088	16,088		2035	2035	2040	100%													
			Wall Demolition						722	722		2035	2035	2040	100%													
			Slab Demolition						2,280	2,280		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	39	LOM	Truck Wash	PD17	Process Plant	Stg1			5,294	2,294	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,800	2,800		2035	2035	2040	100%													
			Wall Demolition						286	286		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	40	LOM	UG Backfill Plant	PD18	Underground Mine	Stg1			17,310	17,310	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						13,125			2035	2035	2040														
			Wall Demolition						609			2035	2035	2040	100%													
			Slab Demolition						1,824	1,824		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	41	LOM	Vent Shaft #1 Foundation	PD19	Underground Mine	Stg1			9,334	9,334	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						6,250	6,250		2035	2035	2040	100%													
			Wall Demolition						420	420		2035	2035	2040	100%													
			Slab Demolition						912	912		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	42	LOM	Wet Scrubber	PD20	Process Plant	Stg1			2,363	2,363	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						100	100		2035	2035	2040	100%													
			Wall Demolition						55	55		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	43	LOM	Water Tank	WT01	Water Supply	Stg4			4,710	4,710	2038					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						2,250	2,250		2038	2038	2043	100%													
			Wall Demolition						252	252		2038	2038	2043	100%													
			Slab Demolition						456	456		2038	2038	2043	100%													
			Cover Placement						790	790		2038	2038	2043	100%													
			Growth Media Placement						790	790		2038	2038	2043	100%													
			Ripping/Scarifying						0			2038	2038	2043														
			Revegetation						172	172		2038	2038	2043	100%													
	44	LOM	Process Water Tank	WT02	Process Plant	Stg1			3,270	3,270	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Building Demolition						902	902		2035	2035	2040	100%													
			Wall Demolition						160	160		2035	2035	2040	100%													
			Slab Demolition						456	456		2035	2035	2040	100%													
			Cover Placement						790	790		2035	2035	2040	100%													
			Growth Media Placement						790	790		2035	2035	2040	100%													
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						172	172		2035	2035	2040	100%													
	DIVERSION DITCHES								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	SEDIMENT PONDS								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	OTHER DEMOLITION & EQUIPMENT REMOVAL																											
	Other Demolition								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Equipment Removal								**46,966**	**46,966**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Water Tank removal	WT01	Water Supply	Stg4			510	510	2038	2038	2038	2043	100%													
	2	LOM	TWRSF - Closure(Leakage Detection Removal)	WD01	Temporary Waste Rock S	Stg1			15,047	15,047	2035	2035	2035	2040	100%													
	3	LOM	TWRSF - Closure(HDPE Liner Removal , OffSite D	WD01	Temporary Waste Rock S	Stg1			26,852	26,852	2035	2035	2035	2040	100%													
	4	LOM	Oil-Water Separator	PD17	Process Plant	Stg1			681	681	2035	2035	2035	2040	100%													
	5	LOM	Generator removal (2)		Process Plant	Stg4			681	681	2038	2038	2038	2043	100%													
	6	LOM	Fuel Tank removal	PD10a	Process Plant	Stg1			510	510	2035	2035	2035	2040	100%													
	7	LOM	Ore Stockpile - Closure(HDPE Liner Removal , Off	ST02	Process Plant	Stg1			2,685	2,685	2034	2034	2034	2035	100%													
	EXPLORATION																											
	Drillholes								**413**	**413**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Drill Holes		Exploration	Stg1			413	413	2035	2035	2035	2040	100%													
	Trenches								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	EXPLORATION ROADS AND PADS								**7,501**	**7,501**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis:** Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
									$	$						$		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	1	LOM	Exploration Surface Disturbance		Exploration	Stg1			7,501	7,501	2035					0			0	0	0	0	0	0	0	0	0	0	7,501	0
			Regrading						3,007	3,007		2035	2035	2040	100%	0	0%												100.00%	
			Growth Media Placement						0			2035	2035	2040		0	0%													
			Ripping/Scarifying						0			2035	2035	2040		0	0%													
			Revegetation						4,494	4,494		2035	2035	2040	100%	0	0%												100.00%	
	WELL ABANDONMENT																													
	Production and Dewatering Wells								**71,596**	**71,596**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Production Well 4	W-W4	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%	0	0%													
	2	LOM	Production Well 5	W-W5	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%	0	0%													
	3	LOM	Production Well 6 (Alt)	W-W6	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%	0	0%													
	4	LOM	Production Well 7 (Alt)	W-W7	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%	0	0%													
	Monitor Wells								**17,329**	**17,329**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	GMW19-1	MW-1	Monitoring	Stg5			2,240	2,240	2064	2064	2064	2069	100%	0	0%													
	2	LOM	GMW19-2	MW-2	Monitoring	Stg5			1,647	1,647	2064	2064	2064	2069	100%	0	0%													
	3	LOM	GMW19-3	MW-3	Monitoring	Stg5			2,346	2,346	2064	2064	2064	2069	100%	0	0%													
	4	LOM	GMW19-4	MW-4	Monitoring	Stg5			2,776	2,776	2064	2064	2064	2069	100%	0	0%													
	5	LOM	GMW19-5	MW-5	Monitoring	Stg5			1,647	1,647	2064	2064	2064	2069	100%	0	0%													
	6	LOM	GMW19-6	MW-6	Monitoring	Stg5			2,240	2,240	2064	2064	2064	2069	100%	0	0%													
	7	LOM	GMW19-7	MW-7	Monitoring	Stg5			1,657	1,657	2064	2064	2064	2069	100%	0	0%													
	8	LOM	GMW19-8	MW-8	Monitoring	Stg5			2,776	2,776	2064	2064	2064	2069	100%	0	0%													
	WATER/SOLUTION MANAGEMENT																													
	Pumping								**677,933**	**677,933**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**338,846**	**339,086**
	1	LOM	Pumping - Stage 1 TSF evaporation		Tailings Storage Facility	Stg1			338,846	338,846	2035	2035	2035	2041	100%	0	0%												100.00%	
	2	LOM	Pumping - Stage 2 TSF evaporation		Tailings Storage Facility	Stg2			339,086	339,086	2036	2036	2036	2042	100%	0	0%													100.00%
	Forced Evaporation								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Water Treatment								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Decontamination								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	WASTE MANAGEMENT																													
	Solid Waste								**97,319**	**290,567**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**290,567**	**0**
	1	LOM	Misc. Site Clean-Up		Process Plant	Stg1			1,086	1,086	35	2035		040		0	0%												100.00%	
	2	LOM	TWRSF - Solid Disposal	WD01	Temporary Waste Rock S	Stg1			81,010	81,010	35			040	100													100.00%	
	3	LOM	Ore Stockpile - Liner Solid Disposal	ST01	TWRSF and Ore Stockpi	Stg1			6,752	Enter Dates	35						0%												100.00%	
	4	LOM	Process Plant Site Off-site Disposal following Dem		Process Plant	Stg1			208,471	208,471	35	2035	2035	040	100%		0%												100.00%	
	Hazardous Waste								**73,264**	**73,264**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**73,264**	**0**
	1	LOM	Misc. Solid Hazardous Waste		Process Plant	Stg1			11,252	11,252	2035		35	040														100.00%	
	2	LOM	Misc. Liquid Hazardous Waste		Process Plant	Stg1			62,013	62,013	2035		2035	040	100%	0	0%											100.00%	
	Hydrocarbon Contaminated Soils								**4,419**	**4,419**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4,419**	**0**
	1	LOM	Misc. Hydrocarbon Contaminated Soils		Process Plant	Stg1			4,419	4,419	2035	2035	2036	2040	100%	0	0%												100.00%	
	OTHER USER COSTS								**2,787,184**	**2,787,184**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**50,000**	**1,977,888**
	1	LOM	Phase II TSF - 60 mil double-sided textured LLDPE	T01	Tailings Storage Facility	Stg2			1,257,790	1,257,790	2036	2036	2036	2041	100%	0	0%													100.00%
	2	LOM	Phase II TSF - 12 oz/yd^2 non-woven geotextile Sti	T01	Tailings Storage Facility	Stg2			609,701	609,701	2036	2036	2036	2041	100%	0	0%													100.00%
	3	LOM	Phase II Drill&Blast - Cover 1 (TSF Purposes) Stg2	T01	Tailings Storage Facility	Stg2			110,397	110,397	2036	2036	2037	2041	100%	0	0%													100.00%
	4	LOM	Phase II TSF - 60 mil double-sided textured LLDPE	T01	Tailings Storage Facility	Stg3			419,263	419,263	2037	2037	2037	2042	100%	0	0%													
	5	LOM	Phase II TSF - 12 oz/yd^2 non-woven geotextile Sti	T01	Tailings Storage Facility	Stg3			203,234	203,234	2037	2037	2037	2042	100%	0	0%													
	6	LOM	Phase II Drill&Blast - Cover 1 (TSF Purposes) Stg3	T01	Tailings Storage Facility	Stg3			36,799	36,799	2037	2037	2037	2042	100%	0	0%													
	7	LOM	Spillway for TSF	T01	Tailings Storage Facility	Stg3			100,000	100,000	2037	2037	2037	2042	100%	0	0%													
	8	LOM	Spillway for TWRSF	WD01	Temporary Waste Rock S	Stg1			50,000	50,000	2035	2035	2035	2040	100%	0	0%												100.00%	
	MISCELLANEOUS COSTS																													
	Fence Removal								**77,698**	**77,698**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,138**	**0**
	1	LOM	Project Perimeter Fence	F01	Infrastructure & Ancillary	Stg4			72,966	72,966	2038	2038	2038	2043	100%	0	0%													
	2	LOM	Gold Room Fence	F02	Process Plant	Stg1			480	480	2035	2035	2035	2040	100%	0	0%												100.00%	
	3	LOM	Substation Fence	F03	Process Plant	Stg1			658	658	2035	2035	2035	2040	100%	0	0%												100.00%	
	4	LOM	Well #3 Fence	F04	Water Supply	Stg4			698	698	2038	2038	2038	2043	100%	0	0%													
	5	LOM	Well #4 Fence	F05	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%	0	0%													
	6	LOM	Well #5 Fence	F06	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%	0	0%													
	7	LOM	Well #6 Fence	F07	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%	0	0%													
	8	LOM	Well #7 Fence	F08	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%	0	0%													
	Fence Installation								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Culvert & Buried Pipe Removal								**4,343**	**4,343**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**599**	**0**
	1	LOM	Culvert 5	C05	Roads	Stg5			612	612	2064	2064	2064	2069	100%	0	0%													
	2	LOM	Culvert 6	C06	Roads	Stg5			783	783	2064	2064	2064	2069	100%	0	0%													
	3	LOM	Culvert 7	C07	Roads	Stg1			318	318	2035	2035	2035	2040	100%	0	0%												100.00%	
	4	LOM	Culvert 8	C08	Roads	Stg1			281	281	2035	2035	2035	2040	100%	0	0%												100.00%	
	5	LOM	Culvert 9	C09	Roads	Stg3			722	722	2037	2037	2037	2042	100%	0	0%													
	6	LOM	Culvert 10	C10	Roads	Stg3			832	832	2037	2037	2037	2042	100%	0	0%													
	7	LOM	Culvert 11	C11	Roads	Stg3			795	795	2037	2037	2037	2042	100%	0	0%													
	Surface Pipe Removal								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Power Line and Substation Removal								**1,164,654**	**1,164,654**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Power Line 1	PL01	Power Supply	Stg4			38,574	38,574	2038	2038	2038	2043	100%	0	0%													
	2	LOM	Power Line 2	PL02	Power Supply	Stg4			19,023	19,023	2038	2038	2038	2043	100%	0	0%													
	3	LOM	Power Line 3	PL03	Power Supply	Stg4			27,235	27,235	2038	2038	2038	2043	100%	0	0%													
	4	LOM	Main Power Line (Overhead Transmission Line)	PL04	Power Supply	Stg4			1,079,822	1,079,822	2038	2038	2038	2043	100%	0	0%													
	Rip-Rap & Rock Lining								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	MONITORING																													
	Reclamation Monitoring								**766,823**	**766,823**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Fieldwork		Monitoring	Stg4			383,411	383,411	2039	2038	2039	2043	100%	0	0%													
	2	LOM	Reporting		Monitoring	Stg4			383,411	383,411	2039	2038	2039	2043	100%	0	0%													
	Water/Rock Quality Monitoring								**644,168**	**644,168**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**46,849**	**46,849**
	1	LOM	NDEP Profile I Water (Frist 5 years)		Monitoring	Stg4			234,243	234,243	2035	2035	2039	2064	100%	0	0%	0	0	0	0	0	0	0	0	0	0	46,849	46,849
	2	LOM	NDEP Profile I Water (Year 6-15 years years)		Monitoring	Stg4			234,243	234,243	2040	2040	2049	2064	100%	0	0%	0	0	0	0	0	0	0	0	0	0	0	0
	3	LOM	NDEP Profile I Water (Year 16-30 years years)		Monitoring	Stg4			175,682	175,682	2050	2050	2064	2064	100%	0	0%	0	0	0	0	0	0	0	0	0	0	0	0
	Sampling Pump Purchase								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	RECLAMATION MAINTENANCE																													
	Revegetation Maintenance								**19,366**	**19,366**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4,842**
	1	LOM	Revegetation Maintenance		Monitoring	Stg1			19,366	19,366	2035	2036	2039	2044	100%	0	0%													25.00%
	Cover Maintenance								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Growth Media Maintenance								**121,123**	**121,123**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30,281**
	1	LOM	Erosion Maintenance		Monitoring	Stg1			121,123	121,123	2035	2036	2039	2044	100%	0	0%													25.00%
	CONSTRUCTION MANAGEMENT																													
	Construction Management								**391,600**	**391,600**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**106,800**	**106,800**

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
																2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
									$	$																				
	1	LOM	Exploration Surface Disturbance		Exploration	Stg1			7,501	7,501	2035					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						3,007	3,007		2035	2035	2040	100%															
			Growth Media Placement						0			2035	2035	2040																	
			Ripping/Scarifying						0			2035	2035	2040																	
			Revegetation						4,494	4,494		2035	2035	2040	100%																
	WELL ABANDONMENT																													
	Production and Dewatering Wells								**71,596**	**71,596**						0	**71,596**	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Production Well 4	W-W4	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%		100.00%													
	2	LOM	Production Well 5	W-W5	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%		100.00%													
	3	LOM	Production Well 6 (Alt)	W-W6	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%		100.00%													
	4	LOM	Production Well 7 (Alt)	W-W7	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%		100.00%													
	Monitor Wells								**17,329**	**17,329**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	GMW19-1	MW-1	Monitoring	Stg5			2,240	2,240	2064	2064	2064	2069	100%															
	2	LOM	GMW19-2	MW-2	Monitoring	Stg5			1,647	1,647	2064	2064	2064	2069	100%															
	3	LOM	GMW19-3	MW-3	Monitoring	Stg5			2,346	2,346	2064	2064	2064	2069	100%															
	4	LOM	GMW19-4	MW-4	Monitoring	Stg5			2,776	2,776	2064	2064	2064	2069	100%															
	5	LOM	GMW19-5	MW-5	Monitoring	Stg5			1,647	1,647	2064	2064	2064	2069	100%															
	6	LOM	GMW19-6	MW-6	Monitoring	Stg5			2,240	2,240	2064	2064	2064	2069	100%															
	7	LOM	GMW19-7	MW-7	Monitoring	Stg5			1,657	1,657	2064	2064	2064	2069	100%															
	8	LOM	GMW19-8	MW-8	Monitoring	Stg5			2,776	2,776	2064	2064	2064	2069	100%															
	WATER/SOLUTION MANAGEMENT																													
	Pumping								**677,933**	**677,933**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Pumping - Stage 1 TSF evaporation		Tailings Storage Facility	Stg1			338,846	338,846	2035	2035	2035	2041	100%															
	2	LOM	Pumping - Stage 2 TSF evaporation		Tailings Storage Facility	Stg2			339,086	339,086	2036	2036	2036	2042	100%															
	Forced Evaporation								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Water Treatment								**0**							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Decontamination								**0**							0					0	0	0	0	0	0	0	0	0	0
	WASTE MANAGEMENT																													
	Solid Waste								**97,319**	**290,567**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Misc. Site Clean-Up		Process Plant	Stg1			1,086	1,086	35	2035		040																
	2	LOM	TWRSF - Solid Disposal	WD01	Temporary Waste Rock S	Stg1			81,010	81,010	35			040	100%																
	3	LOM	Ore Stockpile - Liner Solid Disposal	ST01	TWRSF and Ore Stockpil	Stg1			6,752	Enter Dates	35																				
	4	LOM	Process Plant Site Off-site Disposal following Dem		Process Plant	Stg1			208,471	208,471	35	2035	2035	040	100%																
	Hazardous Waste								**73,264**	**73,264**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Misc. Solid Hazardous Waste		Process Plant	Stg1			11,250	11,250	2035		35	040																
	2	LOM	Misc. Liquid Hazardous Waste		Process Plant	Stg1			62,013		2035		2035	040	100%																
	Hydrocarbon Contaminated Soils								**4,419**	**4,419**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Misc. Hydrocarbon Contaminated Soils		Process Plant	Stg1			4,419	4,419	2035	2035	2036	2040	100%															
	OTHER USER COSTS								**2,787,184**	**2,787,184**						**759,296**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Phase II TSF - 60 mil double-sided textured LLDPE	T01	Tailings Storage Facility	Stg2			1,257,790	1,257,790	2036	2036	2036	2041	100%															
	2	LOM	Phase II TSF - 12 oz/yd^2 non-woven geotextile St	T01	Tailings Storage Facility	Stg2			609,701	609,701	2036	2036	2036	2041	100%															
	3	LOM	Phase II Drill&Blast - Cover 1 (TSF Purposes) Stg2	T01	Tailings Storage Facility	Stg2			110,397	110,397	2036	2036	2037	2041	100%															
	4	LOM	Phase II TSF - 60 mil double-sided textured LLDPE	T01	Tailings Storage Facility	Stg3			419,263	419,263	2037	2037	2037	2042	100%	100.00%														
	5	LOM	Phase II TSF - 12 oz/yd^2 non-woven geotextile St	T01	Tailings Storage Facility	Stg3			203,234	203,234	2037	2037	2037	2042	100%	100.00%														
	6	LOM	Phase II Drill&Blast - Cover 1 (TSF Purposes) Stg3	T01	Tailings Storage Facility	Stg3			36,799	36,799	2037	2037	2037	2042	100%	100.00%														
	7	LOM	Spillway for TSF	T01	Tailings Storage Facility	Stg3			100,000	100,000	2037	2037	2037	2042	100%	100.00%														
	8	LOM	Spillway for TWRSF	WD01	Temporary Waste Rock S	Stg1			50,000	50,000	2035	2035	2035	2040	100%															
	MISCELLANEOUS COSTS																													
	Fence Removal								**77,698**	**77,698**						0	**76,560**	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Project Perimeter Fence	F01	Infrastructure & Ancillary	Stg4			72,966	72,966	2038	2038	2038	2043	100%		100.00%													
	2	LOM	Gold Room Fence	F02	Process Plant	Stg1			480	480	2035	2035	2035	2040	100%															
	3	LOM	Substation Fence	F03	Process Plant	Stg1			658	658	2035	2035	2035	2040	100%															
	4	LOM	Well #3 Fence	F04	Water Supply	Stg4			698	698	2038	2038	2038	2043	100%		100.00%													
	5	LOM	Well #4 Fence	F05	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%		100.00%													
	6	LOM	Well #5 Fence	F06	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%		100.00%													
	7	LOM	Well #6 Fence	F07	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%		100.00%													
	8	LOM	Well #7 Fence	F08	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%		100.00%													
	Fence Installation								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Culvert & Buried Pipe Removal								**4,343**	**4,343**						**2,349**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Culvert 5	C05	Roads	Stg5			612	612	2064	2064	2064	2069	100%															
	2	LOM	Culvert 6	C06	Roads	Stg5			783	783	2064	2064	2064	2069	100%															
	3	LOM	Culvert 7	C07	Roads	Stg1			318	318	2035	2035	2035	2040	100%															
	4	LOM	Culvert 8	C08	Roads	Stg1			281	281	2035	2035	2035	2040	100%															
	5	LOM	Culvert 9	C09	Roads	Stg3			722	722	2037	2037	2037	2042	100%	100.00%														
	6	LOM	Culvert 10	C10	Roads	Stg3			832	832	2037	2037	2037	2042	100%	100.00%														
	7	LOM	Culvert 11	C11	Roads	Stg3			795	795	2037	2037	2037	2042	100%	100.00%														
	Surface Pipe Removal								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Power Line and Substation Removal								**1,164,654**	**1,164,654**						0	**1,164,654**	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Power Line 1	PL01	Power Supply	Stg4			38,574	38,574	2038	2038	2038	2043	100%		100.00%													
	2	LOM	Power Line 2	PL02	Power Supply	Stg4			19,023	19,023	2038	2038	2038	2043	100%		100.00%													
	3	LOM	Power Line 3	PL03	Power Supply	Stg4			27,235	27,235	2038	2038	2038	2043	100%		100.00%													
	4	LOM	Main Power Line (Overhead Transmission Line)	PL04	Power Supply	Stg4			1,079,822	1,079,822	2038	2038	2038	2043	100%		100.00%													
	Rip-Rap & Rock Lining								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MONITORING																													
	Reclamation Monitoring								**766,823**	**766,823**						0	**383,411**	**383,411**	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Fieldwork		Monitoring	Stg4			383,411	383,411	2039	2038	2039	2043	100%		50.00%	50.00%												
	2	LOM	Reporting		Monitoring	Stg4			383,411	383,411	2039	2038	2039	2043	100%		50.00%	50.00%												
	Water/Rock Quality Monitoring								**644,168**	**644,168**						**46,849**	**46,849**	**46,849**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**11,712**	**11,712**
	1	LOM	NDEP Profile I Water (Frist 5 years)		Monitoring	Stg4			234,243	234,243	2035	2035	2039	2064	100%	46,849	46,849	46,849	0	0	0	0	0	0	0	0	0	0	0	0
	2	LOM	NDEP Profile I Water (Year 6-15 years years)		Monitoring	Stg4			234,243	234,243	2040	2040	2049	2064	100%	0	0	0	23,424	23,424	23,424	23,424	23,424	23,424	23,424	23,424	23,424	23,424	0	0
	3	LOM	NDEP Profile I Water (Year 16-30 years years)		Monitoring	Stg4			175,682	175,682	2050	2050	2064	2064	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	11,712	11,712
	Sampling Pump Purchase								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RECLAMATION MAINTENANCE																													
	Revegetation Maintenance								**19,366**	**19,366**						**4,842**	**4,842**	**4,842**	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Revegetation Maintenance		Monitoring	Stg1			19,366	19,366	2035	2036	2039	2044	100%	25.00%	25.00%	25.00%												
	Cover Maintenance								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Growth Media Maintenance								**121,123**	**121,123**						**30,281**	**30,281**	**30,281**	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Erosion Maintenance		Monitoring	Stg1			121,123	121,123	2035	2036	2039	2044	100%	25.00%	25.00%	25.00%												
	CONSTRUCTION MANAGEMENT																													
	Construction Management								**391,600**	**391,600**						**106,800**	**53,400**	0	0	0	0	0	0	0	0	0	0	0	0	0

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
									$	$						2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
	1	LOM	Exploration Surface Disturbance		Exploration	Stg1			7,501	7,501	2035					0	0	0	0	0	0	0	0	0	0	0	0	0
			Regrading						3,007	3,007		2035	2035	2040	100%													
			Growth Media Placement						0			2035	2035	2040														
			Ripping/Scarifying						0			2035	2035	2040														
			Revegetation						4,494	4,494		2035	2035	2040	100%													
	WELL ABANDONMENT																											
	Production and Dewatering Wells								**71,596**	**71,596**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Production Well 4	W-W4	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%													
	2	LOM	Production Well 5	W-W5	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%													
	3	LOM	Production Well 6 (Alt)	W-W6	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%													
	4	LOM	Production Well 7 (Alt)	W-W7	Water Supply	Stg4			17,899	17,899	2038	2038	2038	2043	100%													
	Monitor Wells								**17,329**	**17,329**						0	0	0	0	0	0	0	0	0	0	0	0	17,329
	1	LOM	GMW19-1	MW-1	Monitoring	Stg5			2,240	2,240	2064	2064	2064	2069	100%													100.00%
	2	LOM	GMW19-2	MW-2	Monitoring	Stg5			1,647	1,647	2064	2064	2064	2069	100%													100.00%
	3	LOM	GMW19-3	MW-3	Monitoring	Stg5			2,346	2,346	2064	2064	2064	2069	100%													100.00%
	4	LOM	GMW19-4	MW-4	Monitoring	Stg5			2,776	2,776	2064	2064	2064	2069	100%													100.00%
	5	LOM	GMW19-5	MW-5	Monitoring	Stg5			1,647	1,647	2064	2064	2064	2069	100%													100.00%
	6	LOM	GMW19-6	MW-6	Monitoring	Stg5			2,240	2,240	2064	2064	2064	2069	100%													100.00%
	7	LOM	GMW19-7	MW-7	Monitoring	Stg5			1,657	1,657	2064	2064	2064	2069	100%													100.00%
	8	LOM	GMW19-8	MW-8	Monitoring	Stg5			2,776	2,776	2064	2064	2064	2069	100%													100.00%
	WATER/SOLUTION MANAGEMENT																											
	Pumping								**677,933**	**677,933**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Pumping - Stage 1 TSF evaporation		Tailings Storage Facility	Stg1			338,846	338,846	2035	2035	2035	2041	100%													
	2	LOM	Pumping - Stage 2 TSF evaporation		Tailings Storage Facility	Stg2			339,086	339,086	2036	2036	2036	2042	100%													
	Forced Evaporation								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0
	Water Treatment								**0**							0	0	0	0	0	0	0	0	0	0	0	0	0
	Decontamination								**0**							0	0	0	0	0	0	0	0	0	0	0	0	0
	WASTE MANAGEMENT																											
	Solid Waste								**297,319**	**290,567**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Misc. Site Clean-Up		Process Plant	Stg1			1,086	1,086	35	2035		040														
	2	LOM	TWRSF - Solid Disposal	WD01	Temporary Waste Rock S	Stg1			81,010	81,010	35			040	100%													
	3	LOM	Ore Stockpile - Liner Solid Disposal	ST01	TWRSF and Ore Stockpil	Stg1			6,752	Enter Dates	35																	
	4	LOM	Process Plant Site Off-site Disposal following Dem		Process Plant	Stg1			208,471	208,471	35	2035	2035	040	100%													
	Hazardous Waste								**73,264**	**73,264**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Misc. Solid Hazardous Waste		Process Plant	Stg1			11,250	11,250	2035	035	035	040														
	2	LOM	Misc. Liquid Hazardous Waste		Process Plant	Stg1			62,013	62,013	2035		2035	040	100%													
	Hydrocarbon Contaminated Soils								**4,419**	**4,419**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Misc. Hydrocarbon Contaminated Soils		Process Plant	Stg1			4,419	4,419	2035	2035	2035	2040	100%													
	OTHER USER COSTS								**2,787,184**	**2,787,184**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Phase II TSF - 60 mil double-sided textured LLDPE	T01	Tailings Storage Facility	Stg2			1,257,790	1,257,790	2036	2036	2036	2041	100%													
	2	LOM	Phase II TSF - 12 oz/yd^2 non-woven geotextile St	T01	Tailings Storage Facility	Stg2			609,701	609,701	2036	2036	2036	2041	100%													
	3	LOM	Phase II Drill&Blast - Cover 1 (TSF Purposes) Stg2	T01	Tailings Storage Facility	Stg2			110,397	110,397	2036	2036	2037	2041	100%													
	4	LOM	Phase II TSF - 60 mil double-sided textured LLDPE	T01	Tailings Storage Facility	Stg3			419,263	419,263	2037	2037	2037	2042	100%													
	5	LOM	Phase II TSF - 12 oz/yd^2 non-woven geotextile St	T01	Tailings Storage Facility	Stg3			203,234	203,234	2037	2037	2037	2042	100%													
	6	LOM	Phase II Drill&Blast - Cover 1 (TSF Purposes) Stg3	T01	Tailings Storage Facility	Stg3			36,799	36,799	2037	2037	2037	2042	100%													
	7	LOM	Spillway for TSF	T01	Tailings Storage Facility	Stg3			100,000	100,000	2037	2037	2037	2042	100%													
	8	LOM	Spillway for TWRSF	WD01	Temporary Waste Rock S	Stg1			50,000	50,000	2035	2035	2035	2040	100%													
	MISCELLANEOUS COSTS																											
	Fence Removal								**77,698**	**77,698**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Project Perimeter Fence	F01	Infrastructure & Ancillary	Stg4			72,966	72,966	2038	2038	2038	2043	100%													
	2	LOM	Gold Room Fence	F02	Process Plant	Stg1			480	480	2035	2035	2035	2040	100%													
	3	LOM	Substation Fence	F03	Process Plant	Stg1			658	658	2035	2035	2035	2040	100%													
	4	LOM	Well #3 Fence	F04	Water Supply	Stg4			698	698	2038	2038	2038	2043	100%													
	5	LOM	Well #4 Fence	F05	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%													
	6	LOM	Well #5 Fence	F06	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%													
	7	LOM	Well #6 Fence	F07	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%													
	8	LOM	Well #7 Fence	F08	Water Supply	Stg4			724	724	2038	2038	2038	2043	100%													
	Fence Installation								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0
	Culvert & Buried Pipe Removal								**4,343**	**4,343**						0	0	0	0	0	0	0	0	0	0	0	0	1,395
	1	LOM	Culvert 5	C05	Roads	Stg5			612	612	2064	2064	2064	2069	100%													100.00%
	2	LOM	Culvert 6	C06	Roads	Stg5			783	783	2064	2064	2064	2069	100%													100.00%
	3	LOM	Culvert 7	C07	Roads	Stg1			318	318	2035	2035	2035	2040	100%													
	4	LOM	Culvert 8	C08	Roads	Stg1			281	281	2035	2035	2035	2040	100%													
	5	LOM	Culvert 9	C09	Roads	Stg3			722	722	2037	2037	2037	2042	100%													
	6	LOM	Culvert 10	C10	Roads	Stg3			832	832	2037	2037	2037	2042	100%													
	7	LOM	Culvert 11	C11	Roads	Stg3			795	795	2037	2037	2037	2042	100%													
	Surface Pipe Removal								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0
	Power Line and Substation Removal								**1,164,654**	**1,164,654**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Power Line 1	PL01	Power Supply	Stg4			38,574	38,574	2038	2038	2038	2043	100%													
	2	LOM	Power Line 2	PL02	Power Supply	Stg4			19,023	19,023	2038	2038	2038	2043	100%													
	3	LOM	Power Line 3	PL03	Power Supply	Stg4			27,235	27,235	2038	2038	2038	2043	100%													
	4	LOM	Main Power Line (Overhead Transmission Line)	PL04	Power Supply	Stg4			1,079,822	1,079,822	2038	2038	2038	2043	100%													
	Rip-Rap & Rock Lining								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0
	MONITORING																											
	Reclamation Monitoring								**766,823**	**766,823**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Fieldwork		Monitoring	Stg4			383,411	383,411	2039	2038	2039	2043	100%													
	2	LOM	Reporting		Monitoring	Stg4			383,411	383,411	2039	2038	2039	2043	100%													
	Water/Rock Quality Monitoring								**644,168**	**644,168**						11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712
	1	LOM	NDEP Profile I Water (Frist 5 years)		Monitoring	Stg4			234,243	234,243	2035	2035	2039	2064	100%	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	LOM	NDEP Profile I Water (Year 6-15 years years)		Monitoring	Stg4			234,243	234,243	2040	2040	2049	2064	100%	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	LOM	NDEP Profile I Water (Year 16-30 years years)		Monitoring	Stg4			175,682	175,682	2050	2050	2064	2064	100%	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712
	Sampling Pump Purchase								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0
	RECLAMATION MAINTENANCE																											
	Revegetation Maintenance								**19,366**	**19,366**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Revegetation Maintenance		Monitoring	Stg1			19,366	19,366	2035	2036	2039	2044	100%													
	Cover Maintenance								**0**	**0**						0	0	0	0	0	0	0	0	0	0	0	0	0
	Growth Media Maintenance								**121,123**	**121,123**						0	0	0	0	0	0	0	0	0	0	0	0	0
	1	LOM	Erosion Maintenance		Monitoring	Stg1			121,123	121,123	2035	2036	2039	2044	100%													
	CONSTRUCTION MANAGEMENT																											
	Construction Management								**391,600**	**391,600**						0	0	0	0	0	0	0	0	0	0	0	0	17,800

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis:** Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work subtracted if in Budget year or earlier and after FA release date.

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	Work Before/During Budget year	% Complete Before Budget year	Plan Year	1	2	3	4	5	6	7	8	9	10	11	12
																		Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2
									$	$						$		Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	1	LOM	Stage 1 Construction Management		Monitoring	Stg1			106,800	106,800	2035	2035	2035	2040	100%	0	0%												100.00%	
	2	LOM	Stage 2 Construction Management		Monitoring	Stg2			106,800	106,800	2036	2036	2036	2041	100%	0	0%													100.00%
	3	LOM	Stage 3 Construction Management		Monitoring	Stg3			106,800	106,800	2037	2037	2037	2042	100%	0	0%													
	4	LOM	Stage 4 Construction Management		Monitoring	Stg4			53,400	53,400	2038	2038	2038	2043	100%	0	0%													
	5	LOM	Stage 5 Construction Management		Monitoring	Stg5			17,800	17,800	2064	2064	2064	2069	100%	0	0%													
	Road Maintenance								**73,379**	**73,379**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18,345**	**18,345**
	1	LOM	Stage 1 Road Maintenance		Roads	Stg1			18,345	18,345	2035	2035	2035	2040	100%	0	0%												100.00%	
	2	LOM	Stage 2 Road Maintenance		Roads	Stg2			18,345	18,345	2036	2036	2036	2041	100%	0	0%													100.00%
	3	LOM	Stage 3 Road Maintenance		Roads	Stg3			18,345	18,345	2037	2037	2037	2042	100%	0	0%													
	4	LOM	Stage 4 Road Maintenance		Roads	Stg4			18,345	18,345	2038	2038	2038	2043	100%	0	0%													
	Water Fees								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	MOBILIZATION/DEMOBILIZATION								**154,918**	**154,918**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27,890**	**59,958**
	1	LOM	D7E	0	Mobilization	Stg1			1,710	1,710	2035	2035	2035	2040	100%	0	0%												100.00%	
	2	LOM	D7E	0	DeMobilization	Stg1			1,710	1,710	2035	2035	2035	2040	100%	0	0%												100.00%	
	3	LOM	D7E	0	Mobilization	Stg2			1,710	1,710	2036	2036	2036	2041	100%	0	0%													100.00%
	4	LOM	D7E	0	DeMobilization	Stg2			1,710	1,710	2036	2036	2036	2041	100%	0	0%													100.00%
	5	LOM	D7E	0	Mobilization	Stg3			1,710	1,710	2037	2037	2037	2042	100%	0	0%													
	6	LOM	D7E	0	DeMobilization	Stg3			1,710	1,710	2037	2037	2037	2042	100%	0	0%													
	7	LOM	D7E	0	Mobilization	Stg4			1,710	1,710	2038	2038	2038	2043	100%	0	0%													
	8	LOM	D7E	0	DeMobilization	Stg4			1,710	1,710	2038	2038	2038	2043	100%	0	0%													
	9	LOM	D7E	0	Mobilization	Stg5			1,710	1,710	2064	2064	2064	2069	100%	0	0%													
	10	LOM	D7E	0	DeMobilization	Stg5			1,710	1,710	2064	2064	2064	2069	100%	0	0%													
	11	LOM	D9T	0	Mobilization	Stg2			1,839	1,839	2036	2036	2036	2041	100%	0	0%													100.00%
	12	LOM	D9T	0	DeMobilization	Stg2			1,839	1,839	2036	2036	2036	2041	100%	0	0%													100.00%
	13	LOM	14M	0	Mobilization	Stg1			1,758	1,758	2035	2035	2035	2040	100%	0	0%												100.00%	
	14	LOM	14M	0	DeMobilization	Stg1			1,758	1,758	2035	2035	2035	2040	100%	0	0%												100.00%	
	15	LOM	14M	0	Mobilization	Stg2			1,758	1,758	2036	2036	2036	2041	100%	0	0%													100.00%
	16	LOM	14M	0	DeMobilization	Stg2			1,758	1,758	2036	2036	2036	2041	100%	0	0%													100.00%
	17	LOM	14M	0	Mobilization	Stg3			1,758	1,758	2037	2037	2037	2042	100%	0	0%													
	18	LOM	14M	0	DeMobilization	Stg3			1,758	1,758	2037	2037	2037	2042	100%	0	0%													
	19	LOM	14M	0	Mobilization	Stg4			1,758	1,758	2038	2038	2038	2043	100%	0	0%													
	20	LOM	14M	0	DeMobilization	Stg4			1,758	1,758	2038	2038	2038	2043	100%	0	0%													
	21	LOM	325F	0	Mobilization	Stg1			5,370	5,370	2035	2035	2035	2040	100%	0	0%												100.00%	
	22	LOM	325F	0	DeMobilization	Stg1			5,370	5,370	2035	2035	2035	2040	100%	0	0%												100.00%	
	23	LOM	325F	0	Mobilization	Stg3			1,722	1,722	2037	2037	2037	2042	100%	0	0%													
	24	LOM	325F	0	DeMobilization	Stg3			1,722	1,722	2037	2037	2037	2042	100%	0	0%													
	25	LOM	325F	0	Mobilization	Stg4			1,722	1,722	2038	2038	2038	2043	100%	0	0%													
	26	LOM	325F	0	DeMobilization	Stg4			1,722	1,722	2038	2038	2038	2043	100%	0	0%													
	27	LOM	325F	0	Mobilization	Stg5			1,722	1,722	2064	2064	2064	2069	100%	0	0%													
	28	LOM	325F	0	DeMobilization	Stg5			1,722	1,722	2064	2064	2064	2069	100%	0	0%													
	29	LOM	988K	0	Mobilization	Stg1			1,851	1,851	2035	2035	2035	2040	100%	0	0%												100.00%	
	30	LOM	988K	0	DeMobilization	Stg1			1,851	1,851	2035	2035	2035	2040	100%	0	0%												100.00%	
	31	LOM	988K	0	Mobilization	Stg2			18,962	18,962	2036	2036	2036	2041	100%	0	0%													100.00%
	32	LOM	988K	0	DeMobilization	Stg2			18,962	18,962	2036	2036	2036	2041	100%	0	0%													100.00%
	33	LOM	988K	0	Mobilization	Stg3			9,481	9,481	2037	2037	2037	2042	100%	0	0%													
	34	LOM	988K	0	DeMobilization	Stg3			9,481	9,481	2037	2037	2037	2042	100%	0	0%													
	35	LOM	988K	0	Mobilization	Stg4			4,740	4,740	2038	2038	2038	2043	100%	0	0%													
	36	LOM	988K	0	DeMobilization	Stg4			4,740	4,740	2038	2038	2038	2043	100%	0	0%													
	37	LOM	740C	0	Mobilization	Stg1			3,256	3,256	2035	2035	2035	2040	100%	0	0%												100.00%	
	38	LOM	740C	0	DeMobilization	Stg1			3,256	3,256	2035	2035	2035	2040	100%	0	0%												100.00%	
	39	LOM	740C	0	Mobilization	Stg2			5,710	5,710	2036	2036	2036	2041	100%	0	0%													100.00%
	40	LOM	740C	0	DeMobilization	Stg2			5,710	5,710	2036	2036	2036	2041	100%	0	0%													100.00%
	41	LOM	740C	0	Mobilization	Stg3			4,074	4,074	2037	2037	2037	2042	100%	0	0%													
	42	LOM	740C	0	DeMobilization	Stg3			4,074	4,074	2037	2037	2037	2042	100%	0	0%													
	43	LOM	740C	0	Mobilization	Stg4			1,428	1,428	2038	2038	2038	2043	100%	0	0%													
	44	LOM	740C	0	DeMobilization	Stg4			1,428	1,428	2038	2038	2038	2043	100%	0	0%													
	CLOSURE PLANNING																													
	Closure Plan Studies								**150,000**	**150,000**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**150,000**	**0**
	1	LOM	Closure Planning		Tailings Storage Facility	Stg1			150,000	150,000	2035	2035	2035	2035	100%	0	0%												100.00%	
	Closure Plan Engineering								**150,000**	**150,000**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**150,000**	**0**
	1	LOM	Closure Design		Tailings Storage Facility	Stg1			150,000	150,000	2035	2035	2035	2035	100%	0	0%												100.00%	
	Closure Plan Permitting								**100,000**	**100,000**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**100,000**	**0**
	1	LOM	Closure Permitting		Tailings Storage Facility	Stg1			100,000	100,000	2035	2035	2035	2035	100%	0	0%												100.00%	
	GENERAL AND ADMINISTRATION COSTS																													
	Property Holding Costs								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Security and Maintenance								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Administration								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	HUMAN RESOURCES																													
	Salary & Benefits								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Severance and Outplacement								**0**	**0**						**0**			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
									LOM Direct Costs	**9,863,874**	**9,857,122**								**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,685**	**1,857,194**	**3,529,238**
									Engineering, Design and Construction Plan	**0**	**0**								**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
									Contingency	**789,110**	**788,570**								**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**215**	**148,576**	**282,339**
									Contractor OH and Profit	**986,387**	**985,712**								**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**269**	**185,719**	**352,924**
									Contract Administration	**789,110**	**788,570**								**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**215**	**148,576**	**282,339**
									Total LOM Cost	**12,428,481**	**12,419,974**								**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,384**	**2,340,065**	**4,446,840**

Calculation Check:	16.56
Difference:	0.00013%

*red indicates total less than shown in Acct Codes sheet

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
																3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
									$	$						2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
	1	LOM	Stage 1 Construction Management		Monitoring	Stg1			106,800	106,800	2035	2035	2035	2040	100%															
	2	LOM	Stage 2 Construction Management		Monitoring	Stg2			106,800	106,800	2036	2036	2036	2041	100%															
	3	LOM	Stage 3 Construction Management		Monitoring	Stg3			106,800	106,800	2037	2037	2037	2042	100%	100.00%														
	4	LOM	Stage 4 Construction Management		Monitoring	Stg4			53,400	53,400	2038	2038	2038	2043	100%		100.00%													
	5	LOM	Stage 5 Construction Management		Monitoring	Stg5			17,800	17,800	2064	2064	2064	2069	100%															
	Road Maintenance								**73,379**	**73,379**						**18,345**	**18,345**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Stage 1 Road Maintenance		Roads	Stg1			18,345	18,345	2035	2035	2035	2040	100%															
	2	LOM	Stage 2 Road Maintenance		Roads	Stg2			18,345	18,345	2036	2036	2036	2041	100%															
	3	LOM	Stage 3 Road Maintenance		Roads	Stg3			18,345	18,345	2037	2037	2037	2042	100%	100.00%														
	4	LOM	Stage 4 Road Maintenance		Roads	Stg4			18,345	18,345	2038	2038	2038	2043	100%		100.00%													
	Water Fees								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	MOBILIZATION/DEMOBILIZATION								**154,918**	**154,918**						**37,490**	**22,716**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	D7E	0	Mobilization	Stg1			1,710	1,710	2035	2035	2035	2040	100%															
	2	LOM	D7E	0	DeMobilization	Stg1			1,710	1,710	2035	2035	2035	2040	100%															
	3	LOM	D7E	0	Mobilization	Stg2			1,710	1,710	2036	2036	2036	2041	100%															
	4	LOM	D7E	0	DeMobilization	Stg2			1,710	1,710	2036	2036	2036	2041	100%															
	5	LOM	D7E	0	Mobilization	Stg3			1,710	1,710	2037	2037	2037	2042	100%	100.00%														
	6	LOM	D7E	0	DeMobilization	Stg3			1,710	1,710	2037	2037	2037	2042	100%	100.00%														
	7	LOM	D7E	0	Mobilization	Stg4			1,710	1,710	2038	2038	2038	2043	100%		100.00%													
	8	LOM	D7E	0	DeMobilization	Stg4			1,710	1,710	2038	2038	2038	2043	100%		100.00%													
	9	LOM	D7E	0	Mobilization	Stg5			1,710	1,710	2064	2064	2064	2069	100%															
	10	LOM	D7E	0	DeMobilization	Stg5			1,710	1,710	2064	2064	2064	2069	100%															
	11	LOM	D9T	0	Mobilization	Stg2			1,839	1,839	2036	2036	2036	2041	100%															
	12	LOM	D9T	0	DeMobilization	Stg2			1,839	1,839	2036	2036	2036	2041	100%															
	13	LOM	14M	0	Mobilization	Stg1			1,758	1,758	2035	2035	2035	2040	100%															
	14	LOM	14M	0	DeMobilization	Stg1			1,758	1,758	2035	2035	2035	2040	100%															
	15	LOM	14M	0	Mobilization	Stg2			1,758	1,758	2036	2036	2036	2041	100%															
	16	LOM	14M	0	DeMobilization	Stg2			1,758	1,758	2036	2036	2036	2041	100%															
	17	LOM	14M	0	Mobilization	Stg3			1,758	1,758	2037	2037	2037	2042	100%	100.00%														
	18	LOM	14M	0	DeMobilization	Stg3			1,758	1,758	2037	2037	2037	2042	100%	100.00%														
	19	LOM	14M	0	Mobilization	Stg4			1,758	1,758	2038	2038	2038	2043	100%															
	20	LOM	14M	0	DeMobilization	Stg4			1,758	1,758	2038	2038	2038	2043	100%		100.00%													
	21	LOM	325F	0	Mobilization	Stg1			5,370	5,370	2035	2035	2035	2040	100%															
	22	LOM	325F	0	DeMobilization	Stg1			5,370	5,370	2035	2035	2035	2040	100%															
	23	LOM	325F	0	Mobilization	Stg3			1,722	1,722	2037	2037	2037	2042	100%	100.00%														
	24	LOM	325F	0	DeMobilization	Stg3			1,722	1,722	2037	2037	2037	2042	100%	100.00%														
	25	LOM	325F	0	Mobilization	Stg4			1,722	1,722	2038	2038	2038	2043	100%		100.00%													
	26	LOM	325F	0	DeMobilization	Stg4			1,722	1,722	2038	2038	2038	2043	100%		100.00%													
	27	LOM	325F	0	Mobilization	Stg5			1,722	1,722	2064	2064	2064	2069	100%															
	28	LOM	325F	0	DeMobilization	Stg5			1,722	1,722	2064	2064	2064	2069	100%															
	29	LOM	988K	0	Mobilization	Stg1			1,851	1,851	2035	2035	2035	2040	100%															
	30	LOM	988K	0	DeMobilization	Stg1			1,851	1,851	2035	2035	2035	2040	100%															
	31	LOM	988K	0	Mobilization	Stg2			18,962	18,962	2036	2036	2036	2041	100%															
	32	LOM	988K	0	DeMobilization	Stg2			18,962	18,962	2036	2036	2036	2041	100%															
	33	LOM	988K	0	Mobilization	Stg3			9,481	9,481	2037	2037	2037	2042	100%	100.00%														
	34	LOM	988K	0	DeMobilization	Stg3			9,481	9,481	2037	2037	2037	2042	100%	100.00%														
	35	LOM	988K	0	Mobilization	Stg4			4,740	4,740	2038	2038	2038	2043	100%		100.00%													
	36	LOM	988K	0	DeMobilization	Stg4			4,740	4,740	2038	2038	2038	2043	100%		100.00%													
	37	LOM	740C	0	Mobilization	Stg1			3,256	3,256	2035	2035	2035	2040	100%															
	38	LOM	740C	0	DeMobilization	Stg1			3,256	3,256	2035	2035	2035	2040	100%															
	39	LOM	740C	0	Mobilization	Stg2			5,710	5,710	2036	2036	2036	2041	100%															
	40	LOM	740C	0	DeMobilization	Stg2			5,710	5,710	2036	2036	2036	2041	100%															
	41	LOM	740C	0	Mobilization	Stg3			4,074	4,074	2037	2037	2037	2042	100%	100.00%														
	42	LOM	740C	0	DeMobilization	Stg3			4,074	4,074	2037	2037	2037	2042	100%	100.00%														
	43	LOM	740C	0	Mobilization	Stg4			1,428	1,428	2038	2038	2038	2043	100%		100.00%													
	44	LOM	740C	0	DeMobilization	Stg4			1,428	1,428	2038	2038	2038	2043	100%		100.00%													
	CLOSURE PLANNING																													
	Closure Plan Studies								**150,000**	**150,000**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Closure Planning		Tailings Storage Facility	Stg1			150,000	150,000	2035	2035	2035	2035	100%															
	Closure Plan Engineering								**150,000**	**150,000**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Closure Design		Tailings Storage Facility	Stg1			150,000	150,000	2035	2035	2035	2035	100%															
	Closure Plan Permitting								**100,000**	**100,000**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Closure Permitting		Tailings Storage Facility	Stg1			100,000	100,000	2035	2035	2035	2035	100%															
	GENERAL AND ADMINISTRATION COSTS																													
	Property Holding Costs								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Security and Maintenance								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Administration								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	HUMAN RESOURCES																													
	Salary & Benefits								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Severance and Outplacement								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
								LOM Direct Costs	**9,863,874**	**9,857,122**						**1,558,784**	**1,970,824**	**465,383**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**23,424**	**11,712**	**11,712**
								Engineering, Design and Construction Plan	**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
								Contingency	**789,110**	**788,570**						**124,703**	**157,666**	**37,231**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**937**	**937**
								Contractor OH and Profit	**986,387**	**985,712**						**155,878**	**197,082**	**46,538**	**2,342**	**2,342**	**2,342**	**2,342**	**2,342**	**2,342**	**2,342**	**2,342**	**2,342**	**2,342**	**1,171**	**1,171**
								Contract Administration	**789,110**	**788,570**						**124,703**	**157,666**	**37,231**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**937**	**937**
								Total LOM Cost	**12,428,481**	**12,419,974**						**1,964,068**	**2,483,238**	**586,383**	**29,514**	**29,514**	**29,514**	**29,514**	**29,514**	**29,514**	**29,514**	**29,514**	**29,514**	**29,514**	**14,757**	**14,757**

Calculation Check:	16.56
Difference:	0.00013%

*red indicates total less than shown in Acct Codes sheet

Superseded

Closure Cost Estimate
LOM Schedule

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Current Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period	26	years

Engineering, Design and Construction Plan (%)	0.0%
Contingency (%)	8.0%
Contractor OH and Profit (%)	10.0%
Contract Administration (%)	8.0%

Filter		Filter Type
ID Code Filter:		
Facility/Activity Type:		
Phases:		
Locations:		
Properties:		

Include Complete Work in LOM Schedule?	TRUE
Show how many years in schedule (10 to 100)	30
Show how many operating years in schedule	10

Note: ARO: completed work subtracted completed in ARO year or earlier, FA: completed work

User Override	Facility	Cost Type	Description	ID Code	Facility/Activity Type	Phases	Locations	Properties	Total Cost	LOM Cost	Construct Year	Closure Start	Closure Finish	Financial Assurance Release	% Scheduled	28	29	30	31	32	33	34	35	36	37	38	39	40
																18	19	20	21	22	23	24	25	26	27	28	29	30
									$	$						2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
	1	LOM	Stage 1 Construction Management		Monitoring	Stg1			106,800	106,800	2035	2035	2035	2040	100%													
	2	LOM	Stage 2 Construction Management		Monitoring	Stg2			106,800	106,800	2036	2036	2036	2041	100%													
	3	LOM	Stage 3 Construction Management		Monitoring	Stg3			106,800	106,800	2037	2037	2037	2042	100%													
	4	LOM	Stage 4 Construction Management		Monitoring	Stg4			53,400	53,400	2038	2038	2038	2043	100%													
	5	LOM	Stage 5 Construction Management		Monitoring	Stg5			17,800	17,800	2064	2064	2064	2069	100%													100.00%
	Road Maintenance								**73,379**	**73,379**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Stage 1 Road Maintenance		Roads	Stg1			18,345	18,345	2035	2035	2035	2040	100%													
	2	LOM	Stage 2 Road Maintenance		Roads	Stg2			18,345	18,345	2036	2036	2036	2041	100%													
	3	LOM	Stage 3 Road Maintenance		Roads	Stg3			18,345	18,345	2037	2037	2037	2042	100%													
	4	LOM	Stage 4 Road Maintenance		Roads	Stg4			18,345	18,345	2038	2038	2038	2043	100%													
	Water Fees								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	MOBILIZATION/DEMOBILIZATION								**154,918**	**154,918**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6,864**
	1	LOM	D7E	0	Mobilization	Stg1			1,710	1,710	2035	2035	2035	2040	100%													
	2	LOM	D7E	0	DeMobilization	Stg1			1,710	1,710	2035	2035	2035	2040	100%													
	3	LOM	D7E	0	Mobilization	Stg2			1,710	1,710	2036	2036	2036	2041	100%													
	4	LOM	D7E	0	DeMobilization	Stg2			1,710	1,710	2036	2036	2036	2041	100%													
	5	LOM	D7E	0	Mobilization	Stg3			1,710	1,710	2037	2037	2037	2042	100%													
	6	LOM	D7E	0	DeMobilization	Stg3			1,710	1,710	2037	2037	2037	2042	100%													
	7	LOM	D7E	0	Mobilization	Stg4			1,710	1,710	2038	2038	2038	2043	100%													
	8	LOM	D7E	0	DeMobilization	Stg4			1,710	1,710	2038	2038	2038	2043	100%													
	9	LOM	D7E	0	Mobilization	Stg5			1,710	1,710	2064	2064	2064	2069	100%													100.00%
	10	LOM	D7E	0	DeMobilization	Stg5			1,710	1,710	2064	2064	2064	2069	100%													100.00%
	11	LOM	D9T	0	Mobilization	Stg2			1,839	1,839	2036	2036	2036	2041	100%													
	12	LOM	D9T	0	DeMobilization	Stg2			1,839	1,839	2036	2036	2036	2041	100%													
	13	LOM	14M	0	Mobilization	Stg1			1,758	1,758	2035	2035	2035	2040	100%													
	14	LOM	14M	0	DeMobilization	Stg1			1,758	1,758	2035	2035	2035	2040	100%													
	15	LOM	14M	0	Mobilization	Stg2			1,758	1,758	2036	2036	2036	2041	100%													
	16	LOM	14M	0	DeMobilization	Stg2			1,758	1,758	2036	2036	2036	2041	100%													
	17	LOM	14M	0	Mobilization	Stg3			1,758	1,758	2037	2037	2037	2042	100%													
	18	LOM	14M	0	DeMobilization	Stg3			1,758	1,758	2037	2037	2037	2042	100%													
	19	LOM	14M	0	Mobilization	Stg4			1,758	1,758	2038	2038	2038	2043	100%													
	20	LOM	14M	0	DeMobilization	Stg4			1,758	1,758	2038	2038	2038	2043	100%													
	21	LOM	325F	0	Mobilization	Stg1			5,370	5,370	2035	2035	2035	2040	100%													
	22	LOM	325F	0	DeMobilization	Stg1			5,370	5,370	2035	2035	2035	2040	100%													
	23	LOM	325F	0	Mobilization	Stg3			1,722	1,722	2037	2037	2037	2042	100%													
	24	LOM	325F	0	DeMobilization	Stg3			1,722	1,722	2037	2037	2037	2042	100%													
	25	LOM	325F	0	Mobilization	Stg4			1,722	1,722	2038	2038	2038	2043	100%													
	26	LOM	325F	0	DeMobilization	Stg4			1,722	1,722	2038	2038	2038	2043	100%													
	27	LOM	325F	0	Mobilization	Stg5			1,722	1,722	2064	2064	2064	2069	100%													100.00%
	28	LOM	325F	0	DeMobilization	Stg5			1,722	1,722	2064	2064	2064	2069	100%													100.00%
	29	LOM	988K	0	Mobilization	Stg1			1,851	1,851	2035	2035	2035	2040	100%													
	30	LOM	988K	0	DeMobilization	Stg1			1,851	1,851	2035	2035	2035	2040	100%													
	31	LOM	988K	0	Mobilization	Stg2			18,962	18,962	2036	2036	2036	2041	100%													
	32	LOM	988K	0	DeMobilization	Stg2			18,962	18,962	2036	2036	2036	2041	100%													
	33	LOM	988K	0	Mobilization	Stg3			9,481	9,481	2037	2037	2037	2042	100%													
	34	LOM	988K	0	DeMobilization	Stg3			9,481	9,481	2037	2037	2037	2042	100%													
	35	LOM	988K	0	Mobilization	Stg4			4,740	4,740	2038	2038	2038	2043	100%													
	36	LOM	988K	0	DeMobilization	Stg4			4,740	4,740	2038	2038	2038	2043	100%													
	37	LOM	740C	0	Mobilization	Stg1			3,256	3,256	2035	2035	2035	2040	100%													
	38	LOM	740C	0	DeMobilization	Stg1			3,256	3,256	2035	2035	2035	2040	100%													
	39	LOM	740C	0	Mobilization	Stg2			5,710	5,710	2036	2036	2036	2041	100%													
	40	LOM	740C	0	DeMobilization	Stg2			5,710	5,710	2036	2036	2036	2041	100%													
	41	LOM	740C	0	Mobilization	Stg3			4,074	4,074	2037	2037	2037	2042	100%													
	42	LOM	740C	0	DeMobilization	Stg3			4,074	4,074	2037	2037	2037	2042	100%													
	43	LOM	740C	0	Mobilization	Stg4			1,428	1,428	2038	2038	2038	2043	100%													
	44	LOM	740C	0	DeMobilization	Stg4			1,428	1,428	2038	2038	2038	2043	100%													
	CLOSURE PLANNING																											
	Closure Plan Studies								**150,000**	**150,000**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Closure Planning		Tailings Storage Facility	Stg1			150,000	150,000	2035	2035	2035	2035	100%													
	Closure Plan Engineering								**150,000**	**150,000**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Closure Design		Tailings Storage Facility	Stg1			150,000	150,000	2035	2035	2035	2035	100%													
	Closure Plan Permitting								**100,000**	**100,000**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	1	LOM	Closure Permitting		Tailings Storage Facility	Stg1			100,000	100,000	2035	2035	2035	2035	100%													
	GENERAL AND ADMINISTRATION COSTS																											
	Property Holding Costs								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Security and Maintenance								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Administration								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	HUMAN RESOURCES																											
	Salary & Benefits								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Severance and Outplacement								**0**	**0**						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
									LOM Direct Costs	**9,863,874**	**9,857,122**					**11,712**	**11,712**	**11,712**	**11,712**	**11,712**	**11,712**	**11,712**	**11,712**	**11,712**	**11,712**	**11,712**	**11,712**	**74,803**
									Engineering, Design and Construction Plan	**0**	**0**					**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
									Contingency	**789,110**	**788,570**					**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**5,984**
									Contractor OH and Profit	**986,387**	**985,712**					**1,171**	**1,171**	**1,171**	**1,171**	**1,171**	**1,171**	**1,171**	**1,171**	**1,171**	**1,171**	**1,171**	**1,171**	**7,480**
									Contract Administration	**789,110**	**788,570**					**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**937**	**5,984**
									Total LOM Cost	**12,428,481**	**12,419,974**					**14,757**	**14,757**	**14,757**	**14,757**	**14,757**	**14,757**	**14,757**	**14,757**	**14,757**	**14,757**	**14,757**	**14,757**	**94,251**

Calculation Check:	16.56
Difference:	0.00013%

*red indicates total less than shown in Acct Codes sheet

Superseded

Closure Cost Estimate
Acct Codes

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

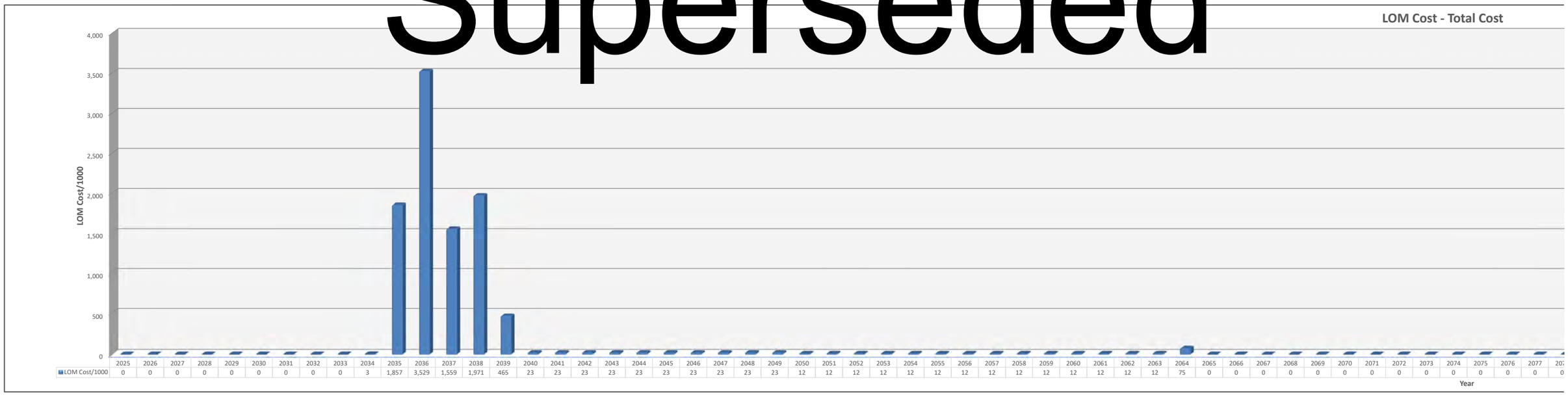
	Facility/Activity Type	Acct Code	Total Cost	LOM Cost	Scheduled LOM Cost	Plan Year / Closure Year / Calendar Year	1 / -10 / 2025	2 / -9 / 2026	3 / -8 / 2027	4 / -7 / 2028	5 / -6 / 2029	6 / -5 / 2030	7 / -4 / 2031	8 / -3 / 2032	9 / -2 / 2033	10 / -1 / 2034	11 / 1 / 2035	12 / 2 / 2036	13 / 3 / 2037	14 / 4 / 2038	15 / 5 / 2039	16 / 6 / 2040	17 / 7 / 2041	18 / 8 / 2042	19 / 9 / 2043	20 / 10 / 2044	21 / 11 / 2045	22 / 12 / 2046
			$		$		$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
1	Underground Mine	1	84,600	84,600	84,600		0	0	0	0	0	0	0	0	0	0	84,600	0	0	0	0	0	0	0	0	0	0	0
2	Tailings Storage Facility	2	5,023,500	5,023,500	5,023,500		0	0	0	0	0	0	0	0	0	0	766,985	3,262,165	994,350	0	0	0	0	0	0	0	0	0
3	Temporary Waste Rock Storage Facility	3	195,215	195,215	195,215		0	0	0	0	0	0	0	0	0	0	195,215	0	0	0	0	0	0	0	0	0	0	0
4	Process Plant	4	608,166	608,166	608,166		0	0	0	0	0	0	0	0	0	2,685	567,822	0	0	37,658	0	0	0	0	0	0	0	0
5	Infrastructure & Ancillary Facilities	5	86,097	86,097	86,097		0	0	0	0	0	0	0	0	0	0	0	0	13,131	72,966	0	0	0	0	0	0	0	0
6	Roads	6	136,108	136,108	136,108		0	0	0	0	0	0	0	0	0	0	29,478	18,345	57,473	28,170	0	0	0	0	0	0	0	0
7	Yards & Laydown Areas	7	53,381	53,381	53,381		0	0	0	0	0	0	0	0	0	0	0	0	53,381	0	0	0	0	0	0	0	0	0
8	Growth Media Stockpiles	8	42,088	42,088	42,088		0	0	0	0	0	0	0	0	0	0	23,632	0	0	0	0	0	0	0	0	0	0	0
9	Water Supply	9	111,026	111,026	111,026		0	0	0	0	0	0	0	0	0	0	0	0	0	111,026	0	0	0	0	0	0	0	0
10	Power Supply	10	1,179,503	1,179,503	1,179,503		0	0	0	0	0	0	0	0	0	0	0	0	0	1,179,503	0	0	0	0	0	0	0	0
11	Storm Water Diversion Channels	11	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Exploration	12	7,914	7,914	7,914		0	0	0	0	0	0	0	0	0	0	7,914	0	0	0	0	0	0	0	0	0	0	0
13	Quarry	13	180,161	180,161	180,161		0	0	0	0	0	0	0	0	0	0	0	0	180,161	0	0	0	0	0	0	0	0	0
14	Reclamation Borrow Areas	14	34,024	34,024	34,024		0	0	0	0	0	0	0	0	0	0	0	0	34,024	0	0	0	0	0	0	0	0	0
15	Monitoring	15	1,960,409	1,960,409	1,960,409		0	0	0	0	0	0	0	0	0	0	153,649	188,771	188,771	518,782	465,382	23,424	23,424	23,424	23,424	23,424	23,424	23,424
16	TWRSF and Ore Stockpile to CRF (fully built out)	16	6,752	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Mobilization	17	77,459	77,459	77,459		0	0	0	0	0	0	0	0	0	0	13,945	29,979	18,745	11,358	0	0	0	0	0	0	0	0
18	DeMobilization	18	77,459	77,459	77,459		0	0	0	0	0	0	0	0	0	0	13,945	29,979	18,745	11,358	0	0	0	0	0	0	0	0
19			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30			0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		TOTALS	9,863,860	9,857,108	9,857,108		0	0	0	0	0	0	0	0	0	2,685	1,857,185	3,529,238	1,558,781	1,970,821	465,382	23,424	23,424	23,424	23,424	23,424	23,424	23,424
	Engineering, Design and Construction Plan		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Contingency		789,109	788,569	788,569		0	0	0	0	0	0	0	0	0	215	148,575	282,339	124,702	157,666	37,231	1,874	1,874	1,874	1,874	1,874	1,874	1,874
	Contractor OH and Profit		986,386	985,711	985,711		0	0	0	0	0	0	0	0	0	269	185,718	352,924	155,878	197,082	46,538	2,342	2,342	2,342	2,342	2,342	2,342	2,342
	Contract Administration		789,109	788,569	788,569		0	0	0	0	0	0	0	0	0	215	148,575	282,339	124,702	157,666	37,231	1,874	1,874	1,874	1,874	1,874	1,874	1,874
		TOTAL COST	12,428,464	12,419,957	12,419,957		0	0	0	0	0	0	0	0	0	3,384	2,340,053	4,446,840	1,964,063	2,483,235	586,382	29,514	29,514	29,514	29,514	29,514	29,514	29,514
						Discounted Cash Flow:	0	0	0	0	0	0	0	0	0	1,335	840,961	1,456,120	585,999	675,079	145,249	6,661	6,070	5,530	5,039	4,591	4,183	3,812
						NPV:																						

Calculation Check:	
Difference:	-0.00

*red indicates total less than shown in Schedule 5

Superseded

Select Costs to Graph
Total Cost



	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	207
LOM Cost/1000	0	0	0	0	0	0	0	0	0	3	1,857	3,529	1,559	1,971	465	23	23	23	23	23	23	23	23	23	23	12	12	12	12	12	12	12	12	12	12	12	12	12	12	75	0	0	0	0	0	0	0	0	0	0	0	0	0

23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064
$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,456
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23,424	23,424	23,424	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	46,841
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,432
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,432
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23,424	23,424	23,424	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	11,712	74,803
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1,874	1,874	1,874	937	937	937	937	937	937	937	937	937	937	937	937	937	937	5,984
2,342	2,342	2,342	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	7,480
1,874	1,874	1,874	937	937	937	937	937	937	937	937	937	937	937	937	937	937	5,984
29,514	29,514	29,514	14,757	14,757	14,757	14,757	14,757	14,757	14,757	14,757	14,757	14,757	14,757	14,757	14,757	14,757	94,251
3,473	3,165	2,883	1,314	1,197	1,091	994	905	825	752	685	624	569	518	472	430	392	2,281

Superseded

78	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

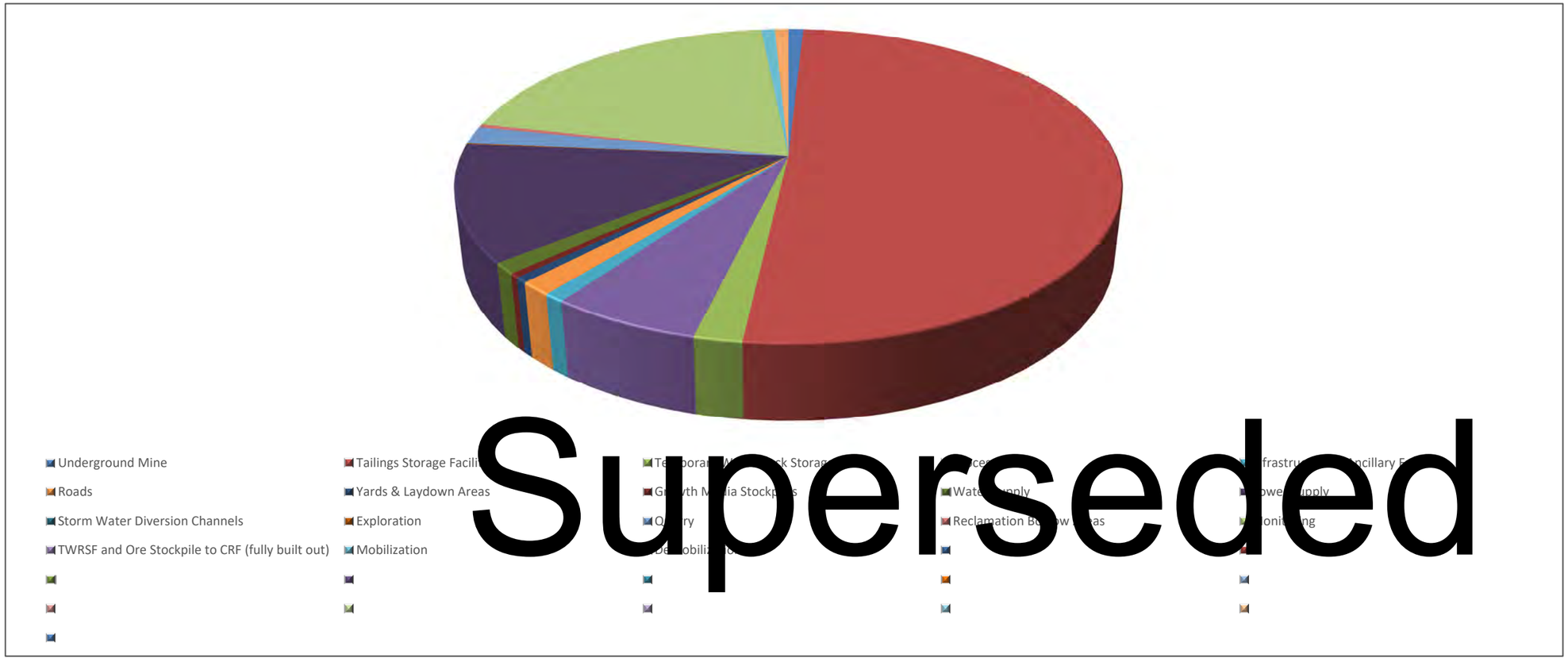
Closure Cost Estimate
Acct Codes

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

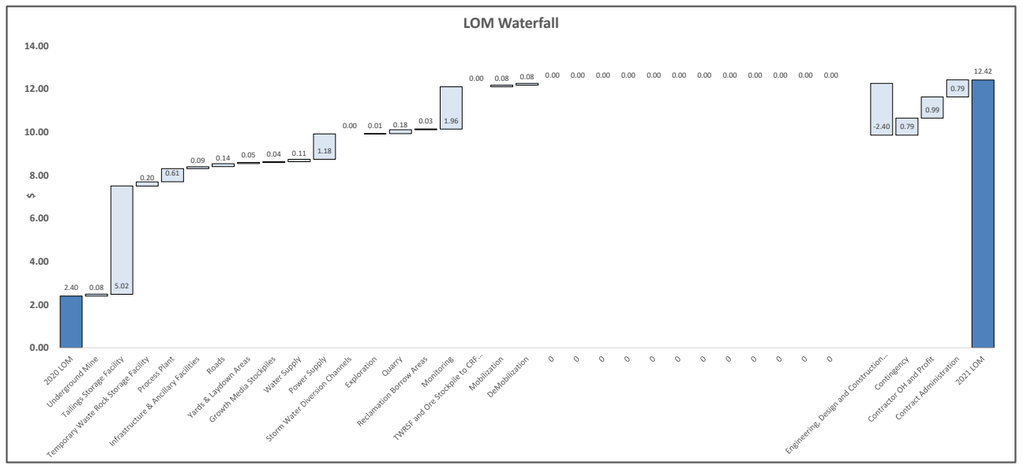
Superseded

Closure Cost Estimate
Acct Codes

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units



Superseded



Closure Cost Estimate
Filters

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Superseded

Phases

	Description	Phases Code (used in detail sheets)
1	Stage 1	Stg1
2	Stage 2	Stg2
3	Stage 3	Stg3
4	Stage 4	Stg4
5	Stage 5	Stg5
6	Stage 0	Stg0

Stg1 - Closure year for 12 months
Stg2- (+1) - 12 months i.e 1st year after closure
Stg3 - 12 months i.e 2nd year after closure
Stg4 - 12 months i.e 3rd year after closure; Stg5 - from rd year after closure to another 27 years; Stg 0 is

Locations

	Description	Locations Code (used in detail sheets)

Properties

	Description	Properties Code (used in detail sheets)

Closure Cost Estimate
Waste Rock Dumps

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Rock Dumps - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	4,666	14,899	N/A	19,565
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**4,666**	**14,899**		**19,565**
Revegetation Cost	622	237	1,882	2,741
TOTALS	**5,288**	**15,136**	**1,882**	**22,306**

Waste Rock Dumps - User Input

You must fill in ALL green cells in this section for each dump, lift or dump category

	Facility Description								Physical - MANDATORY								Cover 1				Cover 2				Growth Media			
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Ground Slope at Toe % Grade	Ungraded Slope _H:1V	Final Slope _H:1V	Final Top Slope % Grade	Lift (dump) Height ft	Mid-Bench Length ft	Average Long Dimension (ripping distance) ft	Final (Regraded) Footprint acres	Regrade Volume (1) (if calculated elsewhere) cy	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Slope Growth Media Thickness in	Flat Area Growth Media Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade
1	**Waste Rock Dump Area**	**WD01**	**2035**	**Temporary Waste Rock St**	**Stg1**			**LOM**							**756**	**5.72**										**12.0**	**12.0**	**4,103**	**1.3**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Input distance from crusher to placement location if material to be crushed and/or screened.
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivity Sheet)

Mix1 used for Revegetation

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Rock Dumps - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	4,666	14,899	N/A	19,565
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**4,666**	**14,899**		**19,565**
Revegetation Cost	622	237	1,882	2,741
TOTALS	**5,288**	**15,136**	**1,882**	**22,306**

Waste Rock Dumps - User Input (Cont.)

Facility Description		Cover 1 - Crushing & Screening										Cover 2 - Crushing & Screening									
	Description (required)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope to Crusher % grade	Haul to Crusher Fleet (2) (select)	Compact Slopes After Placement? (select)	Compact Flat After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope to Crusher % grade	Haul to Crusher Fleet (2) (select)	Compact Slopes After Placement? (select)	Compact Flat After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)
1	**Waste Rock Dump Area**																				

Notes:
1. Input distance to crusher if material to be crushed
2. if distance from borrow <820 ft (250 m) must select loader fleet

Superseded

Closure Cost Estimate
Waste Rock Dumps

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Rock Dumps - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	4,666	14,899	N/A	19,565
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**4,666**	**14,899**		**19,565**
Revegetation Cost	622	237	1,882	2,741
TOTALS	**5,288**	**15,136**	**1,882**	**22,306**

Waste Rock Dumps - User Input (Cont.) **You must fill in ALL green cells and relevant blue cells in this section for each dump, lift or dump category**

		Grading				Cover 1				Cover 2				Growth Media				Revegetation								
	Description (required)	Dozing Material Condition (select)	Material Type (select)	Grading Equipment Fleet (select)	Slot/Side-by-Side (select)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix Slopes (select)	Seed Mix Flat Areas (select)	Mulch Slopes (select)	Mulch Flat Areas (select)	Fertilizer Slopes (select)	Fertilizer Flat Areas (select)	Slope Scarify/ Rip? (select)	Flat Area Scarify/ Rip? (select)	Scarify/ Ripping Fleet (select)
1	**Waste Rock Dump Area**	**1**												**Alluvium**	**Small Truck**			**Mix 1**	**Mix 1**	**None**	**None**	**None**	**None**	**No**	**No**	**Small Dozer**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Rock Dumps - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	4,666	14,899	N/A	19,565
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**4,666**	**14,899**		**19,565**
Revegetation Cost	622	237	1,882	2,741
TOTALS	**5,288**	**15,136**	**1,882**	**22,306**

Waste Rock Dumps - Assumptions & Calculations

Regrading Push Distance Calculation

dozing distance:
based on 2/3 final cut slope + 2/3 final fill slope (minimum = 50 ft)

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per dump

Slopes:
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Mid-bench length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr

Flat Areas:
Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation:
Miniimum 1 acre revegetation crew time per area

Superseded

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Waste Rock Dumps - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	4,666	14,899	N/A	19,565
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**4,666**	**14,899**		**19,565**
Revegetation Cost	622	237	1,882	2,741
TOTALS	**5,288**	**15,136**	**1,882**	**22,306**

Waste Rock Dumps - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Waste Rock Dump Area**										0	0	0	0
		0									0			

Superseded

Closure Cost Estimate
Waste Rock Dumps

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Rock Dumps - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	4,666	14,899	N/A	19,565
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**4,666**	**14,899**		**19,565**
Revegetation Cost	622	237	1,882	2,741
TOTALS	**5,288**	**15,136**	**1,882**	**22,306**

Waste Rock Dumps - Cover 1 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Waste Rock Dump Area**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Waste Rock Dumps - Cover 2 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Waste Rock Dump Area**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Rock Dumps - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	4,666	14,899	N/A	19,565
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**4,666**	**14,899**		**19,565**
Revegetation Cost	622	237	1,882	2,741
TOTALS	**5,288**	**15,136**	**1,882**	**22,306**

Waste Rock Dumps - Growth Media Costs

		Growth Media Placement								
	Description (required)	Final Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity BCY/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $
1	**Waste Rock Dump Area**	9,680	740C/988K/D7E	8.4	3	476	20	4,666	14,899	19,565
		9,680					20	**4,666**	**14,899**	**19,565**

Superseded

Closure Cost Estimate
Waste Rock Dumps

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Rock Dumps - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	4,666	14,899	N/A	19,565
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**4,666**	**14,899**		**19,565**
Revegetation Cost	622	237	1,882	2,741
TOTALS	**5,288**	**15,136**	**1,882**	**22,306**

Waste Rock Dumps - Scarify/Revegetation Costs

										Scarifying Costs			Revegetation Costs			
	Description (required)	Slope Area acres	Flat Area acres	Total Surface Area acres	Final Slope Length ft	Average Long Dimension (ripping distance) ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revegetation Material Cost $	Total Revegetation Cost $
1	**Waste Rock Dump Area**	0.10	6.00	6.10				0	0	0	0	0	622	237	1,882	2,741
		0.10	6.00	6.10				0	0	**0**	**0**	**0**	**622**	**237**	**1,882**	**2,741**

Notes:

Superseded

Closure Cost Estimate
Tailings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - User Input

You must fill in ALL green cells and relevant blue cells in this section for each tailings impoundment

	Facility Description								Physical - MANDATORY										Cover 1				Cover 2				Growth Media		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Ground Slope at Toe % Grade	Ungraded Slope _H:1V	Final Slope _H:1V	Embankment Height ft	Final (Regraded) Embankment Footprint acres	Mid-Embankment Length ft	Average Long Dimension (ripping distance) ft	Slope Regrade Volume (1) (if calculated elsewhere) cy	Final Tailings Surface Area acres	Surface Regrade Volume (calculated elsewhere) cy	Embankment Cover Thickness in	Cover Thickness Flat Areas in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Embankment Cover Thickness in	Cover Thickness Flat Areas in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Embankment Growth Media Thickness in	Tailings Surface Growth Media Thickness in	Haul Distance to Placement Location ft
1	**Phase II TSF - Stage 1 - Embankment Revegetation**	**T02**	**2035**	**Tailings Storage Facility**	**Stg1**			**LOM**					**8.10**	**1,625**													**12.0**	**12.0**	**2,220**
2	**Phase II TSF - Stage 2 - 100 % Regrade**	**T01**	**2036**	**Tailings Storage Facility**	**Stg2**			**LOM**	**5.0**	**2.5**	**2.5**	**70**		**1,625**	**3,147**		**69.12**	**226,938**											
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**	**T01**	**2036**	**Tailings Storage Facility**	**Stg2**			**LOM**									**48.73**			**12.0**	**10,500**	**4.0**						**12.0**	**2,220**
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**	**T01**	**2036**	**Tailings Storage Facility**	**Stg2**			**LOM**									**3.11**			**12.0**	**10,500**	**4.0**						**12.0**	**5,720**
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**	**T01**	**2037**	**Tailings Storage Facility**	**Stg3**			**LOM**									**17.28**			**12.0**	**10,500**	**4.0**						**12.0**	**3,833**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Input distance from crusher to placement location if material to be crushed, screened or compacted
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivity Sheet)

Mix1 used for Revegetation
Stg1 - is Embankment
Stg2 - 100% Regrading; 75% Cover & GM;
Stg3 - 25% Cover & GM

Embankment thickness does not work; hence accomodated in Tailings Surface thickness
Broken into Phase II and Phase III to demonstrate bonding savings if Phase III TSF is not realized (approximlatey 1.637 M USD).

Superseded

Closure Cost Estimate
Tailings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - User Input (Cont.)

	Facility Description	Cover 1 - Crushing & Screening										Cover 2 - Crushing & Screening									
	Description (required)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope from Cover Borrow % grade	Haul to Crusher Fleet (2) (select)	Compact Slopes After Placement? (select)	Compact Flat After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope from Cover Borrow % grade	Haul to Crusher Fleet (2) (select)	Compact Slopes After Placement? (select)	Compact Flat After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)
1	**Phase II TSF - Stage 1 - Embankment Revegetation**																				
2	**Phase II TSF - Stage 2 - 100 % Regrade**	**Yes**	**Yes**	**10%**		**0.0**	**Small Truck**	**No**	**No**												
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**	**Yes**	**Yes**	**10%**	**1,850**	**0.0**	**Small Truck**	**No**	**No**												
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**	**Yes**	**Yes**	**10%**	**1,850**	**0.0**	**Small Truck**	**No**	**No**												
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**	**Yes**	**Yes**	**10%**	**1,850**	**0.0**	**Small Truck**	**No**	**No**												

Notes:
1. Input distance to crusher if material to be crushed
2. if distance from borrow <820 ft (250 m) must select loader fleet

Superseded

Closure Cost Estimate
Tailings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - User Input (cont.) **You must fill in ALL green cells and relevant blue cells in this section for each tailings impoundment**

		Grading				Cover 1				Cover 2				Growth Media				Revegetation								
	Description (required)	Dozing Material Condition (select)	Embankment Material Type (select)	Grading Equipment Fleet (select)	Slot/Side-by-Side (select)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix Embankment Slope (select)	Seed Mix Tailings Surface (select)	Mulch Embankment Slopes (select)	Mulch Tailings Surface (select)	Fertilizer Embankment Slopes (select)	Fertilizer Tailing Surface (select)	Embankment Slope Scarify/ Rip? (select)	Tailings Surface Scarify/ Rip? (select)	Scarifying/ Ripping Fleet (select)
1	**Phase II TSF - Stage 1 - Embankment Revegetation**													**Alluvium**	**Small Truck**			**Mix 1**	**Mix 1**	**None**	**None**	**None**	**None**	**No**	**No**	**Small Dozer**
2	**Phase II TSF - Stage 2 - 100 % Regrade**	**1.2**	**Gravel**	**Med**	**No**	**Limestone - brd**	**Small Truck**																			
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**					**Limestone - brd**	**Small Truck**							**Alluvium**	**Small Truck**			**Mix 1**	**Mix 1**	**None**	**None**	**None**	**None**	**No**	**No**	**Small Dozer**
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**					**Limestone - brd**	**Small Truck**							**Alluvium**	**Small Truck**			**Mix 1**	**Mix 1**	**None**	**None**	**None**	**None**	**No**	**No**	**Small Dozer**
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**					**Limestone - brd**	**Small Truck**							**Alluvium**	**Small Truck**			**Mix 1**	**Mix 1**	**None**	**None**	**None**	**None**	**No**	**No**	**Small Dozer**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - Assumptions & Calculations

Surface Area Calculations

Top Surface Area provided by user

Grading Calculations

Grading assumed on impoundment surface only, not embankment
Average push distance assumed to be 2/3 of the 600 feet maximum from Catepillar Handbook or 400 feet
Material assumed to be loose stockile (1.2 productivity factor)
Dozing density correction based on dry sand = 2300/2400 = 0.96
Slope assumed to be 0 to 5% (1.0 productivity factor)

Ripping/Scarifying/Revegetation Calculation

Minimum 1 hr ripping/scarifying per area
Minimum 1 acre revegetation crew time per area

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - Embankment Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material Condition	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hrs	Total Labor Cost	Total Equipment Cost	Total Regrading Cost
1	**Phase II TSF - Stage 1 - Embankment Revegetation**										0	0	0	0
2	**Phase II TSF - Stage 2 - 100 % Regrade**	0									0	0	0	0
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**										0	0	0	0
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**										0	0	0	0
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**										0	0	0	0
		0									0	**0**	**0**	**0**

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - Surface Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Density Correction	Dozing Material	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hrs	Total Labor Cost	Total Equipment Cost	Total Regrading Cost
1	**Phase II TSF - Stage 1 - Embankment Revegetation**										0	0	0	0
2	**Phase II TSF - Stage 2 - 100 % Regrade**	226,938	400	D9T	334	1.00	0.96	1.20	1.00	240	946	55,682	193,816	249,498
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**										0	0	0	0
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**										0	0	0	0
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**										0	0	0	0
		226,938									946	**55,682**	**193,816**	**249,498**

Superseded

Closure Cost Estimate
Tailings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - Cover 1 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Phase II TSF - Stage 1 - Embankment Revegetation**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
2	**Phase II TSF - Stage 2 - 100 % Regrade**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**	87,353	78,618	740C/988K/988K	6.04	2	442	442	740C/988K/D7E	15.1	6	528	149	38,915	136,945	175,860	89,100	0	0	0	51,782	177,973	229,755	494,715
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**	5,574	5,017	740C/988K/988K	6.04	2	442	442	740C/988K/D7E	15.1	6	528	10	2,555	8,991	11,546	5,685	0	0	0	3,475	11,945	15,420	32,651
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**	30,976	27,878	740C/988K/988K	6.04	2	442	442	740C/988K/D7E	15.1	6	528	53	13,758	48,415	62,173	31,596	0	0	0	18,419	63,306	81,725	175,494
		123,903	111,513					1,326					212	**55,228**	**194,351**	**249,579**	**126,381**	**0**	**0**	**0**	**73,676**	**253,224**	**326,900**	**702,860**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - Cover 2 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Phase II TSF - Stage 1 - Embankment Revegetation**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
2	**Phase II TSF - Stage 2 - 100 % Regrade**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - Growth Media Costs

		Growth Media Placement								
	Description (required)	Final Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity BCY/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $
1	**Phase II TSF - Stage 1 - Embankment Revegetation**	13,068	740C/988K/D7E	6.42	2	415	31	6,052	18,448	24,500
2	**Phase II TSF - Stage 2 - 100 % Regrade**	0					**Haul Info**	0	0	0
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**	78,618	740C/988K/D7E	6.42	2	415	189	36,895	112,472	149,367
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**	5,017	740C/988K/D7E	10.1	4	528	10	2,714	8,948	11,662
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**	27,878	740C/988K/D7E	8.12	3	493	57	13,298	42,461	55,759
		124,581					287	**58,959**	**182,329**	**241,288**

Superseded

Closure Cost Estimate
Tailings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Tailings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Embankment Regrading Cost	0	0	N/A	0
Tailings Surface Grading Cost	55,682	193,816	N/A	249,498
Cover 1 Placement Cost	128,904	573,956	N/A	702,860
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	58,959	182,329	N/A	241,288
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**243,545**	**950,101**		**1,193,646**
Revegetation Cost	7,876	2,994	2,499	13,369
TOTALS	**251,421**	**953,095**	**2,499**	**1,207,015**

Tailings - Scarify/Revegetation Costs

											Scarifying Costs			Revegetation Costs		
	Description (required)	Embankment Slope Area acres	Embankment Flat Area acres	Total Embankment Surface Area acres	Total Tailings Surface Area	Final Slope Length ft	Average Long Dimension (ripping distance) ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revegetation Material Cost $
1	**Phase II TSF - Stage 1 - Embankment Revegetation**	0.00	8.10	8.10	0.00				0	0	0	0	0	826	314	2,499
2	**Phase II TSF - Stage 2 - 100 % Regrade**		0.00		69.12	188			0	0	0	0	0	0	0	0
3	**Phase II TSF - Stage 2 - 75% Cover & GM (GM1)**		0.00		48.73				0	0	0	0	0	4,970	1,889	0
4	**Phase II TSF - Stage 2 - 75% Cover & GM (GM2)**		0.00		3.11				0	0	0	0	0	317	121	0
5	**Phase II TSF - Stage 3 - 25% Cover & GM (BM1)**		0.00		17.28				0	0	0	0	0	1,763	670	0
		0.00	8.10	8.10	138.24				0	0	**0**	**0**	**0**	**7,876**	**2,994**	**2,499**

Notes: 1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)

Superseded

Closure Cost Estimate
Heap Leach

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach Pads - User Input

You must fill in ALL green cells and relevant blue cells in this section for each heap, lift or heap category

	Facility Description								Physical (1) - MANDATORY								Cover 1				Cover 2				Growth Media			
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Ground Slope at Toe % grade	Ungraded Slope _H:1V	Final Slope _H:1V	Final Top Slope % grade	Lift (heap) Height ft	Mid-Bench Length ft	Average Flat Area Long Dimension (ripping distance) ft	Final (Regraded) Heap Footprint acres	Regrade Volume (if calculated elsewhere) cy	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Haul Distance to Placement Location (2) ft	Slope from Dump to Cover Borrow % grade	Slope Growth Media Thickness in	Flat Area Growth Media Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Input distance from crusher to placement location if material to be crushed, screened or compacted
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivity Sheet)

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach - User Input (Cont.)

Facility Description		Cover 1 - Crushing & Screening										Cover 2 - Crushing & Screening									
	Description (required)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope from Source % grade	Haul to Crusher Fleet (2) (select)	Compact Slopes After Placement? (select)	Compact Flat After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope from Source % grade	Haul to Crusher Fleet (2) (select)	Compact Slopes After Placement? (select)	Compact Flat After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)

Notes:
1. Input distance from crusher to placement location if material to be crushed, screened or compacted
2. if distance from borrow <820 ft (250 m) must select loader fleet

Superseded

Closure Cost Estimate
Heap Leach

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach Pads - User Input (cont.) — You must fill in ALL green cells and relevant blue cells in this section for each heap, lift or heap category

		Grading				Cover 1				Cover 2				Growth Media				Revegetation								
	Description (required)	Dozing Material Condition (select)	Heap Material Type (select)	Grading Equipment Fleet (select)	Slot/ Side-by-Side (select)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix Slopes (select)	Seed Mix Flat Areas (select)	Mulch Slopes (select)	Mulch Flat Areas (select)	Fertilizer Slopes (select)	Fertilizer Flat Areas (select)	Slope Scarify/ Rip? (select)	Flat Area Scarify/ Rip? (select)	Scarifying/ Ripping Fleet (select)

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach Pads - User Input (cont.)

		Solution Collection Ditch Fill							Piping			
	Description (required)	**Collection Ditch Length** ft	**Collection Ditch Top Width** ft	**Collection Ditch Depth** ft	**Volume (if calculated elsewhere)** cy	**Distance from Borrow** ft	**Slope to Borrow** % grade	**Drain Rock Equipment Fleet** (select)	**Solid Pipe Length** ft	**Solid Pipe Type** (select)	**Drainage Pipe Length** ft	**Drainage Pipe Type** (select)

Notes:

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach - Assumptions & Calculations

Regrading Push Distance Calculation

dozing distance:
based on 2/3 final cut slope + 2/3 final fill slope (minimum = 50 ft)

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying per area

Slopes:
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Mid-bench length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Flat Areas:
Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation:
Minimum 1 acre revegetation crew time per area

Solution Collection Ditch Calculations

Use when existing heap material is not suitable drain rock
Assume to be constructed in existing solution channels
Assume 2H:1V ditch sideslopes
Drain rock assumed to be Gravel - Dry at 2,550 lb/cy (1,510 kg/m3) from CAT Handbook 35th Ed.

Superseded

Closure Cost Estimate
Heap Leach

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach Pad - Drainage Channel Fill & Drainage Pipe Installation

		Drain Rock Placement								Drainpipe Installation					
	Description (required)	Drain Rock Volume cy	Drain Rock Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours hrs	Drainage Labor Cost $	Drainage Equipment Cost $	Total Drainage Cost $	Piping Crew Hours hrs	Piping Labor Cost $	Piping Equipment Cost $	Piping Material Cost $	Total Pipe Installation Cost $	Total Drainage Cost $
		0				0	**0**	**0**	**0**		**0**	**0**	**0**	**0**	**0**

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach Pad - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
		0									0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Heap Leach

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach - Cover 1 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Closure Cost Estimate
Heap Leach

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach - Cover 2 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach - Growth Media Costs

		Growth Media Placement								
	Description (required)	Final Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity BCY/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $
		0					0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Heap Leach

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Heap Leach Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Drain Installation	0	0	0	0
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**	**0**	**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Heap Leach - Scarify/Revegetation Costs

										Scarifying Costs			Revegetation Costs			
	Description (required)	Slope Area acres	Flat Area acres	Total Surface Area acres	Final Slope Length ft	Average Long Dimension (ripping distance) ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revegetation Material Cost $	Total Revegetation Cost $
		0.00	0.00	0.00				0	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes: 1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)
2) Assumes 50 min/hr equipment availability

Superseded

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Model Version: Version 2.0
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost CostType Type: LOM Cost Basis: Northern Nevada - Imperial Units

Solution/Water Management - LOM Cost Summary

	Labor $	Equipment + Operating + Power $	Materials $	Capital $	Totals $
Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution/Water Management - User Input - Pumping

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Water Type (select)	Management Type (select)	Capital Cost $	Flow (Q) gpm	Pipeline Length ft	Static Head ft	Pipe Diameter (ID)[1] in	Pipe Material (select)	Pump Efficiency %	Total Concentated Losses [2]	Operating Period: Hrs/Day	Operating Period: Days/ Month	Operating Period: Number of Months	User Overrides: Crew Size [3]	User Overrides: Power Cost ($/kWh)
1	**Pumping - Stage 1 TSF evaporation**		**2035**	Tailings Storage Facility	**Stg1**			**LOM**	**Seepage**	**Passive**		**28.00**	**1,500**	**87.0**	**4**	**HDPE**	**85**	**8**	**24.0**	**30.0**	**12**	**0.25**	**0.06**
2	**Pumping - Stage 2 TSF evaporation**		**2036**	Tailings Storage Facility	**Stg2**			**LOM**	**Seepage**	**Passive**		**51.00**	**1,500**	**87.0**	**4**	**HDPE**	**85**	**8**	**24.0**	**30.0**	**12**	**0.25**	**0.06**

Notes: 1. Inside Diameter (ID) depends on nominal diameter and the pipewall thickness.
2. k (total of all losses related to valves, restrictions, etc.). Typically 8 -20. Not significant for longer pipes.
3. Default crew assumes crew of two laborers required during pumping hours

Crew - 0.5 used for 2 years (Stg1 & Stg2 together)
Power Rate based on FS, check numbers

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost CostType Type: LOM Cost Basis: Northern Nevada - Imperial Units

Solution/Water Management - LOM Cost Summary

	Labor $	Equipment + Operating + Power $	Materials $	Capital $	Totals $
Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution/Water Management - User Input - Enhanced Evaporation

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Water Type (select)	Management Type (select)	Forced Evaporation Method (select)	Capital Cost $	Flow (Q) gpm	Pipeline Length ft	Static Head ft	Pipe Diameter (ID) in	Pipe Material (select)	Pump Efficiency %	Total Concentated Losses [1]	Required Pressure at Outlet psi	Operating Period: Hrs/Day	Operating Period: Days/Month	Operating Period: Number of Months	User Overrides: Crew Size	User Overrides: Power Cost ($/kWh)

Notes: 1. Default crew assumes crew of two laborers required during pumping hours
3. Assumes 1-1.5 ton truck for every 2 laborers

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
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Solution/Water Management - LOM Cost Summary

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Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution/Water Management - Water Treatment

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Water Type (select)	Treatment Type (select)	Treatment Method	Montly Quantity gal	Treatment Labor Crew Size per Shift	Capital Cost $	Consumable Cost/ gal $	Treatment Operating Cost/gal $	Operating Period: Number of Months	Operating Period: Hours per Day

Notes:
1. Use pumping section (above) to calculate pumping costs (including groundwater pumping).
2. Include initial materials (e.g. chemicals, organic substrate, etc.) in capital cost.
3. Treatment crew includes 1 foreman (crew defined by user above), 1 light truck if crew size > 0
4. Assumes active treatement crew works 8 hr/day, 365 days/year.
5. Assumes 1 truck per each two employees per shift

Superseded

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Solution/Water Management - LOM Cost Summary

	Labor $	Equipment + Operating + Power $	Materials $	Capital $	Totals $
Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution/Water Management - User Input - Decontamination

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Management Type (select)	Type	Disposal Location	Capital Cost $	Pumping Flow (Q) gpm	Pipeline Length ft	Static Head ft	Pipe Diameter (ID) in	Pipe Material (select)	Pump Efficiency %	Total Concentated Losses [1]	Operating Period: Number of Work Days days	Operating Period: Pumping Hrs/Day	User Overrides: Crew Size	User Overrides: Power Cost ($/kWh)

Notes:
1. Assumes triple rinse of all piping, tanks and vessels requiring decontamination
2. Standard crew includes 2 laborers and 1 foreman
3. Assumes 1-1.5 ton truck for every 2 laborers
4. Assumes crew works 8 hr/day

Superseded

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Solution/Water Management - LOM Cost Summary

	Labor $	Equipment + Operating + Power $	Materials $	Capital $	Totals $
Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution Mgmt - Assumptions & Calculations

Manning's Roughness Coefficient

Pipe material	Manning n
HDPE	
ID < 4" (100 mm)	0.011
ID ≥ 4 in (100 mm) < 10 in (250 mm)	0.01
ID ≥ 10 in (250 mm)	0.009
PVC	
ID < 4" (100 mm)	0.011
ID ≥ 4 in (100 mm) < 10 in (250 mm)	0.01
ID ≥ 10 in (250 mm)	0.009
Brass	0.011
Cast Iron	0.013
Smooth Steel	0.012
Asbestos Cement	0.011

Water Treatment Costs

Water treatment cost = CapEx + Labor Cost + Equipment Cost (includes Operating Cost)

CapEx = User Entered Value
Consumable costs = cost of treatment chemicals or materials based quantity treated
Labor Cost = No. Months x Days/mo. x [(Supervisor Cost x 8 hrs) + (Laborer Cost x Crew Size x Hours/day)]
Operating Cost = Fuel, power, maintenance or other costs calculated based on quantity treated
Equipment Cost = No. Months x Days/mo. x [(Supervisor Truck Cost x 8 hrs) + (Labor Truck Cost x No. Crew Trucks x Hours/day)]
No. Crew Trucks = 1 per each two laborers per shift

Superseded

Closure Cost Estimate
Solution Mgmt

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost CostType Type: LOM Cost Basis: Northern Nevada - Imperial Units

Solution/Water Management - LOM Cost Summary

	Labor $	Equipment + Operating + Power $	Materials $	Capital $	Totals $
Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution/Water Management - Pumping

	Description (required)	Flow gpm	Manning n (see above)	Losses k	Velocity(2) ft/sec	Friction Head ft	Total Dynamic Head ft	Pump Efficiency %	Power Required kW	Horsepower Required HP	Monthly Operating Hours hrs	Pump Capital Cost $	Total Operating Cost $	Total Labor Cost $	Total Crew Equipment Cost $	Total Cost $	Cost/gal $
1	**Pumping - Stage 1 TSF evaporation**	28.00	0.010	8	0.711	1	88	85	0.55	0.80	720	0	288	80,482	258,077	338,846	6.15
2	**Pumping - Stage 2 TSF evaporation**	51.00	0.010	8	1.293	3	90	85	1.02	1.40	720	0	528	80,482	258,077	339,086	3.39
											1,440	**0**	**816**	**160,963**	**516,154**	**677,933**	

Notes:
1. Assumes 2 man labor crew unless user overrides default.
2. Maintaining pipe flow velocity between 1.0 m/s (3.28 ft/sec) and 3.0 m/s (9.84 ft/sec) is generally accepted piping practice. This range is dictated by economic considerations, allows for maintaining stable flow regime and precludes excessive friction losses, noise, vibration, wear and transient overpressures in the pipeline. Please revise pipe internal diameter if the calculated velocity is outside of the recommended range.

Superseded

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Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution/Water Management - Enhanced Evaporation

	Description (required)	Flow gpm	Manning n (see above)	Losses k	Velocity(2) ft/sec	Friction Head ft	Total Dynamic Head ft	Pump Efficiency %	Power Required kW	Horsepower Required HP	Annual Operating Hours hrs	Evaporator/ Pump Capital Cost $	Total Labor Cost $	Total Equipment Cost $	Total Power Cost $	Total Cost $	Cost/gal $
												0	**0**	**0**	**0**	**0**	

Notes:
1. Assumes 2 man labor crew unless user overrides default.
2. Maintaining pipe flow velocity between 1.0 m/s (3.28 ft/sec) and 3.0 m/s (9.84 ft/sec) is generally accepted piping practice. This range is dictated by economic considerations, allows for maintaining stable flow regime and precludes excessive friction losses, noise, vibration, wear and transient overpressures in the pipeline. Please revise pipe internal diameter if the calculated velocity is outside of the recommended range.

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost CostType Type: LOM Cost Basis: Northern Nevada - Imperial Units

Solution/Water Management - LOM Cost Summary

	Labor $	Equipment + Operating + Power $	Materials $	Capital $	Totals $
Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution/Water Management - Water Treatment

	Description (required)	Total Quantity Treated gal	Capital Cost $	Total Consumables Cost $	Total Labor Cost $	Total Equipment + Operating Cost $	Total Treatment Cost $	Cost/gal $
			0	**0**	**0**	**0**	**0**	

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost CostType Type: LOM Cost Basis: Northern Nevada - Imperial Units

Solution/Water Management - LOM Cost Summary

	Labor $	Equipment + Operating + Power $	Materials $	Capital $	Totals $
Pumping	160,963	516,970	N/A	0	677,933
Forced Evaporation	0	0	N/A	0	0
Water Treatment	0	0	0	0	0
Decontamination	0	0	N/A	0	0
TOTALS	**160,963**	**516,970**	**0**	**0**	**677,933**

Solution/Water Management - Decontamination

	Description (required)	Flow gpm	Manning n (see above)	Losses k	Velocity(1) ft/sec	Friction Head ft	Total Dynamic Head ft	Pump Efficiency %	Power Required kW	Horsepower Required HP	Total Operating Hours hrs	Pump Capital Cost $	Total Operating Cost $	Total Labor Cost $	Total Equipment Cost $	Total Cost $
												0	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Pits - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Safety Berm Construction Cost	0	0	N/A	0
Safety Berm Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Pits - User Input

	Facility Description								Pit Berms					Berm Construction			Hauling (if selected method)				Revegetation		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Berm (or Highwall) Length ft	Berm Height ft	Berm Base Width ft	Berm Sideslope Angle _H:1V	Volume (if calculated elsewhere) cy	Berm Construction Method (select)	Berm Material Type (select)	Berm Construction Fleet (select)	Haul Distance to Placement Location ft	Slope to Placement Location % grade	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Closure Cost Estimate
Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Pits - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Safety Berm Construction Cost	0	0	N/A	0
Safety Berm Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Pits - Assumptions & Calculations

Safety Berm Volume Calculation

Cross Sectional Area = (a+b)/2 x h
Berm Volume = Berm Length x Crossectional Area x No. Sides

Dozer productivity assumes push distance of:
100 ft

Dozer:
Length x (Berm Base Width + Dozer Push Distance) - accounts for disturbance created in borrow area

Excavator:
Length x (Berm Base Width + (2 x Excavator Track Width) - accounts for disturbance created in borrow area

Haul & Place:
Length x Berm Base Width - if necessary use Yards sheet to account for disturbance created in borrow area

Revegetation Calculations

Minimum 1 acre revegetation crew time per area

Superseded

Closure Cost Estimate
Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
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Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**

Pits - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Safety Berm Construction Cost	0	0	N/A	0
Safety Berm Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Pits - Safety Berm Construction Costs

		Safety Berm								
	Description (required)	Safety Berm Volume cy	Selected Fleet	Cycle Time min	Haul Fleet Size	Corrected Fleet Productivity cy/hr	Total Hours hrs	Safety Berm Labor Cost $	Safety Berm Equipment Cost $	Total Safety Berm Cost $
		0					0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
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File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**

Pits - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Safety Berm Construction Cost	0	0	N/A	0
Safety Berm Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Pits - Safety Berms - Revegetation Costs

	Description (required)	Flat Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
		0.00	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - User Input

You must fill in ALL green cells in this section for each dump, lift or dump category

	Facility Description								Physical - MANDATORY								Cover 1				Cover 2				Growth Media			
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Ground Slope at Toe % Grade	Ungraded Slope _H:1V	Final Slope _H:1V	Final Top Slope % Grade	Bench or Highwall Height ft	Mid-Bench Length ft	Average Flat Area Long Dimension (ripping distance) ft	Final (Regraded) Footprint acres	Regrade Volume (1) (if calculated elsewhere) cy	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Slope Growth Media Thickness in	Flat Area Growth Media Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade
1	**Quarry 1**	**QP01**	**2037**	**Quarry**	**Stg3**			**LOM**	**22.0**	**1.3**	**1.5**				**3,748**	**48.15**											**12.0**	**5,050**	**2.0**
2	**Borrow Pit 2**	**BP02**	**2037**	**Reclamation Borrow Area**	**Stg3**			**LOM**	**17.0**	**1.3**	**1.5**				**2,435**	**28.29**														
3	**Borrow Pit 3**	**BP03**	**2037**	**Reclamation Borrow Area**	**Stg3**			**LOM**	**6.0**	**1.3**	**1.5**				**1,814**	**27.63**														

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Input distance from crusher to placement location if material to be crushed, screened or compacted
3. If Slope from facility to borrow source is >20°, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Superseded

Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - User Input (Cont.)

	Facility Description	Cover 1 - Crushing & Screening										Cover 2 - Crushing & Screening									
	Description (required)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope to Crusher % grade	Haul to Crusher Fleet (2) (select)	Compact Slopes After Placement? (select)	Compact Flat After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope to Crusher % grade	Haul to Crusher Fleet (2) (select)	Compact Slopes After Placement? (select)	Compact Flat After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)
1	**Quarry 1**																				
2	**Borrow Pit 2**																				
3	**Borrow Pit 3**																				

Notes:
1. Input distance from crusher to placement location if material to be crushed, screened or compacted
2. if distance from borrow <820 ft (250 m) must select loader fleet

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
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File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - User Input (cont.) — You must fill in ALL green cells and relevant blue cells in this section for each dump, lift or dump category

		Grading				Cover 1				Cover 2				Growth Media				Revegetation								
	Description (required)	Dozing Material Condition (select)	Highwall Material Type (select)	Grading Equipment Fleet (select)	Slot/Side-by-Side (select)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix Slopes (select)	Seed Mix Flat Areas (select)	Mulch Slopes (select)	Mulch Flat Areas (select)	Fertilizer Slopes (select)	Fertilizer Flat Areas (select)	Slope Scarify/ Rip? (select)	Flat Area Scarify/ Rip? (select)	Scarify/ Ripping Fleet (select)
1	**Quarry 1**													**Alluvium**	**Small Truck**			**Mix 1**	**Mix 1**	**None**	**None**	**None**	**None**	**No**	**No**	**Small Dozer**
2	**Borrow Pit 2**													**Alluvium**	**Small Truck**			**Mix 1**	**Mix 1**	**None**	**None**	**None**	**None**	**Yes**	**Yes**	**Small Dozer**
3	**Borrow Pit 3**													**Alluvium**	**Small Truck**			**Mix 1**	**Mix 1**	**None**	**None**	**None**	**None**	**Yes**	**Yes**	**Small Dozer**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - User Input (cont.)

	Facility Description	Highwall Berms					Berm Construction			Hauling (if selected method)				Revegetation		
	Description (required)	Berm (or Highwall) Length ft	Berm Height ft	Berm Base Width ft	Berm Sideslope Angle _H:1V	Volume (if calculated elsewhere) cy	Berm Construction Method (select)	Berm Material Type (select)	Berm Construction Fleet (select)	Distance to Borrow Source ft	Slope to Borrow Source % grade	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)
1	**Quarry 1**															
2	**Borrow Pit 2**															
3	**Borrow Pit 3**															

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - Assumptions & Calculations

Regrading Push Distance Calculation

dozing distance:
based on 2/3 final cut slope + 2/3 final fill slope (minimum = 50 ft)

Safety Berm Volume Calculation

Dozer productivity assumes push distance of:
100 ft

Dozer:
Length x (Berm Base Width + Dozer Push Distance) - accounts for disturbance created in borrow area

Excavator:
Length x (Berm Base Width + (2 x Excavator Track Width) - accounts for disturbance created in borrow area

Haul & Place:
Length x Berm Base Width - if necessary use Yards sheet to account for disturbance created in borrow area

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per dump

Slopes:
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Mid-bench length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr

Flat Areas:
Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation:
Minimum 1 acre revegetation crew time per area

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
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Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Quarry 1**			Select Fleet							0	0	0	0
2	**Borrow Pit 2**			Select Fleet							0	0	0	0
3	**Borrow Pit 3**			Select Fleet							0	0	0	0
		0									0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - Cover 1 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Quarry 1**	0	0					0					0			0	0	0	0	0	0	0	0	0
2	**Borrow Pit 2**	0	0					0					0			0	0	0	0	0	0	0	0	0
3	**Borrow Pit 3**	0	0					0					0			0	0	0	0	0	0	0	0	0
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - Cover 2 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Quarry 1**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
2	**Borrow Pit 2**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
3	**Borrow Pit 3**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

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Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - Growth Media Costs

		Growth Media Placement								
	Description (required)	Growth Media Volume cy	Growth Media Replacement Fleet	Cycle Time min	Fleet Productivity BCY/hr	Haul Fleet Size	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**Quarry 1**	77,440	740C/988K/D7E	9.38	568	4	136	36,906	121,689	158,595
2	**Borrow Pit 2**						0	0	0	0
3	**Borrow Pit 3**						0	0	0	0
		77,440					136	**36,906**	**121,689**	**158,595**

Superseded

Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - Scarifying/Revegetation Costs

										Scarifying Costs			Revegetation Costs			
	Description (required)	Slope Area acres	Flat Area acres	Total Surface Area acres	Final Slope Length ft	Average Long Dimension (ripping distance) ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revegetation Material Cost $	Total Revegetation Cost $
1	**Quarry 1**	0.00	48.00	48.00			D7E	0	0	0	0	0	4,896	1,860	14,810	21,566
2	**Borrow Pit 2**	0.00	28.00	28.00		2,435	D7E	0	28	1,648	2,784	4,432	2,856	1,085	8,639	12,580
3	**Borrow Pit 3**	0.00	28.00	28.00		1,814	D7E	0	28	1,648	2,784	4,432	2,856	1,085	8,639	12,580
		0.00	104.00	104.00				0	56	**3,296**	**5,568**	**8,864**	**10,608**	**4,030**	**32,088**	**46,726**

Notes: 1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)
2) Assumes 50min/hr equipment availability

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - Safety Berm Construction Costs

		Safety Berm								
	Description (required)	Safety Berm Volume cy	Selected Fleet	Cycle Time min	Haul Fleet Size	Corrected Fleet Productivity cy/hr	Total Hours hrs	Safety Berm Labor Cost $	Safety Berm Equipment Cost $	Total Safety Berm Cost $
1	**Quarry 1**						0	0	0	0
2	**Borrow Pit 2**						0	0	0	0
3	**Borrow Pit 3**						0	0	0	0
		0					0	**0**	**0**	**0**

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Quarries and Borrow Areas - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	36,906	121,689	N/A	158,595
Ripping/Scarifying Cost	3,296	5,568	N/A	8,864
Safety Berm Construction Cost	0	0	N/A	0
Subtotal Earthwork	**40,202**	**127,257**		**167,459**
Revegetation Cost	10,608	4,030	32,088	46,726
Safety Berm Revegetation Cost	0	0	0	0
	10,608	**4,030**	**32,088**	**46,726**
TOTALS	**50,810**	**131,287**	**32,088**	**214,185**

Quarries & Borrow Pits - Safety Berms - Revegetation Costs

	Description (required)	Flat Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Quarry 1**	0.00	0	0	0	0
2	**Borrow Pit 2**	0.00	0	0	0	0
3	**Borrow Pit 3**	0.00	0	0	0	0
		0.00	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Underground Openings

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Underground Openings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Adits, Portals & Declines Plugging	120	392	0	512
Subtotal Adits	120	392	0	512
Shaft Backfill/Cover	233	745	N/A	978
Shaft Capping	1,943	267	1,183	3,393
Subtotal Shafts	2,176	1,012	1,183	4,371
TOTALS	**2,296**	**1,404**	**1,183**	**4,883**

Adits, Portals & Declines - User Input

	Facility Description								Physical Characteristics				Backfill Material					
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Height ft	Width ft	Backfill/ Plug Type	Distance to Bulkhead ft	Backfill Method (select)	Backfill Fleet (select)	Backfill Material Condition (select)	Backfill Material Type (select)	Haul Distance to Placement Location ft	Slope to Placement Location % grade
1	**Portal**	**U01**	**2035**	**Underground Mine**	**Stg1**			**LOM**	**15.0**	**15.0**	**Rock Backfill**	**100**	**Loader**	**Small Loader**	**1**	**Limestone - br**	**500**	**0.0**

Notes: 1) Foam (adit) option is for smaller openings that can be plugged with simple forms and a 5 ft thick plug.
2) Foam (production) option is for larger production openings (declines, etc.) and requires larger form construction and minimum 10 ft thick plug.
3) All foam plugs include minimum 15ft of backfill from opening to plug.
4) Bat gate option is for small openings and the material cost is the same for any size opening.
5) Backfilling assumes that small dozer will push material from nearby stockpile or dump
6) Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
7) Loaders for Backfill Fleet use Crusher/Tramming loaders in Fleets(Crews) sheet

Superseded

Closure Cost Estimate
Underground Openings

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Underground Openings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Adits, Portals & Declines Plugging	120	392	0	512
Subtotal Adits	120	392	0	512
Shaft Backfill/Cover	233	745	N/A	978
Shaft Capping	1,943	267	1,183	3,393
Subtotal Shafts	2,176	1,012	1,183	4,371
TOTALS	**2,296**	**1,404**	**1,183**	**4,883**

Shaft Openings - User Input

You must fill in ALL green cells and relevant blue cells in this section for each shaft

	Facility Description								Physical Characteristics			Backfill or Foundation Cover						
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Diameter [(1)] ft	Shaft Depth (for backfill method) ft	Backfill/ Plug Type (select)	Backfill Material Type (select)	Cover/ Backfill Fleet (select)	Thickness (if not complete backfill) ft	Haul Distance to Placement Location ft	Slope to Placement Location % grade	Cycle Time Override (user override)	Maximum Fleet Size (user override)
1	**Vent Shaft #1**	**U02**	**2035**	**Underground Mine**	**Stg1**			**LOM**	**9.0**	**10**	**Concrete Cap**	**Limestone - broken**	**Small Truck**		**3,852**	**15.5**		

Notes:
1. Diameter should include overlap to seat cap on bedrock or shaft collar
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Closure Cost Estimate
Underground Openings

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Underground Openings - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Adits, Portals & Declines Plugging	120	392	0	512
Subtotal Adits	120	392	0	512
Shaft Backfill/Cover	233	745	N/A	978
Shaft Capping	1,943	267	1,183	3,393
Subtotal Shafts	2,176	1,012	1,183	4,371
TOTALS	**2,296**	**1,404**	**1,183**	**4,883**

Underground Openings - Assumptions & Calculations

Concrete Cover/Bulkhead Volume Calculation

Using Means Heavy Construction Cost Data (2004)
Estimage cover/bulkhead thickness
Assumes that all concrete works are reinforced
Productivity for crew from Means Heavy Construction Cost Data (2004) adjusted for supervision (addressed in Misc. Costs) and Davis-Bacon Wage Rates
Assumes 18 in thick slab

Backfill Calculations

Uses 1 large and 1 small dozer for adit backfill
Assumes max 400 foot push
Assumes average operator and 50 min/hr availability

Uses truck & loader load, haul place fleets for shafts
Concrete cap will be 1.5 feet thick, reinforced, structually supported.
If concrete cap is used, assume 10 feet of rock backfill on top of cap.
Assumes that all concrete works are reinforced
If backfill is used, assume overfill by 5 feet

Carpenter rate incl Fringe: 0 per hour

Superseded

Closure Cost Estimate
Underground Openings

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Underground Openings - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Adits, Portals & Declines Plugging	120	392	0	512
Subtotal Adits	120	392	0	512
Shaft Backfill/Cover	233	745	N/A	978
Shaft Capping	1,943	267	1,183	3,393
Subtotal Shafts	2,176	1,012	1,183	4,371
TOTALS	**2,296**	**1,404**	**1,183**	**4,883**

Adits, Portals & Declines Plugging — Uses RS Means Heavy Construction Cost Data for bulkhead production rate, material costs and crews

								Bulkhead Construction				Backfill or Foam (1)				Bat Gate or Culvert (2,3,4)				Total Costs			
	Description (required)	Bulkhead Volume cy	Backfill (rock) Volume cy	Backfill Fleet	Cycle Time min	Fleet Productivity LCY/hr	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Bulkhead Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material (Foam) Cost $	Total Backfill Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Bat Gate Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Cost $
1	**Portal**		833	988K			0	0	0	0	0	120	392	0	512	0	0	0	0	120	392	0	512
		0	**833**				0	**0**	**0**	**0**	**0**	**120**	**392**	**0**	**512**	**0**	**0**	**0**	**0**	**120**	**392**	**0**	**512**

Notes:
1) Foam costs include 1 hour move to and setup + 1 hr. minimum crew time
2) Assumes 1 hr walk-in/walk-out time for equipment
3) Batgate assumes 8 hr install time each
4) Bat culvert backfill costs based on one 8-hr day (i.e. backfilling hours = 8 hrs).

Superseded

Closure Cost Estimate
Underground Openings

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Underground Openings - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Adits, Portals & Declines Plugging	120	392	0	512
Subtotal Adits	120	392	0	512
Shaft Backfill/Cover	233	745	N/A	978
Shaft Capping	1,943	267	1,183	3,393
Subtotal Shafts	2,176	1,012	1,183	4,371
TOTALS	**2,296**	**1,404**	**1,183**	**4,883**

Shaft Plugging

		Cover/Cap											Backfill/Cover			Total Costs			
	Description (required)	Cover Area ft2	Backfill or Cover Volume cy	Placement Fleet	Cycle Time min	Fleet Productivity LCY/hr	Haul Fleet Size	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Shaft Cap Cost $	Total Labor Cost $	Total Equipment Cost $	Total Backfill Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Cost $
1	**Vent Shaft #1**	64	0	740C/988K/D7E	7.02	570	3	1	1,943	267	1,183	3,393	233	745	978	2,176	1,012	1,183	4,371
		64	**0**					1	**1,943**	**267**	**1,183**	**3,393**	**233**	**745**	**978**	**2,176**	**1,012**	**1,183**	**4,371**

Superseded

Closure Cost Estimate
Roads

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Roads - LOM Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	12,024	19,162	N/A	31,186
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	2,827	4,769	N/A	7,596
Subtotal Earthworks	**14,851**	**23,931**		**38,782**
Revegetation Cost	4,770	1,814	13,020	19,604
TOTALS	**19,621**	**25,745**	**13,020**	**58,386**

Roads - User Input

You must fill in ALL green cells and relevant blue cells in this section for each road

	Facility Description								Physical (1) - MANDATORY						User Overrides		Growth Media		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Ground Slope at Toe % grade	Ungraded Slope _H:1V	Cut Slope degrees	Road Width ft	Road Length ft	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) cy	Disturbed Area (if calculated elsewhere) acres	Growth Media Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade
1	**Access Road**	**R01**	**2038**	**Roads**	**Stg4**			**LOM**	**12.0**	**1.5**	**0.0**	**25.0**	**3,457**	**100%**		**6.09**			
2	**Plant Road**	**R02**	**2037**	**Roads**	**Stg3**			**LOM**	**6.0**	**1.5**	**0.0**	**24.0**	**2,479**	**100%**		**1.37**			
3	**Mine Road**	**R03**	**2035**	**Roads**	**Stg1**			**LOM**	**6.0**	**1.5**	**0.0**	**38.0**	**524**	**100%**		**0.79**			
4	**Mine Road**	**R04**	**2037**	**Roads**	**Stg3**			**LOM**	**5.0**	**1.5**	**0.0**	**50.0**	**9,119**	**100%**		**7.68**			
5	**Mine Road**	**R05**	**2064**	**Roads**	**Stg5**			**LOM**	**4.0**	**1.5**	**0.0**	**30.0**	**1,374**	**100%**		**1.05**			
6	**Mine Road**	**R06**	**2035**	**Roads**	**Stg1**			**LOM**	**12.0**	**1.5**	**34.0**	**14.0**	**100**	**100%**		**0.10**			
7	**Mine Road**	**R07**	**2037**	**Roads**	**Stg3**			**LOM**	**15.0**	**1.5**	**34.0**	**20.0**	**144**	**100%**		**0.07**			
8	**Mine Road**	**R08**	**2035**	**Roads**	**Stg1**			**LOM**	**6.0**	**1.5**	**0.0**	**20.0**	**183**	**100%**		**0.25**			
9	**Mine Road**	**R09**	**2035**		**Stg1**			**LOM**	**37.0**	**1.5**	**0.0**	**20.0**	**1,890**	**100%**		**1.46**			
10	**Mine Road**	**R10**	**2035**	**Roads**	**Stg1**			**LOM**	**21.0**	**1.5**	**34.0**	**20.0**	**1,511**	**100%**		**1.05**			
11	**Mine Road**	**R11**	**2038**	**Roads**	**Stg4**			**LOM**	**15.0**	**1.5**	**34.0**	**14.0**	**1,288**	**100%**		**0.59**			
12	**Mine Road**	**R12**	**2038**	**Roads**	**S**			**M**	**0.0**	**1.5**	**0.0**	**14.0**	**5**	**100%**		**0.15**			
13	**Perimeter Fence Road**	**R13**	**2038**		**S**			**M**	**15.0**	**1.5**	**0.0**	**15.0**	**2,178**	**100%**		**7.28**			
14	**Haul Road**	**HR01**	**2035**	**Roads**	**S**			**M**	**6.0**	**1.5**	**0.0**	**50.0**	**146**	**100%**		**0.48**			
15	**Haul Road**	**HR02**	**2035**	**Roads**	**S**			**M**	**16.0**	**1.5**	**34.0**	**50.0**	**4,221**	**100%**		**6.59**			
16	**Haul Road**	**HR03**	**2035**	**Roads**	**S**			**M**	**16.0**	**1.5**	**34.0**	**40.0**	**1,159**	**100%**		**2.34**			
17	**Haul Road**	**HR04**	**2037**	**R**	**S**			**M**	**8.0**	**1.5**	**0.0**	**42.0**	**2**	**100%**		**3.66**			
18	**Haul Road**	**HR05**	**2037**	**Roads**	**Stg3**			**LOM**	**5.0**	**1.5**	**0.0**	**42.0**	**1,152**	**100%**		**1.20**			

Superseded

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Because the work required for building roads with a dozer is similar to that required to regrade a road with a dozer, this sheet could be used to provide a rough estimate of road construction costs if a dozer is selected as the grading fleet.

Growth media for HR05 will be stored locally in the road berms.

Closure Cost Estimate
Roads

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Roads - LOM Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	12,024	19,162	N/A	31,186
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	2,827	4,769	N/A	7,596
Subtotal Earthworks	**14,851**	**23,931**		**38,782**
Revegetation Cost	4,770	1,814	13,020	19,604
TOTALS	**19,621**	**25,745**	**13,020**	**58,386**

Roads - User Input (cont.)

		Haul Road Safety Berms				
	Description (required)	Berm Length ft	Berm Height ft	Berm Base Width ft	Berm Sideslope Angle _H:1V	Number of Berms (2) (1 or 2 sides)
1	**Access Road**					
2	**Plant Road**					
3	**Mine Road**	**524.0**	**4.0**	**12.0**	**1.5**	**2**
4	**Mine Road**	**9,119.0**	**2.0**	**6.0**	**1.5**	**2**
5	**Mine Road**	**1,374.0**	**2.0**	**6.0**	**1.5**	**2**
6	**Mine Road**	**100.4**	**2.0**	**6.0**	**1.5**	**2**
7	**Mine Road**	**144.4**	**2.0**	**6.0**	**1.5**	**2**
8	**Mine Road**	**183.5**	**2.0**	**6.0**	**1.5**	**2**
9	**Mine Road**	**1,890.4**	**2.0**	**6.0**	**1.5**	**1**
10	**Mine Road**	**1,511.0**	**2.0**	**6.0**	**1.5**	**1**
11	**Mine Road**	**1,289.8**	**2.0**	**6.0**	**1.5**	**1**
12	**Mine Road**					
13	**Perimeter Fence Road**					
14	**Haul Road**	**146.1**	**4.0**	**12.0**	**1.5**	**2**
15	**Haul Road**	**4,220.9**	**4.0**	**12.0**	**1.5**	**2**
16	**Haul Road**	**1,158.7**	**4.0**	**12.0**	**1.5**	**2**
17	**Haul Road**	**3,262.0**	**4.0**	**12.0**	**1.5**	**2**
18	**Haul Road**	**1,132.1**	**4.0**	**12.0**	**1.5**	**2**

(2) Enter 1 if berm on only one side of road, 2 if both sides of road are bermed.

Superseded

Closure Cost Estimate
Roads

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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Roads - LOM Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	12,024	19,162	N/A	31,186
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	2,827	4,769	N/A	7,596
Subtotal Earthworks	**14,851**	**23,931**		**38,782**
Revegetation Cost	4,770	1,814	13,020	19,604
TOTALS	**19,621**	**25,745**	**13,020**	**58,386**

Roads - User Input (cont.) **You must fill in ALL green cells and relevant blue cells in this section for each road**

		Grading				Growth Media				Revegetation				
	Description (required)	Dozing Material Condition (select)	Cut Material Type (select)	Recontouring Equipment Fleet[2] (select)	No. of Excavators if grade >30% (select)	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarifying/ Ripping? (select)	Ripping Fleet (select)
1	Access Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
2	Plant Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
3	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
4	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
5	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
6	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
7	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
8	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
9	Mine Road	1	Alluvium	Small Excavator	1	Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
10	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
11	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
12	Mine Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
13	Perimeter Fence Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
14	Haul Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
15	Haul Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
16	Haul Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
17	Haul Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
18	Haul Road	1	Alluvium	Small Excavator		Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer

Superseded

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
2. If original slope >30% only excavators are allowed.

Closure Cost Estimate
Roads

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Roads - LOM Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	12,024	19,162	N/A	31,186
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	2,827	4,769	N/A	7,596
Subtotal Earthworks	**14,851**	**23,931**		**38,782**
Revegetation Cost	4,770	1,814	13,020	19,604
TOTALS	**19,621**	**25,745**	**13,020**	**58,386**

Roads - Assumptions & Calculations

Regrading Volume and Footprint Volume

Will not allow dozer for slopes greater than 30%
For dozer regrading push distance = road width
Assumes dozer push is uphill
Assumes minimum push distance of 100 ft

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per area
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Road length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
For dozer regrading assumes push distance = 3 x road width

Revegetation Calculations

Minimum of 1 acre crew time per area

Safety Berm Volume Calculation

Cross Sectional Area = (a+b)/2 x h
Berm Volume = Berm Length x Crossectional Area x No. Sides

Total berm volume doubled if both sides of road are bermed.
If length of berm on each side of road is different, input total length of both berms and input 1 for number of sides

Superseded

Closure Cost Estimate
Roads

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Roads - LOM Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	12,024	19,162	N/A	31,186
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	2,827	4,769	N/A	7,596
Subtotal Earthworks	**14,851**	**23,931**		**38,782**
Revegetation Cost	4,770	1,814	13,020	19,604
TOTALS	**19,621**	**25,745**	**13,020**	**58,386**

Roads - Regrading Costs

	Description (required)	Regrading Volume cy	Recontouring Fleet	Number of Excavators	Fleet Productivity cy/hr	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Access Road**	0				0	0	0	0
2	**Plant Road**	0				0	0	0	0
3	**Mine Road**	932	325F	1	398	2	238	379	617
4	**Mine Road**	4,054	325F	1	398	10	1,191	1,897	3,088
5	**Mine Road**	611	325F	1	398	2	238	379	617
6	**Mine Road**	60	325F	1	398	1	119	190	309
7	**Mine Road**	120	325F	1	398	1	119	190	309
8	**Mine Road**	82	325F	1	398	1	119	190	309
9	**Mine Road**	420	325F	1	398	1	119	190	309
10	**Mine Road**	1,271	325F	1	398	3	357	569	926
11	**Mine Road**	534	325F	1	398	1	119	190	309
12	**Mine Road**	0				0	0	0	0
13	**Perimeter Fence Road**	1	325F	1	398	1	119	190	309
14	**Haul Road**	260	325F	1	398	1	119	190	309
15	**Haul Road**	18,728	325F	1	398	47	5,595	8,916	14,511
16	**Haul Road**	4,032	325F	1	398	10	1,191	1,897	3,088
17	**Haul Road**	5,800	325F	1	398	15	1,786	2,846	4,632
18	**Haul Road**	2,013	325F	1	398	5	595	949	1,544
		38,918				101	**12,024**		**31,**

Superseded

Closure Cost Estimate
Roads

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Roads - LOM Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	12,024	19,162	N/A	31,186
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	2,827	4,769	N/A	7,596
Subtotal Earthworks	**14,851**	**23,931**		**38,782**
Revegetation Cost	4,770	1,814	13,020	19,604
TOTALS	**19,621**	**25,745**	**13,020**	**58,386**

Roads - Growth Media Costs

	Description (required)	Volume cy	Replacement Fleet	Cycle Time min	Fleet Productivity LCY/hr	Haul Fleet Size	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**Access Road**	0					0	0	0	
2	**Plant Road**	0					0	0	0	
3	**Mine Road**	0					0	0	0	
4	**Mine Road**	0					0	0	0	
5	**Mine Road**	0					0	0	0	
6	**Mine Road**	0					0	0	0	
7	**Mine Road**	0					0	0	0	
8	**Mine Road**	0					0	0	0	
9	**Mine Road**	0					0	0	0	
10	**Mine Road**	0					0	0	0	
11	**Mine Road**	0					0	0	0	
12	**Mine Road**	0					0	0	0	
13	**Perimeter Fence Road**	0					0	0	0	
14	**Haul Road**	0					0	0	0	
15	**Haul Road**	0					0	0	0	
16	**Haul Road**	0								
17	**Haul Road**	0					0	0	0	
18	**Haul Road**	0					0	0	0	
		0								

Superseded

Closure Cost Estimate
Roads

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Roads - LOM Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	12,024	19,162	N/A	31,186
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	2,827	4,769	N/A	7,596
Subtotal Earthworks	**14,851**	**23,931**		**38,782**
Revegetation Cost	4,770	1,814	13,020	19,604
TOTALS	**19,621**	**25,745**	**13,020**	**58,386**

Roads - Scarifying/Revegetation Costs

						Scarifying Costs			Revegetation Costs			
	Description (required)	Total Surface Area acres	Final Slope Length ft	Ripping/ Scarifying Fleet	Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Access Road**	6.09	77	D7E	6	353	597	950	621	236	1,879	2,736
2	**Plant Road**	1.37	24	D7E	1	59	99	158	140	53	423	616
3	**Mine Road**	0.79	66	D7E	1	59	99	158	102	39	244	385
4	**Mine Road**	7.68	37	D7E	7	412	696	1,108	783	298	2,370	3,451
5	**Mine Road**	1.05	33	D7E	1	59	99	158	107	41	324	472
6	**Mine Road**	0.10	43	D7E	1	59	99	158	102	39	31	172
7	**Mine Road**	0.07	21	D7E	1	59	99	158	102	39	22	163
8	**Mine Road**	0.25	59	D7E	1	59	99	158	102	39	77	218
9	**Mine Road**	1.46	34	D7E	2	118	199	317	149	57	450	656
10	**Mine Road**	1.05	30	D7E	1	59	99	158	107	41	324	472
11	**Mine Road**	0.59	20	D7E	1	59	99	158	102	39	182	323
12	**Mine Road**	0.15	14	D7E	1	59	99	158	102	39	46	187
13	**Perimeter Fence Road**	7.28	14	D7E	9	5	895	1,425	9	29	246	3
14	**Haul Road**	0.48	143	D7E	1	5	99	158	102	3	148	2
15	**Haul Road**	6.59	68	D7E	7	4	696	1,108	7	2	033	3
16	**Haul Road**	2.34	88	D7E	2	1	199	317	239	8	722	1,052
17	**Haul Road**	3.66	49	D7E	4	2	398	633	373	1	129	1,5
18	**Haul Road**	1.20	46	D7E	1	5	99	158	4		370	5
		42.20			48	**2,827**	**4,769**	**7,596**	**4,770**	**1,814**	**13,020**	**19,604**

Superseded

Closure Cost Estimate
Process Ponds

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - User Input

You must fill in ALL green cells and relevant blue cells in this section for each pond

	Facility Description								Pond Dimensions (1)					Backfill 1				Backfill 2				Growth Media			
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Pond Length ft	Pond Width ft	Pond Depth ft	Pond Sideslope Angle _H:1V	Disturbed Area (if calculated elsewhere) acres	Percent Backfill (0% if blank)	Distance to Placement (2)(3) ft	Slope to Placement Location % grade	Volume (if calculated elsewhere) cy	Percent Backfill (0% if blank)	Distance to Placement (2) ft	Slope to Placement Location % grade	Volume (if calculated elsewhere) cy	Growth Media Thickness in	Distance to Placement ft	Slope to Placement Location % grade	Volume (if calculated elsewhere) cy
1	**Reclaim Pond**	**PP01**	**2037**	**Tailings Storage Facility**	**Stg3**			**LOM**	**96.6**	**77**	**8.0**	**2.5**										**12**	**5,720**	**3%**	
2	**Collection Pond**	**CP01**	**2035**	**Process Plant**	**Stg1**			**LOM**	**246.9**	**97**	**9.0**	**3.0**		**75%**	**2,992**	**-1.7**						**12**	**2,080**	**-1.7**	

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Input distance from crusher to placement location if material to be crushed, screened or compacted
3. If pond will be filled by pushing berm into pond with bulldozer, enter 0 for Distance to Placement. Volume will be adjusted to 50% of the percent backfill to account for cut-to-fill pond construction. Dozer push distance assumed to be 2/3 the width of the pond.
4. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Reclaim pond will be converted to an E cell when no longer needed for solution management and will remain post mine.
Collection Pond will be backfilled assuming 3/4 total depth of material. Borrow source is BP02.

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - User Input (Cont.)

		Backfill 1 - Crushing & Screening									Backfill 2 - Crushing & Screening								
	Description (required)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope to Crusher % grade	Haul to Crusher Fleet (select)	Compact After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope to Crusher % grade	Haul to Crusher Fleet (select)	Compact After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)
1	**Reclaim Pond**																		
2	**Collection Pond**																		

Notes:
1. Input distance from crusher to placement location if material to be crushed, screened or compacted
2. If distance from borrow <820 ft (250 m) must select loader fleet

Superseded

Closure Cost Estimate
Process Ponds

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	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - User Input (Cont.)

		Remove Liner	Backfill 1				Backfill 2				Growth Media				Revegetation		
	Description (required)	Crew Cut & Fold Time (2) hrs	Backfill Material Type (select)	Backfill Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Backfill Material Type (select)	Backfill Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)
1	**Reclaim Pond**										**Alluvium**	**Small Truck**			**Mix 1**	**None**	**None**
2	**Collection Pond**	**30.0**	**Alluvium**	**Small Truck**							**Alluvium**	**Small Truck**			**Mix 1**	**None**	**None**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
(2) Pond liner removal crew (2Clab + excavator) = 2 General Laborers + 325C Excavator

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - User Input (Cont.)

		E/ET-Cell Construction												
	Description (required)	Add/Replace Liner (1) (select)	Liner Thickness (select)	Install Leak Detection/ Recovery System (select)	Add/Replace Geonet (select)	Number of Geotextile Layer(s)	Drain pipe spacing in cell (3) ft	Pipe Size (select)	Total Length of Cell Pipe ft	Additional Pipe Between Facility and Cell ft	Pipe Size (select)	Length of Drainfield Pipe ft	Pipe Size (select)	Mark up (4) %
1	**Reclaim Pond**													
2	**Collection Pond**													

Notes:
1. If single liner is installed, no drainage layer is included. If liner is repaired, assumes 10% of liner surface area is replaced.
2. Geomembrane layers are in addition to any required liner installation.
3. Spacing between drainpipes used to distribute water in E/ET-cell
4. Premium for misc. costs (e.g. ,inflow sampling port, low distribution box, drain rock and geotextile for draindown distribution system, dosing tank (where required), backfill monitoring port, transducer and telemetry (where required), LCRS sump construction)

Superseded

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Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - Assumptions & Calculations

Revegetation Calculations

Minimum 1 acre revegetation crew time per area

Evaporation/Evapotranspiration

Distribution header pipe assumed to be length of pond
Area of additional geosynthetic layers assumed to be
Minimum 1 acre revegetation crew time per area
Minimum 1 acre revegetation crew time per area

Superseded

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Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - Liner Removal Costs

	Description (required)	Crew Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $
1	**Reclaim Pond**	0	0	0	0
2	**Collection Pond**	30	4,041	2,708	6,749
		30	**4,041**	**2,708**	**6,749**

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - Backfill 1 Costs

		Material Volumes		Haul to Crusher					Backfill Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume (1,2) cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Reclaim Pond**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
2	**Collection Pond**	0	3,867					0	740C/988K/D7E	7.24	3	553	7	0	0	0	0	0	0	0	1,633	5,215	6,848	6,848
		0	3,867					0					7	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,633**	**5,215**	**6,848**	**6,848**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)
2. If pond backfilled by dozing berm into pond, backfill volume will be 50% of the backfill volume to account for cut-to-fit construction

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - Backfill 2 Costs

		Material Volumes		Haul to Crusher					Backfill Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume (1,2) cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Reclaim Pond**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
2	**Collection Pond**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)
2. If pond backfilled by dozing berm into pond, backfill volume will be 50% of the backfill volume to account for cut-to-fit construction

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - Growth Media Costs

		Growth Media Placement								
	Description (required)	Final Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity BCY/hr	hrs	Labor Cost $	Equipment Cost $	Total Cost $
1	**Reclaim Pond**	275	740C/988K/D7E	10.1	4	528	1	271	895	1,166
2	**Collection Pond**	889	740C/988K/D7E	6.28	2	425	2	390	1,190	1,580
		1,164					3	**661**	**2,085**	**2,746**

Superseded

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Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - Revegetation Costs

	Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Reclaim Pond**	0.20	102	39	62	203
2	**Collection Pond**	0.60	102	39	185	326
		0.80	**204**	**78**	**247**	**529**

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - Evaporation/Evapotranspiration Cell Liners

		Liner Repair					Other Geosynthetics					Totals		
	Description (required)	Surface Area ft2	Material Costs $	Labor Cost $	Equipment Cost $	Total Liner Cost $	Surface Area ft2	Material Costs $	Labor Cost $	Equipment Cost $	Total Geosynthetic Cost $	Subtotal $	Markup $	Total Cost $
1	**Reclaim Pond**	0	0	0	0	0	0	0	0	0	0	0	0	0
2	**Collection Pond**	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	**0**	**0**	**0**	**0**	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Superseded

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Process Ponds - LOM Cost Summary

	Labor $	Equipment $	Materials $	Markup $	Totals $
Liner Cutting & Folding Costs	4,041	2,708	N/A	N/A	6,749
Backfill 1 Costs	1,633	5,215	N/A	N/A	6,848
Backfill 2 Costs	0	0	N/A	N/A	0
Growth Media Placement Costs	661	2,085	N/A	N/A	2,746
Subtotal Earthworks	**6,335**	**10,008**	**0**		**16,343**
Revegetation Costs	204	78	247	N/A	529
Evaporation/Evapotranspiration Cell Lining	0	0	0	0	0
Evaporation/Evapotranspiration Cell Piping	0	0	0	0	0
Subtotal Evaporation/Evapotranspiration Cells	**0**	**0**	**0**	**0**	**0**
TOTALS	**6,539**	**10,086**	**247**	**0**	**16,872**

Process Ponds - Evaporation/Evapotranspiration Cell Piping

		Cell Piping					Connector Piping					Drainfield Piping					Totals		
	Description (required)	Total Cell Pipe Length (1) ft	Material Costs $	Labor Cost $	Equipment Cost $	Total Cost $	Total Connector Pipe Length (1) ft	Material Costs $	Labor Cost $	Equipment Cost $	Total Cost $	Total Drainfield Pipe Length ft	Material Costs $	Labor Cost $	Equipment Cost $	Total Cost $	Subtotal $	Markup $	Total Cost $
1	**Reclaim Pond**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	**Collection Pond**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	**0**	**0**	**0**	**0**	0	**0**	**0**	**0**	**0**	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Yards, Etc. - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Regrading Cost	43,911	74,172	N/A	118,083
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Growth Media Placement Cost	14,572	46,790	N/A	61,362
Ripping/Scarifying Cost	3,651	6,160	N/A	9,811
Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - User Input

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

	Facility Description								Physical			Cover 1			Cover 2			Growth Media		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Area acres	Average Flat Area Long Dimension (ripping distance) ft	Regrade Volume (calculated elsewhere) cy	Cover Thickness in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Cover Thickness in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Growth Media Thickness in	Haul Distance to Placement ft	Slope to Placement Location % grade
1	**Upper Process Plant Bench**	**Y01**	**2035**	**Process Plant**	**Stg1**			**LOM**	**3.18**	**1,096**	**8,586**							**12**	**2,080**	**-0.4**
2	**Substation**	**Y02**	**2038**	**Power Supply**	**Stg4**			**LOM**	**0.05**	**50**	**135**							**12**	**3,880**	**-0.4**
3	**Admin Building Parking Lot**	**Y03**	**2038**	**Process Plant**	**Stg4**			**LOM**	**0.18**	**122**	**486**							**12**	**14,227**	**-0.4**
4	**Portal Pad**	**Y04**	**2035**	**Underground Mine**	**Stg1**			**LOM**	**4.84**	**400**	**13,068**							**12**	**2,721**	**-1.2**
5	**Visitor Security Parking Lot**	**Y05**	**2037**	**Infrastructure & Ancillary I**	**Stg3**			**LOM**	**0.50**	**181**	**1,350**							**12**	**4,572**	**1.4**
6	**Security Yard**	**Y06**	**2037**	**Infrastructure & Ancillary I**	**Stg3**			**LOM**	**0.20**	**116**	**540**							**12**	**5,050**	**2.9**
7	**Contractor Laydown Yard**	**Y07**	**2037**	**Yards & Laydown Areas**	**Stg3**			**LOM**	**4.73**	**750**	**12,771**							**12**	**3,880**	**-3.0**
8	**Contractor Office Laydown**	**Y08**	**2037**	**Yards & Laydown Areas**	**Stg3**			**LOM**	**0.86**	**300**	**2,322**							**12**	**14,227**	**0.0**
9	**Weather Station**	**Y09**	**2037**	**Yards & Laydown Areas**	**Stg3**			**LOM**	**0.26**	**128**	**702**							**12**	**4,572**	**-4.4**
10	**Vent Shaft #1 Pad**	**Y10**	**2035**	**Underground Mine**	**Stg1**			**LOM**	**1.32**	**296**	**3,564**							**12**	**2,721**	**-4.8**
11	**Explosive Magazine**	**Y11**	**2035**	**Underground Mine**	**Stg1**			**LOM**	**0.03**	**40**	**81**							**12**	**2,721**	**-2.9**
12	**Well Pad**	**Y12**	**2038**	**Water Supply**	**Stg4**			**LOM**	**0.08**	**60**	**216**							**12**	**14,227**	**-1.9**
13	**Well Pad**	**Y13**	**2038**	**Water Supply**	**Stg4**			**LOM**	**0.09**	**60**	**243**							**12**	**4,572**	**-1.9**
14	**Well Pad**	**Y14**	**2038**	**Water Supply**	**Stg4**			**LOM**	**0.08**	**60**	**216**							**12**	**5,050**	**-1.9**
15	**Well Pad**	**Y15**	**2038**	**Water Supply**	**Stg4**			**LOM**	**0.09**	**60**	**243**							**12**	**0**	**-1.9**
16	**Well Pad**	**Y16**	**2038**	**Water Supply**	**Stg4**			**LOM**										**12**	**0**	**0.0**
17	**Growth Media Stockpile**	**GM01**	**2064**	**Growth Media**	**Stg5**			**LOM**	**3.**	**623**	**9,12**									
18	**Growth Media Stockpile**	**GM02**	**2035**	**Growth Media Stockp**				**LOM**	**2.2**	**528**	**6,129**									
19	**Growth Media Stockpile**	**GM03**	**2035**	**Growth Media Stockpiles**	**Stg3**			**LOM**		**452**										
20	**UG Backfill Aggregate Stockpile**	**SP01**	**2035**	**Undergroun ine**	**Stg1**			**LOM**	**0.11**	**95**										
21	**Power line revegetation (5 ft x 25.1 miles)**	**PL05**	**2038**	**Power Supp**	**Stg4**			**LOM**	**15.2**	**40**	**0**									
22	**ROM Stockpile**	**SP02**	**2035**	**Process Plan**	**Stg1**			**LOM**	**0**	**170**	**756**									

Superseded

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Input distance from crusher to placement location if material to be crushed, screened or compacted
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivity Sheet)

UG Backfill reclaimed under Portal Pad
ROM Stockpile reclaimed under Upper Process Plant Bench
Regrade volumes based on a 2.5% slope per acre = 3700 cy/acre
25% cover material due to use of berms and other ripping of native material

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Yards, Etc. - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Regrading Cost	43,911	74,172	N/A	118,083
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Growth Media Placement Cost	14,572	46,790	N/A	61,362
Ripping/Scarifying Cost	3,651	6,160	N/A	9,811
Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - User Input (Cont.)

	Facility Description	Cover 1 - Crushing & Screening									Cover 2 - Crushing & Screening								
	Description (required)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope from Cover Borrow % grade	Haul to Crusher Fleet (2) (select)	Compact After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope from Cover Borrow % grade	Haul to Crusher Fleet (2) (select)	Compact After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)
1	**Upper Process Plant Bench**																		
2	**Substation**																		
3	**Admin Building Parking Lot**																		
4	**Portal Pad**																		
5	**Visitor Security Parking Lot**																		
6	**Security Yard**																		
7	**Contractor Laydown Yard**																		
8	**Contractor Office Laydown**																		
9	**Weather Station**																		
10	**Vent Shaft #1 Pad**																		
11	**Explosive Magazine**																		
12	**Well Pad**																		
13	**Well Pad**																		
14	**Well Pad**																		
15	**Well Pad**																		
16	**Well Pad**																		
17	**Growth Media Stockpile**																		
18	**Growth Media Stockpile**																		
19	**Growth Media Stockpile**																		
20	**UG Backfill Aggregate Stockpile**																		
21	**Power line revegetation (5 ft x 25.1 miles)**																		
22	**ROM Stockpile**																		

Superseded

Notes:
1. Input distance to crusher if material to be crushed
2. if distance from borrow <820 ft (250 m) must select loader fleet

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Yards, Etc. - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Regrading Cost	43,911	74,172	N/A	118,083
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Growth Media Placement Cost	14,572	46,790	N/A	61,362
Ripping/Scarifying Cost	3,651	6,160	N/A	9,811
Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - User Input (Cont.) You must fill in ALL green cells and relevant blue cells in this section for each building or facility

		Grading			Cover 1				Cover 2				Growth Media				Revegetation				
	Description (required)	Dozing Material Condition (select)	Dozing Material Type (select)	Grading Equipment Fleet (select)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Material Type (select)	Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarify/ Rip? (select)	Ripping Fleet (select)
1	**Upper Process Plant Bench**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
2	**Substation**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
3	**Admin Building Parking Lot**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
4	**Portal Pad**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
5	**Visitor Security Parking Lot**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
6	**Security Yard**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
7	**Contractor Laydown Yard**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
8	**Contractor Office Laydown**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
9	**Weather Station**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
10	**Vent Shaft #1 Pad**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
11	**Explosive Magazine**	1	Alluvium	Small									Alluvium	Small Truck			Mix 1	None	None	Yes	Small Dozer
12	**Well Pad**	1	Alluvium	Small									Alluvium	Small Tru			Mix 1	None	None	Yes	Small Dozer
13	**Well Pad**	1	Alluvium	Small									Alluvium	Small Tru			Mix 1	None	None	Yes	Small Dozer
14	**Well Pad**	1	Alluvium	Small									Alluvium	Small Tru			Mix 1	None	None	Yes	Small Dozer
15	**Well Pad**	1	Alluvium	Small									Alluvium	Small Tru			Mix 1	None	None	Yes	Small Dozer
16	**Well Pad**	1	Alluvium	Small									Alluvium	Small			Mix 1	None	None	Yes	Small Dozer
17	**Growth Media Stockpile**	1	Alluvium	Small													Mix 1	None	None	Yes	Small Dozer
18	**Growth Media Stockpile**	1	Alluvium	Small													Mix 1	None	None	Yes	Small Dozer
19	**Growth Media Stockpile**	1	Alluvium	Small													Mix 1	None	None	Yes	Small Dozer
20	**UG Backfill Aggregate Stockpile**	1	Alluvium	Small													Mix 1	None	None	No	
21	**Power line revegetation (5 ft x 25.1 miles)**	1	Alluvium	Small													Mix 1	None	None	Yes	Small Dozer
22	**ROM Stockpile**	1	Alluvium	Small													Mix 1	None	None	No	

Superseded

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Yards, Etc. - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Regrading Cost	43,911	74,172	N/A	118,083
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Growth Media Placement Cost	14,572	46,790	N/A	61,362
Ripping/Scarifying Cost	3,651	6,160	N/A	9,811
Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - Assumptions & Calculations

Grading Calculations

Average push distance assumed to be 2/3 of the 600 feet maximum from Catepillar Handbook or 400 feet
Material assumed to be loose stockile (1.2 productivity factor)
Slope assumed to be 0 to 5% (1.0 productivity factor)

Cover Volume Calculation

Yard area x cover thickness

Ripping/Scarifying Calculations

Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr ripping/scarifying per area

Revegetation

Minimum 1 acre revegetation crew time per area

Superseded

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
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Yards, Etc. - LOM Cost Summary

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Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Total Hourly Productivity cy/hr	Total Dozer Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Upper Process Plant Bench**	8,586	400	D7E	180	1.0	1.0	0.79	89	96	5,651	9,545	15,196
2	**Substation**	135	400	D7E	180	1.0	1.0	0.79	89	2	118	199	317
3	**Admin Building Parking Lot**	486	400	D7E	180	1.0	1.0	0.79	89	5	294	497	791
4	**Portal Pad**	13,068	400	D7E	180	1.0	1.0	0.79	89	147	8,652	14,616	23,268
5	**Visitor Security Parking Lot**	1,350	400	D7E	180	1.0	1.0	0.79	89	15	883	1,491	2,374
6	**Security Yard**	540	400	D7E	180	1.0	1.0	0.79	89	6	353	597	950
7	**Contractor Laydown Yard**	12,771	400	D7E	180	1.0	1.0	0.79	89	143	8,417	14,218	22,635
8	**Contractor Office Laydown**	2,322	400	D7E	180	1.0	1.0	0.79	89	26	1,530	2,585	4,115
9	**Weather Station**	702	400	D7E	180	1.0	1.0	0.79	89	8	471	795	1,266
10	**Vent Shaft #1 Pad**	3,564	400	D7E	180	1.0	1.0	0.79	89	40	2,354	3,977	6,331
11	**Explosive Magazine**	81	400	D7E	180	1.0	1.0	0.79	89	1	59	99	158
12	**Well Pad**	216	400	D7E	180	1.0	1.0	0.79	89	2	118	199	317
13	**Well Pad**	243	400	D7E	180	1.0	1.0	0.79	89	3	177	298	475
14	**Well Pad**	216	400	D7E	180	1.0	1.0	0.79	89	2	118	199	317
15	**Well Pad**	243	400	D7E	180	1.0	1.0	0.79	89	3	177	298	475
16	**Well Pad**	216	400	D7E	180	1.0	1.0	0.79	89	2	118	199	317
17	**Growth Media Stockpile**	9,126	400	D7E	180	1.0	1.0	0.79	89	102	6,063	10,224	16,287
18	**Growth Media Stockpile**	6,129	400	D7E	180	1.0	1.0	0.79	89	69	4,061	6,861	10,922
19	**Growth Media Stockpile**	5,562	400	D7E	180	1.0	1.0	0.79	89	62	3,649	6,165	9,814
20	**UG Backfill Aggregate Stockpile**	297	400	D7E	180	1.0	1.0	0.79	89	3	177	298	475
21	**Power line revegetation (5 ft x 25.1 miles)**			D7E	180	1.0	1.0	0.79	89	0	0	0	0
22	**ROM Stockpile**	756	400	D7E	180	1.0	1.0	0.79	89	8	501	795	1,296
		66,609								746	**44,211**	**74,172**	**118,383**

Superseded

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Yards, Etc. - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Regrading Cost	43,911	74,172	N/A	118,083
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Growth Media Placement Cost	14,572	46,790	N/A	61,362
Ripping/Scarifying Cost	3,651	6,160	N/A	9,811
Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - Cover 1 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Upper Process Plant Bench**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
2	**Substation**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
3	**Admin Building Parking Lot**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
4	**Portal Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
5	**Visitor Security Parking Lot**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
6	**Security Yard**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
7	**Contractor Laydown Yard**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
8	**Contractor Office Laydown**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
9	**Weather Station**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
10	**Vent Shaft #1 Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
11	**Explosive Magazine**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
12	**Well Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
13	**Well Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
14	**Well Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
15	**Well Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
16	**Well Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
17	**Growth Media Stockpile**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
18	**Growth Media Stockpile**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
19	**Growth Media Stockpile**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
20	**UG Backfill Aggregate Stockpile**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
21	**Power line revegetation (5 ft x 25.1 miles)**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
22	**ROM Stockpile**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0

Superseded

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Yards, Etc. - LOM Cost Summary				
	Labor $	Equipment $	Materials $	Totals $
Regrading Cost	43,911	74,172	N/A	118,083
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
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Ripping/Scarifying Cost	3,651	6,160	N/A	9,811
Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

0	0		0		0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
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Yards, Etc. - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
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Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
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Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - Cover 2 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
1	**Upper Process Plant Bench**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
2	**Substation**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
3	**Admin Building Parking Lot**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
4	**Portal Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
5	**Visitor Security Parking Lot**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
6	**Security Yard**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
7	**Contractor Laydown Yard**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
8	**Contractor Office Laydown**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
9	**Weather Station**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
10	**Vent Shaft #1 Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
11	**Explosive Magazine**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
12	**Well Pad**	0	0					0					0	0	0	0	0	0	0	0	0	0	0	0
13	**Well Pad**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
14	**Well Pad**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
15	**Well Pad**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
16	**Well Pad**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
17	**Growth Media Stockpile**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
18	**Growth Media Stockpile**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
19	**Growth Media Stockpile**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
20	**UG Backfill Aggregate Stockpile**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
21	**Power line revegetation (5 ft x 25.1 miles)**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
22	**ROM Stockpile**	0	0					0					0	0	0	0		0	0	0	0	0	0	0
		0	0					0					0	**0**	**0**	**0**		**0**	**0**	**0**	**0**	**0**	**0**	**0**

Superseded

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Yards, Etc. - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Regrading Cost	43,911	74,172	N/A	118,083
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Growth Media Placement Cost	14,572	46,790	N/A	61,362
Ripping/Scarifying Cost	3,651	6,160	N/A	9,811
Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - Growth Media Costs

		Growth Media Placement								
	Description (required)	Final Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity BCY/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $
1	**Upper Process Plant Bench**	5,130	740C/988K/D7E	6.28	2	425	12	2,343	7,141	9,484
2	**Substation**	81	740C/988K/D7E	8.16	3	491	0	233	745	978
3	**Admin Building Parking Lot**	290	740C/988K/D7E	19	8	564	1	424	1,494	1,918
4	**Portal Pad**	7,809	740C/988K/D7E	6.94	3	578	14	3,266	10,429	13,695
5	**Visitor Security Parking Lot**	807	740C/988K/D7E	8.88	3	451	2	467	1,490	1,957
6	**Security Yard**	323	740C/988K/D7E	9.38	4	568	1	271	895	1,166
7	**Contractor Laydown Yard**	7,631	740C/988K/D7E	8.69	3	461	17	3,966	12,664	16,630
8	**Contractor Office Laydown**	1,387	740C/988K/D7E	19	8	564	2	847	2,988	3,835
9	**Weather Station**	419	740C/988K/D7E	10.55	4	505	1	271	895	1,166
10	**Vent Shaft #1 Pad**	2,130	740C/988K/D7E	7.94	3	505	4	933	2,980	3,913
11	**Explosive Magazine**	48	740C/988K/D7E	7.32	3	548	0	233	745	978
12	**Well Pad**	129	740C/988K/D7E	19	8	564	0	424	1,494	1,918
13	**Well Pad**	145	740C/988K/D7E	8.88	3	451	0	233	745	978
14	**Well Pad**	129	740C/988K/D7E	9.38	4	568	0	271	895	1,166
15	**Well Pad**	145	740C/988K/D7E	4		651	0	195	595	790
16	**Well Pad**	129	740C/988K/D7E	4	2	651	0	195	595	790
17	**Growth Media Stockpile**								0	0
18	**Growth Media Stockpile**								0	0
19	**Growth Media Stockpile**							0	0	0
20	**UG Backfill Aggregate Stockpile**								0	0
21	**Power line revegetation (5 ft x 25.1 miles)**							0	0	0
22	**ROM Stockpile**								0	0
		26,732						**14,**	**46,790**	**61,3**

Superseded

Closure Cost Estimate
Yards, Etc.

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Yards, Etc. - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Regrading Cost	43,911	74,172	N/A	118,083
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Growth Media Placement Cost	14,572	46,790	N/A	61,362
Ripping/Scarifying Cost	3,651	6,160	N/A	9,811
Subtotal Earthworks	**62,134**	**127,122**		**189,256**
Revegetation Cost	4,068	1,544	12,305	17,917
TOTALS	**66,202**	**128,666**	**12,305**	**207,173**

Yards, Etc. - Scarify/Revegetation Costs

						Scarifying Costs			Revegetation Costs			
	Description (required)	Total Surface Area acres	Average Long Dimension (ripping distance) ft	Ripping/Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revegetation Material Cost $	Total Revegetation Cost $
1	**Upper Process Plant Bench**	3.18	1,096	D7E	4	235	398	633	324	123	981	1,428
2	**Substation**	0.05	50	D7E	1	59	99	158	5	2	15	22
3	**Admin Building Parking Lot**	0.18	122	D7E	1	59	99	158	18	7	56	81
4	**Portal Pad**	4.84	400	D7E	6	353	597	950	494	188	1,493	2,175
5	**Visitor Security Parking Lot**	0.50	181	D7E	1	59	99	158	51	19	154	224
6	**Security Yard**	0.20	116	D7E	1	59	99	158	20	8	62	90
7	**Contractor Laydown Yard**	4.73	750	D7E	5	294	497	791	482	183	1,459	2,124
8	**Contractor Office Laydown**	0.86	300	D7E	1	59	99	158	88	33	265	386
9	**Weather Station**	0.26	128	D7E	1	59	99	158	27	10	80	117
10	**Vent Shaft #1 Pad**	1.32	296	D7E	2	118	199	317	135	51	407	593
11	**Explosive Magazine**	0.03	40	D7E	1	59	99	158	3	1	9	13
12	**Well Pad**	0.08	60	D7E	1	59	99	158	8	3	25	36
13	**Well Pad**	0.09	60	D7E	1	59	99	158	9	3	28	40
14	**Well Pad**	0.08	60	D7E	1	59	99	158	8	3	25	36
15	**Well Pad**	0.09	60	D7E	1	59	99	158	9	3	28	40
16	**Well Pad**	0.08	60	D7E	1	59	99	158	8	3	25	36
17	**Growth Media Stockpile**	3.38	623	D7E	4	235	398	633	345	123	943	1,519
18	**Growth Media Stockpile**	2.27	528	D7E	3	176	298	474	232	83	700	1,020
19	**Growth Media Stockpile**	2.06	452	D7E	3	176	298	474	210	75	636	921
20	**UG Backfill Aggregate Stockpile**	0.11			1	59	0	59	11	4	34	49
21	**Power line revegetation (5 ft x 25.1 miles)**	15.21	40	D7E	13	1,353	2,287	3,640	1,552	590	4,694	6,836
22	**ROM Stockpile**	0.28			1	59	0	59	29	11	86	126
		39.88			62	**3,651**	**6,160**	**9,811**	**4,068**	**1,544**	**12,305**	**17,917**

Notes: 1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)
2) Assumes 50 min/hr equipment availability

Superseded

Closure Cost Estimate
Landfills

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - User Input

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

	Facility Description								Physical			Cover 1			Cover 2			Growth Media		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Area acres	Average Flat Area Long Dimension (ripping distance) ft	Regrade Volume (calculated elsewhere) cy	Cover Thickness in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Cover Thickness in	Haul Distance to Placement Location (2) ft	Slope to Placement Location % grade	Growth Media Thickness in	Haul Distance to Placement ft	Slope to Placement Location % grade

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Input distance from crusher to placement location if material to be crushed, screened or compacted
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - User Input (Cont.)

Facility Description		Cover 1 - Crushing & Screening									Cover 2 - Crushing & Screening								
	Description (required)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope from Cover Borrow % grade	Haul to Crusher Fleet (2) (select)	Compact After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Crush Material (select)	Screen Material (select)	Loss to Crushing/ Screening %	Haul Distance to Crusher (1) ft	Slope from Cover Borrow % grade	Haul to Crusher Fleet (2) (select)	Compact After Placement? (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)

Notes:
1. Input distance to crusher if material to be crushed
2. if distance from borrow <820 ft (250 m) must select loader fleet

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - User Input (Cont.) **You must fill in ALL green cells and relevant blue cells in this section for each building or facility**

		Grading			Cover 1				Cover 2				Growth Media				Revegetation				
	Description (required)	**Dozing Material Condition** (select)	**Dozing Material Type** (select)	**Grading Equipment Fleet** (select)	**Material Type** (select)	**Placement Equipment Fleet** (select)	**Cycle Time Override** (user override)	**Maximum Fleet Size** (user override)	**Material Type** (select)	**Placement Equipment Fleet** (select)	**Cycle Time Override** (user override)	**Maximum Fleet Size** (user override)	**Material Type** (select)	**Placement Equipment Fleet** (select)	**Cycle Time Override** (user override)	**Maximum Fleet Size** (user override)	**Seed Mix** (select)	**Mulch** (select)	**Fertilizer** (select)	**Scarify/ Rip?** (select)	**Ripping Fleet** (select)

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Closure Cost Estimate
Landfills

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - Assumptions & Calculations

Dozing, Ripping/Scarifying & Revegetation Calculations

Dozing:
Dozing distance = 2/3 of the 600 feet maximum from Catepillar Handbook or 400 feet
Assumes flat push (grade correction factor = 1)
Minimum 1 hr per area

Ripping:
Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr per area

Revegetation:
Minimum 1 acre revegetation crew time per area

Superseded

Closure Cost Estimate
Landfills

Project Name: Grassy Mountain Mine - Reclamation Plan
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File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - Regrading Costs

Productivity = Dozer Productivity x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Dozing Material	Density Correction	Fleet Productivity LCY/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $
		0							0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Landfills

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - Cover 1 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Closure Cost Estimate
Landfills

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - Cover 2 Costs

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCM/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	No. of Trucks/ Scrapers	Fleet Productivity LCM/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
1. If crushed or screened, Cover Volume = volume delivered to crusher - amount loss to crushing/screening)

Superseded

Closure Cost Estimate
Landfills

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - Growth Media Costs

		Growth Media Placement								
	Description (required)	Final Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity BCY/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $
		0					0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Landfills

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Landfills - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	0	0	N/A	0
Cover 1 Placement Cost	0	0	N/A	0
Cover 2 Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Landfills - Scarify/Revegetation Costs

						Scarifying Costs			Revegetation Costs			
	Description (required)	Total Surface Area acres	Average Long Dimension (ripping distance) ft	Ripping/Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs	Scarifying/ Ripping Equipment Cost	Total Scarifying/ Ripping Costs	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revegetation Material Cost $	Total Revegetation Cost $
		0.00			0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes: 1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)
2) Assumes 50 min/hr equipment availability

Superseded

Closure Cost Estimate
Haul Material

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Generic Material Hauling - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hauling/Crush/Screen/Compact	0	0	N/A	0
Cover Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Generic Material Hauling - User Input

	Facility Description								Physical			Haul to Crusher		Crushing & Screening			Haul to Placement		Cover Thickness			Growth Media		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Final Surface Area acres	Average Ripping Distance ft	Material Volume Required cy	Haul Distance to Crusher (1) ft	Slope to Crusher % grade	Crush Material	Screen Material	Loss to Crushing/ Screening %	Haul Distance to Placement Location (2) ft	Slope to Placement Area % grade	Cover Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade	Growth Media Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade

Notes:
1. Input distance to crusher if material to be crushed
2. Assumed to be 0% if material will be crushed and source is within 250 m of crusher
3. If Slope is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Stockpile 1 assumes the maximum quantity of waste rock stored on the TWRSF which is approximately 135,000 tons of material which is expected to occur in year 1 of operation.
Stockpile 2 assumes the maximum quantity of ore on the ore stockpile, which will occur routinely during operations.

Superseded

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Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**

Generic Material Hauling - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hauling/Crush/Screen/Compact	0	0	N/A	0
Cover Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Generic Material Hauling - User Input (cont.)

		Hauling Material								Cover				Growth Media				Revegetation				
	Description (required)	**Haul Material Type** (select)	**Crusher Fleet** (select)	**Cycle Time Override** (user override)	**Maximum Fleet Size** (user override)	**Placement Fleet** (select)	**Cycle Time Override** (user override)	**Maximum Fleet Size** (user override)	**Compact After Placement?**	**Material Type** (select)	**Placement Fleet** (select)	**Cycle Time Override** (user override)	**Maximum Fleet Size** (user override)	**Material Type** (select)	**Placement Fleet** (select)	**Cycle Time Override** (user override)	**Maximum Fleet Size** (user override)	**Seed Mix** (select)	**Mulch Type** (select)	**Fertilizer Type** (select)	**Scarify/ Rip?** (select)	**Scarifying/ Ripping Fleet** (select)

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
2. If distance betweem borrow source is <250 m, haul fleet assumed be wheeled loaders

Superseded

Closure Cost Estimate
Haul Material

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Generic Material Hauling - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hauling/Crush/Screen/Compact	0	0	N/A	0
Cover Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Generic Material Hauling - Load, Haul, Place and Grade

		Material Volumes		Haul to Crusher					Haul to Placement					Haul to Crusher			Crush	Compact			Haul to Placement			Total
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Crusher Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCY/hr	Fleet Hours hrs	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCY/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $	Total Crush/ Screen Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Labor Cost $	Equipment Cost $	Total Cost $	Total Cover Cost $
		0	0					0					0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes: Final Material Volume includes allowance for additional material hauled to crushing/screening plant based on Loss to Crushing/Screening input above.

Superseded

Closure Cost Estimate
Haul Material

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Generic Material Hauling - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hauling/Crush/Screen/Compact	0	0	N/A	0
Cover Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Generic Material Hauling - Cover and Growth Media Costs

		Cover Placement									Growth Media Placement								
	Description (required)	Final Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCY/hr	Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $	Final Material Volume cy	Placement Fleet	Cycle Time min	No. of Trucks/ Scrapers	Fleet Productivity LCY/hr	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Total Cost $
		0					0	**0**	**0**	**0**	0					0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Haul Material

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Generic Material Hauling - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hauling/Crush/Screen/Compact	0	0	N/A	0
Cover Placement Cost	0	0	N/A	0
Topsoil Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**0**	**0**		**0**
Revegetation Cost	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Generic Material Hauling - Scarifying/Revegetation Costs

					Scarifying Costs			Revegetation Costs			
	Description (required)	Total Surface Area acres	Ripping/ Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Cost $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Cost $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
		0.00		0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Foundations & Buildings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Buildings & Foundation Demolition - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Building Demolition Cost	100,678	92,931	N/A	193,609
Wall Demolition Cost	19,149	0	N/A	19,149
Slab Demolition	9,044	25,612	N/A	34,656
Subtotal Demolition	**128,871**	**118,543**	**0**	**247,414**
Cover Placement Cost	8,970	27,370	N/A	36,340
Growth Media Placement Cost	9,530	30,080	N/A	39,610
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**18,500**	**57,450**	**0**	**75,950**
Revegetation Cost	4,488	1,705	1,488	7,681
TOTALS	**151,859**	**177,698**	**1,488**	**331,045**

Buildings & Foundation - User Input

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

	Facility Description								Physical - MANDATORY								Foundation Cover (1)			Growth Media (1) (entire footprint)		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Length ft	Width ft	Eave Height ft	Slab Thickness in	Foundation Wall Thickness in	Foundation Wall Height ft	Average Flat Area Long Dimension (ripping distance) ft	Building Area Footprint (including surrounding facilities) acres	Foundation Cover Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade	Growth Media Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade
1	Administration Building	FB01	2038	Process Plant	Stg4			LOM	110	80	10	6	6	1	110	0.20	36	100	2.5	12	2,080	4.7
2	Assy Lab	FB02	2035	Process Plant	Stg1			LOM	66	41	10	6	6	1	66	0.06	36	100	2.5	12	2,080	-1.7
3	Crusher Area Electrical Room	FB03	2035	Process Plant	Stg1			LOM	32	23	10	6	6	1	32	0.02	36	100	2.5	12	2,080	-1.7
4	Crusher Wall	FB04	2035	Process Plant	Stg1			LOM	77	1	10	6	8	20	77	0.00	36	100	2.5	12	2,080	-1.7
5	Fine Ore Bin	FB05	2035	Process Plant	Stg1			LOM	25	25	10	6	6	1	25	0.01	36	100	2.5	12	2,080	-1.7
6	Gold Room	FB06	2035	Process Plant	Stg1			LOM	41	25	10	6	6	1	41	0.02	36	100	2.5	12	2,080	-1.7
7	Security Guard House	FB07	2037	Infrastructure & Ancillary	Stg3			LOM	54	26	10	6	6	1	54	0.03	36	100	2.5	12	2,080	0.0
8	Leach & CIL Circuit	FB08	2035	Process Plant	Stg1			LOM	139	62	20	6	6	1	139	0.20	36	100	2.5	12	2,080	-1.7
9	Plant Services Grinding	FB09	2035	Process Plant	Stg1			LOM	142	51	10	6	6	1	142	0.17	36	100	2.5	12	2,080	-1.7
10	Plant Workshop and Warehouse	FB10	2035	Process Plant	Stg1			LOM	64	41	10	6	6	1	64	0.06	36	100	2.5	12	2,080	-1.7
11	Process Plant Electrical Room	FB11	2035	Process Plant	Stg1			LOM	52	46	10	6	6	1	52	0.06	36	100	2.5	12	2,080	-1.7
12	Septic Tank	FB12	2038	Process Plant	Stg4			LOM	21	8	10	6	6	1	21	0.00	36	100	2.5	12	2,080	4.7
13	Truck Scale	FB13	2035	Process Plant	Stg1			LOM	75	36	10	6	6	1	75	0.06	36	100	2.5	12	2,080	-1.7
14	Truck Workhshop and Warehouse	FB14	2035	Process Plant	Stg1			LOM	128	55	10	6	6	1	128	0.16	36	100	2.5	12	2,080	-1.7
15	Well #3 Well House	FB15	2038	Water Supply	Stg4			LOM			10	6					36	100	2.5	12	14,227	-1.9
16	Well #4 Well House	FB16	2038	Water Supply	Stg4			LOM			10	6			17	0.00	36	100	2.5	12	14,227	-1.9
17	Well #5 Well House	FB17	2038	Water Supply	Stg4			LOM			10	6	6	1	17	0.00	36	100	2.5	12	14,227	-1.9
18	Well #6 Well House	FB18	2038	Water Supply	Stg4			LOM			10	6	6	1	17	0.00	36	100	2.5	12	14,227	-1.9
19	Well #7 Well House	FB19	2038	Water Supply	Stg4			LOM			10	6	6	1	17	0.00	36	100	2.5	12	14,227	-1.9
20	15 kV circuit breaker	PD01	2038	Power Supply	Stg4			LOM			15	6	6	1	15	0.01	36	100	2.5	12	2,080	4.7
21	Bag House	PD02	2035	Process Plant	Stg1			LOM			9	6	6	1	9	0.00	36	100	2.5	12	2,080	-1.7
22	Chiller	PD03	2035	Process Plant	Stg1			LOM			10	6	6	1	6	0.00	36	100	2.5	12	2,080	-1.7
23	Concrete Pad	PD04	2035	Process Plant	Stg1			LOM	10	7	10	6	6	1	10	0.00	36	100	2.5	12	2,080	-1.7
24	Concrete Pad	PD05	2035	Process Plant	Stg1			LOM	20	8	10	6	6	1	20	0.00	36	100	2.5	12	2,080	-1.7
25	Crusher Pad	PD06a	2035	Process Plant	Stg1			LOM	44	11	10	6	6	1	44	0.01	36	100	2.5	12	2,080	-1.7
26	Crusher Pad	PD06b	2035	Process Plant	Stg1			LOM	31	13	10	6	6	1	31	0.01	36	100	2.5	12	2,080	-1.7
27	Crusher Pad	PD06c	2035	Process Plant	Stg1			LOM	12	8	10	6	6	1	12	0.00	36	100	2.5	12	2,080	-1.7
28	Cyanide Storage Tank	PD07	2035	Process Plant	Stg1			LOM	28	24	10	6	6	1	28	0.02	36	100	2.5	12	2,080	-1.7
29	Cyanide Unloading Pad	PD08	2035	Process Plant	Stg1			LOM	56	21	10	6	6	1	56	0.03	36	100	2.5	12	2,080	-1.7
30	Emergency Power Generator	PD09	2038	Process Plant	Stg4			LOM	16	10	10	6	6	1	16	0.00	36	100	2.5	12	2,080	4.7
31	Fuel Storage Pad	PD10a	2035	Process Plant	Stg1			LOM	40	6	10	6	6	1	40	0.01	36	100	2.5	12	2,080	-1.7
32	Fuel Storage Pad	PD10b	2035	Process Plant	Stg1			LOM	42	17	10	6	6	1	42	0.02	36	100	2.5	12	2,080	-1.7
33	Lime Silo	PD11	2035	Process Plant	Stg1			LOM	18	18	10	6	6	1	18	0.01	36	100	2.5	12	2,080	-1.7
34	Potable Water Treatment Plant	PD12	2038	Water Supply	Stg4			LOM	20	8	10	6	6	1	20	0.00	36	100	2.5	12	2,080	-1.7
35	Ramp	PD13	2035	Process Plant	Stg1			LOM	15	7	10	6	6	1	15	0.00	36	100	2.5	12	2,080	-1.7
36	Ramp	PD14	2035	Process Plant	Stg1			LOM	11	7	10	6	6	1	11	0.00	36	100	2.5	12	2,080	-1.7
37	Ramp	PD15	2035	Process Plant	Stg1			LOM	10	7	10	6	6	1	10	0.00	36	100	2.5	12	2,080	-1.7
38	Reagent Storage	PD16	2035	Process Plant	Stg1			LOM	117	55	10	6	6	1	117	0.15	36	100	2.5	12	2,080	-1.7
39	Truck Wash	PD17	2035	Process Plant	Stg1			LOM	40	28	10	6	6	1	40	0.03	36	100	2.5	12	2,080	-1.7
40	UG Backfill Plant	PD18	2035	Underground Mine	Stg1			LOM	75	70	10	6	6	1	75	0.12	36	100	2.5	12	2,080	-1.7
41	Vent Shaft #1 Foundation	PD19	2035	Underground Mine	Stg1			LOM	50	50	10	6	6	1	50	0.06	36	100	2.5	12	2,080	-1.7
42	Wet Scrubber	PD20	2035	Process Plant	Stg1			LOM	8	5	10	6	6	1	8	0.00	36	100	2.5	12	2,080	-1.7
43	Water Tank	WT01	2038	Water Supply	Stg4			LOM	30	30	10	6	6	1	30	0.02	36	100	2.5	12	2,080	4.7
44	Process Water Tank	WT02	2035	Process Plant	Stg1			LOM	19	19	10	6	6	1	19	0.01	36	100	2.5	12	2,080	-1.7

Superseded

Notes:
1. Foundation cover only calculated to cover slab. Growth media estimated over entire footprint area
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Chase down Septic Tank
Source of this information?

Closure Cost Estimate
Foundations & Buildings

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Buildings & Foundation Demolition - LOM Cost Summary

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Wall Demolition Cost	19,149	0	N/A	19,149
Slab Demolition	9,044	25,612	N/A	34,656
Subtotal Demolition	**128,871**	**118,543**	**0**	**247,414**
Cover Placement Cost	8,970	27,370	N/A	36,340
Growth Media Placement Cost	9,530	30,080	N/A	39,610
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**18,500**	**57,450**	**0**	**75,950**
Revegetation Cost	4,488	1,705	1,488	7,681
TOTALS	**151,859**	**177,698**	**1,488**	**331,045**

Buildings & Foundation - User Input (cont.) You must fill in ALL green cells and relevant blue cells in this section for each building or facility

		Construction Materials		Slab Demolition		Foundation Cover				Growth Media				Revegetation				
	Description (required)	Building Type (select)	Foundation Wall Type (select)	Slab Demo Method (select)	Slab Breaking Equipment Fleet (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarify/ Rip? (select)	Ripping Fleet (select)
1	Administration Building	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
2	Assy Lab	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
3	Crusher Area Electrical Room	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
4	Crusher Wall	Lg. steel	Block 8 in (200 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
5	Fine Ore Bin	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
6	Gold Room	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
7	Security Guard House	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
8	Leach & CIL Circuit	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
9	Plant Services Grinding	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
10	Plant Workshop and Warehouse	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
11	Process Plant Electrical Room	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
12	Septic Tank	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
13	Truck Scale	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
14	Truck Workhshop and Warehouse	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
15	Well #3 Well House	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
16	Well #4 Well House	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
17	Well #5 Well House	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
18	Well #6 Well House	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
19	Well #7 Well House	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
20	15 kV circuit breaker	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
21	Bag House	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
22	Chiller	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
23	Concrete Pad	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
24	Concrete Pad	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
25	Crusher Pad	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
26	Crusher Pad	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
27	Crusher Pad	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
28	Cyanide Storage Tank	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
29	Cyanide Unloading Pad	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
30	Emergency Power Generator	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
31	Fuel Storage Pad	Lg. steel	Block 4 in (100 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
32	Fuel Storage Pad	Lg. steel	Block 4 in (100 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
33	Lime Silo	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
34	Potable Water Treatment Plant	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
35	Ramp	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
36	Ramp	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
37	Ramp	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
38	Reagent Storage	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
39	Truck Wash	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
40	UG Backfill Plant	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
41	Vent Shaft #1 Foundation	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
42	Wet Scrubber	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
43	Water Tank	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	
44	Process Water Tank	Lg. steel	Block 6 in (150 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck			Alluvium	Small Truck			Mix 1	None	None	No	

Superseded

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Closure Cost Estimate
Foundations & Buildings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Buildings & Foundation Demolition - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Building Demolition Cost	100,678	92,931	N/A	193,609
Wall Demolition Cost	19,149	0	N/A	19,149
Slab Demolition	9,044	25,612	N/A	34,656
Subtotal Demolition	**128,871**	**118,543**	**0**	**247,414**
Cover Placement Cost	8,970	27,370	N/A	36,340
Growth Media Placement Cost	9,530	30,080	N/A	39,610
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**18,500**	**57,450**	**0**	**75,950**
Revegetation Cost	4,488	1,705	1,488	7,681
TOTALS	**151,859**	**177,698**	**1,488**	**331,045**

Foundations & Buildings - Assumptions & Calculations

Building Volume Calculations

Using Means Heavy Construction Cost Data (2004) calculates cubic feet from building dimensions
- Estimage slab thickness and wall thickness if not known
- Assumes that all concrete slabs are reinforced
- Productivity for crew from Means Heavy Construction Cost Data (2004) adjusted for supervision (addressed in Misc. Costs) and Davis-Bacon Wage Rates
- Demolition costs do not include hauling or disposing if debris - Use Waste Disposal module

Slab Demolition Calculations

Minimum 1 hr excavator time for slab demolition

Cover Volume Calculation

Foundation area x cover thickness
- If "Bury in Place" is selected as slab demolition method, cover thickness is adjusted such that total cover (cover + growth media) equals value entered in "Minimum thickness of cover over unbroken slab" co

Ripping/Scarifying Calculatio

Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation

Minimum 1 acre revegetation crew time per area

Superseded

Closure Cost Estimate
Foundations & Buildings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
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Cover Placement Cost	8,970	27,370	N/A	36,340
Growth Media Placement Cost	9,530	30,080	N/A	39,610
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**18,500**	**57,450**	**0**	**75,950**
Revegetation Cost	4,488	1,705	1,488	7,681
TOTALS	**151,859**	**177,698**	**1,488**	**331,045**

Building & Foundation Demolition Costs

Uses RS Means Heavy Construction Cost Data for building and wall demolition cost calculations. Uses CAT Handbook for slab breaking production.

											Building Demolition			Wall Demolition			Slab Demolition			Total Costs		
	Description (required)	Building Footprint (slab area) sqft	Building Volume cu ft	Building Demolition Fleet	Building Demolition Hours hrs	Wall Length ft	Wall Area sq ft	Wall Demolition Hours hrs	Slab Volume cy	Slab Demolition Fleet	Slab Demolition Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Building Demolition Cost $	Total Labor Cost $	Total Equipment Cost $	Total Wall Demolition Cost $	Total Labor Cost $	Total Equipment Cost $	Total Slab Breaking Cost $	Total Labor Cost $	Total Equipment Cost $	Total Demolition Costs $
1	**Administration Building**	8,800	88,000	930M/20 Ton Crane/Dump	33	380	380	18	163	325F	7	11,440	10,560	22,000	798	0	798	833	2,359	3,192	13,071	12,919	25,990
2	**Assy Lab**	2,706	27,060	930M/20 Ton Crane/Dump	10	214	214	10	50	325F	2	3,518	3,247	6,765	449	0	449	238	674	912	4,205	3,921	8,126
3	**Crusher Area Electrical Room**	736	7,360	930M/20 Ton Crane/Dump	3	110	110	5	14	325F	1	957	883	1,840	231	0	231	119	337	456	1,307	1,220	2,527
4	**Crusher Wall**	54	539	930M/20 Ton Crane/Dump	0	155	3,100	165	1	325F	1	70	65	135	7,409	0	7,409	119	337	456	7,598	402	8,000
5	**Fine Ore Bin**	625	6,250	930M/20 Ton Crane/Dump	2	100	100	5	12	325F	1	813	750	1,563	210	0	210	119	337	456	1,142	1,087	2,229
6	**Gold Room**	1,025	10,250	930M/20 Ton Crane/Dump	4	132	132	6	19	325F	1	1,333	1,230	2,563	277	0	277	119	337	456	1,729	1,567	3,296
7	**Security Guard House**	1,404	14,040	930M/20 Ton Crane/Dump	5	160	160	8	26	325F	1	1,825	1,685	3,510	336	0	336	119	337	456	2,280	2,022	4,302
8	**Leach & CIL Circuit**	8,618	172,360	930M/20 Ton Crane/Dump	64	402	402	19	160	325F	7	22,407	20,683	43,090	844	0	844	833	2,359	3,192	24,084	23,042	47,126
9	**Plant Services Grinding**	7,242	72,420	930M/20 Ton Crane/Dump	27	386	386	18	134	325F	6	9,415	8,690	18,105	811	0	811	714	2,022	2,736	10,940	10,712	21,652
10	**Plant Workshop and Warehouse**	2,624	26,240	930M/20 Ton Crane/Dump	10	210	210	10	49	325F	2	3,411	3,149	6,560	441	0	441	238	674	912	4,090	3,823	7,913
11	**Process Plant Electrical Room**	2,392	23,920	930M/20 Ton Crane/Dump	9	196	196	9	44	325F	2	3,110	2,870	5,980	412	0	412	238	674	912	3,760	3,544	7,304
12	**Septic Tank**	168	1,680	930M/20 Ton Crane/Dump	1	58	58	3	3	325F	1	218	202	420	122	0	122	119	337	456	459	539	998
13	**Truck Scale**	2,700	27,000	930M/20 Ton Crane/Dump	10	222	222	10	50	325F	2	3,510	3,240	6,750	466	0	466	238	674	912	4,214	3,914	8,128
14	**Truck Workshop and Warehouse**	7,040	70,400	930M/20 Ton Crane/Dump	26	366	366	17	130	325F	5	9,152	8,448	17,600	769	0	769	595	1,685	2,280	10,516	10,133	20,649
15	**Well #3 Well House**	170	1,700	930M/20 Ton Crane/Dump	1	54	54	3	3	325F	1	221	204	425	113	0	113	119	337	456	453	541	994
16	**Well #4 Well House**	170	1,700	930M/20 Ton Crane/Dump		54	54	3	3	325F	1	221	204	425	113	0	113	119	337	456	453	541	994
17	**Well #5 Well House**	170	1,700	930M/20 Ton Crane/Dump		54	54	3	3	325F	1	221	204	425	113	0	113	119	337	456	453	541	994
18	**Well #6 Well House**	170	1,700	930M/20 Ton Crane/Dump		54	54	3	3	325F	1	221	204	425	113	0	113	119	337	456	453	541	994
19	**Well #7 Well House**	170	1,700	930M/20 Ton Crane/Dump		54	54	3	3	325F	1	221	204	425	113	0	113	119	337	456	453	541	994
20	**15 kV circuit breaker**	225	2,250	930M/20 Ton Crane/Dump		60	60	3	3	325F	1	293	270	563	126	0	126	119	337	456	538	607	1,145
21	**Bag House**	81	810	930M/20 Ton Crane/Dump		36	36	2	1	325F	1	105	97	202	76	0	76	119	337	456	300	434	734
22	**Chiller**	18	180	930M/20 Ton Crane/Dump		18	18	1	0		1	22	22	45	38	0	38	0	0	0	61	22	83
23	**Concrete Pad**	70	700	930M/20 Ton Crane/Dump		34	34	2	1	325F	1	84	84	168	71	0	71	119	337	456	281	421	702
24	**Concrete Pad**	160	1,600	930M/20 Ton Crane/Dump	1	56	56	3	3	325F	1	208	192	400	118	0	118	119	337	456	445	529	974
25	**Crusher Pad**	484	4,840	930M/20 Ton Crane/Dump	2	110	110	5	9	325F	1	629	581	1,210	231	0	231	119	337	456	979	918	1,897
26	**Crusher Pad**	403	4,030	930M/20 Ton Crane/Dump	1	88	88	4	7	325F	1	524	484	1,008	185	0	185	119	337	456	828	821	1,649
27	**Crusher Pad**	96	960	930M/20 Ton Crane/Dump	0	40	40	2	2	325F	1	125	115	240	84	0	84	119	337	456	328	452	780
28	**Cyanide Storage Tank**	672	6,720	930M/20 Ton Crane/Dump	3	104	104	5	12	325F	1	874	806	1,680	218	0	218	119	337	456	1,211	1,143	2,354
29	**Cyanide Unloading Pad**	1,176	11,760	930M/20 Ton Crane/Dump	4	154	154	7	22	325F	1	1,529	1,411	2,940	323	0	323	119	337	456	1,971	1,748	3,719
30	**Emergency Power Generator**	160	1,600	930M/20 Ton Crane/Dump	1	52	52	2	3	325F	1	208	192	400	109	0	109	119	337	456	436	529	965
31	**Fuel Storage Pad**	240	2,400	930M/20 Ton Crane/Dump	1	92	92	4	4	325F	1	312	288	600	183	0	183	119	337	456	614	625	1,239
32	**Fuel Storage Pad**	714	7,140	930M/20 Ton Crane/Dump	3	118	118	5	13	325F	1	928	857	1,785	235	0	235	119	337	456	1,282	1,194	2,476
33	**Lime Silo**	324	3,240	930M/20 Ton Crane/Dump	1	72	72	3	6	325F	1	421	389	810	151	0	151	119	337	456	691	726	1,417
34	**Potable Water Treatment Plant**	160	1,600	930M/20 Ton Crane/Dump	1	56	56	3	3	325F	1	208	192	400	118	0	118	119	337	456	445	529	974
35	**Ramp**	105	1,050	930M/20 Ton Crane/Dump	0	44	44	2	2	325F	1	137	126	263	92	0	92	119	337	456	348	463	811
36	**Ramp**	77	770	930M/20 Ton Crane/Dump	0	36	36	2	1	325F	1	100	92	192	76	0	76	119	337	456	295	429	724
37	**Ramp**	70	700	930M/20 Ton Crane/Dump	0	34	34	2	1	325F	1	91	84	175	71	0	71	119	337	456	281	421	702
38	**Reagent Storage**	6,435	64,350	930M/20 Ton Crane/Dump	24	344	344	16	119	325F	5	8,366	7,722	16,088	722	0	722	595	1,685	2,280	9,683	9,407	19,090
39	**Truck Wash**	1,120	11,200	930M/20 Ton Crane/Dump	4	136	136	6	21	325F	1	1,456	1,344	2,800	286	0	286	119	337	456	1,861	1,681	3,542
40	**UG Backfill Plant**	5,250	52,500	930M/20 Ton Crane/Dump	20	290	290	14	97	325F	4	6,825	6,300	13,125	609	0	609	476	1,348	1,824	7,910	7,648	15,558
41	**Vent Shaft #1 Foundation**	2,500	25,000	930M/20 Ton Crane/Dump	9	200	200	9	46	325F	2	3,250	3,000	6,250	420	0	420	238	674	912	3,908	3,674	7,582
42	**Wet Scrubber**	40	400	930M/20 Ton Crane/Dump	0	26	26	1	1	325F	1	52	48	100	55	0	55	119	337	456	226	385	611
43	**Water Tank**	900	9,000	930M/20 Ton Crane/Dump	3	120	120	6	17	325F	1	1,170	1,080	2,250	252	0	252	119	337	456	1,541	1,417	2,958
44	**Process Water Tank**	361	3,610	930M/20 Ton Crane/Dump	1	76	76	4	7	325F	1	469	433	902	160	0	160	119	337	456	748	770	1,518
			774,429						1,273		76	**100,678**	**92,931**	**193,609**	**19,149**	**0**	**19,149**	**9,044**	**25,612**	**34,656**	**128,871**	**118,543**	**247,414**

Superseded

Closure Cost Estimate
Foundations & Buildings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Buildings & Foundation Demolition - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
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Subtotal Demolition	**128,871**	**118,543**	**0**	**247,414**
Cover Placement Cost	8,970	27,370	N/A	36,340
Growth Media Placement Cost	9,530	30,080	N/A	39,610
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**18,500**	**57,450**	**0**	**75,950**
Revegetation Cost	4,488	1,705	1,488	7,681
TOTALS	**151,859**	**177,698**	**1,488**	**331,045**

Building & Foundation - Foundation Cover and Growth Media Costs

		Foundation Cover									Growth Media									Total Cover & Growth Media Costs		
	Description (required)	Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCY/hr	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Material Volume cy	Placement Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCY/hr	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Cost $	Total Labor Cost $	Total Equipment Cost $	Total Costs $
1	**Administration Building**	978	740C/988K/D7E	4.2	2	636	2	390	1,190	1,580	326	740C/988K/D7E	6.28	2	425	1	195	595	790	585	1,785	2,370
2	**Assy Lab**	301	740C/988K/D7E	4.2	2	636	1	195	595	790	103	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
3	**Crusher Area Electrical Room**	82	740C/988K/D7E	4.2	2	636	1	195	595	790	26	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
4	**Crusher Wall**	6	740C/988K/D7E	4.2	2	636	1	195	595	790	5	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
5	**Fine Ore Bin**	69	740C/988K/D7E	4.2	2	636	1	195	595	790	18	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
6	**Gold Room**	114	740C/988K/D7E	4.2	2	636	1	195	595	790	39	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
7	**Security Guard House**	156	740C/988K/D7E	4.2	2	636	1	195	595	790	53	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
8	**Leach & CIL Circuit**	958	740C/988K/D7E	4.2	2	636	2	390	1,190	1,580	318	740C/988K/D7E	6.28	2	425	1	195	595	790	585	1,785	2,370
9	**Plant Services Grinding**	805	740C/988K/D7E	4.2	2	636	1	195	595	790	268	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
10	**Plant Workshop and Warehouse**	292	740C/988K/D7E	4.2	2	636	1	195	595	790	97	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
11	**Process Plant Electrical Room**	266	740C/988K/D7E	4.2	2	636	1	195	595	790	89	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
12	**Septic Tank**	19	740C/988K/D7E	4.2	2	636	1	195	595	790	5	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
13	**Truck Scale**	300	740C/988K/D7E	4.2	2	636	1	195	595	790	98	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
14	**Truck Workshop and Warehouse**	782	740C/988K/D7E	4.2	2	636	1	195	595	790	257	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
15	**Well #3 Well House**	19	740C/988K/D7E	4.2	2	636	1	195	595	790	6	740C/988K/D7E	19	8	564	1	424	1,494	1,918	619	2,089	2,708
16	**Well #4 Well House**	19	740C/988K/D7E	4.2	2	636	1	195	595	790	6	740C/988K/D7E	19	8	564	1	424	1,494	1,918	619	2,089	2,708
17	**Well #5 Well House**	19	740C/988K/D7E	4.2	2	636	1	195	595	790	6	740C/988K/D7E	19	8	564	1	424	1,494	1,918	619	2,089	2,708
18	**Well #6 Well House**	19	740C/988K/D7E	4.2	2	636	1	195	595	790	6	740C/988K/D7E	19	8	564	1	424	1,494	1,918	619	2,089	2,708
19	**Well #7 Well House**	19	740C/988K/D7E	4.2	2	636	1	195	595	790	6	740C/988K/D7E	19	8	564	1	424	1,494	1,918	619	2,089	2,708
20	**15 kV circuit breaker**	25	740C/988K/D7E	4.2	2	636	1	195	595	790	8	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
21	**Bag House**	9	740C/988K/D7E	4.2	2	636	1	195	595	790	3	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
22	**Chiller**	2	740C/988K/D7E	4.2	2	636	1	195	595	790	0	740C/988K/D7E	0	0	0	0	0	0	0	195	595	790
23	**Concrete Pad**	8	740C/988K/D7E	4.2	2	636	1	195	595	790	3	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
24	**Concrete Pad**	18	740C/988K/D7E	4.2	2	636	1	195	595	790	6	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
25	**Crusher Pad**	54	740C/988K/D7E	4.2	2	636	1	195	595	790	16	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
26	**Crusher Pad**	45	740C/988K/D7E	4.2	2	636	1	195	595	790	15	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
27	**Crusher Pad**	11	740C/988K/D7E	4.2	2	636	1	195	595	790	3	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
28	**Cyanide Storage Tank**	75	740C/988K/D7E	4.2	2	636	1	195	595	790	26	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
29	**Cyanide Unloading Pad**	131	740C/988K/D7E	4.2	2	636	1	195	595	790	44	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
30	**Emergency Power Generator**	18	740C/988K/D7E	4.2	2	636	1	195	595	790	6	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
31	**Fuel Storage Pad**	27	740C/988K/D7E	4.2	2	636	1	195	595	790	10	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
32	**Fuel Storage Pad**	79	740C/988K/D7E	4.2	2	636	1	195	595	790	26	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
33	**Lime Silo**	36	740C/988K/D7E	4.2	2	636	1	195	595	790	13	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
34	**Potable Water Treatment Plant**	18	740C/988K/D7E	4.2	2	636	1	195	595	790	6	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
35	**Ramp**	12	740C/988K/D7E	4.2	2	636	1	195	595	790	3	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
36	**Ramp**	9	740C/988K/D7E	4.2	2	636	1	195	595	790	3	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
37	**Ramp**	8	740C/988K/D7E	4.2	2	636	1	195	595	790	3	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
38	**Reagent Storage**	715	740C/988K/D7E	4.2	2	636	1	195	595	790	237	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
39	**Truck Wash**	124	740C/988K/D7E	4.2	2	636	1	195	595	790	42	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
40	**UG Backfill Plant**	583	740C/988K/D7E	4.2	2	636	1	195	595	790	194	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
41	**Vent Shaft #1 Foundation**	278	740C/988K/D7E	4.2	2	636	1	195	595	790	89	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
42	**Wet Scrubber**	4	740C/988K/D7E	4.2	2	636	1	195	595	790	2	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
43	**Water Tank**	100	740C/988K/D7E	4.2	2	636	1	195	595	790	26	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
44	**Process Water Tank**	40	740C/988K/D7E	4.2	2	636	1	195	595	790	11	740C/988K/D7E	6.28	2	425	1	195	595	790	390	1,190	1,580
		7,652					46	**8,970**	**27,370**	**36,340**	2,527					43	**9,530**	**30,080**	**39,610**	**18,500**	**57,450**	**75,950**

Superseded

Closure Cost Estimate
Foundations & Buildings

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Buildings & Foundation Demolition - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Building Demolition Cost	100,678	92,931	N/A	193,609
Wall Demolition Cost	19,149	0	N/A	19,149
Slab Demolition	9,044	25,612	N/A	34,656
Subtotal Demolition	**128,871**	**118,543**	**0**	**247,414**
Cover Placement Cost	8,970	27,370	N/A	36,340
Growth Media Placement Cost	9,530	30,080	N/A	39,610
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**18,500**	**57,450**	**0**	**75,950**
Revegetation Cost	4,488	1,705	1,488	7,681
TOTALS	**151,859**	**177,698**	**1,488**	**331,045**

Building & Foundation - Scarifying/Revegetation Costs

						Scarifying/Ripping			Revegetation				Total Scarify & Revegation Costs			
	Description (required)	Flat Area acres	Average Long Dimension (ripping distance) ft	Ripping/ Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Costs $
1	**Administration Building**	0.20			0	0	0	0	102	39	62	203	102	39	62	203
2	**Assy Lab**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
3	**Crusher Area Electrical Room**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
4	**Crusher Wall**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
5	**Fine Ore Bin**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
6	**Gold Room**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
7	**Security Guard House**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
8	**Leach & CIL Circuit**	0.20			0	0	0	0	102	39	62	203	102	39	62	203
9	**Plant Services Grinding**	0.20			0	0	0	0	102	39	62	203	102	39	62	203
10	**Plant Workshop and Warehouse**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
11	**Process Plant Electrical Room**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
12	**Septic Tank**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
13	**Truck Scale**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
14	**Truck Workhshop and Warehouse**	0.20			0	0	0	0	102	39	62	203	102	39	62	203
15	**Well #3 Well House**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
16	**Well #4 Well House**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
17	**Well #5 Well House**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
18	**Well #6 Well House**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
19	**Well #7 Well House**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
20	**15 kV circuit breaker**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
21	**Bag House**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
22	**Chiller**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
23	**Concrete Pad**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
24	**Concrete Pad**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
25	**Crusher Pad**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
26	**Crusher Pad**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
27	**Crusher Pad**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
28	**Cyanide Storage Tank**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
29	**Cyanide Unloading Pad**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
30	**Emergency Power Generator**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
31	**Fuel Storage Pad**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
32	**Fuel Storage Pad**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
33	**Lime Silo**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
34	**Potable Water Treatment Plant**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
35	**Ramp**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
36	**Ramp**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
37	**Ramp**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
38	**Reagent Storage**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
39	**Truck Wash**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
40	**UG Backfill Plant**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
41	**Vent Shaft #1 Foundation**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
42	**Wet Scrubber**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
43	**Water Tank**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
44	**Process Water Tank**	0.10			0	0	0	0	102	39	31	172	102	39	31	172
		4.80			0	**0**	**0**	**0**	**4,488**	**1,705**	**1,488**	**7,681**	**4,488**	**1,705**	**1,488**	**7,681**

Superseded

Closure Cost Estimate
Other Demo & Equip Removal

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Other Demoltion and Equipment Removal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Other Demolition	0	0	0	0
Equipment Removal	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Other Demolition

Facility Description																	
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Quantity	Units	Labor Unit Cost $	Equipment Unit Cost $	Material Unit Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Cost $
														0	**0**	**0**	**0**

Notes:

Superseded

Closure Cost Estimate
Other Demo & Equip Removal

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Other Demoltion and Equipment Removal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Other Demolition	0	0	0	0
Equipment Removal	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**

Equipment & Material Removal

	Facility Description																	
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Quantity	Units	Labor Unit Cost $	Equipment Unit Cost $	Material Unit Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Cost $
1	**Water Tank removal**	**WT01**	**2038**	**Water Supply**	**Stg4**			**LOM**	**6**	**Hours**	**$47.69**	**$37.39**		286	224	0	510
2	**TWRSF - Closure(Leakage Detection Removal)**	**WD01**	**2035**	**Temporary Waste Rock Storage**	**Stg1**			**LOM**	**100**	**Hours**	**$60.19**	**90.28**		6,019	9,028	0	15,047
3	**TWRSF - Closure(HDPE Liner Removal , OffSite Disposal- in Waste Disposal tab)**	**WD01**	**2035**	**Temporary Waste Rock Storage**	**Stg1**			**LOM**	**400**	**Hours**	**$37.26**	**29.87**		14,904	11,948	0	26,852
4	**Oil-Water Separator**	**PD17**	**2035**	**Process Plant**	**Stg1**			**LOM**	**8**	**Hours**	**$47.69**	**$37.39**		382	299	0	681
5	**Generator removal (2)**		**2038**	**Process Plant**	**Stg4**			**LOM**	**8**	**Hours**	**$47.69**	**$37.39**		382	299	0	681
6	**Fuel Tank removal**	**PD10a**	**2035**	**Process Plant**	**Stg1**			**LOM**	**6**	**Hours**	**$47.69**	**$37.39**		286	224	0	510
7	**Ore Stockpile - Closure(HDPE Liner Removal , OffSite Disposal- in Waste Disposal tab)**	**ST02**	**2034**	**Process Plant**	**Stg1**			**LOM**	**40**	**Hours**	**$37.26**	**29.87**		1,490	1,195	0	2,685
											23,749	**23,218**	**0**	**23,749**	**23,218**	**0**	**46,966**

Notes: **$19.04/ton of CRF as provided by Ausenco applied to the the waste rock and ore stockpile cost for use as CRF.**
Ore Stockpile Liner - 14,200 Square Feet
TWRSF Liner - 170,000 Square Feet (estimated)

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Diversion Ditches - User Input

	Facility Description								Diversions Ditches							Revegetation			Liner and Rip-Rap Installation			
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Diversion Length ft	Diversion Depth ft	Ditch Bottom Width ft	Ditch Sideslope Angle _H:1V	Excavate Volume (if calculated elsewhere) cy	Excavating Material Condition (select)	Excavating Equipment Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Liner Area S.Y.	Liner Type (select)	Rip-Rap Area S.Y.	Rip-Rap Type (select)

Notes:
Diversion channels and sediment basins will remain post reclamation for stormwater control.
Diversion ditches at the Process Plant will be reclaimed during the ripping and recontouring of the main yard (Y01).

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Sediment/Evaporation Pond Construction/Removal - User Input

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Sediment Ponds: Pond Width ft	Pond/Berm Length ft	Berm Height ft	Crest Width ft	Sideslope Angle _H:1V	Final Area (if calculated elsewhere) acres	Regrade Volume (if calculated elsewhere) cy	Cover Volume (if calculated elsewhere) cy	Growth Media: Growth Media Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Sediment/Evaporation Pond Construction/Removal - User Input (cont.)

		Sediment Ponds				Growth Media				Revegetation			Ripping/Scarifying	
	Description (required)	**Excavating Material Condition** (select)	**Material Type** (select)	**Excavating Equipment Fleet** (select)	**Liner Type** (select)	**Growth Media Material Type** (select)	**Growth Media Placement Equipment Fleet** (select)	**Cycle Time Override** (user override)	**Maximum Fleet Size** (user override)	**Seed Mix** (select)	**Mulch** (select)	**Fertilizer** (select)	**Scarify/ Rip?** (select)	**Scarify/ Ripping Fleet** (select)

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Sediment & Drainage Control - Assumptions & Calculations

Diversion Ditch Volume Calculation

1) Assume 20% swell for excavations
2) Assumes heavy duty trenching bucket is used

Sediment/Evaporation Pond Construction Calculation

Cut = Fill
Push distance = pond width up to 2/3 max push distance (400 ft)

1) Assume balanced cut-to-fill for berm construction
2) Include cost for liner, if required.
3) Include line items for removal, if necessary.
4) Assume 20% swell for excavations
5) Minimum 1 hr ripping/scarifying per area
6) Minimum 1 acre revegetation crew time per area

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Diversion Ditches - Excavation Costs								Liner Installation (2)				Rip-Rap Installation			
Description (required)	Diversion Ditch Volume (1) LCY	Diversion Ditch Equipment	Corrected Excavator Productivity LCY/hr	Total Hours hrs	Diversion Ditch Labor Cost $	Diversion Ditch Equipment Cost $	Total Diversion Ditch Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Liner Cost $	Labor Cost $	Equipment Cost $	Material Cost $	Total Cost $
	0			0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes: (1) LCM assumes 20% swell from ditch volume
(2) includes finish grading and compaction

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Diversion Ditches - Revegetation Costs

Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
	0.00	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
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Model Version: Version 2.0
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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Sediment/Evaporation Ponds - Construction/Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83)

	Description (required)	Regrading Volume cy	Sed/Evap Pond Equipment	Dozing Distance (see above) ft	Uncorrected Dozer Productivity LCY/hr	Grade Correction	Density Correction	Excavating Material	Corrected Productivity LCY/hr	Total Dozer Hours hrs	Earthwork: Total Labor Cost $	Earthwork: Total Equipment Cost $	Earthwork: Total Constr/ Regrading Cost $	Liner (1): Liner Area ft2	Liner (1): Total Labor Cost $	Liner (1): Total Equipment Cost $	Liner (1): Total Material Cost $	Liner (1): Total Liner Cost $
		0								0	**0**	**0**	**0**		**0**	**0**	**0**	**0**

Notes: 1. Includes costs for finish grading and compaction (see Misc. Unit Costs)

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Sediment/Evaporation Ponds - Growth Media Costs									
		Growth Media							
	Description (required)	Growth Media Volume cy	Growth Media Fleet	Cycle Time min	Haul Fleet Size	Fleet Productivity LCY/hr	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $
		0					0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drainage Control - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Diversion Ditch Construction	0	0	N/A	0
Diversion Ditch Liner	0	0	0	0
Diversion Ditch Rip-Rap	0	0	0	0
Diversion Ditch Revegetation	0	0	0	0
Subtotal Diversion Ditches	**0**	**0**	**0**	**0**
Liner Installation	0	0	0	0
Sed Pond Construct/Regrade	0	0	N/A	0
Sed Pond Growth Media	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Sediment Pond Revegetation	0	0	0	0
Subtotal Sediment Ponds	**0**	**0**	**0**	**0**
TOTALS	**0**	**0**	**0**	**0**

Sediment/Evaporation Ponds - Revegetation Costs

	Description (required)	Surface Area acres	Average Long Dimension (ripping distance) ft	Area Width ft	Ripping/ Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying Costs: Scarifying/ Ripping Labor Costs $	Scarifying Costs: Scarifying/ Ripping Equipment Cost $	Scarifying Costs: Total Scarifying/ Ripping Costs $	Revegetation Costs: Revegetation Labor Cost $	Revegetation Costs: Revegetation Equipment Cost $	Revegetation Costs: Revgetation Material Cost $	Revegetation Costs: Total Revegetation Cost $
		0.00				0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Well Abandonment

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Well Abandonment - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Production, Dewatering, Infiltration Wells	18,148	51,472	1,976	71,596
Monitoring Wells	4,381	12,836	112	17,329
TOTALS	**22,529**	**64,308**	**2,088**	**88,925**

Well seal thickness: **20** ft
Minimum seal above groundwater table: **50** ft

Production, Dewatering and Infiltration Well Closure

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Number of Holes	Casing Diam in	Average Depth[1] ft bgs	Depth to First Water ft bgs	Original Static Water Level ft bgs	Top of Slotted Casing[2] ft bgs	Blank Casing Below Top of Screen[2] ft	Type of Pump (if any) (select)	Depth to Pump ft bgs	Hole Plug Method (select)	Casing Volume per ft cf	Perforation Length[3,4] ft	Grout Volume per Hole[4,5] cy	Cement Volume per Hole[6] cy	Inert Media Volume per Hole[7] cy	Pump Removal Labor Cost $	Pump Removal Equip Cost $	Perf Labor Cost $	Perf Equip Cost[8] $	Grout + Cement Labor Cost[9] $	Grout + Cement Equip Cost[9] $	Grout + Cement Material Cost $	Inert Media Labor Cost[10] $	Inert Media Equip Cost[9] $	Total Cost $
1	**Production Well 4**	**W-W4**	**2038**	**Water Supply**	**Stg4**			**LOM**	**1**	**10.0**	**500**	**270**	**270**	**270**	**140**	**Submersible**	**480**	**Grout + Back**	0.550	190	11.40	0.40	3.50	2,957	7,956	782	2,794	701	2,079	494	97	39	17,899
2	**Production Well 5**	**W-W5**	**2038**	**Water Supply**	**Stg4**			**LOM**	**1**	**10.0**	**500**	**270**	**270**	**270**	**140**	**Submersible**	**480**	**Grout + Back**	0.550	190	11.40	0.40	3.50	2,957	7,956	782	2,794	701	2,079	494	97	39	17,899
3	**Production Well 6 (Alt)**	**W-W6**	**2038**	**Water Supply**	**Stg4**			**LOM**	**1**	**10.0**	**500**	**270**	**270**	**270**	**140**	**Submersible**	**480**	**Grout + Back**	0.550	190	11.40	0.40	3.50	2,957	7,956	782	2,794	701	2,079	494	97	39	17,899
4	**Production Well 7 (Alt)**	**W-W7**	**2038**	**Water Supply**	**Stg4**			**LOM**	**1**	**10.0**	**500**	**270**	**270**	**270**	**140**	**Submersible**	**480**	**Grout + Back**	0.550	190	11.40	0.40	3.50	2,957	7,956	782	2,794	701	2,079	494	97	39	17,899
																								11,828	**31,824**	**3,128**	**11,176**	**2,804**	**8,316**	**1,976**	**388**	**156**	**71,596**

(1) For previously abandoned holes enter "0" for depth
(2) Wells abandoned per Nevada Administrative Code (NAC 534.420). Hole grouted and perforated from bottom to 50 feet (15.24m) above the top of the screen, or first water encountered or original static water level, depending on vertical hydraulic gradient and well construction parameters. Inert media (cuttings or alluvium) used from top of grout to top seal.
(3) Perforation length = amount of blank casing below first water (for confined aquifers) or predicted recovered water table (unconfined aquifers) + 50 feet (15.24m) of blank casing above water table
(4) Assumes 50' (15.24m) sanitary seal at top of hole. Therefore, perforation and grouting only required to bottom of sanitary seal.
(5) Assumes 100% loss to formation for grout (abandonite) for screened and perforated sections.
(6) Assumes 10' (3m) top seal of cement in casing only. See note 4.
(7) Inert material is cuttings or alluvium sourced locally.
(8) Includes perforation tool wear cost/ft of perforation (see Productivty Sheet).
(9) See Productivity Sheet for hourly production. Minimum 1 hr per hole + fixed hours per hole for move and setup. If no perforation required, use standard drill rig.
(10) See Productivity Sheet for hourly production. Minimum 1 hr per hole.

Notes:
Well 3 are pre-existing wells and will remain post-mine.
Wells 4-7 have not been drilled yet. Numbers are from the conceptual designs.

Superseded

Closure Cost Estimate
Well Abandonment

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Well Abandonment - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Production, Dewatering, Infiltration Wells	18,148	51,472	1,976	71,596
Monitoring Wells	4,381	12,836	112	17,329
TOTALS	**22,529**	**64,308**	**2,088**	**88,925**

Monitoring Well/Piezometer Closure

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Number of Holes	Casing Diam in	Average Depth ft bgs	Top of Screen[1] ft bgs	Hole Plug Method (select)	Casing Volume per ft ft3	Grout Volume/ Well[2,3] cy	Cement Volume per Hole[4] cy	Inert Backfill Volume per Hole[5] cy	Total Grouting Hours/ Hole hrs	Total Inert Media Hours/ Hole hrs	Grout + Cement Labor Cost[6] $	Grout + Cement Equip Cost[6] $	Grout + Cement Material Cost $	Inert Material Labor Cost[7] $	Inert Material Equip Cost[7] $	Total Cost $
1	GMW19-1	MW-1	2064	Monitoring	Stg5			LOM	1	4.0	100	80	Grout + Back	0.090	0.29	0.08	0.03	3.2	3.0	431	1,264	15	135	395	2,240
2	GMW19-2	MW-2	2064	Monitoring	Stg5			LOM	1	4.0	30	20	Grout + Back	0.090	0.04	0.08		3.1	0.0	418	1,224	5	0	0	1,647
3	GMW19-3	MW-3	2064	Monitoring	Stg5			LOM	1	4.0	200	180	Grout + Back	0.090	0.29	0.08	0.37	3.4	3.0	458	1,343	15	135	395	2,346
4	GMW19-4	MW-4	2064	Monitoring	Stg5			LOM	1	4.0	600	550	Grout + Back	0.090	0.42	0.08	1.60	4.2	3.0	566	1,659	21	135	395	2,776
5	GMW19-5	MW-5	2064	Monitoring	Stg5			LOM	1	4.0	30	20	Grout + Back	0.090	0.04	0.08		3.1	0.0	418	1,224	5	0	0	1,647
6	GMW19-6	MW-6	2064	Monitoring	Stg5			LOM	1	4.0	100	80	Grout + Back	0.090	0.29	0.08	0.03	3.2	3.0	431	1,264	15	135	395	2,240
7	GMW19-7	MW-7	2064	Monitoring	Stg5			LOM	1	4.0	50	30	Grout + Back	0.090	0.29	0.08		3.1	0.0	418	1,224	15	0	0	1,657
8	GMW19-8	MW-8	2064	Monitoring	Stg5			LOM	1	4.0	600	550	Grout + Back	0.090	0.42	0.08	1.60	4.2	3.0	566	1,659	21	135	395	2,776
																				3,706	**10,861**	**112**	**675**	**1,975**	**17,329**

Wells abandoned per NAC 534.420 with bentonite grout placed to 50 feet above the top of the screen (see note 1).
(1) Assumes top of screen is at or above the static water level (in unconfined aquifers) or the depth of first water encountered (in confined aquifers).
(2) Assumes 25% loss to formation for grouting
(3) Grouting only required to 50' (15.24m) above the top of screen because monitor wells are constructed with a seal in the annular space.
(4) Assumes top 10' (3m) plugged with cement.
(5) Assumes hole plugged with inert material (cuttings or alluvium) above grout up to cement surface plug.
(6) See Productivity Sheet for hourly production. Minimum 1 hr per hole + fixed hours per hole for move and setup (see Productivty Sheet).
(7) See Productivity Sheet for hourly production. Minimum 1 hr per hole.

Notes:
Based on the monitoring plan
8 new wells to be drilled and abandoned. 7 existing wells to remain after release of the bond

Superseded

Closure Cost Estimate
Waste Disposal

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Disposal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Fees $	Totals $
Solid Waste - On Site	0	0	N/A	N/A	0
Solid Waste - Off Site	N/A	297,319	N/A	N/A	297,319
Solid Waste Total	**0**	**297,319**	**0**		**297,319**
Hazardous Materials	N/A	N/A	N/A	73,264	73,264
Hydrocarbon Contaminated Soils	0	0	N/A	4,419	4,419
TOTALS	**0**	**297,319**	**0**	**77,683**	**375,002**

Waste Disposal - User Input - Solid Waste

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Waste Type (select)	Disposal Method (select)	Quantity cy	Landfill (Bulk) Disposal: Distance to Landfill ft	Landfill (Bulk) Disposal: Slope to Landfill % grade	Landfill (Bulk) Disposal: Number of Trucks (user override)	Dumpster: Months Dumpster Rental months
1	Misc. Site Clean-Up		2035	Process Plant	Stg1			LOM	Waste Mgmt & Disposal	Dumpster	5				3
2	TWRSF - Solid Disposal	WD01	2035	Temporary Waste Rock Storage	Stg1			LOM	Waste Mgmt & Disposal	Dumpster	2,500				1
3	Ore Stockpile - Liner Solid Disposal	ST01	2035	TWRSF and Ore Stockpile to CR	Stg1			LOM	Waste Mgmt & Disposal	Dumpster	210				1
4	Process Plant Site Off-site Disposal following Demo		2035	Process Plant	Stg1			LOM	Waste Mgmt & Disposal	Dumpster	5,737				3

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables for CAT 740 dump truck (see Parameters sheet)

Superseded

Closure Cost Estimate
Waste Disposal

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Disposal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Fees $	Totals $
Solid Waste - On Site	0	0	N/A	N/A	0
Solid Waste - Off Site	N/A	297,319	N/A	N/A	297,319
Solid Waste Total	**0**	**297,319**	**0**		**297,319**
Hazardous Materials	N/A	N/A	N/A	73,264	73,264
Hydrocarbon Contaminated Soils	0	0	N/A	4,419	4,419
TOTALS	**0**	**297,319**	**0**	**77,683**	**375,002**

Waste Disposal - User Input - Hazardous Materials

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Waste Type (select)	Container Type (select)	Vacuum Truck Size (select)	Liquid Quantity gallons	Soild Quantity cy	One Way Travel Distance to Disposal Site mi	One Way Travel Time to Disposal Site hr
1	**Misc. Solid Hazardous Waste**		**2035**	**Process Plant**	**Stg1**			**LOM**	**Waste Mgmt & Disposal**	**Solid Bulk**			**22**	**250**	**5.0**
2	**Misc. Liquid Hazardous Waste**		**2035**	**Process Plant**	**Stg1**			**LOM**	**Waste Mgmt & Disposal**	**Liquid Bulk**	**Small (2,200 gal**	**26,671**		**250**	**5.0**

Notes:
1. Use Other Demo & Equip Removal Sheet for tank removal

Hazard Waste based on total storage capacity at site assuming all full at time of closure

Superseded

Closure Cost Estimate
Waste Disposal

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Disposal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Fees $	Totals $
Solid Waste - On Site	0	0	N/A	N/A	0
Solid Waste - Off Site	N/A	297,319	N/A	N/A	297,319
Solid Waste Total	**0**	**297,319**	**0**		**297,319**
Hazardous Materials	N/A	N/A	N/A	73,264	73,264
Hydrocarbon Contaminated Soils	0	0	N/A	4,419	4,419
TOTALS	**0**	**297,319**	**0**	**77,683**	**375,002**

Waste Disposal - User Input - Hydrocarbon Contaminated Soils

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Waste Type (select)	Disposal Method (select)	Quantity cy	Travel Distance to Offsite Disposal mi
1	**Misc. Hydrocarbon Contaminated Soils**		**2035**	**Process Plant**	**Stg1**			**LOM**	**Waste Mgmt & Disposal**	**Off site**	**5**	**250**

Notes:
1. Use Yards or Landfills Sheets for bioremediation facility reclamation

Superseded

Closure Cost Estimate
Waste Disposal

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Disposal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Fees $	Totals $
Solid Waste - On Site	0	0	N/A	N/A	0
Solid Waste - Off Site	N/A	297,319	N/A	N/A	297,319
Solid Waste Total	**0**	**297,319**	**N/A**	**0**	**297,319**
Hazardous Materials	N/A	N/A	N/A	73,264	73,264
Hydrocarbon Contaminated Soils	0	0	N/A	4,419	4,419
TOTALS	**0**	**297,319**	**0**	**77,683**	**375,002**

Waste Disposal - Assumptions & Calculations

Solid Waste Disposal

Off site disposal assumes use of average rolloff dumpster [30 cy (m3), 10 ton (tonne)]
On site disposal assumes use of small loader/truck fleet for haulage
Average density for on site disposal = 2,600 lb/cy (1,540 kg/m3)
For on site disposal only 1 truck is required unless total truck hours > 8, only 2 trucks unless total truck hours are > 16

Hazardous Materials Disposal

Assumes all hazardous materials are known
Enter EITHER solid or liquid quantity each line.
If container type = 55 gallon (200 liter) drum then solid waste hauling costs apply
Average density for solids assumed to be 2,600 lb/cy (1,540 kg/m3)
Vacuum truck sizes: small = 2,200 gal (~8,300 litres), large = 5,000 gal (~19,000 litres)
Vacuum truck on site for 4 hours for each load

Hydrocarbon Contaminated Soils Disposal

Assumes all hazardous materials are known
On site disposal assumes biopad treatment
Exavation productivity =45 cy./hr (35 m3/hr) (Means Heavy Construction, 2006: 02315-424-0360)

Superseded

Closure Cost Estimate
Waste Disposal

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Disposal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Fees $	Totals $
Solid Waste - On Site	0	0	N/A	N/A	0
Solid Waste - Off Site	N/A	297,319	N/A	N/A	297,319
Solid Waste Total	**0**	**297,319**	**0**		**297,319**
Hazardous Materials	N/A	N/A	N/A	73,264	73,264
Hydrocarbon Contaminated Soils	0	0	N/A	4,419	4,419
TOTALS	**0**	**297,319**	**0**	**77,683**	**375,002**

Waste Disposal - Solid Waste Disposal

								Off-Site	On-Site		
	Description (required)	Waste Volume cy	Number of Off Site Dumpster Loads	Landfill Fleet Equipment	Landfill Fleet Productivity LCY/hr	Number of Trucks	Total Fleet Hours hrs	Total Dumpster Cost $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
1	**Misc. Site Clean-Up**	5	1				0	1,086	0	0	1,086
2	**TWRSF - Solid Disposal**	2,500	84				0	81,010	0	0	81,010
3	**Ore Stockpile - Liner Solid Disposal**	210	7				0	6,752	0	0	6,752
4	**Process Plant Site Off-site Disposal following Demo**	5,737					0	208,471	0	0	208,471
		8,452					0	**297,319**	**0**	**0**	**297,319**

Superseded

Closure Cost Estimate
Waste Disposal

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Disposal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Fees $	Totals $
Solid Waste - On Site	0	0	N/A	N/A	0
Solid Waste - Off Site	N/A	297,319	N/A	N/A	297,319
Solid Waste Total	**0**	**297,319**	**0**		**297,319**
Hazardous Materials	N/A	N/A	N/A	73,264	73,264
Hydrocarbon Contaminated Soils	0	0	N/A	4,419	4,419
TOTALS	**0**	**297,319**	**0**	**77,683**	**375,002**

Waste Disposal - Hazardous Materials Disposal

	Description (required)	Liquid Waste Volume gallons	Solid Waste Volume cy	Number of Truck Loads	Tons of Waste Tons	Pick-up Fees $	Transport Fees $	Disposal Fees $	Total Hazardous Material Cost $
1	**Misc. Solid Hazardous Waste**		22	2	28	0	2,582	8,668	11,250
2	**Misc. Liquid Hazardous Waste**	26,671		13	111	0	28,217	33,796	62,013
		26,671	22		139	**0**	**30,799**	**42,464**	**73,264**

Superseded

Closure Cost Estimate
Waste Disposal

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Disposal - LOM Cost Summary

	Labor $	Equipment $	Materials $	Fees $	Totals $
Solid Waste - On Site	0	0	N/A	N/A	0
Solid Waste - Off Site	N/A	297,319	N/A	N/A	297,319
Solid Waste Total	**0**	**297,319**	**N/A**	**0**	**297,319**
Hazardous Materials	N/A	N/A	N/A	73,264	73,264
Hydrocarbon Contaminated Soils	0	0	N/A	4,419	4,419
TOTALS	**0**	**297,319**	**0**	**77,683**	**375,002**

Waste Disposal - Hydrocarbon Contaminated Soils

	Description (required)	Quantity cy	Total Fleet Hours hrs	Treatment Cost $	Transport Fees $	Disposal Fees $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
1	**Misc. Hydrocarbon Contaminated Soils**	5	0	0	2,948	1,471	0	0	4,419
		5	0	**0**	**2,948**	**1,471**	**0**	**0**	**4,419**

Superseded

Closure Cost Estimate
Misc. Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Fence Removal

											Costs		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Length ft	Type (select type)	Labor Cost $	Equipment Cost $	Total Cost $
1	Project Perimeter Fence	F01	2038	Infrastructure & Ancillary Faciliti	Stg4			LOM	22,178	Chain link 8 ft -10 ft Removal	53,449	19,517	72,966
2	Gold Room Fence	F02	2035	Process Plant	Stg1			LOM	146	Chain link 8 ft -10 ft Removal	352	128	480
3	Substation Fence	F03	2035	Process Plant	Stg1			LOM	200	Chain link 8 ft -10 ft Removal	482	176	658
4	Well #3 Fence	F04	2038	Water Supply	Stg4			LOM	212	Chain link 8 ft -10 ft Removal	511	187	698
5	Well #4 Fence	F05	2038	Water Supply	Stg4			LOM	220	Chain link 8 ft -10 ft Removal	530	194	724
6	Well #5 Fence	F06	2038	Water Supply	Stg4			LOM	220	Chain link 8 ft -10 ft Removal	530	194	724
7	Well #6 Fence	F07	2038	Water Supply	Stg4			LOM	220	Chain link 8 ft -10 ft Removal	530	194	724
8	Well #7 Fence	F08	2038	Water Supply	Stg4			LOM	220	Chain link 8 ft -10 ft Removal	530	194	724
											56,914	**20,784**	**77,698**

Notes:

Fence Installation

Superseded

									Input		Costs			
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Length ft	Type (select type)	Labor Cost $	Equipment Cost $	Material Cost $	Total Cost $
											0	**0**	**0**	**0**

Notes:

Closure Cost Estimate
Misc. Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Culvert & Buried Pipe Removal

									Input			Costs		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Length ft	Type (select type)	Location (select)	Labor Cost $	Equipment Cost $	Total Cost $
1	Culvert 5	C05	2064	Roads	Stg5			LOM	50	24 in (600 mm) Diameter	On site	448	164	612
2	Culvert 6	C06	2064	Roads	Stg5			LOM	64	24 in (600 mm) Diameter	On site	573	210	783
3	Culvert 7	C07	2035	Roads	Stg1			LOM	26	24 in (600 mm) Diameter	On site	233	85	318
4	Culvert 8	C08	2035	Roads	Stg1			LOM	23	24 in (600 mm) Diameter	On site	206	75	281
5	Culvert 9	C09	2037	Roads	Stg3			LOM	59	24 in (600 mm) Diameter	On site	528	194	722
6	Culvert 10	C10	2037	Roads	Stg3			LOM	68	24 in (600 mm) Diameter	On site	609	223	832
7	Culvert 11	C11	2037	Roads	Stg3			LOM	65	24 in (600 mm) Diameter	On site	582	213	795
												3,179	**1,164**	**4,343**

Notes: **All water supply and infrastructure pad pipelines are 18-inches deep and will be capped and abandoned in place.**
Culverts 1-4, AND 12 will be left in place for stormwater control.

Surface Pipe Removal

									Input			Costs		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Length ft	Type (select type)	Location (select)	Labor Cost $	Equipment Cost $	Total Cost $
												0	**0**	**0**

Notes: **All surface pipes, very minimal, are removed during Process Plant reclamation**

Superseded

Closure Cost Estimate
Misc. Costs

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Power Line and Substation Removal

									Input				Costs			Cost Breakdown	
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phase	Location	Property	Cost Type	Power Line Length miles	Power Line Type (select)	Number of Substations #	Location (select)	Power Line Removal $	Substation Removal $	Total Cost $	Labor Cost $	Equipment Cost $
1	**Power Line 1**	**PL01**	**2038**	**Power Supply**	**Stg4**			**LOM**	**0.178574**	**Single Pole Powerlines**	**1**	**On site**	7,694	30,880	38,574	7,715	30,859
2	**Power Line 2**	**PL02**	**2038**	**Power Supply**	**Stg4**			**LOM**	**0.441504**	**Single Pole Powerlines**		**On site**	19,023	0	19,023	3,805	15,218
3	**Power Line 3**	**PL03**	**2038**	**Power Supply**	**Stg4**			**LOM**	**0.632075**	**Single Pole Powerlines**		**On site**	27,235	0	27,235	5,447	21,788
4	**Main Power Line (Overhead Transmission Line)**	**PL04**	**2038**	**Power Supply**	**Stg4**			**LOM**	**25.1**	**Single Pole Powerlines**		**On site**	1,079,822	0	1,079,822	215,964	863,858
													1,133,774	**30,880**	**1,164,654**	**232,931**	**931,723**

Notes: If substation owned by operator, use Other Demo & Equipment Removal sheet
User may need to add line items in Foundations & Buildings for substation slab demolition and fence removal
Labor/Equipment costs assume approximately 80% of cost are equipment and 20% are labor related costs

Superseded

Closure Cost Estimate
Misc. Costs

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Rip-Rap & Rock Lining

									Input			Costs			
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Area S.Y.	Type (select type)	Crew (select type)	Labor Cost $	Equipment Cost $	Material Cost $	Total Cost $
												0	0	0	0

Notes: **Spillways not included in Rip-Rap due to lack of details. Best engineering estimate used in User Tab**

Superseded

Closure Cost Estimate
Exploration

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Exploration - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hole Abandonment Costs	291	118	4	413
Subtotal Drillhole	**291**	**118**	**4**	**413**
Trench Backfilling Costs	0	0	N/A	0
Trench Revegetation Costs	0	0	0	0
Subtotal Trench	**0**	**0**	**0**	**0**
TOTALS	**291**	**118**	**4**	**413**

Exploration Drillhole Abandonment - User Input

	Facility Description								Hole Plugging							
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Hole Type (select)	Diameter in	Total Number of Holes	Max Holes Open at One Time	Casing to Remove ft	Average Depth of Hole[1] ft bgs	Depth to Water ft bgs	Hole Plug Method (select)
1	**Drill Holes**		**2035**	**Exploration**	**Stg1**			**LOM**	**Core**	**3.0**	**20.0**	**1.0**	**0.0**	**100.0**	**500.0**	**Grout + Backfill**

Notes:
1. If core holes are pre-drilled, use length of hole below pre-drilled length
2. If Top Plug is selected, assumes maximum 1/2hr laborer time to place plug and backfill with cuttings/soil (including move-to/set up time).

Drilling depth will range between 40 -100 feet bgs.

Superseded

Closure Cost Estimate
Exploration

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Exploration - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hole Abandonment Costs	291	118	4	413
Subtotal Drillhole	**291**	**118**	**4**	**413**
Trench Backfilling Costs	0	0	N/A	0
Trench Revegetation Costs	0	0	0	0
Subtotal Trench	**0**	**0**	**0**	**0**
TOTALS	**291**	**118**	**4**	**413**

Exploration Trenches - User Input

Facility Description								Trench Parameters					Backfill					Revegetation		
Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Trench Length ft	Trench Depth ft	Trench Bottom Width ft	Trench Sideslope Angle degrees	Additional Hrs for Walk-in (1) hr	Backfill Material (select)	Cut Material Type (select)	Backfilling Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)

Notes:
1. Include one-way hours necessary to walk equipment in from drop-off point to work area
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Closure Cost Estimate
Exploration

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Exploration - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hole Abandonment Costs	291	118	4	413
Subtotal Drillhole	**291**	**118**	**4**	**413**
Trench Backfilling Costs	0	0	N/A	0
Trench Revegetation Costs	0	0	0	0
Subtotal Trench	**0**	**0**	**0**	**0**
TOTALS	**291**	**118**	**4**	**413**

Exploration Drillhole Abandonment

	Description (required)	Vol/foot of depth ft3	Hole Plugging Material (1)	Total Grout Volume (2) cy	Total Cuttings Volume cy	Total Top Seal Volume (3,4) cy	Total Drillhole Abandon. Hours (6,7) hrs	Casing Removal Labor Cost (5) $	Casing Removal Equipment Cost $	Plugging Labor Cost $	Plugging Equipment Cost $	Plugging Material Cost $	Top Seal Material Cost (2,3) $	Total Cost (6,7) $
1	**Drill Holes**	0.050	Cuttings	0.00	0.15	0.05	3	0	0	291	118	2	2	413
				0.0	0.2	0.1	3	**0**	**0**	**291**	**118**	**2**	**2**	**413**

Notes:

1. Assumes grout backfill from bottom of hole to 50' (15.24m) above static water level, up to 10' (3m) from top of hole
2. Assumes 25% loss to formation for grout backfill
3. If "Top Plug" hole plug method is used, assumes physical plug installed without backfill, grout or cement. Not available option for Nevada projects
4. Assumes top 10' (3 m) of hole is plugged with cement if "Grout Only", "Backfill + Grout", or "Cement Plug" hole plug method are chosen.
5. Assumes that a) casing is not cemented entire length, b) does not include temporary surface casing
6. Assumes minimum 1 hr per hole for abandonment (excluding move-to and casing removal)
7. Assumes fixed hours per hole for setup & tear-down and moving between holes (see Productivity sheet) per drill hole (includes rig time if grouting required, labor crew only if cuttings backfill only)

Superseded

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Exploration - LOM Cost Summary

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Subtotal Drillhole	**291**	**118**	**4**	**413**
Trench Backfilling Costs	0	0	N/A	0
Trench Revegetation Costs	0	0	0	0
Subtotal Trench	**0**	**0**	**0**	**0**
TOTALS	**291**	**118**	**4**	**413**

Exploration - Assumptions & Calculations

Dozing & Ripping/Scarifying Calculations

Dozing:
Dozing distance = 1/2 trench length or 400 ft (max push) whichever is less
Assumes flat push (grade correction factor = 1)

Revegetation:
10 ft added to trench width to account for revegetation under spoil pile

Superseded

Closure Cost Estimate
Exploration

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Exploration - LOM Cost Summary

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Hole Abandonment Costs	291	118	4	413
Subtotal Drillhole	**291**	**118**	**4**	**413**
Trench Backfilling Costs	0	0	N/A	0
Trench Revegetation Costs	0	0	0	0
Subtotal Trench	**0**	**0**	**0**	**0**
TOTALS	**291**	**118**	**4**	**413**

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83)

	Description (required)	Trench Backfill Volume LCY (BCY+30%)	Dozer Push Distance ft	Equipment Productivity yd3/hr	Dozing Material	Density Correction	Backfilling Fleet	Corrected Hourly Productivity yd3/hr	Total Dozer Hours hrs	Trench Backfill Labor Cost $	Trench Backfill Equipment Cost $	Total Trench Backfill Cost $
		0							0	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Exploration

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Exploration - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Hole Abandonment Costs	291	118	4	413
Subtotal Drillhole	**291**	**118**	**4**	**413**
Trench Backfilling Costs	0	0	N/A	0
Trench Revegetation Costs	0	0	0	0
Subtotal Trench	**0**	**0**	**0**	**0**
TOTALS	**291**	**118**	**4**	**413**

Exploration Trenches Revegetation Costs

	Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
		0.00	**0**	**0**	**0**	**0**

Superseded

Closure Cost Estimate
Expl. Roads & Pads

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Exploration Roads & Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	1,118	1,889	N/A	3,007
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**1,118**	**1,889**		**3,007**
Revegetation Cost	1,020	388	3,086	4,494
TOTALS	**2,138**	**2,277**	**3,086**	**7,501**

Maximum grade allowed for dozer: 30 %
Maximum grade allowed for grader: 10 %

Exploration Roads & Pads - User Input

You must fill in ALL green cells and relevant blue cells in this section for each road

	Facility Description								Physical (1) - MANDATORY										User Overrides		Growth Media		
	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Ground Slope at Toe % grade	Ungraded Slope _H:1V	Cut Slope degrees	Road + Drill Pad Length ft	Road Width ft	Number of Drill Pads	Individual Sump Volume cy	Drill Pad Width ft	Drill Pad Length ft	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) cy	Disturbed Area (if calculated elsewhere) acres	Growth Media Thickness in	Haul Distance to Placement Location ft	Slope to Placement Location % grade
1	**Exploration Surface Disturbance**		**2035**	**Exploration**	**Stg1**			**LOM**	**5.0**	**1.3**	**53.0**	**10,560**	**12.0**	**65**	**60**	**30.0**	**30**	**100%**		**10.00**	**12**	**100**	**0.0**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Slope replacement refers to the percentage of cut volume replaced during regrading.
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
4. Sump volume will be applied to all roads on slopes <20%. On slopes >20% pad width (i.e. cut volume) should be adequate to account for sump volume.

Growth media will be used to cover, but it will be sourced from the berms and local disturbance for the drilling effort.

Superseded

Closure Cost Estimate
Expl. Roads & Pads

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Exploration Roads & Pads - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Grading Costs	1,118	1,889	N/A	3,007
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**1,118**	**1,889**		**3,007**
Revegetation Cost	1,020	388	3,086	4,494
TOTALS	**2,138**	**2,277**	**3,086**	**7,501**

Exploration Roads & Pads - User Input (cont.) **You must fill in ALL green cells and relevant blue cells in this section for each road**

		Grading				Growth Media					Revegetation				
	Description (required)	Regrade Material Condition (select)	Cut Material Type (select)	Recontouring Equipment Fleet (select)	Additional Hrs for Walk-in [1]	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Cycle Time Override (user override)	Maximum Fleet Size (user override)	Additional Hrs for Walk-in [1]	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarifying/ Ripping? (select)	Ripping Fleet (select)
1	**Exploration Surface Disturbance**	**1**	**Alluvium**	**Small Dozer**							**Mix 1**	**None**	**None**	**No**	**Small Dozer**

Notes:
1. Include one-way hours necessary to walk equipment in from drop-off point to work area
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Superseded

Closure Cost Estimate
Expl. Roads & Pads

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Exploration Roads & Pads - LOM Cost Summary	Labor $	Equipment $	Materials $	Totals $
Grading Costs	1,118	1,889	N/A	3,007
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**1,118**	**1,889**		**3,007**
Revegetation Cost	1,020	388	3,086	4,494
TOTALS	**2,138**	**2,277**	**3,086**	**7,501**

Expl. Roads & Pads - Assumptions & Calculations

Regrading Volume and Footprint Volume

Will not allow dozer for slopes greater than 30%
For dozer regrading push distance = road width
Assumes dozer push is uphill
Assumes minimum push distance of 100 ft

Swell Factor: 1.2

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per area
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Road length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
For dozer regrading assumes push distance = 3 x road width

Revegetation Calculations

Minimum of 1 acre crew time per area

Superseded

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Exploration Roads & Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	1,118	1,889	N/A	3,007
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**1,118**	**1,889**		**3,007**
Revegetation Cost	1,020	388	3,086	4,494
TOTALS	**2,138**	**2,277**	**3,086**	**7,501**

Exploration Roads & Pads - Regrading Costs

	Description (required)	Total Road Length ft	Total Drill Pad Length ft	Regrading Volume cy	Recontouring Fleet	Equipment Productivity cy/hr	Total Equipment Hours (1) hrs	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Exploration Surface Disturbance**	8,610	1,950	4,699	D7E	110	19	1,118	1,889	3,007
		8,610	1,950	4,699			19	**1,118**	**1,889**	**3,007**

(1) Includes walk-in time based on distance and travel speed (see Productivity sheet for speeds)

Superseded

Closure Cost Estimate
Expl. Roads & Pads

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Exploration Roads & Pads - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Grading Costs	1,118	1,889	N/A	3,007
Cover Placement Cost	0	0	N/A	0
Ripping/Scarifying Cost	0	0	N/A	0
Subtotal Earthworks	**1,118**	**1,889**		**3,007**
Revegetation Cost	1,020	388	3,086	4,494
TOTALS	**2,138**	**2,277**	**3,086**	**7,501**

Exploration Roads & Pads - Growth Media Costs

	Description (required)	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	**Exploration Surface Disturbance**	5,994	Material Type!	Material Type!	Material Type!	Material Type!	0	0	0
		5,994				0	**0**	**0**	**0**

Expl. Roads & Pads - Scarify/Revegetation Costs

	Description (required)	Surface Area acres	Ripping/ Scarifying Fleet	Ripping Hours hrs	Ripping Labor Costs $	Ripping Equipment Cost $	Total Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Exploration Surface Disturbance**	10.00		0	0	0	0	1,020	388	3,086	4,494
		10.00		0	**0**	**0**	**0**	**1,020**	**388**	**3,086**	**4,494**

Superseded

Closure Cost Estimate
Monitoring

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Reclamation Monitoring & Maintenance - LOM Cost Summary

	Labor $	Equipment $	Lab & Materials $	Totals $
Reclamation Monitoring	719,477	47,346	N/A	766,823
Water Quality Monitoring	266,792	26,572	350,805	644,168
Pump Costs	N/A	0	N/A	0
TOTAL	**986,269**	**73,917**	**350,805**	**1,410,991**

Reclamation Monitoring

	Description (required)	Staff	ID Code	Construction Year [1]	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Number of Staff	Number of Trucks	Hrs/Day	Days/Year	Number of Years
1	Fieldwork	Field Geologist/Engineer		2039	Monitoring	Stg4			LOM	2	1	12	14	7
2	Reporting	Field Geologist/Engineer		2039	Monitoring	Stg4			LOM	2	1	12	14	7

Notes:
1. Reclamation monitoring of covers.
2. Vegetation monitoring, 2 weeks per trip, includes noxious weed monitoring
3. Post closure vegetation monitoring consists of three consecutive years immediately following construction, and one final inspection five years after construction. Vegetation monitoring to occur closure years 2, 3, 4, 5, 6, 7 and 8 (total of seven years).

Water and Rock Sample Analysis

	Description (required)	Analysis Type	ID Code	Construction Year [1]	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Samples #	Events/Year #	No. Years #	First Sample Year closure year	No. of Samplers #	Days/Event #	Hrs/Day #	Reporting Hours/Event #	Comments
1	NDEP Profile I Water (Frist 5 years)	Water Analysis (Profile I) (1)		2035	Monitoring	Stg4			LOM	15	4	5	1	1	2	12	12	Quarterly sampling of 2 GW monitoring wells to be conducted for 30 years post-closure
2	NDEP Profile I Water (Year 6-15 years ye	Water Analysis (Profile I) (1)		2040	Monitoring	Stg4			LOM	15	2	10	6	1	2	12	12	Semi-annual sampling year 6-15
3	NDEP Profile I Water (Year 16-30 years y	Water Analysis (Profile I) (1)		2050	Monitoring	Stg4			LOM	15	1	15	16	1	2	12	12	Annual sampling for final 15 years

Notes:
(1) This is the first year that the monitoring commitment is made (e.g. included in permit or approved monitoring plan)
(2) Monitoring may not extend beyond the maximum number of schedule years (100)
(3) First Sample Year can not be before first closure year shown in schedule (-10).

This includes routine inspection of E-Cell and perimeter fence while facilities remain.
Staged sampling, quarterly first 5 years, semi-annual last 25 years

Superseded

Closure Cost Estimate
Monitoring

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Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Reclamation Monitoring & Maintenance - LOM Cost Summary

	Labor $	Equipment $	Lab & Materials $	Totals $
Reclamation Monitoring	719,477	47,346	N/A	766,823
Water Quality Monitoring	266,792	26,572	350,805	644,168
Pump Costs	N/A	0	N/A	0
TOTAL	**986,269**	**73,917**	**350,805**	**1,410,991**

Groundwater Monitoring Pump Costs

	Description (required)	ID Code	Construction Year (1)	Facility/Activity Type	Phases	Locations	Properties	Cost Type	No. of units	Replacement period (1) (yrs)	Replacement Period Start Year (closure year)	Replacement Period End Year (closure year)	Pump Cost	# Monitor Yrs in Schedule	Total $

Notes: (1) Replacement period = frequency of pump replacement

Reclamation Monitoring

	Description (required)	Labor Rate $/hr	Equipment Rate $/hr	Labor Cost $	Equipment Cost $	Total $
1	**Fieldwork**	152.95	20.13	359,738	23,673	383,411
2	**Reporting**	152.95	20.13	359,738	23,673	383,411
				719,477	**47,346**	**766,823**

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Reclamation Monitoring & Maintenance - LOM Cost Summary

	Labor $	Equipment $	Lab & Materials $	Totals $
Reclamation Monitoring	719,477	47,346	N/A	766,823
Water Quality Monitoring	266,792	26,572	350,805	644,168
Pump Costs	N/A	0	N/A	0
TOTAL	**986,269**	**73,917**	**350,805**	**1,410,991**

Water and Rock Sample Analysis

	Description (required)	Analysis Cost $/sample	Supplies $/sample	Labor Cost $	Equipment Cost $	Material Cost $	Lab Cost $	Reporting Cost $	Total $
1	**NDEP Profile I Water (Frist 5 years)**	419.22	6.00	60,307	9,662	1,799	125,766	36,708	234,243
2	**NDEP Profile I Water (Year 6-15 years ye**	419.22	6.00	60,307	9,662	1,799	125,766	36,708	234,243
3	**NDEP Profile I Water (Year 16-30 years y**	419.22	6.00	45,230	7,247	1,349	94,325	27,531	175,682
				165,845	**26,572**	**4,948**	**345,857**	**100,947**	**644,168**

Superseded

Closure Cost Estimate
Recl. Maint

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Superseded

Reclamation Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	4,396	1,671	13,299	19,366
Cover Maintenance	0	0	N/A	0
Growth Media Maintenance	30,281	90,842	N/A	121,123
TOTAL	**34,677**	**92,513**	**13,299**	**140,489**

Revegetation Maintenance

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Revegetation Surface Area (user override)	% Area Requiring Reseeding	Seed Mix (select)	Area Requiring Reseeding acres	Seed $/acres	Labor $/acres	Equipment $/acres	Labor Cost $	Equipment Cost $	Material Cost $
1	**Revegetation Maintenance**		**2035**	**Monitoring**	**Stg1**			**LOM**	**431**	**10%**	**Mix 1**	43.1	308.55	102.00	38.76	4,396	1,671	13,299
															Total Revegetation Matinenance	**4,396**	**1,671**	**13,299**

Notes: 1) Calculated based on cost type and current filters - (See Reclamation Quantities sheet)
2) Will use values from Reclamation Quantities sheet if user does not override
3) Surface area is NOT the same as footprint disturbance area typically used for permitting purposes.

	Total Cover Volume cy	Average Placement Cost $/cy
Information from Reclamation Quantities Sheet:	119,165	6.20

Cover Maintenance

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Total Volume (1) (user override)	% Volume Requiring Maintenance	Average Placement Cost (1) (user override)	Volume Requiring Replacement cy	Labor (assume: 25%) $/cy	Equipment (assume: 75%) $/cy	Labor Cost $	Equipment Cost $	Total $
															Total Cover Maintenance	**0**	**0**	**0**

Notes: 1) Will use values from Reclamation Quantities sheet if user does not override

	Total GM Volume cy	Average Placement Cost $/cy
Information from Reclamation Quantities Sheet:	242,124	2.16

Growth Media Maintenance

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Total Volume (user override)	% Volume Requiring Maintenance	Average Placement Cost (user override)	Volume Requiring Replacement cy	Labor (assume: 25%) $/cy	Equipment (assume: 75%) $/cy	Labor Cost $	Equipment Cost $	Total $
1	**Erosion Maintenance**		**2035**	**Monitoring**	**Stg1**			**LOM**	**627581**	**10%**	**1.93**	62,758	0.48	1.45	30,281	90,842	121,123
														Total Growth Media Maintenance	**30,281**	**90,842**	**121,123**

Notes: 1) Will use values from Reclamation Quantities sheet if user does not override

Closure Cost Estimate
Constr. Mgmt

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Construction Management & Road Maintenance - LOM Cost Summary

	Labor $	Equipment $	Materials $	Totals $
Construction Management	320,742	70,858	N/A	391,600
Road Maintenance	23,002	50,377	N/A	73,379
Water Feets	N/A	N/A	0	0
TOTAL	**343,744**	**121,235**	**0**	**464,979**

Construction Management

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Construction Management Staff: Duration mo.	Hours/ Month hrs	Number of Supervisors	Construction Support: Temporary Office Units	Temporary Toilet Units	First Construction Year closure year
1	**Stage 1 Construction Management**		**2035**	**Monitoring**	**Stg1**			**LOM**	**6**	**160**	**1**	**0**	**0**	**2,035**
2	**Stage 2 Construction Management**		**2036**	**Monitoring**	**Stg2**			**LOM**	**6**	**160**	**1**	**0**	**0**	**2,036**
3	**Stage 3 Construction Management**		**2037**	**Monitoring**	**Stg3**			**LOM**	**6**	**160**	**1**	**0**	**0**	**2,037**
4	**Stage 4 Construction Management**		**2038**	**Monitoring**	**Stg4**			**LOM**	**3**	**160**	**1**	**0**	**0**	**2,038**
5	**Stage 5 Construction Management**		**2064**	**Monitoring**	**Stg5**			**LOM**	**1**	**160**	**1**	**0**	**0**	**2,039**

Notes:

Road Maintenance

Superseded

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Water Truck (select)	Grade (select)	Fleet Size number	Duration mo.	Last Maintenance Year closure year	Hours/ Month hrs	Equipment Fleet	Fleet Hours hrs	Labor Cost $	Equipment Cost $	Totals $
1	**Stage 1 Road Maintenance**		**2035**	**Roads**	**Stg1**			**LOM**		**Small**	**1**	**12**	**2,028**	**8**	**M**	96	5,750	12,594	18,345
2	**Stage 2 Road Maintenance**		**2036**	**Roads**	**Stg2**			**LOM**		**Small**	**1**	**12**	**2,028**	**8**	**M**	96	5,750	12,594	18,345
3	**Stage 3 Road Maintenance**		**2037**	**Roads**	**Stg3**			**LOM**		**Small**	**1**	**12**	**2,028**	**8**	**M**	96	5,750	12,594	18,345
4	**Stage 4 Road Maintenance**		**2038**	**Roads**	**Stg4**			**LOM**		**Small**	**1**	**12**	**2,028**	**8**	**M**	96	5,750	12,594	18,345
																	23,002	**50,377**	**73,379**

Notes:

Water Fees

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Gallons/Day	Days/ Month	Duration mo.	First Year closure year	Cost/ Gallon $	Totals $
														0

Notes:

Construction Management

	Description (required)	Construction Management Staff: Supervisor Rate $/hr	Labor Cost $	Equipment Cost[1] $	Total $	Construction Support: Office Rental Rate $/mo	Toilet Rental Rate $/mo	Generator Cost $/mo	Total $	Totals Construction Mgmt $
1	**Stage 1 Construction Management**	91.12	87,475	19,325	106,800	0	0	0	0	106,800
2	**Stage 2 Construction Management**	91.12	87,475	19,325	106,800	0	0	0	0	106,800
3	**Stage 3 Construction Management**	91.12	87,475	19,325	106,800	0	0	0	0	106,800
4	**Stage 4 Construction Management**	91.12	43,738	9,662	53,400	0	0	0	0	53,400
5	**Stage 5 Construction Management**	91.12	14,579	3,221	17,800	0	0	0	0	17,800
		456	**320,742**	**70,858**	**391,600**				**0**	**391,600**

Notes: Office rental assumes only 1 generator required for every 4 trailers

Closure Cost Estimate
Closure Planning

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Closure Plan Management - LOM Cost Summary

	Totals $
Technical Studies	150,000
Engineering	150,000
Permitting	100,000
TOTALS	**400,000**

Closure Plan Studies and Reporting

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Type (select type)	Total Cost $	Comments
1	**Closure Planning**		**2035**	**Tailings Storage Facility**	**Stg1**			**LOM**		**150,000**	
										150,000	

Notes:

Superseded

Closure Cost Estimate
Closure Planning

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Closure Plan Management - LOM Cost Summary	
	Totals $
Technical Studies	150,000
Engineering	150,000
Permitting	100,000
TOTALS	**400,000**

Closure Plan Engineering

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Type (select type)	Total Cost $	Comments
1	**Closure Design**		**2035**	**Tailings Storage Facility**	**Stg1**			**LOM**		**150,000**	
										150,000	

Notes:

Superseded

Closure Cost Estimate
Closure Planning

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Closure Plan Management - LOM Cost Summary	
	Totals $
Technical Studies	150,000
Engineering	150,000
Permitting	100,000
TOTALS	**400,000**

Closure Plan Permitting

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Type (select type)	Total Cost $	Comments
1	**Closure Permitting**		**2035**	**Tailings Storage Facility**	**Stg1**			**LOM**		**100,000**	
										100,000	

Notes:

Superseded

Closure Cost Estimate
G & A

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

General & Administration - LOM Cost Summary	Totals $
Property Holding Costs	0
Security & Maintenance	0
Administration	0
TOTALS	0

Property Holding Costs

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Type (select type)	Frequency (select type)	Cost/ Payment $	Number of Payments	Total Cost $	Comments
													0	

Notes:

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

General & Administration - LOM Cost Summary	Totals $
Property Holding Costs	0
Security & Maintenance	0
Administration	0
TOTALS	**0**

Security and Maintenance

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Type (select type)	Frequency (select type)	Cost/ Payment $	Number of Payments	Total Cost $	Comments
													0	

Notes:

Superseded

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

General & Administration - LOM Cost Summary	Totals $
Property Holding Costs	0
Security & Maintenance	0
Administration	0
TOTALS	0

Administration

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Type (select type)	Frequency (select type)	Cost/ Payment $	Number of Payments	Total Cost $	Comments
													0	

Notes:

Superseded

Closure Cost Estimate
Other User

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Other Cost Items Calculated Elsewhere

	Description (required)	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Quantity	Units	Total Capital Cost $	Material Unit Cost $	Labor Unit Cost $	Equipment/ Operating Unit Cost $	Total Cost $	Comments
1	Phase II TSF - 60 mil double-sided textured LLDPE geomembrane	T01	2036	Tailings Storage Facility	Stg2			LOM	2,258,150	square feet		0.40	0.14	0.02	1,257,790	Costs obtained from Agru Cost Sheet
2	Phase II TSF - 12 oz/yd^2 non-woven geotextile Stg2	T01	2036	Tailings Storage Facility	Stg2			LOM	2,258,150	square feet		0.20	0.03	0.04	609,701	Costs obtained from Agru Cost Sheet
3	Phase II Drill&Blast - Cover 1 (TSF Purposes) Stg2	T01	2036	Tailings Storage Facility	Stg2			LOM	100,361	yd^3				1.10	110,397	0.94/t as provided by RESPEC
4	Phase II TSF - 60 mil double-sided textured LLDPE geomembrane	T01	2037	Tailings Storage Facility	Stg3			LOM	752,717	square feet		0.40	0.14	0.02	419,263	Costs obtained from Agru Cost Sheet
5	Phase II TSF - 12 oz/yd^2 non-woven geotextile Stg3	T01	2037	Tailings Storage Facility	Stg3			LOM	752,717	square feet		0.20	0.03	0.04	203,234	Costs obtained from Agru Cost Sheet
6	Phase II Drill&Blast - Cover 1 (TSF Purposes) Stg3	T01	2037	Tailings Storage Facility	Stg3			LOM	33,454	yd^3				1.10	36,799	0.94/t as provided by RESPEC
7	Spillway for TSF	T01	2037	Tailings Storage Facility	Stg3			LOM			100,000				100,000	Estimate
8	Spillway for TWRSF	WD01	2035	Temporary Waste Rock St	Stg1			LOM			50,000				50,000	Estimate
											150,000	1,806,520	517,869	312,794	2,787,184	

Notes:
Capital cost is lump sum (i.e. not multiplied by the quantity).
Material, Labor and Equipment/Operating costs are unit costs (i.e. multiplied by the quantity).
Costs for Drained Gravel and Drainage Layer do not include crushing/screening equipment costs.
Material costs for the drainage layer is assumed to be the same as the drained gravel.
Spillway for TSF - Estimate of $100K included as Capital Cost
Spillway for TWRSF - Estimate of $25K included as Capital Cost

Superseded

Closure Cost Estimate
Human Resources

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Human Resources - LOM Cost Summary	Totals $
Salaries & Benefits	0
Severance & Relocation	0
TOTALS	**0**

Human Resources - Salary & Benefits

	Job Description (required)	Avg. Annual Salary (incl. benefits) $	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Closure Year -10 #	Closure Year -9 #	Closure Year -8 #	Closure Year -7 #	Closure Year -6 #	Closure Year -5 #	Closure Year -4 #	Closure Year -3 #	Closure Year -2 #	Closure Year -1 #	Closure Year 1 #	Closure Year 2 #	Closure Year 3 #	Closure Year 4 #
									SUBTOTAL ($)	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

Superseded

Closure Cost Estimate
Human Resources

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Human Resources - LOM Cost Summary	Totals $
Salaries & Benefits	0
Severance & Relocation	0
TOTALS	**0**

Human Resources - Severance & Outplacement Benefits

	Job Description	Severance & Outplacement Cost $	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Closure Year -10 #	Closure Year -9 #	Closure Year -8 #	Closure Year -7 #	Closure Year -6 #	Closure Year -5 #	Closure Year -4 #	Closure Year -3 #	Closure Year -2 #	Closure Year -1 #	Closure Year 1 #	Closure Year 2 #	Closure Year 3 #	Closure Year 4 #
									SUBTOTAL ($)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes:
1. Assumes Severance + Outplacement

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**

Mobilization - LOM Cost Summary

	Labor $	Equipment $	Misc. & Transport $	Totals $
Mobilization	104,146	19,772	185,918	309,836

Cost type:	**LOM**

Budget Year:	**2021**	
First Year of Operation:	**2009**	
Closure Year 1:	**2035**	
Closure Period:	**4**	years
Post Closure Period:	**26**	years

Last Equipment Use update:
26-Jul-2022 11:03 (to update, go to Equip Use sheet and select Refresh Schedule button)

Mobilization/Demobilization

	Equipment	ID Code	Construction Year	Facility/Activity Type	Phases	Locations	Properties	Cost Type	Total LOM Hours hrs	Minimum hrs/yr	Maximum hrs/yr	Available Use hrs/yr	Actual Use (if less than available) hrs/yr	Minimum units/year	Maximum units/year	Units Mobilized #	Transport Method (select)	Total Load/ Secure Unload/ Secure Time hrs	Assembly/ Disassembly (1) Total $	Assembly/ Disassembly Override Total $	Equipment Weight tons	Road Distance (return trip) mi	Ship/Barge Distance (return trip) mi	Rail Distance (return trip) mi	Air Distance (return trip) mi	Comments
1	D7E		2035	Mobilization	Stg1			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
2	D7E		2035	DeMobilization	Stg1			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
3	D7E		2036	Mobilization	Stg2			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
4	D7E		2036	DeMobilization	Stg2			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
5	D7E		2037	Mobilization	Stg3			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
6	D7E		2037	DeMobilization	Stg3			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
7	D7E		2038	Mobilization	Stg4			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
8	D7E		2038	DeMobilization	Stg4			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
9	D7E		2064	Mobilization	Stg5			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
10	D7E		2064	DeMobilization	Stg5			LOM	2,798	90	890	1,920		1	1	1	Road only	16.00	0		28.3	200				
11	D9T		2036	Mobilization	Stg2			LOM	946	946	946	1,920		1	1	1	Road only	16.00	0		52.5	200				
12	D9T		2036	DeMobilization	Stg2			LOM	946	946	946	1,920		1	1	1	Road only	16.00	0		52.5	200				
13	14M		2035	Mobilization	Stg1			LOM	384	96	96	1,920		1	1	1	Road only	16.00	0		26.4	200				
14	14M		2035	DeMobilization	Stg1			LOM	384	96	96	1,920		1	1	1	Road only	16.00	0		26.4	200				
15	14M		2036	Mobilization	Stg2			LOM	384	96	96	1,920		1	1	1	Road only	16.00	0		26.4	200				
16	14M		2036	DeMobilization	Stg2			LOM	384	96	96	1,920		1	1	1	Road only	16.00	0		26.4	200				
17	14M		2037	Mobilization	Stg3			LOM	384	96	96	1,920		1	1	1	Road only	16.00	0		26.4	200				
18	14M		2037	DeMobilization	Stg3			LOM	384	96	96	1,920		1	1	1	Road only	16.00	0		26.4	200				
19	14M		2038	Mobilization	Stg4			LOM	384	96	96	1,920		1	1	1	Road only	16.00	0		26.4	200				
20	14M		2038	DeMobilization	Stg4			LOM	384	96	96	1,920		1	1	1	Road only	16.00	0		26.4	200				
21	325F		2035	Mobilization	Stg1			LOM	6,046	796	2,844	1,920		1	2	2	Road only	32.00	0		28.2	200				
22	325F		2035	DeMobilization	Stg1			LOM	6,046	796	2,844	1,920		1	2	2	Road only	32.00	0		28.2	200				
23	325F		2037	Mobilization	Stg3			LOM	6,046	796	2,844	1,920		1	2	2	Road only	32.00	0		28.2	200				
24	325F		2037	DeMobilization	Stg3			LOM	6,046	796	2,844	1,920		1	2	1	Road only	16.00	0		28.2	200				
25	325F		2038	Mobilization	Stg4			LOM	6,046	796	2,844	1,920		1	2	1	Road only	16.00	0		28.2	200				
26	325F		2038	DeMobilization	Stg4			LOM	6,046	796	2,844	1,920		1	2	1	Road only	16.00	0		28.2	200				
27	325F		2064	Mobilization	Stg5			LOM	6,046	796	2,844	1,920		1	2	1	Road only	16.00	0		28.2	200				
28	325F		2064	DeMobilization	Stg5			LOM	6,046	796	2,844	1,920		1	2	1	Road only	16.00	0		28.2	200				
29	988K		2035	Mobilization	Stg1			LOM	12,092	84	7,092	1,920		1	4	1	Road only	16.00	0		55.6	200				
30	988K		2035	DeMobilization	Stg1			LOM	12,092	84	7,092	1,920		1	4	1	Road only	16.00	0		55.6	200				
31	988K		2036	Mobilization	Stg2			LOM	12,092	84	7,092	1,920		1	4	4	Road only	64.00	0		55.6	200				
32	988K		2036	DeMobilization	Stg2			LOM	12,092	84	7,092	1,920		1	4	4	Road only	64.00	0		55.6	200				
33	988K		2037	Mobilization	Stg3			LOM	12,092	84	7,092	1,920		1	4	4	Road only	64.00	0		55.6	200				
34	988K		2037	DeMobilization	Stg3			LOM	12,092	84	7,092	1,920		1	4	2	Road only	64.00	0		55.6	200				
35	988K		2038	Mobilization	Stg4			LOM	12,092	84	7,092	1,920		1	4	1	Road only	64.00	0		55.6	200				
36	988K		2038	DeMobilization	Stg4			LOM	12,092	84	7,092	1,920		1	4	1	Road only	64.00	0		55.6	200				
37	740C		2035	Mobilization	Stg1			LOM	12,092	84	7,092	1,920		1	4	1	Road only	64.00	0		39.2	200				
38	740C		2035	DeMobilization	Stg1			LOM	12,092	84	7,092	1,920		1	4	1	Road only	64.00	0		39.2	200				
39	740C		2036	Mobilization	Stg2			LOM	12,092	84	7,092	1,920		1	4	4	Road only	16.00	0		39.2	200				
40	740C		2036	DeMobilization	Stg2			LOM	12,092	84	7,092	1,920		1	4	4	Road only	16.00	0		39.2	200				
41	740C		2037	Mobilization	Stg3			LOM	12,092	84	7,092	1,920		1	4	2	Road only	32.00	0		39.2	200				
42	740C		2037	DeMobilization	Stg3			LOM	12,092	84	7,092	1,920		1	4	2	Road only	32.00	0		39.2	200				
43	740C		2038	Mobilization	Stg4			LOM	12,092	84	7,092	1,920		1	4	1	Road only	16.00	0		39.2	200				
44	740C		2038	DeMobilization	Stg4			LOM	12,092	84	7,092	1,920		1	4	1	Road only	16.00	0		39.2	200				

Superseded

Equipment Information Sources: CAT Performance Handbook ed. 46;CAT website (http://www.cat.com/en_US/products/new/) (as of June 2017)
Komatsu Equipment Company (http://www.komatsuamerica.com/equipment/)
Hitachi Construction Machinery Company (https://www.hitachiconstruction.com/)
Liebherr (https://www.liebherr.com/en/nld/products/mobile-and-crawler-cranes/mobile-cranes/ltm-mobile-cranes/)
Tadano Ltd. (https://www.tadano.com/products/productstype/LC/)

NOTES:
(1) Only demobilization required for Shovels and Trucks larger than 777.

USER NOTES:
(1) Haul distance is from Bosie, ID to site, which is approximately 100 miles each way
(2) SLR assumed that the miscellaneous and transport costs in cell E12 should be $0.
(3) SLR assumed an additional $500 miscellaneous cost per piece of equiment mobilized to account for additional support equipment and facilities

Closure Cost Estimate
Mobilization

Minimum number of road lanes (one direction) on route:	

Road Transportation - Haulers and Escort Vehicles									One-way road transport costs										Total Transport Costs					
	Equipment	Road Transport Method	Units Mobilized	Required Number of Haulers per Piece	Required Number of Pilot Cars per Hauler	Pilot Car Override	Hours of travel @ 80 mph	Deadhead Distance	Miscellaneous Costs per Hauler[2]	Load/Secure Unload/Secure Labor Cost	Escort Vehicle Labor Cost	Hauler Labor Cost	Load/Secure Unload/Secure Equipment Cost	Escort Vehicle Equipment Cost	Hauler Equipment Cost	Total Labor Costs	Total Equipment Costs	Total Miscellaneous Costs	Total Costs	Total Assembly/ Disassembly Cost	Road Transport Cost	Ship/Barge Transport (cost/lb/mi)	Rail Transport (cost/lb/mi)	Air Transport (cost/lb/mi)	Total Mobilization/ Demobilization Cost
			#	#	#	#	hrs	mi	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
1	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
2	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
3	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
4	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
5	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
6	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
7	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
8	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
9	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
10	D7E	hauler	1	1	0		1.25	100	500	942	0	0	99	0	169	942	268	500	1,710	0	1,710	0	0	0	1,710
11	D9T	hauler	1	1	0		1.25	100	500	942	0	0	205	0	192	942	397	500	1,839	0	1,839	0	0	0	1,839
12	D9T	hauler	1	1	0		1.25	100	500	942	0	0	205	0	192	942	397	500	1,839	0	1,839	0	0	0	1,839
13	14M	hauler	1	1	0		1.25	100	500	958	0	0	131	0	169	958	300	500	1,758	0	1,758	0	0	0	1,758
14	14M	hauler	1	1	0		1.25	100	500	958	0	0	131	0	169	958	300	500	1,758	0	1,758	0	0	0	1,758
15	14M	hauler	1	1	0		1.25	100	500	958	0	0	131	0	169	958	300	500	1,758	0	1,758	0	0	0	1,758
16	14M	hauler	1	1	0		1.25	100	500	958	0	0	131	0	169	958	300	500	1,758	0	1,758	0	0	0	1,758
17	14M	hauler	1	1	0		1.25	100	500	958	0	0	131	0	169	958	300	500	1,758	0	1,758	0	0	0	1,758
18	14M	hauler	1	1	0		1.25	100	500	958	0	0	131	0	169	958	300	500	1,758	0	1,758	0	0	0	1,758
19	14M	hauler	1	1	0		1.25	100	500	958	0	0	131	0	169	958	300	500	1,758	0	1,758	0	0	0	1,758
20	14M	hauler	1	1	0		1.25	100	500	958	0	0	131	0	169	958	300	500	1,758	0	1,758	0	0	0	1,758
21	325F	hauler	2	1	0		1.25	100	500	3,852	0	0	181	0	337	3,852	518	1,000	5,370	0	5,370	0	0	0	5,370
22	325F	hauler	2	1	0		1.25	100	500	3,852	0	0	181	0	337	3,852	518	1,000	5,370	0	5,370	0	0	0	5,370
23	325F	hauler	1	1	0		1.25	100	500	963	0	0	90	0	169	963	259	500	1,722	0	1,722	0	0	0	1,722
24	325F	hauler	1	1	0		1.25	100	500	963	0	0	90	0	169	963	259	500	1,722	0	1,722	0	0	0	1,722
25	325F	hauler	1	1	0		1.25	100	500	963	0	0	90	0	169	963	259	500	1,722	0	1,722	0	0	0	1,722
26	325F	hauler	1	1	0		1.25	100	500	963	0	0	90	0	169	963	259	500	1,722	0	1,722	0	0	0	1,722
27	325F	hauler	1	1	0		1.25	100	500	963	0	0	90	0	169	963	259	500	1,722	0	1,722	0	0	0	1,722
28	325F	hauler	1	1	0		1.25	100	500	963	0	0	90	0	169	963	259	500	1,722	0	1,722	0	0	0	1,722
29	988K	hauler	1	1	0		1.25	100	500	963	0	0	196	0	192	963	388	500	1,851	0	1,851	0	0	0	1,851
30	988K	hauler	1	1	0		1.25	100	500	963	0	0	196	0	192	963	388	500	1,851	0	1,851	0	0	0	1,851
31	988K	hauler	4	1	0		1.25	100	500	15,409	0	0	784	0	769	15,409	1,553	2,000	18,962	0	18,962	0	0	0	18,962
32	988K	hauler	4	1	0		1.25	100	500	15,409	0	0	784	0	769	15,409	1,553	2,000	18,962	0	18,962	0	0	0	18,962
33	988K	hauler	2	1	0		1.25	100	500	7,704	0	0	392	0	385	7,704	777	1,000	9,481	0	9,481	0	0	0	9,481
34	988K	hauler	2	1	0		1.25	100	500	7,704	0	0	392	0	385	7,704	777	1,000	9,481	0	9,481	0	0	0	9,481
35	988K	hauler	1	1	0		1.25	100	500	3,852	0	0	196	0	192	3,852	388	500	4,740	0	4,740	0	0	0	4,740
36	988K	hauler	1	1	0		1.25	100	500	3,852	0	0	196	0	192	3,852	388	500	4,740	0	4,740	0	0	0	4,740
37	740C	hauler	1	1	0		1.25	100	500	2,437	0	0	150	0	169	2,437	319	500	3,256	0	3,256	0	0	0	3,256
38	740C	hauler	1	1	0		1.25	100	500	2,437	0	0	150	0	169	2,437	319	500	3,256	0	3,256	0	0	0	3,256
39	740C	hauler	4	1	0		1.25	100	500	2,437	0	0	599	0	674	2,437	1,273	2,000	5,710	0	5,710	0	0	0	5,710
40	740C	hauler	4	1	0		1.25	100	500	2,437	0	0	599	0	674	2,437	1,273	2,000	5,710	0	5,710	0	0	0	5,710
41	740C	hauler	2	1	0		1.25	100	500	2,437	0	0	300	0	337	2,437	637	1,000	4,074	0	4,074	0	0	0	4,074
42	740C	hauler	2	1	0		1.25	100	500	2,437	0	0	300	0	337	2,437	637	1,000	4,074	0	4,074	0	0	0	4,074
43	740C	hauler	1	1	0		1.25	100	500	609	0	0	150	0	169	609	319	500	1,428	0	1,428	0	0	0	1,428
44	740C	hauler	1	1	0		1.25	100	500	609	0	0	150	0	169	609	319	500	1,428	0	1,428	0	0	0	1,428
																								TOTAL	154,918

NOTES:
(1) Only demobilization required for Shovels and Trucks larger than 777.
(2) Miscellaneous costs could include, fees, permits, ancillary equipment, etc.)

Default Escort Car Requirements (based on trailer width)	
Exceeds 12 feet (on 2 and 3 lane roads)	1 Front
Exceeds 14 feet (on 2 and 3 lane roads)	1 Front/1 Rear
Exceeds 16 feet (on 2 and 3 lane roads)	2 Front/1 Rear
Exceeds 14 feet (on 4 or more lane roads)	1 Rear
Exceeds 16 feet (on 4 or more lane roads)	1 Front/1 Rear

Source: Nevada Department of Transportation (https://www.nevadadot.com/doing-business/commercial-vehicles/commercial-vehicle-permits/escort-information-and-guidelines)

Assembly/Disassembly Source:	N/A

Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Budget Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period:	26 years

ID Code Filter:	
FacilityType Filter:	
Phase Filter:	
Location Filter:	
Property Filter:	

		LOM Hours	Hourly Fuel Use (gal/hr)		Plan Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
					Closure Year	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
					Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Dozers	D6T	0	6.45																												
	D6R w/ Winch	0	6.45																												
	D7E	2,798	5.90												220	599	890	890	90												
	D8T	0	10.40																												
	D9T	946	13.50														946														
	D10T2	0	18.70																												
	D11T	0	26.20																												
	824K	0	11.30																												
	834K	0	13.25																												
	844K	0	15.00																												
	854K	0	19.00																												
Graders	12M2	0	3.85																												
	14M	384	5.05													96	96	96	96												
	16M3	0	6.25																												
	24M	0	11.75																												
Excavators	312F	0	2.05																												
	320F	0	3.60																												
	325F	6,046	3.70													2,844		1,593	813												
	330F	0	5.15																												
	349F	0	9.75																												
	374F	0	10.30																												
	390F	0	11.75																												
Scrapers	631K	0	15.12																												
	637K	0	24.35																												
Loaders	926M	0	1.80																												
	930M	0	1.90																												
	950M	0	3.10																												
	966M	0	3.75																												
	972M	0	4.15																												
	980M	0	5.50																												
	988K	12,092	10.40												440	298	7,0	4,17													
	990K	0	17.60																												
	992K	0	23.00																												
	994K	0	41.40																												
	L2350	0	66.00																												
Shovels	PC2000	0	37.00																												
	PC3000	0	50.00																												
	PC4000	0	70.00																												
	PC5500	0	119.00																												
	PC8000	0	149.00																												
	EX2500	0	51.00																												
Hammers	H120Es (fits 325)	0	0.00																												
	H160Es (fits 349)	0	0.00																												
	H180Es (fits 374/390)	0	0.00																												
Shears	S3050 (fits 320/325/330)	0	0.00																												
	S3070 (fits 330/349)	0	0.00																												
	S3090 (fits 374/390)	0	0.00																												
Grapples	G315B (fits 320/325)	0	0.00																												
	G320B (fits 325/330)	0	0.00																												
	G330 (fits 349/374)	0	0.00																												
Other Equipment	420F2	0	4.30																												
	430F2	0	4.70																												
	CS54B	0	3.35																												
	CS64B	0	3.35																												
	CP54B	0	3.35																												
	CP68B	0	3.60																												
	Light Truck - 1.5 Ton	0	1.50																												
	Supervisor's Truck	0	1.00																												
	Flatbed Truck	0	4.70																												
	Air Compressor + tools	0	1.00																												
	Welding Equipment	0	2.00																												
	Heavy Duty Drill Rig	0	12.00																												
	Pump (plugging) Drill Rig	0	10.00																												
	Concrete Pump	0	10.00																												
	Gas Engine Vibrator	0	1.00																												
	Generator 5KW	0	1.50																												
	HDEP Welder (pipe or liner)	0	2.00																												
	5 Ton Crane	0	3.00																												
	20 Ton Crane	0	4.00																												
	50 Ton Crane	0	4.70																												
	120 Ton Crane	0	5.20																												

Superseded

Closure Cost Estimate
Equip Use

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Upd
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMou
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial

Cost type:	LOM

Budget Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period:	26 years

ID Code Filter:	
FacilityType Filter:	
Phase Filter:	
Location Filter:	
Property Filter:	

			LOM Hours	Hourly Fuel Use (gal/hr)	27 17 2051	28 18 2052	29 19 2053	30 20 2054	31 21 2055	32 22 2056	33 23 2057	34 24 2058	35 25 2059	36 26 2060	37 27 2061	38 28 2062	39 29 2063	40 30 2064
Dozers	D6T		0	6.45														
	D6R w/ Winch		0	6.45														
	D7E		2,798	5.90														109
	D8T		0	10.40														
	D9T		946	13.50														
	D10T2		0	18.70														
	D11T		0	26.20														
	824K		0	11.30														
	834K		0	13.25														
	844K		0	15.00														
	854K		0	19.00														
Graders	12M2		0	3.85														
	14M		384	5.05														
	16M3		0	6.25														
	24M		0	11.75														
Excavators	312F		0	2.05														
	320F		0	3.60														
	325F		6,046	3.70														796
	330F		0	5.15														
	349F		0	9.75														
	374F		0	10.30														
	390F		0	11.75														
Scrapers	631K		0	15.12														
	637K		0	24.35														
Loaders	926M		0	1.80														
	930M		0	1.90														
	950M		0	3.10														
	966M		0	3.75														
	972M		0	4.15														
	980M		0	5.50														
	988K		12,092	10.40														
	990K		0	17.60														
	992K		0	23.00														
	994K		0	41.40														
	L2350		0	66.00														
Shovels	PC2000		0	37.00														
	PC3000		0	50.00														
	PC4000		0	70.00														
	PC5500		0	119.00														
	PC8000		0	149.00														
	EX2500		0	51.00														
Hammers	H120Es (fits 325)		0	0.00														
	H160Es (fits 349)		0	0.00														
	H180Es (fits 374/390)		0	0.00														
Shears	S3050 (fits 320/325/330)		0	0.00														
	S3070 (fits 330/349)		0	0.00														
	S3090 (fits 374/390)		0	0.00														
Grapples	G315B (fits 320/325)		0	0.00														
	G320B (fits 325/330)		0	0.00														
	G330 (fits 349/374)		0	0.00														
Other Equipment	420F2		0	4.30														
	430F2		0	4.70														
	CS54B		0	3.35														
	CS64B		0	3.35														
	CP54B		0	3.35														
	CP68B		0	3.60														
	Light Truck - 1.5 Ton		0	1.50														
	Supervisor's Truck		0	1.00														
	Flatbed Truck		0	4.70														
	Air Compressor + tools		0	1.00														
	Welding Equipment		0	2.00														
	Heavy Duty Drill Rig		0	12.00														
	Pump (plugging) Drill Rig		0	10.00														
	Concrete Pump		0	10.00														
	Gas Engine Vibrator		0	1.00														
	Generator 5KW		0	1.50														
	HDEP Welder (pipe or liner)		0	2.00														
	5 Ton Crane		0	3.00														
	20 Ton Crane		0	4.00														
	50 Ton Crane		0	4.70														
	120 Ton Crane		0	5.20														

Superseded

Closure Cost Estimate
Equip Use

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	**LOM**

Budget Year:	**2021**	
First Year of Operation:	**2025**	
Closure Year 1:	**2035**	
Closure Period:	**4**	years
Post Closure Period:	**26**	years

ID Code Filter:	
FacilityType Filter:	
Phase Filter:	
Location Filter:	
Property Filter:	

				2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	208
Trucks	725C2	0	5.05																																																																													
	730C2	0	5.40																		

Closure Cost Estimate
Equip Use

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Upd
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMou
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial

Cost type:	LOM

Budget Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period:	26	years

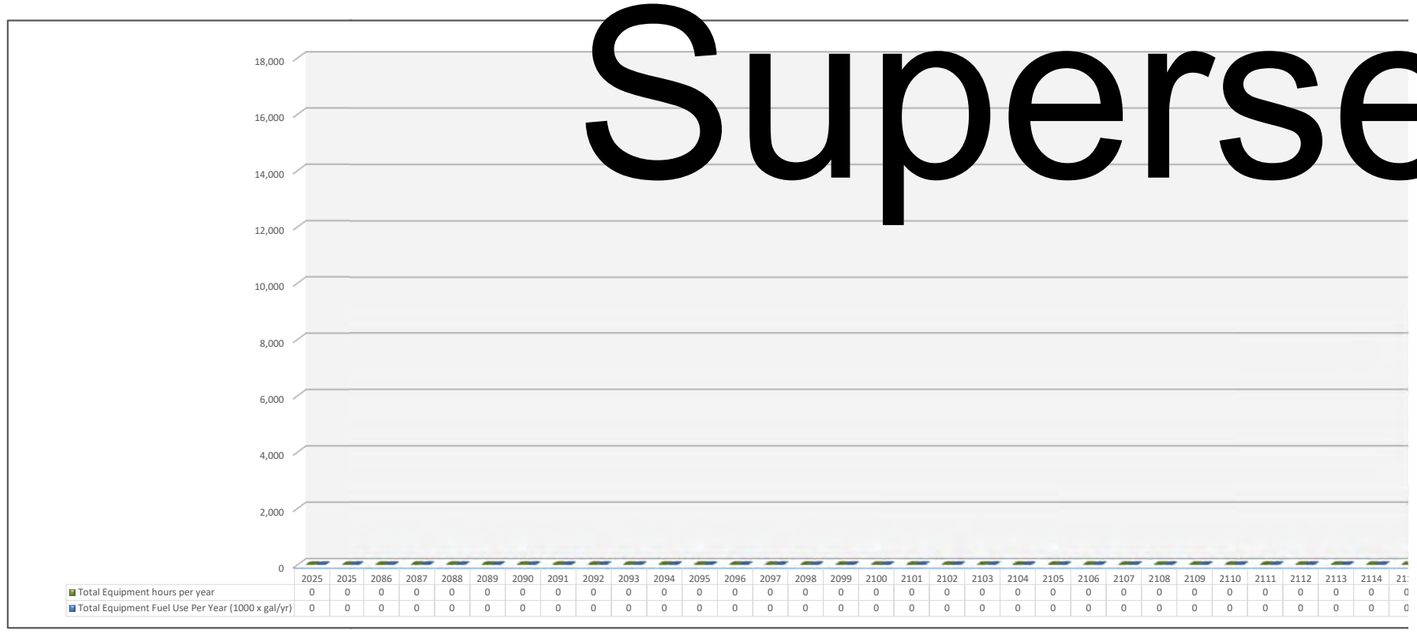
ID Code Filter:	
FacilityType Filter:	
Phase Filter:	
Location Filter:	
Property Filter:	

Trucks	725C2	0	5.05														
	730C2	0	5.40														
	735C	0	6.95														
	740C	12,092	7.80														
	770G	0	4.95														
	773G	0	8.25														
	777G	0	13.55														
	785D	0	25.10														
	789D	0	36.85														
	793F	0	44.75														
	797F	0	67.65														
	613E (5,000 gal)	0	6.00														
	621E (8,000 gal)	0	10.75														
	777G H2O Truck	0	13.55														
	785D H2O Truck	0	25.10														
	Dump Truck (10-12 yd3)	0	5.20														
		34,358															
			Total														
				0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**905**
			Total fuel u														
				0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

Select Equipment to Graph

Total Equipment

Total Equipment hours per year	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**905**
Total Equipment Fuel Use Per Year (1000 x gal/yr)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**



Superseded

Closure Cost Estimate
Equip Use

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Budget Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period:	26 years

ID Code Filter:	
FacilityType Filter:	
Phase Filter:	
Location Filter:	
Property Filter:	

	LOM Equipment	Maxiumum Haul Fleet Size	Plan Year / Closure Year / Calendar Year	1 / -10 / 2025	2 / -9 / 2026	3 / -8 / 2027	4 / -7 / 2028	5 / -6 / 2029	6 / -5 / 2030	7 / -4 / 2031	8 / -3 / 2032	9 / -2 / 2033	10 / -1 / 2034	11 / 1 / 2035	12 / 2 / 2036	13 / 3 / 2037	14 / 4 / 2038	15 / 5 / 2039	16 / 6 / 2040	17 / 7 / 2041	18 / 8 / 2042	19 / 9 / 2043	20 / 10 / 2044	21 / 11 / 2045	22 / 12 / 2046	23 / 13 / 2047	24 / 14 / 2048	25 / 15 / 2049	26 / 16 / 2050
Dozers	D6T	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D6R w/ Winch	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D7E	6			0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
	D8T	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D9T	1			0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	D10T2	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D11T	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	824K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	834K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	844K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	854K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Graders	12M2	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14M	4			0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
	16M3	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24M	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavators	312F	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	320F	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	325F	5			0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0
	330F	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	349F	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	374F	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	390F	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers	631K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	637K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Loaders	926M	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	930M	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	950M	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	966M	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	972M	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	980M	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	988K	9			0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0
	990K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	992K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	994K	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	L2350	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shovels	PC2000	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PC3000	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PC4000	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PC5500	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PC8000	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	EX2500	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hammers	H120Es (fits 325)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	H160Es (fits 349)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	H180Es (fits 374/390)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shears	S3050 (fits 320/325/330)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S3070 (fits 330/349)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S3090 (fits 374/390)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grapples	G315B (fits 320/325)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	G320B (fits 325/330)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	G330 (fits 349/374)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Equipment	420F2	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	430F2	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CS54B	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CS64B	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CP54B	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CP68B	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Light Truck - 1.5 Ton	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Supervisor's Truck	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Flatbed Truck	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Compressor + tools	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Welding Equipment	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Heavy Duty Drill Rig	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pump (plugging) Drill Rig	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Concrete Pump	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Gas Engine Vibrator	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Generator 5KW	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HDEP Welder (pipe or liner)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5 Ton Crane	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20 Ton Crane	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 Ton Crane	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 Ton Crane	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Superseded

Closure Cost Estimate
Equip Use

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Upd
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMou
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial

Cost type:	LOM

Budget Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period:	26 years

ID Code Filter:	
FacilityType Filter:	
Phase Filter:	
Location Filter:	
Property Filter:	

		LOM Equipment	Maxiumum Haul Fleet Size	27 17 2051	28 18 2052	29 19 2053	30 20 2054	31 21 2055	32 22 2056	33 23 2057	34 24 2058	35 25 2059	36 26 2060	37 27 2061	38 28 2062	39 29 2063	40 30 2064
Dozers	D6T	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D6R w/ Winch	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D7E	6		0	0	0	0	0	0	0	0	0	0	0	0	0	1
	D8T	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D9T	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D10T2	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D11T	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	824K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	834K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	844K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	854K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Graders	12M2	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14M	4		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	16M3	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24M	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavators	312F	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	320F	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	325F	5		0	0	0	0	0	0	0	0	0	0	0	0	0	1
	330F	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	349F	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	374F	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	390F	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers	631K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	637K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Loaders	926M	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	930M	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	950M	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	966M	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	972M	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	980M	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	988K	9		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	990K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	992K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	994K	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	L2350	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shovels	PC2000	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PC3000	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PC4000	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PC5500	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PC8000	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	EX2500	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hammers	H120Es (fits 325)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	H160Es (fits 349)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	H180Es (fits 374/390)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shears	S3050 (fits 320/325/330)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S3070 (fits 330/349)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S3090 (fits 374/390)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grapples	G315B (fits 320/325)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	G320B (fits 325/330)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	G330 (fits 349/374)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Equipment	420F2	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	430F2	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CS54B	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CS64B	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CP54B	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CP68B	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Light Truck - 1.5 Ton	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Supervisor's Truck	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Flatbed Truck	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Compressor + tools	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Welding Equipment	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Heavy Duty Drill Rig	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pump (plugging) Drill Rig	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Concrete Pump	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Gas Engine Vibrator	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Generator 5KW	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HDEP Welder (pipe or liner)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5 Ton Crane	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20 Ton Crane	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50 Ton Crane	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 Ton Crane	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0

Superseded

Closure Cost Estimate
Equip Use

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Cost type:	LOM

Budget Year:	2021
First Year of Operation:	2025
Closure Year 1:	2035
Closure Period:	4 years
Post Closure Period:	26 years

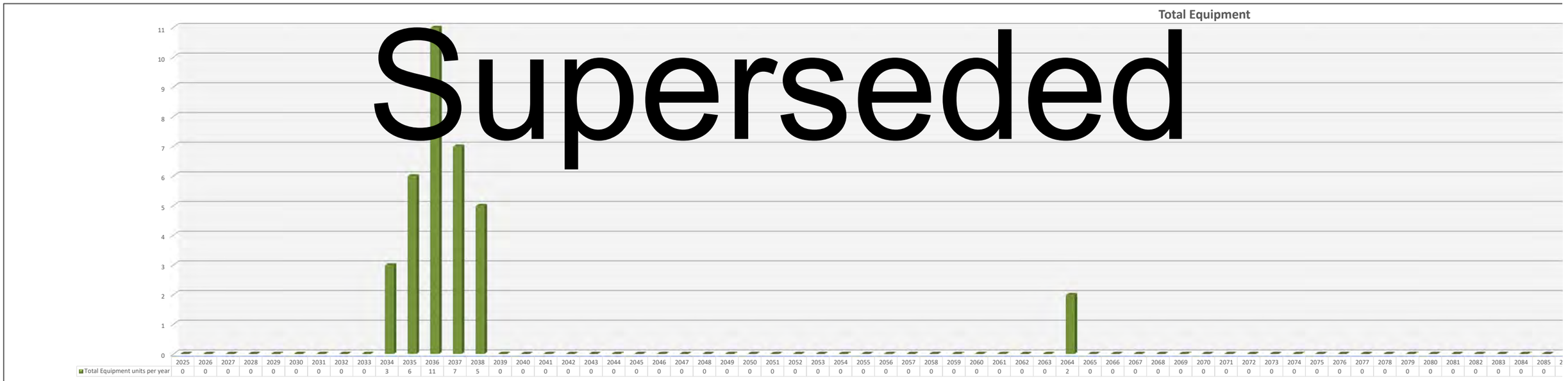
ID Code Filter:	
FacilityType Filter:	
Phase Filter:	
Location Filter:	
Property Filter:	

				2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085
Trucks	725C2	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	730C2	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	735C	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	740C	9			0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	770G	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	773G	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	777G	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	785D	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	789D	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	793F	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	797F	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	613E (5,000 gal)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	621E (8,000 gal)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	777G H2O Truck	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	785D H2O Truck	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dump Truck (10-12 yd3)	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		34		Total equipment units per year	0	0	0	0	0	0	0	0	0	0	0	3	6	11	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Select Equipment to Graph

Total Equipment

Total Equipment units per year	0	0	0	0	0	0	0	0	0	3	6	11	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Superseded

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Upd
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMou
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial

Cost type:	LOM

Budget Year:	2021	
First Year of Operation:	2025	
Closure Year 1:	2035	
Closure Period:	4	years
Post Closure Period:	26	years

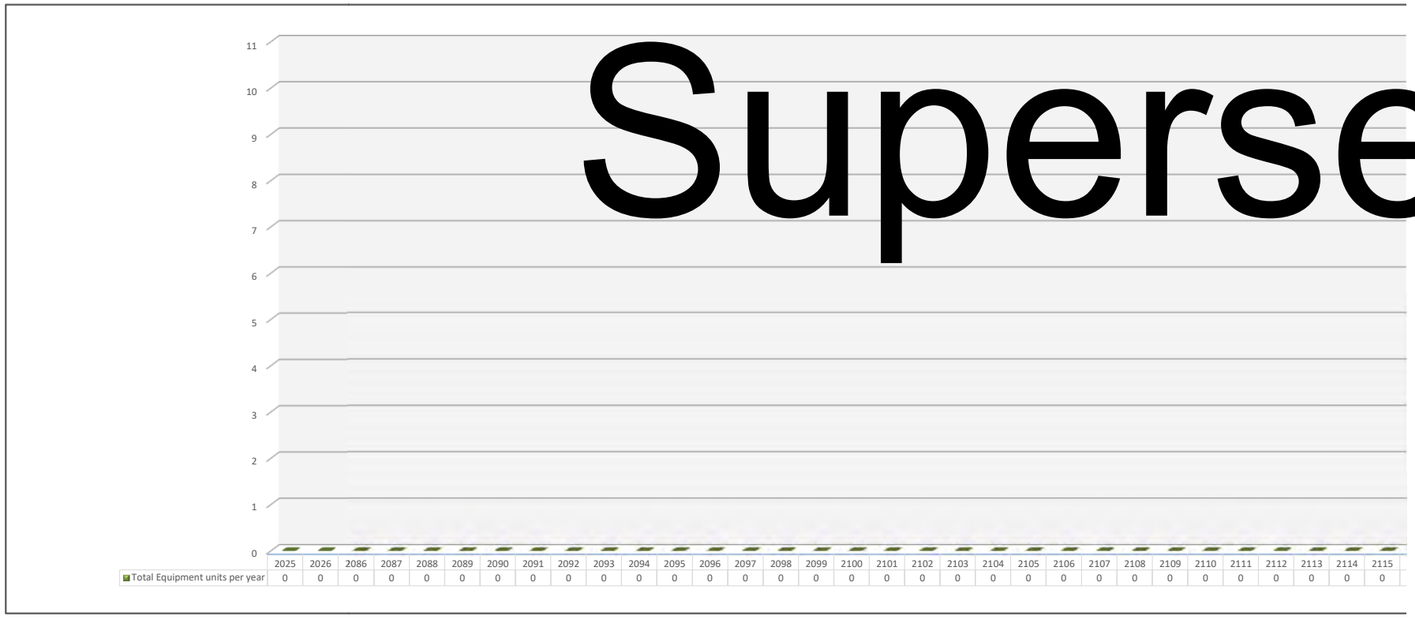
ID Code Filter:	
FacilityType Filter:	
Phase Filter:	
Location Filter:	
Property Filter:	

Trucks	725C2	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	730C2	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	735C	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	740C	9		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	770G	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	773G	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	777G	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	785D	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	789D	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	793F	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	797F	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	613E (5,000 gal)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	621E (8,000 gal)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	777G H2O Truck	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	785D H2O Truck	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dump Truck (10-12 yd3)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		34															
			Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Select Equipment to Graph

Total Equipment

	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2



Superseded

Closure Cost Estimate
Reclamation Quantities

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Reclamation Quantity Summary - LOM

	Description	Total Regrade or Haul Volume cy	Total Regrade or Haul Cost $	Total Backfill/Berm Volume cy	Backfill Cost $	Total Cover Volume cy	Cover Placement Cost $	Total Growth Media Volume cy	Growth Media Placement Cost $	Revegetation Surface Area acres	Total Scarify Cost $	Total Revetation Cost $	Geosynthetics ft2	Geosynthetics Cost $	TOTALS $	Unit Costs: Regrade Unit Cost $/CY	Backfill or Berm Construction Unit Cost $/CY	Material Haul Unit Cost $/CY	Cover Unit Cost $/CY	Growth Media Unit Cost $/CY	Scarify Unit Cost $/ac	Revegetation Unit Cost $/ac	Geosynthetics $/ft2	Area Unit Cost $/acres
1	Waste Rock Dumps	-	0			-	0	9,680	19,565	6.10	0	2,741			22,306		N/A	N/A		2.02	0.00	449.34	N/A	3,656.72
2	Tailings Impoundments	226,938	249,498			111,513	702,860	124,581	241,288	8.10	0	13,369			1,207,015	1.10	N/A	N/A	6.30	1.94	0.00	1,650.49	N/A	149,014.20
3	Heap Leach Pads	-	0	-	0	-	0	-	0	-	0	0			0			N/A					N/A	
4	Open Pits			-	0					-		0			0	N/A		N/A	N/A	N/A	N/A		N/A	
5	Quarries & Borrow Pits	-	0	-	0	-	0	77,440	158,595	104.00	8,864	46,726			214,185			N/A		2.05	85.23	449.29	N/A	2,059.47
6	Roads	38,918	31,186					-	0	42.20	7,596	19,604			58,386	0.80	N/A	N/A	N/A		180.00	464.56	N/A	1,383.56
7	Ponds			3,867	6,848			1,164	2,746	0.80		529	30	6,749	16,872	N/A	1.77	N/A	N/A	2.36	N/A	660.65	224.97	21,089.40
8	Yards	66,609	118,083			-	0	26,732	61,362	39.88	9,811	17,917			207,173	1.77	N/A	N/A		2.30	246.00	449.25	N/A	5,194.63
9	Landfills	-	0			-	0	-	0	-	0	0			0		N/A	N/A					N/A	
10	Generic Haulage/Backfill	-	0			-	0	-	0	-	0	0			0	N/A	N/A							
11	Buildings	-	0			7,652	36,340	2,527	39,610	4.80	0	7,681			83,631		N/A	N/A	4.75	15.67	0.00	1,600.30		17,423.22
12	Diversion Ditches	-	0							-		0	-	0	0			N/A						
13	Sediment Ponds	-	0					-	0	-	0	0	-	0	0			N/A						
14	Exploration Roads	4,699	3,007					-	0	10.00	0	4,494			7,501	0.64	N/A	N/A			0.00	449.40		750.10
15	Exploration Trenches	-	0							-		0			0		N/A	N/A						
16	Adit/Decline Backfilling1			833	512										512	N/A	0.61	N/A	N/A	N/A	N/A	N/A		
17	Shaft Backfilling			-	4,371										4,371	N/A		N/A	N/A	N/A	N/A	N/A		
	TOTALS	337,164	401,774	4,700	11,731	119,165	739,200	242,124	523,166	215.88	26,271	113,061	30	6,749	1,821,953									
	Average Costs	per CY	1.19	per CY	2.50	per CY	6.20	per CY	2.16	per acre	121.69	4.30	per CY	224.97	8,440	per acre								

Superseded

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Color Code Key	
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Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

ZONE ADJUSTMENTS			
Cost Basis/Project Region	**Northern Nevada - Imperial Units**	Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%	
Power Equipment Operators	**< 50 miles**	0.00	
Truck Drivers	**< 50 miles**	0.00	
Laborers	**< 50 miles**	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Labor Group	Base Rate $/hr	Zone Adjustment $/hr	Hourly Wage $/hr	Fringe $/hr	Retirement/ Medicare $/hr	Unemployment Insurance $/hr	Workman's Compensation $/hr	Other Indirect Costs $/hr	Additional User Markups to Base Rate† $/hr	Additional User Markups to Base Rate† %	Additional User Markups to Base Rate† $/hr	Total $/hr
Equipment Operators (2)													
Bulldozers													
D6T	Group 8	49.66	0.00	49.66	0.00	3.88	1.52	3.80	0.00			0	58.86
D6R w/ Winch	Group 8	49.66	0.00	49.66	0.00	3.88	1.52	3.80	0.00			0	58.86
D7E	Group 8	49.66	0.00	49.66	0.00	3.88	1.52	3.80	0.00			0	58.86
D8T	Group 8	49.66	0.00	49.66	0.00	3.88	1.52	3.80	0.00			0	58.86
D9T	Group 8	49.66	0.00	49.66	0.00	3.88	1.52	3.80	0.00			0	58.86
D10T2	Group 8	49.66	0.00	49.66	0.00	3.88	1.52	3.80	0.00			0	58.86
D11T	Group 8	49.66	0.00	49.66	0.00	3.88	1.52	3.80	0.00			0	58.86
Wheeled Dozers													
824K	Group 10a	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
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ZONE ADJUSTMENTS			
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Power Equipment Operators	**< 50 miles**	0.00	
Truck Drivers	**< 50 miles**	0.00	
Laborers	**< 50 miles**	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE													
834K	Group 10a	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
844K	Group 10a	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
854K	Group 10a	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
Motor Graders													
12M2	Group 10A	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
14M	Group 10A	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
16M3	Group 10A	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
24M	Group 10A	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
Track Excavators													
312F	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
320F	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
325F	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
330F	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
349F	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
374F	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
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Model Version: Version 2.0
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

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ZONE ADJUSTMENTS			
Cost Basis/Project Region	**Northern Nevada - Imperial Units**	Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%	
Power Equipment Operators	**< 50 miles**	0.00	
Truck Drivers	**< 50 miles**	0.00	
Laborers	**< 50 miles**	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE													
390F	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
Scrapers													
631K	Group 10	50.35	0.00	50.35	0.00	3.93	1.54	3.85	0.00			0	59.67
637K	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
Wheeled Loaders													
926M	Group 10	50.35	0.00	50.35	0.00	3.93	1.54	3.85	0.00			0	59.67
930M	Group 10	50.35	0.00	50.35	0.00	3.93	1.54	3.85	0.00			0	59.67
950M	Group 10	50.35	0.00	50.35	0.00	3.93	1.54	3.85	0.00			0	59.67
966M	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
972M	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
980M	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
988K	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
990K	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
992K	Group 11A	52.46	0.00	52.46	0.00	4.09	1.61	4.01	0.00			0	62.17
994K	Group 11A	52.46	0.00	52.46	0.00	4.09	1.61	4.01	0.00			0	62.17

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
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ZONE ADJUSTMENTS			
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Power Equipment Operators	< 50 miles	0.00	
Truck Drivers	< 50 miles	0.00	
Laborers	< 50 miles	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE													
L2350	Group 11A	52.46	0.00	52.46	0.00	4.09	1.61	4.01	0.00			0	62.17
Shovels/Excavators													
PC2000					0.00							0	0.00
PC3000					0.00							0	0.00
PC4000					0.00							0	0.00
PC5500					0.00							0	0.00
PC8000					0.00							0	0.00
EX2500					0.00							0	0.00
Hydraulic Hammers													
H120Es (fits 325)													
H160Es (fits 349)													
H180Es (fits 374/390)													
Demolition Shears													
S3050 (fits 320/325/330)													
S3070 (fits 330/349)													

Closure Cost Estimate
Labor Rates

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File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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ZONE ADJUSTMENTS			
Cost Basis/Project Region	**Northern Nevada - Imperial Units**	Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%	
Power Equipment Operators	**< 50 miles**	0.00	
Truck Drivers	**< 50 miles**	0.00	
Laborers	**< 50 miles**	0.00	
INDIRECT COSTS			
Unemployment (%)	3.06%		
Retirement/SS/Medicare (%)	7.80%		
Workman's Compensation (%)	7.65%		
Other Indirects			
State Payroll Tax (13),(15),(17),(18)			
Total Other Indirects	**0.00%**		

Superseded

HOURLY LABOR RATE TABLE
S3090 (fits 374/390)
Demolition Grapples
G315B (fits 320/325)
G320B (fits 325/330)
G330 (fits 349/374)

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
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INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE													
Other Equipment													
420F2	Group 10A	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
430F2	Group 10A	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
CS54B	Group 6	48.81	0.00	48.81	0.00	3.81	1.49	3.73	0.00			0	57.84
CS64B	Group 6	48.81	0.00	48.81	0.00	3.81	1.49	3.73	0.00			0	57.84
CP54B	Group 6	48.81	0.00	48.81	0.00	3.81	1.49	3.73	0.00			0	57.84
CP68B	Group 6	48.81	0.00	48.81	0.00	3.81	1.49	3.73	0.00			0	57.84
Light Truck - 1.5 Ton	Group 6	48.81	0.00	48.81	0.00	3.81	1.49	3.73	0.00			0	57.84
Supervisor's Truck	Group 6	48.81	0.00	48.81	0.00	3.81	1.49	3.73	0.00			0	57.84
Flatbed Truck	Group 6	48.81	0.00	48.81	0.00	3.81	1.49	3.73	0.00			0	57.84
Air Compressor + tools	Group 3	47.57	0.00	47.57	0.00	3.71	1.46	3.64	0.00			0	56.38
Welding Equipment	Group 9	49.99	0.00	49.99	0.00	3.90	1.53	3.82	0.00			0	59.24
Heavy Duty Drill Rig	Group 10	50.35	0.00	50.35	0.00	3.93	1.54	3.85	0.00			0	59.67
Pump (plugging) Drill Rig	Group 10	50.35	0.00	50.35	0.00	3.93	1.54	3.85	0.00			0	59.67
Concrete Pump					0.00							0	

Closure Cost Estimate
Labor Rates

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Power Equipment Operators	**< 50 miles**	0.00	
Truck Drivers	**< 50 miles**	0.00	
Laborers	**< 50 miles**	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE													
Gas Engine Vibrator	Group 6	48.81	0.00	48.81	0.00	3.81	1.49	3.73	0.00			0	57.84
Generator 5KW					0.00							0	
HDEP Welder (pipe or liner)					0.00							0	
5 Ton Crane	Group 10A	50.54	0.00	50.54	0.00	3.94	1.55	3.87	0.00			0	59.90
20 Ton Crane	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
50 Ton Crane	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19
120 Ton Crane	Group 11	50.79	0.00	50.79	0.00	3.96	1.55	3.89	0.00			0	60.19

NOTES:

(1) Equipment Type:	Catepillar model or equivalent, LeTourneau
(2) Equipment Operator Source:	D-B NV180038 05/05/2018
(3) Zone Basis:	From Washoe Co. Courthouse

Truck Drivers (4)													
725C2	ruck Driver > 25 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
730C2	ruck Driver > 25 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	Northern Nevada - Imperial Units	Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%	
Power Equipment Operators	< 50 miles	0.00	
Truck Drivers	< 50 miles	0.00	
Laborers	< 50 miles	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE													
735C	ruck Driver > 25 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
740C	ruck Driver > 25 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
770G	ruck Driver > 25 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
773G	ruck Driver > 60 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
777G	ruck Driver > 60 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
785D	ruck Driver > 60 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
789D	ruck Driver > 60 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
793F	ruck Driver > 60 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
797F	ruck Driver > 60 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
613E (5,000 gal)	ter Truck > 2,500 gall	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
621E (8,000 gal)	ter Truck > 2,500 gall	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
777G H2O Truck	ruck Driver > 60 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
785D H2O Truck	ruck Driver > 60 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
Dump Truck (10-12 yd3)	Truck Driver > 8 yds <	32.13	0.00	32.13	0.00	2.51	0.98	2.46	0.00			0	38.08
Tractor/Trailer (20 ton)					0.00							0	0.00
Tractor/Trailer (50 ton)					0.00							0	0.00

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

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ZONE ADJUSTMENTS			
Cost Basis/Project Region	**Northern Nevada - Imperial Units**	Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%	
Power Equipment Operators	**< 50 miles**	0.00	
Truck Drivers	**< 50 miles**	0.00	
Laborers	**< 50 miles**	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE													
Tractor/Trailer (80 ton)					0.00							0	0.00

NOTES:

(4) Truck Driver Source:	D-B SUNV2014-014 9/8/2016
(5) Zone Basis:	From Washoe Co. Courthouse

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Color Code Key	
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ZONE ADJUSTMENTS			
Cost Basis/Project Region	Northern Nevada - Imperial Units	Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%	
Power Equipment Operators	< 50 miles	0.00	
Truck Drivers	< 50 miles	0.00	
Laborers	< 50 miles	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE

Laborers (6,7)

General Laborer	Group 1	31.44	0.00	31.44	0.00	2.45	0.96	2.40	0.00			0	37.26
Skilled Laborer	Group 4	31.95	0.00	31.95	0.00	2.49	0.98	2.44	0.00			0	37.86
Driller's Helper	Group 3	31.69	0.00	31.69	0.00	2.47	0.97	2.42	0.00			0	37.56
Rodmen (reinforcing concrete)	Group 2	31.54	0.00	31.54	0.00	2.46	0.97	2.41	0.00			0	37.38
Cement finisher	Group 3	31.69	0.00	31.69	0.00	2.47	0.97	2.42	0.00			0	37.56
Carpenter		39.58	0.00	39.58	0.00	3.09	1.21	3.03	0.00			0	46.90

NOTES:

(6) Laborer Source:	D-B NV120038 1/6/2012
(7) Carpenter Source:	D-B NV120038 1/6/2012
(8) Zone Basis:	From Washoe Co. Courthouse

Project Management and Technical Labor (9)

Project Manager		76.88	0.00	76.88	0.00	6.00	2.35	5.88	0.00			0	91.12

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
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ZONE ADJUSTMENTS			
Cost Basis/Project Region	**Northern Nevada - Imperial Units**	Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%	
Power Equipment Operators	**< 50 miles**	0.00	
Truck Drivers	**< 50 miles**	0.00	
Laborers	**< 50 miles**	0.00	
INDIRECT COSTS			
Unemployment (%)	3.06%		
Retirement/SS/Medicare (%)	7.80%		
Workman's Compensation (%)	7.65%		
Other Indirects			
State Payroll Tax (13),(15),(17),(18)			
Total Other Indirects	**0.00%**		

Superseded

HOURLY LABOR RATE TABLE													
Foreman		71.72	0.00	71.72	0.00	5.60	2.19	5.49	0.00			0	85.00
Field Geologist/Engineer		129.06	0.00	129.06	0.00	10.07	3.95	9.87	0.00			0	152.95
Field Tech/Sampler		106.01	0.00	106.01	0.00	8.27	3.24	8.11	0.00			0	125.64
Range Scientist		117.99	0.00	117.99	0.00	9.21	3.61	9.03	0.00			0	139.84
Senior Planning Engineer					0.00								
Project Engineer					0.00								
Mechanic/Fitter					0.00								
					0.00								
					0.00								
					0.00								
					0.00								

Closure Cost Estimate
Labor Rates

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
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ZONE ADJUSTMENTS			
Cost Basis/Project Region	Northern Nevada - Imperial Units	Churchill, Douglas, Elko, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, Washoe, and White Pine Counties- Inflated 2%	
Power Equipment Operators	< 50 miles	0.00	
Truck Drivers	< 50 miles	0.00	
Laborers	< 50 miles	0.00	

INDIRECT COSTS	
Unemployment (%)	3.06%
Retirement/SS/Medicare (%)	7.80%
Workman's Compensation (%)	7.65%
Other Indirects	
State Payroll Tax (13),(15),(17),(18)	
Total Other Indirects	**0.00%**

Superseded

HOURLY LABOR RATE TABLE

NOTES:	
(9) Project Manager:	R.S.Means 2018 Q2 (01 31 1320 0200 Total Incl.O&P-10%) Adjusted for Elko, NV
(9) Foreman Source:	R.S.Means 2018 Q2 (01 31 1320 0200 Total Incl.O&P-10%) Adjusted for Elko, NV
(9) Techical Labor Source:	SRK Consulting 2018 (Total Incl. O&P-10%) Adjusted for Zone,Tax and Ins.
Other Labor Source:	
Other Labor Source:	
†Additional User Markups	
(These are added by the user to the	
base rate to account for site-specific	
conditions or corporate requirements)	

Closure Cost Estimate
Equipment Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm

Monthly Rental Basis:	160	hrs month
Wet Rates?	No	

Superseded

EQUIPMENT RENTAL RATE TABLE

EQUIPMENT TYPE (1)	Monthly Owner/Rental Rate $/mo	Equipment Hourly Rate $/hr	Fuel/Lube/ Wear $/hr	Total Rate $/hr
Bulldozers				
D6T	10,608.00	66.30	28.43	94.73
D6R w/ Winch	10,608.00	66.30	28.43	94.73
D7E	11,577.00	72.36	27.07	99.43
D8T	19,380.00	121.13	43.36	164.48
D9T	23,562.00	147.26	57.62	204.88
D10T2	32,640.00	204.00	78.21	282.21
D11T	65,280.00	408.00	111.01	519.01
Wheeled Dozers				
8[illegible]K			27.89	27[illegible]
8[illegible]K			32.[illegible]	[illegible].71
8[illegible]K			37.[illegible]	[illegible].03
8[illegible]K			46.[illegible]	[illegible].90
[illegible]tor Graders				
12M2	9,792.00	61.20	28.51	89.71
14M	14,790.00	92.44	38.75	131.19
16M3	21,420.00	133.88	49.46	183.34
24M	23,562.00	147.26	66.44	213.70
Track Excavators				
312F	5,523.30	34.52	13.27	47.79
320F	6,834.00	42.71	17.99	60.71
325F	11,322.00	70.76	19.52	90.28
330F	11,016.00	68.85	25.73	94.58
349F	14,565.60	91.04	38.05	129.09
374F	18,757.80	117.24	42.24	159.48
390F	22,950.00	143.44	48.66	192.10
Scrapers				
631K	18,360.00	114.75	62.38	177.13
637K	35,700.00	223.13	92.24	315.36
Wheeled Loaders				
926M	5,100.00	31.88	15.04	46.92
930M	5,304.00	33.15	16.02	49.17
950M	7,752.00	48.45	25.30	73.75
966M	11,118.00	69.49	31.77	101.26
972M	14,076.00	87.98	36.28	124.25
980M	14,076.00	87.98	39.96	127.93

988K	21,420.00	133.88	62.11	195.98
990K	41,310.00	258.19	96.63	354.82
992K	61,200.00	382.50	126.72	509.22
994K	67,320.00	420.75	179.13	599.88
L2350			162.91	162.91

Superseded

Closure Cost Estimate
Equipment Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
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Shovels				
PC2000			91.33	91.33
PC3000			123.42	123.42
PC4000			172.79	172.79
PC5500			293.74	293.74
PC8000			367.79	367.79
EX2500			125.89	125.89
Hydraulic Hammers				
H120Es (fits 325)	5,814.00	36.34	5.55	41.89
H160Es (fits 349)	12,240.00	76.50	10.58	87.08
H180Es (fits 374/390)	16,524.00	103.28	12.53	115.81
Demolition Shears				
S3050 (fits 320/325/330)				0.00
S3070 (fits 330/349)				0.00
S3090 (fits 374/390)				0.00
Demolition Grapples				
G315B (fits 320/325)				0.00
G[illegible]20B (fits 325[illegible])				[illegible]
[illegible]330 (fits 349/[illegible]74)				[illegible]00
Other Equipment				
[illegible]F2	[illegible]3,264.0[illegible]	[illegible]20.4[illegible]	[illegible]19.0[illegible]	[illegible]3[illegible]2
430F2	4,080.00	25.50	19.90	45.40
CS54B	8,639.40	54.00	8.27	62.27
CS64B	8,639.40	54.00	8.27	62.27
CP54B	8,639.40	54.00	8.27	62.27
CP68B	8,639.40	54.00	8.89	62.88
Light Truck - 1.5 Ton	4,155.89	25.97	3.89	29.87
Supervisor's Truck	2,796.02	17.48	2.66	20.13
Flatbed Truck	4,155.89	25.97	12.65	38.63
Air Compressor + tools	4,431.90	27.70	2.47	30.17
Welding Equipment	2,165.46	13.53	4.94	18.47
Heavy Duty Drill Rig	59,241.60	370.26	29.62	399.88
Pump (plugging) Drill Rig	59,241.60	370.26	24.68	394.94
Concrete Pump	19,365.72	121.04	24.68	145.72
Gas Engine Vibrator	564.59	3.53	2.47	6.00
Generator 5KW	781.36	4.88	3.70	8.59
HDEP Welder (pipe or liner)	9,379.92	58.62	4.94	63.56
5 Ton Crane	5,722.20	35.76	7.41	43.17
20 Ton Crane	13,037.64	81.49	9.87	91.36
50 Ton Crane	13,037.64	81.49	11.60	93.09
120 Ton Crane	14,341.40	89.63	12.84	102.47
Trucks				
725C2	15,300.00	95.63	37.92	133.54
730C2	15,300.00	95.63	38.78	134.41
735C	15,300.00	95.63	50.93	146.56

Superseded

Closure Cost Estimate
Equipment Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
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740C	15,300.00	95.63	54.21	149.84
770G	21,420.00	133.88	26.16	160.04
773G	33,660.00	210.38	40.94	251.31
777G	55,080.00	344.25	64.74	408.99
785D	60,588.00	378.68	100.80	479.47
789D	66,606.00	416.29	100.80	517.08
793F	73,236.00	457.73	157.46	615.18
797F	80,580.00	503.63	218.70	722.32
613E (5,000 gal)	6,120.00	38.25	24.38	62.63
621E (8,000 gal)	11,220.00	70.13	39.93	110.06
777G H2O Truck	55,080.00	344.25	64.74	408.99
785D H2O Truck	60,588.00	378.68	100.80	479.47
Dump Truck (10-12 yd3)	11,960.52	74.75	13.68	88.44
Tractor/Trailer (20 ton)	13,156.57	82.23	34.56	116.79
Tractor/Trailer (50 ton)	14,472.23	90.45	44.43	134.88
Tractor/Trailer (80 ton)	15,919.45	99.50	54.30	153.80

NOTES:

Power Equipment Source:	Cashman Equipment Company (July 2018) unless noted
Power Equipment Type:	Caterpillar m[illegible] equipment, LeTo[illegible]u loader[illegible]su sh[illegible]
Drilling Equipment Source:	RS Means Heavy Construction (2[illegible]18 Q2)
Other Equipment Source:	[illegible]s Heavy Con[illegible]tion (2[illegible])
Notes:	Drill rig includes support (pipe) [illegible]ck

Superseded

Closure Cost Estimate
Equipment Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
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Superseded

FUEL, LUBE AND WEAR CALCULATIONS

EQUIPMENT TYPE	PM Cost (1) $/hr	Under carriage or Tires $/hr	G.E.T Consumption (2) $/hr	Fuel Use Rate gal/hr (3)	Fuel Cost@ 2.47/gal	Total Hourly Equipment Cost $/hr
Bulldozers						
D6T	7.33		5.17	6.45	15.92	28.43
D6R w/ Winch	7.33		5.17	6.45	15.92	28.43
D7E	7.33		5.17	5.90	14.56	27.07
D8T	7.74		9.95	10.40	25.67	43.36
D9T	8.82		15.47	13.50	33.32	57.62
D10T2	10.38		21.66	18.70	46.16	78.21
D11T	14.15		32.19	26.20	64.67	111.01
Wheeled Dozers						
824K		0.00		11.30	27.89	27.89
		0.00		1 .25	32.71	32.71
844K		0.00		1 .00	37.03	37.03
854K		0.0		1 .00	46.	46.90
Motor Graders						
12M2	.46	3.87	10.68	85	50	28.51
14M	56	5.	15	05	12.	38.75
16M3	5.80	7.16	21.07	6.25	15.43	49.46
24M	6.38	7.87	23.18	11.75	29.00	66.44
Track Excavators						
312F	4.19		4.02	2.05	5.06	13.27
320F	4.47		4.64	3.60	8.89	17.99
325F	4.53		5.85	3.70	9.13	19.52
330F	6.57		6.45	5.15	12.71	25.73
349F	7.40		6.59	9.75	24.07	38.05
374F	6.78		10.04	10.30	25.42	42.24
390F	6.17		13.48	11.75	29.00	48.66
Scrapers						
631K	7.45	9.17	8.44	15.12	37.32	62.38
637K	12.37	9.17	10.60	24.35	60.09	92.24
Wheeled Loaders						
926M	3.40	2.77	4.44	1.80	4.44	15.04
930M	3.98	2.77	4.59	1.90	4.69	16.02
950M	4.95	4.17	8.54	3.10	7.65	25.30
966M	5.16	6.63	10.72	3.75	9.26	31.77
972M	5.83	6.63	13.57	4.15	10.24	36.28
980M	5.83	6.98	13.57	5.50	13.58	39.96
988K	10.93	10.97	14.54	10.40	25.67	62.11
990K	11.52	17.71	23.96	17.60	43.44	96.63
992K	12.11	24.45	33.38	23.00	56.77	126.72

Closure Cost Estimate
Equipment Costs

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994K	13.32	26.90	36.72	41.40	102.19	179.13
L2350				66.00	162.91	162.91
Shovels						
PC2000				37.00	91.33	91.33
PC3000				50.00	123.42	123.42
PC4000				70.00	172.79	172.79
PC5500				119.00	293.74	293.74
PC8000				149.00	367.79	367.79
EX2500				51.00	125.89	125.89
Hydraulic Hammers						
H120Es (fits 325)	N/A		5.55			5.55
H160Es (fits 349)	N/A		10.58			10.58
H180Es (fits 374/390)	N/A		12.53			12.53
Demolition Shears						
S3050 (fits 320/325/330)	N/A					0.00
S3070 (fits 330/349)	N/A					0.00
S30[illegible] (fits 37[illegible]390)	N/A					0.00
Demolition Grapples						
G315B (fits [illegible]/325)	N/A					0.00
G330B (fits 325[illegible]30)	N/A					0.00
G3[illegible] (fits 349[illegible]74)	N/A					0.00
Other Equipment						
420F2	4.12	0.71	3.57	4.30	10.61	19.02
430F2	3.91	0.71	3.68	4.70	11.60	19.90
CS54B			N/A	3.35	8.27	8.27
CS64B			N/A	3.35	8.27	8.27
CP54B			N/A	3.35	8.27	8.27
CP68B			N/A	3.60	8.89	8.89
Light Truck - 1.5 Ton		0.19	N/A	1.50	3.70	3.89
Supervisor's Truck		0.19	N/A	1.00	2.47	2.66
Flatbed Truck		1.05	N/A	4.70	11.60	12.65
Air Compressor + tools			N/A	1.00	2.47	2.47
Welding Equipment			N/A	2.00	4.94	4.94
Heavy Duty Drill Rig			N/A	12.00	29.62	29.62
Pump (plugging) Drill Rig			N/A	10.00	24.68	24.68
Concrete Pump			N/A	10.00	24.68	24.68
Gas Engine Vibrator			N/A	1.00	2.47	2.47
Generator 5KW			N/A	1.50	3.70	3.70
HDEP Welder (pipe or liner)			N/A	2.00	4.94	4.94
5 Ton Crane			N/A	3.00	7.41	7.41
20 Ton Crane			N/A	4.00	9.87	9.87
50 Ton Crane			N/A	4.70	11.60	11.60
120 Ton Crane			N/A	5.20	12.84	12.84
Trucks						
725C2	8.20	14.06	3.19	5.05	12.47	37.92

Superseded

Closure Cost Estimate
Equipment Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm

730C2	8.20	14.06	3.19	5.40	13.33	38.78
735C	8.20	22.38	3.19	6.95	17.16	50.93
740C	8.20	23.57	3.19	7.80	19.25	54.21
770G	6.08	4.29	3.57	4.95	12.22	26.16
773G	7.52	9.04	4.02	8.25	20.36	40.94
777G	10.76	16.05	4.49	13.55	33.45	64.74
785D	11.84	22.07	4.94	25.10	61.96	100.80
789D	13.03	24.27	5.43	36.85	90.96	133.69
793F	14.33	26.70	5.97	44.75	110.46	157.46
797F	15.77	29.37	6.57	67.65	166.99	218.70
613E (5,000 gal)	5.87	3.71	0.00	6.00	14.81	24.38
621E (8,000 gal)	6.23	7.16	0.00	10.75	26.54	39.93
777G H2O Truck	10.76	16.05	4.49	13.55	33.45	64.74
785D H2O Truck	11.84	22.07	4.94	25.10	61.96	100.80
Dump Truck (10-12 yd3)	N/A	0.85	N/A	5.20	12.84	13.68
Tractor/Trailer (20 ton)	N/A		N/A	14.00	34.56	34.56
Tractor/Trailer (50 ton)	N/A		N/A	18.00	44.43	44.43
Tractor/Trailer (100 ton)	N/A		N/A	22.00	54.30	54.30

Notes:

(1) [illegible] Source

(2) G.[illegible]. Source

(3) Fuel [illegible]e Source: Caterpillar Handbook, Edition 4[illegible] Ch. 20; or estimated average for smaller vehicles

Superseded

Closure Cost Estimate
Equipment Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm

Superseded

TIRE COST TABLES

Equipment	Tire Size	# of Tires Per Piece of Equipment	Cost Per Tire	Tire Cost (1)(2) $	Life Expectency Hours (Low/Zone A) (3)	Tire Cost per Hour $/hr
Bulldozers						
D6T			N/A			
D6R w/ Winch			N/A			
D7E			N/A			
D8T			N/A			
D9T			N/A			
D10T2			N/A			
D11T			N/A			
Wheeled Dozers						
824K	29.5R25	4		0	3,500	0.00
[illegible]	35/65-R33	4		0	3,500	0.00
844K	45/65-R39	4		0	3,500	0.00
[illegible]	[illegible]45	[illegible]		0	[illegible]	0.00
Motor Graders						
12M2	13PF[illegible]	[illegible]	2,[illegible]5	13,529	3,500	3.87
[illegible]	[illegible]25	[illegible]	3,0[illegible]	[illegible]	[illegible]	5.29
16M3	23.5R25	6	4,175	25,053	3,500	7.16
24M	23.5R25	6	4,593	27,558	3,500	7.87
Track Excavators						
312F			N/A			
320F			N/A			
325F			N/A			
330F			N/A			
349F			N/A			
374F			N/A			
390F			N/A			
Scrapers						
631K	37.25R35	4	9,171	36,686	4,000	9.17
637K	37.25R35	4	9,171	36,686	4,000	9.17
Wheeled Loaders						
926M	17.5R25	4	3,111	12,443	4,500	2.77
930M	17.5R25	4	3,111	12,443	4,500	2.77
950M	26.5R25	4	4,686	18,746	4,500	4.17
966M	26.5R25	4	7,462	29,846	4,500	6.63
972M	26.5R25	4	7,462	29,846	4,500	6.63
980M	29.5R25	4	7,855	31,420	4,500	6.98
988K	35/65-33	4	12,336	49,344	4,500	10.97
990K	41.25/70-39	4	19,921	79,686	4,500	17.71
992K	45/65R45	4	27,507	110,028	4,500	24.45

Closure Cost Estimate
Equipment Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm

994K	55/85R57	4	30,258	121,031	4,500	26.90
L2350	55/85R57	4		0	4,500	
Shovels						
PC2000			N/A			
PC3000			N/A			
PC4000			N/A			
PC5500			N/A			
PC8000			N/A			
EX2500			N/A			
Hydraulic Hammers						
H120Es (fits 325)			N/A			
H160Es (fits 349)			N/A			
H180Es (fits 374/390)			N/A			
Demolition Shears						
S3050 (fits 320/325/330)			N/A			
S3070 (fits 330/349)			N/A			
S30[illegible] (fits 37[illegible]390)			N/A			
Demolition Grapples						
G315B (fits [illegible]/325)			N/A			
G320B (fits 325/330)			N/A			
G3[illegible] (fits 349/374)			N/A			
Other Equipment						
420F2	340/80R18-19.5LR24	2	1,067	2,134	3,000	0.71
430F2	340/80R18-16.9R28	2	1,067	2,134	3,000	0.71
CS54B			N/A			
CS64B			N/A			
CP54B			N/A			
CP68B			N/A			
Light Truck - 1.5 Ton		4	144	574	3,000	0.19
Supervisor's Truck		4	144	574	3,000	0.19
Flatbed Truck		22	144	3,158	3,000	1.05
Air Compressor + tools			N/A			
Welding Equipment			N/A			
Heavy Duty Drill Rig		4		0	3,000	
Pump (plugging) Drill Rig		4		0	3,000	
Concrete Pump			N/A			
Gas Engine Vibrator			N/A			
Generator 5KW			N/A			
HDEP Welder (pipe or liner)			N/A			
5 Ton Crane		4		0	3,000	
20 Ton Crane		4		0	3,000	
50 Ton Crane		6		0	3,000	
120 Ton Crane		6		0	3,000	
Trucks						
725C2	23.5R25	6	4,686	28,119	2,000	14.06

Superseded

Closure Cost Estimate
Equipment Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm

730C2	23.5R25	6	4,686	28,119	2,000	14.06
735C	26.5R25	6	7,462	44,769	2,000	22.38
740C	29.5R25	6	7,855	47,131	2,000	23.57
770G	18.00R33	6	4,294	25,766	6,000	4.29
773G	24.00R35	6	7,532	45,189	5,000	9.04
777G	27.00R49	6	13,374	80,242	5,000	16.05
785D	33.00R51	6	14,711	88,266	4,000	22.07
789D	40.00R57	6	16,182	97,092	4,000	24.27
793F	40.00R57	6	17,800	106,802	4,000	26.70
797F	40.00R57	6	19,580	117,482	4,000	29.37
613E (5,000 gal)	23.5R25	6	3,709	22,254	6,000	3.71
621E (8,000 gal)	33.25R29	6	9,551	57,307	8,000	7.16
777G H2O Truck	27.00R49	6	13,374	80,242	5,000	16.05
785D H2O Truck	33.00R51	6	14,711	88,266	4,000	22.07
Dump Truck (10-12 yd3)		10	508	5,078	6,000	0.85
Tractor/Trailer (20 ton)			N/A			
Tractor/Trailer (50 ton)			N/A			
Tractor/Trailer (x ton)			N/A			

Notes:

(1) Unit Cost Basis	
(2) Cost Basis	Cost per set
(3) Tire Cost Source	Total cost for all required tires.
(4) Tire Weight	Public Tire Quote - 2018

Superseded

Closure Cost Estimate
Material Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsr
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Superseded

Revegetation Materials

Seed Mixes

Seed Mix	Description	Cost $/acres
None		
Mix 1	Basins	308.55
Mix 2	Low Hills	339.41
Mix 3	Uplands	370.26
Mix 4	Riparian or Custom	401.12
User Mix 1	**Permit Approved Seed Mix**	**$750.67**
User Mix 2		
User Mix 3		
User Mix 4		

	Cost/lb	lbs/Ac	Cost/Acre
User Mix 5 (from Seed Mix sheet)	9.94	27.21	270.43

Notes:

Mulch

Item	Cost/lb	lbs/Acre	Cost $/acres
None			
Straw Mulch	0.17	**10**	1.65
Hydro Mulch	0.26	**10**	2.55
Timber Mulch		**10**	
		10	

Notes:
Granite Seed $500 per Ton in 50 lb bag Wood (Hydro) Mulch (July 2018)

Closure Cost Estimate
Material Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsr
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**

Amendments			
Item	**Cost/lb**	**lbs/Acre**	**Cost** $/acres
None			
Organic Matter	0.71	**10**	7.14
Treated Sludge		**10**	
Chemical	0.60	**10**	6.02
		10	

Notes: Western Nevada Supply $29.34 per 50 lb. bag 15-15-15 (June 2018)

Superseded

Closure Cost Estimate
Material Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsr
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Well Abandonment Materials

Description	Cost/50lb bag	Units	Cost*
			$/unit
Cement	7.72	cy	36.77
Grout (Low Grade Bentonite)	8.82	cy	42.01
Inert Material/Cuttings		cy	

(1) Jentech Drilling Supply quote (June 2018) Type I,II Cement at $14.24 per 94 lb. bag
(2) Jentech Drilling Supply (June 2018) 3/8 in. Chunk Bentonite Hole Plug at $8.65 per 50 lb. bag (5.75 cf/bag at 4

* Assumes 1 bag mixes with water to make 0.21 y3 or 0.16 m3 of grout/cement slurry.

Monitoring Costs

Description	Units	Cost
		$/unit
Monitor Well Pump	ea.	2,567.02
Sampling Supplies	ea.	6.00
Water Analysis (Profile I) (1)	ea.	419.22
Leach Test (MWMP) w/ analysis	ea.	492.66
ABA + S speciation	ea.	153.00
WAD Cyanide in water	ea.	57.12
Water Analysis (Profile II) (1)	ea.	470.22
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
Cyanide - Total Water	**ea.**	**$41.32**
Water Analysis (Complete) (1)	**ea.**	**$515.81**

Superseded

Closure Cost Estimate
Material Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsr
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

(1) WET Lab, Reno, Nevada (June 2018)		
Well pump and Sample supply costs adjusted to 2018.		
Original source unknown.		

Superseded

Closure Cost Estimate
Material Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsr
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Fuel, Etc.

Description	Units	Cost	User Overrides
		$/unit	
Off-road Diesel - delivered (1)	gal	2.468	
Pickup Truck Mileage	$/mi	0.556	
Electical Power	$/kWh	0.080	

Revegetation Method				
Slopes				
Disturbance Type	**Seed Application Method**	**Labor** $/acres	**Equipment** $/acres	**Total** $/acres
Waste Rock Dumps	**Mechanical Broadcast**	102.00	38.76	140.76
Heap Leach	**Mechanical Broadcast**	102.00	38.76	140.76
Tailings	**Mechanical Broadcast**	102.00	38.76	140.76
Quarries & Borrow Pits	**Mechanical Broadcast**	102.00	38.76	140.76
Flat Areas and Undifferentiated				
Disturbance Type	**Seed Application Method**	**Labor** $/acres	**Equipment** $/acres	**Total** $/acres
Exploration Trenches	**Mechanical Broadcast**	102.00	38.76	140.76
Exploration Roads	**Mechanical Broadcast**	102.00	38.76	140.76
Waste Rock Dumps	**Mechanical Broadcast**	102.00	38.76	140.76
Heap Leach	**Mechanical Broadcast**	102.00	38.76	140.76
Tailings	**Mechanical Broadcast**	102.00	38.76	140.76
Quarries & Borrow Pits	**Mechanical Broadcast**	102.00	38.76	140.76
Roads	**Mechanical Broadcast**	102.00	38.76	140.76
Pits	**Mechanical Broadcast**	102.00	38.76	140.76
Haul Material	**Mechanical Broadcast**	102.00	38.76	140.76
Foundations & Buildings	**Mechanical Broadcast**	102.00	38.76	140.76
Sediment & Drainge Control	**Mechanical Broadcast**	102.00	38.76	140.76
Process Ponds	**Mechanical Broadcast**	102.00	38.76	140.76
Landfills	**Mechanical Broadcast**	102.00	38.76	140.76
Yards, Etc.	**Mechanical Broadcast**	102.00	38.76	140.76
Revegetation Maintenance	**Mechanical Broadcast**	102.00	38.76	140.76

Superseded

Closure Cost Estimate
Misc. Unit Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Superseded

Revegetation

	Means Number	Unit	Crew	Daily Output	Daily Output User	Materials	Labor	Equipment	Total	Notes
Seeding - Broadcast Manual		acres					142.80	51.00	193.80	
Seeding - Broadcast Mechanical		acres					102.00	38.76	140.76	
Seeding - Drill		acres		365			142.80	102.00	244.80	
Seeding - Hydroseeding				365			255.00	127.50	382.50	
Shrub Planting - bare root 6-10 in (150- 250mm)	02910-400-0561	ea.	1 Clab	365			0.82	0.00	0.82	
Tree Planting - bare root 11-16 in (270- 400mm)	02910-400-0562	ea.	1 Clab	260			1.15	0.00	1.15	
Cactus Planting		ea.	1 Clab						0.00	
NOTES:										
Seeding Source:	Source: Kelley Erosion Control (June 2018).									
Shrub Source:										
Tree Source:										
Cactus Source:										

Building and Wall Demolition

Hourly productivity rates and crew composition from Means Heavy Construction 2005 [illegible] of R.S. Means Reed Construction Data .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	Means Number	Unit	Crew	Daily Output	Daily Output User	Labor	Equipment	Premium	Total	Notes
Building Demolition										
Lg. steel	02220-110-0012	C.F.	B-8	21500		0.13	0.12		0.25	
Lg. concrete	02220-110-0050	C.F.	B-8	15300		0.19	0.17		0.36	
Lg. masonry	02220-110-0080	C.F.	B-8	20100		0.14	0.13		0.27	
Lg. mixed	02220-110-0100	C.F.	B-8	20100		0.14	0.13		0.27	
Sm. steel	02220-110-0500	C.F.	B-3	14800		0.16	0.12		0.28	
Sm. concrete	02220-110-0600	C.F.	B-3	11300		0.21	0.16		0.37	
Sm. masonry	02220-110-0650	C.F.	B-3	14800		0.16	0.12		0.28	
Sm. wood	02220-110-0700	C.F.	B-3	14800		0.16	0.12		0.28	
Wall Demolition										
Block 4 in (100 mm) thick	02220-130-2000	S.F.	1 Clab	180		1.66	0.00	20%	1.99	
Block 6 in (150 mm) thick	02220-130-2040	S.F.	1 Clab	170		1.75	0.00	20%	2.10	
Block 8 in (200 mm) thick	02220-130-2080	S.F.	1 Clab	150		1.99	0.00	20%	2.39	
Block 12 in (300 mm) thick	02220-130-2100	S.F.	1 Clab	150		1.99	0.00	20%	2.39	
Conc 6 in (150 mm) thick	02220-130-2400	S.F.	B-9	160		1.86	1.51	10%	3.71	
Conc 8 in (200 mm) thick	02220-130-2420	S.F.	B-9	140		2.13	1.72	10%	4.24	
Conc 10 in (250 mm) thick	02220-130-2440	S.F.	B-9	120		2.48	2.01	10%	4.94	
Conc 12 in (300 mm) thick	02220-130-2500	S.F.	B-9	100		2.98	2.41	10%	5.93	

Closure Cost Estimate
Misc. Unit Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Waste Disposal

Unit rates from Means Heavy Construction 2006 Edition by permission of R.S.Means/Reed Construction Data .

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment		Total	Notes
Rubbish Handling										
Dumpster delivery (average for all sizes)	02220-350-0910	ea.			57.12				57.12	
Haul (average for all sizes)	02220-350-0920	ea.			178.50				178.50	
Rent per month (average for all sizes)	02220-350-0940	ea.			60.69				60.69	
Disposal fee per ton (tonne) (average for all sizes)	02220-350-0950	ton			66.81				66.81	
NOTES:										
Dumpster Cost Source:	R.S. Means Heavy Construction (2018 Q2).									
Disposal Fee Source:	R.S. Means Heavy Construction (2018 Q2).									
Hazardous Material Handling - Solids (+ Liquids in drums)										
Pickup fees 55 gal. drums	02110-[illegible]	ea.			264.18				264.18	
Bulk material (average)	02110-3[illegible]-1220/1250	ton			431.46				431.46	
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	02110-300-[illegible]/1270	mile			[illegible].90				5.9[illegible]	
Dump site disposal fee	02110-300-6000/6020	ton			3[illegible].47				[illegible]4.	
NOTES:										
Solid Handling Cost Source:	R.S. Means [illegible] Construction [illegible]6, Q									
Solid Disposal Fee Source:	2016, Q2 R.S. Means Heavy Const. ave. [illegible]2 81									
Hazardous Material Handling - Liquids										
Vacuum Truck Pickup (2200 gal or 9,700 litres)	02110-300-3110	hr.			155.04				155.04	
Vacuum Truck Pickup (5000 gal or 2,000 litres)	02110-300-3120	hr.			224.40				224.40	
Dump site disposal fee	02110-300-6000/6020	ton			304.47				304.47	
NOTES:										
Liquid Handling Cost Source:	R.S. Means Heavy Construction (2018 Q2).									
Liquid Disposal Fee Source:	2018 Q2 R.S. Means Heavy Const. ave. 02 81									
Hydrocarbon Contaminated Soils (HCS)										
Insitu Biotreatment	02115-200-2020/2021	C.Y.			19.09				19.09	
HCS disposal fee	02115-200-2050/2055	C.Y.			294.27				294.27	
NOTES:										
Insitu Treatement Cost Source:	2018 Q2 R.S. Means Heavy Const., ave. 02 65									
HCS Disposal Fee Source:	2018 Q2 R.S. Means Heavy Const., ave. 02 65									

Superseded

Closure Cost Estimate
Misc. Unit Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Superseded

Concrete Structure Installation

Weekly dumpster rental rates from Means Heavy Construction 2005 Edition with permission by R.S.Means/Reed Construction Data .
Weekly dumpster rental rates include haul to off-site disposal site and disposal fees

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Reinforced Concrete Bulkheads and Shaft Covers										
Grade walls - 15 in thick, 8 ft high	03310-240-4300	C.Y.	C-14D	80.02	170.34	123.14	17.18		310.66	includes reinforcing
Grade walls - 15 in thick, 12 ft high	03310-240-4350	C.Y.	C-14D	26.2	170.34	376.10	52.47		598.91	includes reinforcing
Elevated conc, 1-way beam & slab - 15ft span	03310-240-2700	C.Y.	C-14B	20.59	295.80	485.77	66.77		848.34	includes reinforcing
Elevated conc, 1-way beam & slab - 25ft span	03310-240-2750	C.Y.	C-14B	28.36	281.52	352.68	48.48		682.68	includes reinforcing
Bat Gate/Foam Plug Installation										
Bat Gate		ea.			3,100.23					materials $/ea. Installed
Culvert Gate		ea.			6,200.45					materials $/ea. Installed
Adit Foam Plug		ea./C.Y.			310.02					materials $/cy placed
Production Opening Foam Plug		ea./C.Y.			310.02					materials $/cy placed
NOTES:										
Bat Gate Source:	NV BLM, 2006: 8 hr + 1hr mob/demob + 1hr setup per gate (adjusted to 2018)									
Foam Plug Source:	NV BLM, 2006: 8hr + 1hr mob/demob + 1hr setup per adit, 100 cy per production opening (adjusted to 2018)									

Closure Cost Estimate
Misc. Unit Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Superseded

Misc. Linear Projects

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Fencing Installation										
Barbed 3-strand	02820-170-1650	L.F.	B-80A	760	0.49	1.79	0.31		2.59	
Barbed 4-strand	extrapolated	L.F.	B-80A	570	0.65	2.38	0.42		3.45	
Barbed 5-strand	02820-130-0920	L.F.	B-80A	456	0.82	2.98	0.52		4.32	
Chain link 8 ft -10 ft Install	02820-130-0920	L.F.	B-80C	180	39.78	7.54	1.33		48.65	
Wood stockade fence 6 ft high - Install	02820-510-1240	L.F.	B-80C	150	16.27	9.05	1.59		26.91	
	user	L.F.							0.00	
	user	L.F.							0.00	
	user	L.F.							0.00	
	user	L.F.							0.00	
Fencing Removal										
Barbed 3-strand Removal	02220-220-1600	L.F.	2 Clab	43		2.46	0.5		3.[illegible]	
Barbed 4-strand Removal	extrapolated	L.F.	2 Clab	35		2.8	0.6		3.[illegible]	
Barbed 5-strand Removal	02220-[illegible]	L.F.	2 Clab	280		2.78	0.85		4.63	
Chain link 8 ft -10 ft Removal	02220-220-1700	L.F.	B-6	445		2.41	0.88		3.29	
Wood, all types 4 ft -6 ft high Removal	02220-220-1775	L.F.	2 Clab	430		2.46	0.56		3.02	
	user	L.F.								
	user	L.F.							0.00	
	user	L.F.							0.00	
	user	L.F.							0.00	
Culvert Removal										
12 in (300 mm) Diameter	02220-220-2900	L.F.	B-6	175		6.13	2.25		8.38	
18 in (450 mm) Diameter	02220-220-2930	L.F.	B-6	150		7.16	2.62		9.78	
24 in (600 mm) Diameter	02220-220-2960	L.F.	B-6	120		8.95	3.28		12.23	
36 in (1m) Diameter	02220-220-3000	L.F.	B-6	90		11.93	4.37		16.30	
Pipeline Removal										
Plastic Pipe 3/4 in (mm) - 4 in (100 mm) diameter	02220-381-1600	L.F.	B-20	700		2.49	0.34		2.83	
6 in (150 mm) - 8 in (200 mm)	02220-381-1700	L.F.	B-20	500		3.49	0.48		3.97	
10 in (250 mm) - 18 in (450 mm)	02220-381-1800	L.F.	B-20	300		5.81	0.80		6.61	
20 in (500 mm) - 36 in (1 m)	02220-381-1900	L.F.	B-20	200		8.72	1.19		9.91	
Pipe and Drainpipe Installation										
Water 4in (100mm) 40ft (12m) length, welded HDPE	02510-760-0100	L.F.	B-22A	400	2.24	5.78	4.82		12.84	
Water 6in (150mm) 40ft (12m) length, welded HDPE	02510-760-0200	L.F.	B-22A	380	5.07	6.08	5.07		16.22	
Water 12in (300mm) 40ft (12m) length, welded HDPE	02510-760-0500	L.F.	B-22A	260		8.89	7.41		16.30	
Drain 4in (100mm) perforated PVC	02620-630-2100	L.F.	B-14	315	1.47	8.93	1.76		12.16	
Drain 6in (150mm) perforated PVC	02620-630-2110	L.F.	B-14	300	3.13	9.38	1.85		14.36	
Drain 4in (100mm) corrugated, perf or plain	02620-660-0040	L.F.	2 Clab	1200	0.66	0.88	0.20		1.74	

Closure Cost Estimate
Misc. Unit Costs

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Drain 6in (150mm) corrugated., perf or plain	02620-660-0060	L.F.	2 Clab	900	1.68	1.18	0.27		3.13	
Note: HDPE Water Pipe in 40ft (12m) lengths, welded										

Superseded

Closure Cost Estimate
Misc. Unit Costs

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Superseded

Drain Rock Preparation										
Crushing		C.Y.							0.51	
Screening		C.Y.							0.51	
TOTAL									1.02	
Misc.										
Backhoe work	02210-700-0120	C.Y.	B-11M	28		17.11	11.26		28.37	
Powerline and Transformer Removal										
Single Pole Powerlines		mile							43,087.58	
Double Pole Powerlines		mile							49,242.95	
Substation		ea.							30,879.58	
NOTES:										
Single Pole Source:	NV Energy estimate (2009) Adjusted to 2018									
Double Pole Source:	NV Energy estimate (2009) Adjusted to 2018									
Transformer Source:	Sierra PacificPower Company estimate (2004) adjusted to 2018 +2% inflation (2019)									
Erosion and Sedimentation Control										
Hourly productivity rates and crew composition from Means Heavy Construction 2009 Edition by permission of R.S. Means/Reed Construction Data.										
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Cost spreadsheets.										
* some crews modifed to reflect actual crews used for riprap placement at mine sites										

	Means Number	Unit	Crew	Means Daily Output	Materials	Labor	Equipment	User Daily Output	Total	Notes
Rip-Rap & Rock Lining										
Rip-Rap 3/8 to 1/4 CY pieces, grouted	02370-450-0110	S.Y.	B-13	80	29.07	29.42	9.31		67.80	assumes on-site source of rip-rap
Rip-Rap 18-inch min thick, no grout	02370-450-0200	S.Y.	B-13	53	8.93	44.41	14.05		67.39	assumes on-site source of rip-rap
Rip-Rap 3/8 to 1/4 CY pieces, grouted	02370-450-0110*	S.Y.	B-12G	80	29.07	17.82	22.14		69.03	assumes on-site source of rip-rap
Rip-Rap 18-inch min thick, no grout	02370-450-0200*	S.Y.	B-12G	53	8.93	26.90	33.42		69.25	assumes on-site source of rip-rap
Gabions, 6 in (150 mm) deep	02370-450-0400	S.Y.	B-13	200	8.82	11.77	3.72		24.31	assumes on-site source rock fill for gabions
Gabions, 9 in (250 mm) deep	02370-450-0500	S.Y.	B-13	163	10.91	14.44	4.57		29.92	assumes on-site source rock fill for gabions
Gabions, 12 in (300 mm) deep	02370-450-0200	S.Y.	B-13	153	14.64	15.38	4.87		34.89	assumes on-site source rock fill for gabions
Gabions, 18 in (450 mm) deep	02370-450-0200	S.Y.	B-13	102	20.91	23.08	7.30		51.29	assumes on-site source rock fill for gabions
Gabions, 36 in (1m) deep	02370-450-0200	S.Y.	B-13	60	35.19	39.23	12.41		86.83	assumes on-site source rock fill for gabions
HDEP Liner Installation										
Finish grading large area	2310-100-0100	S.F.	B-11L	54000		0.01	0.02		0.03	
Compaction-riding, vibrating roller - 12in (300mm) lifts	2315-310-5100	C.Y.	B-10Y	2600		0.29	0.19		0.48	
Geotextile	2660-610-0010	S.F.	3 Skwk	1600		0.87	0.51		1.38	
Geonet	2660-610-0010	S.F.	3 Skwk	1600		0.87	0.51		1.38	
Geogrid	2660-610-0010	S.F.	3 Skwk	1600		0.87	0.51		1.38	
60 mil HDPE	2660-610-0010	S.F.	3 Skwk	1600	0.44	0.87	0.51		1.82	
80 mil HDPE	user	S.F.	3 Skwk	149	$9.00	9.31	5.53		23.84	
40 mil VLDPE	user	S.F.	3 Skwk	150	$7.00	9.25	5.49		21.74	

Closure Cost Estimate
Misc. Unit Costs

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

		user	S.F.	3 Skwk						0.00
		user	S.F.	3 Skwk						0.00
Transport Costs										
Ship/Barge Transport Cost			cost/lb/mi							
Rail Transport Cost			cost/lb/mi							
Air Transport Cost			cost/lb/mi							
Escort Vehicle Deadhead Rate ($/mi)			cost/lb/mi							

Superseded

Closure Cost Estimate
Misc. Unit Costs

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Construction Management Support

Office Trailer, Furnished, no hook-ups	0150-500-0250	mo.			211.14				211.14	
Toilet Portable, chemical	1590-400-6410	mo.			220.12				220.12	
TOTAL					431.26				431.26	

Pump and Casing Removal

	Pump Type	Measurement	Unit				Labor	Equipment		Total	Notes
Pump Removal											
Submersible			L.F.				6.16	16.58		22.74	
Line Shaft			L.F.				6.16	16.58		22.74	
NOTES:											
Pump Removal Source:	Boart Longyear Quote: June 2018										

Superseded

Closure Cost Estimate
Seed Mixture

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Seed Mixture

Common Name	Scientific Name	Species Number of Seeds / lb	Species % in Mix	PLS/acre	Cost/Lb	Cost/Acre
Grasses						
Ephraim Crested Wheatgrass	*Agropyron Cristatum var. Ephraim*			1.24	1.87	2.32
Thickspike Wheatgrass	*Agropyron dasystrachyum*	154,000	4.40	1.24	2.40	2.98
Bluebunch Wheatgrass	*Agropyron spicatum*	117,000	23.42	8.65	6.60	57.09
Great Basin Wildrye	*Elymus cinereus*	95,000	8.15	6.18	10.20	63.04
Big Bluegrass	*Poa ampla*	917,000	13.11	0.62	2.47	1.53
Indian Ricegrass	*Oryzopsis hymenoides*	188,000	5.38	1.24	7.80	9.67
Sandberg Bluegrass	*Poa secunda*	925,000	13.23	0.62	6.00	3.72
Forbs						
Blue Flax				0.62		
Small Burnet	*Sanguisorba minor*	55,000	1.[illegible]	[illegible]24		
Forage Kochia	*Kochia prostrata var. Immigrant*	407,700	2.33	0.25		
Palmer Penstemon	*Penstemon palmeri*	610,000	3.49	0.25		
Shrubs						
Fourwing Saltbush	*Atriplex canescens*	52,000	5.95	1.85	9.60	17.76
Antelope Bitterbrush	*Purshia tridentate*	15,000	0.43	2.47	33.60	82.99
Winterfat	*Eurotia lanata*	111,000	1.59	0.62	34.62	21.46
Wyoming Big Sagebrush	*Artemesia tridentata wyomingensis*	2,500,000	7.15	0.12	66.00	7.92
Total				**27.21**		**270.48**

Superseded

Source:

Notes:

Closure Cost Estimate
Fleets (Crews)

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
RIPPING						
Rip road						
Waste rock dumps, heaps, tails - rip flat surfaces						
Surface preparation						
Scarify						
Small Dozer w/ multi-shank						
D7E				99.43	58.86	158.29
Totals				99.43	58.86	158.29
Medium Dozer w/ multi-shank						
D9T				204.88	58.86	263.74
Totals				204.88	58.86	263.74
Large Dozer w/ multi-shank						
D10T2				282.21	58.86	341.07
Totals				282.21	58.86	341.07
Grader w/ multi-shank						
16M3				183.34	59.90	243.24
Totals				183.34	59.90	243.24
GRADING						
Grading storage and structure areas						
Grading waste rock dumps and heaps						
Grading landfills						
Constructing pit safety berms						
Small Dozer Fleet						
D7E				99.43	58.86	158.29
Totals				99.43	58.86	158.29
Medium Dozer Fleet						
D9T				204.88	58.86	263.74
Totals				204.88	58.86	263.74
Large Dozer Fleet						
D10T2				282.21	58.86	341.07
Totals				282.21	58.86	341.07
EXPLORATION GRADING						
Backfilling and grading exploration trenches						
Grading flat exploration roads						
Small Dozer Fleet						
D7E				99.43	58.86	158.29
Totals				99.43	58.86	158.29
Medium Dozer Fleet						
D9T				204.88	58.86	263.74
Totals				204.88	58.86	263.74
Large Dozer Fleet						
D10T2				282.21	58.86	341.07
Totals				282.21	58.86	341.07

Superseded

Closure Cost Estimate
Fleets (Crews)

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
EXCAVATING						
Earthen Berms						
Diversion ditch excavation and backfill						
Underground openings backfill - excavate and place						
Pit berm construction (excavator option)						
Small Excavator						
325F				90.28	60.19	150.47
Totals				90.28	60.19	150.47
Medium Excavator						
349F				129.09	60.19	189.28
Totals				129.09	60.19	189.28
Large Excavator						
390F				192.10	60.19	252.29
Totals				192.10	60.19	252.29
EXCAVATE AND RECONTOUR						
Recontour large roads (haul roads, access roads, etc.)						
Ponds - Excavate and pull liner and bury						
Small Excavator + Dozer						
325F				90.28	60.19	150.47
D7E				99.43	58.86	158.29
Total Equipment				189.71	119.05	308.76
Medium Excavator + Dozer						
349F				129.09	60.19	189.28
D9T				204.88	58.86	263.74
Totals				333.97	119.05	453.02
Large Excavator + Dozer						
390F				192.10	60.19	252.29
D10T2				282.21	58.86	341.07
Totals				474.31	119.05	593.36
EXPLORATION ROAD/PAD RECONTOUR						
Recontour small roads (exploration roads, service roads, etc.)						
Cut and Fill reclamation on slopes						
Drill pad recountour						
Drill sump backfill						
Small Dozer						
D7E				99.43	58.86	158.29
Totals				99.43	58.86	158.29
Large Dozer						
D10T2				282.21	58.86	341.07
Totals				282.21	58.86	341.07
Grader						
14M				131.19	59.90	191.09
Totals				131.19	59.90	191.09
Small Excavator						
320F				60.71	60.19	120.90
Totals				60.71	60.19	120.90
Medium Excavator						
349F				129.09	60.19	189.28
Totals				129.09	60.19	189.28
LOAD CRUSHER/TRAM BACKFILL						
Load crusher with wheeled loader						
Tram backfill into portals						

Superseded

Closure Cost Estimate
Fleets (Crews)

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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
Small Crusher Loader Fleet						
988K		1		195.98	60.19	256.17
Totals				195.98	60.19	256.17
Medium Crusher Loader Fleet						
990K		1		354.82	60.19	415.01
Totals				354.82	60.19	415.01
Large Crusher Loader Fleet						
992K		1		509.22	62.17	571.39
Totals				509.22	62.17	571.39
Extra Large Crusher Loader Fleet						
994K		1		599.88	62.17	662.05
Totals				599.88	62.17	662.05

COMPACT COVER

From Means Heavy Construction - Costs in Misc. Unit Costs. Assumes compaction-riding, vibrating roller - 12in (300mm) lifts

Compactor						
CS54B		1		62.27	57.84	120.11
Totals				62.27	57.84	120.11

LOAD, HAUL AND PLACE MATERIAL

Rock placement
Haul overburden for backfill
Haul borrow for backfill
Haul cover or growth media

Superseded

Closure Cost Estimate
Fleets (Crews)

Project Name: Grassy Mountain Mine - Reclamation Plan
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Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
Small Truck/Loader Fleet						
740C				149.84	38.08	187.92
988K	**Loader**			195.98	60.19	256.17
D7E		1		99.43	58.86	158.29
Totals				445.25	157.13	602.38
Medium Truck/Loader Fleet						
785D				479.47	38.08	517.55
992K	**Loader**			509.22	62.17	571.39
D8T		1		164.48	58.86	223.34
Totals				1,153.17	159.11	1,312.28
Large Truck/Loader Fleet						
777G				408.99	38.08	447.07
992K	**Loader**			509.22	62.17	571.39
D9T		1		204.88	58.86	263.74
Totals				1,123.09	159.11	1,282.20
Extra Large Truck/Loader Fleet						
789D				517.08	38.08	555.16
994K	**Loader**			599.88	62.17	662.05
D11T		1		519.01	58.86	577.87
Totals				1,635.97	159.11	1,795.08
Scraper/Dozer Fleet						
631K				177.13	59.67	236.80
D10T2				282.21	58.86	341.07
D10T2		1		282.21	58.86	341.07
Totals				741.55	177.39	918.94
Tandem Scraper Fleet						
637K				315.36	60.19	375.55
D7E		1		99.43	58.86	158.29
Totals				414.79	119.05	533.84
MISC. LOAD AND HAUL AND EARTHWORKS						
Sludge removal						
Drainage controls						
Misc. - Cat 325B Excavator / 10-12 yd3 Truck						
325F				90.28	60.19	150.47
Dump Truck (10-12 yd3)				88.44	38.08	126.52
Totals				178.72	98.27	276.99
Misc. - Cat D9R Dozer/ Loader (5 yd3) / 10-12 yd3 Truck						
D9T				204.88	58.86	263.74
966M				101.26	60.19	161.45
Dump Truck (10-12 yd3)				88.44	38.08	126.52
Totals				394.58	157.13	551.71
Misc. - Cat D6 Dozer / Cat 966 Loader / 10-12 yd3 Truck						
D6T				94.73	58.86	153.59
966M				101.26	60.19	161.45
Dump Truck (10-12 yd3)				88.44	38.08	126.52
Totals				284.43	157.13	441.56
LINER REMOVAL						
Liner removal						
Small - Cat 325B Excavator w/ H140D s Hammer						
325F				90.28	60.19	150.47
General Laborer		2		0.00	74.52	74.52
Totals				90.28	134.71	224.99

Superseded

Closure Cost Estimate
Fleets (Crews)

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
CONCRETE BREAKING						
Slab demolition Footing demolition Wall demolition						
Small - Cat 325F Excavator w/ H120E s Hammer						
325F				90.28	60.19	150.47
H120Es (fits 325)				41.89	0.00	41.89
D9T				204.88	58.86	263.74
Totals				337.05	119.05	456.10
Medium - Cat 349F Excavator w/ H160E s Hammer						
349F				129.09	60.19	189.28
H160Es (fits 349)				87.08	0.00	87.08
D9T				204.88	58.86	263.74
Totals				421.05	119.05	540.10
Large - Cat 374F Excavator w/ H180E s Hammer						
374F				159.48	60.19	219.67
H180Es (fits 374/390)				115.81	0.00	115.81
D9T				204.88	58.86	263.74
Totals				480.17	119.05	599.22
DRILL HOLE ABANDONMENT						
Drill Hole - Grout or Cement						
Pump (plugging) Drill Rig				394.94	59.67	454.61
Driller's Helper				.00	75.12	75.12
Totals				39 .94	134.79	529.73
Drill Hole - Inert Media (Means Crew B-11M+ 1 Laborer)						
420F2				39.42	59.90	99.32
General Laborer		1		0.00	37.26	37.26
Totals				39.42	97.16	136.58
Drill Hole - Casing Perforation or Removal						
Heavy Duty Drill Rig				399.88	59.67	459.55
Driller's Helper		2		0.00	75.12	75.12
Totals				399.88	134.79	534.67
MAINTENANCE FLEET						
Road Grading, Dust Suppression, Clean Up						
Maintenance - Small Water Truck and Cat 14G Grader						
621E (8,000 gal)				110.06	38.08	148.14
14M				131.19	59.90	191.09
Totals				241.25	97.98	339.23
Maintenance - Medium Water Truck and Cat 16G Grader						
777G H2O Truck				408.99	38.08	447.07
16M3				183.34	59.90	243.24
Totals				592.33	97.98	690.31
Maintenance - Large Water Truck and Cat 16G Grader						
785D H2O Truck				479.47	38.08	517.55
24M				213.70	59.90	273.60
Totals				693.17	97.98	791.15
PROJECT SUPERVISION						
Foreman		1		0.00	85.00	85.00
Supervisor's Truck		1		20.13	57.84	77.97
Totals				20.13	142.84	162.97

Superseded

Closure Cost Estimate
Fleets (Crews)

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
MEANS CREW DEFINITIONS						
Crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data . For use with misc. unit costs where Means is the source for productivity						
1 Clab - Seedling Planting/Block Wall Demolition						
General Laborer		1		0.00	37.26	37.26
Totals				0.00	37.26	37.26
2 Clab - Barbed Wire/Wood Fence Removal, Drainpipe Installation, Pumping, Evaporation						
General Laborer		2		0.00	74.52	74.52
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				29.87	132.36	162.23
2 Clab + Excavator - Pond Liner Cut and Fold						
General Laborer		2		0.00	74.52	74.52
325F				90.28	60.19	150.47
Totals				90.28	134.71	224.99
2 Clab + Welder - Bat Gates						
General Laborer		2		0.00	74.52	74.52
Welding Equipment				18.47	59.24	77.71
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				48.34	191.60	239.94
3 Clab - Foam Adit Plugs						
General Laborer		2		0.00	74.52	74.52
420F2				39.42	59.90	99.32
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				69.29	192.26	261.55
3 Clab + Welder - Culvert Bat Gate						
General Laborer		2		0.00	74.52	74.52
Welding Equipment				18.47	59.24	77.71
420F2				39.42	59.90	99.32
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				87.76	251.50	339.26
3 Clab D - 3 Laborers + Foreman - Decontamination						
General Laborer		3		0.00	111.78	111.78
Foreman		1		0.00	85.00	85.00
Supervisor's Truck		1		20.13	57.84	77.97
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				50.00	312.46	362.46
3 SKWK - Liner Installation						
Skilled Laborer		3		0.00	113.58	113.58
HDEP Welder (pipe or liner)		1		63.56	0.00	63.56
420F2		1		39.42	59.90	99.32
				0.00		0.00
				0.00		0.00
				0.00		0.00
Totals				102.98	173.48	276.46

Superseded

Closure Cost Estimate
Fleets (Crews)

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-3 - Small Building Demoltion						
LABOR						
General Laborer		2		0.00	74.52	74.52
Foreman		1		0.00	85.00	85.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
EQUIPMENT						
930M		1		49.17	59.67	108.84
Dump Truck (10-12 yd3)		2		176.88	76.16	253.04
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
Totals				226.05	295.35	521.40
B-6 - Chain Link Fence/Culvert Removal						
General Laborer		2		0.00	74.52	74.52
930M		1		49.17	59.67	108.84
Totals				49.17	134.19	183.36
B-8 - Large Building Demolition						
LABOR						
General Laborer		2		0.00	74.52	74.52
Foreman				.00	85.00	85.00
				00		0.00
				0.00		0.00
				0.00		0.00
EQUIPMENT						
930M		1		49.17	59.67	108.84
20 Ton Crane		1		91.36	60.19	151.55
Dump Truck (10-12 yd3)		2		176.88	76.16	253.04
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
Totals				317.41	355.54	672.95
B-9 - Concrete Wall Demolition						
General Laborer		4		0.00	149.04	149.04
Foreman		1		0.00	85.00	85.00
Air Compressor + tools				30.17	56.38	86.55
Totals				30.17	290.42	320.59
B-10Y - General Compaction						
General Laborer		1		0.00	37.26	37.26
CS54B		1		62.27	57.84	120.11
Totals				62.27	95.10	157.37
B-11L - Fine Grading for Evaporation Pond Liner Base						
General Laborer		1		0.00	37.26	37.26
14M		1		131.19	59.90	191.09
Totals				131.19	97.16	228.35
B-11M - Backhoe Work						
420F2		1		39.42	59.90	99.32
Totals				39.42	59.90	99.32

Superseded

Closure Cost Estimate
Fleets (Crews)

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-12G - Rip-Rap Machine Placed (Modified)						
General Laborer		2		0.00	74.52	74.52
966M		1		101.26	60.19	161.45
325F		1		90.28	60.19	150.47
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				221.41	178.22	399.63
B-13 - Grouted Rip-Rap & Gabion Baskets						
General Laborer		4		0.00	149.04	149.04
Foreman		1		0.00	85.00	85.00
50 Ton Crane		1		93.09	60.19	153.28
Totals				93.09	294.23	387.32
B-14 PVC Drain Pipe Installation						
Foreman		1		0.00	85.00	85.00
General Laborer		4		0.00	149.04	149.04
420F2		1		39.42	59.90	99.32
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				69.29	351.78	421.07
B-20 - Remove Pipelines						
Foreman		1		0.00	85.00	85.00
Skilled Laborer		1		0.00	37.86	37.86
General Laborer		1		0.00	37.26	37.26
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				29.87	217.96	247.83
B-22A HDEP Installation - Pipe or Liner						
Skilled Laborer		1		0.00	37.86	37.86
General Laborer		2		0.00	74.52	74.52
D7E		1		99.43	58.86	158.29
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
420F2		1		39.42	59.90	99.32
Generator 5KW		1		8.59	0.00	8.59
HDEP Welder (pipe or liner)		1		63.56	0.00	63.56
Totals				240.87	288.98	529.85
B-34N - Equipment Mobilization (40-ton)						
Skilled Laborer		1		0.00	37.86	37.86
General Laborer		2		0.00	74.52	74.52
D7E		1		99.43	58.86	158.29
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
420F2		1		39.42	59.90	99.32
Generator 5KW		1		8.59	0.00	8.59
HDEP Welder (pipe or liner)		1		63.56	0.00	63.56
Totals				240.87	288.98	529.85
B-34U - Equipment Mobilization (20-ton)						
Skilled Laborer		1		0.00	37.86	37.86
General Laborer		2		0.00	74.52	74.52
D7E		1		99.43	58.86	158.29
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
420F2		1		39.42	59.90	99.32
Generator 5KW		1		8.59	0.00	8.59
HDEP Welder (pipe or liner)		1		63.56	0.00	63.56
Totals				240.87	288.98	529.85
B-34V - Equipment Mobilization (50-ton)						
Skilled Laborer		1		0.00	37.86	37.86
General Laborer		2		0.00	74.52	74.52
D7E		1		99.43	58.86	158.29
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
420F2		1		39.42	59.90	99.32
Generator 5KW		1		8.59	0.00	8.59
HDEP Welder (pipe or liner)		1		63.56	0.00	63.56
Totals				240.87	288.98	529.85

Superseded

Closure Cost Estimate
Fleets (Crews)

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

EQUIPMENT FLEETS

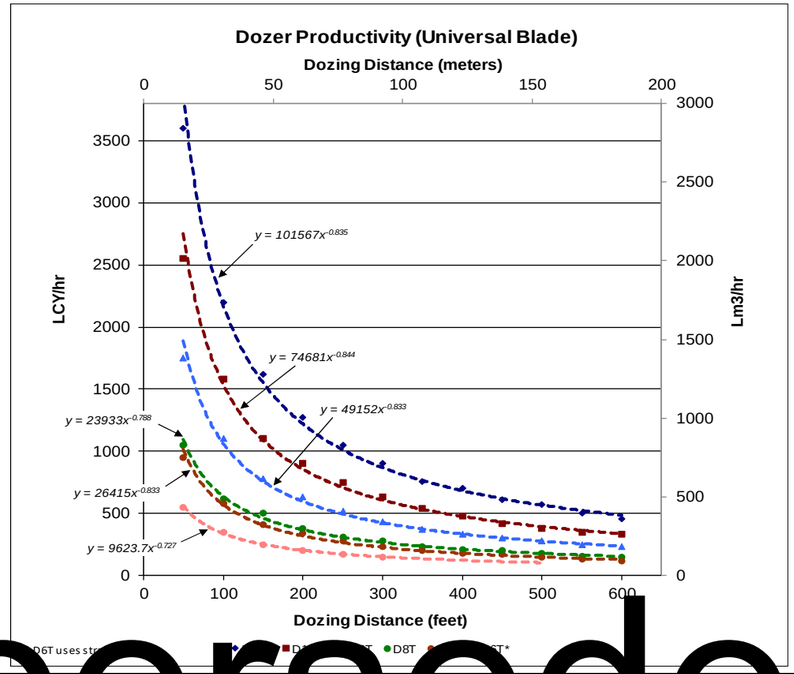
ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-80A - Install Barbed Wire Fence						
General Laborer		3		0.00	111.78	111.78
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				29.87	169.62	199.49
B-80C - Install Chain Link Fence (Flatbed truck has small crane)						
General Laborer		3		0.00	111.78	111.78
Light Truck - 1.5 Ton		1		29.87	57.84	87.71
Totals				29.87	169.62	199.49
C-14B - Elevated Concrete Slabs (Reinforced Concrete Shaft Covers)						
Foreman		1		0.00	85.00	85.00
Supervisor's Truck		1		20.13	57.84	77.97
Carpenter		16		0.00	750.40	750.40
General Laborer		2		0.00	74.52	74.52
Rodmen (reinforcing concrete)		4		0.00	149.52	149.52
Cement finisher		2		0.00	75.12	75.12
Gas Engine Vibrator		1		6.00	57.84	63.84
Concrete Pump		1		145.72	0.00	145.72
Totals				171.85	1,250.24	1,422.09
C-14D - Concrete Walls Formed in Place (Reinforced Concrete Adit Bulkheads)						
Foreman		1		0.00	85.00	85.00
Supervisor's Truck		1		20.13	57.84	77.97
Carpenter		18		0.00	844.20	844.20
General Laborer		2		0.00	74.52	74.52
Rodmen (reinforcing concrete)		2		0.00	74.76	74.76
Cement finisher		1		.00	37.56	37.56
Gas Engine Vibrator		1		6.00	57.84	63.84
Concrete Pump		1		145.72	0.00	145.72
Totals				171.85	1,231.72	1,403.57

Superseded

Productivity - Bulldozers

Dozer Specifications						
Description	**D6T**	**D7E**	**D8T**	**D9T**	**D10T2**	**D11T**
Blade Width (SU) (ft)	10.67	12.17	12.92	14.08	16.25	18.33
Shank Guage (3 shanks) (ft)	6.58	5.92	7.08	7.67	8.67	9.83
Pocket Spacing (ft)	3.25	2.92	3.58	3.86	4.33	4.92
Ripping Width (Ripper + 1 Pocket) (ft)	9.83	8.84	10.66	11.53	13	14.75
Ripping Speed (mph)	1	1	1	1	1	1
Ripping Maneuver (turn) Time (min)	0.25	0.25	0.25	0.25	0.25	0.25
Altitude Deration Factor	1	1	1	1	1	1
Ripping Hourly Production (excluding maneuvering time) (ft)	5,280	5,016	5,280	5,280	5,280	4,541
						Source: Caterpillar Performance Handbook Edition 47

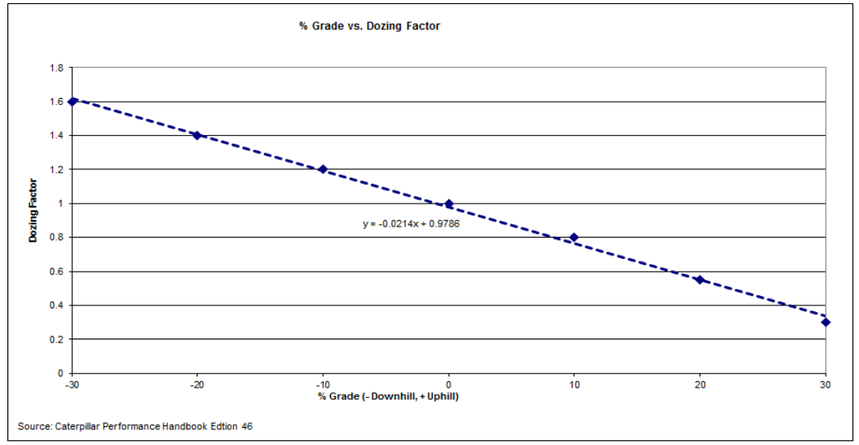
Dozer Productivity vs. Grading Distance						
	Production (LCY/hr)					
Average Dozing Distance (feet)	**D6T**	**D7E**	**D8T**	**D9T**	**D10T2**	**D11T**
50	550	950	1,050	1,750	2,550	3,600
100	350	580	620	1,100	1,580	2,200
200	205	340	380	630	900	1,270
300	150	230	280	430	630	900
400		180	210	330	480	700
500		150	180	280	380	570
600		120	150	230	330	460
						Source: Caterpillar Performance Handbook Edition 47
dozer productivity = k x Dozing Distance^{p} (see graph)						
k =	9623.7	26451	23933	49152	74681	101567
p =	-0.727	-0.833	-0.788	-0.833	-0.844	-0.835



Superseded

Productivity - Bulldozers (cont.)

% Grade vs. Dozing Factor	
% Grade	**Dozing Factor**
-30	1.6
-20	1.4
-10	1.2
0	1
10	0.8
20	0.55
30	0.3
Source: Caterpillar Performance Handbook Edition 47	
% Grade Dozing Factor = -0.0214x + 0.9786 (see graph)	



Source: Caterpillar Performance Handbook Edtion 46

Job Condition Correction Factors - Bulldozers	
OPERATOR	
Average	0.75
MATERIAL (1)	
Loose stockpile	1.2
Normal	1
Hard to cut; frozen — with tilt cylinder	0.8
Hard to drift; "dead" (dry,non-cohesive material) or very sticky material	0.8
Rock, ripped or blasted	0.6
SLOT DOZING OR SIDE BY SIDE (1)	1.2
VISIBILITY	
Good conditions	1
OPERATOR SKILL	
Average	0.75
JOB EFFICIENCY	
50 min/hr	0.83
(1) Selected in facility worksheets.	
Other factors included as standard factors.	
Source: Caterpillar Performance Handbook Edition 47	

Material Densities(1)	
Material	**lb/yd3**
Alluvium	2,900
Basalt	3,300
Clay - Dry	2,500
Granite - broken	2,800
Gravel	2,550
Limestone - broken	2,600
Limestone - crushed	2,600
Sandstone	2,550
Shale	2,100
Stone - crushed	2,700
Tailings - Coarse (dry, loose sand)	2,400
Tailings - Slimes (loose sand & clay)	2,700
Topsoil	1,600
(1) Source: Caterpillar Performance Handbook Edition 47	

Note: uses Sand & Gravel - Dry from Caterpillar Handbook

Superseded

Productivity - Scrapers

Scraper Specifications		
Description	**631K**	**637K**
Empty Weight (lb)	102,750	112,760
Payload Capacity (yd3)		
Struck	24	24
Heaped	34	34
Average	29	29
Loaded by	One D10	Self*
Load Time (min)	0.50	0.50
Maneuver and Spread (min)	0.70	0.60
Operator Skill	1.00	1.00
Job Efficiency	0.83	0.83
Rolling Resistance**	2.50	2.50
Altitude Deration Factor	1	1
* Requires pair		
undulating, maintained fairly regularly, watered		

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials			Downhill Speed (mph) - Grade Retarding vs. Effective Grade (%Grade - Rolling Resistance)																			
			631K										637K PP									
Material	**lb/yd3**	**Scraper Load (lb)**	**Loaded Weight (lb)**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**	**Loaded Weight (lb)**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**
Alluvium	2,900	84,100	186,850	8	8	8	8	10.6	14.3	19.2	26	35	196,860	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Basalt	3,300	95,700	198,450	8	8	8	8	10.6	14.3	19.2	26	35	208,460	8	10.6	10.6	10.6	14.2	19.2	19.2	35	35
Clay - Dry	2,500	72,500	175,250	8	8	8	10.6	10.6	14.3	19.2	26	35	185,260	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Granite - broken	2,800	81,200	183,950	8	8	8	8	10.6	14.3	19.2	26	35	193,960	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Gravel	2,550	73,950	176,700	8	8	8	10.6	10.6	14.3	19.2	26	35	186,710	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Limestone - broken	2,600	75,400	178,150	8	8	8	8	10.6	14.3	19.2	26	35	188,160	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Limestone - crushed	2,600	75,400	178,150	8	8	8	8	10.6	14.3	19.2	26	35	188,160	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Sandstone	2,550	73,950	176,700	8	8	8	10.6	10.6	14.3	19.2	26	35	186,710	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Shale	2,100	60,900	163,650	8	8	8	10.6	10.6	14.3	19.2	35	35	173,660	10.6	10.6	10.6	14.2	19.2	19.2	35	35	35
Stone - crushed	2,700	78,300	181,050	8	8	8	8	10.6	14.3	19.2	26	35	191,060	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Tailings - Coarse (dry, loose sand)	2,400	69,600	172,350	8	8	8	10.6	10.6	14.3	19.2	35	35	182,360	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Tailings - Slimes (loose sand & clay)	2,700	78,300	181,050	8	8	8	8	10.6	14.3	19.2	26	35	191,060	10.6	10.6	10.6	10.6	19.2	19.2	26	35	35
Topsoil	1,600	46,400	149,150	8	8	10.6	10.6	14.3	19.2	26	35	35	159,160	10.6	10.6	10.6	19.2	19.2	19.2	35	35	35
			Empty	14.3	14.3	14.3	14.2	19.2	26	35	35	35	Empty	14.2	19.2	19.2	19.2	19.2	19.2	35	35	35
assumes medium compression breaking																						

Source: Caterpillar Performance Handbook Edition 46

Weight of Materials			Uphill Speed (mph) - Rimpull vs. Rolling Resistance (%Grade + Rolling Resistance)																			
			631K										637K PP									
Material	**lb/yd3**	**Scraper Load (lb)**	**Loaded Weight (lb)**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**	**Loaded Weight (lb)**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**
Alluvium	2,900	84,100	186,850	4	5.5	6.5	7.7	9	11.2	15	22.3	33.2	196,860	6.7	7.6	8.7	9.4	12	15.2	20.5	29.8	35
Basalt	3,300	95,700	198,450	3.9	4.1	6.1	7	8.5	11	14	22.3	32	208,460	6.5	6.9	8.3	9.2	11.5	14.2	19.1	28.8	35
Clay - Dry	2,500	72,500	175,250	4.1	6.1	6.9	8.2	9.2	12	16.2	23	33	185,260	6.9	8.2	9	10.7	12.5	15.9	21.6	31	35
Granite - broken	2,800	81,200	183,950	4.1	6	6.6	7.8	9	11.5	15.9	23	32	193,960	6.8	7.8	8.8	9.6	12	15.3	20.9	30.2	35
Gravel	2,550	73,950	176,700	4.2	6.1	6.8	8.8	9.2	11.9	16	23.2	33	186,710	6.9	8.2	9	10.6	12.5	15.8	21.5	30.8	35
Limestone - broken	2,600	75,400	178,150	4.1	6	6.7	8.2	9	11.8	15.8	23	32	188,160	6.9	8.1	9	10.4	12.5	15.7	21.3	30.8	35
Limestone - crushed	2,600	75,400	178,150	4.1	6	6.7	8.2	9	11.8	15.8	23	32	188,160	6.9	8.1	9	10.4	12.5	15.7	21.3	30.8	35
Sandstone	2,550	73,950	176,700	4.2	6.1	6.8	8.8	9.2	11.9	16	23.2	33	186,710	6.9	8.2	9	10.6	12.5	15.8	21.5	30.8	35
Shale	2,100	60,900	163,650	5.8	6.5	7	8.8	9.5	12.5	16.6	26	34	173,660	7.8	8.7	9.3	11.4	13.5	16.6	22.6	31.6	35
Stone - crushed	2,700	78,300	181,050	4.2	6	6.6	8	9	11.4	15.5	22.5	33	191,060	6.8	8	8.9	10	12	15.5	21.1	30.4	35
Tailings - Coarse (dry, loose sand)	2,400	69,600	172,350	4.3	6.2	6.8	8.3	9.5	11.8	16	25	34	182,360	7	8.4	9.1	10.8	12.5	16	21.9	31.2	35
Tailings - Slimes (loose sand & clay)	2,700	78,300	181,050	4.2	6	6.6	8	9	11.4	15.5	22.5	33	191,060	6.8	8	8.9	10	12	15.5	21.1	30.4	35
Topsoil	1,600	46,400	149,150	6.3	6.9	8.4	9.2	11.2	14	19.6	24	34	159,160	8.5	9.1	10.7	12.2	15	18.3	25	32.4	35
			Empty	9	9.4	11.5	12.6	16	17.5	18.5	25	35	Empty	12.5	14.7	16.3	19.7	22.7	29.1	32.7	34.6	35

Source: Caterpillar Performance Handbook Edition 47

Superseded

Productivity - Haul Trucks

Haul Truck Specifications

Description	770G	773G	777G	785D	789D	793F	797F
Chassis Weight (lb)	56,144	77,582	115,171	180,827	222,233	269,006	472,880
Body Weight (lb)	17,103	24,358	35,429	50,700	58,656	59,289	97,610
Standard Liner Weight (lb)	6,195	8,218	12,555	17,886	21,367	13,688	16,870
Total Truck Weight (lb)	79,442	110,158	163,155	249,413	302,256	341,983	587,360
Payload Capacity (yd3)							
Struck	24	34.5	54.6	77	106	173	315
Heaped	33.9	46	78.6	102	141	230	350
Average	28.7	40.25	66.6	89.5	123.5	201.5	332.5
Maneuver to Load Time (min)	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Maneuver and Dump Time (min)	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Operator Skill	1	1	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Altitude Deration Factor	1	1	1	1	1	1	1

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials / Downhill Speed (mph) - Grade Retarding vs. Effective Grade (%Grade - Rolling Resistance)

Material	lb/yd3	Truck 770G Load (lb)	Truck 773G Load (lb)	770G Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0	773G Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0
Alluvium	2,900	83,230	116,725	162,672	7	10	10	13.5	18	18	25	35	35	35	226,883	10.6	10.6	10.6	10.6	19.2	19.2	19.2	35	35	35
Basalt	3,300	94,710	132,825	174,152	7	7	10	10	13.5	18	25	35	35	35	242,983	10.6	10.6	10.6	10.6	14.2	19.2	19.2	35	35	35
Clay - Dry	2,500	71,750	100,625	151,192	10	10	10	13.5	18	25	33.5	35	35	35	210,783	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Granite - broken	2,800	80,360	112,700	159,802	7	10	10	13.5	18	18	25	35	35	35	222,858	10.6	10.6	10.6	10.6	19.2	19.2	19.2	35	35	35
Gravel	2,550	73,185	102,638	152,627	10	10	10	13.5	18	25	33.5	35	35	35	212,796	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Limestone - broken	2,600	74,620	104,650	154,062	7	10	10	13.5	18	25	33.5	35	35	35	214,808	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Limestone - crushed	2,600	74,620	104,650	154,062	7	10	10	13.5	18	25	33.5	35	35	35	214,808	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Sandstone	2,550	73,185	102,638	152,627	10	10	10	13.5	18	25	33.5	35	35	35	212,796	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Shale	2,100	60,270	84,525	126,932	10	10	13.5	18	18	25	33.5	35	35	35	194,[illegible]	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Stone - crushed	2,700	77,490	108,675	156,932	10	10	10	13.5	18	25	33.5	35	35	35	218,[illegible]	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Tailings - Coarse (dry, loose sand)	2,400	68,880	96,600	148,322	10	10	10	13.5	18	25	33.5	35	35	35	206,[illegible]	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Tailings - Slimes (loose sand & clay)	2,700	77,490	108,675	156,932	10	10	10	13.5	18	25	33.5	35	35	35	218,[illegible]	10.6	10.6	10.6	10.6	19.2	19.2	25.9	35	35	35
Topsoil	1,600	45,920	64,400	134,[illegible]	10	13.5	13.5	18	25	25	33.5	35	35	35	174,[illegible]	10.6	10.6	10.6	14.2	19.2	19.2	25.9	35	35	35
				Empty	18	25	33.5	33.5	35	35	35	35	35	35	Empty	14.2	19.2	19.2	19.2	25.9	35	35	35	35	35

Source: Caterpillar Performance Handbook Edition 47

Superseded

Weight of Materials / Downhill Speed (mph) - Grade Retarding vs. Effective Grade (%Grade - Rolling Resistance)

Material	lb/yd3	Truck 777G Load (lb)	Truck 785D Load (lb)	777G Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0	785D Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0
Alluvium	2,900	193,140	259,550	356,295	8	9	9	9	13	16.8	16.8	22.8	35	35	508,963	7.8	7.8	7.8	10.5	10.5	14.2	19.2	35	35	35
Basalt	3,300	219,780	295,350	382,935	8	9	9	13	13	16.8	22.8	35	35	35	544,763	7.8	7.8	7.8	10.5	10.5	14.2	19.2	26.1	35	35
Clay - Dry	2,500	166,500	223,750	329,655	9	9	13	13	17	22.8	30.6	35	35	35	473,163	7.8	7.8	10.5	10.5	14.2	14.2	19.2	35	35	35
Granite - broken	2,800	186,480	250,600	349,635	9	9	9	13	17	16.8	22.8	35	35	35	500,013	7.8	7.8	7.8	10.5	10.5	14.2	19.2	35	35	35
Gravel	2,550	169,830	228,225	332,985	9	9	13	13	17	22.8	30.6	35	35	35	477,638	7.8	7.8	10.5	10.5	14.2	14.2	19.2	35	35	35
Limestone - broken	2,600	173,160	232,700	336,315	9	9	9	13	17	22.8	30.6	35	35	35	482,113	7.8	7.8	7.8	10.5	14.2	14.2	19.2	35	35	35
Limestone - crushed	2,600	173,160	232,700	336,315	9	9	9	13	17	22.8	30.6	35	35	35	482,113	7.8	7.8	7.8	10.5	14.2	14.2	19.2	35	35	35
Sandstone	2,550	169,830	228,225	332,985	9	9	13	13	17	22.8	30.6	35	35	35	477,638	7.8	7.8	10.5	10.5	14.2	14.2	19.2	35	35	35
Shale	2,100	139,860	187,950	303,015	9	9	13	17	17	22.8	30.6	35	35	35	437,363	7.8	7.8	10.5	10.5	14.2	19.2	26.1	35	35	35
Stone - crushed	2,700	179,820	241,650	342,975	9	9	9	13	17	16.8	22.8	35	35	35	491,063	7.8	7.8	7.8	10.5	10.5	14.2	19.2	35	35	35
Tailings - Coarse (dry, loose sand)	2,400	159,840	214,800	322,995	9	9	13	13	17	22.8	30.6	35	35	35	464,213	7.8	7.8	10.5	10.5	14.2	19.2	19.2	35	35	35
Tailings - Slimes (loose sand & clay)	2,700	179,820	241,650	342,975	9	9	9	13	17	16.8	22.8	35	35	35	491,063	7.8	7.8	10.5	10.5	14.2	14.2	19.2	35	35	35
Topsoil	1,600	106,560	143,200	269,715	9	12.5	12.5	16.8	22.8	22.8	30.6	35	35	35	392,613	7.8	10.5	10.5	14.2	14.2	19.2	26.1	35	35	35
				Empty	22.8	22.8	22.8	30.6	35	35	35	35	35	35	Empty	14.2	14.2	19.2	19.2	26.1	35	35	35	35	35

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials				Downhill Speed (mph) - Grade Retarding vs. Effective Grade (%Grade - Rolling Resistance)																						
				789D												793F										
Material	lb/yd3	Truck 789D Load (lb)	Truck 793F Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0		Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0
Alluvium	2,900	358,150	584,350	660,406	7.8	7.8	7.8	7.8	10.5	10.5	19.2	26.1	35	35		926,333	8.1	8.1	10.9	10.9	14.8	20	26.1	35	35	35
Basalt	3,300	407,550	664,950	709,806	7.8	7.8	7.8	7.8	10.5	10.5	14.4	26.1	35	35		1,006,933	8.1	8.1	8.1	8.1	10.9	14.8	20	26.1	35	35
Clay - Dry	2,500	308,750	503,750	611,006	7.8	7.8	7.8	10.5	10.5	14.4	19.2	26.1	35	35		845,733	8.1	8.1	8.1	10.9	0	14.8	20	35	35	35
Granite - broken	2,800	345,800	564,200	648,056	7.8	7.8	7.8	7.8	10.5	14.4	19.2	26.1	35	35		906,183	8.1	8.1	8.1	10.9	10.9	14.8	20	26.1	35	35
Gravel	2,550	314,925	513,825	617,181	7.8	7.8	7.8	10.5	10.5	14.4	19.2	26.1	35	35		855,808	8.1	8.1	8.1	10.9	0	14.8	20	35	35	35
Limestone - broken	2,600	321,100	523,900	623,356	7.8	7.8	7.8	10.5	10.5	14.4	19.2	26.1	35	35		865,883	8.1	8.1	8.1	10.9	10.9	14.8	20	35	35	35
Limestone - crushed	2,600	321,100	523,900	623,356	7.8	7.8	7.8	10.5	10.5	14.4	19.2	26.1	35	35		865,883	8.1	8.1	8.1	10.9	10.9	14.8	20	35	35	35
Sandstone	2,550	314,925	513,825	617,181	7.8	7.8	7.8	10.5	10.5	14.4	19.2	26.1	35	35		855,808	8.1	8.1	8.1	10.9	0	14.8	20	35	35	35
Shale	2,100	259,350	423,150	561,606	7.8	7.8	7.8	10.5	10.5	14.4	19.2	35	35	35		765,133	8.1	8.1	10.9	10.9	14.8	20	26.1	35	35	35
Stone - crushed	2,700	333,450	544,050	635,706	7.8	7.8	7.8	7.8	10.5	14.4	19.2	26.1	35	35		886,033	8.1	8.1	8.1	10.9	10.9	14.8	20	35	35	35
Tailings - Coarse (dry, loose sand)	2,400	296,400	483,600	598,656	7.8	7.8	7.8	10.5	10.5	14.4	19.2	26.1	35	35		825,583	8.1	8.1	8.1	10.9	14.8	14.8	20	35	35	35
Tailings - Slimes (loose sand & clay)	2,700	333,450	544,050	635,706	7.8	7.8	7.8	7.8	10.5	14.4	19.2	26.1	35	35		886,033	8.1	8.1	8.1	10.9	10.9	14.8	20	35	35	35
Topsoil	1,600	197,600	322,400	499,856	7.8	7.8	10.5	10.5	14.4	19.2	19.2	35	35	35		664,383	8.1	10.9	10.9	14.8	14.8	20	26.1	35	35	35
				Empty	10.5	14.4	14.4	19.2	19.2	26.1	35	35	35	35		Empty	14.8	20	20	26.1	26.1	35	35	35	35	35

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials			Downhill Speed (mph) - Grade Retarding vs. Effective Grade (%Grade - Rolling Resistance)										
			797F										
Material	lb/yd3	Truck 797F Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0
Alluvium	2,900	964,250	1,551,610	5.4	6.8	7.2	8.7	9.6	13.8	17.3	23.2	35	35
Basalt	3,300	1,097,250	1,684,610	5.4	5.4	7.2	7.2	9.6	12.9	17.2	23.4	35	35
Clay - Dry	2,500	831,250	1,418,610	6.3	7.2	7.5	9.6	11.4	12.9	17.2	23.4	35	35
Granite - broken	2,800	931,000	1,518,360	5.4	6.9	7.2	9	9.6	12.9	17.2	23.4	35	35
Gravel	2,550	847,875	1,435,235	6.3	7.2	7.2	9.6	11.2	12.9	17.2	23.4	35	35
Limestone - broken	2,600	864,500	1,451,860	6	7.2	7.2	9.6	10.7	12.9	17.2	23.4	35	35
Limestone - crushed	2,600	864,500	1,451,860	6	7.2	7.2	9.6	10.7	12.9	17.2	23.4	35	35
Sandstone	2,550	847,875	1,435,235	6.3	7.2	7.2	9.6	11.2	12.9	17.2	23.4	35	35
Shale	2,100	698,250	1,285,610	7.2	7.2	9.6	9.6	12.9	15	19.8	31.5	35	35
Stone - crushed	2,700	897,750	1,485,110	6.8	7.2	7.2	9.6	10	12.9	17.2	23.4	35	35
Tailings - Coarse (dry, loose sand)	2,400	798,000	1,385,360	6.6	7.2	8	9.6	11.8	12.9	17.2	26	35	35
Tailings - Slimes (loose sand & clay)	2,700	897,750	1,485,110		7.2	7.2	9.6	10	12.9	17.2	23.4	35	35
Topsoil	1,600	532,000	1,119,360	9.5	9.6	9.6	12.9	12.9	17.2	23.4	31.5	35	35
			Empty	13.8	17.3	17.3	23.2	23.3	31.4	35	35	35	35

Source: Caterpillar Performance Handbook Edition 47

Superseded

Weight of Materials				Uphill Speed (mph) - Rimpull vs. Total Resistance (%Grade + Rolling Resistance)																						
				777G												785D										
Material	lb/yd3	Truck 770G Load (lb)	Truck 773G Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2			Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	
Alluvium	2,900	83,230	116,725	162,672	4	5	6	7.5	8.9	11.3	15.2	22.3	35			226,883	5.6	6.6	7.4	8.7	10.4	13.2	17.5	25.7	35	
Basalt	3,300	94,710	132,825	174,152	4	4.4	5	6.8	8.5	10.6	14.6	21.6	35			242,983	5.3	6	7	8	9.8	12.2	16.2	24.3	35	
Clay - Dry	2,500	71,750	100,625	151,192	4.8	6	6	8.4	9.5	12.1	16.4	24.8	35			210,783	6.2	7.1	8	9.5	10.9	14	18.7	28	35	
Granite - broken	2,800	80,360	112,700	159,802	4.2	5.3	6.5	12.8	14	11.6	15.5	22.5	35			222,858	5.9	6.8	7.7	8.9	10.5	13.3	17.9	26.6	35	
Gravel	2,550	73,185	102,638	152,627	4.5	6	6.8	8.3	9.5	12	16.2	23.4	35			212,796	6.2	7.1	7.9	9.4	10.8	13.9	18.5	27.4	35	
Limestone - broken	2,600	74,620	104,650	154,062	4.3	5.8	6.7	8.2	9.3	12	16	24.5	35			214,808	6	7	7.9	9.2	10.8	13.7	18.3	27.4	35	
Limestone - crushed	2,600	74,620	104,650	154,062	4.3	5.8	6.7	8.2	9.3	12	16	24.5	35			214,808	6	7	7.9	9.2	10.8	13.7	18.3	27.4	35	
Sandstone	2,550	73,185	102,638	152,627	4.5	6	6.8	8.3	9.5	12	16.2	23.4	35			212,796	6.2	7.1	7.9	9.4	10.8	13.9	18.5	27.4	35	
Shale	2,100	60,270	84,525	139,712	5.3	6.5	7.5	8.7	10.5	12.5	16.8	27	35			194,683	6.8	7.6	8.8	10.2	12	15.2	19.9	30.8	35	
Stone - crushed	2,700	77,490	108,675	156,932	4.3	5.5	6.6	8	9.2	11.8	15.8	23.1	35			218,833	6	7.8	7.8	9	10.6	13.6	18	26.7	35	
Tailings - Coarse (dry, loose sand)	2,400	68,880	96,600	148,322	4.9	6.2	7.1	8.5	10	12.3	16.5	25.7	35			206,758	6.4	7.3	8.1	9.7	11.5	14.2	18.9	28.6	35	
Tailings - Slimes (loose sand & clay)	2,700	77,490	108,675	156,932	4.3	5.5	6.6	8	9.2	11.8	15.8	23.1	35			218,833	6	7.8	7.8	9	10.6	13.6	18	26.7	35	
Topsoil	1,600	45,920	64,400	125,362	6.5	7.5	8.5	9.8	11.8	15	20.2	29.5	35			174,558	7.5	8.2	9.5	10.8	13.3	16.7	22.3	33.4	35	
				Empty	11.4	12.5	15	17	21.2	26	34.7	35	35			Empty	13.1	14.5	16.7	19.2	23	29.4	35	35	35	

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials				Uphill Speed (mph) - Rimpull vs. Total Resistance (%Grade + Rolling Resistance)																						
				777G												785D										
Material	lb/yd3	Truck 777G Load (lb)	Truck 785D Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2			Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	
Alluvium	2,900	193,140	259,550	356,295	4	5	6	7	8	10.5	14.2	20.5	35			508,963	4	4.4	6.4	7.1	8.8	11	14.6	21.8	33.6	
Basalt	3,300	219,780	295,350	382,935	4	5	6	7	8	10	13.2	19.6	35			544,763	3.6	4.2	5.8	6.8	8.2	9.6	13	20.6	33.2	
Clay - Dry	2,500	166,500	223,750	329,655	5	6	7	8	9	11	14.8	23.3	35			473,163	4.3	6	6.8	7.7	9.4	11.8	15.9	23.3	34	
Granite - broken	2,800	186,480	250,600	349,635	4	5	6	7	8	10.6	14.3	21.5	35			500,013	4	4.5	6.5	7.2	9	11.2	14.8	22.4	33.8	
Gravel	2,550	169,830	228,225	332,985	5	6	6	8	9	11	14.9	23	35			477,638	4.2	5.8	6.7	7.7	9.4	11.8	15.8	23.1	33.9	
Limestone - broken	2,600	173,160	232,700	336,315	5	6	6	8	9	11	14.6	22.9	35			482,113	4.2	5.7	6.7	7.4	9.2	11.6	15.6	23	33.9	
Limestone - crushed	2,600	173,160	232,700	336,315	5	6	6	8	9	11	14.6	22.9	35			482,113	4.2	5.7	6.7	7.4	9.2	11.6	15.6	23	33.9	
Sandstone	2,550	169,830	228,225	332,985	5	6	6	8	9	11	14.9	23	35			477,638	4.2	5.8	6.7	7.7	9.4	11.8	15.8	23.1	33.9	
Shale	2,100	139,860	187,950	303,015	6	6	7	8	10	12.5	16.4	25.1	35			437,363	5.3	6.5	7.2	8.6	9.6	12.7	16.9	23.6	34	
Stone - crushed	2,700	179,820	241,650	342,975	5	6	6	8	9	10.8	14.6	22.2	35			491,063	4.1	5.4	6.6	7.2	9	11.4	15.2	22.5	33.7	
Tailings - Coarse (dry, loose sand)	2,400	159,840	214,800	322,995	5	6	7	8	9	10.2	15.1	23.9	35			464,213	4.2	6.1	6.9	8	9.5	12.1	16.1	23.4	34	
Tailings - Slimes (loose sand & clay)	2,700	179,820	241,650	342,975	5	6	6	8	9	10.8	14.6	22.2	35			491,063	4.1	5.4	6.6	7.2	9	11.4	15.2	22.5	33.7	
Topsoil	1,600	106,560	143,200	269,715	6	7	8	9.3	10.8	13.8	18.6	27.4	35			392,613	6.5	7.1	8.2	9.2	11.4	13.2	17.6	28.5	34.6	
				Empty	10.8	12.5	14.2	16.6	19.6	25	33	35	35			Empty	9.6	11	13.5	14.8	17.3	22.2	29.4	33.2	35	

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials				Uphill Speed (mph) - Rimpull vs. Total Resistance (%Grade + Rolling Resistance)																		
				789D											793F									
Material	lb/yd3	Truck 789D Load (lb)	Truck 793F Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2		Loaded Weight (lb)	18	16	14	12	10	8	6	4	2
Alluvium	2,900	358,150	584,350	660,406	5	6.4	7	8.6	9.8	12.7	16.8	24.2	34.7		926,333	3.3	4	6.5	7.2	9	11	14.4	22.6	34.8
Basalt	3,300	407,550	664,950	709,806	4.6	5.8	6.7	7.3	9.4	11.8	15.7	23.6	34.3		1,006,933	2.8	3.5	5.8	7	8.2	9.8	13.3	20	34.1
Clay - Dry	2,500	308,750	503,750	611,006	6.2	7	7.3	9.3	10.5	13.2	17.7	28	34.9		845,733	3.9	6.1	7.1	8	9.7	12.3	16.5	24	35
Granite - broken	2,800	345,800	564,200	648,056	5.4	6.6	7.2	8.7	9.8	12.8	17	24.3	34.7		906,183	3.2	4	6.6	7.2	9.3	11.3	15	22.7	34.9
Gravel	2,550	314,925	513,825	617,181	6.1	6.9	7.2	9.1	10.4	13.2	17.6	27.7	34.8		855,808	4.8	6	7	7.9	9.7	12.3	16.4	24	35
Limestone - broken	2,600	321,100	523,900	623,356	5.9	6.8	7.2	9	10.1	13.1	17.4	26.9	34.8		865,883	4.6	5.8	7	7.8	9.6	12.2	16	23.9	35
Limestone - crushed	2,600	321,100	523,900	623,356	5.9	6.8	7.2	9	10.1	13.1	17.4	26.9	34.8		865,883	4.6	5.8	7	7.8	9.6	12.2	16	23.9	35
Sandstone	2,550	314,925	513,825	617,181	6.1	6.9	7.2	9.1	10.4	13.2	17.6	27.7	34.8		855,808	4.8	6	7	7.9	9.7	12.3	16.4	24	35
Shale	2,100	259,350	423,150	561,606	6.7	7.2	8.6	9.6	11.8	14.4	19.5	30.6	35		765,133	5.9	6.9	7.6	9.2	10.4	13.3	17.9	25.9	35
Stone - crushed	2,700	333,450	544,050	635,706	5.6	6.7	7.2	8.8	9.8	12.8	17.3	25.1	34.7		886,033	3.5	5.6	6.8	7.4	9.4	11.6	15.4	23.4	35
Tailings - Coarse (dry, loose sand)	2,400	296,400	483,600	598,656	6.4	6	7.9	9	11.1	13.2	17.8	28.6	35		825,583	3.9	6.3	7.2	8.4	9.8	12.7	17	24.4	35
Tailings - Slimes (loose sand & clay)	2,700	333,450	544,050	635,706	5.6	6.7	7.2	8.8	9.8	12.8	17.3	25.1	34.7		886,033	3.5	5.6	6.8	7.4	9.4	11.6	15.4	23.4	35
Topsoil	1,600	197,600	322,400	499,856	7.2	8.4	9.4	11.1	13	16.7	22.2	32.5	35		664,383	7	7.4	9.1	9.8	12.6	15.4	20.8	30.6	35
				Empty	12	13	15.4	17.8	21.6	27	33	35	35		Empty	13	13.8	16.7	18.2	23.1	28.5	34.7	35	35

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials			Uphill Speed (mph) - Rimpull vs. Total Resistance (%Grade + Rolling Resistance)									
			797F									
Material	lb/yd3	Truck 797F Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2
Alluvium	2,900	964,250	1,551,610	4	5	6.1	6.6	8.5	10.5	13.6	20.9	35
Basalt	3,300	1,097,250	1,684,610	3.2	4	5.8	6.5	7.8	9	12	19.4	35
Clay - Dry	2,500	831,250	1,418,610	4.1	6	6.5	7.8	8.8	11.2	15	21.2	35
Granite - broken	2,800	931,000	1,518,360	4	5.5	6.2	7	8.6	10.9	14.4	21	35
Gravel	2,550	847,875	1,435,235	4	5.9	6.5	7.5	8.8	11.2	15	21	35
Limestone - broken	2,600	864,500	1,451,860	4	5.6	6.5	7.5	8.8	11.1	14.9	21	35
Limestone - crushed	2,600	864,500	1,451,860	4	5.6	6.5	7.5	8.8	11.1	14.9	21	35
Sandstone	2,550	847,875	1,435,235	4	5.9	6.5	7.5	8.8	11.2	15	21	35
Shale	2,100	698,250	1,285,610	5.8	6.4	7	8.5	10	11.8	15.8	25.7	35
Stone - crushed	2,700	897,750	1,485,110	4	5.5	6.4	7.1	8.8	11	14.2	21	35
Tailings - Coarse (dry, loose sand)	2,400	798,000	1,385,360	5	6	6.5	7.9	8.8	11.5	15.4	23	35
Tailings - Slimes (loose sand & clay)	2,700	897,750	1,485,110	4	5.5	6.4	7.1	8.8	11	14.2	21	35
Topsoil	1,600	532,000	1,119,360	[illegible]	7	8.2	9.4	11.5	14.5	19.5	28.2	35
			Empty	[illegible]0.8	[illegible]3.2	15.2	17	21	26.3	33.3	35	35

[illegible]urce: Cate[illegible]pillar Performance Handbook Edition 47

Superseded

Productivity - Articulated Trucks

Articulated Truck Specifications				
Description	725C2	730C2	735C	
Empty Weight (lb)	50,795	53,131	69,446	79,366
Payload Capacity (yd3)				
Struck	14.4	17.4	19.6	23.5
Heaped	19.6	23	26.8	30.1
Average	17	20.2	23.2	26.8
Maneuver to Load Time (min)	0.7	0.7	0.7	0.7
Maneuver and Dump Time (min)	1.1	1.1	1.1	1.1
Operator Skill	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83
Rolling Resistance**	2.5	2.5	2.5	2.5
Altitude Deration Factor	1	1	1	1

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 47

Closure Cost Estimate
Productivity

Weight of Materials				Downhill Speed (mph) - Grade Retarding vs. Effective Grade (%Grade - Rolling Resistance)																					
				725C2												730C2										
Material	lb/yd3	Truck 725C2 Load (lb)	Truck 730C2 Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0		Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0
Alluvium	2,900	49,300	58,580	100,095	6	7	8	9	11	13.5	18	25.5	34	34		111,711	5	10	10	10	15	23	23	35	35	35
Basalt	3,300	56,100	66,660	106,895	6	7	8	9	11	13	17	25.5	34	34		119,791	5	10	10	10	15	15	23	35	35	35
Clay - Dry	2,500	42,500	50,500	93,295	6	8	8	10	12	14.5	20	27	34	34		103,631	10	10	10	15	15	23	30	35	35	35
Granite - broken	2,800	47,600	56,560	98,395	6	7	8	9	11	14	17.8	27.3	34	34		109,691	10	10	10	15	15	23	31	35	35	35
Gravel	2,550	43,350	51,510	94,145	6	7	10	10	12	14.5	18.5	27	34	34		104,641	10	15	10	15	15	23	30	35	35	35
Limestone - broken	2,600	44,200	52,520	94,995	6	7	8	9	11	14.5	18.5	27.5	34	34		105,651	10	15	10	15	15	23	30	35	35	35
Limestone - crushed	2,600	44,200	52,520	94,995	6	7	8	9	11	14.5	18.5	27.5	34	34		105,651	10	15	10	15	15	23	30	35	35	35
Sandstone	2,550	43,350	51,510	94,145	6	7	10	10	12	14.5	18.5	27	34	34		104,641	10	15	10	15	15	23	30	35	35	35
Shale	2,100	35,700	42,420	86,495	7	8	9	10	13	15.5	20	29.5	34	34		95,551	10	15	15	15	23	23	35	35	35	35
Stone - crushed	2,700	45,900	54,540	96,695	6	7	8	10	11	14.3	18	28	34	34		107,671	10	10	10	15	15	23	31	35	35	35
Tailings - Coarse (dry, loose sand)	2,400	40,800	48,480	91,595	7	8	9	10	12	14.8	19	28.5	34	34		101,611	10	10	10	15	15	23	29	35	35	35
Tailings - Slimes (loose sand & clay)	2,700	45,900	54,540	96,695	6	7	8	10	11	14.3	18	28	34	34		107,671	10	10	10	15	15	23	31	35	35	35
Topsoil	1,600	27,200	32,320	77,995	8	9	10	12	14.3	19.5	24	34	34	34		85,451	10	15	15	15	23	23	33	35	35	35
				Empty	12	13.8	15	18	21.5	34	34	34	34	34		Empty	15	15	15	15	23	35	35	35	35	35

assumes medium compression breaking

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials				Downhill Speed (mph) - Grade Retarding vs. Effective Grade (%Grade - Rolling Resistance)																					
				735C												740C										
Material	lb/yd3	Truck 735C Load (lb)	Truck 740C Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0		Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	0
Alluvium	2,900	67,280	77,720	136,726	9	12	12	15	20	24.3	30.8	35	35	35		157,086	9	9	12	15	15	20.8	25	35	35	35
Basalt	3,300	76,560	88,440	146,006	9	9	12	15	15	20.3	32.5	35	35	35		167,806	9	9	12	15	15	20.8	25	35	35	35
Clay - Dry	2,500	58,000	67,000	127,446	12	12	15	15	20	24.3	35	35	35	35		146,366	9	12	15	15	21	25	25	35	35	35
Granite - broken	2,800	64,960	75,040	134,406	9	12	12	15	20	20	30	35	35	35		154,406	9	9	12	15	15	20.8	25	35	35	35
Gravel	2,550	59,160	68,340	128,606	9	12	15	15	20	24.3	35	35	35	35		147,706	9	12	15	15	21	25	33	35	35	35
Limestone - broken	2,600	60,320	69,680	129,766	9	12	15	15	20	24.3	29	35	35	35		149,046	9	12	15	15	21	25	33	35	35	35
Limestone - crushed	2,600	60,320	69,680	129,766	9	12	15	15	20	24.3	29	35	35	35		149,046	9	12	15	15	21	25	33	35	35	35
Sandstone	2,550	59,160	68,340	128,606	9	12	15	15	20	24.3	35	35	35	35		147,706	9	12	15	15	21	25	33	35	35	35
Shale	2,100	48,720	56,280	118,166	12	12	15	15	20	24.3	35	35	35	35		135,646	12	12	15	15	21	25	35	35	35	35
Stone - crushed	2,700	62,640	72,360	132,086	9	12	15	15	20	24.3	29.5	35	35	35		151,726	9	12	15	15	21	25	33.5	35	35	35
Tailings - Coarse (dry, loose sand)	2,400	55,680	64,320	[illegible]	12	12	15	15	20	24.3	35	35	35	35		143,[illegible]	9	12	15	15	21	25	32	35	35	35
Tailings - Slimes (loose sand & clay)	2,700	62,640	72,360	[illegible]2,086	9	12	15	15	20	24.3	29.5	35	35	35		151,[illegible]	9	12	15	15	21	25	33.5	35	35	35
Topsoil	1,600	37,120	42,880	[illegible]06,566	12	14.8	14.8	20	24.3	24.3	35	35	35	35		122,[illegible]	12	15	15	20.8	25	25	35	35	35	35
				[illegible]mpty	14.8	20	24	[illegible]3	35	35	35	35	35	35		[illegible]	[illegible]	[illegible]	[illegible]	25	35	35	35	35	35	35

assumes medium compression breaking

Source: Caterpillar Performance Handbook Edition 47

Superseded

Weight of Materials				Uphill Speed (mph) - Power vs. Total Resistance (%Grade + Rolling Resistance)																				
				725C2												730C2								
Material	lb/yd3	Truck 725C2 Load (lb)	Truck 730C2 Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2		Loaded Weight (lb)	18	16	14	12	10	8	6	4	2
Alluvium	2,900	49,300	58,580	100,095	5.2	6.1	6.9	8	9.5	11.6	15.1	20.5	31.9		111,711	6	6.7	7.6	8.8	10.5	13.2	17	23.2	33.3
Basalt	3,300	56,100	66,660	106,895	4.6	5.7	6.5	7.6	8.9	10.9	14.1	19.6	31.1		119,791	5.7	6.3	7.1	8.2	9.8	12.3	16.1	22.1	32.7
Clay - Dry	2,500	42,500	50,500	93,295	5.8	6.6	7.4	8.4	10.2	12.2	16.1	21.8	32.7		103,631	6.5	7.2	8.2	9.4	11.2	14.2	18.1	24.4	33.8
Granite - broken	2,800	47,600	56,560	98,395	5.3	6.2	7.1	8.1	9.7	11.8	15.3	20.6	32.2		109,691	6.1	6.8	7.7	8.9	10.7	13.4	17.3	23.5	33.4
Gravel	2,550	43,350	51,510	94,145	5.7	6.5	7.4	8.3	10.1	12.1	16	21.5	32.7		104,641	6.5	7.1	8.2	9.3	11.1	14	18	24.2	33.8
Limestone - broken	2,600	44,200	52,520	94,995	5.7	6.4	7.3	8.3	10	12.1	15.9	21.5	32.8		105,651	6.4	7.1	8.1	9.2	11	13.9	17.9	24.1	33.7
Limestone - crushed	2,600	44,200	52,520	94,995	5.7	6.4	7.3	8.3	10	12.1	15.9	21.5	32.8		105,651	6.4	7.1	8.1	9.2	11	13.9	17.9	24.1	33.7
Sandstone	2,550	43,350	51,510	94,145	5.7	6.5	7.4	8.3	10.1	12.1	16	21.5	32.7		104,641	6.5	7.1	8.2	9.3	11.1	14	18	24.2	33.8
Shale	2,100	35,700	42,420	86,495	6.3	7.1	7.9	9.1	10.9	12.9	17	23	33.3		95,551	7	7.8	8.9	10.2	12.3	15.3	19.2	25.9	34.4
Stone - crushed	2,700	45,900	54,540	96,695	5.5	6.3	7.2	8.2	9.8	11.9	15.6	21.2	32.4		107,671	6.3	7	7.9	9.1	10.8	13.6	17.6	23.8	33.6
Tailings - Coarse (dry, loose sand)	2,400	40,800	48,480	91,595	5.9	6.7	7.6	8.5	10.4	12.4	16.4	22	33		101,611	6.6	7.3	8.4	9.6	11.4	14.5	18.4	24.8	34
Tailings - Slimes (loose sand & clay)	2,700	45,900	54,540	96,695	5.5	6.3	7.2	8.2	9.8	11.9	15.6	21.2	32.4		107,671	6.3	7	7.9	9.1	10.8	13.6	17.6	23.8	33.6
Topsoil	1,600	27,200	32,320	77,995	6.9	7.8	8.5	10.1	12	14.7	18.5	24.6	33.9		85,451	7.8	8.7	9.9	11.3	13.7	16.7	20.9	27.9	34.9
				Empty	10.4	11.6	12.7	14.9	17.8	20.4	25.2	31.7	35		Empty	12.6	14	15.9	17.8	20.4	24	29.2	33.7	35

Source: Caterpillar Performance Handbook Edition 47

Weight of Materials				Uphill Speed (mph) - Rimpull vs. Total Resistance (%Grade + Rolling Resistance)																		
				735C										740C								
Material	lb/yd3	Truck 735C Load (lb)	Truck 740C Load (lb)	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2	Loaded Weight (lb)	18	16	14	12	10	8	6	4	2
Alluvium	2,900	67,280	77,720	136,726	5.4	6.6	7.4	9	10.2	12.4	18	24	33	157,086	5.6	6.2	7.4	8.7	10.4	12.8	17.2	24	34
Basalt	3,300	76,560	88,440	146,006	5.1	5.8	6	8.2	9.8	12.1	16.8	22	32.8	167,806	5.2	5.8	7	8	10	12.2	16	22.4	34
Clay - Dry	2,500	58,000	67,000	127,446	6	7.1	8.9	9.6	11.2	13.5	19.2	26.8	33.2	146,366	6	7	7.9	9.6	11.1	13.4	19.3	25.7	34
Granite - broken	2,800	64,960	75,040	134,406	5.8	6.8	7.5	9.1	10.4	12.7	18.5	25.5	32.8	154,406	5.7	6.6	7.5	9	10.6	12.8	17.3	22.9	34
Gravel	2,550	59,160	68,340	128,606	6	7	8.9	9.5	11.2	13	19	26.7	33.2	147,706	5.9	7	7.8	9.5	11	13.3	19.2	25.7	34
Limestone - broken	2,600	60,320	69,680	129,766	5.9	6.8	7.8	9.5	11	13	19.2	24.5	33	149,046	5.8	6.8	7.8	9.5	10.9	13.2	19.2	25.7	34
Limestone - crushed	2,600	60,320	69,680	129,766	5.9	6.8	7.8	9.5	11	13	19.2	24.5	33	149,046	5.8	6.8	7.8	9.5	10.9	13.2	19.2	25.7	34
Sandstone	2,550	59,160	68,340	128,606	6	7	8.9	9.5	11.2	13	19	26.7	33.2	147,706	5.9	7	7.8	9.5	11	13.3	19.2	25.7	34
Shale	2,100	48,720	56,280	118,166	6.7	7.4	9.1	10.2	11.8	15.4	20.5	27.5	33.5	135,646	6.4	7.4	8.6	10.2	11.9	14.3	20.2	28.4	34
Stone - crushed	2,700	62,640	72,360	132,086	5.4	6.8	7.4	9.2	10.6	12.7	18.5	25	33	151,726	5.7	6.7	7.7	9.3	10.8	13	18.3	25.6	34
Tailings - Coarse (dry, loose sand)	2,400	55,680	64,320	125,126	6.1	7	8.2	9.6	11.3	14.6	19.6	27	33.2	143,686	6	7.2	8	9.8	11.1	13.8	19.3	27	34
Tailings - Slimes (loose sand & clay)	2,700	62,640	72,360	132,086	5.4	6.8	7.4	9.2	10.6	12.7	18.5	25	33	151,726	5.7	6.7	7.7	9.3	10.8	13	18.3	25.6	34
Topsoil	1,600	37,120	42,880	106,566	7.3	8.6	9.7	11	12.6	17.2	21.2	29	33.5	122,246	7.4	8.2	9.7	11	12.8	16.4	21.5	29.3	34
				Empty	11.5	12.4	15.2	17.8	20.3	24.6	30.3	33	33.5	Empty	11.3	12.5	14	16.6	20.8	23	29.5	33.8	34

Source: Caterpillar Performance Handbook Edition 47

Productivity - Wheel Loaders

Wheel Loader Specifications															
Description	926M	930M	950M	966M	972M	972M (2)	980M	988K	988K (2)	990K	992K	992K (2)	994K	994K (2)	L2350
Payload Capacity (yd3)															
Struck	2.2	2.5	3.5	4.3	4.7	4.7	6	6.9	6.9	9.5	12.4	12.4	18.3	18.3	
Heaped	2.7	3	4.1	5	5.6	5.6	7.1	8.33	8.33	11.25	15	15	22.5	22.5	
Average	2.45	2.75	3.8	4.65	5.15	5.15	6.55	7.62	7.62	10.38	13.7	13.7	20.4	20.4	53
Matched Truck	N/A	N/A	N/A	725C2	730C2	735C	N/A	740C	770G	773G	777G	785D	789D	793F	797F
Average Cycle Time (min)	0.475	0.475	0.475	0.525	0.525	0.525	0.525	0.575	0.575	0.575	0.575	0.65	0.65	0.65	0.75
Passes to Fill Truck	N/A	N/A	N/A	4	4	5	N/A	4	4	4	5	7	10	10	6
Altitude Deration Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Operator Skill	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Time to Fill Truck	N/A	N/A	N/A	2.1	2.1	2.63	N/A	2.3	2.3	2.3	2.88	4.55	6.5	6.5	4.6
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Loader matched to small truck fleet
Loader matched to medium truck fleet
Loader matched to large truck fleet
Loader matched to extra large truck fleet

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly and

992K (2) - can be used to load 785 with 6 passes

Source: Caterpillar Performance Handbook Edition 47; LeTourneau/actual Chilean mine operating data for L2350.

Superseded

Matched Wheeled Loader Buckets		
Wheeled Loaders	General Purpose yd3	Heavy Duty Rock yd3
930M	2.85	-
950M	4.25	-
966M	5.5	-
972M	6	-
980M	7.88	-
988K	-	8.3
990K	-	11.25
992K	-	14
994K	-	26.5

note: capacities are 2:1 heaped, SAE standards
NOTES: Buckets for both Track Excavators and Wheel Loaders are offered by CECo & available for the rental rates quoted. Bucket sizes and capacities obtained from CATERPILLAR PERFORMANCE HANDBOOK, ED 47; Section 23, Wheel Loader

Bucket capacity and width dictated by material weight and configuration, ie., shot, loose, tight bank, stockpile, rock, etc. Typical Nevada applications were used to determine above bucket capacities as related to materials & densities. Job site specifics may alter specific bucket requirements. (Cashman Equipment, Elko, Nevada)

Productivity - Shovels

Shovel/Excavator Specifications (Komatsu or Hitachi equivalent)

Description	PC2000	PC3000	PC4000	PC5500	PC8000	EX2500
Payload Capacity (yd3)						
Struck	10.46	18.84	26.16	33.48	47.09	
Heaped	14.39	25.9	35.97	46.04	64.75	
Average	12.43	22.37	31.07	39.76	55.92	19.63
Matched Truck	740	777D	785C	793C	797B	789C
Average Cycle Time (min)	0.49	0.49	0.59	0.59	0.69	0.68
Passes to Fill Truck	2.05	2.84	3.38	4.69	5.11	6
Altitude Deration Factor	1	1	1	1	1	1
Operator Skill	1	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83
Time to Fill Truck	1.68	2.33	3.32	4.61	5.86	6.08
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5

Shovel matched to small truck fleet
Shovel matched to medium truck fleet
Shovel matched to large truck fleet
Shovel matched to extra large truck fleet

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

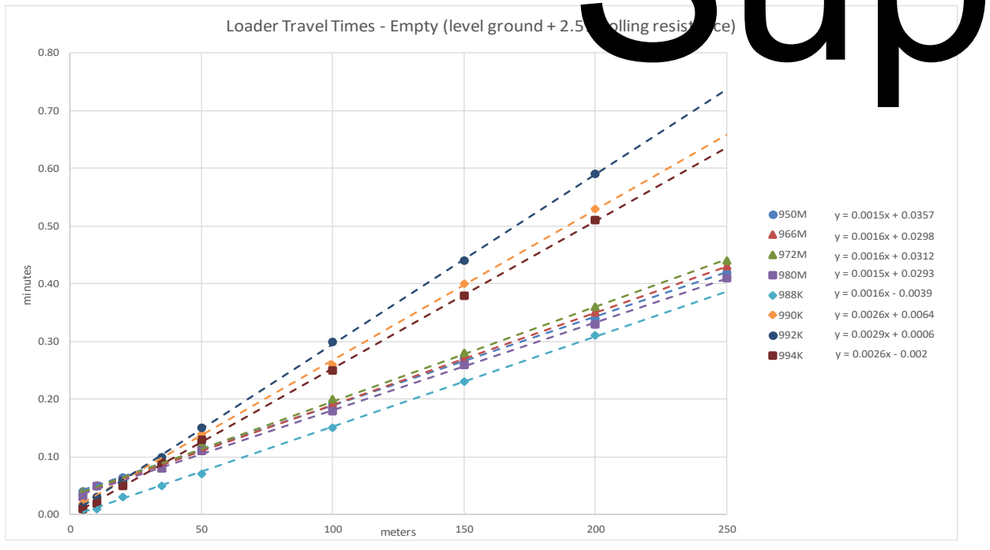
Source: Caterpillar Performance Handbook Edition 46; Komatsu actual Peruvian mine (Lagunas Norte) operating data for PC4000.

Loader Travel Times - Empty

Loader Model	Distance (ft) 16.4041995	32.808399	65.616798	114.8293965	164.041995	328.08399	492.125985	656.16798	820.209975	a	b
950M	0.04	0.05	0.07	0.09	0.12	0.19	0.27	0.34	0.42	0.0015	0.0357
966M	0.04	0.05	0.06	0.08	0.11	0.19	0.27	0.35	0.43	0.0016	0.0298
972M	0.04	0.05	0.06	0.08	0.12	0.20	0.28	0.36	0.44	0.0016	0.0312
980M	0.03	0.05	0.06	0.08	0.11	0.18	0.26	0.33	0.41	0.0015	0.0293
988K	0.01	0.01	0.03	0.05	0.07	0.15	0.23	0.31		0.0016	0.0039
990K	0.02	0.03	0.06		0.14	0.26	0.40	0.53		0.0026	0.0064
992K	0.02	0.03	0.06	0.10	0.15	0.30	0.44	0.59		0.0029	0.0006
994K	0.01	0.02	0.05	0.09	0.13	0.25	0.38	0.51		0.0026	-0.002
Travel Time (min) =	a(distance) + b										

Source: Caterpillar Performance Handbook Edition

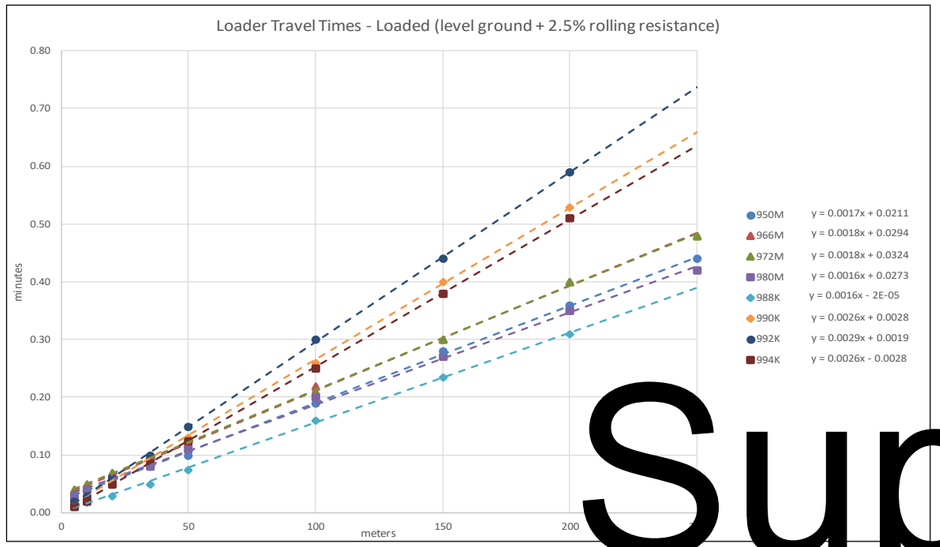
Superseded



Closure Cost Estimate
Productivity

Loader Travel Times - Loaded											
Loader Model	Distance (ft)									a	b
	16.4041995	32.808399	65.616798	114.8293965	164.041995	328.08399	492.125985	656.16798	820.209975		
950M	0.03	0.04	0.06	0.08	0.10	0.19	0.28	0.36	0.44	0.0017	0.0211
966M	0.04	0.05	0.06	0.09	0.12	0.22	0.30	0.40	0.48	0.0018	0.0294
972M	0.04	0.05	0.07	0.10	0.12	0.21	0.30	0.40	0.48	0.0018	0.0324
980M	0.03	0.04	0.06	0.08	0.11	0.20	0.27	0.35	0.42	0.0016	0.0273
988K	0.01	0.02	0.03	0.05	0.08	0.16	0.24	0.31		0.0016	-0.00002
990K	0.02	0.03	0.06	0.09	0.13	0.26	0.40	0.53		0.0026	0.0028
992K	0.02	0.03	0.06	0.10	0.15	0.30	0.44	0.59		0.0029	0.0019
994K	0.01	0.02	0.05	0.09	0.13	0.25	0.38	0.51		0.0026	-0.0028
Travel Time (min) =	a(distance) + b										

Source: Caterpillar Performance Handbook Edition 47



Superseded

Productivity - Motor Graders

Motor Grader Specifications

Description	12M2	14M	16M3	24M
Grader Width (ft)	8.25	9.2	11.2	14
Blade Width (ft)	12	14	16	24
Number of Shanks	5	7	7	7
Ripper Width (7 shanks) (ft)	7.6	8.5	9.75	12.83
Road Maintence Speed (mph)				
Minimum	3	3	3	3
Maximum	9.5	9.5	9.5	9.5
Average	6.25	6.25	6.25	6.25
Hourly Production (ft)	33,000	33,000	33,000	33,000
Ripping Speed (mph)	1	1	1	1
Minimum	0	0	0	0
Maximum	3	3	3	3
Average	1.5	1.5	1.5	1.5
Altitude Deration Factor	1	1	1	1
Ripping Hourly Production (with job efficiency correction & altitude deration factors) (excluding manuever time) (ft)	6,574	6,574	6,574	6,574
Maneuver time per pass (min)	0.5	0.5	0.5	0.5
Operator Skill	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83

Source: Caterpillar Performance Handbook Edition 47

Productivity - Excavators

Track Excavator Specifications

Description	312F	320F	325F	330F	349F	374F	390F
Bucket Capacity (yd3)	0.68	1.57	2.22	2.22	3.00	4.60	7.30
Fill Factor	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Average Bucket Load (yd3)	0.612	1.413	1.998	1.998	2.7	4.14	6.57
Soil Type	packed earth	hard clay	hard clay	hard clay	hard clay	hard clay	hard clay
Job Condition	med-hard	med-hard	med-hard	med-hard	med-hard	med-hard	med-hard
Cycle Times (minutes) - based on hard clay							
Load Bucket	0.07	0.09	0.09	0.09	0.13	0.1	0.19
Swing Loaded	0.06	0.06	0.06	0.07	0.07	0.09	0.06
Dump Bucket	0.03	0.03	0.04	0.04	0.02	0.04	0.1
Swing Empty	0.05	0.05	0.06		0.06	0.07	0.1
Total Cycle Time	0.21	0.23	0.25	0.27	0.28	0.3	0.4
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.8
Operator Skill	1	1	1	1	1	1	1
Altitude Deration Factor	1	1	1	1	1	1	1
Corrected Productivity (LCY/hr)	145	306	398		480		9
Exploration Road Cycle Time [1] (min)	N/A	0.38	0.4	N/A	0.42	N/A	N
Exploration Road Corr Prod (LCY/hr)	N/A	185	249	N/A	320	N/A	N
Track Width (ft)	8.17	9.17	9.83	10.5	11.42	11.5	11

Source: Caterpillar Performance Handbook Edition 47

Superseded

Concrete Breaking Production

Track Excavator w/Hammer Specifications

Description	320F	349F	374F
Hydraulic Hammer	H120Es	H160Es	H180Es
Material	reinforced concrete		
Min Shift Production (yd3/8hr)	160	300	385
Max Shift Production (yd3/8hr)	300	850	1,705
Avg Shift Production (8hr)	230	575	1,045
Job Efficiency	0.83	0.83	0.83
Altitude Deration Factor	1	1	1

Source: Caterpillar Performance Handbook Edition 47

Drill Hole Plugging Productivity

Drill Hole Plugging Productivity		
Description	**Drill Rig**	**Pump Rig**
Move-to-hole, set-up, tear-down [4]	2 hrs	2 hrs
Trip in tremmie pipe (1) (ft/hr)	500	
Pulling casing (threaded, not cemented) (1) (ft/hr)	200	
FALSE	Productivity (all passes) (2) (ft/hr)	Passes
4	60	4
6	60	4
8	50	4
12	45	6
18	40	9
24	28	12
Perforation setup,trip in/out,tear-down	2 hrs	
Perforation tool cost (wear cost) [3]	2.5 hrs	
Inert Material Placement (backfill)		
Grouting/Cement [4] (cy/hr)		5.33
Cuttings (see below) (cy/hr)		3.5

Sources:
1. Drillers daily logs from Newmont, Barrick, New West Gold, Agnico Eagle, Idaho General Mines Inc.
2. Drillers daily logs from Newmont, Barrick, Target Minerals
3. Drillers daily logs from Newmont
4. WDC Exploration, Dec 2005

Sournce: WDC Exploration, Dec 2005

Cuttings Placement Productivity		
Shift productivity (Means 02210-700-0120; Crew B11M)	28	(yd3/shift)
Shift length	8	hours
Estimated Hourly Productivity	3.5	(yd3/hr)

Superseded

Altitude Deration Table

	Elevation											
	0-760 m (0-2500')		760-1500 m (2500-5000')		1500-2300 m (5000-7000')		2300-3000 m (7500-10,000')		3000-3800 m (10,000-12,000')		3800-4600 m (12,500-15,000')	
MODEL	CAT	User	CAT	User	CAT	User	CAT	User	CAT	User	CAT	User
Bulldozers												
D6T	100		100		100		100		100		100	
D6R w/ Winch	100		100		100		100		100		100	
D7E	100		100		100		100		99		95	
D8T	100		100		100		100		100		100	
D9T	100		100		100		100		100		100	
D10T2	100		100		100		100		100		100	
D11T	100		100		100		100		100		86	
Wheeled Dozers												
824K	100		100		100		100		92		84	
834K	100		100		100		100		98		85	
844K	100		100		100		98		93		83	
854K	100		100		100		98		93		79	
Graders												
12M2	100		100		100		100		100		99	
14M	100		100		100		100		100		100	
16M3	100		100		100		100		100		100	
24M	100		100		100		100		91		86	
Excavators												
312F	100		100		100		83		78		73	
320F	100		100		100		87		83		76	
325F	100		100		100		100		100		100	
330F	100		100		100		100		100		100	
349F	100		100		100		100		93		93	
374F	100		100		100		100		100		95.5	
390F	100		100		100		100		100		95.5	
Scrapers												
631K	100		100		100		100		97		90	
637K	100		100		100		98		80		64	
Loaders												
926M	100		100		100		100		92		81	
930M	100		100		100		100		90		77	
950M	100		100		100		100		97		91	
966M	100		100		100		99		91		79	
972M	100		100		100		99		89		79	
980M	100		100		100		100		92		88	
988K	100		100		100		100		98		86	
990K	100		100		100		99		93		83	
992K	100		100		100		99				79	
994K	100		100		100		100		99		97	
L2350	100		100		100		100		96		90	
Shovels												
PC2000	100		100		100		100		96		90	
PC3000	100		100		100		100		96		90	
PC4000	100		100		100		100		96		90	
PC5500	100		100		100		100		96		90	
PC8000	100		100		100		100		96		90	
EX2500	100		100		100		100		96		90	
Other Equipment												
H120Es (fits 325)	99		97		95		91		91		91	
H160Es (fits 349)	99		97		95		91		91		91	
H180Es (fits 374/390)	100		100		98		95		91		86	
Demolition Shears	100		100		100		100		91		86	
S3050 (fits 320/325/330)	100		100		98		95		91		100	
S3070 (fits 330/349)	100		100		100		100		91		86	
S3090 (fits 374/390)												
Demolition Grapples												
G315B (fits 320/325)												
G320B (fits 325/330)												
G330 (fits 349/374)												
Other Equipment												
420F2	100		100		100		100		100		100	
430F2	100		100		100		100		100		100	
CS54B												
CS64B												
CP54B												
CP68B												
Light Truck - 1.5 Ton												
Supervisor's Truck												
Flatbed Truck												

Superseded

Trucks												
725C2	100		100		100		100		100		95	
730C2	100		100		100		100		100		95	
735C	100		100		100		100		99		91	
740C	100		100		100		100		99		91	
770G	100		100		100		99		96.5		89	
773G	100		100		100		100		100		100	
777G	100		100		100		100		100		100	
785D	100		100		100		100		100		98.5	
789D	100		100		100		98.5		93		86	
793F	100		100		100		100		100		100	
797F	100		100		100		100		100		100	
613E (5,000 gal)	100		100		100		100		95		87	
621E (8,000 gal)	100		100		100		100		97		90	
777G H2O Truck	100		100		100		100		93		87	
785D H2O Truck	100		100		100		93		86		80	

Notes:
User entered deration value will override values from CAT Performance Handbook (Ed. 47), except L2350 Loader: data from actual mine performance in Chile.
Komatsu altitude deration assumed from LeTourneau L2350

Fuel Use

EQUIPMENT TYPE (1)	Fuel Use (1) gal/hr	User Override	Fuel Use (1) gal/hr
Bulldozers			
D6T	6.45		6.45
D6R w/ Winch	6.45		6.45
D7E	5.9		5.90
D8T	10.4		10.40
D9T	13.5		13.50
D10T2	18.7		18.70
D11T	26.2		26.20
Wheeled Dozers			
824K	11.3		11.30
834K	13.25		13.25
844K	15		15.00
854K	19		19.00
Motor Graders			
12M2	3.85		3.85
14M	5.05		5.05
16M3	6.25		6.25
24M	11.75		11.75
Track Excavators			
312F	2.05		2.05
320F	3.6		3.60
325F	3.7		3.70
330F	5.15		5.15
349F	9.75		9.75
374F	10.3		10.30
390F	11.75		11.75
Scrapers			
631K	15.12		15.12
637K	24.345		24.35
Wheeled Loaders			
926M	1.8		1.80
930M	1.9		1.90
950M	3.1		3.10
966M	3.75		3.75
972M	4.15		4.15
980M	5.5		5.50
988K	10.4		10.40
990K	17.6		17.60
992K	23		23.00
994K	41.4		41.40
L2350	66		66.00
Shovels			
PC2000	37		37.00
PC3000	50		50.00
PC4000	70		70.00
PC5500	119		119.00
PC8000	149		149.00
EX2500	51		51.00
Hydraulic Hammers			
H120Es (fits 325)	N/A		
H160Es (fits 349)	N/A		
H180Es (fits 374/390)	N/A		
Demolition Shears			
S3050 (fits 320/325/330)	N/A		
S3070 (fits 330/349)	N/A		
S3090 (fits 374/390)	N/A		

Superseded

Demolition Grapples			
G315B (fits 320/325)	N/A		
G320B (fits 325/330)	N/A		
G330 (fits 349/374)	N/A		
Other Equipment			
420F2	4.3		4.30
430F2	4.7		4.70
CS54B	3.35		3.35
CS64B	3.35		3.35
CP54B	3.35		3.35
CP68B	3.6		3.60
Light Truck - 1.5 Ton	1.5		1.50
Supervisor's Truck	1		1.00
Flatbed Truck	4.7		4.70
Air Compressor + tools	1		1.00
Welding Equipment	2		2.00
Heavy Duty Drill Rig	12		12.00
Pump (plugging) Drill Rig	10		10.00
Concrete Pump	10		10.00
Gas Engine Vibrator	1		1.00
Generator 5KW	1.5		1.50
HDEP Welder (pipe or liner)	2		2.00
5 Ton Crane	3		3.00
20 Ton Crane	4		4.00
50 Ton Crane	4.7		4.70
120 Ton Crane	5.2		5.20
Trucks			
725C2	5.05		5.05
730C2	5.4		5.40
735C	6.95		6.95
740C	7.8		7.80
770G	4.95		4.95
773G	8.25		8.25
777G	13.55		13.55
785D	25.1		25.10
789D	36.85		36.85
793F	44.75		44.75
797F	67.65		67.65
613E (5,000 gal)	6		6.00
621E (8,000 gal)	10.75		10.75
777G H2O Truck	13.55		13.55
785D H2O Truck	25.1		25.10
Dump Truck (10-12 yd3)	5.2		5.20
Tractor/Trailer (20 ton)	14		14.00
Tractor/Trailer (50 ton)	18		18.00
Tractor/Trailer (80 ton)	22		22.00

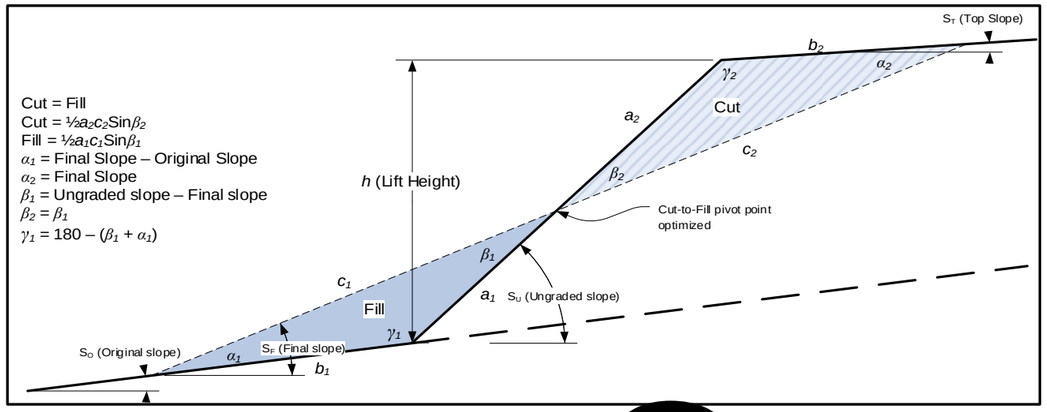
NOTES:
(1) Fuel use Source: Caterpillar Performance Handbook (Ed. 47)
(2) assumes 24 hr tank

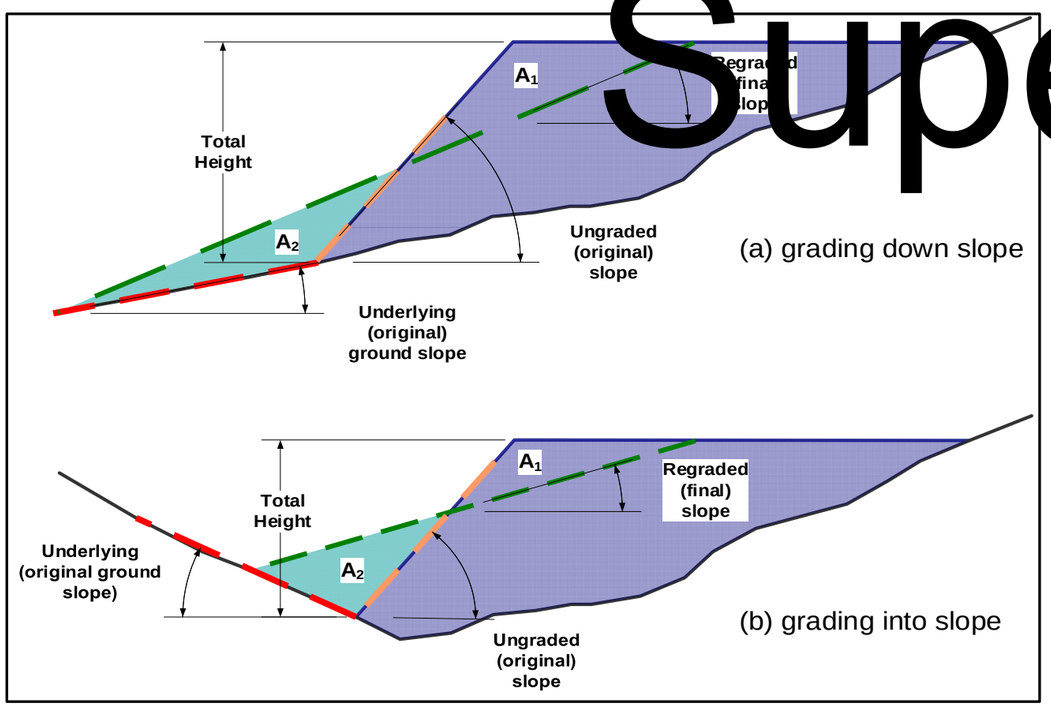
Superseded

FIGURES

These figures show key inputs to the model and important calculations used by the model

Slope Regrading Volumes





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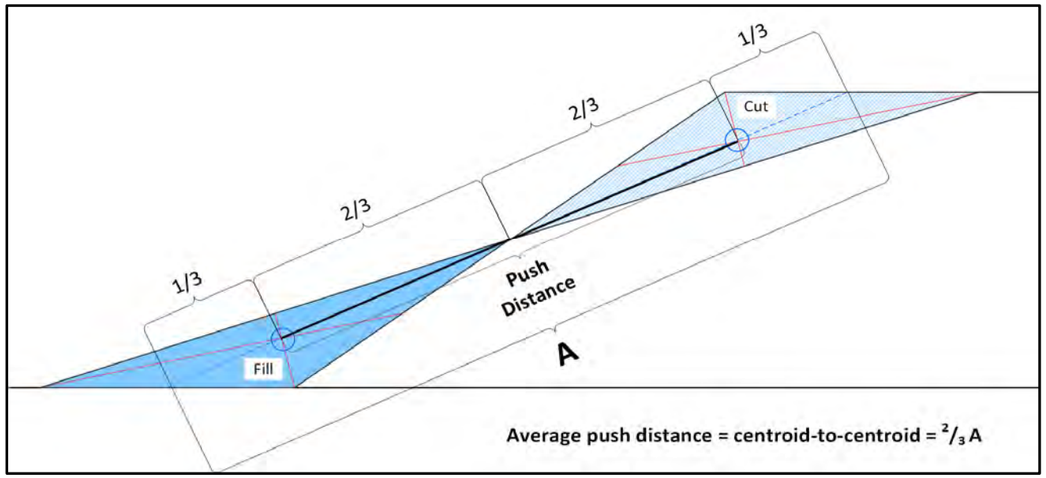
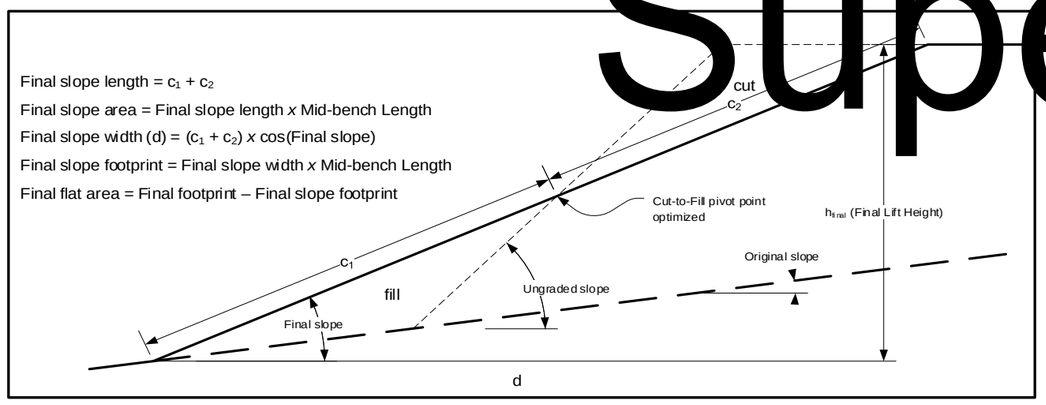
Slope Regrading Push Distance

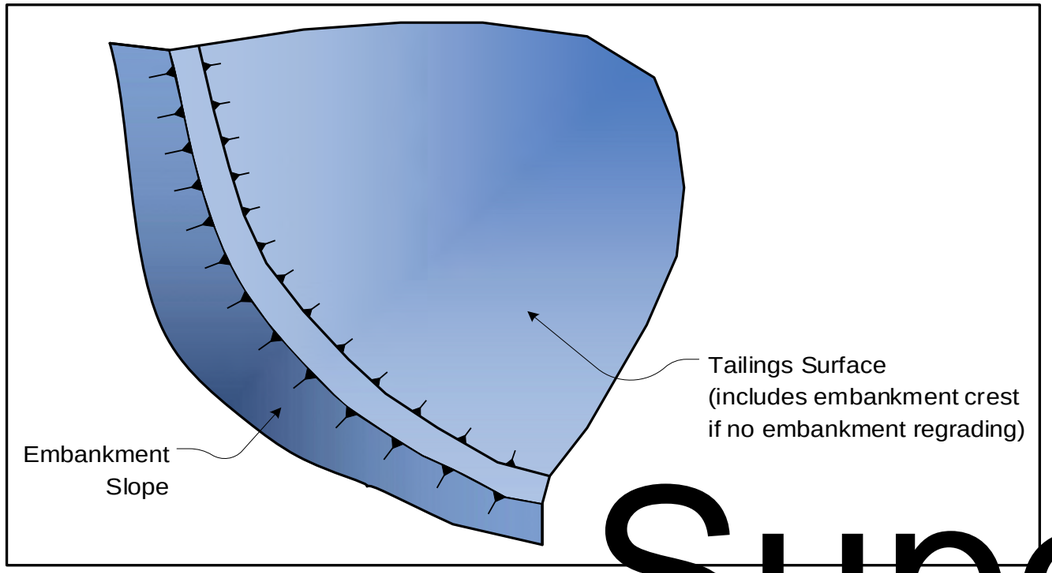


Slope/Flat Area Calculations

Superseded

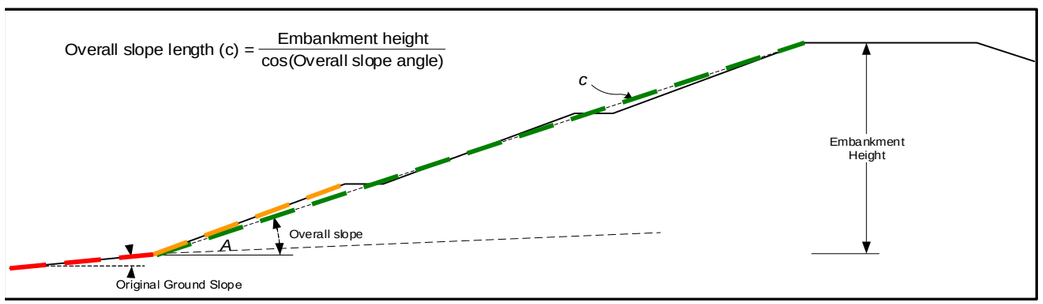


Tailings Impoundments



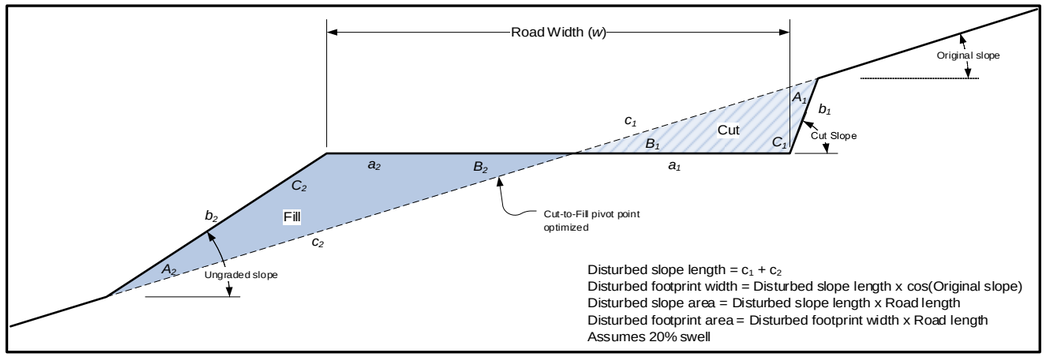
Superseded

Tailings Embankments



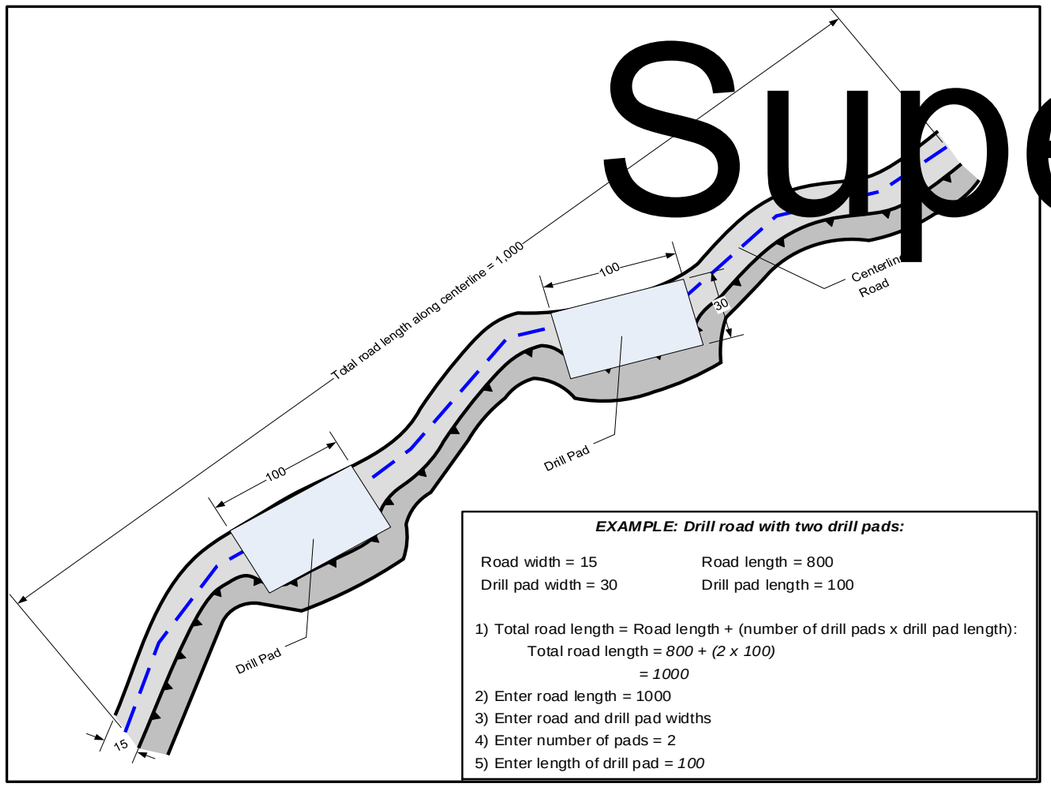
Closure Cost Estimate
Figures

Road Regrading Volume Calculations



Disturbed slope length = $c_1 + c_2$
Disturbed footprint width = Disturbed slope length x cos(Original slope)
Disturbed slope area = Disturbed slope length x Road length
Disturbed footprint area = Disturbed footprint width x Road length
Assumes 20% swell

Exploration Road Calculations



EXAMPLE: Drill road with two drill pads:

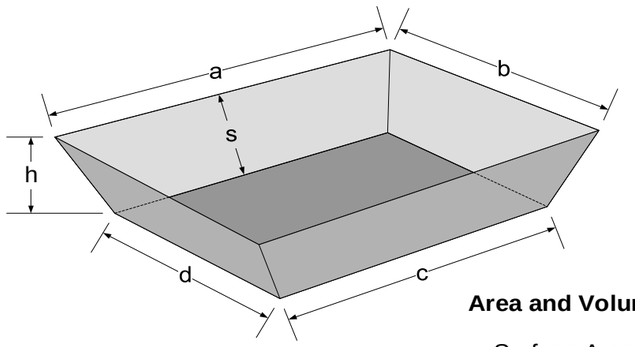
Road width = 15 Road length = 800
Drill pad width = 30 Drill pad length = 100

1) Total road length = Road length + (number of drill pads x drill pad length):
   Total road length = *800 + (2 x 100)*
   = *1000*
2) Enter road length = 1000
3) Enter road and drill pad widths
4) Enter number of pads = 2
5) Enter length of drill pad = *100*

Superseded

Closure Cost Estimate
Figures

Pond Volume Calculations



Area and Volume of the Frustrum of a Pyramid

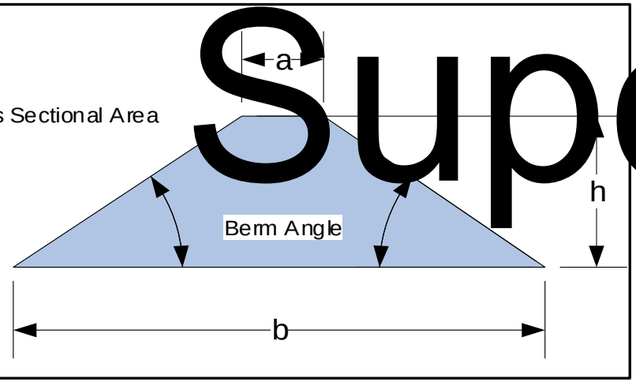
Surface Area = $ab + cd + (a+b+c+d) \times \frac{s}{2}$

Volume = $\frac{h\,(ab + cd + \sqrt{abcd})}{3}$

Berm Volume Calculations

Cross Sectional Area =

Berm Volume = Berm Length x Cross Sectional Area

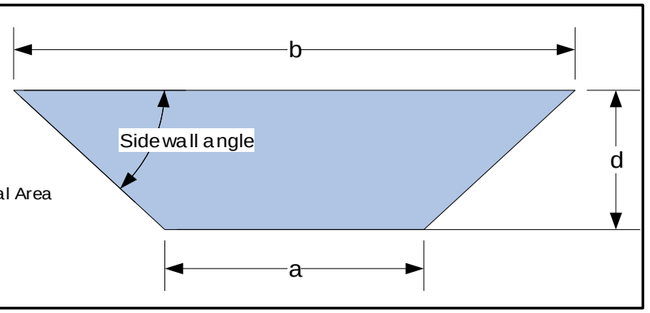


Superseded

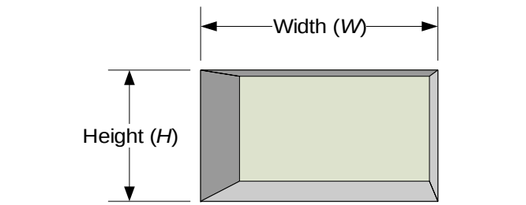
Ditch Volume Calculations

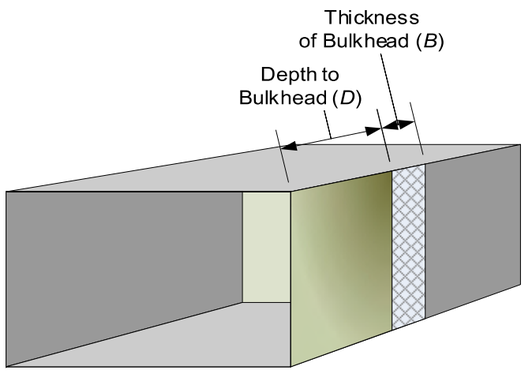
Cross Sectional Area = $\frac{(a+b)}{2} \times d$

Ditch Volume = Ditch Length x Cross Sectional Area



Portal/Adit Measurements

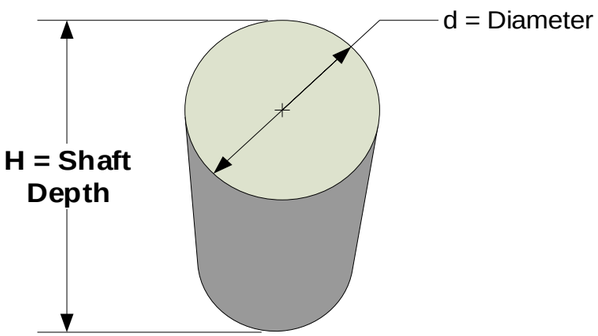




Cross-Sectional Area (A) = *W* x *H*
Volume of Concrete Bulkhead = *A* x *B*
Volume of Backfill = *A* x *D*

Superseded

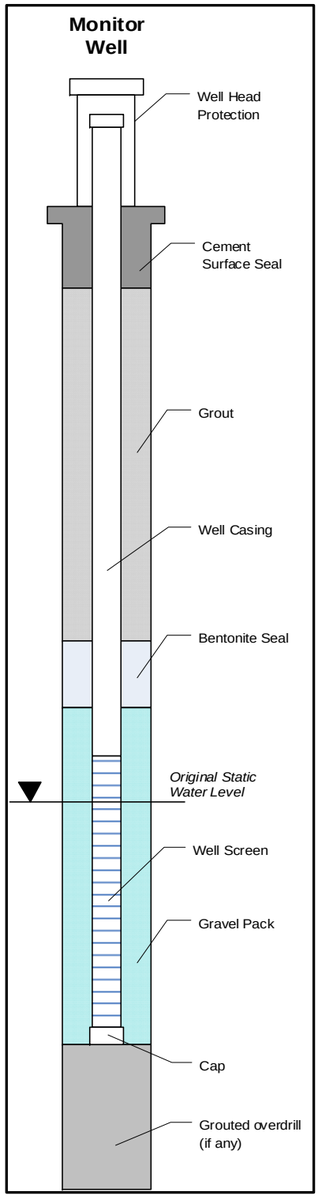
Shaft Measurements



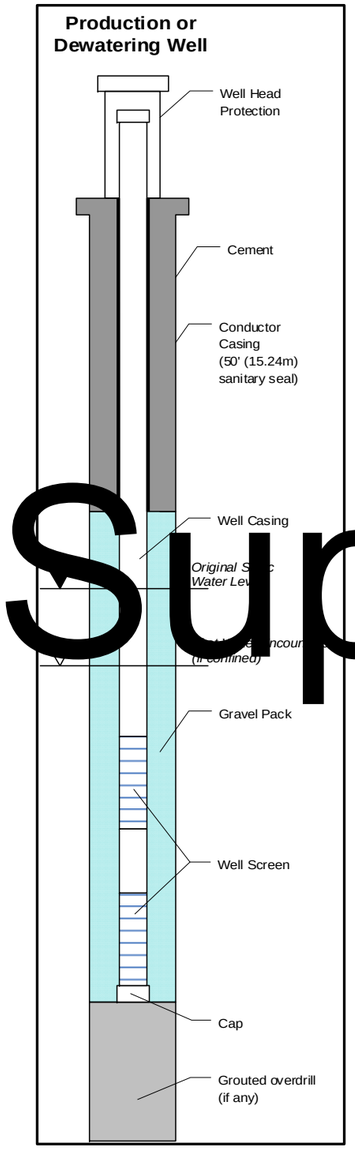
Radius (r) = ½d
Cross-Sectional Area (A) = πr^2
Volume = A x H

Closure Cost Estimate
Figures

Production Well



Monitor Well



Superseded

STANDARDIZED RECLAMATION COST ESTIMATOR
User Settings
Version 2 - Beta 01

Cost Estimate Type	Alias*
Life-of-Mine	LOM
Financial Assurance	FA
Asset Retirement Obligation	ARO

Note: Aliases **cannot** use any of the following characters: \ / * ? : [ ]

Other Settings	
Road Transport Speed (mph)	80
Site Speed limit (mph) (determines maximum speed for all haul fleets)	35.0
Maximum Loader Haul to Crusher (ft)	200.0

Set Recalculation Option

Several of the actions in the worksheet will recalculate the entire workbook when completed. This can reduce the efficiency of the model. The options below allow the user to determine which of these actions will include a recalculation command at the end of the action.

For example, when adding numerous facilities to different sheets, it is best to turnoff recalculation for the Add Facility action by selecting FALSE below.

These options are only active if MANUAL is selected on the Formulas/Calculation Options menu. If FALSE is selected, then recalculation will not occur and must be requested manually, by entering Ctrl-Shift-W (recalculates current worksheet), Ctrl-Shift-R (recalculates entire model).

Note: Pressing the F9 key or selecting CALCULATE NOW from the Formulas/Calculation Options menu will recalculate all open workbooks.

Action	Recalc?
Add Facility	FALSE
Delete Facility	FALSE
Import User Data	FALSE

Superseded

STANDARDIZED RECLAMATION COST ESTIMATOR
User Tools
Version 2.0 - Beta 01

These tools allow easy access to some useful VBA routines and macros that are include in this Model Version

Keyboard Shortcuts	
SHORTCUT KEYS	**ACTION**
Ctrl-Shift-C	***Go to Table of Contents***
Ctrl-Shift-H	***Hide/Unhide Sheets***
Ctrl-Shift-I	***Go to Property Information Sheet***
Ctrl-Shift-O	***Open Toe Offset Calculator***
Ctrl-Shift-P	***Print Multiple Sheets***
Ctrl-Shift-R	***Recalculate Entire Model*** *(but only this workbook)*
Ctrl-Shift-S	***Show Slope Conversion***
Ctrl-Shift-T	***Go to Tools Sheet***
Ctrl-Shift-W	***Recalculate Current Sheet***
Ctrl-Shift-Z	***Paste Formulas -*** *First Use Ctrl-C to copy a range, then use the mouse (or keyboard) to select the paste range and then use this shortcut to paste formulas only from the copy range to the paste range. Equivalent to the Paste Special/Formulas command.*

Superseded

Closure Cost Estimate
User 01 Delete

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_Grassy
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Impe
Sheet Name: Delete

Superseded

Closure Cost Estimate
User 01 Delete

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rial Units

Superseded

Closure Cost Estimate
User 02 Delete

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_0
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**
Sheet Name: Delete

Facility	Area (acres)	Growth Media Depth (inches)	Volume Needed (Cy)	Volume Available (cy)
Underground Mine		12		-
Tailings Storage Facility		24	332,672	-
Temporary Waste Rock Storage Facility		12	9,680	-
Process Plant		12	7,623	-
Infrastructure and Ancillary Facilities		12		-
Roads		12	56,338	-
Yards and Laydown Areas		12	6,683	-
Growth Media Stockpiles		0	0	-
Water Supply		12		-
Power Supply		12		-
Stormwater Diversion Channels	0	0	0	-
Other Areas		12		-
Quarry		12		-
Contingency (20%)		12		-
Total		**-**		-
Borrow Area No. 1	-	-	-	111,101
Borrow Area No. 2	-	-	-	33,940
Borrow Area No. 3				52,835
Total	**-**	**-**	**-**	**197,876**
Net Excess				**33.977**

Superseded

Closure Cost Estimate
User 02 Delete

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Superseded

Closure Cost Estimate
User 03 Growth Media #s

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM **Cost Basis: Northern Nevada - Imperial Units**
Sheet Name: **Growth Media #s**

Growth Media Quantities

location	**cy**	**sources**
Growth Media No. 1	85103	TSF
Growth Media No. 2	38881	Qaurry
Growth Media No. 3	7018	Roads, Plant Site, Stormwater Diversion Channels
Borrow No. 1	451000	
Borrow No. 2	638000	
total	**1220002**	

		Growth Media Source					
Growth Media Demand		Growth Media No. 1	Growth Media No. 2	Growth Media No. 3	Borrow No. 1	Borrow No. 2	
Underground Mine	10,270		10,270				-
Tailings Storage Facility	124,856	90,586	20,371		61,635		(47,736)
Temporary Waste Rock Storage Facility	9,680			9,680			-
Process Plant	8		4,433		4,064		-
Infrastructure & Ancillary Facilities							-
Roads							-
Yards & Laydown Areas	9,437		2,36		07		-
Growth Media Stockpiles	-						-
Water Supply	733			7			-
Power Supply	8			81			-
Storm Water Diversion Channels	-						-
Exploration	1,130			435	695		-
Quarry	77,440					77,440	-
Reclamation Borrow Areas	-						-
Monitoring	-						-
Total	**242,124**						
	977,878	(5,483)	1,447	(3,911)	377,529	560,560	

Superseded

Distance from GM2 to Underground	#SPILL!
Distance from GM1 to TSF Embankment	2,220
Distance from GM1 to TSF Top	2,220
Distance from GM2 to TSF Top	5,720
Distance from BM1 to TSF Top	3,833
Distance from GM3 to TWRSF	4,103
Distance from GM2 to PP	2080
Distance from GM2 to furtherst yard	3880
Distance from GM3 to furthest production well	14227
Distance from GM3 to Security Shack	4572
Distance from BM2 to Quarry	5050

1,217,031
289,860
927,171

Distances are all centroids to centroids

Closure Cost Estimate
User 04

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units

Superseded

Closure Cost Estimate
User 04

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Superseded

Closure Cost Estimate
User 05

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_04242
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_2021
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units
Sheet Name:

Superseded

Closure Cost Estimate
User 05

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Superseded

Closure Cost Estimate
User 06

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_042423.xlsm
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_20210610.xlsm
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units
Sheet Name:

Superseded

Closure Cost Estimate
User 07

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_0
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units
Sheet Name:

Superseded

Closure Cost Estimate
User 07

42423.xlsm

20210610.xlsm

Superseded

Closure Cost Estimate
User 08

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_0
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units
Sheet Name:

Superseded

Closure Cost Estimate
User 08

42423.xlsm

20210610.xlsm

Superseded

Closure Cost Estimate
User 09

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_0
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units
Sheet Name:

Superseded

Closure Cost Estimate
User 09

42423.xlsm

20210610.xlsm

Superseded

Closure Cost Estimate
User 10

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_0
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units
Sheet Name:

Superseded

Closure Cost Estimate
User 10

42423.xlsm

20210610.xlsm

Superseded

Closure Cost Estimate
User 11

Project Name: Grassy Mountain Mine - Reclamation Plan
Date of Submittal: August 2022
File Name: SRCE_2.0_GrassyMountain_Beta05_PhII_TSF_NoStg0_Updated_0
Model Version: Version 2.0
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_v2.0_Imperial_Metric_GrassyMountain_
Cost Estimate Type: LOM Cost Basis: Northern Nevada - Imperial Units
Sheet Name:

Superseded

Closure Cost Estimate
User 11

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Date of Submittal: August 2022
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Date of Submittal: August 2022
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1) Save this file with a new name.
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5) Select "Choose" from the options. A Windows Explorer window will open.
6) Use the window to locate the file you wish to reference (this file if you want to change internal links tc

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› the current model) and select it.

APPENDIX C

POST-CLOSURE VEGETATION SUCCESS CRITERIA

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GRASSY MOUNTAIN MINE PROJECT

Post-Closure Vegetation Success Criteria

Prepared for:

Calico Resources USA Corp.

April 2023

Superseded

Post-closure Post-Closure Vegetation Success Criteria

Prepared for:
Grassy Mountain Mine Project
Calico Resources USA Corp.
665 Anderson Street
Winnemucca, Nevada 89445

This document has been prepared by SLR International Corporation (SLR). The material and data in this report were prepared under the supervision and direction of the undersigned.

Superseded

Jason Seamands
Senior Scientist

Rick Black
Principal Scientist, Ecology Lead

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FIGURES

Figure 1. Location Map

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Appendix A Terrestrial Vegetation Report-Data Sheets
Appendix B Malheur County Noxious Weed List
Appendix C Daubenmire Method

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ACRONYMS

BLM	Bureau of Land Management, Vale District Office
Calico	Calico Resource USA Corp.
CFR	Code Federal Regulation
cm	Centimeter
DOGAMI	Oregon Department of Geology and Mineral Industries
ft	foot/feet
ft^2	square feet
GPS	Global Positioning System
NAD 83	North American Datum of 1983
OAR	Oregon Administrative Rule
PLS	Pure Live Seed
SLR	SLR International Corporation
SSPS	Special Status Plant Species
stpd	short tons per day
TSF	Tailings Storage Facility
TWRSF	Temporary Waste Rock Storage Facility
USGS	United States Geological Survey

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EXECUTIVE SUMMARY

The proposed Grassy Mountain Mine Project (Project) will construct and operate an underground gold mine located in Malheur County, Oregon approximately 22 miles south-southwest of Vale, Oregon. As part of the final Post-closure Reclamation Plan, the Bureau of Land Management (BLM) and the Oregon Department of Geology and Mineral Industries (DOGAMI) have requested that the reclamation sites be given a quantifiable definition of vegetation success.

SLR International Corporation (SLR) reviewed the *Terrestrial Vegetation Baseline Report* (EM Strategies, 2018) to develop success criteria metrics. The metrics would detect vegetation success based on the existing vegetation communities and the revegetation goals in the *Reclamation Plan*.

The baseline report used the Daubenmire method to determine Canopy Cover, Percent Species Composition, and Percent Canopy. The baseline report also surveyed transects/plots that provided individual plant counts, which were converted to density.

The definition of success was determined to be 70 percent of baseline conditions, which were an average of samples taken in the dominant plant community on site. The parameters below were calculated from the baseline and represent success criteria, and were further grouped by growth form:

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1. Canopy Cover
    - Shrubs (6.58%); perennial grass (12.11%); perennial herb (0.07%); annual forb (1.40%) and non-native annual grass (8.66%)
2. Percent Species Composition
    - Shrubs (15.68%); perennial grass (27.44%); perennial herb (0.14%) annual forb (3.57%) and non-native annual grass (20.02%)
3. Percent Frequency
    - Shrubs (25.06%); perennial grass (65.80%); perennial herb (0.63%) annual forb (16.94%) and non-native annual grass (51.52%)
4. Density
    - Shrubs (2,083 plants per acre); perennial herb (52 plants per acre) and annual forb (52 plants per acre)

This report also includes guidance to prepare a detailed vegetation monitoring plan that provides the steps to successfully monitor the performance of the reclamation.

1. INTRODUCTION

On behalf of Calico Resources USA Corp. (Calico), SLR International Corporation (SLR) developed revegetation success criteria for reclamation sites during the post-closure period of the Grassy Mountain Mine Project (Project). This report was prepared to define the criteria for successful revegetation using methodology that meets Bureau of Land Management (BLM) and Oregon Department of Geology and Mineral Industries (DOGAMI) requirements. The report provides a detailed investigation into the baseline vegetation and develops vegetation performance standards that meet the objectives of the *Reclamation Plan*. The report also provides a vegetation monitoring approach to monitor and report the progress and performance of reclamation sites.

1.1 PROJECT BACKGROUND

The project proposes to construct and operate an underground gold mine located approximately 22 miles south-southwest of Vale, Oregon, located in Malheur County, Oregon. The Project is in the Great Basin Desert region, in eastern Oregon, near the border with Idaho. The northern access road is located at U.S. Highway 20 (U.S. 20), approximately 4 miles west of Vale, Oregon. The Project, as proposed, is located in Township 19 South, Range 44 East (T19S, R44E); T20S, R44E; T20S, R45E; T21S, R44E; and T22S, R44E, Willamette Base & Meridian (WB&M), Malheur County, Oregon (Figure 1). The proposed Mine site intersects Sections 5-8 of T22S, R44E. The approximate center of the mining area is located at 43° 40' 22.9512" latitude, -117° 21' 39.2502" longitude (NAD83).

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The Project would include the construction, operation, reclamation, and closure of the Mine and associated facilities. The ore will be extracted using conventional underground mining techniques, including drilling, blasting, mucking, loading, and hauling at a rate of approximately 1,200 short tons per day (stpd). The proposed mine would operate for approximately 8 years.

The closure of the mine would reclaim at total of approximately 487.9 acres to preconstruction condition. Reclamation would be constructed in five stages, including Closure Year 1-3 (Stages 1-3) and stages 4 and 5, occurring 29 years following cessation of mining. Post-closure activities would include recontouring and revegetating the Mine site to preconstruction vegetation cover and stability as closure proceeds through all five stages.

The reclamation seed mix is representative of a sagebrush-steppe plant community composed of shrubs and perennial grasses observed during the baseline botanical study and approved by BLM and DOGAMI. Because of this construction sequencing we anticipate that each stage of the reclamation will be seeded at different times (perhaps years apart), and plant community succession will follow a timeline unique to that closure stage. We anticipate that vegetation monitoring will be divided into planting units or vegetation monitoring units with each stage of reclamation.

1.2 REGULATORY SETTING

The revegetation success criteria prepared in this report, which includes methods for monitoring and a monitoring timeline for completion, was developed to meet the following regulatory requirements.

The final rule, 43 Code Federal Regulations (CFR) Part 3800 defined for mining claims and under the general mining laws, includes performance standards that govern the operation and reclamation of surface mining projects and stipulates under Section 3809.420(6)(b)(3) that the operator must *initiate reclamation at the earliest feasible time, and that reclamation shall include, but not limited to, the following: saving of topsoil for final application after reshaping of disturbed areas have been completed; measures to control erosion, landslides, and water runoff; measure to isolate, remove, or control toxic materials and reshaping the area disturbed, application of the topsoil, and revegetation of disturbed areas where reasonably practicable. When reclamation has been completed, the authorized officer shall be notified such that an inspection of the reclaimed areas can be made.*

Oregon Administrative Rule (OAR) 632, Division 037, Section 0130 Reclamation and Mine Closure Standards that pertain to revegetation include: *Revegetation shall be considered successful if it is consistent with the establishment of a self-sustaining ecosystem, comparable to undamaged ecosystems in the area of the mine; and vegetation test plots and chemical/physical soil and subsoil analysis may be required to insure establishment feasibility.*

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2. REVEGETATION PLAN

As discussed in the *Reclamation Plan* to facilitate revegetation, reclamation sites will be prepared by regrading, recontouring, and seeding with an approved seed mix. Salvageable growth media (top soil) from the Project construction will be stockpiled and reused to restore the local seedbank. Reclaimed sites will be restored to pre-disturbance vegetation cover and assemblage by planting a seed mixture composed of Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) and bluebunch wheatgrass (*Pseudoroegneria spicata*) with two additional perennial grass species, squirreltail (*Elymus elymoides*) and Sandberg bluegrass (*Poa secunda*), as illustrated in Table 1.

Table 1. Proposed Reclamation Seed Mixture

Common Name	Scientific Name	Life Form	Pounds/Acre (PLS)
Wyoming big sagebrush	*Artemisia tridentata ssp. wyomingensis*	shrub	0.1
bluebunch wheatgrass	*Pseudoroegneria spicata*	perennial grass	8
squirreltail	*Elymus elymoides*	perennial grass	2
Sandberg bluegrass	*Poa secunda*	perennial grass	1

PLS = pure live seed

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3. BASELINE VEGETATION STUDY SUMMARY

Three separate botanical studies were completed to characterize the terrestrial vegetation communities surrounding the proposed Mine site and access. The surveys were conducted in 2013, 2015, and 2017, and covered similar areas of interest using the same methodology. The 2013 study also included results from a 2012 survey. A final draft report was completed in October 2018 and includes all three studies. The botanical study includes vegetation information on plant community, plant species diversity, Special Status Plant Species (SSPS), and non-native and noxious weeds.

These baseline studies identified a total of five plant communities/alliances consisting of three shrub communities and two herbaceous communities. Wyoming big sagebrush/bluebunch wheatgrass and the Wyoming big sagebrush/crested wheatgrass (*Agropyron cristatum*) were two of the main shrub communities observed. The third shrub community was an early successional community, referred to as the "Burned Yellow Rabbitbrush (*Chrysothamnus viscidiflorus*)/Bluebunch Wheatgrass Community."

Based on the 2017 study, the Wyoming big sagebrush/bluebunch wheatgrass community was the dominant plant community in the study area, covering 1,297 acres, with bare ground ranging from 25 to 50 percent absolute cover with associated species, including rubber rabbitbrush (*Ericameria nauseosa*), yellow rabbitbrush, Sandberg bluegrass (*Poa secunda*), Idaho fescue (*Festuca idahoensis*), and cheatgrass (*Bromus tectorum*).

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The three baseline studies sampled 15 data points (3 in 2013, 5 in 2015, and 7 in 2017) using the Daubenmire method. These data were used to calculate Canopy Cover, Species Composition, and Frequency. The baseline studies also sampled 11 vegetation transects (8 in 2012, and 3 in 2017) or plots (10x10 feet [ft]), which collected individual stem counts per species. Details of these samples are further discussed in Section 4.1 and Section 4.2.

4. REVEGETATION SUCCESS CRITERIA

The objective of the *Reclamation Plan* is to develop a self-sustaining ecosystem comparable to the ecosystems surrounding the Mine. The dominant community surrounding the Mine is a sagebrush steppe, which is a scrub-shrub community with a perennial grass understory. The proposed seed mixture (Table 1), composed of Wyoming big sagebrush and a mix of perennial grasses, was developed to match these existing baseline conditions. Therefore, the data points collected in the baseline study that were sampled in the sagebrush steppe were queried as baseline standard to define successful reclamation.

4.1 DAUBENMIRE RESULTS

During baseline surveys in 2013, 2015, and 2017, a total of nine Daubenmire samples were collected within the sagebrush-steppe (Table 2).

Table 2. Daubenmire Samples within Sagebrush Steppe

Daubenmire Sample No.	Date	Community	Plant Species	Growth Form	Percent Canopy	Percent Species Composition	Percent Frequency
1	May 07, 2013	Sagebrush/bunchgrass	spurry buckwheat (*Eriogonum spergulinum*)	annual forb	3	9	26
			phlox (*Phlox spp.*)	annual forb	1	3	38
			cheatgrass	non-native annual grass	7	20	70
			Sandberg bluegrass	perennial grass	6	17	48
			bluebunch wheatgrass	perennial grass	10	29	42
			big sagebrush	shrub	8	23	34
			rubber rabbitbrush	shrub	-	-	34
1	April 08, 2015	Sagebrush/bunchgrass	curveseed butterwort (*Ceratocephala testiculata*)	annual forb	6	13	54
			cheatgrass	non-native annual grass	10	21	60
			Sandberg bluegrass	perennial grass	21	45	82
			crested wheatgrass (*Agropyron cristatum*)	perennial grass	5	11	20
			big sagebrush	shrub	5	11	14
			rubber rabbitbrush	shrub	-	-	2

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Daubenmire Sample No.	Date	Community	Plant Species	Growth Form	Percent Canopy	Percent Species Composition	Percent Frequency
2	April 08, 2015	Sagebrush/bunchgrass	cheatgrass	non-native annual grass	11	23	94
			Sandberg bluegrass	perennial grass	19	40	100
			crested wheatgrass	perennial grass	12	25	46
			big sagebrush	shrub	5	10	18
			rubber rabbitbrush	shrub	1	2	6
3	April 08, 2015	Sagebrush/bunchgrass	cheatgrass	non-native annual grass	31	58	88
			bluebunch wheatgrass	perennial grass	3	6	12
			Sandberg bluegrass	perennial grass	5	9	54
			big sagebrush	shrub	14	26	38
4	April 16, 2015	Sagebrush/bunchgrass	curveseed butterwort	annual forb	8	21	100
			Sandberg bluegrass	perennial grass	10	26	66
			bluebunch wheatgrass	perennial grass	2	5	16
			big sagebrush	shrub	18	47	46
6	April 16, 2015	Sagebrush/bunchgrass	cheatgrass	non-native annual grass	6	16	74
			Sandberg bluegrass	perennial grass	15	39	92
			Lupine (*Lupinus spp.*)	perennial herb	1	2	8
			big sagebrush	shrub	16	42	62
			rubber rabbitbrush	shrub	-	-	4
2	May 20, 2017	Wyoming big sagebrush/bluebunch wheatgrass	cheatgrass	non-native annual grass	30	47	98
			Sandberg bluegrass	perennial grass	21	33	76
			Wyoming big sagebrush	shrub	8	13	34
4	May 20, 2017	Wyoming big sagebrush/bluebunch wheatgrass	cheatgrass	non-native annual grass	7	19	80
			Sandberg bluegrass	perennial grass	14	37	90
			Wyoming big sagebrush	shrub	10	28	30

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Daubenmire Sample No.	Date	Community	Plant Species	Growth Form	Percent Canopy	Percent Species Composition	Percent Frequency
7	May 20, 2017	Wyoming big sagebrush/crested wheatgrass	cheatgrass	non-native annual grass	22	53	98
			bluebunch wheatgrass	perennial grass	9	22	56
			Sandberg bluegrass	perennial grass	4	9	46

Canopy Cover (percent): See Daubenmire Data Sheets, included in Vegetation Baseline Report (Appendix A).

Percent Species Composition: Calculated by dividing the percent canopy cover of each plant species by the total canopy cover of all plant species.

Percent Frequency: Calculated by dividing the number of occurrences of a plant species (the number of quadrats in which a plant species was observed) by the total number of quadrats sampled along the transect (50 Daubenmire frames).

A total of two shrub species, Wyoming big sagebrush and rubber rabbitbrush were sampled. Three perennial grass species, Sandberg bluegrass, bluebunch wheatgrass and crested wheatgrass (*Agropyron cristatum*) were sampled. A total of three annual forb species, spurry buckwheat (*Eriogonum spergulinum*), phlox (*phlox* spp.) and curveseed butterwort (*Ceratocephala testiculata)* and one perennial herb species, lupine (*Lupine spp.*) were recorded. Curveseed butterwort is a non-native naturalized species, but not on the Malheur County Noxious Weed Control (Appendix B). Cheatgrass was the only non-native annual grass observed which is designated as a Category C weed (Appendix B).

Superseded

The remaining three (3) vegetation communities mentioned in the baseline vegetation report were herbaceous communities of early successional, recently burned yellow rabbitbrush areas. Daubenmire samples collected from these communities were not used to determine success criteria because they were located in communities that do not meet the objectives of the reclamation plan.

4.2 TRANSECT RESULTS

A total of six vegetation transects (plots, 10x10 ft) were collected to determine stem density within the sagebrush steppe as recorded in the baseline report (Table 3).

Table 3. Transects within Sagebrush Steppe

Transect Sample No.	Survey Date	Community	Plant Species	Growth Form	Count
3	May 21, 2017	Wyoming big sagebrush/crested wheatgrass	crested wheatgrass	perennial grass	47
			Wyoming big sagebrush	shrub	1
			cheatgrass	non-native annual grass	dominant
			Sandberg bluegrass	perennial grass	32
			milkvetch (*Astragalus spp.*)	annual forb	1

Transect Sample No.	Survey Date	Community	Plant Species	Growth Form	Count
1	June 18, 2012	sagebrush/ bunchgrass	rubber rabbitbrush	shrub	9
			largeflower goldenweed (*Haplopappus carthamoides*)	perennial herb	2
			crested wheatgrass	perennial grass	7
			cheatgrass	non-native annual grass	co-dominant
			Sandberg bluegrass	perennial grass	2
			medusahead (*Taeniatherum caput-medusae*)	non-native annual grass	co-dominant
2	June 18, 2012	sagebrush/ bunchgrass	big sagebrush (*Artemisia tridentata*)	shrub	5
			yellow rabbitbrush	shrub	1
			greasewood (*Sarcobatus vermiculatus*)	shrub	1
			bluebunch wheatgrass	perennial grass	8
			cheatgrass	non-native annual grass	co-dominant
			Sandberg bluegrass	perennial grass	2
			medusahead	non-native annual grass	co-dominant
5	June 18, 2012	sagebrush/ bunchgrass	big sagebrush	shrub	13
			bluebunch wheatgrass	perennial grass	1
			cheatgrass	non-native annual grass	co-dominant
			Idaho fescue (*Festuca idahoensis*)	perennial grass	66
			Sandberg bluegrass	perennial grass	3
6	June 19, 2012	sagebrush/ bunchgrass	big sagebrush	shrub	5
			yellow rabbitbrush	shrub	1
			cheatgrass	non-native annual grass	dominant
			unknown grass	perennial grass	no count
8	June 19, 2012	sagebrush/ bunchgrass	big sagebrush	shrub	3
			yellow rabbitbrush	shrub	2
			crested wheatgrass	perennial grass	4
			cheatgrass	non-native annual grass	17
			Sandberg bluegrass	perennial grass	112

Superseded

The remaining five vegetation transects, not included Table 3, were located outside of the sagebrush steppe, as follows:

- Crested Wheatgrass/Annual Grass Community (1)
- Annual Grass Community (2)
- Crested Wheatgrass Seeding Community (1)
- Bluebunch Wheatgrass/Cheatgrass/ Annual Community (1)

These plots were not used to determine success criteria because they were located in communities that do not meet the objectives of the *Reclamation Plan*.

4.3 VEGETATION ANALYSIS

4.3.1 DAUBENMIRE

The nine Daubenmire data points (N=9 samples) were averaged by growth form and are presented in Table 4, which represents baseline metrics across the nine samples in the sagebrush steppe.

Table 4. Baseline Average in Sagebrush Steppe

Growth Form	Canopy Cover (percent)	Percent Species Composition	Percent Frequency
shrub	9.4	22.4	35.8
perennial grass	17.3	39.2	94.0
perennial herb	0.1	0.2	0.9
annual forb	2.0	5.1	24.2
non-native annual grass	13.8	28.6	73.6

See Table 2 for a list of species composition.

4.3.2 VEGETATION TRANSECTS

The individual plant counts of six transects (N=6) were averaged by growth form and are presented in Table 5, which represents baseline plant density across the six transects in the sagebrush steppe.

Superseded

Table 5. Baseline Density of Flora within Sagebrush Steppe

Growth Form	Species Richness	Average Count	Density (per 100 ft²)	Stems/per acre
shrub	4	6.83	0.0683	2,977
perennial grass	5	47.50	0.4750	20,691
perennial herb	1	0.17	0.0017	73
annual forb	1	0.17	0.0017	73
non-native annual grass	2	N/A	N/A	N/A

A total of four shrub species were observed within sagebrush steppe, averaging almost seven shrubs per 10x10 ft plot, calculating to 2,977 stems per acre. See Table 3 for a list of species composition.

4.4 SUCCESS CRITERIA

Vegetative success will be measured by metrics:

1. Canopy Cover (Daubenmire method)
2. Percent Species Composition (Daubenmire method)
3. Percent Frequency (Daubenmire method)

4. Density (transects or plots)
    - The Density metric does not include perennial grass or non-native annual grass. See notes in revegetation success criteria general conditions below.

Successful vegetation closure will be achieved by meeting an ecological performance standard of 70 percent of baseline condition for each growth form (Table 6). The ecological justification of 70 percent is that arid shrub-steppe communities regenerate to baseline conditions slowly after cessation of disturbance, even with optimal restoration efforts. Therefore, the performance standard of 70 percent allows for the slow regeneration and succession of the plant community to occur within the monitoring time period and will not penalize the reclamation efforts if drought or other natural circumstances slow the return to baseline conditions. While seeded grass species can respond relatively quickly, seeded shrubs establish much slower compared to using rooted stock (Dunwiddle, 2013).

Table 6. Vegetation Success Criteria

Growth Form	Canopy Cover (percent)	Percent Species Composition	Percent Frequency	Plant Density (100 ft²)	Plants per Acre
shrub	6.58	15.68	25.06	0.04781	2,083
perennial grass	12.11	27.44	65.80	N/A	N/A
perennial herb	0.07	0.14	0.63	0.00119	52
annual forb	1.40	3.57	16.94	0.00119	52
non-native annual gras	9.66	20.02	51.52	N/A	N/A

Superseded

This performance standard is less than existing baseline metric for shrubs, perennial grass, perennial herb, and annual forb components of the community. It is anticipated that once the success criteria are met, the occupancy of the site will be stabilized and the reclamation efforts will continue to improve towards a climax and result in a stable community as described in the baseline conditions.

Revegetation Success Criteria General Conditions:

- In calculation of success criteria for shrubs, perennial grass, perennial herb, and annual forb vegetation components will be native plants to the region. Native status can be viewed on the United States Department of Agriculture plant database website at https://plants.usda.gov/home.
- If the plant is naturalized, previously seeded/desired plant or otherwise not native, the plant will be considered for success if it is not listed on the Malheur County Noxious Weed Control (Appendix B).
- Any plant listed on the Malheur County Noxious Weed Control list will not contribute to the success criteria for shrub, perennial grass, perennial herb, and annual forb vegetation types.
- Crested wheatgrass, for example, is a perennial grass but can in some cases be mat forming and it is difficult to count individual plants. Because of this growth habit of perennial plants, the counting of individual plants to calculate stem density will only apply to shrubs, perennial herbs, and annual forbs during transect/plot surveys.
- Annual non-native grasses, such as cheatgrass and medusahead (*Taeniatherum caput-medusae;* Class B weed; Appendix B), can be mat forming and are not required for counting in density plots (Table 6).

- Drought conditions may reduce the chances of spring annual emergence. If the monitoring season has been determined to be a dry year with no emergence within the upland areas, annual forb metric will not be applied to that monitoring period.
- Forensic plants (standing dead annuals) do not contribute to success while surveying density transects/plots.
- In the case of forensic annuals during Daubenmire sampling, forensic cover is included in Daubenmire sampling.
- In the case of spring annual plants, the absence of these plants outside of these survey windows cannot hurt success for the annual forb metric. Annual plants success will use both monitoring periods (spring and fall).

Superseded

5. VEGETATION MONITORING GUIDELINES

The guidelines discussed in this section have been developed with guidance provided by BLM and DOGAMI. A post-closure monitoring plan will be developed for the reclamation sites, including monitoring methodology, parameters, and frequencies. The plan development and post-closure monitoring will be coordinated with and approved by BLM and DOGAMI. The plan will be developed following cessation of mining, and post-closure monitoring will conclude at acceptance of closure.

The vegetation monitoring period will begin five years after revegetation activities have occurred. With the concern of annual weed (cheatgrass and medusahead) proliferation in the period before monitoring begins, weed control measures discussed in the integrated weed management plan will be followed in compliance with post-closure activities.

The following information is not a detailed vegetation monitoring plan but provides guidance and requirements when preparing the *Post-closure Monitoring Plan* report. The revegetation success criteria discussed in Section 4 is the ecological performance standard required for successful closure.

5.1 SEASONAL AND CLIMATE CONSIDERATIONS

Annual vegetation phenology is dependent on the time of year with typical spring emergence occurring from late winter to early summer and a fall flowering period typically occurring in mid-September to early November before the first major snowfall.

Superseded

The region is currently in a drought with annual precipitation not meeting average precipitation levels in many portions of the intermountain west. A reduction in precipitation events has led to annuals not emerging and has added stress on perennial plants.

5.2 MONITORING EVENTS

Vegetation monitoring will occur biannually to increase the detection of annual forbs and grasses. The first monitoring event (spring) will occur in May, followed by a second monitoring event in October (fall).

5.3 VEGETATION MONITORING PLANNING

As discussed in the *Reclamation Plan*, reclaimed mining facilities and infrastructure will be reclaimed in phases or stages, reclaiming a total area of 487.9 acres (Table 7). As previously discussed, a vegetation monitoring program will start five years following reclamation site construction. By this time, most of the reclamation area will be constructed, with only access roads and other necessary areas for reclamation activities not yet reclaimed.

Table 7. Reclamation Sites

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
Growth Media Stockpiles	7.7
Water Supply	7.9
Power Supply	61.1
Stormwater Diversion Channels	11.8
Quarry	48.2
Reclamation Borrow Areas	55.9
Monitoring	0
Exploration	10
Disturbed Area	107.8
Total	487.9

Superseded

The reclamation will occur in five stages consisting of Closure Year 1, Closure Year 2, Closure Year 3, etc. For example, in Closure Year 1 the following facilities will be reclaimed: Reclamation of the Underground Mine; Tailings Storage Facility (TSF) Embankment; Temporary Waste Rock Storage Facility (TWRSF); Process Plant, including associated yards, infrastructure and associate facilities; growth medium Stockpiles 2 and 3; and select roads.

Because of this construction sequencing we anticipate that each stage of reclamation will be seeded at different times and plant community succession will be unique. We anticipate that vegetation monitoring will be divided into planting units or vegetation monitoring units with each stage of reclamation.

5.4 MONITORING METRICS

There are four vegetation metrics that will be monitored, including Canopy Cover, Species Composition, Frequency, and Density. Metrics 1-3 are percentages that will be calculated using the Daubenmire method (Appendix C). Density is an individual plant count, divided by the vegetation monitoring unit, to calculate stems per/acre.

Vegetation will be categorized by growth form, and metrics will apply as follows:

1. Canopy Cover (Daubenmire method)
    - Shrub, Perennial Grass, Perennial Herb Annual Forb, Non-Native Annual Grass
2. Percent Species Composition (Daubenmire method)
    - Shrub, Perennial Grass, Perennial Herb, Annual Forb, Non-Native Annual Grass

3. Percent Frequency (Daubenmire method)
    - Shrub, Perennial Grass, Perennial Herb, Annual Forb, Non-Native Annual Grass
4. Density (density transects or plots)
    - Shrub, Annual Forb, Perennial Herb

5.5 MONITORING METHODOLOGY

Metrics 1-3 will be surveyed using the Daubenmire method, which uses a 20 centimeter (cm) by 50 cm quadrant frame to survey vegetation at 50 points along a 200-ft transect (4 ft spacing). Additional details on the field methods and data analysis are included in Appendix C.

For Metric 4, 50x50 ft density plots, totaling 2,500 ft^2 will be established, and individual plants will be counted by species. Note that this an increase in sampling size from the baseline study to provide a larger representative sample size.

Daubenmire sampling transects and density plots will be permanently established by driving permanent stakes into the ground (rebar). Global Positioning System (GPS) coordinates and photo documentation will be collected. Additional details for Daubenmire transects are included in Appendix C.

The location of Daubenmire sampling transects and density plots will be randomly selected within each planting unit.

Superseded

The total number of Daubenmire transects and density plots will depend on the size of planting unit/reclamation site area and what is considered a representative sample. Based on the baseline study, there were a total of five Daubenmire sampling locations and four transect/density plots sampled within the Mine site, not including access roads. The appropriate number of sampling data points will be coordinated and approved by BLM and DOGAMI during the monitoring plan approval process.

A reference location will also be established outside the disturbance footprint of the project, including one Daubenmire transect (200 ft) and two 50x50 ft density plots. These will be used to monitor an undisturbed vegetation community to potentially understand and evaluate any natural environmental changes (such as fire, drought, or natural succession) that may occur surrounding the closed Grassy Mountain Mine.

5.6 REPORTING

Quarterly technical memorandums will be provided to BLM and DOGAMI following each monitoring event. An annual comprehensive monitoring report will be provided to BLM and DOGAMI at the end of the calendar year once monitoring begins. Elements within the report will include project background, monitoring methodology, monitoring results, and an evaluation of the reclamation sites related to revegetation success criteria (Section 4). The report may provide recommendations for additional planting, seeding, and/or weed control to meet this ecological performance standard. Any additional reclamation planting activities will be reported to BLM and DOGAMI for approval and documented in the annual report as a part of the adaptive management of reclamation activities.

6. CONCLUSIONS

The vegetation success criteria are as follows:

1. Canopy Cover
    - Shrubs (6.58%); perennial grass (12.11%); perennial herb (0.07%); annual forb (1.40%) and non-native annual grass (9.66%)
2. Percent Species Composition
    - Shrubs = 15.68%; perennial grass = (27.44%); perennial herb (0.14%) annual forb (3.57%) and non-native annual grass (20.02%)
3. Percent Frequency
    - Shrubs (25.06%); perennial grass (65.80%); perennial herb (0.63%) annual forb (16.94%) and non-native annual grass (51.52%)
4. Density
    - Shrubs (2,083 plants per acre); perennial herb (52 plants per acre) ; annual forb (52 plants per acre)

Superseded

This report provides guidance to develop a comprehensive monitoring plan that will be used to assess the status of reclamation sites during post-closure of the Mine. The guidance follows the baseline conditions survey protocols (transect sampling and transect/density plots) and has developed a monitoring approach to meet the established success criteria. The monitoring plan will be developed following cessation of mining, and post-closure monitoring will begin five years after revegetation and conclude at acceptance of closure.

7. REFERENCES

Calico Resources. 2021. Grassy Mountain Mine Project Reclamation Plan. Submitted to Department of Geology and Mineral Industries. November.

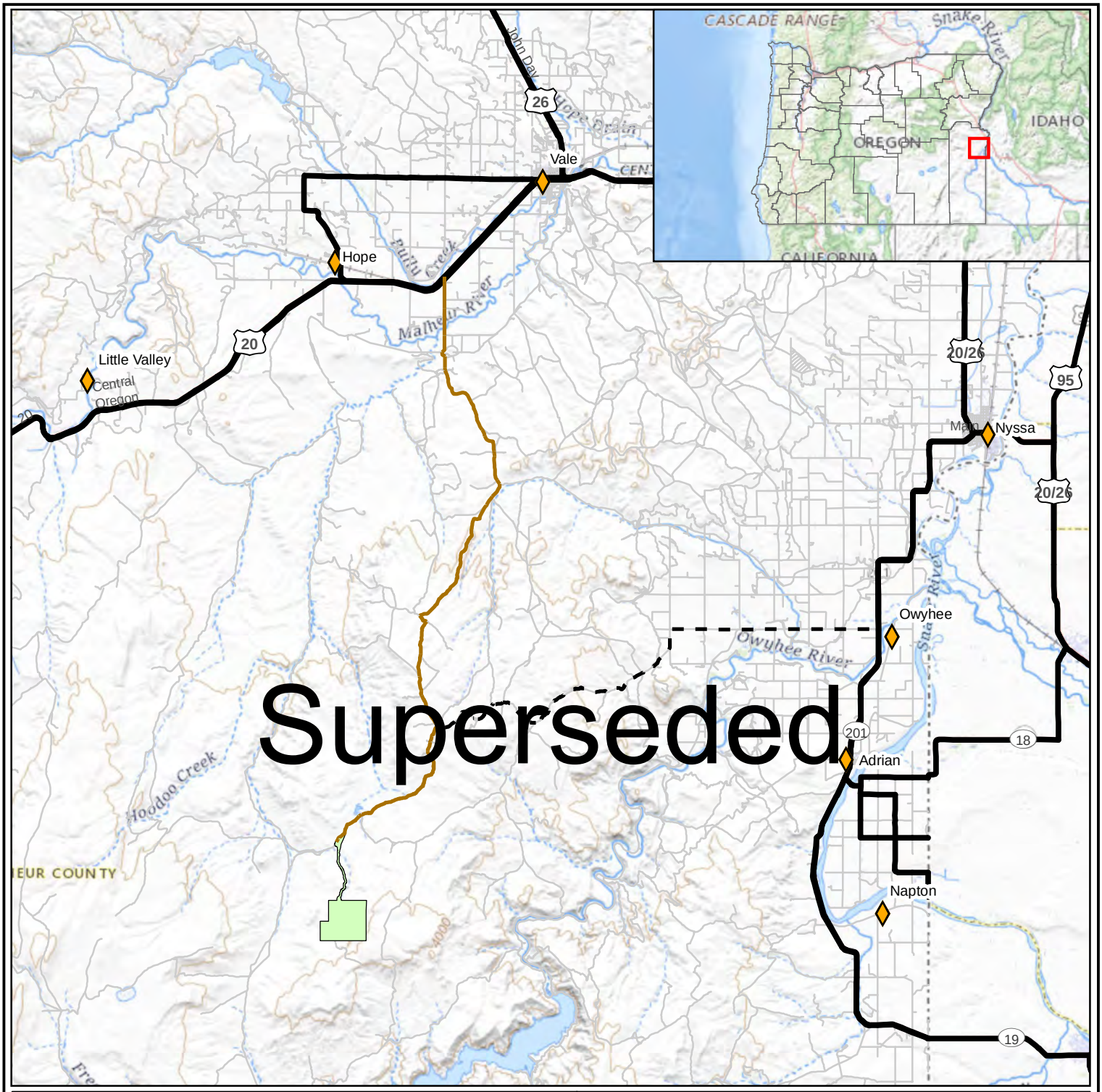
Dunwiddle, P., and P. Camp. 2013. Enhancement of Degraded Shrub-Steppe Habitat with an Emphasis on Potential Applicability in Eastern Washington. Tech Note 443. Bureau of Land Management, Spokane District, Spokane, WA.

EM Strategies. 2018. Terrestrial Vegetation Baseline Report. Prepared for Calico Resources USA Corp. January 2018, Revised October 2018.

Superseded

FIGURES

Superseded



Legend

- Reclamation Area
- Roads
- Mine Access Road
- Emergency Access Road

1 ":4 Miles Roads

0 1 2 4Miles

Scale as shown when plotted at 8.5"x11".

N W E S

Notes:

1. Figure references 1983 UTM zone 11N datum.
2. Road and highway system were referenced from the Bureau of land Management.

Site/Report:

Calico Resources USA Corp.
Grassy Mountain Mine

Post-Closure Vegetation Success Criteria

Map:

Location Map

SLR / CALICO RESOURCES	Date: April, 2023		Map: 1
	Project No: 108.02203.00001		
	By: MS	Chk'd: TM	

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APPENDIX A

TERRESTRIAL VEGETATION REPORT-DATA SHEETS

Superseded

4.2.1.1 Special Status Species

A survey was conducted within suitable habitat for any plant species with protected status; specifically, federally-listed or State-listed threatened or endangered species, and BLM Sensitive species.

4.2.1.2 Noxious Weeds

A list of noxious weeds for Malheur County, Oregon, was obtained from the Malheur County Weed Advisory Board website (Appendix C). Malheur County has prioritized control and/or eradication of noxious weeds by A, B, and C classes, with category A having the highest priority. A noxious weed inventory is the basis for the development of the Project's noxious weed control strategy and plan, which are key components of the overall plan of operations and part of the Division 37 process.

5 BASELINE CHARACTERIZATION

5.1 Plant Community Description

HDR (2014, 2015) mapped three vegetation communities within portions of the current Permit Area: annual grass; crested wheatgrass/annual grass; and sagebrush/bunchgrass. The 2017 baseline survey identified two additional plant communities in areas that were not previously surveyed within the revised Permit Area: Wyoming big sagebrush/crested wheatgrass and burned yellow rabbitbrush/bluebunch wheatgrass (Figure 4). A floral compendium is included in Appendix D.

Superseded

Approximately 0.3 mile of the northern portion of the Access Road Area, or 11 acres, is irrigated agricultural row crops; these areas were not evaluated during the vegetation survey. Most of the vegetation within the Study Area is a desert-rangeland type where sagebrush and grasses are the dominant species. A large portion of the area has been impacted by grazing, fire, and range seeding programs. Cheatgrass (*Bromus tectorum*) was one of the dominant species in every plant community, likely due to disturbance from grazing and wildfire. Cattle and sheep were observed grazing at several locations within the 2017 Survey Area. Most grass species were fully emerged and spring flowering forb species were in peak bloom.

5.1.1 Wyoming Big Sagebrush/Crested Wheatgrass Community

The Wyoming big sagebrush/crested wheatgrass plant community occurs within the extreme southern portion of the 2017 Survey Area (Figure 4). It comprises approximately 71 acres of the Study Area. Bare ground within this community was estimated at five percent. Common shrub species observed within this community included Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) and yellow rabbitbrush (*Chrysothamnus viscidiflorus*). The understory is dominated by grass species, including cheatgrass, crested wheatgrass (*Agropyron cristatum*), Sandberg bluegrass (*Poa secunda*), and bluebunch wheatgrass. Forbs observed within this community included willow herb (*Epilobium* sp.), woollypod milkvetch (*Astragalus purshii*), and meadow deathcamas (*Zigadenus venenosus*). Photo Plate 1 (Appendix B) shows typical characteristics of the Wyoming big sagebrush/crested wheatgrass community.

5.1.2 Crested Wheatgrass Seeding Community

The crested wheatgrass seeding plant community occurred throughout portions of the Study Area in areas that were burned, and then seeded with crested wheatgrass (Figure 4). It comprises approximately 80 acres of the Study Area. Virtually no woody plant species are present in this community. Bare ground within this community was estimated at 40 percent. Dominant grasses were crested wheatgrass, cheatgrass, and Sandberg bluegrass. Photo Plate 2 (Appendix B) shows a typical crested wheatgrass seeding community.

5.1.3 Bluebunch Wheatgrass/Cheatgrass/Annual Community

The bluebunch wheatgrass/cheatgrass/annual plant community occurs mostly within northern portions of the Study Area where grazing is heaviest (Figure 4). It comprises approximately 240 acres of the Study Area. Soil in these areas is typically less rocky with 15 to 25 percent bare ground. The crested wheatgrass is likely a result of past seedings as reclamation from fire damage, and cheatgrass is prevalent throughout. Photo Plate 3 (Appendix B) shows a typical bluebunch wheatgrass (*Pseudoroegneria spicata* ssp. *spicata*)/cheatgrass/annual community.

5.1.4 Wyoming Big Sagebrush/Bluebunch Wheatgrass Community

The Wyoming big sagebrush/bluebunch wheatgrass plant community is the dominant plant community in the Study Area (Figure 4). It typifies areas where sagebrush survived wildfires. It comprises approximately 1,297 acres of the Study Area. Bare ground in these areas often ranges from 25 to 50 percent (HDR 2014). The shrub stratum was dominated by Wyoming big sagebrush, rubber rabbitbrush (*Chrysothamnus nauseosus*), and yellow rabbitbrush. The understory was dominated by grasses, including Sandberg bluegrass, Idaho fescue (*Festuca idahoensis*), and bluebunch wheatgrass with a cheatgrass mat (HDR 2014). Photo Plate 4 (Appendix B) shows a typical Wyoming big sagebrush/bluebunch wheatgrass community.

Superseded

5.1.5 Burned Yellow Rabbitbrush/Bluebunch Wheatgrass Community

The burned yellow rabbitbrush/bluebunch wheatgrass plant community occurs in one area within the central portion of the Study Area (Figure 4). It comprises approximately 60 acres of the Study Area. This area was likely dominated by sagebrush communities before damage from wildfires. After seeding with crested wheatgrass, the shrub layer became dominated by yellow rabbitbrush. Topsoil erosion was evident in some areas, likely due to loss of vegetation after wildfires. The understory in these areas was dominated by grasses, including Sandberg bluegrass, bluebunch wheatgrass, and cheatgrass. Other grass species observed included squirreltail (*Elymus elymoides*) and stinkgrass (*Eragrostis cilianensis*). Photo Plate 5 (Appendix B) shows a typical burned yellow rabbitbrush/bluebunch wheatgrass community.

5.2 Vegetation Transects

HDR (2014, 2015) established four transects within the current Permit Area in the Wyoming big sagebrush/bluebunch wheatgrass plant community. Three additional transects were established during the 2017 surveys in areas that were not previously surveyed within the revised Permit Area: one within the bluebunch wheatgrass/cheatgrass/annual community; one within the crested wheatgrass seeding community; and one within the Wyoming big sagebrush/crested wheatgrass community (Figure 4). The results of the surveys conducted by HDR are included in Attachment A. The results of the 2017 survey are discussed in Sections 5.2.1 to 5.2.3.

5.2.1 Transect 1

One ten-foot wide by ten-foot long transect was established on May 21, 2017, at North (N) 43.73541, West (W) 117.31324, in Section 23, T21S, R44E, adjacent to Daubenmire 5 (Figure 4). Transect 1 is located on a south-facing aspect with slopes ranging from four to 15 percent, within the bluebunch wheatgrass/cheatgrass/annual community. Approximately 70 percent of the slope is vegetated, 15 percent is bare ground, ten percent is litter, and five percent is rock. Information for Transect 1 is presented in Table 1. Photo Plate 6 (Appendix B) shows the characteristic vegetative cover surrounding Transect 1.

Table 1: Transect 1 - Bluebunch Wheatgrass/Cheatgrass/Annual Community

Common Name	Scientific Name	Quantity
Cheatgrass	*Bromus tectorum*	dominant
Bastard toadflax	*Commandra umbellata*	33
Prickly phlox	*Phlox hoodii*	13
Bluebunch wheatgrass	*Pseudoroegneria spicata*	6
Slimflower scurfpea	*Psoralidium tenuiflorum*	10

5.2.2 Transect 2

One ten-foot wide by ten-foot long transect was established on May 21, 2017, at N 43.70473, W 117.36408, in Section 32, T21S, R44E, adjacent to Daubenmire 6 (Figure 4). Transect 2 is located on a north-facing aspect with ten percent slope, within the crested wheatgrass seeding community. Approximately 49 percent of the slope is vegetated, 40 percent is bare ground, ten percent is litter, and one percent is rock. Information for Transect 2 is presented in Table 2. Photo Plate 7 (Appendix B) shows the characteristic vegetative cover surrounding Transect 2.

Superseded

Table 2: Transect 2 - Crested Wheatgrass Seeding Community

Common Name	Scientific Name	Quantity
Crested wheatgrass	*Agropyron cristatum*	33
Cheatgrass	*Bromus tectorum*	dominant
Curveseed butterwort	*Ceratocephala testiculata*	dominant
Gooseberryleaf globemallow	*Sphaeralcea grossulariifolia*	2
Small fescue	*Vulpia microstachys*	100

5.2.3 Transect 3

One ten-foot wide by ten-foot long transect was established on May 21, 2017, at N 43.67957, W 117.36263, in Section 5, T22S, R44E, adjacent to Daubenmire 7 (Figure 4). Transect 3 is located on a northwest-facing aspect with slopes ranging from five to six percent, within the Wyoming big sagebrush/crested wheatgrass community. Approximately 75 percent of the slope is vegetated, 15 percent is rock, five percent is litter, and five percent is bare ground. Information for Transect 3 is presented in Table 3. Photo Plate 8 (Appendix B) shows the characteristic vegetative cover surrounding Transect 3.

Table 3: Transect 3 – Wyoming Big Sagebrush/Crested Wheatgrass Community

Common Name	Scientific Name	Quantity
Crested wheatgrass	*Agropyron cristatum*	47
Wyoming big sagebrush	*Artemisia tridentate* ssp. *wyomingensis*	1
Cheatgrass	*Bromus tectorum*	dominant
Sandberg bluegrass	*Poa secunda*	32

5.3 Daubenmire Sampling Results

HDR (2014, 2015) established seven Daubenmire transects within the current Permit Area: six within the Wyoming big sagebrush/bluebunch wheatgrass community, and one within the crested wheatgrass seeding community. Seven additional Daubenmire transects were established during the 2017 survey in areas that were not previously surveyed within the revised Permit Area: two within the bluebunch wheatgrass/cheatgrass/annual community; one within the crested wheatgrass seeding community; two within the Wyoming big sagebrush/bluebunch wheatgrass community; one within the burned yellow rabbitbrush/bluebunch wheatgrass community; and one within the Wyoming big sagebrush/crested wheatgrass community (Figure 4). The results of the surveys conducted by HDR are included in Attachment A. The results of the 2017 survey are discussed in Sections 5.3.1 to 5.3.7.

5.3.1 Daubenmire 1 – Bluebunch Wheatgrass/Cheatgrass/Annual Community

Superseded

A Daubenmire vegetation survey was performed on May 20, 2017, at N 43.87277, W 117.27930, in Section 36, T19S, R44E (Figure 4). The sampling plot is located on BLM land within the Access Road Area within the bluebunch wheatgrass/cheatgrass/annual vegetation community. Information for Daubenmire 1 is presented in Table 4. Cheatgrass had the highest percentage of canopy cover, species composition, and frequency. Sandberg bluegrass also occurred at a high frequency within the 50 surveyed quadrats. Photo Plate 9 (Appendix B) shows Daubenmire 1. The completed survey form is included in Appendix E.

Table 4: Daubenmire 1 - Bluebunch Wheatgrass/Cheatgrass/Annual Community

Plant Species	Percent Canopy Cover	Species Composition	Frequency
BRTE – *Bromus tectorum*	39	53	92
POSE – *Poa secunda*	33	45	90
SIAL -- *Sisymbrium altissimum*	1	1.4	14

5.3.2 Daubenmire 2 – Wyoming Big Sagebrush/Bluebunch Wheatgrass Community

A Daubenmire vegetation survey was performed on May 20, 2017, at N 43.86094, W 117.27670, in Section 1, T20S, R44E (Figure 4). The sampling plot is located on BLM land within the Access Road Area within the Wyoming big sagebrush/bluebunch wheatgrass vegetation community. Information for Daubenmire 2 is presented in Table 5. Cheatgrass had the highest percentage of canopy cover, species composition, and frequency. Wyoming big sagebrush and Sandberg bluegrass also occurred at a high frequency within the 50 surveyed quadrats. Photo Plate 10 (Appendix B) shows Daubenmire 2. The completed survey form is included in Appendix E.

Table 5: Daubenmire 2 – Wyoming Big Sagebrush/Bluebunch Wheatgrass Community

Plant Species	Percent Canopy Cover	Species Composition	Frequency
BRTE – *Bromus tectorum*	30	47	98
POSE – *Poa secunda*	21	33	76
ARTRW – *Artemisia tridentata* ssp. *wyomingensis*	8	13	34

5.3.3 Daubenmire 3 – Burned Yellow Rabbitbrush/Bluebunch Wheatgrass Community

A Daubenmire vegetation survey was performed on May 20, 2017, at N 43.79958, W 117.31617, in Section 1, T20S, R44E (Figure 4). The sampling plot is located on BLM land within the Access Road Area within the burned yellow rabbitbrush/bluebunch wheatgrass vegetation community. Information for Daubenmire 3 is presented in Table 6. Daubenmire survey results at this location show that Sandberg bluegrass had the highest percentage of canopy cover, species composition, and frequency. Bluebunch wheatgrass and cheatgrass also occurred at a high frequency within the 50 surveyed quadrats. Photo Plate 11 (Appendix B) shows Daubenmire 3. The completed survey form is included in Appendix E.

Table 6: Daubenmire 3 – Burned Yellow Rabbitbrush/Bluebunch Wheatgrass Community

Plant Species	Percent Canopy Cover	Species Composition	Frequency
POSE – *Poa secunda*	32	60	100
PSSPS – *Pseudoroegneria spicata*	7	20	46
BRTE – *Bromus tectorum*	4	11	84

Superseded

5.3.4 Daubenmire 4 – Wyoming Big Sagebrush/Bluebunch Wheatgrass Community

A Daubenmire vegetation survey was performed on May 20, 2017, at N 43.75393, W 117.31122, in Section 11, T21S, R44E (Figure 4). The sampling plot is located on BLM land within the Access Road Area within the Wyoming big sagebrush/bluebunch wheatgrass vegetation community. Information for Daubenmire 4 is presented in Table 7. Daubenmire survey results at this location show that Sandberg bluegrass had the highest percentage of canopy cover, species composition, and frequency. Wyoming big sagebrush and cheatgrass also occurred at a high frequency within the 50 surveyed quadrats. Photo Plate 12 (Appendix B) shows Daubenmire 4. The completed survey form is included in Appendix E.

Table 7: Daubenmire 4 – Wyoming Big Sagebrush/Bluebunch Wheatgrass Community

Plant Species	Percent Canopy Cover	Species Composition	Frequency
POSE – *Poa secunda*	14	37	90
ARTRW – *Artemisia tridentata* ssp. *wyomingensis*	10	28	30
BRTE – *Bromus tectorum*	7	19	80

5.3.5 Daubenmire 5 – Bluebunch Wheatgrass/Cheatgrass/Annual Community

A Daubenmire vegetation survey was performed on May 21, 2017, at N 43.73541, W 117.31324, in Section 23, T21S, R44E (Figure 4). The sampling plot is located on BLM land within the Access Road Area within the bluebunch wheatgrass/cheatgrass/annual vegetation community. Information for Daubenmire 5 is presented in Table 8. Daubenmire survey results at this location show that cheatgrass had the highest percentage of canopy cover, species composition, and frequency. Bluebunch wheatgrass also occurred at a high frequency within the 50 surveyed quadrats. Photo Plate 13 (Appendix B) shows Daubenmire 5. The completed survey form is included in Appendix E.

Table 8: Daubenmire 5 – Bluebunch Wheatgrass/Cheatgrass/Annual Community

Plant Species	Percent Canopy Cover	Species Composition	Frequency
BRTE – *Bromus tectorum*	39	72	100
PSSPS – *Pseudoroegneria spicata*	11	20	48

5.3.6 Daubenmire 6 – Crested Wheatgrass Seeding Community

A Daubenmire vegetation survey was performed on May 21, 2017, at N 43.70473, W 117.36408, in Section 32, T21S, R44E (Figure 4). The sampling plot is located on BLM land in the Access Road Area within the crested wheatgrass seeding vegetation community. Information for Daubenmire 6 is presented in Table 9. Daubenmire survey results at this location show that crested wheatgrass had the highest percentage of canopy cover and species composition. Cheatgrass and curveseed butterwort (*Ceratocephala testiculata*) also occurred at a high frequency within the 50 surveyed quadrats. Photo Plate 14 (Appendix B) shows Daubenmire 6. The completed survey form is included in Appendix E.

Superseded

Table 9: Daubenmire 6 – Crested Wheatgrass Seeding Community

Plant Species	Percent Canopy Cover	Species Composition	Frequency
PSSPS – *Pseudoroegneria spicata*	16	49	82
BRTE – *Bromus tectorum*	11	33	98
RATE – *Ceratocephala testiculata*	4	11	100

5.3.7 Daubenmire 7 – Wyoming Big Sagebrush/Crested Wheatgrass Community

A Daubenmire vegetation survey was performed on May 21, 2017, at N 43.67957, W 117.36263, in Section 5, T22S, R44E (Figure 4). The sampling plot is located on BLM land within the Mine and Process Area within the Wyoming big sagebrush/crested wheatgrass vegetation community. Information for Daubenmire 7 is presented in Table 10. Daubenmire survey results at this location show that cheatgrass had the highest percentage of canopy cover, species composition, and frequency. Bluebunch wheatgrass and Sandberg bluegrass also occurred at a high frequency within the 50 surveyed quadrats. Photo Plate 15 (Appendix B) shows Daubenmire 7. The completed survey form is included in Appendix E.

Table 10: Daubenmire 7 – Wyoming Big Sagebrush/Crested Wheatgrass Community

Plant Species	Percent Canopy Cover	Species Composition	Frequency
BRTE – *Bromus tectorum*	22	53	98
PSSPS – *Pseudoroegneria spicata*	9	22	56
POSE – *Poa secunda*	4	9	46

5.4 Special Status Plant Species

5.4.1 Threatened and Endangered Species

5.4.1.1 Federal

An Information from Planning and Conservation (IPaC) consultation with the USFWS (Consultation Code: 01EOFW00-2018-SLI-0114) reported that no federally threatened or endangered plant species are known to occur within the 2017 Survey Area (Appendix F). No federally threatened or endangered species were observed during the 2017 vegetation survey of the 2017 Survey Area, or during the surveys by HDR of the 2014/2015 Survey Area (HDR 2014, 2015).

5.4.1.2 State

Superseded

A list of rare, threatened, and endangered plant records was obtained from ORBIC in April 2017 (Appendix G). Two plant species were reported to occur within two miles of the Permit Area (Figure 5). Cronquist's stickseed (*Hackelia cronquistii*) is a State Threatened species and a federal Species of Concern. Cronquist's stickseed inhabits shrub-steppe communities typically dominated by sagebrush. It occurs on sandy north-facing hillsides with slight to extreme slopes, sometimes on moist slopes in ravines, at elevations ranging from 2,000 to 3,640 feet above mean sea level (amsl) (ODA 2017a).

Mulford's milk-vetch (*Astragalus mulfordiae*) is a State Endangered species and a federal Species of Concern. Mulford's milk-vetch inhabits sandy substrates including old river deposits, sandy areas near rivers, sandy bluffs, and dune-like talus in foothills at approximately 2,200 to 2,790 feet amsl. It is found mainly in shrub-steppe and desert shrub communities (ODA 2017b).

Both species have reported occurrences within the Access Road Area; however, neither species was observed within the 2017 Survey Area during the 2017 vegetation survey. No State-listed species were observed during the surveys by HDR of the 2014/2015 Survey Area (HDR 2014, 2015).

5.4.2 BLM Sensitive Species

The *Final OR/WA State Director's Special Status Species List, July 13, 2015,* which lists BLM Sensitive plant species suspected or documented to occur within the Vale District is included in Appendix A. No Sensitive species were observed during the 2017 vegetation survey of the 2017 Survey Area, or during the surveys by HDR of the 2014/2015 Survey Area (HDR 2014, 2015).

Calico Resources Grassy Mountain Project
Vegetation* Survey *Reporting Form

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#:** 1
Field Surveyor(s): 1. Annie Overlin 2. Sarah M. Harrelson	Date: 5/21/17 Time: Weather:
Location Description: Daubenmire 6; bunchgrass/annual	GPS Coordinates N: 43.73541 E: 117.31324
Vegetation Class: (i.e., sagebrush/grassland: grassland) grassland	
Plot Size: 10'X10'	
Section, Township, Range: 23, 21S, 44E	Datum: WGS84
Land Ownership (BLM, private): BLM	Accuracy: +/- 1meter

Est. % bare ground: 15	Aspect: S
Slope: 4/-15%	Vegetation Height: 18"
Disturbance (grazing, roads, etc.): fire	

Superseded

Common Name	Botanical Name	Quantity
bastard toadflax	Commandra umbellata	33
prickly phlox	Phlox hoodii	13
tapertip hawksbeard	Crepis acuminata	2
bluebunch wht-grass	Pseudoregneria spicata	6
cheatgrass	Bromus tectorum	dom
slimflower scurfpea	Psoralidium tenuiflorum	10
needle & thread	Hesperostipa comata	5
thistle	Cirsium sp.	1

Calico Resources Grassy Mountain Project
Vegetation* Survey *Reporting Form

TES Species Observed (circle one): **YES** **NO**

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes:

Noxious Weeds/Invasive Species Observed (circle one): **YES** **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
Cheatgrass	Bromus tectorum	dom

Superseded

Population Notes:

Additional Vegetation Survey Notes:

Cheatgrass forms a mat of cover; Not able to count individual plants

Site Photographs (include photo #, brief description and direction):

Photos 5945, 5946 Annie Overlin

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#:** 2
Field Surveyor(s): 1. Annie Overlin 2. Sarah M. Harrelson	Date: 5/21/17 Time: Weather:
Location Description: @ Doubenmire 6 Crested wheat seeding	GPS Coordinates N: 43.70473 E: 117.36408
Vegetation Class: (i.e., sagebrush/grassland: grassland) grassland	
Plot Size: 10' X 10'	
Section, Township, Range: 32, 21S, 44E	Datum: WGS84
Land Ownership (BLM, private): BLM	Accuracy: +/- 1 meter

Est. % bare ground: 40	Aspect: North
Slope: 10%	Vegetation Height: 12-18"
Disturbance (grazing, roads, etc.): fire, grazing	

Superseded

Common Name	Botanical Name	Quantity
Crested wheatgrass	Agropyron cristatum	33
cheatgrass	Bromus tectorum	dom
curvested buttercup	Ceratocephala testiculata	dom
gooseberryleaf globemallow	Sphaeralcea grossulariifolia	2
Small fescue	Vulpia microstachys	100

Calico Resources Grassy Mountain Project
Vegetation* Survey *Reporting Form

TES Species Observed (circle one): **YES** **NO**

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes:

Noxious Weeds/Invasive Species Observed (circle one): **YES** **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
Cheatgrass	Bromus tectorum	dom

Superseded

Population Notes:

Additional Vegetation Survey Notes:

Cheatgrass forms a mat; unable to count individual plants

Site Photographs (include photo #, brief description and direction):

photos 5947, 5948 Annie Overlin

Calico Resources Grassy Mountain Project
Vegetation* Survey *Reporting Form

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#:** 3
Field Surveyor(s): 1. Annie Overlin 2. Sarah M. Harrelson	Date: 5/21/17 Time: Weather:
Location Description: @ Daubenmire 7 mtn sagebrush / crested wheat	GPS Coordinates N: 43.679957 E: 117.362163
Vegetation Class: (i.e., sagebrush/grassland: grassland) Sagebrush / grassland	
Plot Size: 10' x 10'	
Section, Township, Range: 5, 22S, 44E	Datum: WGS 84
Land Ownership (BLM, private): BLM	Accuracy: +/- 1 meter

Est. % bare ground: 5	Aspect: NW
Slope: 5-60%	Vegetation Height: 3-5'
Disturbance (grazing, roads, etc.): fire / grazing	

Superseded

Common Name	Botanical Name	Quantity
Crested wheatgrass	Agropyron cristatum	47
Cheatgrass	Bromus tectorum	dom
Sandberg's bluegrass	Poa secunda	32
mountain big sagebrush	Artemisia tridentata ssp. vaseyana	1
Astragalus	Astragalus sp.	1

Calico Resources Grassy Mountain Project
Vegetation* Survey *Reporting Form

TES Species Observed (circle one): **YES** **NO**

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes:

Noxious Weeds/Invasive Species Observed (circle one): **YES** **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
Cheatgrass	Bromus tectorum	dom

Superseded

Population Notes:

Additional Vegetation Survey Notes:

Cheatgrass forms a mat; unable to count individuals

Site Photographs (include photo #, brief description and direction):

photos 5953, 5954, 5955 Annie Overlin

N 48.87277

Daubenmire W 117.27930

Study Number	Date 5/20/17	Examiner A. Overlin	Allotment Name & Number Annual grass	Pasture
Transect Number and Location Daubenmire #1; 50ft West of Twin [illegible] Rd.			Number of Quadrats 50	

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
~~AG~~ BRTE	5	4	5	4	5		1	2	4	5	4	3	4	3	3	4	4	5	3	4	3	4	3	4	3
POSE	1	2	1	2	1	3	4	4	1	1	2	2	1	2	3	3	3	1	4	3	2	2	3	3	4
SIAL				1																					
~~GA~~																									

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
BRTE	3	2	3	3	4	4	5	5	2	[illegible]	1	2	3	1	3	1	1		1		1	2	3	1	
POSE	4	4	1	4	3			1		5	5	5	3	5	4			5	5	5	5	1	1	1	2
SIAL			3			1	1		1							1	1								
CANU						2			1																
RATE									1																

Superseded

Daubenmire Summary

Study Number | Date 5.20.17 | Examiner A. Overlin | Allotment Name & Number Annual grass | Pasture

Study Location Daubenmire #1 South W. of Twin Springs Rd. | Number of Quadrats 50

Cover Class	Mid-Point	Species BRTE		Species POSE		Species SIAL		Species CANU		Species RAFE		Species		Species		Species		Species		Species		Species	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1 1-5%	2.5	9	22.5	12	30	6	15	1	2.5	1	2.5												
2 5-25%	15	5	75	8	120	0		1	15														
3 26-50%	37.5	13	487.5	9	337.5	1	37.5																
4 51-75%	62.5	12	750	8	500																		
5 76-95%	85	7	595	8	680																		
6 96-100%	97.5																						
Total canopy			1930.5		1667.5		52.5		17.5		2.5												
Number of Samples			50		50		50		50		50												
% canopy cover			39		33		1		.35		.05												
Species composition			53		45		1.4		.5		.07												
Frequency			92		90		14		4		2												

Superseded

Illustration 10

Illustration 9

Daubenmire N. 43.86094 W. 117.27670

Page 1 of 2

Study Number	Date	Examiner	Allotment Name & Number	Pasture
Daubenmire 2	5/20/17	A Overlin	sagebrush/ bunchgrass	

Transect Number and Location -30ft west of Access Road

Number of Quadrats 50

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ARTR V						4	3	1							2	2	2		1						
CHV I																									
POSE	4	3	4	2	3		1	3	1	2	2	3	3	2	1	1	2		3	4	4	1	3	3	2
AGSP																									
ERSP																	3								
BRTE	1	1	1	4	4	1	2	4	4	4	3	4	3	4	3	3	2	2	1	2	1	4	2	1	4

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ARTR V			1	4	3		2			2	5							2		1			1	1	
CHV I																									3
POSE	2	2	2		1	1		3	3						3	1	4	1	2	2	4	2	3		
BRTE	3	3	2	2	3	1	1	2	2	3	3	4	4		2	4	2	4	3	3	1	3	1	3	2

Superseded

Daubenmire Summary

Study Number | Date 5.20.17 | Examiner A.Overlin | Allotment Name & Number burned area sagebrush/grass | Pasture

Study Location Daubenmire 2 | Number of Quadrats 50

Cover Class	Mid-Point	Species ARTRV Number	ARTRV Product	Species CHVI Number	CHVI Product	Species POSE Number	POSE Product	Species AGSP Number	AGSP Product	Species ERIO Number	ERIO Product	Species BRTE Number	BRTE Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product
1 1-5%	2.5	6	15		0	8	20	9	22.5			11	27.5										
2 5-25%	15	6	90		0	12	180	8	120			12	180										
3 26-50%	37.5	2	75	1	37.5	12	450	1	37.5	1	[illegible]	13	488										
4 51-75%	62.5	2	125		0	6	375					13	813										
5 76-95%	85	1	85		0																		
6 96-100%	97.5																						
Total canopy			390		37.5		1025		180		37.5		1568										
Number of Samples			50		50		50		50		50		50										
% canopy cover			8		1		21		4		1		30										
Species composition			13		2		33		6		2		47										
Frequency			34		2		76		36		2		98										

Superseded

Illustration 10

N 43.79958

Daubenmire W 117.31617 Was Sagebrush

Study Number	Date 5/20/17	Examiner A Overlin	Allotment Name & Number Burned CHVI burngrass	Pasture
Transect Number and Location Daubenmire 3; 300ft. East of Twin Springs Rd.			Number of Quadrats 50	

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
BRTE		1	1	1	1			1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	2
POSE	3	3	2	2	3	3	2	3	3	2	2	2	3	3	2	2	1	2	2	2	2	1	2	2	2
AGSP			2						2	3			2	2	2	2	3					2	2		
CHVI	2			3		2	1			1					1										
EL EL								1				1						2							
ERCI																			1						
LECI																				1		3		2	
LEPE																									1

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
BRTE	1	1	1	1	1	2	1	1	1	2	1	1	1	2		1	1	2	1			1		1	1
POSE	2	3	3	2	3	2	3	1	2	2	2	3	3	2	1	2	3	2	3	3	2	2	2	2	3
AGSP	2			2			2	3	1			1			2	2			1		2		2	2	1
CHVI									1						1				1	1					
ERCI																1			1	1				1	

Superseded

Daubenmire Summary

Study Number	Date 5.20.17	Examiner A. Overlin	Allotment Name & Number	Pasture
Study Location Daubenmire #3 was sagebrush; burned, now CHVI bunchgrass; seeded			Number of Quadrats 50	

Cover Class	Mid-Point	Species BRTE		Species POSE		Species AGSP		Species CHVI		Species ERO		Species ELEL		Species LECI		Species LEDE		Species		Species		Species	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1 1-5%	2.5	35	87.5	4	10	4	10	7	17.5	4	10	2	5	1	2.5	1	2.5						
2 5-25%	15	7	105	28	420	16	240	2	30			1	15	1	15								
3 26-50%	37.5			18	675	3	112.5	1	37.5					1	37.5								
4 51-75%	62.5																						
5 76-95%	85																						
6 96-100%	97.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–							
Total canopy			192.5		1105		362.5		85		10		20		55		2.5						
Number of Samples			50		50		50		50		50		50		50		50						
% canopy cover			4		22		7		2		–		–		1		–						
Species composition			V.1		60		20		5		1		1		3		–						
Frequency			84		100		46		20		8		6		6		2						

Superseded

Illustration 10

[redacted]

Daubenmire

N 43.75393
W 117.31122

Page 1 of 1

Study Number	Date	Examiner	Allotment Name & Number	Pasture
Daubenmire 4	5/20/17	A Overlin	Sagebrush bunchgrass	

Transect Number and Location: 100yds West of Intersection of [illegible] Spring & [illegible] Creek (Buffalo Rd).

Number of Quadrats: 50

Plant Species	Quadrat 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ARTRV				1	3	2		4	3	3			3	2	2		2	3					3		
POSE	2	2	3	3	1	3	1	2	2	2	3		2		2	3	3	2	2	1		1		1	1
BRTE	2	1	1	1	1	1		1	1		1			1	1	1	2	2	2	2		2	2		
VUMI							2				1	2	1	2									1	3	3
FEID			1		1		2					2							1	2				1	
HECO26																							1		
DEPI																									

Plant Species	Quadrat 26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ARTRV		5	4	2																					
POSE	1		1	1	3	2	1	2	1	3	2	2	1	2	3	2	2	1	2	2	1	1	2	2	2
BRTE		1	2	1	1	3	3	2	3	3		1	1	1	1	1		X	1	1	1	1	2	2	1
VUMI				2														1							
FEID	3	1		1	1					1			2				1			1	2		1		1
HECO26		1		1													1			1					
DEPI		1																							
SIAL										1															
ELEL																					1	1			

Superseded

Illustration 9

Daubenmire Summary

Study Number	Date 5.20.17	Examiner A. Overlin	Allotment Name & Number Sagebrush bunchgrass	Pasture
Study Location Daubenmire #4				Number of Quadrats 50

Cover Class	Mid-Point	Species ARTR		Species BRTE		Species POSE		Species VUMI		Species FEID		Species DEPI		Species HELO2		Species SIAL		Species EIEL		Species		Species	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1 1-5%	2.5	1	2.5	25	62.5	15	37.5	4	10	12	30	2	5	4	10	1	2.5	2	5				
2 5-25%	15	5	75	12	180	21	315	4	60	4	60												
3 26-50%	37.5	6	225	3	112.5	9	337.5	2	75	1	37.5												
4 51-75%	62.5	2	125																				
5 76-95%	85	1	85																				
6 96-100%	97.5		-	-	-	-		-		-		-		-		-		-					
Total canopy			512.5		355		690		145		127.5		5		10		2.5		5				
Number of Samples			50		50		50		50		50		50		50		50		50				
% canopy cover			10		7		14		3		3		-		-		-		-				
Species composition			28		19		37		8		7		-		1		-		-				
Frequency			30		80		90		20		34		4		8		2		4				

Superseded

Illustration 10

Daubenmire

N 43.73541
W 117.31324

Page 1 of 3

Study Number	#5 Davis	Date	5/21/17	Examiner	AD	Allotment Name & Number		Pasture	
Transect Number and Location	Bunchgrass / cheatgrass					Number of Quadrats	50		

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
AGSP	1	2		3		2				3	4	1	2			2	3	1	2	3	3	3	3		
BRTE	5	4	3	2	4	2	2	3	2	3	4	3	3	5	5	3	2	3	3	3	2	2	2	2	2
HECO26					1	1																			
BASA											1														
CRAC		1																	1			2	.		
POSE			1										2					2			1		1		
PHHO				2	1		1																		
RATE				1																					
COUM				1		1																			
CHVI						1																			
VUMI									1										1						
MEAL																									1

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGSP	4	1			4	1	2	2	2	3	3	2													
BRTE	1	3	5	3	2	5	2	2	1	2	1	4	5	4	4	4	4	3	3	3	3	4	4	4	3
POSE			1	1							1									1	!				
CRAC				2					1	2															
PSTES													1												
~~BRE~~ MEAL													1	1							!	1			1
HECO26																	1	2	1						
CHVI																			1						
ERCI																				1					
Calochortus																				1					
																					1				

Supersede

Illustration 9

Daubenmire Summary

Study Number	Date 5.21.17	Examiner	Allotment Name & Number	Pasture
Study Location Daubenmire 5 100 yrds East Twin Springs	Sod bunchgrass/ annual grass		Number of Quadrats 50	

Cover Class	Mid-Point	Species AGSP		Species BRTE		Species HECO26		Species BASA		Species CRA		Species POSE		Species PHTO		Species RATE		Species COUM		Species CHVI		Species VUMI	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1 1-5%	2.5	5	12.5	4	10	4	10	1	2.5	3	7.5	9	22.5	2	5	1	2.5	2	5	3	7.5	1	2.5
2 5-25%	15	10	150	14	210	1	15			3		2	30	1	15		30						
3 26-50%	37.5	7	262.5	16	600																		
4 51-75%	62.5	2	125	10	625																		
5 76-95%	85			6	510																		
6 96-100%	97.5				-		-																
Total canopy			550		1955		25		2.5		52.5		52.5		20		32.5		5		7.5		2.5
Number of Samples			50		50		50		50		50		50		50		50		50		50		50
% canopy cover			11		39		1		-		1		1		-		1		-		-		-
Species composition			20		72		1		-		2		2		1		1		-		-		-
Frequency			48		100		10		2		12		22		6		2		4		6		2

Superseded

Illustration 10

2727.5

Cont.

Daubenmire Summary

Page 3 of 3

Study Number	Date 5.21.17	Examiner A. Overlin	Allotment Name & Number	Pasture
Study Location Daubenmire #5 cont.			Number of Quadrats 50	

Cover Class	Mid-Point	Species MEAL		Species POSTES		Species ERCF		Species Calochortus		Species		Species		Species		Species		Species		Species		Species	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1 1-5%	2.5	6	15	1	2.5	1	2.5	1	2.5														
2 5-25%	15																						
3 26-50%	37.5																						
4 51-75%	62.5																						
5 76-95%	85																						
6 96-100%	97.5																						
Total canopy			15		2.5		2.5		2.5														
Number of Samples			50		50		50		50														
% canopy cover			—		—		—		—														
Species composition			1		—		—		—														
Frequency			12		2		2		2														

Superseded

Illustration 10

1% rock
10% litter
40 So bare ground

49% grass
- no shrubs

N 43.70473
W 117.36408

Daubenmire

Page 1 of 2

Study Number	Date 5/21/17	Examiner	Allotment Name & Number	Pasture

Transect Number and Location Daub. 6 Crested Wht Seeding

Number of Quadrats 50

Superseded

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
AGSP	1	1	3	3	2	2	2	2	2	1	3	4	4	2	3	1	1	3	3	2	2	3	2	2	1
BRTE	1	2	1	2	2	2	2	2	2	2	2	1	2	1	1	1	1	1	2	2	1	1	1	1	1
RATE	1	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
POSE						2					1		1	1	2	2	2					1		1	1

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGSP	1	2	3		3			2	2	1		3			1	1	1	2		1	2	2	3		
BRTE	1	1	1	1	2	1	1	1	2	2	2		2	3	3	2	2	3	2	3	2	1	2	2	2
RATE	1	1	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
POSE		2							1				1				1		1		2			1	
AGSP							4	1																	

Illustration 9

Daubenmire Summary

Page 2 of 2

Study Number	Date 5.21.17	Examiner A. Overlin	Allotment Name & Number	Pasture
Study Location Daubenmire #6 Crested wheat seeding				Number of Quadrats 50

Cover Class	Mid-Point	Species AGCR		Species BRTE		Species RATE		Species POSE		Species AGSP		Species		Species		Species		Species		Species		Species	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1 1-5%	2.5	12	30	22	55	46	115	8	20	1	2.5												
2 5-25%	15	16	240	23	345	4	60	6	90														
3 26-50%	37.5	11	412.5	4	150																		
4 51-75%	62.5	2	125							1													
5 76-95%	85																						
6 96-100%	97.5	—	—	—	—	—	—	—	—	—	—												
Total canopy			807.5		550		175		110		2.5												
Number of Samples			50		50		50		50		50												
% canopy cover			16		11		4		2		—												
Species composition			49		33		11		7		—												
Frequency			82		98		100		28		4												

Superseded

1645

Illustration 10

N 43.07957
W 117.36263

Daubenmire

Study Number	Date 5/21/17	Examiner	Allotment Name & Number	Pasture

Transect Number and Location Daub. 7 Mtn. Sagebrush crested wf

Number of Quadrats 50

Superseded

Plant Species	Quadrat 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
AGSP	2	1	2	2		2	2	2			3	1		3	1	3		2							
POSE	2	2	2	1	1	1		1	2					1	3							1	2	1	
BRTE	1	1	2	2	2	1	2	2	2		1	3	3	2		2	3	2	3	3	1	3	2	2	3
RATE	1	1		1	1		1	1																	
ARTRV									2																
Epilobium sp		1																					2		
ASPU			2																						
ZIVE					1			1					2		2		1								1
AGSP									2										2		4				
COPA									1						1										
CHVI																									

Plant Species	Quadrat 26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGSP		1						2	2		1		2	1	2	3		1	3		2			1	1
POSE	1	1											1	1	2				1	1				2	2
BRTE	3	3	2	3	2	2	2	2				5	2	1	1	2	3	3	1		3	2	2	2	2
ARTRV		1																							
AGSP					2	2	3	1																	
RATE					1	1	1								1	1						1	1		
LEPE														1											

Illustration 9

Daubenmire Summary

Page 2 of 2

Study Number	Date 5.21.17	Examiner A. Overlin	Allotment Name & Number	Pasture
Study Location Daubenmire #7 sagebrush / crested wheat			Number of Quadrats 50	

Cover Class	Mid-Point	Species AGCR		Species POSE		Species BRTE		Species RATE		Species ARTR		Species Eriogonum		Species ASPU		Species ZIVE		Species AGSO		Species COPA		Species CHVI	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1	1-5%	2.5	9	22.5	14	35	8	20	13	32.5	1	2.5	1	2.5			3	7.5	3	7.5	3	7.5	1	2.5
2	5-25%	15	13	195	8	120	24	360			3	45			2	30	2	30	4	60				
3	26-50%	37.5	6	225	1	37.5	15	562.5											1	37.5				
4	51-75%	62.5					1	62.5											1	62.5				
5	76-95%	85					1	85																
6	96-100%	97.5	—	—		—		—		—		—		—		—		—		—		—		—
Total canopy			442.5		1925		1090		32.5		47.5		2.5		30		37.5		1,167.5		7.5		2.5
Number of Samples			50		50		50		50		50		50		50		50		50		50		50
% canopy cover			9		4		22		1		1		—		1		1		2		—		—
Species composition			22		9		53		2		2		—		1		2		8		—		—
Frequency			56		46		98		26		8		2		41		10		18		6		2

Superseded

EPE 1

1 2.5

2.5

50

—

1

total = 1250.5

Illustration 10

Section 4: Baseline Characterization

4.1 Plant Community Description

Vegetation within the study area is a desert-rangeland type where sagebrush and grasses are the dominant species. The area has been extensively grazed for a number of years. Portions of the study area appear to have been re-seeded at one time with a crested wheatgrass (*Agropyron cristatum*) dominated seed mix.

Figure 4-1 shows the three vegetation community types identified within the study area: sagebrush/bunchgrass, crested wheatgrass/annual grass, and annual grass. Cheatgrass and/or medusahead were often the most dominant species in nearly every plant community.

The sagebrush/bunchgrass plant community type is characteristic of the native sagebrush community found throughout much of Eastern Oregon. This plant community typically occurs on rocky slopes. Bare ground in these areas often ranges from 25 to 50 percent. The shrub stratum is typically dominated by big sagebrush (Artemisia tridentata), rubber rabbitbrush (*Chrysothamnus nauseosus*) and green rabbitbrush (*Chrysothamnus viscidiflorus*). The understory typically includes Sandberg's bluegrass (*Poa secunda*), Idaho fescue (*Festuca idahoensis*), and bluebunch wheatgrass (*Agropyron spicatum*) with a cheatgrass and/or medusahead mat. **Photo 4-1** shows typical characteristics of the sagebrush/bunchgrass plant community.

Superseded

Photo 4-1. Typical sagebrush/bunchgrass plant community.

The crested wheatgrass/annual grass plant community occurs throughout portions of the study area. Soil in these areas is typically less rocky with 25- to 50-percent bare ground. The crested wheatgrass is likely a result of past seedings. Grazing is common in these areas and a cheatgrass and/or medusahead mat is prevalent throughout. **Photo 4-2** shows typical characteristics of the crested wheatgrass/annual grass community.

Photo 4-2. Typical crested wheatgrass/annual grass community.

Some of the study area is dominated by an annual grass plant community. Slopes in these areas are gentle and invasive species such as cheatgrass and medusahead are abundant.

4.2 Vegetation Transects

4.2.1 Transect 1

HDR established one 10-foot-wide by 10-foot-long transect at 117.355E, 43.669N, located in Section 8, Township 22 South, Range 44 East (**Figure 4-1**). Transect 1 is located on an east-facing aspect with slopes ranging from 5 to 8 percent. Approximately 70 to 75 percent of the slope is vegetated. The shrub stratum consists of rubber rabbitbrush with an understory co-dominated by cheatgrass and medusahead. Bunchgrasses are present in the herbaceous stratum. Information for Transect 1 is presented in **Table 4-1**. **Photo 4-3** and **Photo 4-4** show the characteristic vegetative cover in the area of Transect 1.

Table 4-1. Transect #1 Sagebrush/Bunchgrass Community

Coordinates; 117.355E, 43.669N		**Investigators:** Waldher, Modlin **Date:** June 18, 2012
Common Name	**Scientific Name**	**Quantity**
Shrubs		
rubber rabbitbrush	*Chrysothamnus nauseosus*	9
Forbs		
large-flowered goldenweed	*Happlopappus carthamoides*	2
Grasses		
bluebunch wheatgrass	*Agropyron spicatum*	7
cheatgrass	*Bromus tectorum*	Co-dominant herbaceous species
Sandberg's bluegrass	*Poa secunda*	2
medusahead	*Taeniatherum caput-medusae*	Co-dominant herbaceous species

Superseded

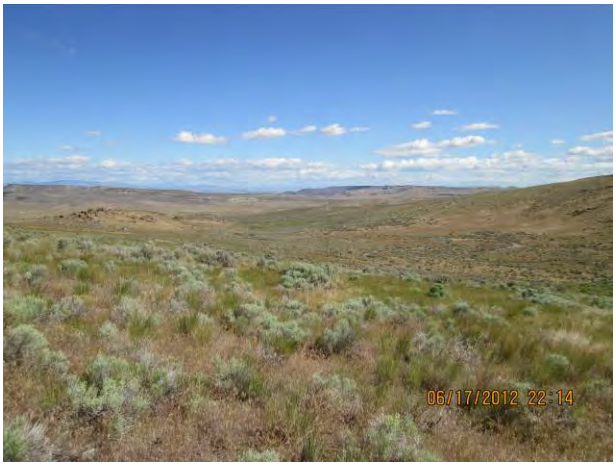


Photo 4-3. Transect 1 occurs in a sagebrush/ bunchgrass plant community.

Photo 4-4. Vegetation ranges from 6- to 30-inch height with 25 to 30 percent bare ground.

4.2.2 Transect 2

HDR established one 10-foot-wide by 10-foot-long transect at 117.359E, 43.671N, located in Section 8, Township 22 South, Range 44 East (**Figure 4-1**). Transect 2 is located on a north-facing aspect with slopes ranging from 3 to 5 percent. Approximately 45 to 50 percent of the slope is vegetated. The shrub stratum consists of big sagebrush, green rabbitbrush, and greasewood (*Sarcobatus vermiculatus*) with an understory co-dominated by cheatgrass and medusahead. Bunchgrasses are present in the herbaceous stratum. Information for Transect 2 is presented in **Table 4-2**.
Photo 4-5 and **Photo 4-6** show the characteristic vegetative cover in the area of Transect 2.

Table 4-2. Transect #2 Sagebrush/ Bunchgrass Community

Coordinates: 117.359E, 43.671N		**Investigators:** Waldher, Modlin **Date:** June 18, 2012
Common Name	**Scientific Name**	**Quantity**
Shrubs		
big sagebrush	*Artemisia tridentata*	5
green rabbitbrush	*Chrysothamnus viscidiflorus*	1
greasewood	*Sarcobatus vermiculatus*	1
Grasses		
bluebunch wheatgrass	*Agropyron spicatum*	8
cheatgrass	*Bromus tectorum*	Co-dominant herbaceous species
Sandberg's bluegrass	*Poa secunda*	2
medusahead	*Taeniatherum caput-medusae*	Co-dominant herbaceous species

Superseded

Photo 4-5. Transect 2 occurs in a sagebrush/ bunchgrass plant community.

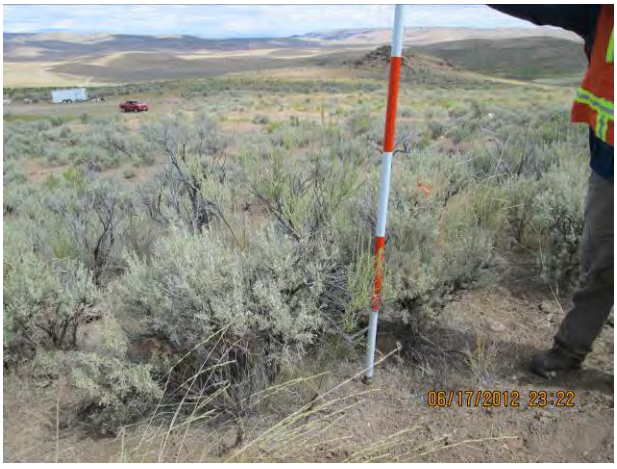


Photo 4-6. Vegetation ranges from 6- to 42-inch height with 50 to 55 percent bare ground.

4.2.3 Transect 3

HDR established one 10-foot-wide by 10-foot-long transect at 117.409E, 43.659N, located in Section 13, Township 22 South, Range 43 East (**Figure 4-1**). Transect 3 is located in a valley bottom with slopes ranging from 1 to 2 percent. Approximately 55 to 60 percent of the area is vegetated. The area appears to be re-seeded with a crested wheatgrass seed mix, but cheagrass and medusahead have invaded throughout. Information for Transect 3 is presented in **Table 4-3**. **Photo 4-7** and **Photo 4-8** show the characteristic vegetative cover in the area of Transect 2.

Table 4-3. Transect #3 Crested Wheatgrass/Annual Grass Community

Coordinates: 117.409E, 43.659N		**Investigators:** Waldher, Modlin **Date:** June 18, 2012
Common Name	**Scientific Name**	**Quantity**
Forbs		
buckwheat	*Erigonum sp.*	1
mustard	*Sisymbrium sp.*	3
Grasses		
crested wheatgrass	*Agropyron cristatum*	29
cheatgrass	*Bromus tectorum*	Co-dominant herbaceous species
Sandberg's bluegrass	*Poa secunda*	17
medusahead	*Taeniatherum caput-medusae*	Co-dominant herbaceous species

Superseded

Photo 4-7. Transect 3 occurs in a crested wheatgrass/annual grass plant community.

Photo 4-8. Vegetation ranges from 3- to 24-inch height with 50 to 55 percent bare ground.

4.2.4 Transect 4

HDR established one 10-foot-wide by 10-foot-long transect at 117.995E, 43.671N, located in Section 12, Township 22 South, Range 43 East (**Figure 4-1**). Transect 4 is located on a west-facing aspect, with slopes ranging from 3 to 5 percent. Approximately 85 percent of the slope is vegetated. Dominant vegetation within the transect consists of invasive annual grasses such as cheatgrass and medusa head. A small population of Austrian peaweed (*Sphaerophysa salusula*), a noxious weed species, occurs at this location. Information for Transect 4 is presented in **Table 4-4**. **Photo 4-9** and **Photo 4-10** show the characteristic vegetative cover in the area of Transect 4.

Table 4-4. Transect #4 Annual Grass Community

Coordinates: 117.995E, 43.671N		**Investigators:** Waldher, Modlin **Date:** June 18, 2012
Common Name	**Scientific Name**	**Quantity**
Forbs		
pepperweed	*Lepidium perfoliatum*	2
tumble mustard	*Sisymbrium altissimum*	2
Austrian peaweed	*Sphaerophysa salusula*	3
moth mullein	*Verbascum blattaria*	6
Grasses		
crested wheatgrass	*Agropyron cristatum*	6
cheatgrass	*Bromus tectorum*	Co-dominant herbaceous species
Idaho fescue	*Festuca idahoensis*	86
medusahead	*Taeniatherum caput-medusae*	Co-dominant herbaceous species
small fescue	*Vulpia mierostaehys*	3

Superseded

Photo 4-9. Transect 4 occurs in an annual grass plant community.

Photo 4-10. Vegetation ranges from 4- to 30-inch height with 10 to 15 percent bare ground.

4.2.5 Transect 5

HDR established one 10-foot-wide by 10-foot-long transect at 117.371E, 43.671N, located in Section 7, Township 22 South, Range 44 East (**Figure 4-1**). Transect 5 is located on a south-facing aspect with slopes ranging from 0 to 2 percent. Approximately 65 to 70 percent of the slope is vegetated. The shrub stratum consists of big sagebrush with an understory of Idaho fescue (*Festuca idahoensis*) and cheatgrass. Information for Transect 5 is presented in **Table 4-5**. **Photo 4-11** and **Photo 4-12** show the characteristic vegetative cover in the area of Transect 5.

Table 4-5. Transect #5 Sagebrush/Bunchgrass Community

Coordinates: 117.371E, 43.671N		**Investigators:** Waldher, Modlin **Date:** June 18, 2012
Common Name	**Scientific Name**	**Quantity**
Shrubs		
big sagebrush	*Artemisia tridentata*	13
Grasses		
bluebunch wheatgrass	*Agropyron spicatum*	1
cheatgrass	*Bromus tectorum*	Dominant herbaceous species
Idaho fescue	*Festuca idahoensis*	66
Sandberg's bluegrass	*Poa secunda*	3

Superseded

Photo 4-11. Transect 5 occurs in a sagebrush/ bunchgrass plant community.

Photo 4-12. Vegetation ranges from 4- to 42-inch height with 30 to 35 percent bare ground.

4.2.6 Transect 6

HDR established one 10-foot-wide by 10-foot-long transect at 117.435E, 43.649N, located in Section 22, Township 22 South, Range 43 East (**Figure 4-1**). Transect 6 is located on a rocky, north-facing aspect with slopes ranging from 2 to 5 percent. Approximately 40 percent of the slope is vegetated. The shrub stratum consists of big sagebrush and green rabbitbrush with an understory of cheatgrass and various bunchgrasses that are un-identifiable because of heavy grazing. Information for Transect 6 is presented in **Table 4-6**. **Photo 4-13** and **Photo 4-14** show the characteristic vegetative cover in the area of Transect 6.

Table 4-6. Transect #6 Sagebrush/Bunchgrass Community

Coordinates: 117.435E, 43.649N		**Investigators:** Waldher, Modlin **Date:** June 19, 2012
Common Name	**Scientific Name**	**Quantity**
Shrubs		
big sagebrush	*Artemisia tridentata*	5
green rabbitbrush	*Chrysothamnus viscidiflorus*	1
Grasses		
cheatgrass	*Bromus tectorum*	Dominant herbaceous species
misc. bunchgrass	*Misc. sp.*	Grasses Heavily Grazed (Unable to identify)

Superseded

Photo 4-13. Transect 6 occurs in a sagebrush/ bunchgrass plant community.

Photo 4-14. Vegetation ranges from 4- to 42-inch height with 60 percent bare ground.

4.2.7 Transect 7

HDR established one 10-foot-wide by 10-foot-long transect at 117.407E, 43.663N, located in Section 13, Township 22 South, Range 43 East (**Figure 4-1**). Transect 7 is located on an east-facing aspect with slopes ranging from 2 to 3 percent. Approximately 90 percent of the slope is vegetated by a cheatgrass/medusahead mat. Evidence of grazing is present throughout the area. Information for Transect 7 is presented in **Table 4-7**. **Photo 4-15** and **Photo 4-16** show the characteristic vegetative cover in the area of Transect 7.

Table 4-7. Transect #7 Annual Grass Community

Coordinates: 117.407E, 43.663N		**Investigators:** Waldher, Modlin **Date:** June 19, 2012
Common Name	**Scientific Name**	**Quantity**
Forbs		
blue mustard	*Chorispora tenalla*	1
prickly lettuce	*Lactuca serriola*	1
tumble mustard	*Sisymbrium altissimum*	9
Grasses		
cheatgrass	*Bromus tectorum*	dominant herbaceous species

Superseded

Photo 4-15. Transect 7 occurs in an annual grass plant community.

Photo 4-16. Vegetation ranges from 4- to 12-inch height with 10 percent bare ground.

4.2.8 Transect 8

HDR established one 10-foot-wide by 10-foot-long transect at 117.363E, 43.684N, located in Section 5, Township 22 South, Range 44 East (**Figure 4-1**). Transect 8 is located in a valley bottom with slopes ranging from 0 to 2 percent. Approximately 30 to 35 percent of the area is vegetated. The shrub stratum consists of big sagebrush and green rabbitbrush with an understory dominated by Sandberg's bluegrass. Evidence of heavy grazing is present in the area. Information for Transect 8 is presented in **Table 4-8**. **Photo 4-17** and **Photo 4-18** show the characteristic vegetative cover in the area of Transect 8.

Table 4-8. Transect #8 Sagebrush/Bunchgrass Community

Coordinates: 117.363E, 43.684N		**Investigators:** Waldher, Modlin **Date:** June 19, 2012
Common Name	**Scientific Name**	**Quantity**
Shrubs		
big sagebrush	*Artemisia tridentata*	3
green rabbitbrush	*Chrysothamnus viscidiflorus*	2
Grasses		
crested wheatgrass	*Agropyron cristatum*	4
cheatgrass	*Bromus tectorum*	17
Sandberg's bluegrass	*Poa secunda*	112

Superseded

Photo 4-17. Transect 8 occurs in a sagebrush/ bunchgrass plant community.

Photo 4-18. Vegetation ranges from 4- to 30-inch height with 65 to 70 percent bare ground.

4.4 Daubenmire Sampling Results

4.4.1 Daubenmire #1 – Sagebrush/Bunchgrass Community

HDR performed a Daubenmire vegetation survey at 117.372E, 43.669N, located in Section 7, Township 22 South, Range 44 East (**Figure 4-1**). The sampling plot is located approximately 30 feet south of the proposed access road within the sagebrush/bunchgrass vegetation community. Information for Daubenmire #1 is presented in **Table 4-9**. Daubenmire survey results at this location show that bluebunch wheatgrass had the highest percentage of canopy cover and the highest composition at this location. Cheatgrass has the highest frequency of occurrence within the 50 surveyed quadrats. **Photo 4-19** and **Photo 4-20** show the Daubenmire survey completed at this location and the completed survey form is included in **Appendix B**.

Table 4-9. Daubenmire #1 Sagebrush/Bunchgrass Community

Coordinates: 117.372E, 43.670N 30 feet south of proposed access road		**Investigator:** Waldher **Date:** May 7, 2013	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
ARTR – Artemisia tridentata	8	23	34
CHVI – Chrysothamnus nauseosus	-	-	4
POSE – Posa secunda	6	17	48
AGSP – Agropyron spicatum	10	29	42
ERSP – Erigonum [illegible]	3	9	26
PHLOX – Phlox sp.	[illegible]	3	38
BRTE – Bromus tectorum	7	20	70

Superseded

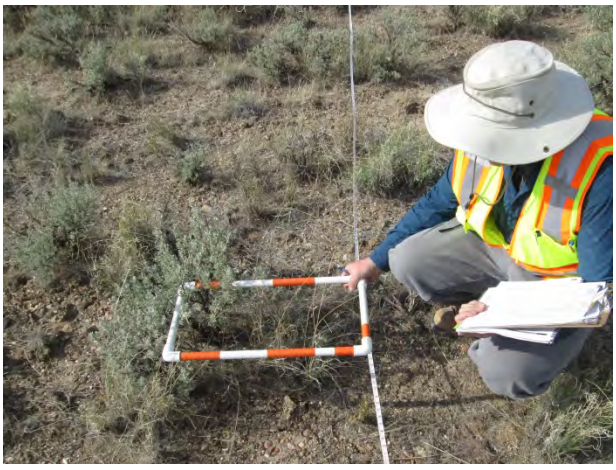


Photo 4-19. Using the Daubenmire frame placed along a 100-foot-long measuring tape, HDR measured 50 quadrats.

Photo 4-20. Daubenmire #1 was located approximately 30 feet from the proposed access road within the sagebrush/bunchgrass plant community.

4.4.2 Daubenmire #2 – Crested Wheatgrass Community

HDR performed a Daubenmire vegetation survey at 117.411E, 43.656N, located in Section 13, Township 22 South, Range 43 East (**Figure 4-1**). The sampling plot is located approximately 100 yards west of Twin Springs Road within the crested wheatgrass vegetation community. Information for Daubenmire #2 is presented in **Table 4-10**. Daubenmire survey results at this location show that crested wheatgrass has the highest percentage of canopy cover and the highest composition at this location. Cheatgrass has the highest frequency of occurrence within the 50 surveyed quadrats. **Photo 4-21** and **Photo 4-22** show the Daubenmire survey that completed at this location and the completed survey form is included in **Appendix B**.

Table 4-10. Daubenmire #1 Crested Wheatgrass Community

Coordinates: 117.411E, 43.656N 100 yards west of Twin Springs Road		**Investigator:** Waldher **Date:** May 7, 2013	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
AGCR – Agrpyron spicatum	17	71	6
BRTE – Bromus tectorum	1	4	25
POSE – Posa secunda	6	28	56

Superseded

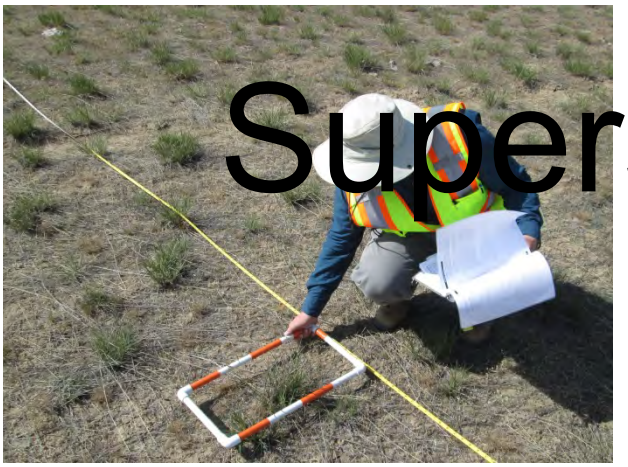


Photo 4-21. Clumps of crested wheatgrass are visible within sampling area.

Photo 4-22. Daubenmire #2 was located approximately 100 yards from Twin Springs Road within the crested wheatgrass plant community.

4.4.3 Daubenmire #3 – Annual Grass Community

HDR performed a Daubenmire vegetation survey at 117.407E, 43.664N, located in Section 14, Township 22 South, Range 43 East (**Figure 4-1**). The sampling plot is located approximately 200 feet west of Twin Springs Road, within the annual grass vegetation community. Information for Daubenmire #3 is presented in **Table 4-11**. Daubenmire survey results at this location show that cheatgrass has the highest percentage of canopy cover, highest composition, and the highest frequency of occurrence within the 50 surveyed quadrats. **Photo 4-23** and **Photo 4-24** show the Daubenmire survey completed at this location and the completed survey form is included in **Appendix B**.

Table 4-11. Daubenmire #3 Annual Grass Community

Coordinates: 117.407E, 43.664N 200 feet west of Twin Springs Road		**Investigator:** Waldher **Date:** May 7, 2013	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
BRTE – Bromus tectorum	53	90	96
POSE – Posa secunda	3	5	38
AGCR – Agrpyron spicatum	-	-	8
LASE – Lactuca serriola	2	3	26
ELCA – Elymus caput-medusae	1	2	50

Superseded

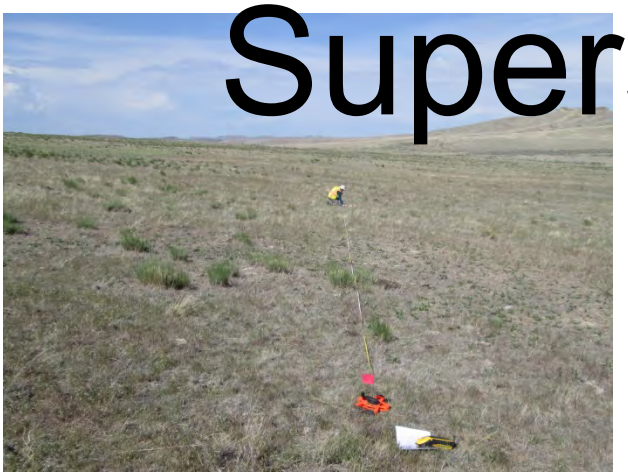


Photo 4-23. Sampling in the annual grass plant community.

Photo 4-24. Daubenmire #3 was located approximately 200 feet west of Twin Springs Road within the annual grass plant community.

Appendix A
Grassy Mountain Exploration Project
Terrestrial Vegetation Report – Vegetation Species Observed

Scientific Name	Common Name	Family Name	Plant Description
Shrubs (Shrub Stratum)			
Artemisia tridentata	big sagebrush	Asteraceae	Perennial shrub
Chrysothamnus nauseosus	rubber rabbitbrush	Asteraceae	Perennial shrub
Chrysothamnus viscidiflorus	green rabbitbrush	Asteraceae	Perennial shrub
Opuntia polyacantha	plains prickly pear	Cactaceae	Perennial shrub
Rosa woodsii	Wood's rose	Rosaceae	Perennial shrub
Sarcobatus vermiculatus	greasewood	Chenopodiaceae	Perennial shrub
Forbs (Herbaceous Stratum)			
Achillea millefolium	common yarrow	Asteraceae	Perennial forb
Arnica sp.	arnica	Asteraceae	Perennial forb
Balsamorhiza sagittata	arrowleaf balsamroot	Asteraceae	Perennial forb
Chorispora tenella	blue mustard	Brassicaceae	Annual forb
Cirsium arvense	Canada thistle	Asteraceae	Noxious weed
Cirsium undulatum	wavyleaf thistle	Asteraceae	Perennial forb
Convolvulus arvensis	field bindweed	Convolvulaceae	Perennial forb
Eriogonum spergulinum	buckwheat	Polygonaceae	Annual forb
Haplopappus carthamoides	large-flowered goldenweed	Asteraceae	Perennial forb
Kochia scoparia	kochia	Chenopodiaceae	Annual forb
Lepidium perfoliatum	pepperweed	Brassicaceae	Annual/biennial forb
Melilotus alba	white sweet clover	Leguminaceae	Perennial forb
Melilotus officinalis	yellow sweet clover	Leguminaceae	Perennial forb
Phlox sp.	phlox	Polemoniaceae	Perennial forb
Rumex crispus	curly dock	Polygonaceae	Perennial forb
Sisymbrium altissimum	tumble mustard	Brassicaceae	Annual/biennial forb
Sphaeralcea munroana	Munro's gobemallow	Malvaceae	Perennial forb
Sphaerophysa salusula	Austrian peaweed	Fabaceae	Noxious weed
Taraxacum officinale	common dandelion	Compositaceae	Perennial forb
Tragopogon dubius	salsify	Asteraceae	Annual/biennial forb
Verbascum blattaria	moth mullein	Scrophulariaceae	Biennial forb
Grass and Grasslikes (Herbaceous Stratum)			
Agropyron cristatum	crested wheatgrass	Poaceae	Perennial grass
Agropyron spicatum	bluebunch wheatgrass	Poaceae	Perennial grass
Bromus tectorum	cheat grass	Poaceae	Annual grass
Eleocharis sp.	spikerush	Cyperaceae	Native grasslike
Elymus caput-medusae	medusahead	Poaceae	Annual grass
Elymus elymoides	squirreltail	Poaceae	Perennial grass
Hordeum jubatum	foxtail barley	Poaceae	Perennial grass
Juncus sp.	rush species	Juncaceae	Native grasslike
Leymus cinereus	Great Basin wildrye	Poaceae	Perennial grass
Poa secunda	Sandberg's bluegrass	Poaceae	Perennial grass
Polypogon monspeliensis	rabbit's foot grass	Poaceae	Annual grass
Vulpia microstachys	small fescue	Poaceae	Annual grass

Superseded

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#: 1**

Field Surveyor(s): 1. Bob Waldher 2. Matt Modlin	Date: 06-18-12 Time: 10:00 AM Weather: Partly Cloudy
Location Description: East side of mine permit area.	GPS Coordinates N: 43.669 E: -117.355
Vegetation Class: (i.e., sagebrush/grassland: grassland) Sagebrush / Bunchgrass	
Plot Size: 10’ x 10’	
Section, Township, Range: 8, 22S, 44E	Datum: NAD 83
Land Ownership (BLM, private): Patented Claim	Accuracy: +/- 1 Meter

Est. % bare ground: 25%	Aspect: East Facing
Slope: 5% - 8%	Vegetation Height: 6” – 30”
Disturbance (grazing, roads, etc.): Grazed, access roads located nearby.	

Superseded

Common Name	Botanical Name	Quantity
rubber rabbitbrush	*Chrysothamnus nauseosus*	9
large-flowered goldenweed	*Happlopappus carthamoides*	2
bluebunch wheatgrass	*Agropyron spicatum*	7
cheatgrass	*Bromus tectorum*	Dom.
Sandberg’s bluegrass	*Poa secunda*	2
medusahead	*Taeniatherum caput-medusae*	Dom.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

TES Species Observed (circle one)**:** **YES** **(NO)**

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes: No special status species observed.

Noxious Weeds/Invasive Species Observed (circle one)**:** **(YES)** **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
cheatgrass	*Bromus tectorum*	Dom.
medusahead	*Taeniatherum caput-medusae*	Dom.

Superseded

Population Notes: Cheatgrass and medusahead are co-dominant weed species present within the transect.

Additional Vegetation Survey Notes: Cheatgrass and medusahead form a mat of cover. Not able to count individual plants.

Site Photographs (include photo #, brief description and direction)**:**

Photos 9-19, Camera D, overview of plant community and transect sampling location.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#: 2**
Field Surveyor(s): 3. Bob Waldher 4. Matt Modlin	Date: 06-18-12 Time: 11:05 AM Weather: Partly Cloudy
Location Description: North side of mine permit area.	GPS Coordinates N: 43.671 E: -117.359
Vegetation Class: (i.e., sagebrush/grassland: grassland) Sagebrush / Bunchgrass	
Plot Size: 10’ x 10’	
Section, Township, Range: 8, 22S, 44E	Datum: NAD 83
Land Ownership (BLM, private): Patented Claim	Accuracy: +/- 1 Meter

Est. % bare ground: 50% - 55%	Aspect: North Facing
Slope: 3% - 5%	Vegetation Height: 6” – 42”
Disturbance (grazing, roads, etc.): Grazed, roads located nearby.	

Superseded

Common Name	Botanical Name	Quantity
big sagebrush	*Artemisia tridentata*	5
green rabbitbrush	*Chrysothamnus viscidiflorus*	1
greasewood	*Sarcobatus vermiculatus*	1
bluebunch wheatgrass	*Agropyron spicatum*	8
cheatgrass	*Bromus tectorum*	Dom.
Sandberg’s bluegrass	*Poa secunda*	2
medusahead	*Taeniatherum caput-medusae*	Dom.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

TES Species Observed (circle one)**:** **YES** **(NO)**

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes: No special status species observed.

Noxious Weeds/Invasive Species Observed (circle one)**:** **(YES)** **NO**

☐ Class A
☒ Class B
☒ Class C

Common Name	Botanical Name	Quantity
cheatgrass	*Bromus tectorum*	Dom.
medusahead	*Taeniatherum caput-medusae*	Dom.
Canada thistle	*Cirsium arvense*	N/A

Superseded

Population Notes: Cheatgrass and medusahead are co-dominant weed species present within the transect. Canada thistle observed near northern boundary of mine area but outside of project study area.

Additional Vegetation Survey Notes: Cheatgrass and medusahead form a mat of cover. Not able to count individual plants.

Site Photographs (include photo #, brief description and direction)**:**

Photos 20-26, Camera D, overview of plant community and transect sampling location.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#: 3**

Field Surveyor(s): 5. Bob Waldher 6. Matt Modlin	Date: 06-18-12 Time: 1:35 PM Weather: Partly Cloudy
Location Description: Located in reclaimed area west of Twin Springs Road	GPS Coordinates N: 43.659 E: -117.409
Vegetation Class: (i.e., sagebrush/grassland: grassland) Crested Wheatgrass / Annual Grass	
Plot Size: 10' x 10'	
Section, Township, Range: 13, 22S, 43E	Datum: NAD 83
Land Ownership (BLM, private): Private (Bishop property)	Accuracy: +/- 1 Meter

Est. % bare ground: 40% - 45%	Aspect: N/A, Valley Bottom
Slope: 1% - 2%	Vegetation Height: 3" – 24"
Disturbance (grazing, roads, etc.): Heavily grazed.	

Superseded

Common Name	Botanical Name	Quantity
buckwheat	*Eriogonum sp.*	1
mustard	*Sisymbrium sp.*	3
crested wheatgrass	*Agropyron cristatum*	29
cheatgrass	*Bromus tectorum*	Dom.
Sandberg's bluegrass	*Poa secunda*	17
medusahead	*Taeniatherum caput-medusae*	Dom.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

TES Species Observed (circle one)**:** **YES** **(NO)**

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes: No special status species observed.

Noxious Weeds/Invasive Species Observed (circle one)**:** **(YES)** **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
cheatgrass	*Bromus tectorum*	Dom.
medusahead	*Taeniatherum caput-medusae*	Dom.

Superseded

Population Notes: Cheatgrass and medusahead are co-dominant weed species present within the transect.

Additional Vegetation Survey Notes: Cheatgrass and medusahead form a mat of cover. Not able to count individual plants. Area appears to be reclaimed with crested wheatgrass seed mixture.

Site Photographs (include photo #, brief description and direction)**:**

Photos 42-47, Camera D, overview of plant community and transect sampling location.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#: 4**

Field Surveyor(s): 7. Bob Waldher 8. Matt Modlin	Date: 06-18-12 Time: 3:05 PM Weather: Partly Cloudy
Location Description: Adjacent to south side of proposed access road.	GPS Coordinates N: 43.671 E: -117.995
Vegetation Class: (i.e., sagebrush/grassland: grassland) Annual Grass	
Plot Size: 10’ x 10’	
Section, Township, Range: 12, 22S, 43E	Datum: NAD 83
Land Ownership (BLM, private): BLM	Accuracy: +/- 1 Meter

Est. % bare ground: 10% - 15%	Aspect: West Facing
Slope: 3% - 5%	Vegetation Height: 4” – 30”
Disturbance (grazing, roads, etc.): Grazed, adjacent to existing access road.	

Superseded

Common Name	Botanical Name	Quantity
pepperweed	*Lepidium perfoliatum*	2
tumble mustard	*Sisymbrium altissimum*	2
Austrian peaweed	*Sphaerophysa salusula*	3
moth mullein	*Verbascum blattaria*	6
crested wheatgrass	*Agropyron cristatum*	6
cheatgrass	*Bromus tectorum*	Dom.
Idaho fescue	*Festuca idahoensis*	86
medusahead	*Taeniatherum caput-medusae*	Dom.

Calico Resources Grassy Mountain Project
Vegetation **Survey** *Reporting Form*

TES Species Observed (circle one)**: YES** (**NO**)

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes: No special status species observed.

Noxious Weeds/Invasive Species Observed (circle one)**:** (**YES**) **NO**

☒ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
cheatgrass	*Bromus tectorum*	Dom.
medusahead	*Taeniatherum caput-medusae*	Dom.
Austrian peaweed	*Sphaerophysa salsula*	3

Superseded

Population Notes: Cheatgrass and medusahead are co-dominant weed species present within the transect. Small population of Austrian peaweed observed in area.

Additional Vegetation Survey Notes: Cheatgrass and medusahead form a mat of cover. Not able to count individual plants.

Site Photographs (include photo #, brief description and direction)**:**

Photos 52-62, Camera D, overview of plant community and transect sampling location.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#: 5**
Field Surveyor(s): 9. Bob Waldher 10. Matt Modlin	Date: 06-18-12 Time: 3:50 PM Weather: Partly Cloudy
Location Description: East side of mine permit area.	GPS Coordinates N: 43.669 E: -117.355
Vegetation Class: (i.e., sagebrush/grassland: grassland) Sagebrush / Bunchgrass	
Plot Size: 10' x 10'	
Section, Township, Range: 8, 22S, 44E	Datum: NAD 83
Land Ownership (BLM, private): BLM	Accuracy: +/- 1 Meter

Est. % bare ground: 30% - 35%	Aspect: South Facing
Slope: 0% - 2%	Vegetation Height: 4" – 42"
Disturbance (grazing, roads, etc.): Grazed, adjacent to existing access road.	

Superseded

Common Name	Botanical Name	Quantity
big sagebrush	*Artemisia tridentata*	13
bluebunch wheatgrass	*Agropyron spicatum*	1
cheatgrass	*Bromus tectorum*	Dom.
Idaho fescue	*Festuca idahoensis*	66
Sandberg's bluegrass	*Poa secunda*	3

Calico Resources Grassy Mountain Project
Vegetation **Survey** *Reporting Form*

TES Species Observed (circle one)**: YES** (**NO**)

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes: No special status species observed.

Noxious Weeds/Invasive Species Observed (circle one)**:** (**YES**) **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
cheatgrass	*Bromus tectorum*	Dom.

Superseded

Population Notes: Cheatgrass dominant weed species present within the transect.

Additional Vegetation Survey Notes: Cheatgrass forms a mat of cover. Not able to count individual plants.

Site Photographs (include photo #, brief description and direction)**:**

Photos 63-69, Camera D, overview of plant community and transect sampling location.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#: 6**
Field Surveyor(s): 11. Bob Waldher 12. Matt Modlin	Date: 06-19-12 Time: 9:00 AM Weather: Partly Cloudy
Location Description: Located on slope above Freezout Lake Road	GPS Coordinates N: 43.649 E: -117.435
Vegetation Class: (i.e., sagebrush/grassland: grassland) Sagebrush / Bunchgrass	
Plot Size: 10' x 10'	
Section, Township, Range: 22, 22S, 43E	Datum: NAD 83
Land Ownership (BLM, private): Private (Bishop Property)	Accuracy: +/- 1 Meter

Est. % bare ground: 60%	Aspect: South Facing
Slope: 2% - 5%	Vegetation Height: 4" – 42"
Disturbance (grazing, roads, etc.): Heavily grazed, adjacent to existing access road.	

Superseded

Common Name	Botanical Name	Quantity
big sagebrush	*Artemisia tridentata*	5
green rabbitbrush	*Chrysothamnus viscidiflorus*	1
cheatgrass	*Bromus tectorum*	Dom.
Misc. Grass Species		See Notes

Calico Resources Grassy Mountain Project
Vegetation **Survey** *Reporting Form*

TES Species Observed (circle one)**:** **YES** **(NO)**

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes: No special status species observed.

Noxious Weeds/Invasive Species Observed (circle one)**:** **(YES)** **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
cheatgrass	*Bromus tectorum*	Dom.

Superseded

Population Notes: Cheatgrass dominant weed species present within the transect.

Additional Vegetation Survey Notes: Cheatgrass forms a mat of cover. Not able to count individual plants. Some bunchgrass species could not be identified due to heavy grazing.

Site Photographs (include photo #, brief description and direction)**:**

Photos 12-17, Camera D, overview of plant community and transect sampling location.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#: 7**
Field Surveyor(s): 13. Bob Waldher 14. Matt Modlin	Date: 06-19-12 Time: 10:00 AM Weather: Partly Cloudy
Location Description: Located at proposed processing facility location.	GPS Coordinates N: 43.663 E: -117.407
Vegetation Class: (i.e., sagebrush/grassland: grassland) Annual Grass	
Plot Size: 10’ x 10’	
Section, Township, Range: 13, 22S, 43E	Datum: NAD 83
Land Ownership (BLM, private): Private (Bishop Property)	Accuracy: +/- 1 Meter

Est. % bare ground: 2% - 3%	Aspect: East Facing
Slope: 3% - 5%	Vegetation Height: 4” – 12”
Disturbance (grazing, roads, etc.): Grazed, adjacent to existing access road.	

Superseded

Common Name	Botanical Name	Quantity
blue mustard	*Chorispora tenella*	1
prickly lettuce	*Lactuca serriola*	1
tumble mustard	*Sisymbrium altissimum*	9
cheatgrass	*Bromus tectorum*	Dom.

Calico Resources Grassy Mountain Project
Vegetation **Survey** *Reporting Form*

TES Species Observed (circle one)**: YES** (**NO**)

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes: No special status species observed.

Noxious Weeds/Invasive Species Observed (circle one)**:** (**YES**) **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
cheatgrass	*Bromus tectorum*	Dom.

Superseded

Population Notes: Cheatgrass dominant weed species present within the transect.

Additional Vegetation Survey Notes: Cheatgrass forms a mat of cover. Not able to count individual plants.

Site Photographs (include photo #, brief description and direction)**:**

Photos 18-24, Camera D, overview of plant community and transect sampling location.

Calico Resources Grassy Mountain Project
Vegetation Survey *Reporting Form*

Project: Calico Resources – Grassy Mountain Exploration Project	**Transect Name/#: 8**
Field Surveyor(s): 15. Bob Waldher 16. Matt Modlin	Date: 06-19-12 Time: 10:50 AM Weather: Partly Cloudy
Location Description: Adjacent to existing access road (outside project area)	GPS Coordinates N: 43.684 E: -117.363
Vegetation Class: (i.e., sagebrush/grassland: grassland) Sagebrush / Bunchgrass	
Plot Size: 10' x 10'	
Section, Township, Range: 5, 22S, 44E	Datum: NAD 83
Land Ownership (BLM, private): BLM	Accuracy: +/- 1 Meter

Est. % bare ground: 65% - 70%	Aspect: Valley Bottom
Slope: 0% - 2%	Vegetation Height: 4" – 42"
Disturbance (grazing, roads, etc.): Heavily grazed, adjacent to existing access road.	

Superseded

Common Name	Botanical Name	Quantity
big sagebrush	*Artemisia tridentata*	3
green rabbitbrush	*Chrysothamnus viscidiflorus*	2
crested wheatgrass	*Agropyron cristatum*	4
cheatgrass	*Bromus tectorum*	Dom.
Sandberg's bluegrass	*Poa secunda*	112

Calico Resources Grassy Mountain Project
Vegetation **Survey** *Reporting Form*

TES Species Observed (circle one)**:** **YES** **(NO)**

☐ USFWS
☐ BLM
☐ State of Oregon

Common Name	Botanical Name	Quantity

Population Notes: No special status species observed.

Noxious Weeds/Invasive Species Observed (circle one)**:** **(YES)** **NO**

☐ Class A
☐ Class B
☒ Class C

Common Name	Botanical Name	Quantity
cheatgrass	*Bromus tectorum*	Dom.

Superseded

Population Notes: Cheatgrass dominant weed species present within the transect.

Additional Vegetation Survey Notes: Cheatgrass forms a mat of cover. Not able to count individual plants.

Site Photographs (include photo #, brief description and direction)**:**

Photos 25-29, Camera D, overview of plant community and transect sampling location.

Daubenmire

Page 1 of 1

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	5/7/13	BOWCHER	Sagebrush/ Bunchgrass Community	

Transect Number and Location: DAUBENMIRE - 1, 30 FT SOUTH OF PROPOSED ACCESS ROAD

Number of Quadrats: 50

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ARTR															4	3			1				2		
CHVI																							1		
POSE	1			1		3		1	2		1		1		1			3							2
AGSP	4	2	2		2	1								4			2								2
ERSP		1	1			1	1				1		3			2				1					
PHLOX				1	1		1				1	1				1				1		1	1	1	
BRTE			1		1	1			1	2		1	1	1	1	1	1	1	3	2	3	2	1	2	

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ARTR	1	3	2	2	1		3		2	1	1		3	2						5	1				
CHVI													1												
POSE	1				3	1			1	1	2	1		1	2	3		2			2			1	1
AGSP			2	1				1	2						1	2	4	2	5		1	1			1
ERSP	2	2			1					3			1												
PHLOX	1	1	1	1								1	1	2					1	1					
BRTE			1		1	3	2	1			2	2	1	1	3	1			1	2	1		1	1	1

Superseded

Daubenmire Summary

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	5/7/13	R. WALDHER	Sagebrush / Bunchgrass Community	

Study Location: DAUBENMIRE - 1, 30 FT SOUTH OF PROPOSED ACCESS ROAD

Number of Quadrats: 50

Cover Class		Mid-Point	Species: ARTR		Species: CHVI		Species: POSE		Species: AGSP		Species: ERSP		Species: PHLOX		Species: BRTE		Species		Species		Species		Species	
			Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1	1-5%	2.5	6	15	2	5	14	35	7	17.5	8	20	18	45	23	57.5								
2	5-25%	15	5	75	-	-	6	90	9	135	3	45	1	15	8	120								
3	26-50%	37.5	4	150	-	-	4	150	-	-	2	75	-	-	4	150								
4	51-75%	62.5	1	62.5	-	-	-	-	3	187.5	-	-	-	-	-	-								
5	76-95%	85	1	85	-	-	-	-	2	170	-	-	-	-	-	-								
6	96-100%	97.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
Total canopy				387.5		5		275		510		140		60		327.5								
Number of Samples				50		50		50		50		50		50		50								
% canopy cover				8		-		6		10		3		1		7								
Species composition				23		-		17		29		9		3		20								
Frequency				34		4		48		42		26		38		70								

superseded

Daubenmire

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	5/7/13	R. WALDHER	Crested Wheatgrass Community	

Transect Number and Location: DAUBENMIRE - 2, 100 YDS EAST OF TWIN SPRINGS ROAD

Number of Quadrats: 50

Superseded

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
AGCR	2	3	1	2	3			3	1			2	2		4	4	3	1				2	3	1	2
BRTE	2								1				1	2	1	2	1								
POSE	1	2	2	1	1	4	3	2	4			1	2	1				1			1	1	1	1	

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGCR	1	3	2	3	2		1	4	2	2	2	3			1	1	1	2	3	2	1	3	3		2
BRTE	1	1					1		1			1					1								
POSE	1	1				1			1		1	1						1			2	1			

Daubenmire Summary

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	5/7/13	R. WALDHER	Crested Wheatgrass Community	

Study Location: DAUBENMIRE - 2, 100 YDS WEST OF TWIN SPRINGS ROAD

Number of Quadrats: 50

Superseded

Cover Class		Mid-Point	Species AGCR		Species BRTE		Species POSE		Species		Species		Species		Species		Species		Species		Species	
			Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1	1-5%	2.5	10	25	11	27.5	20	50														
2	5-25%	15	14	210	3	45	5	75														
3	26-50%	37.5	12	450	-	-	1	37.5														
4	51-75%	62.5	3	187.5	-	-	2	125														
5	76-95%	85	-	-	-	-	-	-														
6	96-100%	97.5	-	-	-	-	-	-														
Total canopy				872.5		72.5		287.5														
Number of Samples				50		50		50														
% canopy cover				17		1		6														
Species composition				71		4		25														
Frequency				78		28		56														

Daubenmire

Page 1 of 1

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	5/7/13	R WALDHER	Annual Grass Community	

Transect Number and Location: DAUBENMIRE-3, 200 FT WEST OF TWIN SPRINGS ROAD

Number of Quadrats: 50

Superseded

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
BRTE	5	4	2	1	2	3	2	1	3	2	2	3	1			1	1	4	5	5	5	5	4	2	3
POSE			2	1		1	2							1	2	2							1	2	
AGSP				1				1																	
LASE		1			2		1					2	2	1	1		2	1							
ELCA			1	1		1			1	1	1					1	2				1	1		1	1

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
BRTE	3	2	4	4	5	4	4	2	4	5	5	4	5	5	6	5	4	4	3	5	6	5	5	5	6
POSE	1	1										1	1	1			2	1	2			1	1		
AGSP			1	1																					
LASE			1	1																					
ELCA	1	1	1	1		1		2	2	1					1	1	1	1	2						

Daubenmire Summary

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	5/7/13	R. WALDHER	Annual Grass Community	

Study Location: DAUBENMIRE - 3 200 FT WEST OF TWIN SPRINGS ROAD

Number of Quadrats: 50

Cover Class	Mid-Point	Species: BRTE Number	BRTE Product	Species: POSE Number	POSE Product	Species: AGSP Number	AGSP Product	Species: LASE Number	LASE Product	Species: ELCA Number	ELCA Product
1 1-5%	2.5	5	12.5	12	30	4	10	9	22.5	21	52.5
2 5-25%	15	7	105	7	105	-	-	4	60	4	60
3 26-50%	37.5	7	262.5	-	-	-	-	-	-	-	-
4 51-75%	62.5	11	687.5	-	-	-	-	-	-	-	-
5 76-95%	85	15	1275	-	-	-	-	-	-	-	-
6 96-100%	97.5	3	292.5	-	-	-	-	-	-	-	-
Total canopy			2635		135		10		82.5		62.5
Number of Samples			50		50		50		50		50
% canopy cover			53		3		-		2		1
Species composition			90		5		-		3		2
Frequency			96		38		8		26		50

Superseded

Section 2: Baseline Characterization

2.1 Plant Community Description

Vegetation within the study area is a desert-rangeland type where sagebrush and grasses are the dominant species. The area has been extensively grazed for a number of years. Portions of the study area appear to have been re-seeded at one time with a crested wheatgrass (*Agropyron cristatum*) dominated seed mix.

Figure 4 shows the vegetation community types identified within the study area:

- sagebrush/bunchgrass
- crested wheatgrass/annual grass
- annual grass

Cheatgrass (Bromus tectorum), an invasive annual species, was common in nearly every plant community.

Photo 1. Spring 2015 Conditions

Superseded

During the spring 2015 vegetation surveys, HDR's survey team did not observe any TES species, Oregon and BLM sensitive species, or noxious weeds within the six Daubenmire transects they surveyed. **Appendix F** contains a list of vegetation species observed at the Grassy Mountain Project. The survey team did observe cattle and sheep grazing at several locations within the study area. Most grass species were fully emerged and spring flowering forb species were in peak bloom. **Photo 1** shows the general growing conditions at the time of the 2015 spring survey.

2.2 Daubenmire Sampling Results

2.2.1 Daubenmire #1-2015 – Sagebrush/Bunchgrass Community

HDR's survey team performed a Daubenmire vegetation survey at 117.365E, 43.671N, located in Section 8, Township 22 South, Range 44 East (**Figure 4**). The sampling plot is located on BLM land in the Project area within the sagebrush/bunchgrass vegetation community. Information for Daubenmire #1-2015 is presented in **Table 1**. Daubenmire survey results at this location show that Sandberg's bluegrass (*Poa secunda*) had the highest percentage of canopy cover, species composition, and frequency at this location. Cheatgrass and bur buttercup (*Ceratocephala testiculata*) also occurred at a high frequency within the 50 surveyed quadrats. **Photo 2** and **Photo 3** show the Daubenmire survey completed at this location and the completed survey form is included in **Appendix B**.

Table 1. Daubenmire #1-2015 Sagebrush/Bunchgrass Community

Coordinates: 117.365E, 43.671N BLM land in Grassy Mountain Project Area		**Investigator:** R. Waldher **Date:** April 8, 2015	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
ARTR – Artemisia tridentata	5	11	14
CHVI – Chrysothamnus nauseosus	-	-	2
POSE – Poa secunda	21	45	82
AGSP – Agropyron spicatum	5	11	20
CETE – Ceratocephala testiculata			54
BRTE – Bromus tectorum	10	21	60

Superseded

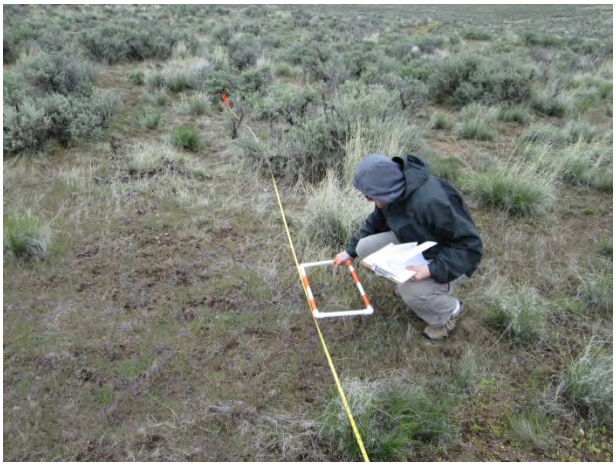


Photo 2. Using the Daubenmire frame placed along a 100-foot-long measuring tape, HDR measured 50 quadrats.

Photo 3. Daubenmire #1 was located on BLM land in the Grassy Mountain Project Area within the sagebrush/bunchgrass plant community.

2.2.2 Daubenmire #2-2015 – Sagebrush/Bunchgrass Community

HDR's survey team performed a Daubenmire vegetation survey at 117.370E, 43.670N, located in Section 7, Township 22 South, Range 44 East (**Figure 4**). The sampling plot is located on BLM land in the Project area within the sagebrush/bunchgrass vegetation community. Information for Daubenmire #2-2015 is presented in **Table 2**. Daubenmire survey results at this location show that Sandberg's bluegrass had the highest percentage of canopy cover, species composition, and frequency at this location. Cheatgrass also occurred at a high frequency within the 50 surveyed quadrats. **Photo 4** and **Photo 5** show the Daubenmire survey completed at this location and the completed survey form is included in **Appendix B**.

Table 2. Daubenmire #2-2015 Sagebrush/Bunchgrass Community

Coordinates: 117.370E, 43.670N BLM land in Grassy Mountain Project Area		**Investigator:** R. Waldher **Date:** April 8, 2015	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
ARTR – Artemisia tridentata	5	10	18
CHVI – Chrysothamnus nauseosus	1	2	6
POSE – Poa secunda	19	40	100
AGSP – Agropyron spicatum	12	25	46
BRTE – Bromus tectorum	11	23	94

Superseded

Photo 4. Daubenmire results confirmed that bunchgrasses were common at this location.

Photo 5. Daubenmire #2 was located on BLM land in the Grassy Mountain Project Area within the sagebrush/bunchgrass plant community.

2.2.3 Daubenmire #3-2015 – Sagebrush/Bunchgrass Community

HDR's survey team performed a Daubenmire vegetation survey at 117.370E, 43.673N, located in Section 7, Township 22 South, Range 44 East (**Figure 4**). The sampling plot is located on BLM land within the sagebrush/bunchgrass vegetation community. Information for Daubenmire #3-2015 is presented in **Table 3**. Daubenmire survey results at this location show that cheatgrass had the highest percentage of canopy cover, species composition, and frequency at this location. **Photo 6** and **Photo 7** show the Daubenmire survey completed at this location and the completed survey form is included in **Appendix B**.

Table 3. Daubenmire #3-2015 Sagebrush/Bunchgrass Community

Coordinates: 117.370E, 43.673N BLM land		**Investigator:** R. Waldher **Date:** April 8, 2015	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
ARTR – Artemisia tridentata	14	26	38
AGSP – Agropyron spicatum	3	6	12
POSE – Poa secunda	5	9	54
BRTE – Bromus tectorum	31	58	88

Photo 6. Using the Daubenmire frame placed along a 100-foot-long measuring tape, HDR measured 50 quadrats.

Photo 7. Daubenmire #3 was located on BLM land in the Grassy Mountain Project Area within the sagebrush/bunchgrass plant community.

2.2.4 Daubenmire #4-2015 – Sagebrush/Bunchgrass Community

HDR's survey team performed a Daubenmire vegetation survey at 117.362E, 43.690N, located in Section 5, Township 22 South, Range 44 East (**Figure 4**). The sampling plot is located on BLM land, adjacent to the access road, within the sagebrush/bunchgrass vegetation community. Information for Daubenmire #4-2015 is presented in **Table 4**. Daubenmire survey results at this location show that big sagebrush (*Artemisia tridentata*) had the highest percentage of canopy cover and species composition at this location. Bur buttercup occurred at the highest frequency as it was present within each of the 50 surveyed quadrats. **Photo 8** and **Photo 9** show the Daubenmire survey completed at this location and the completed survey form is included in **Appendix B**.

Table 4. Daubenmire #4-2015 Sagebrush/Bunchgrass Community

Coordinates: 117.362E, 43.690N BLM land adjacent to access road		**Investigator:** R. Waldher **Date:** April 16, 2015	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
ARTR – Artemisia tridentata	18	47	46
POSE – Poa secunda	10	26	66
AGSP – Agropyron spicatum	2	5	16
CETE – Ceratocephala testiculata	8	21	100

Photo 8. Sagebrush cover shown within Daubenmire frame.

Photo 9. Daubenmire #4 was located approximately 20 feet from the proposed access road within the sagebrush/bunchgrass plant community.

2.2.5 Daubenmire #5-2015 – Crested Wheatgrass/Annual Grass Community

HDR's survey team performed a Daubenmire vegetation survey at 117.357E, 43.714N, located in Section 29, Township 21 South, Range 44 East (**Figure 4**). The sampling plot is located on BLM land, approximately 20 feet from Twin Springs Road, within the crested wheatgrass/annual grass vegetation community. Information for Daubenmire #5-2015 is presented in **Table 5**. Daubenmire survey results at this location show that crested wheatgrass (*Agropyron cristatum*) had the highest percentage of canopy cover and species composition. Cheatgrass and crested wheatgrass both occurred at a high frequency within the 50 surveyed quadrats. **Photo 10** and **Photo 11** show the Daubenmire survey completed at this location and the completed survey form is included in **Appendix B**.

Table 5. Daubenmire #5-2015 Crested Wheatgrass Annual Grass Community

Coordinates: 117.357E, 43.714N BLM land, 20 feet from Twin Springs Road		**Investigator:** R. Waldher **Date:** April 16, 2015	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
AGCR – Agropyron cristatum	23	66	78
CHVI – Chrysothamnus nauseosus	-	-	6
POSE – Poa secunda	2	5	26
BRTE – Bromus tectorum	11	22	88

Superseded

Photo 10. Using the Daubenmire frame placed along a 100-foot-long measuring tape, HDR measured 50 quadrats.

Photo 11. Daubenmire #5 was located on BLM land approximately 20 feet from Twin Springs Road within the crested wheatgrass/annual grass plant community.

2.2.6 Daubenmire #6-2015 – Sagebrush/Bunchgrass Community

HDR's survey team performed a Daubenmire vegetation survey at 117.317E, 43.797N, located in Section 27, Township 20 South, Range 44 East (**Figure 4**). The sampling plot is located on BLM land, approximately 15 feet from Twin Springs Road, within the sagebrush/bunchgrass vegetation community. Information for Daubenmire #6-2015 is presented in **Table 6**. Daubenmire survey results at this location show that big sagebrush had the highest percentage of canopy cover and species composition at this location. Cheatgrass occurred at the highest frequency within the 50 surveyed quadrats. **Photo 12** and **Photo 13** show the Daubenmire survey completed at this location and the completed survey form is included in **Appendix B**.

Table 6. Daubenmire #6-2015 Sagebrush/Bunchgrass Community

Coordinates: 117.317E, 43.797N BLM land, 15 feet from Twin Springs Road		**Investigator:** R. Waldher **Date:** April 16, 2015	
Plant Species	**Percent Canopy Cover**	**Species Composition**	**Frequency**
ARTR – Artemisia tridentata	16	42	62
CHVI – Chrysothamnus nauseosus	-	-	4
POSE – Poa secunda	15	39	92
LUSP. – Lupinus sp.	1	2	8
BRTE – Bromus tectorum	6	16	74

Superseded

Photo 12. Lupine was observed within several quadrats at this location.

Photo 13. Daubenmire #6 was located on BLM land approximately 15 feet from Twin Springs Road within the crested wheatgrass/annual grass plant community.

Appendix A
Grassy Mountain Exploration Project
Terrestrial Vegetation Report – Vegetation Species Observed

Scientific Name	Common Name	Family Name	Plant Description
Shrubs (Shrub Stratum)			
Artemisia tridentata	big sagebrush	Asteraceae	Perennial shrub
Chrysothamnus nauseosus	rubber rabbitbrush	Asteraceae	Perennial shrub
Chrysothamnus viscidiflorus	green rabbitbrush	Asteraceae	Perennial shrub
Opuntia polyacantha	plains prickly pear	Cactaceae	Perennial shrub
Rosa woodsii	Wood's rose	Rosaceae	Perennial shrub
Sarcobatus vermiculatus	greasewood	Chenopodiaceae	Perennial shrub
Forbs (Herbaceous Stratum)			
Achillea millefolium	common yarrow	Asteraceae	Perennial forb
Arnica sp.	Arnica	Asteraceae	Perennial forb
Balsamorhiza sagittata	arrowleaf balsamroot	Asteraceae	Perennial forb
Ceratocephala testiculata	bur buttercup	Ranunculaceae	Annual forb
Chorispora tenella	blue mustard	Brassicaceae	Annual forb
Cirsium arvense	Canada thistle	Asteraceae	Noxious weed
Cirsium undulatum	wavyleaf thistle	Asteraceae	Perennial forb
Convolvulus arvensis	field bindweed	Convolvulaceae	Perennial forb
Eriogonum spergulinum	buckwheat	Polygonaceae	Annual forb
Haplopappus carthamoides	large-flowered goldenweed	Asteraceae	Perennial forb
Kochia scoparia	kochia	Chenopodiaceae	Annual forb
Lepidium perfoliatum	pepperweed	Brassicaceae	Annual/biennial forb
Lomatium simplex	desert parsley	Apiaceae	Perennial forb
Lupinus sp.	lupine	Leguminaceae	Perennial forb
Melilotus alba	white sweet clover	Leguminaceae	Perennial forb
Melilotus officinalis	yellow sweet clover	Leguminaceae	Perennial forb
Phlox sp.	Phlox	Polemoniaceae	Perennial forb
Rumex crispus	curly dock	Polygonaceae	Perennial forb
Sisymbrium altissimum	tumble mustard	Brassicaceae	Annual/biennial forb
Sphaeralcea munroana	Munro's gobemallow	Malvaceae	Perennial forb
Sphaerophysa salusula	Austrian peaweed	Fabaceae	Noxious weed
Taraxacum officinale	common dandelion	Compositaceae	Perennial forb
Tragopogon dubius	salsify	Asteraceae	Annual/biennial forb
Verbascum blattaria	moth mullein	Scrophulariaceae	Biennial forb
Grass and Grasslikes (Herbaceous Stratum)			
Agropyron cristatum	crested wheatgrass	Poaceae	Perennial grass
Agropyron spicatum	bluebunch wheatgrass	Poaceae	Perennial grass
Bromus tectorum	cheat grass	Poaceae	Annual grass
Eleocharis sp.	spikerush	Cyperaceae	Native grasslike
Elymus caput-medusae	medusahead	Poaceae	Annual grass
Elymus elymoides	squirreltail	Poaceae	Perennial grass
Hordeum jubatum	foxtail barley	Poaceae	Perennial grass
Juncus sp.	rush species	Juncaceae	Native grasslike
Leymus cinereus	Great Basin wildrye	Poaceae	Perennial grass
Poa secunda	Sandberg's bluegrass	Poaceae	Perennial grass
Polypogon monspeliensis	rabbit's foot grass	Poaceae	Annual grass
Vulpia microstachys	small fescue	Poaceae	Annual grass

Superseded

ADDENDUM #1

Daubenmire

Study Number BASELINE VEG.	Date 4/8/15	Examiner R. WALDHER	Allotment Name & Number	Pasture
Transect Number and Location Daubenmire #1 - 2015			Number of Quadrats 50	

Plant Species	Quadrat																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ARTR																1								3	3
CHVI		2																							
POSE	2	2	2	4	4	4	3	5	3	2	3	1	1		2		5	2	4	3	2	2	1	1	3
AGSP													3					2					1		
CETE		1							1	1	1	1	1	1			1	1	1	1	1	2	1		1
BRTE														4		2	1	1						2	

Plant Species	Quadrat																							
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ARTR																				5	4	2			1
CHVI																									
POSE	3	2		3	3	2	3	2	2	1				1	1			2	1		1	3	1	2	2
AGSP												3	3		4		1	4						1	1
CETE			1	2	2	2					1	2	2	1		5	5								1
BRTE	3	3	2	1	1	1	1	2	2	3	2			1	1			2	1	2	2	3	3	1	1

Superseded

Illustration 9

Daubenmire Summary

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	4/8/15	R. WALDHER		

Study Location: Daubenmire #1 - 2015 | Number of Quadrats: 50

Cover Class	Mid-Point	Species: ARTR		Species: CHVI		Species: POSE		Species: AGSP		Species: CETE		Species: BRTE		Species: LOTR		Species		Species		Species		Species	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1 1-5%	2.5	2	5	-	-	10	25	4	10	19	47.5	14	35										
2 5-25%	15	1	15	1	15	19	285	1	15	6	90	8	120										
3 26-50%	37.5	2	73	-	-	10	375	3	112.5	-	-	6	225										
4 51-75%	62.5	1	62.5	-	-	4	250	2	125	-	-	2	125										
5 76-95%	85	1	85	-	-	2	170	-	-	2	170	-	-										
6 96-100%	97.5	-	-	-	-	-	-	-	-	-	-	-	-										
Total canopy			240.5		15		1045		262.5		307.5		505										
Number of Samples			50		50		50		50		50		50										
% canopy cover			5		-		21		5		6		10										
Species composition			11		-		45		11		13		21										
Frequency			14		2		82		20		54		60										

Superseded

ADDENDUM #1

Daubenmire

Study Number BASELINE VEG	Date 4/8/15	Examiner R. WALDHER	Allotment Name & Number	Pasture

Transect Number and Location Daubenmire #2 - 2015 | Number of Quadrats 50

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ARTR	1	2	5	1	1	1																			
CHVI				2						3								2							
POSE	2	2	2	1	1	1	2	3	3	1	1	1	3	3	3	2	2	1	2	3	2	2	2	2	2
AGSP						3					2	2					3				3		4	2	1
BRTE	1						2	2	3	1	1	2	3	3	1	1	1	1	2	3	2	2	2	2	2

Superseded

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ARTR																					2	5	3		
CHVI																									
POSE	2	1	2	2	3	2	3	3	2	3	1	2	2	3	1	2	3	2	4	3	1	1	3	1	2
AGSP	4		2	2	1	2		3	3		4					1	3	3	1		1	1		3	
BRTE	1	2	3	3	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	2	1	1

Illustration 9

Daubenmire Summary

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	4/8/15	R. WALDHER		

Study Location	Number of Quadrats
Daubenmire #2 - 2015	50

Cover Class	Mid-Point	Species ARTR Number	ARTR Product	Species CHVI Number	CHVI Product	Species POSE Number	POSE Product	Species AGSP Number	AGSP Product	Species BRTE Number	BRTE Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product
1 1-5%	2.5	4	10	-	-	13	32.5	6	15	24	60												
2 5-25%	15	2	30	2	30	22	330	4	60	14	210												
3 26-50%	37.5	1	37.5	1	37.5	14	525	8	300	7	262.5												
4 51-75%	62.5	-	-	-	-	1	62.5	3	187.5	-	-												
5 76-95%	85	2	170	-	-	-	-	-	-	-	-												
6 96-100%	97.5	-	-	-	-	-	-	-	-	-	-												
Total canopy			247.5		67.5		950		592.5		537.5												
Number of Samples			50		50		50		50		50												
% canopy cover			5		1		19		12		11												
Species composition			10		2		40		25		23												
Frequency			18		6		100		46		94												

Superseded

ADDENDUM # 1

Daubenmire

Page 1 of 2

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	4/8/15	R. WALDHER		

Transect Number and Location: Daubenmire # 3 - 2015

Number of Quadrats: 50

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ARTR								2	1	3	3														3
AGSP																									
POSE	1	2				1	1		2	2		1			1	1				1				2	1
BRTR	4	3	4	4	4	4	4	3	3	2	1	1	3	4	4	4	4	4	3	2	4	4	4	3	2

Superseded

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ARTR	3	2					3	3	4		2	2	2	5	5	3	3	1	4						
AGSP	1	3		3		3	1	3																	
POSE	1				1	1	3		1						1	3	2	1	2	3	2	1	1	2	
BRTR	1	2					1		2	1	1	1		2	1	2	2	1	1	2	3	4	4	4	4

Illustration 9

ADDENDUM #1

Daubenmire Summary

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG.	4/8/15	R. WALDHER		

Study Location: Daubenmire #3 - 2015 | Number of Quadrats: 50

Cover Class	Mid-Point	Species: ARTR Number	ARTR Product	Species: AGSP Number	AGSP Product	Species: POSE Number	POSE Product	Species: BRTE Number	BRTE Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product
1 1-5%	2.5	2	5	2	5	10	40	10	25														
2 5-25%	15	5	75	-	-	8	120	9	135														
3 26-50%	37.5	8	300	4	150	3	112.5	7	262.5														
4 51-75%	62.5	2	125	-	-	-	-	18	1125														
5 76-95%	85	2	170	-	-	-	-	-	-														
6 96-100%	97.5	-	-	-	-	-	-	-	-														
Total canopy			675		155		272.5		1547.5														
Number of Samples			50		50		50		50														
% canopy cover			14		3		5		31														
Species composition			26		6		9		58														
Frequency			38		12		54		88														

Superseded

Illustration 10

ADDENDUM #1

Daubenmire

Study Number BASELINE VEG.	Date 4/16/15	Examiner R. WALDHER	Allotment Name & Number	Pasture

Transect Number and Location Daubenmire #4 - 2015 | Number of Quadrats 50

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ARTR					2				2		4	2	1	5	4					5	3	2			
POSE	2	1	1	4	1		2	3	2	1	3	1	2	2	3			2	3	2	2			1	2
AGSP						1	2				1				1										
CETE	1	1	1	1	1	3	2	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	2

Superseded

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ARTR	3		3	5		3	3	3	4	3	3				3				4				2	1	
POSE	3					1	2	2	2	1	1	1		2	2			1				2		1	2
AGSP								1		3	2					1			1						
CETE	1	1	1	1	3	2	3	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	2	1	1

Illustration 9

ADDENDUM #1

Daubenmire Summary

Study Number BASELINE VEG.	Date 4/16/15	Examiner R. WALDHER	Allotment Name & Number	Pasture
Study Location Daubenmire #4 - 2015			Number of Quadrats 50	

Cover Class	Mid-Point	Species ARTR Number	ARTR Product	Species POSE Number	POSE Product	Species AGSP Number	AGSP Product	Species CETE Number	CETE Product	Species Number	Product	Species Number	Product	Species Number	Product	Species Number	Product	Species Number	Product	Species Number	Product	Species Number	Product
1 1-5%	2.5	2	5	12	[illegible]	5	12.5	58	[illegible]														
2 5-25%	15	5	75	15	[illegible]	2	30	1	[illegible]														
3 26-50%	37.5	9	337.5	5	187.5	1	37.5	6	225														
4 51-75%	62.5	4	250	1	62.5	-	-	-	-														
5 76-95%	85	3	255	-	-	-	-	-	-														
6 96-100%	97.5	-	-	-	-	-	-	-	-														
Total canopy			922.5		505		80		410														
Number of Samples			50		50		50		50														
% canopy cover			18		10		2		8														
Species composition			47		26		5		21														
Frequency			46		66		16		100														

Superseded

ADDENDUM #1

Daubenmire

Study Number BASELINE VEG.	Date 4/16/15	Examiner R. WALDHER	Allotment Name & Number	Pasture

Transect Number and Location Daubenmire #5 - 2015 | Number of Quadrats 50

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
AGCR	1	4	2	3	1	1	2		1	3	2	4					3	3		5	3	3	4		2
CHVI																									
POSE						1					1	1						1			1				
BRTE	2	1	2	2	3	2	2	1	1	2	2	3	1	2	2	2	1	2	1		1	2	2	1	2

Superseded

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGCR	2	2	2	3		2	2	4	4	1	1		1	1		1	3		4	3	3	4	2	3	3
CHVI													2	1		1									
POSE						1								3	1			1		1	1			2	2
BRTE	2	1		1	2	1	3	2	1		1	1	1	1	2	3	3	1			1	1	2	2	2

Illustration 9

ADDENDUM # 1

Daubenmire Summary

Study Number BASELINE VEG.	Date 4/16/15	Examiner R. WALDHER	Allotment Name & Number	Pasture
Study Location Daubenmire # 5-2015			Number of Quadrats 50	

Cover Class	Mid-Point	Species AGCR Number	AGCR Product	Species CHV1 Number	CHV1 Product	Species POSE Number	POSE Product	Species BRTE Number	BRTE Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product
1 1-5%	2.5	9	22.5	2	5	10	25	19	47.5														
2 5-25%	15	10	150	1	15	2	30	20	300														
3 26-50%	37.5	12	450	-	-	1	37.5	5	187.5														
4 51-75%	62.5	7	437.5	-	-	-	-	-	-														
5 76-95%	85	1	85	-	-	-	-	-	-														
6 96-100%	97.5	-	-	-	-	-	-	-	-														
Total canopy			1145		20		92.5		535														
Number of Samples			50		50		50		50														
% canopy cover			23		-		2		11														
Species composition			66		0		5		22														
Frequency			78		6		26		88														

Superseded

ADDENDUM #1

Daubenmire

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG	4/16/15	R. WALDHER		

Transect Number and Location: Daubenmire # 6 - 2015

Number of Quadrats: 50

Plant Species	Quadrat 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ARTR	3			2	4	1			1	2	3	2							5	4	1	1	4	3	2
CHVI																									
POSE	2	1	3	2	3	3	2	2	1	2	3	2	2	2	2	4	3	2	2	1	2		1	2	2
LUSP.																								1	1
BRTE	2	1				1	2	2			2	2	1			1	2	1	1	1		3	1	1	1

Plant Species	Quadrat 26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ARTR				1							2	3	1	2	4	2	1	1	1	1	2	3	4	3	3
CHVI																		1	1						
POSE	1	3	2	2	3	2	1	1	2		1		2	1	3	1	1		2	1	2	1	2	2	1
LUSP.	1															4									
BRTE	1			1	2		1	1		1	1	3	2	1	2	1		1		1	1	3	2	1	1

Superseded

Illustration 9

ADDENDUM #1

Daubenmire Summary

Study Number	Date	Examiner	Allotment Name & Number	Pasture
BASELINE VEG	4/16/15	R. WALDHER		

Study Location: Daubemire #6 - 2015 | Number of Quadrats: 50

Cover Class	Mid-Point	Species: ARTR Number	ARTR Product	Species: CHVI Number	CHVI Product	Species: POSE Number	POSE Product	Species: LUSP. Number	LUSP. Product	Species: BRTE Number	BRTE Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product	Species Number	Species Product
1 1-5%	2.5	10	25	2	5	1	2.5	3	7.5	24	60												
2 5-25%	15	8	120	-	-	23	345	-	-	10	150												
3 26-50%	37.5	7	262.5	-	-	8	300	-	-	3	112.5												
4 51-75%	62.5	5	312.5	-	-	1	62.5	1	62.5	-	-												
5 76-95%	85	1	85	-	-	-	-	-	-	-	-												
6 96-100%	97.5	-	-	-	-	-	-	-	-	-	-												
Total canopy			805		5		742.5		70		322.5												
Number of Samples			50		50		50		50		50												
% canopy cover			16		-		15		1		6												
Species composition			42		-		39		2		16												
Frequency			62		4		92		8		74												

Superseded

APPENDIX B

MALHEUR COUNTY NOXIOUS WEED LIST

Superseded

Public Notice
Malheur County Noxious Weed Control
Revised 1/2023

WEED DISTRICT: The entire County is a weed control district known as the Malheur County Weed District. The weed district excludes the boundaries of any incorporated city. The weed district is governed by the Malheur County Court upon recommendations from the Malheur County Weed Inspector.

DESIGNATION OF NOXIOUS WEEDS: Pursuant to ORS 569.360 to 569.495 the following named plants are designated by the Malheur County Court to be injurious to public health, crops, livestock, land, or other property and are noxious.

It is the responsibility of private landowners, the County, State and Federal governments to control these weeds on their respective jurisdictions. Malheur County has prioritized control and/or eradication of these noxious weeds by "A" "B" & "C" classes, with Class A having the highest priority. Priorities may be adjusted by geographic areas at the recommendation of the Weed Inspector. (T) Denotes high priority species by Oregon Department of Agriculture, and * marks plants that have biological controls.

CLASS "A" WEED: A weed of known economic/environmental importance known to occur in the county in very small numbers to make eradication practicable, or not known to occur but its status in surrounding counties makes future occurrence seem imminent.

Superseded

ACTION – infestations are subject to mandatory eradication/containment county-wide. Eligible for county assistance when funds are available.

COMMON NAME	*SCIENTIFIC NAME*	*USDA SYMBOL*	*Present/historical Not present(NP)*
African rue	*Peganum harmala L.*	PEHA	NP
Barbed goatgrass (T)	*Aegilops triunciallis*	AETR	NP
Buffalobur	*Solanum rostratum*	SORO	PRESENT
Camelthorn	*Alhagi maurorum*	ALMA12	NP
Coltsfoot	*Tussilago farfara*	TUFA	NP
Common bugloss (T)	*Anchusa officinalis*	ANOF	NP
Common Crupina *	*Crupina vulgaris*	CRVU2	HISTORICAL
Cutleaf teasel	*Dispsacus laciniatus*	DILA4	NP
Dalmation toadflax (T) *	*Linaria dalmatica*	LIDA	PRESENT
Diffuse knapweed	*Centaurea diffusa*	CEDI3	PRESENT
Dyers woad	*Isatis tinctoria*	ISTI	HISTORICAL
False brome	*Brachypodium sylvaticum*	BRSY	NP
Garden yellow loosestrife (T)	*Lysimachia vulgaris*	LYVU	NP
Giant reed	*Arundo donax*	ARDO	NP
Goastrue (T)	*Galega officinalis*	GEOF	NP
Glyphosate Tolerant Creeping	*Agrostis stolonifera*	AGST	PRESENT
Hoary Alyssum (T)	*Berteroa incana*	BEIN2	NP
Hydrilla	*Hydrilla verticillata*	HYVE3	NP
Iberian starthistle (T)	*Centaurea iberica*	CEIB	NP
Italian thistle *	*Carduus pycnocephalus*	CAPY2	NP
Japanese knotweed	*Polygonum cusidatum*	POCU6	PRESENT

Jimsonweed	*Datura stramonium* L.	DAST	PRESENT
King-devil hawkweed *	*Pilosella piloselloides*	HIPI2	NP
Palmer's amaranth (2018)	*Amaranthus palmeri*	AMPA	NP
Leafy spurge (T) *	*Euphorbia esula*	EUES	PRESENT
Matgrass (T)	*Nardus stricta*	NAST3	NP
Meadow hawkweed (T)	*Hieracium pratense*	CEDE5	NP
Meadow knapweed	*Centaurea debeauxii*	CEDE5	HISTORICAL
Mediterranean sage	*Salvia aethiopis*	SAAE	PRESENT
Milk thistle *	*Silybum marianum*	SIMA3	PRESENT
Mouse-ear hawkweed (T) *	*Hieracium pilosella var. pilosella*	HIPI	NP
Oblong spurge (T)	*Euphorbia oblongata*	EUOB4	NP
Orange hawkweed (T) *	*Pilosella aurantiacum (hieracium)*	HIAU	NP
Ovate goatgrass	*Aegilops ovata*	AEGE	NP
Paterson's curse (T)	*Echium plantagineum*	ECPL	NP
Perennial peavine	*Lathyrus latifolius*	CEDI3	NP
Perennial pepperweed	*Lepidium latifolium*	LELA2	PRESENT
Pheasant's eye	*Adonis aestivalis*	ASAE	NP
Plumeless thistle (T)	*Carduus acanthoides*	CARDU	NP
Purple nutsedge	*Cyperus rotundus*	CYRO	NP
Purple starthistle (T)	*Centaurea calcitrapa*	CECA2	NP
Ravennagrass (T)	*Saccharum ravennae*	SARA3	PRESENT
Ribbongrass (T)	*Phalaris arundinaceae*	PHAR	NP
Rush skeletonweed	*Chondrilla juncea*	CHJU	PRESENT
Silverleaf nightshade	*Solanum elaeagnifolium*	SOEL	NP
Skeletonleaf bursage	*Ambrosia tomentosa*	AMTO3	PRESENT
Slender-flowered thistle *	*Carduus tenuiflorus*	CATE2	NP
Smooth distaff thistle	*Carthamus baericus*	CALAB2	NP
Spotted knapweed	*Centaurea stoebe* L.	CEST8	PRESENT
Squarrose knapweed (T)	*Centaurea virgata*	CEVI	Historical
Sulfur cinquefoil	*Potentilla recta*	PORE5	HISTORICAL
Syrian bean-caper	*Zygophyllm fabago*	ZYFA	NP
Wild proso millet	*Panicum miliaceum*	PAMI2	PRESENT
Tansy ragwort (T)	*Senecio jacobaea*	SEJA	HISTORICAL
Taurian thistle (T)	*Onopordum tauricum*	ONTA	NP
Turkish thistle (T)	*Carduus cinereus*	CACI	NP
Velvetleaf	*Abutilon theophrasti*	ABTH	NP
Waterprimrose	*Ludwigia hexapetala, peploides*	LUTHE	NP
Welted thistle	*Carduus crispis*	CACR2	NP
White bryonia	*Bryonia alba*	BRAL	NP
Wooly distaff thistle (T)	*Carthamus lanatus*	CALA20	NP
Yellow floating heart (T)	*Nymphoides peltata*	NYPE	NP
Yellow hawkweed (T)	*Pilosella floribundum (Hieracium)*	HIFL3	NP
Yellow starthistle	*Centaurea solstitialis*	CESO3	PRESENT
Yellow toadflax *	*Linaria vulgaris*	LIVU2	HISTORICAL

Superseded

CLASS "B" WEED – A weed of known economic/environmental importance and of moderate to wide distribution and highly invasive, but still occurs in isolated, controllable infestations in certain areas.

ACTION – Infestations are handled at County discretion determined on a site specific, and case-by-case basis with possible county assistance when funds are available.

Butterfly bush	Buddleja davidii (B. variabilis)	Present
Bull thistle	Cirsium vulgare	Present
Canada thistle	Cirsium arvense	Present
Common reed	Phragmites australis	Present
Common viper's bugloss	Echium vulgare	NP
Dodder	Cuscuta approximate, pentagona and indecora	Present
English hawthorn	Crataegus monogyna Jacq	NP
Eurasian watermilfoil *	Myriophyllum spicatum	Present
French broom *	Genista monspessulana	NP
Garlic mustard (T)	Alliaria petiolata	NP
Giant knotweed *	Fallopia sachalinensis	NP
Gorse (T) *	Ulex europaeus	NP
Hairy whitetop	Lepidium pubescens	Present
Halogeton	Halogeton glomeratus	Present
Herb Robert (geranium)	Geranium robertianum	NP
Himalayan knotweed	Polyfonuym polystachyum	NP
Houndstongue	Cynoglossum officinale	Present
Indigo bush	Amorpha fruticose	Present
Italian thistle	Carduus pycnocephalus	NP
Jointed goatgrass	Aegilops cylindrica	Present
Johnsongrass	*Sorghum halepense*	Present
Jubuta grass	Cortaderia jubata	NP
Lens podded whitetop	Lepidium chalepensis	Present
Lesser celandine	Ranuculus ficaria	NP
Meadow hawkweed (T)	Pilosella caespitosum	NP
Meadow knapweed *	Centaurea pratensis	NP
Meduasahead rye	Taeniatherum caput-medusae	Present
Milk thistle *	Silybum marianum	NP
Musk thistle *	Carduus nutans	Present
Myrtle spurge	Euphorbia myrsinities	Present
Old man's beard	Clematis vitalba	Present
Parrot feather	Myrophyllum aquaticum	NP
Perennial peavine	Lathyrus latifolius	NP
Perennial pepperweed (T)	Lepidium latifolium	Present
Pine echium	Echium pininana	NP
Poison hemlock *	Conium maculatum	Present
Policeman's helmet	Impatiens glandulifera	NP
Portuguese broom (T)	Cytisus striatus	NP
Primrose-willow Large-flower (T) Water primrose (T) Floating (T)	Lunwigia grandiflora Ludwigia hexapetala Ludwigia peplodides	
Puncturevine *	Tribulus terrestris	Present
Purple loosestrife *	Lythrum salicaria	Present
Ragweed	Ambrosia artemisiifolia	NP

Superseded

Ribbongrass (T)	Phalaris arundinacea var. Picta	NP
Rose Dog Sweetbriar	Rosa canina Rosa rubiginosa	Present
Rush skeletonweed (T) *	Chondrilla juncea	Present
Russian knapweed *	Acroptilon repens	Present
Salt cedar (T) *	Tamarix ramosissima	Present
Scotch broom *	Cytisus scopariyus	NP
Scotch thistle	Onopordum acanthium	Present
Shiny leaf (geranium)	Geraniim lucidum	NP
Spikeweed	Hemizonia	Historical
Spiny cocklebur	Xanthiu spinosum	Present
Spurge laurel	Daphne laureola	NP
St. Johnswort *	Hypericum perforatum	Present
Sulfur cinquefoil	Potentilla recta	Present
Swainsonpea	Sphaerophysa salusula	NP
Tansy ragwort (T) *	Senecio jacobaea	Present
Tree of heaven	Ailanthus altissima	Present
Velvetleaf	Abutilon theophrasti	NP
Ventenata grass (2012)	Ventemata dubia	Present
Whitetop (hoary cress) *	Lepidium draba	Present
Yellow flag iris	Iris pseudacorus	Present

Superseded

CLASS "C" WEEDS – A weed of known economic/environmental importance and of general distribution, that is subject to control as local conditions warrant.

ACTION – Infestations treated at landowner's discretion.

COMMON NAME	***SCIENTIFIC NAME***
Armenian (Himalayan) blackberry	Rubus armeniacus
Cheatgrass	*Bromus tectorum*
Field bindweed *	*Convolvulus arvensis*
Kochia	*Kochia scoparia*
Russian thistle	*Salsola kali*
Quackgrass	*Agropyron repens*
Salt cedar (T) *	*Tamarix ramosissima*
Yellow nutsedge	*Cyperus esculentus*

APPENDIX C

DAUBENMIRE METHOD

Superseded

Excerpt from: Coulloudon, B. et al. 1999.
Sampling Vegetation Attributes, Technical Reference 1734-4,
Bureau of Land Management. Denver, Colorado.
BLM/RS/ST-96/002+1730
online @ www.blm.gov/nstc/library/pdf/samplveg.pdf

D. Daubenmire Method

1. *General Description* The Daubenmire method consists of systematically placing a 20- x 50-cm quadrat frame along a tape on permanently located transects (see Figure 4 on page 13). The following vegetation attributes are monitored using the Daubenmire method:

   - Canopy cover
   - Frequency
   - Composition by canopy cover

   It is important to establish a photo plot (see Section V.A) and take both close-up and general view photographs. This allows the portrayal of resource values and conditions and furnishes visual evidence of vegetation and soil changes over time.

2. *Areas of Use* This method is applicable to a wide, variety of vegetation types as long as the plants do not exceed waist height.

3. *Advantages and Limitations* This method is relatively simple and rapid to use. A limitation is that there can be large changes in canopy cover of herbaceous species between years because of climatic conditions, with no relationship to the effects of management. In general, quadrats are not recommended for estimating cover (Floyd and Anderson 1987; Kennedy and Addision 1987). This method cannot be used to calculate rooted frequency.

Superseded

4. *Equipment* The following equipment is needed (see also the equipment listed in Section V.A, page 71, for the establishment of the photo plot):

   - Study Location and Documentation Data form Appendix A)
   - Daubenmire forms (see Illustration 9 and 10)
   - Hammer
   - Permanent yellow or orange spray paint
   - Two stakes: 3/4 - or 1-inch angle iron not less than 16 inches long
   - Tape: 100- or 200-foot, delineated in tenths and hundreds, or a metric tape of the desired length.
   - Steel pins (reinforcement bar) for marking zero, mid, and end points of the transect
   - Frame to delineate the 20- x 50-cm quadrats (see Illustration 11)
   - Compass
   - Steel post and driver

5. *Training* The accuracy of data depends on the training and ability of the examiners. Examiners must be able to identify the plant species. They must receive adequate and consistent training in laying out transects and making canopy coverage estimates using the frame.

6. *Establishing Studies* Careful establishment of studies is a critical element in obtaining meaningful data (see Section III).

   a **Site Selection** The most important factor in obtaining usable data is selecting representative areas (critical or key areas) in which to run the study (see Section II.D). Study sites should be located within a single plant community within a

single ecological site. Transects and sampling points need to be randomly located within the critical or key areas (see Section III).

b Pilot Studies Collect data on several pilot studies to determine the number of samples (transects or observation points) and the number and size of quadrats needed to collect a statistically valid sample (see Section III.B.8).

c Number of Studies Establish a minimum of one study on each study site; establish more if needed (see Section II.D and III.B).

d Study Layout Data can be collected using the baseline, macroplot, or linear study designs described in Section III.A.2 beginning on page 8. The linear technique is the one most often used.

(1) Align a tape (100-, or 200-foot, or metric equivalent) in a straight line by stretching it between the transect location and the transect bearing stakes. Do not allow vegetation to deflect the alignment of the tape. A spring and pulley may be useful to maintain a straight line. The tape should be aligned as close to the ground as possible.

(2) Drive steel pins almost to the ground surface at the zero point on the tape and at the end of the transect. A pin may also be driven into the ground at the midpoint of the transect. (see Figure 4 on page 13)

e Reference Post or Point Permanently mark the location of each study with a reference post and a study location stake (see beginning of Section III).

Superseded

f Study Identification Number studies for proper identification to ensure that the data collected can be positively associated with specific sites on the ground (See Appendix B).

g Study Documentation Document pertinent information concerning the study on the Study Location and Documentation Data form (see beginning of Section III and Appendix A).

7. *Taking Photographs* The directions for establishing photo plots and for taking close-up and general view photographs are given in Section V.A.

8. *Sampling Process* In addition to collecting the specific studies data, general observations should be made of the study sites (see Section II.F).

a Cover Classes This method uses six separate cover classes (Daubenmire 1959). The cover classes are:

Cover Class	Range of Coverage	Midpoint of Range
1	0 - 5%	2.5%
2	5 - 25%	15.0%
3	25 - 50%	37.5%
4	50 - 75%	62.5%
5	75 - 95%	85.0%
6	95 - 100%	97.5%

b Ten Cover Classes Where narrower and more numerous classes are preferred, a ten-cover class system can be used.

c Collecting Cover Data As the quadrat frame is placed along the tape at the specified intervals, estimate the canopy coverage of each plant species. Record the data by quadrat, by species, and by cover class on the Daubenmire form (see Illustration 9). Canopy coverage estimates can be made for both perennial and annual plant species.

(1) Observe the quadrat frame from directly above and estimate the cover class for all individuals of a plant species in the quadrat as a unit. All other kinds of plants are ignored as each plant species is considered separately.

(2) Imagine a line drawn about the leaf tips of the undisturbed canopies (ignoring inflorescence) and project these polygonal images onto the ground. This projection is considered "canopy coverage." Decide which of the classes the canopy coverage of the species falls into and record on the form.

(3) Canopies extending over the quadrat are estimated even if the plants are not rooted in the quadrat.

(4) Collect the data at a time of maximum growth of the key species.

(5) For tiny annuals, it is helpful to estimate the number of individuals that would be required to fill 5% of the frame (the 71- x 71-mm area). A quick estimate of the number of individuals in each frame will then provide an estimate as to whether the aggregate coverage falls in Class 1 or 2, etc.

Superseded

(6) Overlapping canopy cover is included in the cover estimates by species; therefore, total cover may exceed 100 percent. Total cover may not reflect actual ground cover.

9. *Calculations* Make the calculations and record the results in the appropriate columns on the Daubenmire form (see Illustrations 9 and 10).

a Canopy Cover Calculate the percent canopy cover by species as follows:

(1) On the Daubenmire form (Illustration 9) count the number of quadrats in each of the six cover class (by species) and record in the Number column on the Daubenmire Summary form (Illustration 10).

(2) Multiply this value times the midpoint of the appropriate cover class (Illustration 10).

(3) Total the products for all cover classes by species.

(4) Divide the sum by the total number of quadrats sampled on the transect.

(5) Record the percent cover by species on the form.

b Frequency Calculate the percent frequency for each plant species by dividing the number of occurrences of a plant species (the number of quadrats in which a plant species was observed) by the total number of quadrats sampled along the transect. Multiply the resulting value by 100. Record the percent frequency on the form (Illustration 10).

c Species Composition With this method, species composition is based on canopy cover of the various species. It is determined by dividing the percent canopy cover of each plant species by the total canopy cover of all plant species. Record the percent composition on the form (Illustration 10).

10. Data Analysis Tests should be directed at detecting changes in cover of the species and/or in major ground cover classes. Tests for changes in minor species will have low power to detect change. If quadrats are spaced far enough apart on each transect so as to be considered independent, the quadrat can be analyzed as the sampling unit. Otherwise, the transects should be considered the sampling units. If the transects are treated as the sampling unit, and given that the transects are permanent, either the paired t-test or the nonparametric Wilcoxon signed rank test should be used to test for change between two years. Repeated measures ANOVA can be used to test for differences between 3 or more years. If the quadrats are treated as the sampling units, care must be taken to ensure they are positioned the same along each transect in each year of measurement. A paired t-test, Wilcoxon signed rank test, or ANOVA is then used as described above for transects.

Superseded

11. References

Daubenmire, Rexford. 1959. A Canopy-coverage method of vegetational analysis. Northwest Science 33:43-64.

——— 1968. Plant communities: a textbook of plant synecology. Harper and Row, New York. 300 p.

USDI, Bureau of Land Management. 1985. Rangeland monitoring - Trend Studies TR4400-4.

Daubenmire

Page ____ of ____

Study Number	Date	Examiner	Allotment Name & Number	Pasture
Transect Number and Location			Number of Quadrats	

Plant Species	Quadrat																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Plant Species	Quadrat																							
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

Superseded

Illustration 9

Daubenmire

Study Number 035-27W-08-02 | Date 7/24/95 | Examiner Chuck Wagon | Allotment Name & Number Quaking Aspen - 10373 | Pasture Sheep Creek

Transect Number and Location 3 miles north of Eagle Creek on the west side of the road | Number of Quadrats 50

Superseded

Plant Species	Quadrat																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
AGSP	2		1		2				1				2			3		4					3	1	
PONE	1					2	3												4		1			2	
ORHY		3																							
STTH2				1	1																		1		
SIHY								1																	
BRTE												1								1				1	
PHHO														2								1	2		
CRAC 2												1									1	1			
ASTER												2													
ARTR 2														3	3			4				4			
CHVI 8													4											3	

Plant Species	Quadrat																								
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
AGSP			1								2				1			2	1		1	1	1		
PONE								2			1			1	3					1					
ORHY						1																		1	
STTH2					3																2				
SIHY					1																				
BRTE												1	2										1		
PHHO							1									1							1		
ASTER							1	1			2									1					
ARTR 2		4							4		4	4			1				2			2			
CHVI 8				3	3			5						2		2			4						

Daubenmire Summary

Page ____ of ____

Study Number	Date	Examiner	Allotment Name & Number	Pasture
Study Location				Number of Quadrats

Cover Class		Mid-Point	Species		Species		Species		Species		Species		Species		Species		Species		Species		Species	
			Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1	1-5%	2.5																				
2	5-25%	15																				
3	26-50%	37.5																				
4	51-75%	62.5																				
5	76-95%	85																				
6	96-100%	97.5																				
Total canopy																						
Number of Samples																						
% canopy cover																						
Species composition																						
Frequency																						

Superseded

Illustration 10

Daubenmire Summary

Page 1 of 1

Study Number 035-27W-08-02 | Date 7/24/95 | Examiner Chuck Wagon | Allotment Name & Number Quaking Aspen 11037 | Pasture Sheep Creek

Study Location Three miles north of Eagle Tank on the west side of road. | Number of Quadrats 50

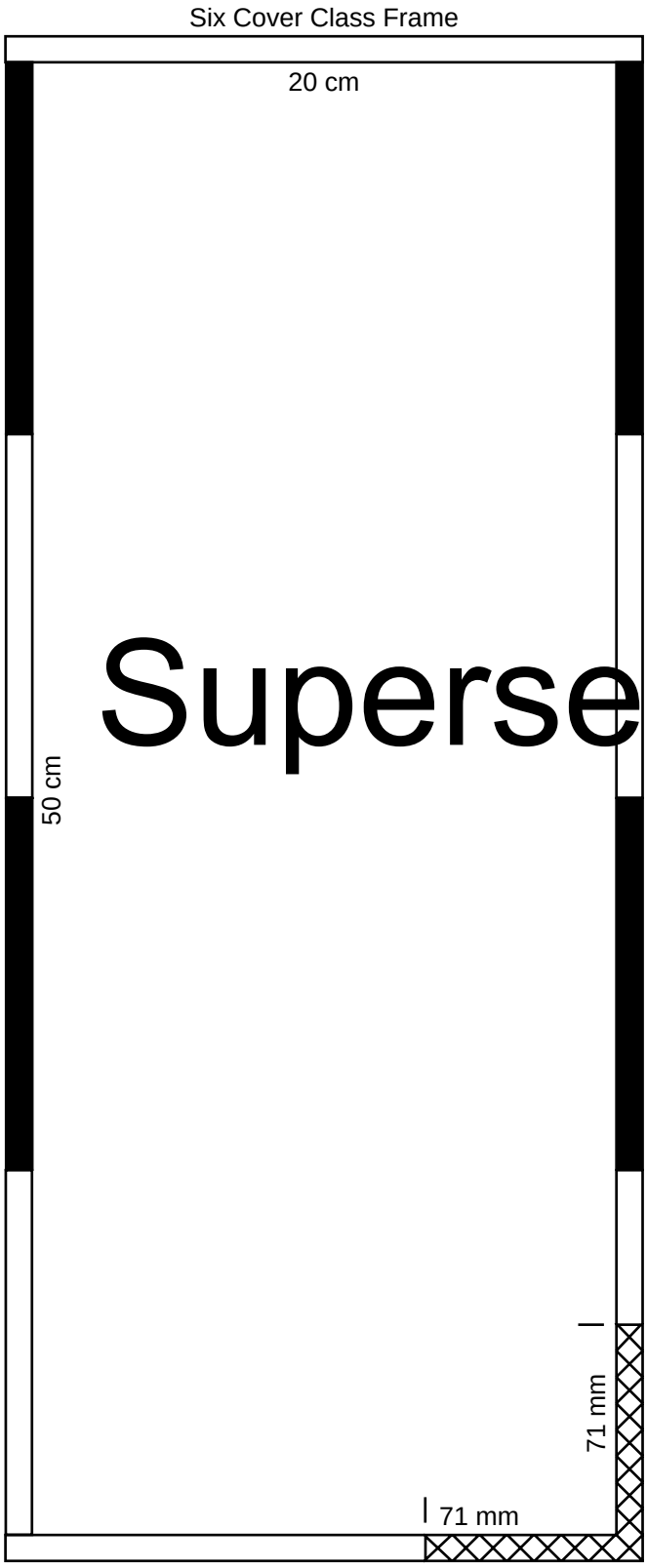
Cover Class	Mid-Point	Species AGSP		Species PONE		Species ORHY		Species STTH2		Species SIHY		Species BRTE		Species PHHO		Species CRAC2		Species Aster		Species ARTR2		Species CHIV8	
		Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product	Number	Product
1 1-5%	2.5	10	25	5	12.5	2	5	3	7.5	[illegible]	[illegible]	6	15	4	10	3	7.5	3	7.5	1	2.5		
2 5-25%	15	5	75	3	45			1	15			1	15	2	30			2	30	2	30	2	30
3 26-50%	37.5	2	75	2	75	1	37.5	2	75											2	75	3	112.5
4 51-75%	62.5	1	62.5	1	62.5															6	375	2	125
5 76-95%	85																					1	85
6 96-100%	97.5																						
Total canopy			237.5		195		42.5		97.5		[illegible]		30		40		7.5		37.5		482.5		352.5
Number of Samples			50		50		50		50		[illegible]		50		50		50		50		50		50
% canopy cover			5		4		1		2		—		1		1		—		1		10		7
Species composition			16		13		3		6		—		3		3		—		3		31		22
Frequency			36		22		6		12		4		14		12		6		10		22		16

Superseded

Illustration 10

Rangeland Monitoring

Daubenmire Frame



Superseded

The frame is made of 3/8-inch iron rod. The inside dimensions of the frame are 20 x 50 centimeters. The frame should have sharpened legs 3 centimenters long welded to each corner to help hold the frame in place.

The six cover class frame is divided into fourths by painting alternate sections of the frame different colors as illustrated. Use orange and white or red and white paint.

In one corner of the frame, delineate two sides of an area 71 millimeters square as illustrated. This area represents 5% of the quadrat area.

The painted design provides visual reference areas equal to 5, 25, 50, 75, 95, and 100% of the plot area.

Illustration 11

APPENDIX D

ONSITE CHEMICALS TO BE REMOVED AS PART OF RECLAMATION

Superseded

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

Superseded

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-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)	

Superseded

Chemical and Purpose	Agency Classification as Toxic or Hazardous Substance	Onsite Storage Capacity
Lead Oxide- Reagent Grade	OSHA (see SDS) DOT Class 5.1 (Oxidizer) Oregon RQ (500 lbs)	One 80-lb pail
Methyl Ethyl Ketone (MEK)	CERCLA (RQ 5000 lbs) OSHA (see SDS) DOT Class 3 (Explosive) Oregon RQ (500 gallons)	One 5-gallon pail
Nitric Acid (HNO3) Reagent Grade	EHS - EPCRA (RQ/TPQ 1000 lbs) CERCLA (RQ 1000 lbs) OSHA (see SDS) DOT Class 8 (Corrosive) Oregon EHS RQ (5 gallons)	Ten 1 gallon containers
Potassium Nitrate (Niter) (NaNO3) - Dry	OSHA (see SDS) DOT Class 5.1 (Oxidizer) Oregon RQ (500 lbs)	Five 50-lb sacks
Silica (SiO2) - Dry	OSHA (see SDS) Oregon RQ (500 lbs)	Ten 50-lb sacks
Sulfuric Acid (H2SO4) Reagent Grade	EHS - EPCRA (RQ/TPQ 1000 lbs) CERCLA (RQ 1000 lbs) OSHA (see SDS) DOT Class 8 (Corrosive) Oregon EHS RQ (5 gallons)	Six 1 gallon containers

Superseded