Newmont
CRIPPLE CREEK & VICTOR

Permit M-1980-244

Cresson Project Amendment 14

Exhibit D

Mining and Operations Management Plan

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1 INTRODUCTION

This updated mining plan presents the changes to the Cresson Project mining operations under this Amendment 14. The mining plan also provides the following:

1. a description of the affected lands boundary;
2. a description of the areas specifically affected by this Amendment 14,
3. the nature and sequence of mining activities including a generalized schedule and sequence for the proposed operations, and
4. a description of the facilities developed at the mine site.

This mine plan was prepared in accordance with the Colorado Department of Reclamation Mining and Safety (DRMS) requirements; specifically, Rule 6.4.4 of the *Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations.*

1.1 Overview of Amendment 14 Activities

The Cripple Creek & Victor Gold Mining Company (CC&V) is proposing to expand the footprints of three pits and both Valley Leach Facilities (VLFs) to accommodate additional ore reserves being identified within the mine area. The VLF1 and VLF2 Expansion design is consistent with the previously approved VLF designs that have been constructed, with some minor modifications that allow for the utilization of existing infrastructure. The *Valley Leach Facility Expansions Detailed Design Report* is provided in Appendix 1, and the characteristics of the proposed expansion are summarized below:

- The expansion will push the VLF2 footprint south and east until it is adjacent to VLF1 Phase 4, adding 4.1 million square feet of lined area. The VLF1 footprint will expand to the north and east, adding 4.4 million square feet of lined area. The VLF1 and VLF2 expansions will add a total of 189 million tons of ore capacity to the existing facilities.
- With the exception of Joe Dandy Hill, the majority of the expansion footprint sits within previously disturbed land; i.e., the footprint already has been cleared and grubbed of unsuitable materials, topsoil has been removed and stockpiled, and the underground workings have been removed or already remediated.
- The expansion includes a fourth phase to the VLF2 Facility, which is proposed to be located within the existing High Grade Mill area, extending between the two existing VLFs. The Mill building and its supporting infrastructure will be decommissioned and removed prior to the VLF expansion activities. The proposed VLF2 expansion will be graded to drain towards the existing VLF with solution intercepted by High-Volume Collection Pipes.

Solution intercepted by the High-Volume Collection Pipes will feed directly into adsorption, desorption, and recovery (ADR) Plant 2 (ADR2). During periods of time of plant maintenance or a power outage, the solution coming from VLF2 Phase 4 will be directed into the VLF2 Phase 1 and Phase 2's Process Solution Storage Area (PSSA) by way of an infiltration gallery.

- The expansion includes a sixth PSSA to the VLF1 facility. The Phase 6 PSSA is located within the existing crusher pocket and has an embankment east of the Phase 4 PSSA risers and a small containment embankment west of the Cresson Pit. The crusher and associated facilities will be decommissioned and removed prior to construction.
- The expansion will include a composite liner system within the pad lined area and PSSA. The liner systems are identical to the liner systems previously deployed in VLF1 and VLF2.
    - Layers of the composite liner system within the PSSA from bottom up are: Soil Liner Fill (SLF), Secondary 100-mil linear low-density polyethylene (LLDPE) Geomembrane Liner, Low Volume Collection Fill, Primary 100-mil LLDPE Geomembrane Liner, and Drain Cover Fill (DCF).
    - Layers of the composite liner system outside the PSSA footprint from the bottom up are: SLF, Primary 80-mil LLDPE Geomembrane Liner, and DCF.

The VLF Expansion will be constructed in four Stages: VLF2 Phase 4 Stage A and B, and VLF1 Phase 6 Stage A and B. The staged construction will allow the mine to begin loading ore within the expansion area of the VLF prior to completion of the entire Phase. Prior to the construction of any stage, Issued for Construction (IFC) Drawings will be developed, and will consider changes in field conditions, mine production, climate impacts, contractor availability etc. It is anticipated that any changes to the design and staging of the VLF Expansion will be minor and will not require additional permitting.

Amendment 14 is also proposing expansions to Globe Hill, Elkton, and East Cresson Pits. The projected mine sequencing for the Cresson Project is included in the discussions below, although it is important to note that the rate of mining as well as other timelines presented herein are approximate and depend on anticipated production rates, mining fleet, crusher availability, gold price, gold recovery, and other factors, such as fuel prices and weather conditions. As such, these approximate timelines may change and result in a shorter or a longer overall mine life. Details are provided on pre-mining activities of clearing and grubbing, mining operation development including drilling and blasting, mine area stability designs, underground development work, loading and hauling, crushing and conveying, and overburden handling. The following sections also describe the construction, surface water handling, stability of the Overburden Storage Areas

(OSAs), and mine area backfilling. Haul road and access road specifications are described for those traffic routes that are within the mining areas.

2 AFFECTED LANDS AND GEOLOGY

2.1 Affected Lands

The affected lands boundary for the mine site, and all adjacent land owners are shown in Exhibit C on Drawing C-1. The affected lands boundary, adjacent land owners, and permanent manmade structures are shown in Exhibit C on Drawing C-1 and Drawing C-1a. After Amendment 13, the affected lands boundary at the Carlton Tunnel was reduced by 4.3 acres through TR-124. An additional 0.62 has been added to the affected lands boundary for Amendment 14 to accommodate an access road that was constructed in Grassy Valley to support monitoring well installation. The total affected lands for Amendment 14 constitute 6,003.32 acres, including the Carlton Tunnel area. The affected lands boundary is shown on the drawings provided in Exhibits C, G, and F.

The existing mine facilities present within the affected lands boundary are shown on Drawing C-2 and Drawing C-2a, and the existing utilities at the mine are shown on Drawing C-2b, all of which are provided in Exhibit C. Mining facilities, buildings and utilities proposed for construction within the affected lands under this amendment are shown on Drawing C-3.

Under Amendment 14, portions of the existing affected lands will change disturbance categories (i.e., mine areas, OSAs, and VLFs). Disturbance categories under Amendment 14 are shown on Drawing C-4. To accommodate the changes, growth medium storage areas (i.e., soil stockpile locations) within the affected lands boundary are being modified. The current growth medium storage areas are shown on Drawing C-4a. As described in Technical Revision (TR)-115, approved by DRMS on September 25, 2019, changes to non-process facilities with minor effects to the financial warranty calculation, including but not limited to movement of topsoil stockpiles, and the subsequent changes in reclamation accounting will be submitted as letter notifications to DRMS, rather than as TRs. Otherwise, growth medium will continue to be managed in accordance with Hard Rock Rule (Rule) 3.1.9 and other relevant requirements within the Rule(s). A current list of TRs is provided in Appendix 2.

Mining and reclamation activities will change the features of the affected lands over time as mining activities are implemented under this amendment. The sequence of mining activities is summarized in Section 3 below[i]. The maximum height of the proposed VLF expansions is approximately 722 feet. Details of the reclamation plan are provided in Exhibit E.

2.2 Geology

A summary of the geology in the North Cresson Mine area and Maize Gulch is provided below. Exhibit C-5 shows the geology of the Cripple Creek Mining District (District).

Mineralization in the northwest portion of the District falls into the North Cresson Mine area and includes Globe Hill, Schist Island, and Dump 1. The geology is dominated by a large, northwest-trending, elongate, Precambrian ridge of schist that is surrounded by diatremal breccia. Both the schist and breccia are oxidized on the surface and display moderate to strong potassic alteration and weak argillic alteration. This area has been intruded by scattered and discontinuous lamprophyre and phonolitic dikes as well as a small plug of porphyritic phonolite. The dominant structural trends in this area display a north-northwest and northeast-trending fabric.

The Globe Hill area is underlain by breccia and phonolitic country rock that was intruded by late-stage hydrothermal breccia pipes. These breccia pipes hosted most of the gold mineralization in the area and are characterized by strong argillic alteration as well as the presence of sulfate (gypsum and anhydrite), carbonate (calcite and rhodochrosite), and quartz veining. The breccia pipe bodies are generally less than 500 feet in diameter and occur at the intersection of northeast- and north-northwest-trending structural zones.

The Maize Gulch area general lithology is composed of four rock types. The predominant bedrock unit is the Cripple Creek lapilli breccia, which generally consists of a massive, structureless, matrix-supported breccia that is poorly sorted, typical of diatremal crater fill breccia. Clasts are sub-angular to sub-rounded and primarily composed of various phonolite units with occasional Precambrian fragments. The breccia commonly shows varying degrees of hydrothermal alteration. The second and third rock types are the plagioclase phonolite and the phonolite, respectively. The phonolite is light- to medium-gray, porphyry with subhedral to euhedral, medium- to coarse-grained phenocrysts of alkali feldspar with minor amounts of feldspathoids, glassy apatite, and pyroxenes. The fourth unit is biotite bearing plagioclase phonolite. This material is generally a gray, fine-grained porphyry with euhedral biotite and alkali feldspar phenocrysts.

3 SEQUENCE OF DEVELOPMENT – SURFACE MINING OPERATIONS

The following section describes the sequencing of mining operations. In general, surface operations will continue as permitted in prior amendments for the purpose of extracting, refining and selling gold ore, which is the primary commodity. Mineralized waste mining will be added to surface operations when economic conditions permit, per approved in TR-104.

The sequence and timing of operations for the active mining, mineralized waste re-mining, ore placement, continued recovery, neutralization, reclamation, and other activities are approximations only based on anticipated production rates, mining fleet, crusher availability, gold price, gold recovery, and many other factors. Active mining at the site will occur through approximately 2049 as per this amendment.

Mined material from the Main, East, and North Cresson mine areas will be segregated during handling. Materials are identified as overburden, ore, or higher-grade ore. Overburden will be placed in an OSA, used as mine area backfill, or used to modify grade for the VLF Expansion area.

Ore will be placed in the remaining and proposed capacities within VLF2 and VLF1. Generally, higher-grade ore will be placed in one of four storage areas in the vicinity of the Main Cresson Mine area as shown on Drawing C-4. Higher grade ore ultimately will be placed in the High-Grade (HG) Mill feed area or crusher feed area to be processed through the HG Mill. Ground product from the HG Mill facilities will be processed within the Mill to form concentrate or placed on VLF2 for additional gold recovery. In addition, ground product may be leached in tanks in the mill with the residual dry tails pressed in the mill and placed on VLF1 or shipped offsite for further processing. VLF2 Phase 4 includes the footprint of the HG Mill; therefore, demolition of the HG Mill is required prior to construction. The approval status of Amendment 14 will affect the timing and sequencing of the HG Mill demolition to provide operational flexibility as mine and business plans are reviewed.

Construction of VLF2 began in 2012. Ore placement within VLF2 began in 2016 on the Phase 1 area. Ore was placed on approved sections of VLF2 Phase 2 in quarters 2 through 4 (Q3-Q4) of 2019. This Amendment 14 seeks to permit design and construction of VLF1 Phase 6 and VLF2 Phase 4, which is expected to add approximately 189 million tons of capacity. Construction is expected to begin second quarter 2026 with ore placement expected in approximately 2028. With the VLF expansion, ore placement on the VLF1 and VLF2 will continue through approximately 2032, followed by continued recovery until roughly 2049. The VLFs will be rinsed for an approximate six-year period followed by reclamation. Reclamation is anticipated to be completed in 2059 with post closure monitoring through 2064.

Table D-1 provides an overall estimated schedule including activity durations for construction, operation, and reclamation of the Cresson Project. Tables D-2 and D-3 provide the annual sequence of mining and overburden placement, respectively, in each of the mine areas and OSAs. Actual development schedules may vary from those presented below and will be reported in the annual reports to DRMS.

Table D-1: Approximate Time Schedule of Construction, Operations and Reclamation

Activity	Duration in Years	Start Year	Complete Year
Install and Maintain Erosion Controls – Mine and Overburden Areas	32	Continuing	2064 or when revegetation is established
Clear and Grub Mine Areas	11	When needed	2032
Construct Haul Roads	13	When needed	2032
Mining and Ore Loading VLF1	1	Continuing	2032
Mining and Ore Loading VLF2	16	2016	2032
Processing of Ore in HG Mill	7	2015	2022
Mine and Overburden Storage Area Reclamation	9	Continuing	2041
Complete the Leaching of Ore on the VLF1	12	Continuing	2044
Complete Neutralization of VLF1	6	2044	2050
Reclaim ADR1 Facilities	2	2052	2054
VLF1 Reclamation	2	2050	2052
Complete the Leaching of Ore on the VLF2	33	Continuing	2049
Complete Neutralization of VLF2	6	2049	2055
ADR2 Facilities Reclamation	2	2057	2059
VLF2 Reclamation	2	2055	2057
Post Closure Monitoring	5	2059	2064

Notes: 1. Actual mining schedule/sequence may vary due to changing mining or economic conditions.

Table D-2: Sequence of Mining Operations

Year	Main Cresson Mine Area		East Cresson Mine Areas			North Cresson Mine Area		Underground Mine Area
	Main Cresson[1]	South Cresson	Altman	ECME	WHEX	Schist Island	Globe Hill	Main Cresson[2]
2024		X				X	X	
2025		X		X		X	X	
2026				X			X	
2027				X			X	
2028		X					X	
2029		X					X	
2030			X				X	
2031			X				X	
2032			X					
	Complete	2016-2029	2030-2032	2025-2027	Complete	2018-2025	2016-2031	TBD

Notes: 1. WHEX = Wildhorse Extension, Altman/ECME = East Cresson Mine Altman. 2. Actual mining schedule/sequence may vary due to changing mining or economic conditions.

Table D-3: Sequence of Overburden Placement and Backfill

Year	Mine Area Backfill						OSA Placement	
	Main Cresson	East Cresson			North Cresson			
	Main Cresson	Altman/ ECME	South Cresson	WHEX	Schist Island	Globe Hill	Dump 1	ECOSA
2024	X		X	X	X		X	X
2025					X			X
2026			X		X			X
2027	X		X					X
2028	X							X
2029	X							X
2030	X							X
2031	X							X
2032	X							
	2024-2032	Finished	2024 - 2027	2024-2026	2022-2026	Not Filled	2024-2024	2015-2031

Notes: 1. WHEX = Wildhorse Extension, Altman/ECME = East Cresson Mine Altman, ECOSA = East Cresson Overburden Storage Area. 2. Actual mining schedule/sequence may vary due to changing mining or economic conditions.

Mining activities and sequencing will not change from previous amendments. Note that the annual mining and reclamation backfill progression is approximate and subject to change due to economics, weather conditions, and other factors.

3.1 Clearing, Grubbing and Growth Medium Removal

The VLF1 Phase 6 PSSA embankment area will require minor clearing, grubbing and growth medium removal as described in the *Valley Leach Facility Expansion Detailed Design Report* included in Appendix 1. The proposed expansion will occur largely within already disturbed areas and is entirely within the affected lands boundary. As such, the majority of the area is already cleared and grubbed in preparation for the work.

Growth medium is generally described as any soil type that has appropriate qualities necessary to support vegetation. Existing growth medium storage areas have been designated adjacent to the development areas and are shown on Drawing C-4a and listed in Table D-4 below, which shows whether the growth medium storage is existing, new, or scheduled for relocation. CC&V is permitted under TR-102 and TR-115 to modify growth medium storage areas as needed. Reclamation costs are updated through a letter to DRMS and during annual reports.

Table D-4: Growth Medium Storage Areas

Growth Medium Storage Areas				
Designation	**Existing or Currently Approved (E or CA)**	**New (N) or Enlarged (+)**	**Comments**	**Estimated Volume (1,000s of cubic yards)**
GM01	E		Globe Hill topsoil berm relocating to GM34 in 2024	21
GM06	E		Combined Growth Medium Storage Area 6 with 7	479
GM11	E		Top of ECOSA relocating to GM STK34 in 2024	171
GM13	E		Chicken Hawk Area	87
GM19*	E		South of Carlton Gate	400
GM27	E		Between HG Mill and Raven Hill	427
GM32	E		Crusher Area	22
GM33	E		Crusher Area	78
GM34	E		North of Maize Gulch	588
GM34B	E		North of GM34	0.6
GM37	E		Toe of Ruby Road	26
GM38	E		Near the Grassy Valley Overlook	96
GM Hot Tire Pad	E		On top of old Blue West Dump	149
GM Joe Dandy	E		Between the Joe Dandy ramp and Cresson Pit	223
GM STK34	E		Finger Dump, old HG stockpile 34 location	48
GM CT	E		Located west of Carlton Tunnel	2
Estimated Total Existing Inventory				**2,818**
*Stockpile will or does provide visual and noise berm				
Stockpiles consolidated or used in reclamation since A11 approval (removed from table): 10, 10a, 14, 20, 21, 30				

Growth medium is stored to depths and slopes appropriate for access for placement and removal, erosional stability, and minimization of the footprint to limit additional disturbed area. Growth medium storage areas, when in place for more than one year and with no further development at the storage areas planned, are seeded with the same or a similar seed mix approved by DRMS for use in reclamation (see Reclamation Plan provided in Exhibit E). The seed mix may emphasize annuals if the storage area is anticipated to be moved within approximately two years (see Table J-1 and Exhibit J).

3.2 Mining Areas, Operations, and Equipment

Surface mining and backfilling will continue in the previously approved areas, predominantly in North Cresson Mine area, and East Cresson Mine area. Each mine area is shown on Drawing C-4.

Surface mining will continue to use conventional mining excavation methods as presently being conducted at the Cresson Project. Overburden and ore will be mined using conventional production blasting, loaded into haul trucks with hydraulic shovels or front-end loaders, and hauled to the appropriate location. The mine areas will be developed by constructing a series of benches. The height and the width of the benches will vary depending on the local geology, stability of the wall material, and mining needs.

Table D-5 presents the anticipated equipment list for surface mining activities.

Table D-5: Anticipated Equipment List

Equipment	Specifications
Drills	Rotary/percussion with 6.75-inch hole diameter / Smaller drill pre-split
Rubber Tire / Track Loaders	12 to 32 yds^3 bucket capacity
Hydraulic Shovels	32 to 40 yds^3 capacity
Haul Trucks	85-ton and 240-ton capacity
Dozers	Rubber Tire Dozers CAT 834 or equivalent or larger class or CAT dozers of D9, D10, and D11 class
Track-hoes	Caterpillar or equivalent 235 or larger class
Water Trucks	13,000 and 20,000 capacity
Graders	Caterpillar or equivalent 16G or larger class
Vehicle Maintenance	Includes tire trucks, lube trucks, and service trucks
Miscellaneous Vehicles	Crew vans and bus and various light vehicles

3.3 Surface Drilling and Blasting

Surface drilling and blasting practices are not expected to change with Amendment 14.

3.4 Mine Area Stability

Documentation of mine wall stability was provided in previous submittals for the Cresson Project and are briefly described below. No changes to mine wall stability are anticipated for this amendment. Stability analysis of other facilities is discussed later in this plan.

The slope stability assessment of mine areas, including geotechnical slope recommendations and inter-ramp stability, is discussed in an engineering evaluation performed by Call & Nicolas, Inc (CNI) as part of the Amendment 11 permit application. In general, mining has occurred for the last 30 years to depths of greater than approximately 800 feet and at designed slope angles without observable slope failures other than occasional bench raveling. The CNI engineering evaluation (provided in Amendment 11) also addresses mine area stability as it relates to permanent manmade structures, as discussed in Exhibit S.

The inter-ramp slope angles recommended for the Globe Hill and Schist Island mine areas, provided in Table D-6, remain applicable under this amendment.

Table D-6: Inter-ramp Slope Angles for Globe Hill and Schist Island Mine Area

Design Sector	Bench Height (ft)	# stake	Vertical Separation (ft)	BFA (deg)	Bench Width (ft)	IRA	Pit Area	Lithology
1	35	D	70	70	58	40	Grassy Valley	Precambrian
2	35	S	35	70	48	30	WHEX 4	Precambrian
3	35	D	70	71	43	46	Schist Island Ph. 2	Precambrian Schist/Gneiss
4	35	S	35	70	26	42	Globe Hill Ph. 3,4,5,8	Globe Hill Pipe
5	35	D	70	78	32	56	Globe Hill Ph. 6,7,8	Diatreme Breccia
6	35	D	70	74	35	52	Schist Island Ph. 1 &2	Diatreme Breccia
7	35	D	70	75	36	52	Globe Hill Ph.5,6, 7,8	Diatreme Breccia/Phonolite
8	35	D	70	75	51	45	Globe Hill Ph. 3,8, WHX Nose	Diatreme Breccia/Precambrian
9	35	D	70	70	33	50	Schist Island Ph. 2, Globe Hill Ph. 7	Diatreme Breccia/Phonolite
10	35	D	70	78	29	58	Cresson, South Cresson 7	Diatreme Breccia/Phonolite
11	35	D	70	78	32	56	Cresson	Diatreme Breccia/Phonolite
12	35	D	70	77	31	56	South Cresson	Diatreme Breccia/Phonolite
13	35	D	70	78	36	54	West Cresson, South Cresson 7	Diatreme Breccia/Phonolite
14	35	D	70	77	35	54	South Cresson Ph. 2(2M,2N,2A,2B)	Diatreme Breccia/Phonolite

Notes: 1. Slopes should be designed and excavated to the mean catch-bench widths and bench-face angles listed above. After excavation, back break along the bench crests will reduce the catch-bench widths to the required 80 percent reliability of achieving 26 feet for double benching and 19 feet for single benching for sectors controlled by back break. 2. A mid-bench offset of 8 feet was assumed for double benching

based on previous experience at Cripple Creek. If the offset created between benches during mining is greater than 8 feet, inadequate catch-bench widths will be achieved. The offset can be completely avoided by drilling the pre-split row the full double bench height in a single pass. 3. Slopes mined in dump, fill, colluvium, or weathered material should be mined at a continuous 34° slope.

3.5 Loading, Hauling, and Selective Handling

Loading, hauling and selective handling of ore, run of mine (ROM), and overburden at the surface operations will be consistent with the permitted process. After blasting and assaying, ore and overburden are designated in the field by the ore-grade control (mine) geologists. Higher grade ore for the HG Mill facilities is designated separately from ore destined for the VLFs. ROM is segregated and hauled directly to the lime/cement silo area where lime or cement is added before being placed on VLFs (as approved in TR-114). Blasted rock is loaded into haul trucks using either rubber tire dozers, front-end loaders or track mounted hydraulic shovels. Ore is hauled to the existing crusher facility, to the high-grade ore storage area, or the ROM stockpile area depending on the field designation.

Higher grade ore material mined from surface mine areas will be designated prior to blasting and, to the extent possible, separated and selectively hauled. The higher-grade ore material will be placed in the vicinity of the Main Cresson Mine area and campaigned in weekly batches through the crushing facilities to be fed to the HG Mill. VLF2 Phase 4 includes the footprint of the HG Mill; therefore, demolition of the HG Mill is required prior to construction. The approval status of Amendment 14 will affect the timing and sequencing of the HG Mill demolition to provide operational flexibility as mine and business plans are reviewed.

Overburden material is hauled from the mine areas to the East Cresson Overburden Storage Area (ECOSA) or hauled as backfill into the Main Cresson, East Cresson, or North Cresson Mine areas. Backfilling will occur in areas following the completion of the mining activities and may be completed concurrent to mining in the same area.

TR-104 permitted remining of mineralized waste materials from OSAs. As part of Amendment 14, CC&V plans to process mineralized waste from OSAs where it is economical to do so. Mineralized waste material will be handled the same as ore and will be hauled to the crusher circuit, mixed with lime, and hauled to VLFs for processing. Mineralized waste may also be managed as ROM and may be routed to the lime/cement silo prior to placement on VLFs, as approved in TR-114.

3.6 Sequence of Development – Underground Mining Areas

Underground mining was discussed and approved as part of the Amendment 11 permitting action. Additionally, underground exploration was detailed and approved as part of TR-116. No further changes to those approvals are made under Amendment 14.

3.7 Overburden Management

Rock without recoverable gold, which must be removed to access the gold-bearing ore, is called overburden. Overburden will be loaded from the active mine areas for transport and managed at the designated OSAs. Overburden will be managed in designated mine areas once mining operations have ceased, and the area is opened for placement. The overburden management practices and management facilities are described below.

3.7.1 Dump 1 (formerly known as SGOSA)

A portion of the existing Dump 1 will be removed to make room for construction of VLF2 Phase 4. Overburden removed from Dump 1 or other locations will be placed in the Schist Island mine area to reach the design grades required for VLF2 Phase 4 construction. Details of the overburden removal from Dump 1 are described in the *Valley Leach Facility Expansion Detailed Design Report* provided in Appendix 1.

3.7.2 East Cresson Overburden Storage Area (ECOSA)

No modifications to ECOSA are planned under this amendment. ECOSA will continue to receive overburden material from the active mine areas. ECOSA will be built-out and graded according to sequencing described in previous amendments.

3.7.3 Deposition of Overburden into Mine Areas

General

As previously stated, this amendment modifies the Schist Island mine area backfill plan to accommodate backfill removed from Dump 1 or other areas for the construction of VLF2 Phase 4.

Deposition of overburden into mine areas (i.e., mine area backfilling) will not change from that discussed in previous plans. Backfill configurations and sequencing for and VLF1 Phase 6 and VLF2 Phase 4 during mine operations are presented in Appendix 1. Backfill configurations and sequencing for other mine areas are provided in previous amendments and plans. Note that the actual amount of backfill and the timing of backfilling activities for a mine area and a particular year may change based on project economics and may vary from what is shown on these permit drawings. Backfill configurations for reclamation are shown on drawings presented in Exhibit F.

Once condemnation sampling is performed and a surface mine area is deemed complete, these mine areas will become available for backfill of overburden. Overburden backfilling will occur in the Main Cresson, East Cresson and North Cresson areas. The extent of backfilling in these areas is dependent on mine-sequencing and material availability. Existing OSAs may be utilized as a resource depending on changing economic circumstances (as approved by TR-104), which would create additional capacity in existing OSAs for overburden deposition. Backfill and grading activities are discussed below.

Backfill and Grading Activities

Backfilling will be accomplished by truck placement of the overburden material in "lifts" that vary in height, depending on the logistics of truck hauling, the geographic locations relative to the mine areas, and overburden removal scheduling. Drawing F-1 shows the post-mining topography for backfilled mine areas and is provided in Exhibit F.

Backfill will be placed generally to the grades and elevations shown in Exhibit F. Backfill will be graded to provide positive surface water flow and will be blended with the surrounding topography. Newly created backfill of the Main Cresson will be graded to a 2.5H:1V or flatter. Differing areas of 2H:1V slopes will be oriented against the highwalls to blend the topography. A portion of the WHEX mine area will be backfilled as approved in TRs 96 and 121. Generally, the pit will be backfilled and sloped to allow stormwater drainage to the west towards the Globe Hill pit.

The main portion of WHEX and western portion of the Globe Hill mine areas will be regraded to promote free drainage of stormwater runoff from these areas at closure. Backfill will result in only a partial end-dumped backfill of the Main Cresson mine area.

The backfilled North Cresson and East Cresson mine areas will be graded to be free draining for surface water. Drainage will be directed to one of several Enhanced Management Ponds (EMPs).

3.7.4 Remining Overburden Storage Areas

Remining and processing minerals waste material was approved in TR-104 and will continue as part of this Amendment 14.

3.8 Haul and Access Roads

Public roads, haul roads and light vehicle access roads are routinely used to access the Cresson Project facilities. These roads are shown on various Exhibit C drawings and are described below. Public travel on the CC&V private roads is prohibited during mine operation and reclamation activities unless necessary and only under appropriate CC&V supervision.

Dust will be controlled on roads as necessary with periodic watering. Dust control measures may also include magnesium chloride surfactant or other suitable dust suppressants, mixed with other suitable remedies to control dust as necessary.

3.8.1 Public Roads

Public roads will be used to transport materials to the site and to ship product and wastes from the site. Public roads will not be used for hauling. However, there is a growth medium storage area located south of previously approved realigned State Highway (SH) 67 that will be accessed during reclamation of the VLFs. Access to this area over SH 67 was approved under Amendment 8 and no change in those activities is proposed as part of Amendment 14.

3.8.2 Access Roads

Light vehicle access roads are used for survey, environmental monitoring, and other ancillary uses. These roads are within CC&V's operating area and will continue to be constructed as necessary for light vehicle and delivery vehicle traffic. Access roads are constructed of appropriate materials and sized approximately to a two-lane road width. Depending on the locations and anticipated duration of use, the access roads may be accompanied by drainage ditches or other drainage control measures to minimize the potential for erosion.

3.8.3 Haul Roads

Amendment 14 will use existing primary haul roads with new roads added as needed to provide access to mine areas. A haul road will be constructed from the southwest to the northeast portion of the VLF2 Phase 4 to allow for ore loading on the VLF.

The actual location of haul roads may vary over time as a function of the mining plan. The haul road segments will accommodate the haulage, loading, and support traffic on the site. Haul roads are designed to allow two-way traffic of large haul trucks. Axle-high safety berms will be provided along each side of the road, as required by the Mine Safety and Health Administration (MSHA). Where necessary, such berms also are formed along the centerline of the road. Haul roads constructed for surface mining areas and the VLFs, where 240-ton trucks are used, are approximately 120 feet wide, and each lane is approximately 45 feet wide. Haul road berms will contain openings, sized as necessary, to allow stormwater runoff to flow from the road surface to ditches and other stormwater management features.

The haul road alignments may follow the topographic ridges or run along or across contours on hillsides. Bedrock is at or near ground surface in mine areas; therefore, site preparation will generally include growth medium removal and storage and limited cut-and-fill grading. Subgrade preparation for haul road fill placement will be minimal, except as required in specific instances

such as culvert locations. In general, soils will be removed along the haul road alignment to expose a competent, stable subgrade material. Where soil layers are sufficiently thick (e.g., greater than six inches over a greater than one-acre area) and accessible (i.e., mechanical means can be easily used to remove), the soil material will be salvaged and stored for use in reclamation. Overburden material may be used for road fill as well as local materials derived from the cut.

Fill slopes for the haul roads generally will be constructed at the angle-of-repose of the fill material. In areas of culvert installations, fill placement will be conducted in a manner that maintains the integrity and function of the culvert.

During operations, haul road dust will be suppressed using the current methodologies. CC&V is using water for dust suppression on temporary roads and may use magnesium chloride or other suitable dust suppressants for more permanent or established roads. Water used in dust control will be supplied from the established water supply sources unless another supply becomes available.

Haul road stormwater and sediment control will be managed using diversion berms, drainage ditches, culverts, flow-velocity controls, and barriers to sediment movement, including interim re-vegetation. Prior to release to drainages, stormwater runoff will be routed via ditches through sediment control devices consistent with applicable best management practices (BMPs) such as silt fences, rock check dams, and other effective measures. After such temporary detention, stormwater runoff will be allowed to continue down gradient. Flow velocity reduction measures will be employed along channels, as necessary, to minimize erosion. These measures will include, but will not be limited to, vegetative strips, riprap, check dams, geotextile, and use of vegetative debris. These features will be reviewed and maintained as part of the site Stormwater Management Plan, which is provided in Appendix 3. Additional details about stormwater management are provided in Exhibit G.

4 HIGH GRADE MILL FACILITIES

The proposed VLF2 Phase 4 expansion will be located in the existing Mill Platform area, which is a lined area housing several buildings and miscellaneous infrastructure. Prior to VLF 2 Phase 4 construction, the Mill Building, along with any retaining walls will be decommissioned and removed. The Mill platform and Building may remain in place should CC&V choose not to move forward with the VLF 2 Phase 4 expansion. The following sections are included to describe reagents and activities at the HG Mill until decommissioning, which is anticipated for 2025.

4.1 Mill Reagents

No changes to the reagents used in the HG Mill are anticipated as part of Amendment 14. The reagents used in the HG Mill facilities are discussed below and further discussed in the Environmental Protection Plan located in Exhibit U.

Lime – Lime is used as a pH modifier prior to slurry entering the flotation circuit and the cyanidation leach circuit. Lime is delivered by truck in pellet form and stored as pellets in the lime silo. Lime is dissolved in lime slakers prior to use in the milling.

Potassium amyl xanthate – Potassium amyl xanthate (xanthate) is used as a flotation collector in the flotation tanks to collect and float the gold materials. The xanthate is shipped as a solid in 55-gallon barrels. Approximately four shipments of 20 tons are shipped each year. The barrels are stored in a building adjacent to the HG Mill. The xanthate is added and dissolved in the flotation conditioning tank prior to entering the flotation tanks. The reagent breaks down during the process into non-toxic forms.

Dithiophosphate – Dithiophosphate is a reagent that is added to the flotation conditioning tank as a flotation modifier and combines with the xanthate to float the gold-bearing minerals. Dithiophosphate is shipped as a liquid in totes. Approximately four shipments occur per year with 20 totes per shipment. The totes are stored in a building adjacent to the HG Mill building. Dithiophosphate is consumed during the process.

Frother – Frother is a long chain alcohol which is used to form stable air bubbles for floating of the gold-bearing minerals in the flotation circuit. Frother is shipped as a liquid in totes. Approximately four shipments occur per year with 20 totes per shipment. The totes are stored in a neighboring building. Frother breaks down during the flotation process into non-toxic forms.

Sodium Cyanide – While not currently utilized in the mill process, a dilute sodium cyanide solution may be introduced into the mill process at the cyanidation leach tanks. Sodium cyanide is delivered to the site by truck in U.S. Department of Transportation (USDOT) approved containers

as either liquid sodium cyanide solution or as solid sodium cyanide briquettes. Shipping containers are unloaded on a concrete apron west of the tanks. The concrete apron is curbed and graded to drain to a sump, in the event of a spill or leak during unloading.

The cyanidation tanks are located on the west side of the mill building within a concrete foundation with curbing. Tanks are fitted with bird mitigation measures such as netting. Bird balls have been used in the past at the site and may be installed, if needed. Experience with dilute sodium cyanide solution leach tanks has shown that birds do not tend to use these as a water source due to the small open area of each tank, the noise associated with the agitation, and the level of activity of the milling operations. Leaks or spills from the cyanidation leach tanks are contained within the curbed concrete foundation for the tanks.

4.2 Water Balance and Recycling

No changes to the HG Mill water balance are anticipated as part of Amendment 14.

4.3 Stormwater Control at the High-Grade Mill Facilities

Stormwater from the HG Mill is directed towards the VLF1 or recycled as fresh water back into the process. High pH water and other process overfill is directed to the VLF2. More details about stormwater management from the HG Mill may be found in the sitewide Stormwater Management Plan, which is provided in Appendix 3 of this Amendment 14 permit.

5 VALLEY LEACH FACILITIES

The following sections describe the operating parameters for the VLFs.

5.1 VLF1

This Amendment 14 incorporates the new VLF1 Phase 6 design, which adds approximately 54 million tons of stacked ore to VLF1, and a new PSSA. Prior to construction, the crusher, support building, retaining walls, and miscellaneous infrastructure will be removed. Two earthen embankments will be constructed for containment, and the lined pad will be graded to drain towards the new PSSA (design details provided in Appendix 1). Based upon the current ore loading scheme, the ore will be stacked in 100-foot-high lifts, graded to have side slopes of 2H:1V, and 50-foot benches to meet the 2.5H:1V maximum closure slope. An updated water balance for the VLF Expansion is provided as an attachment to the Valley Leach Facility Expansion Detailed Design *Report* provided in Appendix 1.

5.2 VLF2

This Amendment 14 incorporates the new VLF2 Phase 4 design, which adds approximately 140 million tons of stacked ore to VLF2. Prior to construction, the Mill Building, along with any retaining walls and infrastructure will be removed. The lined pad will be graded towards the existing VLF2 Phase 1 PSSA. Based upon the current ore loading scheme, the ore will be stacked in 100-foot-high lifts, graded to have side slopes of 2H:1V, and 50-foot benches to meet the 2.5H:1V maximum closure slope. An updated water balance for VLFs is provided as an attachment to the *Valley Leach Facility Expansion Detailed Design Report* provided in Appendix 1.

The expansions of VLF1 and VLF2 will increase life of mine to 2049.

5.2.1 VLF1 and VLF2 Stability

Slope stability assessments were performed by NewFields as part of the VLF Expansion design. The slope stability analyses and results are presented in the *Valley Leach Facility Expansion Detailed Design Report*, which is provided as Appendix 1 to this Amendment 14 permit. In general, the results of the analyses indicate that the proposed VLF1 Phase 6 and VLF2 Phase 4 design slopes will remain stable under static and pseudostatic conditions, and they meet DRMS requirements.

5.3 VLF Water Balance

A water balance analysis was completed by Piteau Associates to predict monthly fluctuations in solution within the VLF1 and VLF2 systems to ensure adequate storage capacity is maintained throughout planned operations. Results of the assessment indicate that individually the VLFs

have sufficient capacity in the PSSAs for all predicted conditions. More detail about the water balance may be found in Appendix 1 of this Amendment 14 documentation.

5.4 Process Solution Enhancement System (PSES)

No changes are proposed to the Process Solution Enhancement System facility.

6 PRECIOUS METALS RECOVERY FACILITY

The existing precious metals recovery facilities include ADR1, ADR2 and the refinery, which is included in the ADR1 complex. ADR1 is located on the south side of the VLF1. ADR2 was constructed pursuant to Amendment 10 to provide gold recovery from pregnant solution from the VLF2. No change to either facility is anticipated as part of this Amendment 14. Pregnant solution generated as part of VLF1 Phase 6 and VLF2 Phase 4 will be pumped to ADR1 and ADR2 for recovery. Both facilities are shown on Drawing C-2.

6.1 Chemical Usage at ADRs

The same chemicals currently permitted for use will be used in the ADRs as part of this Amendment 14 and are described below.

Activated carbon is used in the adsorption process to pull gold from solution and reactivated, as needed, by burning at high temperatures using the reactivation kiln. The activated carbon is shipped in bags and stored outside of each ADR building.

Hydrochloric acid is used in a dilute form to remove scale that builds up on the carbon from the pregnant solutions and is disposed by neutralizing with sodium hydroxide and adding to the makeup water for the barren solution. Acid is delivered by tanker trucks to each ADR and is stored in a fiberglass reinforced plastic mixing tank located within concrete containment. Acid tanks are equipped with an acid scrubber to remove acid vapor that would be released during filling or tank expansion due to high ambient temperatures.

Sodium hydroxide is used to neutralize hydrochloric acid solution prior to reuse of the water for makeup water and is used to maintain the pH levels above 10 during carbon stripping. Sodium hydroxide is delivered by tanker trucks and stored within concrete containment area in a tank of approximately 20,000 gallons.

Sodium cyanide is used in a dilute solution to pull gold from the carbon during carbon stripping and is added to barren solution to dissolve gold during heap leach operations. Once the gold is removed by electro-winning, the dilute sodium cyanide solution is recycled as barren solution. Sodium cyanide is delivered in liquid form by truck to the site in USDOT-approved containers. The containers are positioned on an unloading area which is surrounded by a concrete containment berm and is adjacent to the ADR buildings within lined areas. The solution is transferred from the containers into storage tanks that are within the containment.

7 SUPPORT FACILITIES

Existing support facilities are shown on Drawing C-2 and proposed facilities and utilities are shown on Drawings C-3 and C-4.

7.1 New or Upgraded Ancillary Buildings and Structures

No new structures or upgrades to existing structures are anticipated with construction of the VLF Expansion.

7.2 Power Supply

Electrical power to the Cresson Project is supplied by Black Hills Energy. Black Hills Energy has furnished power lines to its substation located south of SH 67 near the Carlton Security Access. The location of powerlines is shown on Drawing C-3. Note that actual locations may vary from those shown due to site-specific conditions and field constraints encountered during construction and installation of the powerlines.

Emergency diesel-powered generators are available to supply the needed electrical power for the pump systems at the ADR1, VLF1, ADR2 and VLF2 in the event of line power outages. Adequate emergency power is available through a total of 12 emergency diesel generators. In effect, this reduces the possibility that there would be the 12-hour drain down period used in the design of the PSSAs. Seven emergency generators are located at the ADR1/VLF1, four emergency generators are located at the ADR2, and one emergency generator is located at the HG Mill facility.

7.3 Water Supply

Water is used in the ore beneficiation circuit, for suppression of fugitive dust, drilling, laboratory, sanitary facilities, and for various miscellaneous uses such as vehicle washing and applying hydro-mulch during reclamation activities. The primary use of water is in the VLF/ADR facilities and HG Mill facilities. No significant changes to water supply are anticipated for the activities associated with Amendment 14.

Currently, fresh water for on-site use is purchased from various sources based on contractual arrangements with municipal water supplies. Water is pumped from the City of Victor's Altman Pump Station (located on Beaver Creek), or by gravity from a surface reservoir system located further upstream. The agreement with the City of Victor is described in Exhibit G. A back-up water supply has been arranged via agreements with the City of Cripple Creek and Colorado Springs Utilities, Pisgah Reservoir, and City of Pueblo. Water supply information is described in Exhibit

G. Copies of Water Contract Agreements also are included in Appendix 4. Drinking water on site is supplied by bottled water.

7.4 Security and Signs

CC&V will continue to use practices to protect and warn the public and restrict access for public safety including topographic barriers, fencing, berms, signage, and security guards and gates. Leased mining ground contains restrictive covenants regarding the terms for owner access to the property.

Project areas requiring fencing will be the areas near public roads where motorists might inappropriately access the Cresson Project. Existing fence locations are shown on Drawing C-2b. Where additional fencing is required, it will be fit for intended purpose but may be constructed of chain link type or typical rangeland barbed wire fence, depending upon the circumstances. Wildlife fencing has been installed to fulfill commitments of TR-91. Road access onto the property for motorized vehicles is controlled by gates.

Access restrictions to the site, including signs are used around the perimeter of the affected lands boundary to restrict access without permission. Signage is required by the DRMS, Colorado Public Health and Environment – Air Pollution Control Division, and by the International Cyanide Management Code in areas of sodium cyanide use. Signs at site entrances must meet requirements of DRMS Hard Rock/Metal Mining Rule 3.1.12. The entrances to the Cresson Project are posted with signs that are clearly visible from County Road (CR) 82 and SH 67 and list the following information:

- Name of the Operator (CC&V)
- The Operation Name
- That DRMS Permit(s) have been issued
- The DRMS Permit No(s)

Signs warning of the use of dilute sodium cyanide solution usage as required by the International Cyanide Management Code have been placed on fencing around the ADRs and VLFs. In addition, signs notifying of dilute sodium cyanide solution usage are in place at the cyanidation portion of ADR and HG Mill facilities. Signs prohibiting unauthorized access onto CC&V private lands surrounding the operations are in place and will be extended as appropriate as the mine operations change.

Boundaries of the affected area must also meet requirements of DRMS Hard Rock/Metal Mining Rule 3.1.12. Where operations are approaching the limits of areas approved for disturbance the

boundaries of the area that may be disturbed pursuant to the permit will be marked in a clearly visible manner adequate to delineate such boundaries and to inform CC&V personnel of the limits of disturbance contained in the permit.

Signs that are no longer required will be removed. Upon completion of mining and reclamation, an eight-foot high (minimum) chain link fence (i.e., a Post Mining Fence) will be installed around the crest of those portions of the mine areas where high-walls are not backfilled or reduced. The fence will be designed to control access and to protect wildlife. Signs will warn of the topographic hazard, as appropriate.

Hazardous waste accumulation areas are properly controlled and include appropriate signage. The limited hazardous waste materials that are generated at the Cresson Project are properly managed and disposed in compliance with applicable Federal and State requirements. These materials include lead-contaminated cupels and crucibles from the fire assay laboratory as well as solvents from emptied spray cans. These materials, when accumulated, are placed in appropriate receptacles with required signage; no specific fencing is required for these materials, but all hazardous materials are stored within secured areas of the Cresson Project. There will be no new hazardous waste accumulation areas established as part of Amendment 14.

8 BLAST (SEISMIC) MONITORING

No changes to blasting and seismic monitoring are proposed as part of Amendment 14.

9 REFERENCES

Colorado Mined Land Reclamation Board, Colorado Mined Land Reclamation Act 34-13-021 et seq., C.R.S. 1973 as amended.

"Cripple Creek & Victor Gold Mining Company, Valley Leach Facility Expansions Detailed Design Report", NewFields, February 2024.

Cripple Creek & Victor Gold Mining Company, Amendment 8 to the MLRB Permit No. M-1980-244, Volumes I – VIII, 2000.

Cripple Creek & Victor Gold Mining Company, Cresson Project Mine Life Extension 2, Amendment 10 to the MLRB Permit No. M-1980-244, Volumes I – VII, February 2012.

Cripple Creek & Victor Gold Mining Company, Amendment 11 to the MLRB Permit No. M-1980-244, Volumes I – IV, December 2015.

Cripple Creek & Victor Gold Mining Company, Amendment 12 to the MLRB Permit No. M-1980-244, Volume I, July 2017.

Cripple Creek & Victor Gold Mining Company, Stormwater Management Plan, October 2023.