Newmont
CRIPPLE CREEK & VICTOR

# Permit M-1980-244

# Cresson Project Amendment 14

# Exhibit E

# Reclamation Plan

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# 1 INTRODUCTION

The objectives, criteria, and procedures of the reclamation plan and closure for the Cresson Project operated by the Cripple Creek & Victor Gold Mining Company (CC&V) have been previously approved through Amendment 9, Amendment 10, Amendment 11, and Amendment 13 review processes. Procedures proposed as part of Amendment 14 build upon those previously approved practices, as discussed below.

## 1.1 Objectives

The objectives of the reclamation plan are to stabilize disturbed areas and re-establish the pre-mining land uses of wildlife habitat and livestock grazing (rangeland). These objectives will be achieved through the implementation of the reclamation and closure practices described in this Exhibit and the appropriate use of other technologies that may become available.

Upon completion of reclamation and closure, the majority of affected lands will be returned to rangeland and wildlife habitat. Historic resources will be preserved to the extent practicable and made accessible to the public, where feasible and safe. Interpretative guidance (i.e., informational signs) on both the historic and recent operations will be developed, where feasible.

## 1.2 Summary of Amendment 14 Impacts to Reclamation

There are no significant changes to the overall reclamation plan proposed under this Amendment 14. Amendment 14 incorporates minor changes to the interim and final grading plans for the Dump 1 (formerly SGOSA).

# 2 RECLAMATION PROCEDURES

In general, the reclamation proposed as part of this Amendment 14 will not change over what was presented as part of Amendment 13 and previous submittals. Concurrent reclamation activities will occur, where feasible. After mining is completed, final reclamation activities for mine areas and OSAs will occur over an approximate seven-year period. Seeding of grasses and planting of trees and shrubs will occur primarily in the late spring/early summer and/or during the late fall/early winter periods. Stormwater will be managed during interim conditions and through reclamation construction activities according to the site Stormwater Management Plan, which is provided in Appendix 3.

## 2.1 Grading and Ripping

Grading or re-contouring will be accomplished using conventional dozers, loaders, and track-hoes as soon as practicable after completion of placement of post-mining materials. The graded slopes of OSAs and disturbed areas other than mine highwalls will be final-graded to overall slopes, which are generally at a slope ratio of 2.5 horizontal feet (H) to 1 vertical foot (V) (2.5H:1V) overall or shallower, unless steeper slopes are required either to blend with the surrounding topography or to create irregular landforms with a more natural appearance. If steeper slopes are required, the size of the area will be commensurate with the intended objective of blending or creating irregular landforms. Prior to final reclamation, CC&V will submit an updated reclamation plan showing locations where slopes will be maintained through rock plating.

Some steeper slopes may be plated with rock to protect against potential stormwater runoff erosion or to emulate historic underground development rock piles in the Cripple Creek Mining District. Contour benches may be retained or cut along the contours of the longer slopes to control stormwater runoff and provide access for reclamation activities. The development of 2.5H:1V overall slopes on selected mine area backfills, the VLFs, and the OSAs was used in the financial warranty calculations presented in Exhibit L.

Areas that have been compacted through traffic or placement of structures and identified for reclamation will be ripped before and/or after grading to loosen the soil and facilitate revegetation.

## 2.2 Growth Medium Materials

The availability of growth medium has been updated to reflect current availability. Drawing C-4b shows location and size of growth medium storage areas. Soil types were mapped based on existing data available from the National Resources Conservation Service, as confirmed by field reviews (Arcadis 2015). The results of this mapping are summarized in Exhibit I and the report, titled Baseline Technical Report for Soils and Biological Resources (Arcadis 2011 and 2015), is included in Appendix 5.

The reclamation and closure plan incorporates a minimum of six inches of growth medium replacement on overburden storage areas (OSAs), select haul roads into the surface mines, certain surface mine backfills, the Arequa Gulch Valley Leach Facility (VLF1) and re-contoured Valley Leach Facility 2 (VLF2), support facility sites, reclaimed portal area, and other ancillary disturbance areas to be reclaimed. To accomplish this reclamation, approximately 3.3 million cubic yards of growth medium will be required. It is estimated that approximately 3.4 million cubic yards of growth medium are available from the existing and future development areas for the

completion of reclamation, indicating that there is more than sufficient volume of suitable growth medium available to accomplish the proposed reclamation.

## 2.3 Growth Medium Replacement

Growth medium generally will be transported from the closest growth medium storage area to the area being reclaimed or, where possible, will come directly from active salvage operations to concurrent reclamation areas. In general, a minimum of six inches of growth medium are intended to be replaced at reclamation sites, which have been used in the financial warranty cost estimates discussed in Exhibit L of this application. The growth medium will be spread using dozers. CC&V has accounted for three-dimensional topography in its closure estimate. If the mine is developed to full build out described in this amendment there will be approximately 4,460 three-dimensional acres. Growth medium will not be replaced on highwall benches within the mining areas due to accessibility issues. Growth medium will be placed on accessible haul roads and pit floors.

## 2.4 Revegetation

After growth medium placement and grading, soil sampling may be performed to assess the potential need for use of additional soil amendments to enhance revegetation efforts. Fertilizer and other appropriate soil amendments will be broadcast on the reclamation areas before, during or after growth medium placement depending on site specific conditions and constraints (e.g., accessibility, moisture content, application rate).

Application of the seed mix presented in Table E-1 will be broadcast, drilled, or hydro-seeded onto the placed growth medium. Table E-1 provides a list of preferred species of seeds and a list of alternative species seeds in the event the preferred seed is not commercially available. The application rate of the seed mix will be approximately 25 pounds of pure live seed (PLS) per acre. The seed mix may be further incorporated into the growth medium covered using a rangeland harrow, slope chain, or equivalent equipment, as necessary and feasible. All seeded areas will be mulched either with straw mulch or wood fiber mulch depending on application method. Hydro-mulch or other surface treatments may be used to facilitate the revegetation efforts in steep or high-profile areas and generally will be applied at a rate of 2,000 pounds per acre of wood fiber hydro-mulch. A combination of broadcasting of the seed mix presented in Table E-1 followed by slope chaining or harrowing and/or hydro-seeding/hydro-mulching were used in the financial warranty calculations presented in Exhibit L of this application.

The addition of soil fertilizer has been estimated for financial warranty calculations at a rate of 400 pounds per acre of a blend of nitrogen, phosphorus, and potassium fertilizer product. The results

from actual soils analyses and observations of the specific reclamation areas will be used to determine the appropriate fertilizer blend and application rates.

Evergreen (such as Engelmann spruce and Bristlecone pine) and deciduous species (such as aspen) transplants will be obtained where possible during growth medium salvaging activities. These transplants and containerized woody plant species obtained from the Colorado State Forest Service, and if necessary, commercial sources will be used on areas undergoing reclamation or may be placed in nursery areas for future reclamation use. A variety of tree and shrub species, adapted to the site, will be planted on appropriate reclamation sites. This may include seeding of some woody plant species.

Approximately 150 trees and/or shrubs per acre will be planted on most north- and east-facing slopes. The shrubs and trees currently planted include Gooseberry at about 50 plants per acre, Wood Rose at about 50 plants per acre, Engelmann spruce at about 25 plants per acre and Bristlecone pine at about 25 plants per acre. Additional detail on reclamation tree planting methods and success growth criteria based on guidance from the United States Forest Service (USFS) and the Colorado State Forest Service (CSFS) are provided in Technical Revision (TR) 126 (TR-126). The list of current Technical Revisions is provided in Appendix 2.

## 2.5 Monitoring and Erosion Control

Reclamation sites will be monitored and the potential need for additional seeding and or mulching/fertilization will be evaluated. The reclamation areas also will be observed for evidence of potential erosion or gullies that may be caused from stormwater runoff. Corrective measures will be taken, as appropriate, to address reclamation areas that may require additional reclamation work.

## 2.6 General Reclamation

This section addresses reclamation specific to the Valley Leach Facility Expansion. Similar to other Amendments and approvals, once the leaching activities have ceased, the facility will be rinsed and capped as described in the approved reclamation and closure plans in Amendments 9, 10, 11, and 13. 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 100' benches to meet the 2.5H:1V maximum closure slope. At closure, the facility will be capped with topsoil and revegetated. Stormwater will be controlled in perimeter stormwater channels, bench channels, and drain down channels. Additionally, as approved with the other VLFs within the diatreme limits, vertical drill shafts will be extended through the composite liner surface within the VLF1 Phase 6's Pregnant Solution Storage Area (PSSA) to promote flows into the diatreme zone. This will allow water that

has percolated into the collection system to dissipate into the diatreme without accumulating in the PSSA. A closure study is currently being completed which will assess alternative options as closure scenarios. Once the preferred final closure option has been selected, it will be described and provided in future amendments.

## 2.7 Reclamation of the Mine Areas

Reclamation of the mining areas that are not backfilled will involve redistributing growth medium to accessible locations at the base of mine areas to a depth of at least six inches depending on soil availability. Areas receiving growth medium will receive the full complements of revegetation activities (i.e., fertilizer, seeding, mulching, etc.), as appropriate.

Upon completion of mining and associated reclamation activities, an eight-foot-high post mining fence will be installed around the external crest of those portions of the remaining highwalls that are not backfilled or reduced. Where practicable, portions of the current perimeter fence will be left in place and the eight-foot-high fence will be tied into these existing sections. Fences will be placed to control access to the crest and toe of highwall benches. Signs will be placed along the fencing to warn the general public of the hazard of the highwall after reclamation, as appropriate.

Wildlife ingress and egress will be provided along the final reclaimed haul road routes. Remaining highwall benches will act to catch rocks, and will, over time, become at least partially covered with rock falls from above and will form talus slopes for wildlife habitat. As a result, no revegetation of highwall benches is planned.

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Table E-1a: Reclamation Seed Mix

| Common Name | Species | Recommended % PLS in mix (by weight) | % PLS in mix (by no. of seeds/sq.ft.) | PLS/lb. (average) | PLS/ sq.ft. | Lbs. PLS/ Acre |
|---|---|---|---|---|---|---|
| **GRASSES** | | **93.2%** | **88.3%** | | **69.84** | **23.31** |
| Slender wheatgrass | Agropyron trachycaulum | 11.50% | 13.26% | 159,000 | 10.49 | 2.88 |
| Thickspike wheatgrass | Elymus lanceolatus | 13.50% | 14.20% | 145,000 | 11.23 | 3.38 |
| Sheep fescue | Festuca ovina | 5.75% | 28.36% | 680,000 | 22.44 | 1.44 |
| Sandburg bluegrass | Poa segunda | 2.00% | 13.42% | 925,000 | 10.62 | 0.50 |
| Mountain brome | Bromus marginatus | 16.00% | 11.61% | 100,000 | 9.18 | 4.00 |
| Indian ricegrass | Achnarterum hymenoides | 5.90% | 2.40% | 56,000 | 1.90 | 1.48 |
| Cereal Rye | Secale cereal | 38.50% | 5.0% | 18,000 | 3.98 | 9.63 |
| **FORBS** | | **5.1%** | **11.2%** | | **8.85** | **1.27** |
| Cicer milkvetch | Astragalus cicer | 3.85% | 4.05% | 145,000 | 3.20 | 0.96 |
| Yarrow | Achillea millefolium | 0.25% | 5.02% | 2,770,000 | 3.97 | 0.06 |
| Lewis Flax | Linum lewisii | 1.00% | 2.13% | 293,000 | 1.68 | 0.25 |
| **SHRUBS** | | **1.8%** | **0.5%** | | **0.42** | **0.44** |
| True Mountain Mahogany | Cercocarpus montanus | 0.50% | 0.21% | 59,000 | 0.17 | 0.13 |
| Wood's Rose | Rosa woodsii | 1.25% | 0.32% | 35,000 | 0.25 | 0.31 |
| **Total:** | | **100.0%** | **100.0%** | | **79.14** | **25.02** |
| Lbs/acre Pure Live Seed (PLS) application rate: | | 25.02 | | | | |

Table E-1b: Reclamation Seed Mix – Alternative Species

| | |
|---|---|
| **GRASSES** | |
| Pubescent wheatgrass | *Thinopyrum intermedium* |
| Canada bluegrass | *Poa compressa* |
| **FORBS** | |
| Rocky Mountain beeplant | *Cleome serrulata* |
| Wild iris | *Iris missouriensis* |
| Bedstraw | *Galium septenrionale* |
| **SHRUBS** | |
| Shrubby cinquefoil | *Potentilla fruticosa* |
| Squaw Currant | *Ribes cereum* |
| | |
| **WETLAND SPECIES**<br>The following species may be added to the reclamation seed mix for wet or low-lying areas | |
| Tufted hairgrass | *Deschampsia caesptosa* |
| Baltic rush | *Juncus balticus* |
| Field sedge | *Carex praegracilis* |

As demonstrated to date, there is no evidence that, in the future, water will be impounded in the reclaimed mine areas upon completion of reclamation activities. Precipitation received in the area is generally less than potential evaporation and the geologic materials of the diatreme are sufficiently permeable as to preclude impoundment of water unless a barrier to infiltration is purposefully constructed.

***North Cresson Mine Area Viewshed Conservation Plan***

In addition to the site-wide reclamation activities to re-establish wildlife habitat and grazing as the post-mining land use, additional reclamation activities for the North Cresson Mine area will be completed as previously approved in Amendment 9, Amendment 10, Amendment 11, and TR-96).

Following mining in the North Cresson Mine area, the upper portion of the ridge facing the City of Cripple Creek will present a visual contrast of 2.5H:1V overall reclaimed slopes above mature Aspen and Engelmann spruce stands along the lower portion of the undisturbed ridge. An aspen planting program will be used to blend the land reclamation with the existing trees. Mature aspen trees refer to trees that are a minimum of 7 feet in height (as defined by the Memorandum of Understanding between the City of Cripple Creek and CC&V dated May 16, 2012).

This transplanting will be completed at the equivalent tree density of approximately 400 mature stems per acre. For reclamation financial warranty calculation purposes, CC&V has estimated that 10acres of aspen planting will be completed to extend these aspen stands into the reclaimed slopes in the North Cresson Mine area.

Transplanting activities will be coordinated to assist in wildlife movement corridors. Aspen will be irrigated for two growing seasons following transplanting to facilitate establishment of the trees. Water will be purchased through existing water purchase agreements with the City of Victor, the City of Cripple Creek, and the City of Colorado Springs.

As part of CC&V's currently approved reclamation plan, north facing slopes within the North Cresson Mine area will be planted with about 400 stems per acre of one-year Aspen seedlings.

### 2.7.1 Overburden Storage Areas

There are two OSAs to be reclaimed, as under previous submittals and in this Amendment 14.

- Dump 1, which will blend with the backfilled Schist Island portion of the North Cresson Mine area; and

- East Cresson Overburden Storage Area (ECOSA), which will blend with the backfilled Wildhorse and Altman portions of the East Cresson mine area (see Drawing F-1).

Backfilling is planned in the Schist Island and Globe Hill portions of the North Cresson Mine area, the East Cresson Mine area, and portions of Main Cresson Mine area, as shown in drawings provided in Exhibit F. The amount of backfilling is dependent on potentially changing conditions such as project economics and may vary from that shown on those drawings. Reclamation of each of the OSAs and backfilled portions of the mine areas is addressed separately below.

It continues to be CC&V's objective to perform concurrent reclamation of portions of these areas at the Cresson Project while other portions remain active in development and, thus, to achieve partial reclamation prior to completion of Cresson Project. The schedule used to develop the financial warranty estimate for Amendment 13, as presented in Exhibit L reflects a comprehensive and conservative estimate of the annual costs required for final closure of the Cresson Project.

***Dump 1***

The Dump 1 will continue to be reclaimed on a concurrent basis where possible during ongoing development of Mine Life Extension (MLE) 2 as described in Amendment 10 and Amendment 11. When development is completed in the Schist Island Phase 1 portion of the North Cresson mine area, the mine area will be backfilled to create the VLF2 Phase 3 pregnant solution storage area (PSSA). Phase 3 will be blended with the Dump 1 on the western side as shown on Drawing F-1. Once the maximum footprint has been reached, the out slopes will be graded to final overall grades of approximately 2.5H:1V. Sections of varying steepness will be formed within this overall out slope to generate irregular landforms. The approved final elevation of the Dump 1 does not change with this Amendment 14 and is approximately 10,600 feet above mean sea level (amsl) as approved in Amendment 9 and Amendment 10.

Benches on the order of 8 to 30 feet wide may be retained along the reclaimed slopes at intervals that both reduce the length of "run" (flow path length) of stormwater runoff and provide access for reclamation activities. These benches also may be used to capture and convey stormwater runoff to other areas.

Growth medium already stored will allow placement of a minimum of six inches of growth medium on the Dump 1. The soil may be sampled to assess the requirements for soil amendments. Vegetation will be established in accordance with the procedures outlined above in Section 2.4

As approved in previous applications, it is anticipated that some slopes may be plated with coarse rock for stormwater runoff protection, to emulate or mimic the rock piles from historic underground

mine workings, and to provide wildlife habitat. Prior to final reclamation, CC&V will submit an updated reclamation plan showing locations where rock plating will occur. These plated areas would not be revegetated because the coarse rock prevents erosion. Drainage channels or benches developed on the OSAs will be candidates for similar plating with rock and select slopes may be suitably plated with the overburden as a backdrop for other compatible uses.

The stability of the reclaimed Dump 1 was addressed in Amendment 10. Updates to the stability of the reclaimed slopes, based on the VLF2 Phase 4 modifications are presented in the VLF Expansion Detailed Design Report, provided in Appendix 1. The final reclaimed surface of the Dump 1 will be graded to conform to the stormwater runoff patterns shown on the drawings in Exhibit F.

***ECOSA***

ECOSA is located along the southern (north- and east-facing) slopes of Grassy Valley with the vast portions of the OSA lying within the volcanic diatreme. The maximum constructed height of ECOSA will be 10,960 ft amsl, as approved in Amendment 11. Out slopes will be graded to approximately 2.5H:1V with drainage channels established at the back of each bench graded to drain water away from the ECOSA. A minimum of six inches of growth medium will be used to cover the graded overburden with a typical depth of growth medium ranging from six to twelve inches. The soil may be sampled to determine the need for additional soil amendments. Vegetation will be established according to the procedures presented in Section 2.4.

The stability of the reclaimed ECOSA was addressed in Amendment 11 and is discussed generally in Section 2.1 above. The previous analysis indicates that the reclaimed area of ECOSA will be stable over the long term.

The final reclaimed surface of the ECOSA will be graded to conform to the runoff patterns shown on the drawings in Exhibit F.

***Surface Mine Backfill Areas***

Backfilling is anticipated to occur to the ground surface or higher in two mine areas: the North Cresson mine area and the East Cresson mine area. The backfill information presented in this discussion is based upon information available at the time of submittal of this document and actual backfilling may vary according to economic and mining conditions, and other factors. Backfilled areas will be reclaimed in much the same manner as the OSAs. Slopes on the backfill adjacent to the surrounding undisturbed terrain will be graded to an overall slope of approximately 2.5H:1V. Discrete slopes may vary in steepness within this overall slope to generate irregular landforms for

wildlife habitat. Drawing F-1 and the financial warranty calculations have been conservatively developed based on an overall 2.5H:1V slope criterion for all backfill materials. New backfill slopes will be graded at an overall 2.5H:1V for reclaimed areas. If future plans indicate a steeper slope is more beneficial for habitat creation in some areas, a revision will be submitted to the Division of Reclamation, Mining and Safety for review and approval prior to the steepening of any slopes.

Benches with varying widths, spacing, and grades may be developed along the slopes to control erosion, facilitate access for reclamation, or provide sites for tree and shrub plantings.

Growth medium will be used to cover the overburden placed as backfill. Section 2.2 discusses that at least six inches of growth medium is expected to be available to cover the areas for reclamation. The growth medium may be sampled to determine the need for additional soil amendments. Vegetation will be established according to the revegetation procedures presented in Section 2.4.

Portions of Main Cresson mine area are expected to be partially backfilled as shown on Drawings C-4 and F-1. The backfill will be trucked and dumped in lifts of varying heights depending on the location of haul roads in that portion of the mine area. The backfilled material will be placed at an approximate 2.5H:1V slope and is not expected to approach the elevation of the natural ground surface. Where practicable and safe, this backfill will be graded and reclaimed. As stated above, perimeter fencing around the mine areas will be installed to barricade access to these steeper slopes.

No backfill will be placed in the northern portion of the South Cresson mine area or in the eastern portion of the Globe Hill mine area. The final configuration of these areas will remain as presented in MLE2 approved under Amendment 10.

The Schist Island and western portion of the Globe Hill mine areas will be backfilled to promote free drainage of stormwater to the surrounding ground surface and to blend with the SGOSA, as described in the SGOSA discussion above.

The East Cresson mine area is expected to be backfilled to promote free drainage of stormwater to the surrounding natural ground surface as previously approved for MLE under Amendment 9 and MLE2 under Amendment 10. This backfilling will include the Wildhorse Extension (WHEX) portion of the East Cresson mine area. Backfilling will be accomplished by end-dumping the material in lifts that range in height, depending on the logistics of truck hauling, the geographic locations relative to the mine area and overburden placement scheduling. The maximum lift height for backfilling the East Cresson WHEX will be 300 feet. It is anticipated that this area will be

backfilled to an elevation and shape that will promote free drainage of stormwater to the surrounding surface and graded to blend with the surrounding topography including the reclaimed topography of the ECOSA.

As approved in TR-96, the stormwater drainage flow-line in the WHEX backfill will be graded at 1.5% away from the grassy valley. Stormwater will be directed west, through the constructed backfill, back into the remaining portion of the mine pit.

The final reclaimed surface of the East Cresson Mine area will be graded to conform to the stormwater runoff patterns discussed previously approved. A discussion of diversion/conveyance channels and detention basins for the final backfilled East Cresson Mine area configuration also is provided in Section 2.7.6.

***Cresson Underground Mining***

The surface disturbance associated with future underground operations per TR-116, including exploration, will be reclaimed in accordance with similar reclamation practices described above. Portal access will be secured, surface features will be dismantled, and the disturbed area will be revegetated according to the practices described in Section 2.4 above.

### 2.7.2 VLF1 and VLF2

Reclamation procedures of both the VLF1 and the VLF2 will occur as previously approved under Amendment 9 for VLF1 and Amendment 10 for VLF2. The VLFs will be rinsed, slopes will be regraded, soil will be placed, and revegetation performed. Each of these steps is discussed below.

Active leaching for gold recovery is expected to be completed for the VLF1 in approximately 2028, and for the VLF2 in approximately 2038. After completion of active leaching, the VLFs will be rinsed in the same manner as previously approved. Two rinsing cycles, using recirculated solution and fresh water, will require about 30 months to complete. It is proposed this will be followed by a hydrogen peroxide ($H_2O_2$) assisted rinsing cycle, to complete removal of cyanide (the need for this $H_2O_2$ rinse will be evaluated during VLF rinsing). The financial warranty is based on two standard water rinsing cycles and one $H_2O_2$ rinsing cycle over an approximate six-year period. The rinsing procedure will employ a rinse-rest strategy as previously approved. The VLFs will be rinsed in segments with portions being actively rinsed while other areas are allowed to “rest.” Rinse water and $H_2O_2$ will be circulated using the VLF pumping systems at a pumping rate of approximately 15,000 gallons per minute.

Rinsing criteria previously approved for the VLFs is an average concentration weak acid dissociable cyanide ($CN_{WAD}$) of 0.2 milligrams per liter (mg/L) in the rinse water from meteoric

water mobility testing on representative sampling of the spent ore, or in return flows derived from the neutralized ore, or both. A seven-year monitoring period will follow the rinsing to demonstrate compliance with the standard. Physical reclamation of the VLFs will be completed in approximately two years and will start concurrent with the monitoring period.

Upon achieving the $CN_{WAD}$ rinsing criteria, the VLF liner systems will be breached in the same manner as previously approved. The liner will be perforated to prevent excessive accumulation of stormwater infiltration in the neutralized ore behind the toe berms and to move meteoric drain down stormwater into the underlying diatreme rock. It is anticipated that a drill rig will be used to drill from the surface of the ore on the VLFs through the synthetic and clay liners into the closure drains and underdrains, where appropriate. Holes will be drilled to puncture the liner above these features installed at several locations beneath the PSSAs. This will allow conveyance of post-reclamation precipitation through the material on the VLFs and into the underlying diatreme.

Following the achievement of the $CN_{WAD}$ removal criteria for both VLFs and following the breaching of the liner systems (as discussed above), all down-gradient appurtenances will be reclaimed as follows.

At both VLFs the pipes, pumps and other structures will be removed from the underdrain collection systems. The concrete pump-back vault side walls and bottom will be broken up, followed by burial onsite with surrounding fill material. Ponds will be backfilled with material and re-contoured. The entire area will then be graded to blend with the surrounding topography, followed by reclamation of the sites.

The slopes of the VLFs will be re-contoured to an overall slope of approximately 2.5H:1V. Portions of the benches created during operations will be retained, as appropriate, for geotechnical and erosional stability. The topography shown on Drawing F-1 and the financial warranty calculations presented in Exhibit L have been developed based on an overall 2.5H:1V slope criterion.

Growth medium will be applied to a minimum depth of six inches over the regraded VLF surfaces and associated disturbances. After placement, the growth medium will be amended as needed, and seeded pursuant to the procedures described in Sections 2.3 and 2.4 above.

Closure and reclamation processes at each VLF, including neutralization (approximately six years), physical reclamation (approximately two years), and monitoring (approximately two additional years), are scheduled to take up to ten years after final leaching of ore has been completed at each facility.

### 2.7.3 External Solution Storage Pond (ESP)

Reclamation of the External Solution Storage Pond (ESP) remains unchanged from that approved in MLE under Amendment 9 and MLE2 under Amendment 10. The ESP likely will be used to facilitate final rinsing of the VLFs. Solution contained in the ESP at the conclusion of rinsing will be spray evaporated or treated with $H_2O_2$ and applied to the VLF. Any sludge that may remain in the bottom of the ESP will be removed, tested, and appropriately disposed of, most likely by hauling to and placing on the VLF. The ESP liner will be folded into the bottom of the pond and the impoundment area filled with material. Facilities demolition debris may be placed in the pond bottom prior to filling with material. The filled ESP area will be graded, soil will be placed, and the area will be reclaimed.

### 2.7.4 Haul Roads

Haul road reclamation will occur in the same manner as previously approved for haul roads in MLE under Amendment 9 and MLE2 under Amendment 10. At the conclusion of mining activities, haul roads designated for closure will be regraded to blend with the surrounding terrain. Existing haul road embankment fill material will be pulled onto the road surface, where possible and the remaining road surfaces will be ripped. Cut slopes will be reduced or filled with material, where appropriate, to achieve the desired configuration. As appropriate on a location-specific basis, culverts may be removed or retained, with proper drainage accommodated in the field. Soil typically is part of the fill materials that are pulled onto the road surface or will be retrieved if in close proximity to the road to assist with the reclamation effort.

Roads outside the limits of the mine areas and OSAs will also be reclaimed. In consultation with appropriate representatives of Teller County, CC&V may later propose to retain and use certain existing road corridors to provide light-vehicle access to reclaimed areas for monitoring; however, it is not possible to specify those potential routes at the present time.

### 2.7.5 Ancillary Support Facilities

Ancillary support facilities, including the crusher facilities and associated structures, the HG Mill facilities, both Adsorption, ADR facilities, the fire assay laboratory, the overland conveyor, the load out bin (LOB), the Ironclad facilities (maintenance-warehouse-office), and the associated utilities, monitoring systems, the Projects Offices facilities, fuel island, radio towers, associated tanks, pipelines and other structures and mobile equipment will be removed or reclaimed in the same manner as previously approved. The crusher facilities and associated structures, and the Mill facilities will be decommissioned and removed prior to the construction activities described in Appendix 1. In consultation with appropriate representatives of Teller County, CC&V may later

propose to retain and use some of the existing facilities; however, it is not possible to specify which of those existing facilities could remain at the present time.

Once mining operations have ceased, portable equipment within the processing areas will be removed. Buildings and foundations either will be demolished and removed from the site or buried in place to a depth that will allow for reclamation procedures as discussed in Section 2 The areas of land disturbed by these activities will be regraded, covered with suitable growth medium, and reclaimed.

Chemicals and reagents will be removed, along with empty containers, and disposed of appropriately at off-site facilities.

Facilities will be dismantled and salvaged, as appropriate, after mining and processing operations are completed. Many of the materials in the facilities to be dismantled have salvage value; however, the computations for the financial warranty in Exhibit L do not assume credit for that salvage value. Following demolition and salvage, remaining debris for burial will be removed to an OSA, one of the mine areas backfill sites, or to the ESP footprint area, or will be buried in-place (e.g., concrete foundations). These areas will be graded, and growth medium applied to the extent available prior to reclamation.

### 2.7.6 Closure Stormwater

Previous analyses, presented in Amendment 13, include closure stormwater analysis for each VLF and OSA. Modeled peak run off was calculated for at least the 500-year/24-hour storm event. Diversion channels were designed around the facilities to convey water off the facilities. Additionally, channels on the facilities benches will be constructed ever 150 vertical feet to convey water to the diversion channels. Channels will have side slopes of 2.5H:1V and were designed as either triangular or trapezoidal cross sections and a minimum of 1 foot of freeboard. Updates and revisions to stormwater management at closure will be addressed as Technical Revisions (e.g., TR-131) or in new permit amendment applications as appropriate.

## 3 RECLAMATION COSTS

Reclamation costs for the Cresson Project have been updated for this Amendment 14, and are provided in Exhibit L.

# 4 REFERENCES

"Baseline Technical Report for Soils and Biological Resources", Arcadis, Highlands Ranch, CO, Tech. Rep. Cresson Project M-1980-244, Mine Life Extension 2 Project Area, November 2011.

"Baseline Technical Report for Soils and Biological Resources", Arcadis, Highlands Ranch, CO, Tech. Rep. Cresson Project M-1980-244, Amendment No. 11. October 2015.

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