

APPENDIX A

Facility Characteristic Forms

APPENDIX A

FACILITY CHARACTERISTIC FORMS

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NOTES:

1. Borrow area reclamation costs are included in mine facility costs.
2. The costs in these tables only include capital earthwork costs. Building demolition, well closure, water management, and operations and maintenance costs can be found in Appendix B, C, and D.

Continental Pit

Function	Open Pit
Construction Method	Blasting, loading, and hauling rock in 20-foot benches.
Physical Characteristics	Intrusive and skarn rocks with low primary permeability and medium fracture permeability; Barringer fault trends northeast through the Pit.
Existing Engineering Measures	Visual monitoring, seepage control.

Matrix of Costs Capital Cost/Facility

	EOY 2019
EOY 2019 Reclaimed Area—Berm and Fence Area Surrounding Pit at Closure (acres)	17.6
Item	Capital Cost
Cover Material (Load, haul, spread)	\$0
Regrade	\$0
Seed & Mulch Berm and Fence Area	\$20,293
Berm and Fence	\$88,035
Capital Cost Totals	\$108,328
Capital Cost/Acre	\$6,155

**2014 Continental Mine Closure/Closeout Plan Update
Facility Characteristics Form**

Low Grade WRF

Function	Inactive; Storage for low grade waste rock
Construction Method	End dumped.
Physical Characteristics	Coarse grained. High saturated hydraulic conductivity.
Existing Engineering Measures	Stormwater management.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019
EOY 2019 Reclaimed Area (acres)	32.1
Item	Capital Cost
Cover Material (Load, haul, spread)	\$120,332
Regrade	\$6,408
Seed & Mulch	\$37,004
Other	\$0
Capital Cost Totals	\$163,774
Capital Cost/Acre	\$5,101

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Facility Characteristics Form**

Main Tailings Impoundment and Reclaim Pond

Function	Tailings deposition; Inactive since 1999
Notes	Located in Poison Spring; Poison Spring will be diverted into Grape Gulch Drainage at Closure. Both Poison Spring Drainage and Grape Gulch Drainage are tributaries of Hanover Creek.
Construction Method	Upstream tailings, mine waste rock outer dams.
Physical Characteristics	Fine to coarse grained. Low to medium saturated hydraulic conductivity.
Existing Engineering Measures	Decant sump, seepage collection at toe, filter dike, and reclaim pond and pipelines. Embankment buttresses; 6-inch thick cover on top surface.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019
EOY 2019 Reclaimed Area (acres)	180.7
Item	Capital Cost
Cover Material (Load, haul, spread)	\$1,956,169
Regrade	\$133,822
Seed & Mulch	\$208,319
Other ¹	\$1,027,121
Capital Cost Totals	\$3,325,432
Capital Cost/Acre	\$18,403

¹Other includes channels, downdrains

Note: The Main Tailings Impoundment is unchanged by end of year (EOY) 2019. Reclamation costs for the Reclaim Pond are included with the Main Tailings Impoundment. Cost also includes reclaiming south buttress area and burying tailing pipelines in place.

**2014 Continental Mine Closure/Closeout Plan Update
Facility Characteristics Form**

Magnetite Tailings Impoundment

Function	Tailings deposition; Inactive since 1980
Construction Method	Upstream tailings construction.
Physical Characteristics	Fine grained. Low to medium saturated hydraulic conductivity.
Existing Engineering Measures	Ongoing tailing removal operation. Soil binding agent added to reduce fugitive dust. HDPE lined seepage collection pond at toe.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019²
EOY 2019 Reclaimed Area (acres)	62.5
Item	Capital Cost
Cover Material (Load, haul, spread)	\$991,341
Regrade	\$129,672
Seed & Mulch	\$72,028
Other ¹	\$110,080
Capital Cost Totals	\$1,303,120
Capital Cost/Acre	\$20,850

¹Other includes channels and downdrains

²Although there is the ongoing sale and shipping of magnetite material, the previous Magnetite Tailings Impoundment reclamation plan, based on 2004 topography, is still valid. Therefore, the updated Magnetite Tailings Impoundment reclamation cost was based on 2004 topography.

**2014 Continental Mine Closure/Closeout Plan Update
Facility Characteristics Form**

SWRDF

Function	Planned Waste Rock Stockpile Expansion By EOY 2019 the five WRFs (South, East, West, Buckhorn, Union Hill and additional areas in between) are combined into the South Waste Rock Disposal Facility (SWRDF). By EOY 2019 approximately half the proposed SWRDF material will be placed.
Construction Method	End dumped in 40 to 50 foot lifts; top surface will be bermed.
Physical Characteristics	Fine to coarse grained. Variable saturated hydraulic conductivity.
Engineering Measures	Will be managed similar to existing waste rock facilities consisting of seepage collection sumps, and stormwater management.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019¹
EOY 2019 Reclaimed Area (acres)	418.8
Item	Capital Cost
Cover Material (Load, haul, spread)	\$5,415,984
Regrade	\$1,061,535
Seed & Mulch	\$482,922
Other ²	\$3,571,322
Capital Cost Totals	\$10,531,763
Capital Cost/Acre	\$25,147

¹Includes disturbed area adjacent and north of the SWRDF

²Other includes channels and downdrains

**2014 Continental Mine Closure/Closeout Plan Update
Facility Characteristics Form**

Hanover Mountain Deposit

Function	Planned Mine Area
Construction Method	Blasting, loading, and hauling rock (50 foot benches).
Physical Characteristics	NA
Engineering Measures	Maintenance and stormwater management.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019¹
EOY 2019 Reclaimed Area (acres)	110.7
Item	Capital Cost
Cover Material (Load, haul, spread)	\$1,634,154
Regrade	\$0
Seed & Mulch	\$127,598
Other	\$109,905
Capital Cost Totals	\$1,871,658
Capital Cost/Acre	\$16,907

¹Includes berm and fence disturbed area.

**2014 Continental Mine Closure/Closeout Plan Update
Facility Characteristics Form**

Surface Impoundments

Function	Stormwater / Seepage Collection
Construction Method	Membrane-lined; soil; concrete; unlined.
Physical Characteristics	Varies.
Existing Engineering Measures	Maintenance and Monitoring.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019
EOY 2019 Reclaimed Area (acres) ¹	5.0
Item	Capital Cost
Cover Material (Load, haul, spread)	\$75,246
Regrade	\$1,151
Seed & Mulch	\$5,765
Other ²	\$43,594
Capital Cost Totals	\$125,756
Capital Cost/Acre	\$25,151

¹Reclaim Pond included with Main Tailing Impoundment

²Other includes reinforced concrete wall demolition

**2014 Continental Mine Closure/Closeout Plan Update
Facility Characteristics Form**

Haul and Exploration Roads

Function	Existing and Planned Site Traffic
Notes	Includes Haul Roads and Exploration roads.
Construction Method	Cut & fill.
Physical Characteristics	12 to 120 feet wide driving surface with roadside berms.
Existing Engineering Measures	Ongoing maintenance and stormwater management.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019
EOY 2019 Reclaimed Area (acres)	82.0
Item	Capital Cost
Cover Material (Load, haul, spread)	\$0
Regrade	\$18,880
Seed & Mulch	\$94,546
Other	\$0
Capital Cost Totals	\$113,426
Capital Cost/Acre	\$1,383

**2014 Continental Mine Closure/Closeout Plan Update
Facility Characteristics Form**

Cobre Haul Road

Function	Planned Site Traffic
Notes	Haul road from Continental Mine to Chino.
Construction Method	Cut & fill.
Physical Characteristics	120 feet wide driving surface with roadside berms.
Engineering Measures	Maintenance and stormwater management.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019
EOY 2019 Reclaimed Area (acres)	94.5
Item	Capital Cost
Cover Material (Load, haul, spread)	\$0
Regrade	\$25,983
Seed & Mulch	\$108,924
Other ¹	\$44,361
Capital Cost Totals	\$180,000
Capital Cost/Acre	\$1,905

¹Other includes spanning arch demolition

²2014 Cobre Haul Road Closeout Plan is attached in Appendix B.4

**2014 Continental Mine Closure/Closeout Plan Update
Facility Characteristics Form**

Pearson-Barnes Mine Area

Function	Historical Site; Reclaimed in 2005
Notes	Reclaimed mine site and stockpile, currently requires ongoing monitoring and maintenance; ultimately the area will be incorporated into the SWRDF. By EOY 2019 the area is still in its existing configuration.
Construction Method	Stockpile - end dumped, historical shaft, and highwall.
Physical Characteristics	Barringer fault and associated bedrock, low saturated conductivity.
Existing Engineering Measures	Ongoing monitoring and maintenance.

**Matrix of Costs
Capital Cost/Facility**

	EOY 2019
EOY 2019 Reclaimed Area (acres)	11.9
Item	Capital Cost
Cover Material (Load, haul, spread)	\$174,299
Regrade	\$0
Seed & Mulch	\$13,721
Other	\$0
Capital Cost Totals	\$188,019
Capital Cost/Acre	\$15,800