FREEPORT-McMoRan

Freeport-McMoRan Chino Mines Company
P.O. Box 10
Bayard, NM 88023

July 10, 2014

Certified Mail #70123050000053967749
Return Receipt Requested

Chris Eustice
Mining and Minerals Division
Department Mining Act Reclamation Program
1220 South St. Francis Drive
Santa Fe, NM 87505

Dear Mr. Eustice:

Re: Modification Request for Permit GR009RE: Construction of the 3A Stockpile

Freeport-McMoRan Chino Mines Company (Chino) is proposing to construct a waste rock stockpile over an area that includes the footprint of Reservoir 3A south of the Santa Rita Open Pit (Figure 1). Construction of this stockpile will facilitate continued mining and promote reclamation and closure of Reservoir 3A. This document represents a request to modify Permit GR009RE to construct this waste rock stockpile. Chino recently submitted a Construction Design Quality Assurance Plan (CDQAP) for closure of Reservoir 3A (Golder 2014), which was approved by the Mining and Minerals Division (MMD) and the New Mexico Environment Department (NMED) in May 2014. Construction of the 3A Stockpile would complement the plans for closure of the Reservoir.

Chino is regulated by the MMD under Permit GR009RE. The proposed 3A Stockpile occurs within the Santa Rita Open Pit, Stockpile, and Beneficiation Unit design limits currently approved by MMD. Thus, the proposed change in operations does not constitute an expansion of the permit design limits. Further, it is not expected to result in an increase in the amount of existing financial assurance considering recently and soon-to-be completed Chino reclamation projects and it will be beneficial from an environmental perspective.

Reservoir 3A has been in operation since 1987 and is currently regulated by the NMED under DP-493 for operational activities and DP-1340 for Closure. Chino is submitting supplemental groundwater information to the NMED to initiate operation of the proposed stockpile under DP-459. This letter is intended to communicate closeout details and a financial assurance cost estimate associated with 3A

Stockpile. Adjustments to the financial assurance for Chino as a whole will be addressed more definitively as part of the DP-1340 renewal, which is anticipated to be completed in 2014.

Existing Condition

The information in this section describes the conditions that exist in the Reservoir 3A area as of June 2014. The closure plan for Reservoir 3A was recently approved (May 2014) and the operations and conditions in the vicinity of the Reservoir are expected to change in the near future. Thus, some aspects of the existing conditions may change during the review period for this submittal. These changes are not expected to meaningfully change this proposal or the estimated costs for closure of the proposed stockpile.

Mine Facilities and Reservoir

Reservoir 3A sits in a small canyon, bordered to the north by a haul road, to the west by waste and leach stockpiles, and to the east by Reservoir 9. Reservoir 3A (57 acres), the unvegetated area around it (20 acres), and the waste rock embankment (7 acres) covered roughly 40% of the proposed 3A Stockpile area (210 acres). South of the Reservoir, the canyon bottom is more moderately sloped; these slopes are interrupted by a series of rhyolite cliffs. An unimproved road wraps around the southern half of the canyon.

Reservoir 3A was unlined with a capacity of 1.2 billion gallons and located in the former headwaters of Whitewater Creek, east of the South Stockpile and south of the Santa Rita Pit. On May 12, 2014, MMD and NMED granted approval under GR009RE and DP-1340 to reclaim Reservoir 3A and the surrounding topography to create positive drainage toward the open pit. At the maximum pool elevation, the reservoir would occupy about 57 acres. Reservoir 3A was permitted and used as a mine water impoundment. As part of the water management system at Chino, Reservoir 3A was connected through pipelines to a number of mine facilities. During normal operations, Reservoir 3A stored excess storm water from the mine during wet periods and supplied water for use in various mine operations during dry periods. During emergency conditions, pregnant leach solution and other mine water were occasionally pumped into Reservoir 3A. However, the water in the Reservoir primarily consisted of process water and storm water that came into contact with mine rock. The pH of the water is typically low with relatively high total dissolved solids similar to water associated with Chino's leaching circuits.

Climate

The climate at Chino is warm and dry, with mean annual precipitation of about 400 mm (16 inches) and a mean annual temperature near 10°C (50°F). Precipitation falls mainly as rain, but snow may occur from November to March. Most of the precipitation in the area falls during July through October in the form of rain during short, intense, thunderstorms. Monthly precipitation is generally less than an inch each month from March through June, peaks in July and August at between 2 and 3 inches each month, and generally falls to less than 2 inches each month from September through February. Evaporative demand in this region is high and annual evaporation far exceeds annual precipitation.

Geology

Santa Rita Deposit is a porphyry copper body that includes intrusive and skarn-hosted copper mineralization. Mineralization is associated with a generally porphyritic composite intrusion varying in composition from granodiorite to quartz monzonite that domed the surrounding Paleozoic and Cretaceous sedimentary rocks during the early Tertiary. The sedimentary section was also intruded by late Cretaceous quartz diorite sills that predate the main stock intrusion but are not believed to be associated with mineralization. Post-mineralization, mid-Tertiary volcanic rocks were extruded over the deposit and included rhyolitic tuffs and basaltic andesite flows. The proposed 3A Stockpile area is underlain entirely by Kneeling Nun Rhyolite.

Soils and Vegetation

The soils in the Chino area were mapped by the US Soil Conservation Service (SCS) (Parnham et al. 1983). The SCS map units were composed primarily of complexes of soil series and miscellaneous land areas. The dominant soils in the proposed 3A Stockpile area (Luzena and Muzzler series) are shallow (<50 cm) and fine-textured with moderate to high rock fragment contents, although moderately deep (50 to 100 cm) and deep (>100 cm) soils may occur to a minor extent. Rock outcrop is a major component of the soil map units in the 3A Stockpile area.

The distribution of native vegetation around Chino is locally complex and reflects the combined influences of environmental gradients (soils and climate), disturbance histories (drought, floods, fire, and predation) and management practices. The major structural characteristics of vegetation are controlled primarily by the prevailing environment gradients (DBS&A 2000). Vegetation in the proposed 3A

project area is dominated by alligator juniper-oak woodland and alligator juniper-oak/grama woodland. The alligator juniper-oak woodland occupies about 60% of the area and the alligator juniper-oak/grama woodland occupies about 5% of the area. The alligator juniper-oak woodland is characterized by open stands of oaks such as grey oak (*Quercus grisea*) and emory oak (*Q. emoryi*), junipers (alligator [*Juniperus deppeana*] and/or one-seed juniper [*J. monosperma*]) and piñon pine (*Pinus edulis*), with canopy cover ranging from 10 to 50 percent. The Alligator Juniper-Oak/Grama Woodland is also dominated by oaks and alligator juniper, with occasional piñon pine, but with lower tree canopy cover (3 to 8 percent). The understory contains grama (Bouteloua spp.) and muhly (Muhlenbergia spp.) grasses.

Woodland vegetation is present just outside of the area influenced by fluctuating reservoir levels, and covers the steeper hillsides throughout the valley. Trees were predominantly juniper and oak species (Quercus spp.), with occasional piñon pine. Steeply sloped areas were sometimes bare of vegetation. Common shrubs include sotol (*Dasylirion wheeleri*), banana yucca (*Yucca baccata*), mountain mahogany (*Cercocarpus montanus*), rabbitbrush (*Ericameria nauseosa*), beargrass (*Nolina microcarpa*), Parry's agave (*Agave parryi*) in rocky areas, *Brickelia grandiflora,* and snakeweed (*Gutierrezia sarothrae*). Less common shrubs included a barrel cactus species, tree cholla (*Opuntia imbricata*), prickly pear cactus (*Opuntia sp.*), California brickelbush (*Brickelia californica*), and three-lobed skunkbush (*Rhus trilobata*).

Common grasses included Muhlenbergia species, Harvard's three-awn (*Aristida harvardiii*) and other Aristida species, sand dropseed (*Sporobolis cryptandrus*), hairy grama (*Bouteloua hirsuta*), blue grama (*Bouteloua gracilis*), sideoats grama (*Bouteloua curtipendula*), and cane bluestem (*Bothriochloa barbinodis*). Common forbs included Geyer's onion (*Alium geyeri*), Wright's cudweed (*Pseudognaphalium canescens*), canyon morning glory (*Ipomoea barbatisepala*), scarlet creeper (*Ipomoea coccinea*), scarlet four-o-clock (*Mirabilis coccinea*), wholeleaf Indian paintbrush (*Castilleja integra*), slimleaf plains mustard (*Hesperidanthus linearifolia*), Erigeron spp., Dalea spp. and Chamaesyce spp.

Groundwater and Surface Water

The proposed 3A Stockpile will occupy the upper reaches of the historic Whitewater Creek watershed. No streams are present in the Reservoir 3A watershed. Episodic stormwater inflows affect the Reservoir 3A area, but the historical water levels were largely maintained by operational inputs rather than

antecedent surface water from the surrounding watershed. The Reservoir 3A area is in the open pit capture zone and seepage flows north toward the Santa Rita open pit where it is contained.

Stockpile Construction and Closure

Operational Stockpile Construction

At full build-out, the stockpile will contain an estimated 150 million tons of waste rock and occupy approximately 210 acres (Figs. 2 and 3). The final configuration of the stockpile will result in positive surface water drainage in the area occupied by the Reservoir. Water in the reservoir is currently being evacuated as part the approved Reservoir 3A closure plan. Hauling of materials to achieve positive grade has not been initiated, but is expected to start in the near future.

The waste rock will be placed to facilitate closure regrading efforts by optimizing lift height and setbacks. These efforts will reduce the work needed to grade the stockpile lifts from angle of repose to appropriate reclaimed slope gradients at closure. Construction and closure of the stockpile will impact about 145 acres of undisturbed vegetation.

During the operational phase of the stockpile construction, stormwater from the stockpile will be managed in accordance with the conditions of the operational discharge permit. Stormwater will flow north toward the open pit and will be incorporated into the mine water management system. After reclamation regrading and cover placement, surface water runoff will be directed to the south away from the open pit where it is practically feasible to do so.

Closure Design Elements

Closure of the proposed 3A Stockpile will comply with the applicable requirements of Permit GR009RE and DP-1340, and is consistent with the newly adopted Copper Mine Rules (20.6.7 NMAC). More specifically, the reclaimed inter-bench slopes will be constructed at gradients equal to or less than 3:1 with slope lengths no longer than 200 feet. These design elements comply with DP-1340 and are consistent with the requirements of 20.6.7.33 C NMAC. Surface water control on the reclaimed slopes will be achieved using armored terrace bench channels and downdrains. Figure 4 illustrates the conceptual design for the regraded slope configuration. The conceptual cross sections of the regraded facility are shown on Figure 5. The typical designs for the channels, downdrains, and perimeter diversions are illustrated on Figure 6. The conceptual designs are provided for demonstrative purposes

and as the basis for the financial assurance cost estimate. The final design will be submitted in the CDQAP submitted prior to reclamation construction.

Because the stockpile will contain mine rock with the potential to generate acidic solution a 3-foot thick reclamation cover will be applied in accordance with the requirements of Permit GR009RE and DP-1340 and will be consistent with 20.6.7.33.F NMAC. The cover requirement for the 3A Stockpile is estimated to be about 1,100,000 CY. The cover materials will be sourced from the STS2 and/or Upper South Stockpiles, which are composed of overburden (rhyolite and leach cap) from the east pit areas. Revegetation will be accomplished using the methods specified in Appendix C of Permit GR009RE and applicable modifications.

Construction and subsequent reclamation of the 3A Stockpile is not expected to materially change the groundwater flow direction. The 3A Stockpile, based on existing data, is in the area of the open pit hydrologic containment; seepage will continue to flow to the open pit after closure. Under the operational DP, additional monitoring wells will be constructed to continue to demonstrate hydrologic containment. The construction of and closure of the 3A Stockpile over Reservoir 3A will comply with the requirements of DP-1340 for closure of impoundments, and is consistent with 20.6.7.33.I NMAC. The amount of seepage is likely to decrease relative to the existing conditions once the reservoir operations are discontinued. At closure, the majority of the surface water from the 3A Stockpile will flow south to a tributary of Martin Canyon (Figure 7). Thus, construction and reclamation of this stockpile is expected to be beneficial to water quality by reducing the inflows to the open pit and supplying stormwater runoff to Martin Canyon.

Conceptual Closure Cost Estimate

This section provides a brief description of the capital and operation and maintenance cost estimate portions of the financial assurance. Cost estimates are budgetary and for the purpose of determining the value of the financial assurance performance bond. The capital cost estimate has been prepared in accordance with standard engineering practice and is supported with data from various references. The estimated capital cost for closure of the proposed 3A Stockpile is $5,585,448, which is detailed in Attachment A.

Financial Assurance

Sufficient financial assurance (FA) is in place for the 3A Stockpile considering recently and soon-to-be completed reclamation. Chino is in the process of updating the Closure/Closeout Plan for the entire mine and will reevaluate the FA as part of this process. In the interim, the FA that would be associated with 3A Stockpile must be evaluated to determine if it represents a significant increase for Chino's closure. In late 2013, Chino submitted a partial FA release request for reclamation completed on Ponds 1, 2, and 4 (Modification13-1 to Permit GR009RE). The NPV amount to be released in Modification 13-1 is $4,682,716. The Lake 1 reclamation is 95% complete as of June 2014 and is expected to be finished in August 2014. Chino intends to request financial assurance release for Lake 1 in August 2014, which will be approximately $4,253,073. Thus, the excess near-term financial assurance for these two projects totals $8,935,788. Because the financial assurance associated with the proposed 3A Stockpile is only $5,585,448 in current dollars, sufficient financial assurance is in place to account for the closure of the 3A Stockpile.

Summary

As a normal course of business, Chino continuously evaluates its mine plan in response to ongoing exploration activities and changes in market conditions. Recent analysis of the mine plan by Chino required a change in the operation of Reservoir 3A and construction of a waste stockpile in its place. Construction and ultimate closure of the 3A Stockpile complements closure of Reservoir 3A. Because much of the stormwater runoff from the reclaimed stockpile will be diverted away from the open pit, the 3A Stockpile is expected to yield long-term environmental benefits. Adjustments to the mine's total FA will be addressed in detail as part of the CCP Update and associated permitting processes, but the information presented herein clearly indicates that sufficient FA is in place at Chino to cover closure costs for the proposed stockpile. The construction of a stockpile in the 3A Reservoir area has been contemplated by mine planners for several decades and is now feasible from a business perspective. Chino appreciates your consideration of this request. As always, please let me know if you need additional information to facilitate your review.

A check in the amount of $1000 for this permit modification is attached. Please contact Ms. Lynn Lande at (575) 912-5213 if you have any questions about this submittal.

Sincerely,

Lynn A. Lande

Lynn Lande, Chief Environmental Engineer
Reclamation Services

LAL:rlm
Attachments

c: Brad Reid,NMED
Holland Shepherd, MMD

20140703-002

Reclamation Summary			**3A Stockpile 5/30/2014**
Direct Costs			
	Earthmoving	$	3,477,450
	Vegetation 100%	$	238,713
	Other	$	843,386
	Subtotal, Direct Costs	$	4,559,550
Indirect Costs			
	Mobilization and Demobilization 1.0%	$	45,595
	Contingencies 2.0%	$	91,191
	Engineering Redesign Fee 2.5%	$	113,989
	Contractor Profit and overhead 15.0%	$	683,932
	Project Management Fee 2.0%	$	91,191
	State Procurement Cost 0.0%	$	-
	Indirect Percentage Sum = 22.5%		
	Subtotal, Indirect Costs	$	1,025,899
TOTAL COST		**$**	**5,585,448**

Data Sources:

MMD. 1996. Closeout Plan Guidelines for Existing Mines, Mining Act Reclamation Bureau Mining and Minerals Division New Mexico Energy, Minerals and Natural Resources Department. April 30, 1996.

OSM. 2000. U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement Handbook for Calculation of Reclamation Bond Amounts. April 5, 2000.

Notes:

1) Indirect costs are based on the guidance available from MMD (1996) and OSM (2000).

Reclamation Summary

3A Stockpile

Earthwork

Description	Location 1	Location 2	Area (ac)	Cover Depth (in)	Bank Volume (bcy)	Swell Factor (%)	Loose Volume (lcy)
Dozer Assist	Upper South/STS2			-	1,100,000	0%	1,100,000
Load Cover Material	Upper South/STS2			-	1,100,000	0%	1,100,000
Haul Cover Material	Upper South/STS2	3A		-	1,100,000	15%	1,265,000
Grade Surface	3A		210	-	3,100,000	0%	3,100,000
Grade Cover Material	3A		210	36	1,100,000	0%	1,100,000

Grading

Task Description	Location 1	Equipment	Volume (cy)	Productivity (cy/hr)	Task Time (hours)	Material	Grade Factor	Soil Weight (lb/cy)	Production Method/ Blade	Work Hour (min/hr)	Visibility	Elevation	Direct Drive Trans.	Grade (%)	Operator	Maximum Push Distance (feet)	Normal Production (cy/hr)
Grade Surface	3A	D11R	3,100,000	4,982	622	1.2	1.58	3200	1.2	50	1	1	1	-29	1	80	3656
Grade Cover Material	3A	D11R	1,100,000	3,416	322	1.2	1.58	3500	1.2	50	1	1	1	-29	0.75	80	3656

Hauling

PERFORMANCE FACTORS

Task Description	Location 1	Location 2	Equipment	Volume (cy)	Truck Cycle Time (min)	Optimum No. of Trucks	Productivity (cy/hr)	Task Time (hrs)	Truck Capacity (cy)	Heaped Capacity (cy)	Loader Cycles per Truck	Total Haul Distance	**Haul Distance Segment 1	**Haul Distance Segment 2	**Haul Distance Segment 3	**Haul Grade Segment 1	**Haul Grade Segment 2	**Haul Grade Segment 3
Haul Cover Material	STS2/ Upper South	3A	777F	1,265,000	15.7	5	1,115	1,135	54.8	78.8	5	5,600	4,800	300	500	10.0%	1.0%	5.0%

Task Description	Location 1	Location 2	Equipment	Rolling Resistance	Haul Distance Segment 1	Haul Distance Segment 2	Haul Distance Segment 3	Haul Effective Grade Segment	Haul Effective Grade Segment 2	Haul Effective Grade Segment 3	Return Effective Grade Segment 1	Return Effective Grade Segment 2	Return Effective Grade Segment 3	Haul Time	Return Time	Loading Time	Load/ Maneuver Time	Load/ Maneuver Time	Work hour
Haul Cover Material	STS2/ Upper South	3A	777F	2.5%	1,463	91	152	13%	4%	8%	0%	2%	0%	9.1	1.5	3.3	0.7	1.1	50

Loader

Task Description	Location 1	Location 2	Equipment	Volume (cy)	Net Bucket Capacity (cy)	Loader Cycle Time (min)	Productivity (cy/hr)	Task TaskTime (hours)	Heaped Bucket Capacity (cy)	Bucket Fill Factor	Haul Distance (feet)	Haul Grade (%)	Rolling Resistan (%)	Load Bucket (min)	Swing Loaded (min)	Dump Bucket (min)	Swing Empty (min)	Work Hour (min/hr)
Stockpile Areas																		
Load Cover Material	Borrow Area	3A	992K	1,100,000	14.0	0.65	1,077	1021	16	0.875	NA	NA	NA	NA	NA	NA	NA	50

Grading Summary

Chino
3A Stockpile

Summary Calculation of Earthmoving Costs

Equipment Type	Task	Location 1	Location 2	Owning and Operating Cost ($/hr)	Fuel Consumption (gal/hr)	Fuel Consumption (gal)	Labor Cost ($/hr)	Number of Units (Equipment)	Time Req'd (hrs)	Total Cost ($)
Dozers-Earthmoving										
D11R	Regrade Outslopes	3A	Outslopes	$ 421.80	29.75	18512	$ 47.70	1	622.3	$ 292,153
D11R	Dozer Assist	Borrow Area	3A Outslopes	$ 421.80	29.75	30388	$ 47.70	1	1021.4	$ 479,561
										$ -
Dozers-Grading										$ -
D11R	Grade cover material	3A Outslopes	-	$ 421.80	29.75	9580	$ 47.70	1	322.0	$ 151,181
Loaders										$ -
992K	Load cover material	Borrow Area	3A Outslopes	$ 367.14	25.632	29090	$ 47.84	1	1134.9	$ 470,960
Trucks										$ -
777F	Haul cover material	Borrow Area	3A Outslopes	$ 284.62	18.76	106454	$ 42.93	5	5674.5	$ 1,858,681
Water Truck and Grader										$ -
* Off-Hwy Water Tanker Truck		3A		$ 169.93	15.345	8708	$ 25.77	1	567.4	$ 111,050
* Motor Grader		3A		$ 152.96	9.504	5393	$ 47.70	1	567.4	$ 113,864
*Assume there is a water truck and motor grader running 1/2 of the shift during hauling operations.									3A	$ 3,477,450

Vegetation Costs **3A Stockpile**

Description:

Includes scarifying, discing, rangeland drill seeding, mulching, crimping, and daily per diem

Stockpile Areas

Unit or Disturbance	(acres)	Unit Cost ($/acre)	Subtotal Cost ($)	Area Reference
3A	210	$ 1,137	$ 238,713	Rocky Mountain Reclamation, Laramie WY (10/31/13)

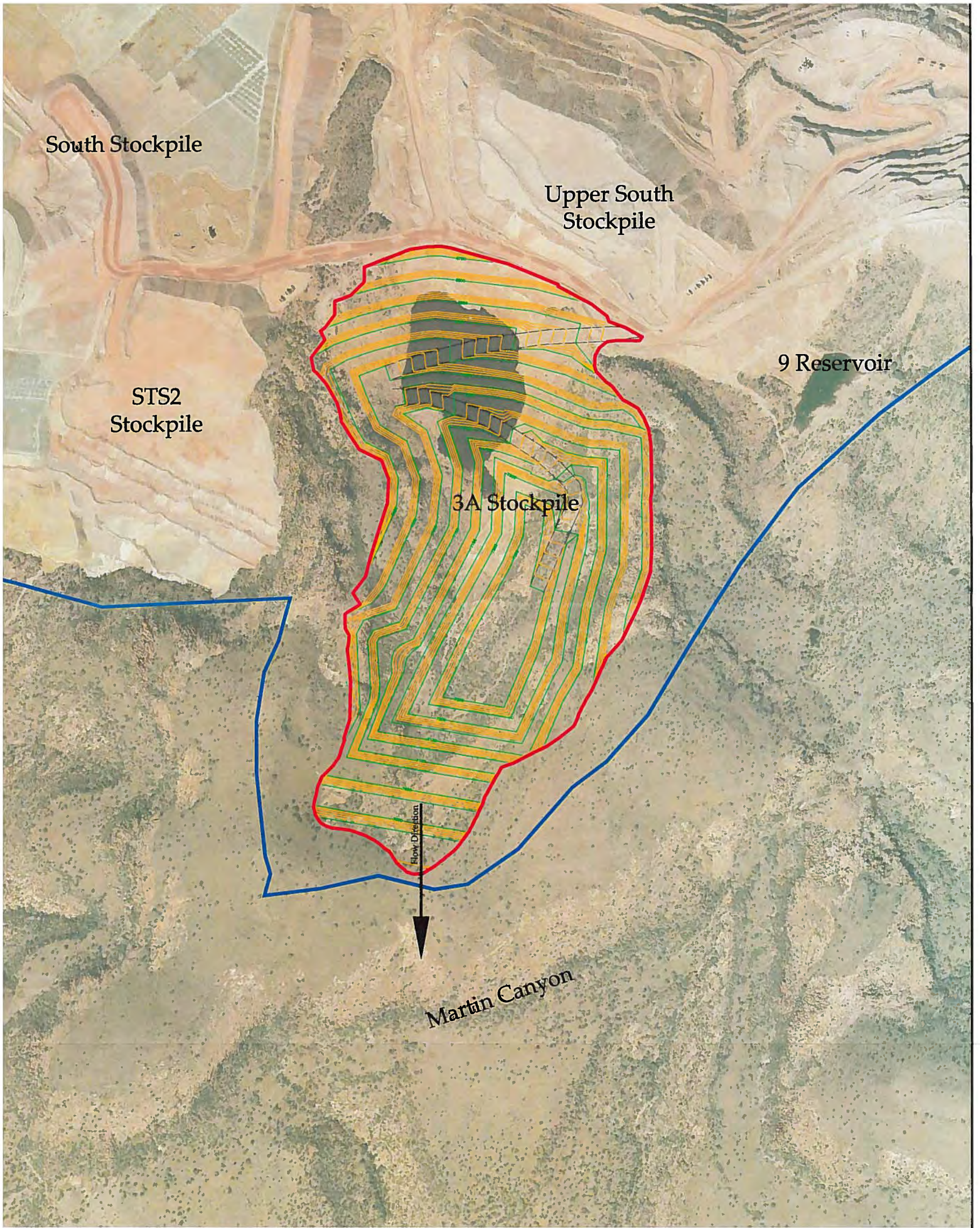
Other **3A Stockpile**

Other Reclamation Activity Costs

Item	Activity	Quantity	Unit	Unit Cost ($/unit)	Direct Item Cost ($)	Reference	Means Line Item	Means Page	Description
Down drains									
3A	Down Drain Length	2,800	ft	$ 8.01	$ 22,428				See Note 3 for unit cost
3A	Down Drain Filter	1,960	cy	$ 4.34	$ 8,503	Means	321123.23-0301	298	Base Course Drainage Layers, Crushed 1 1/2 ", Compacted to 4" deep
3A	Down Drain Riprap (Processed), Haul	11,500	cy	$ 8.43	$ 96,963	Means	G1030 150 6600	465	Load & Haul rock, 3-cy loader, 12 20-cy trailers, 4-mile RT
3A	Down Drain Riprap (processed), Backfill	11,500	cy	$ 0.96	$ 11,065	Means	312323.14-5220	235	Gravel backfill ..see note 2 for full description
Bench Grading									See Note 4 for full description
3A	Bench Grading	31,000	ft	$ 1.69	$ 52,390				See Note 4 for full description
Channel Excavation									
3A	Outslope Terrace Channels	31,000	feet	$ 3.37	$ 104,481				Excavation ..see note 1 for full description
3A	Top Channels	1,350	feet	$ 8.99	$ 12,137				Excavation ..see note 1 for full description
Riprap & Gravel									
3A	Outslope Channel Riprap (Processed), Haul	5,400	cy	$ 8.43	$ 45,530	Means	G1030 150 6600	465	Load & Haul rock, 3-cy loader, 12 20-cy trailers, 4-mile RT
3A	Outslope Channel Gravel, Haul	16,000	cy	$ 8.43	$ 134,905	Means	G1030 150 6600	465	Load & Haul rock, 3-cy loader, 12 20-cy trailers, 4-mile RT
3A	Top Channel Riprap (processed), Haul	2,000	cy	$ 8.43	$ 16,863	Means	G1030 150 6600	465	Load & Haul rock, 3-cy loader, 12 20-cy trailers, 4-mile RT
3A	Top Channel Gravel, Haul	1,020	cy	$ 8.43	$ 8,600	Means	G1030 150 6600	465	Load & Haul rock, 3-cy loader, 12 20-cy trailers, 4-mile RT
3A	Outslope Channel Riprap (processed), Backfill	5,400	cy	$ 0.96	$ 5,196	Means	312323.14-5220	235	Gravel backfill. ..see note 2 for full description
3A	Top Channel Riprap, (processed) Backfill	2,000	cy	$ 0.96	$ 1,924	Means	312323.14-5220	235	Gravel backfill. ..see note 2 for full description
3A	Top Channel Gravel, Backfill	1,020	cy	$ 0.96	$ 981	Means	312323.14-5220	235	Gravel backfill. ..see note 2 for full description
3A	Riprap production (processed)	22,000	cy	$ 14.61	$ 321,420				
				3A	$ 843,386				
				Direct Cost Total	$ 843,386				

Data Sources: RS Means Heavy Construction Cost Data (26th Annual Edition 2012)
Location adjustment: New Mexico 880 Las Cruces
Location adjustment = 0.844

Description Notes:
1) Excavate waste material with D11R, 175-foot excavation, 200-foot lateral waste push. Finish grade with D6R, 175-foot typical push distance, unit volume per LF.Uses Operator Factor = 0.75. See Appendix B 8.
2) Gravel Backfill, 300 hp dozer & compactors, 150' haul, 6 lifts, 4 passes
3) Excavate and waste material on slopes with D11R, 175-foot downslope excavation, 200-foot lateral waste push. Finish grade with D6T, 175-foot typical push distance, unit volume per LF Uses Operator Factor = 0.75 &. Appendix B 8
4) Finish grade channel benches using D6R. Three passes per bench, 1 MPH operating speed. Grading benches 31 ft wide, 9.26 cy cut-to-fill/ft of bench Appendix B 8.



LEGEND:

- STOCKPILE MAJOR CONTOUR (50' INTERVAL)
- STOCKPILE MINOR CONTOUR (10' INTERVAL)
- MMD DESIGN LIMIT BOUNDARY
- STOCKPILE BOUNDARY

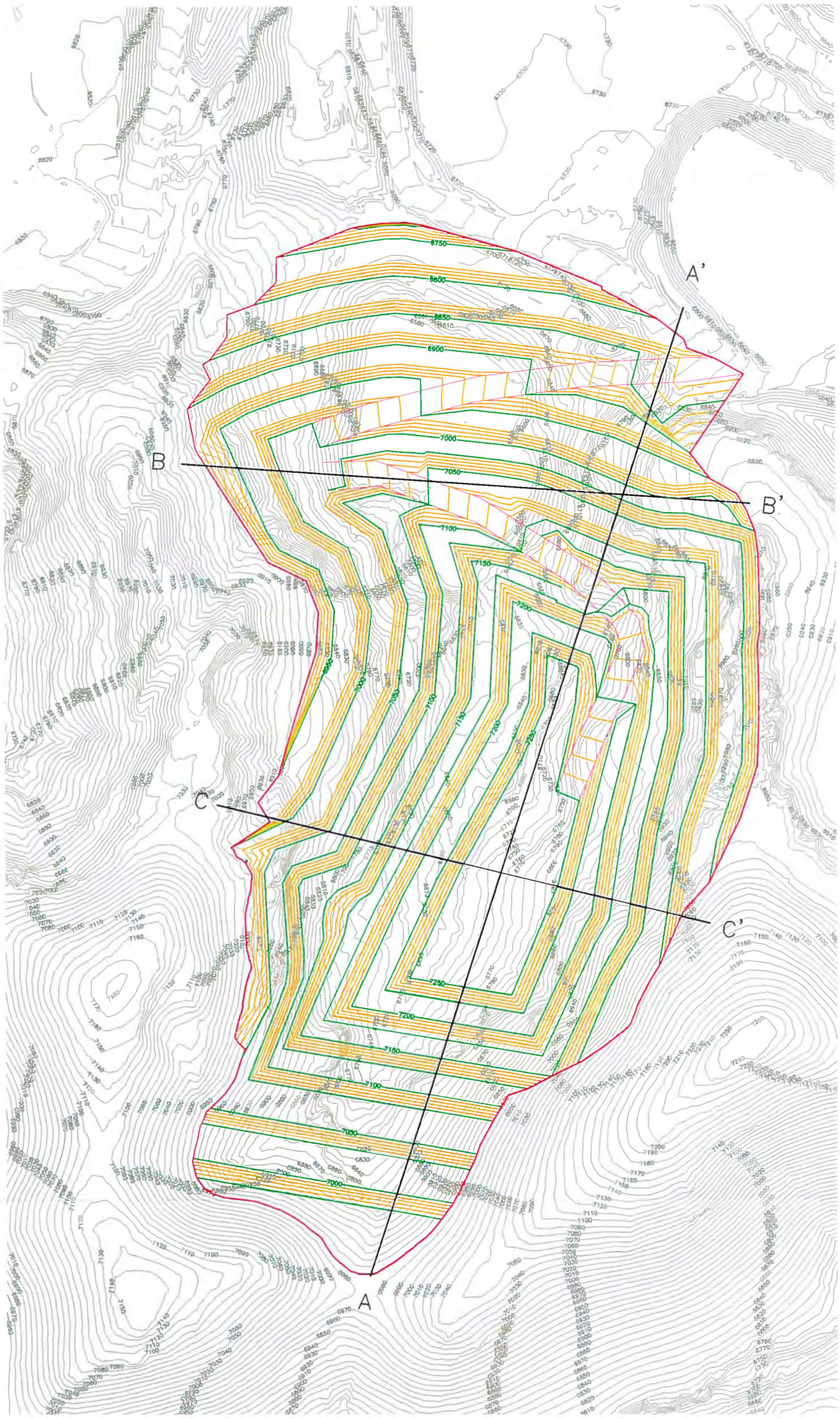
800 Feet

FREEPORT-McMoRAN COPPER & GOLD

3A CCP Overview

Scale: As Noted Date: 6-2-2014
Dept. Reclamation
Drawn By: [illegible] Checked By: [illegible]

Figure 1



LEGEND:

- STOCKPILE MAJOR CONTOUR (50' INTERVAL)
- STOCKPILE MINOR CONTOUR (10' INTERVAL)
- EXISTING SURFACE (10' INTERVAL)
- APPROXIMATE STOCKPILE FOOTPRINT
- CROSS SECTION LINES
- HAUL ROAD

NORTH

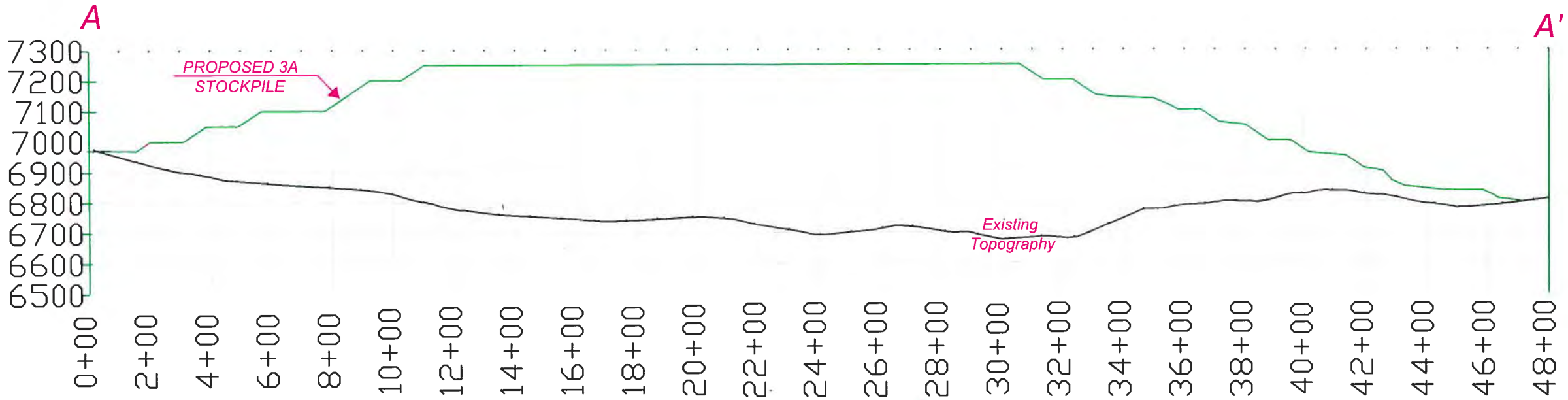
0 500 Feet

FREEPORT-McMoRan COPPER & GOLD

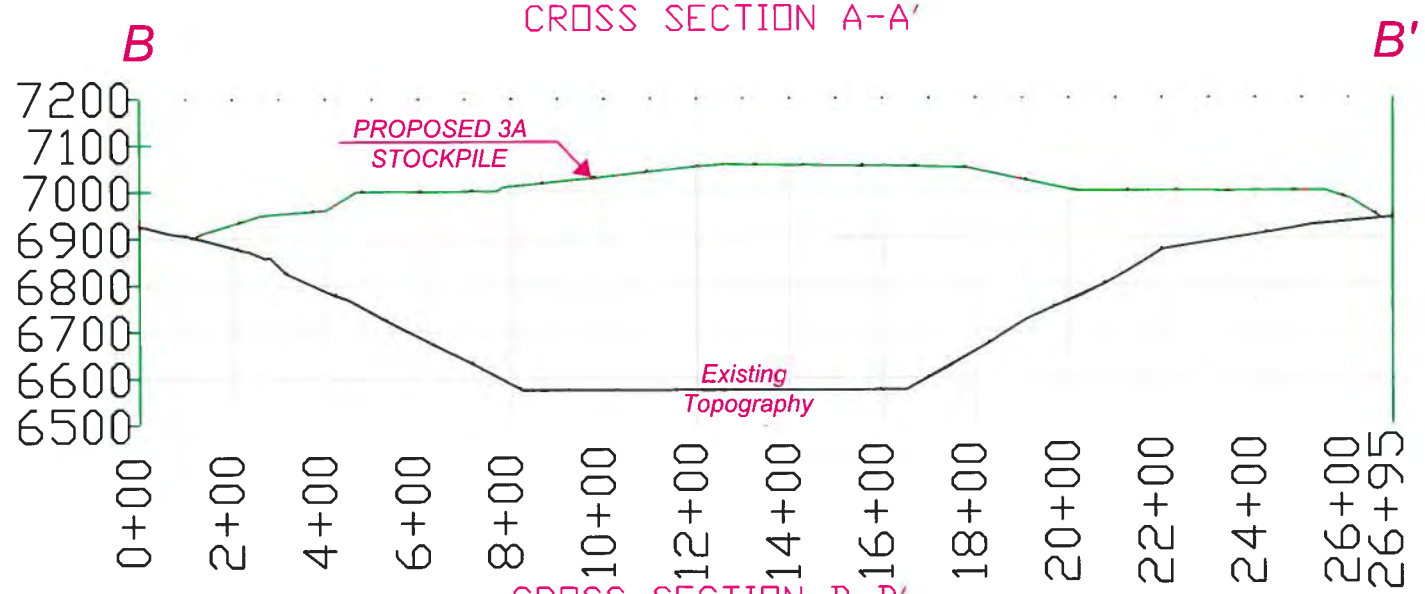
3A Stockpile Approximate Topography (Operational)

Scale: As Noted Date: 05-29-2014
Dept. Reclamation
Drawn By: DMA Checked By: LL

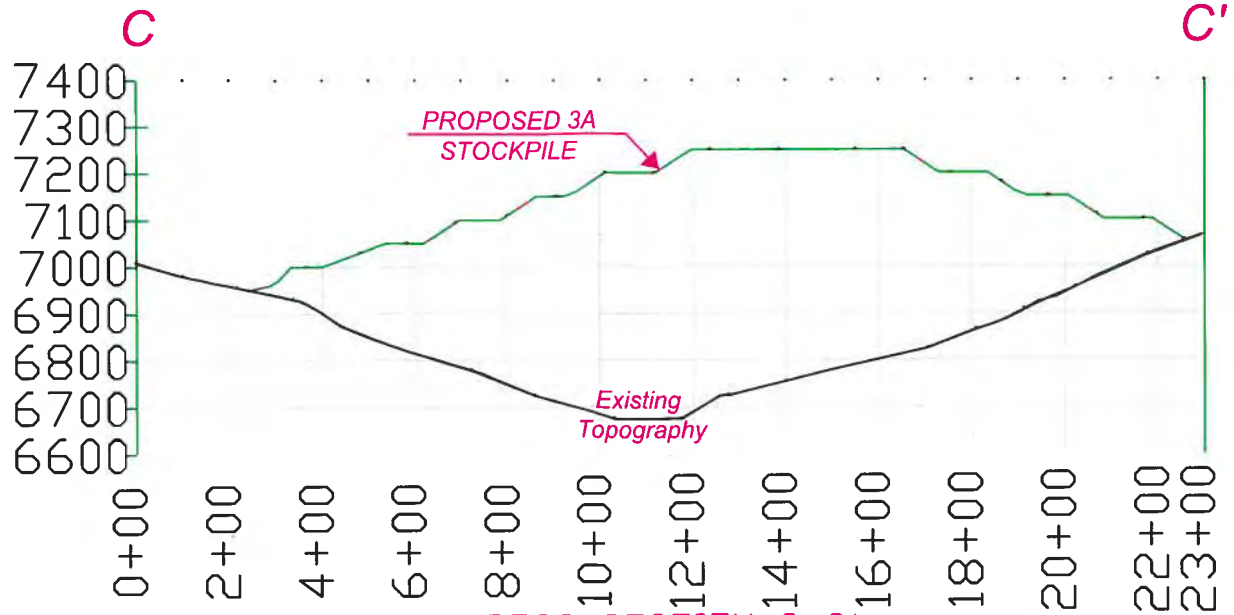
Figure 2



CROSS SECTION A-A'



CROSS SECTION B-B'



CROSS SECTION C-C'

LEGEND:

- WASTE ROCK
- BEDROCK

PROJECT

CHINO MINE
GRANT COUNTY, NEW MEXICO

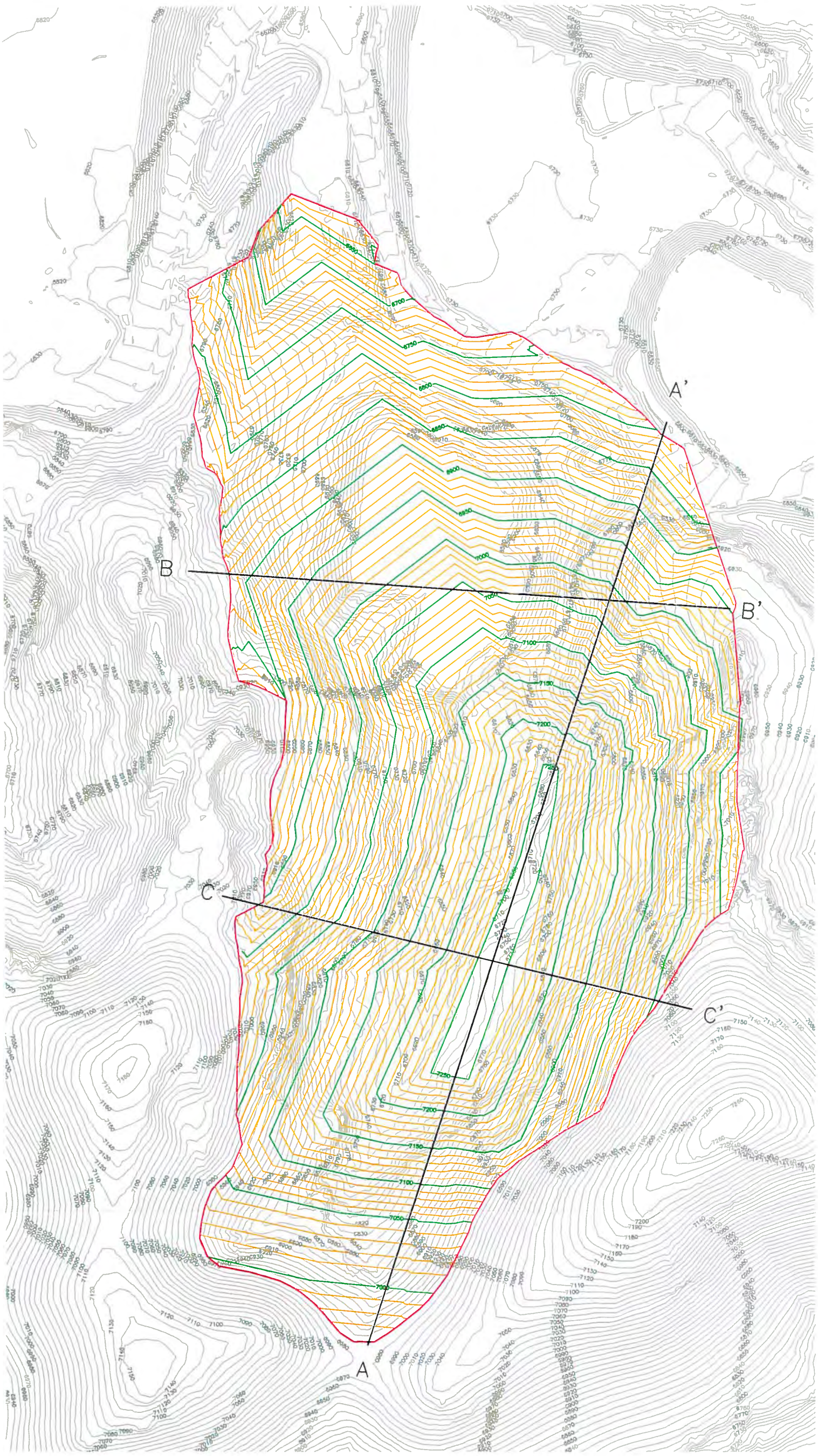
TITLE

3A STOCKPILE OPERATIONAL CROSS SECTIONS

FREEPORT-MCMORAN COPPER & GOLD

DATE: 05-28-2014
SCALE NTS | REV.

FIGURE 3



LEGEND:

- MAJOR CONTOUR (50' INTERVAL)
- MINOR CONTOUR (10' INTERVAL)
- EXISTING SURFACE (10' INTERVAL)
- APPROXIMATE STOCKPILE FOOTPRINT
- CROSS SECTION LINES

NORTH

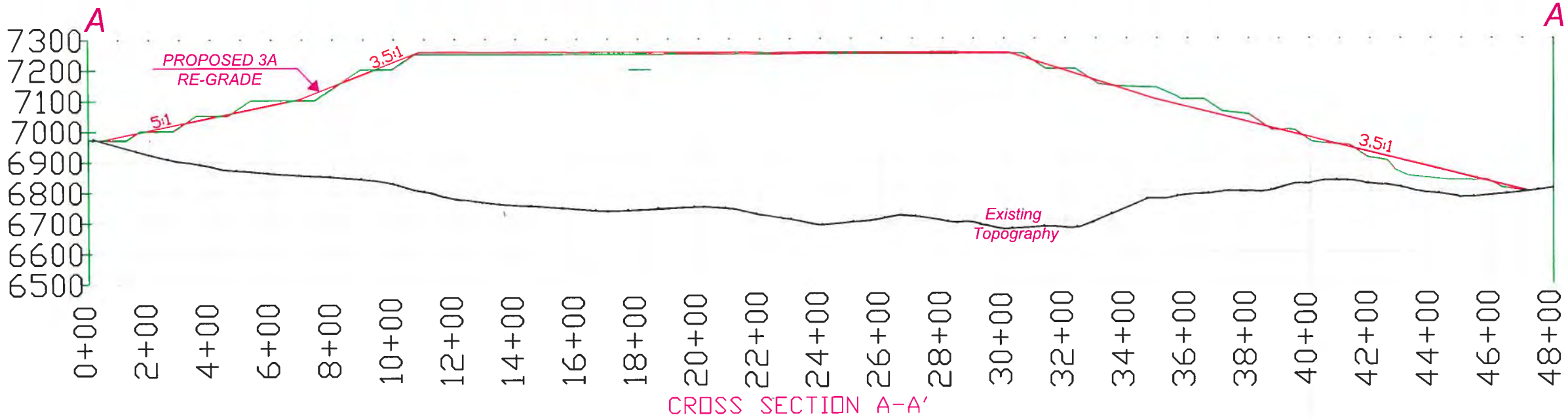
0 500 Feet

FREEPORT-MCMORAN COPPER & GOLD

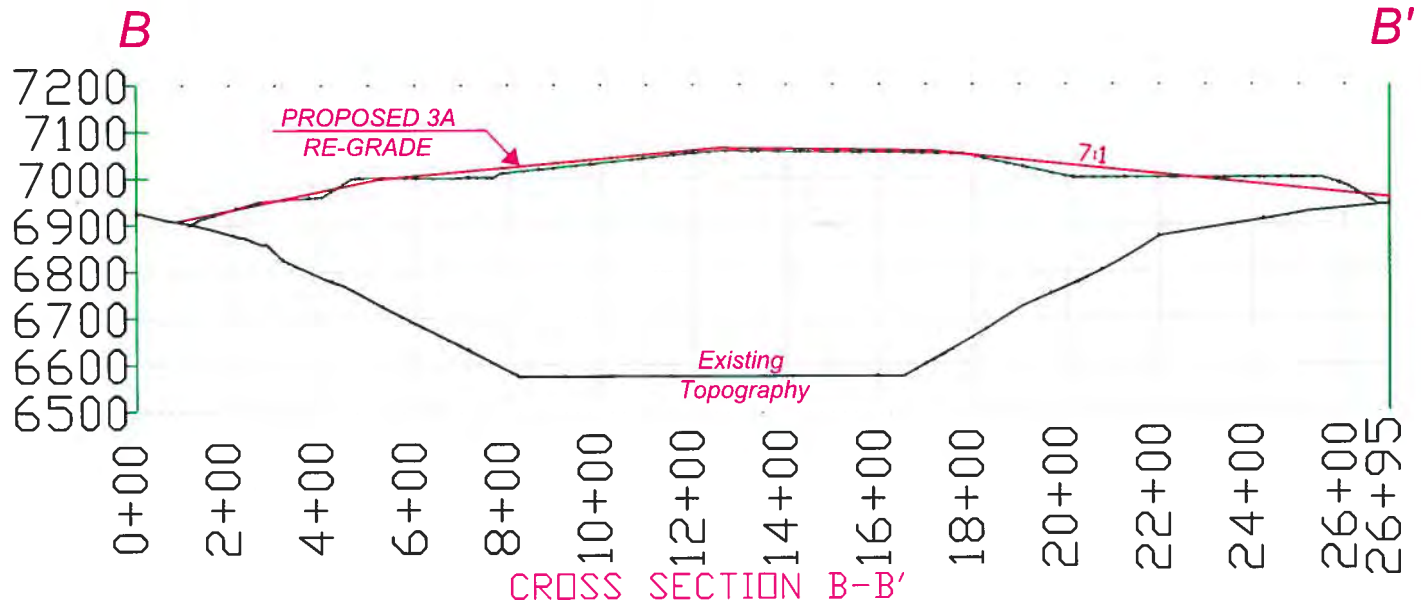
CCP Conceptual Regraded Topography

Scale: As Noted Date: 05-28-2014
Dept. Reclamation
Drawn By: BMA Checked By: LL

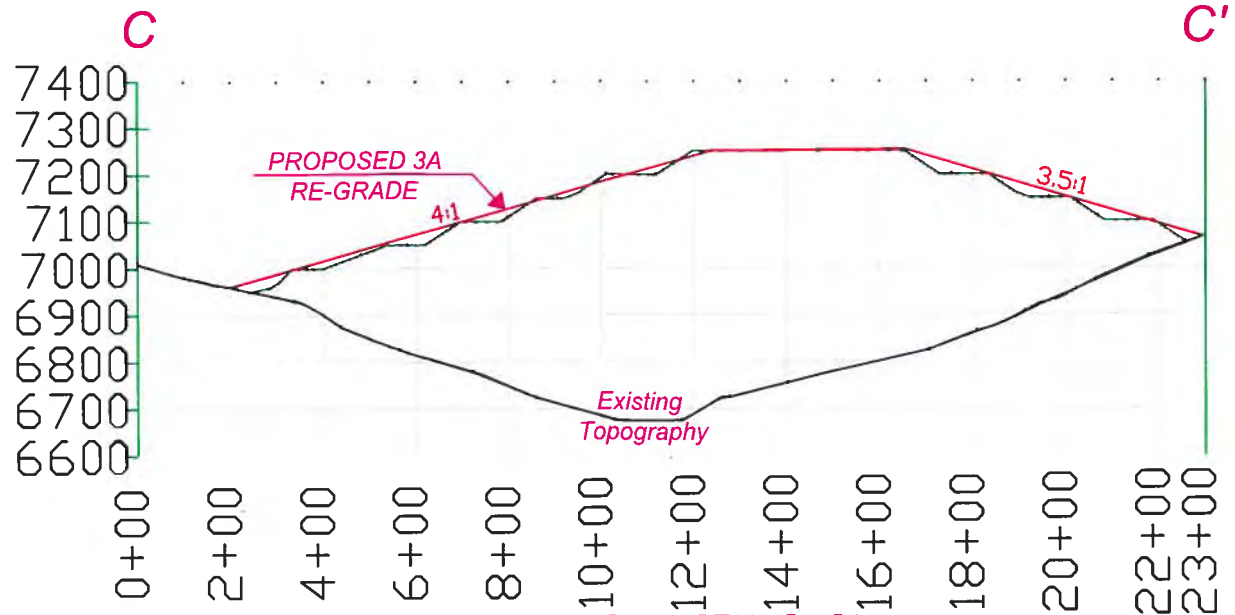
Figure 4



CROSS SECTION A-A'



CROSS SECTION B-B'



CROSS SECTION C-C'

LEGEND:

- WASTE ROCK
- COVER MATERIAL
- BEDROCK

PROJECT

CHINO MINE
GRANT COUNTY, NEW MEXICO

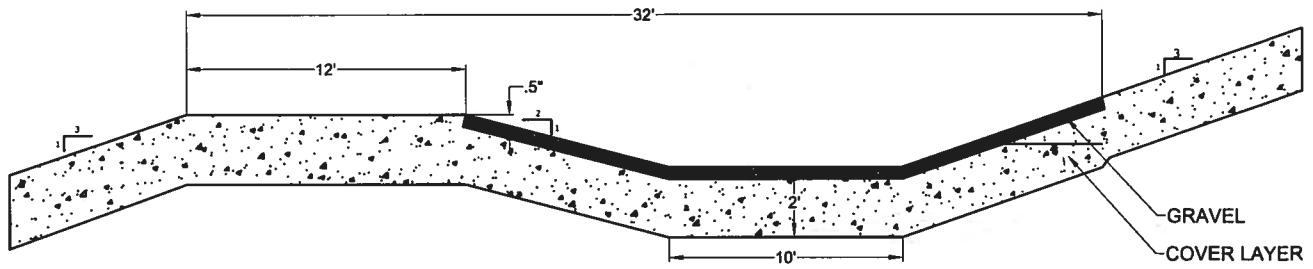
TITLE

3A STOCKPILE CONCEPTUAL RECLAMATION CROSS SECTIONS

FREEPORT-MCMORAN COPPER & GOLD

DATE: 05-28-2014
SCALE NTS | REV.

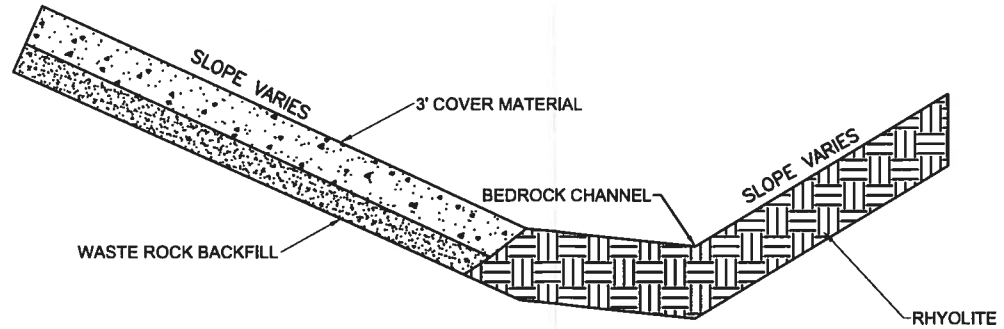
FIGURE 5



TYPICAL SIDE SLOPE CHANNEL CROSS SECTION

SCALE

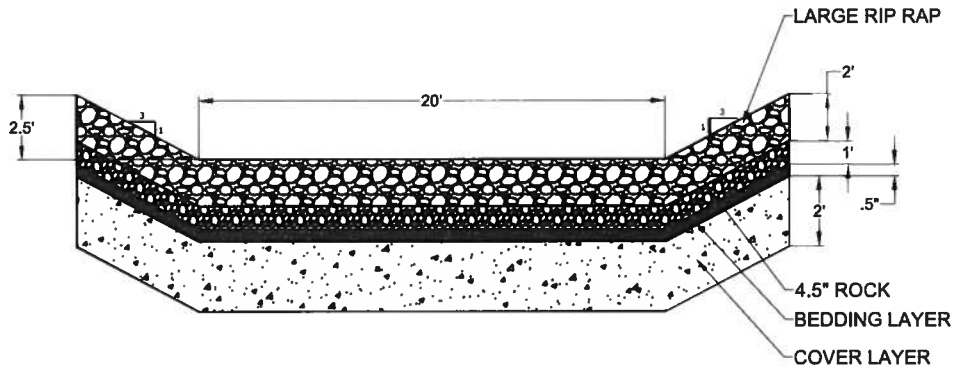
5' 0 10'



TYPICAL PERIMETER/TOE CHANNEL CROSS SECTION

NOT TO SCALE

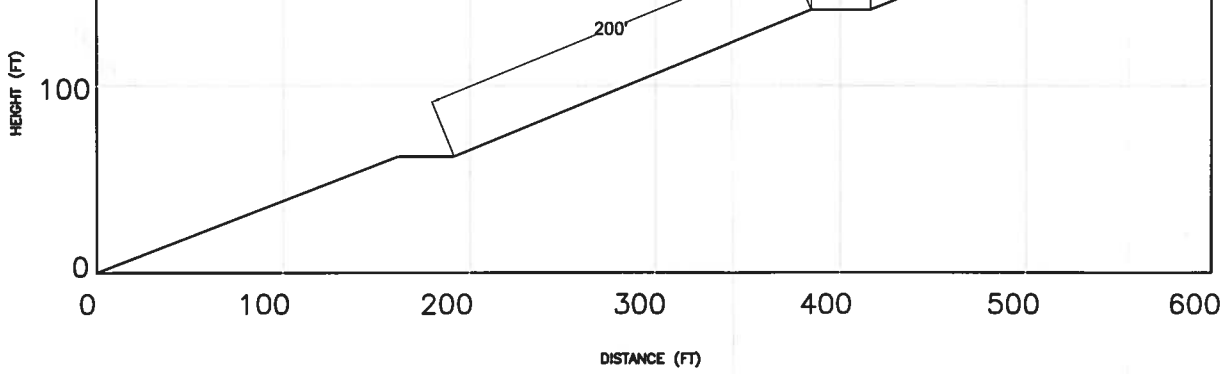
NOTE:
BOTTOM OF CHANNEL MAY NOT BE IN BEDROCK EVERYWHERE. IF CHANNEL IS CONSTRUCTED OVER WASTE ROCK, THE COVER WILL BE EXTENDED OVER THE WASTE ROCK.



TYPICAL DOWN CHUTE CHANNEL CROSS SECTION

SCALE

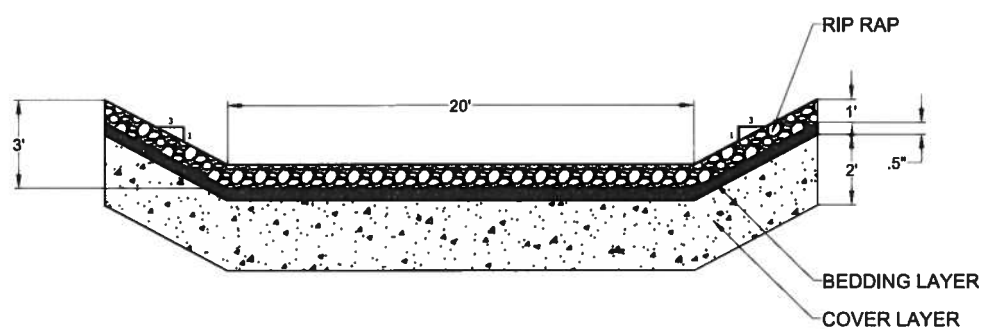
5' 0 10'



TYPICAL SLOPE CONFIGURATION

SCALE

50' 0 100'



TYPICAL CHANNEL CROSS SECTION

SCALE

5' 0 10'

PROJECT

CHINO MINE
GRANT COUNTY, NEW MEXICO

TITLE

CONCEPTUAL 3A RECLAMATION DRAINAGE DETAILS

FREEPORT-McMoRan COPPER & GOLD

DATE: 5-2-2014

SCALE | REV.

FIGURE 6

NORTH

0 500 Feet

LEGEND:

- MAJOR CONTOUR (50' INTERVAL)
- MINOR CONTOUR (10' INTERVAL)
- TYPICAL DOWN CHUTE CHANNEL
- TYPICAL SIDE SLOPE CHANNEL
- TYPICAL PERIMETER/TOE CHANNEL
- APPROXIMATE STOCKPILE FOOTPRINT

FREEPORT-MCMORAN COPPER & GOLD

Conceptual 3A Reclamation Drainage Plan

Scale: As Noted	Date: 05-28-2014		Figure 7
Dept. Reclamation			
Drawn By: BMA	Checked By: LL		