## Table 3-2: Summary of Key Design Criteria for Facilities to be Closed

Stockpiles – (Applicable to the West In-Pit Waste, East In-Pit Waste, NRW Waste, and CLW Waste stockpiles; applies to in-pit stockpile areas not covered by the ultimate pit lake)

- Outslopes to be graded to a maximum inter-bench slope of 3H:1V.
- Maximum uninterrupted slope length of 200 feet for outslopes.
- Terrace benches will have maximum bench width of 32 feet.
- Bench longitudinal slopes at 2 percent.
- Bench cross slopes and channels at a maximum of 2 percent.
- Top surfaces of non-discharging waste rock stockpiles minor grading to ensure that stormwater water does not accumulate near or discharge over a crest.
- For the in-pit stockpiles regrading to be done in such a manner that orients surface water drainage toward the pit bottom.
- Construction of downdrains and energy dissipators as needed on all stockpiles requiring reclamation at the EOY 2024. For the in-pit stockpiles energy dissipators are not required.
- For the stockpiles outside of the open pit, regrading to be done in such a manner that orients surface water conveyances to the exterior perimeter of the stockpiles.
- For the stockpiles outside of the open pit, slope channels will be located where possible in natural junctions or drainage chutes, and may contain riprap and energy dissipation structures if engineering designs warrant them.
- Placement of 4 inches of additional fine-grained cover material over 10% of the surface area of the stockpiles to enhance the seed bed over potential rocky areas.
- Top surfaces and outslopes to be ripped to a depth of 18 to 24 inches and vegetated in accordance with MMD Permit GR007RE and associated Permit revisions.

## Open Pit - (Little Rock Mine Open Pit)

- Accessible open pit flat areas, not covered by the ultimate pit lake, will be ripped to a depth of 18 to 24 inches and vegetated in accordance with MMD Permit GR007RE and associated Permit revisions. For the purposes of this CCP, accessible pit flat areas are defined as pit haul road driving surfaces and flat areas 50-feet or greater from a highwall.
- A combination of 6-foot chain link fencing and earthen berms will be constructed approximately 40 feet from the open pit highwalls to limit public access.
- Signs will be posted on fencing at 500-ft intervals and at all access points, warning of potential hazards present.
- An approximate 25-foot-wide disturbance area used to construct the chain link fencing, and approximate 100-foot-wide disturbance area used to construct the berm will be vegetated in accordance with MMD Permit GR007RE and associated Permit revisions.
- Removal of aboveground electrical systems and infrastructure, including pumps, lighting and transmission lines not necessary for post-closure site operations and maintenance.

Pipelines (applies to pit dewatering and seepage collection pipelines that will not be used in closure/post closure water management, and pipelines located outside the regrade footprint of stockpiles)

- Removal of residual sediments and fluids from pipelines within the open pit and disposal of materials at an approved location.
- Removal or burial of sections of pipeline within the open pit and dispose of pipe in an approved manner.
- Covering impacted areas with 36 inches of suitable cover material.
- Seeding of disturbed and covered areas to reestablish vegetation in accordance with MMD Permit GR007RE and associated Permit revisions.



## Table 3-2: Summary of Key Design Criteria for Facilities to be Closed

Haul Roads (applies to portions of existing haul road not mined out by the expanded pit and accessible haul roads within the open pit not needed for post closure access)

- Haul roads will be ripped to a depth of 18 to 24 inches and vegetated in accordance with MMD Permit GR007RE and associated Permit revisions. It is not anticipated that any haul roads will be located on acid-generating material, and all fill used for haul road construction will be non-acid generating.
- Removal of culverts not needed for post-closure storm water management and disposal of them in an approved manner.
- Acid-generating material (if present) will be graded to direct stormwater off road, covered with 36 inches of suitable cover material, and revegetated in accordance with MMD Permit GR007RE and associated Permit revisions.

Other Ancillary Facilities and Structures (surface impoundments including booster pump stations, electrical power transmission lines, power poles, and a substation; operational and exploration roads; storm water structures for drainage, diversion, and sediment control; equipment storage areas; and fencing and security systems).

- Power transmission lines, power poles, booster pump stations, and substation will be removed once they are not needed for post-closure purposes.
- Removal of any temporary, portable operations and maintenance facilities used to support mining and not needed for post-closure purposes.
- Disturbed areas associated with the construction of the open pit security fencing and earthen berm will be ripped to a depth of 18 to 24 inches and vegetated in accordance with MMD Permit GR007RE and associated Permit revisions.
- Covering impacted areas with 36 inches of suitable cover material.
- Ripping of non-impacted disturbed areas to a depth of 18 to 24 inches.
- Seeding of ripped and covered areas to reestablish vegetation in accordance with MMD Permit GR007RE and associated Permit revisions.

Notes:

MMD = Mining and Minerals Department



Table 6-1: Proposed Interim Seed Mix and Rates for the Little Rock Mine Reclamation Sites

Species <sup>a</sup>		Life-Form	Duration <sup>b</sup>	Coconstitu	Deteas	PLS/	
Scientific Name	Common Name	Lite-Form	Duration	Seasonality	Rate <sup>a,c</sup>	sq ft <sup>d</sup>	
Primary Seed Mix							
Bouteloua curtipendula	Sideoats grama	Grass	Per	Warm	1.50	6.58	
Bouteloua eriopoda	Black grama	Grass	Per	Warm	0.10	3.06	
Bouteloua gracilis	Blue grama	Grass	Per	Warm	0.50	9.47	
Leptochloa dubia	Green sprangletop	Grass	Per	Warm	0.25	3.09	
Eragrostis intermedia	Plains lovegrass	Grass	Per	Intermediate	0.05	4.02	
Dalea candida	White prairie clover	Forb	Per	NA	0.25	2.03	
Linum lewisii	Blue flax	Forb	Per	NA	0.25	0.98	
Sphaeralcea spp.	Globemallow spp.	Forb	Per	NA	0.10	1.15	
Cercocarpus montanus	Mountain mahogany	Shrub	Per	NA	1.50	1.63	
Fallugia paradoxa	Apache plume	Shrub	Per	NA	0.10	0.96	
Krascheninnikovia lanata	Winterfat	Shrub	Per	NA	1.00	2.82	
				Total	5.60	35.79	
		Alternate Seed M	lix				
Andropogon gerardii	Big bluestem	Grass	Per	Warm	ND	ND	
Andropogon hallii	Sand bluestem	Grass	Per	Warm	ND	ND	
Andropogon saccharoides	Silver bluestem	Grass	Per	Warm	ND	ND	
Aristida purpurea	Purple three-awn	Grass	Per	Warm	ND	ND	
Bothriochloa barbinodis	Cane beardgrass	Grass	Per	Warm	ND	ND	
Bothriochloa ischaemum	Yellow bluestem	Grass	Per	Warm	ND	ND	
Buchloe dactyloides	Buffalograss	Grass	Per	Warm	ND	ND	
Digitaria californica	Arizona cottontop	Grass	Per	Warm	ND	ND	
Heteropogon contortus	Tanglehead	Grass	Per	Warm	ND	ND	
Hilaria belangeri	Curly mesquite	Grass	Per	Warm	ND	ND	
Muhlenbergia montana	Mountain muhly	Grass	Per	Warm	ND	ND	
Muhlenbergia porteri	Bush muhly	Grass	Per	Warm	ND	ND	
Muhlenbergia rigens	Deergrass	Grass	Per	Warm	ND	ND	



Table 6-1: Proposed Interim Seed Mix and Rates for the Little Rock Mine Reclamation Sites

Species <sup>a</sup>			<b>.</b>			PLS/
Scientific Name	Common Name	Life-Form	Duration <sup>b</sup>	Seasonality	Rate <sup>a,c</sup>	sq ft <sup>d</sup>
	Alte	rnate Seed Mix (	cont.)			
Muhlenbergia torreyi	Ring muhly	Grass	Per	Warm	ND	ND
Muhlenbergia wrightii	Spike muhly	Grass	Per	Warm	ND	ND
Panicum obtusum	Vine mesquite	Grass	Per	Warm	ND	ND
Panicum virgatum	Switchgrass	Grass	Per	Warm	ND	ND
Pleuraphis jamesii	Galleta grass	Grass	Per	Warm	ND	ND
Pleuraphis mutica	Tobosa	Grass	Per	Warm	ND	ND
Schizachyrium scoparium	Little bluestem	Grass	Per	Warm	ND	ND
Setaria vulpiseta	Plains bristlegrass	Grass	Per	Warm	ND	ND
Sorgastrum nutans	Indiangrass	Grass	Per	Warm	ND	ND
Sporobolus airoides	Alkali sacaton	Grass	Per	Warm	ND	ND
Sporobolus cryptandrus	Sand dropseed	Grass	Per	Intermediate	ND	ND
Sporobolus giganteus	Giant dropseed	Grass	Per	Warm	ND	ND
Sporobolus wrightii	Sacaton	Grass	Per	Warm	ND	ND
Achillea millefolium	Western yarrow	Forb	Per	NA	ND	ND
Baileya multiradiata	Desert marigold	Forb	Ann	NA	ND	ND
Berlandiera lyrata	Chocolate flower	Forb	Per	NA	ND	ND
Calochortus 20mbiguous	Desert mariposa lily	Forb	Per	NA	ND	ND
Calylophus hartwegii	Lavenderleaf primrose	Forb	Per	NA	ND	ND
Castilleja integra	Indian paintbrush	Forb	Per	NA	ND	ND
Castilleja sessiliflora	Downy paintbrush	Forb	Per	NA	ND	ND
Coreopsis lanceolata	Lanceleaf tickseed	Forb	Per	NA	ND	ND
Coreopsis tinctoria	Plains tickseed	Forb	Per	NA	ND	ND
Dalea candida	White prairie clover	Forb	Per	NA	ND	ND
Dalea jamesii	James' dalea	Forb	Per	NA	ND	ND
Erigeron speciosus	Aspen fleabane	Forb	Per	NA	ND	ND



Table 6-1: Proposed Interim Seed Mix and Rates for the Little Rock Mine Reclamation Sites

Species <sup>a</sup>		1.6. 5	<b>5</b> (1 b	0	Databas	PLS/
Scientific Name	Common Name	Life-Form	Duration <sup>b</sup> So	Seasonality	Rate <sup>a,c</sup>	sq ft <sup>d</sup>
	Altern	ate Seed Mix (	cont.)			
Gaillardia aristata	Blanket flower	Forb	Per	NA	ND	ND
Gaillardia pulchella	Firewheel	Forb	Per	NA	ND	ND
Gilia tricolor	Bird's eyes	Forb	Per	NA	ND	ND
Glandularia gooddingii	Desert verbena	Forb	Per	NA	ND	ND
Heliomeris multiflora	Showy goldeneye	Forb	Per	NA	ND	ND
Isocoma tenuisecta	Burroweed	Forb	Per	NA	ND	ND
lpomopsis aggregata	Scarlet gilia	Forb	Per	NA	ND	ND
Lesquerella gordonii	Gordon bladderpod	Forb	Per	NA	ND	ND
Lotus rigidius	Deervetch	Forb	Per	NA	ND	ND
Lupinus arizonicus	Arizona lupine	Forb	Per	NA	ND	ND
Lupinus perennis	Perennial lupine	Forb	Per	NA	ND	ND
Machaeranthera bigelovii var.bigelovii	Bigelow's tansyaster	Forb	Per	NA	ND	ND
Machaeranthera tanacetifolia	Tanseyleaf tansyaster	Forb	Per	NA	ND	ND
Melilotus officinalis	Sweetclover	Forb	Per	NA	ND	ND
Mirabilis multiflora	Wild Four 'O Clock	Forb	Per	NA	ND	ND
Monarda citriodora	Lemon beebalm	Forb	Per	NA	ND	ND
Monarda fistulosa	Wild bergamot	Forb	Per	NA	ND	ND
Oenothera elata	Hooker evening primrose	Forb	Per	NA	ND	ND
Oenothera macrocarpa	Missouri evening primrose	Forb	Per	NA	ND	ND
Oenothera pallida	Pale evening primrose	Forb	Per	NA	ND	ND
Penstemon ambiguous	Sand penstemon	Forb	Per	NA	ND	ND
Penstemon barbatus	Scarlet bulger	Forb	Per	NA	ND	ND
Penstemon eatonii	Firecracker penstemon	Forb	Per	NA	ND	ND
Penstemon fendleri	Fendler's penstemon	Forb	Per	NA	ND	ND



Table 6-1: Proposed Interim Seed Mix and Rates for the Little Rock Mine Reclamation Sites

Species <sup>a</sup>						PLS/
Scientific Name	Common Name	Life-Form	Duration <sup>b</sup>	Seasonality	Rate <sup>a,c</sup>	sq ft <sup>d</sup>
	Altern	ate Seed Mix (	cont.)			
Penstemon palmeri	Palmer penstemon	Forb	Per	NA	ND	ND
Penstemon pseudospectabilis	Desert penstemon	Forb	Per	NA	ND	ND
Penstemon superbus	Superb penstemon	Forb	Per	NA	ND	ND
Penstemon virgatus	Wandbloom penstemon	Forb	Per	NA	ND	ND
Phacelia campanularia	Bluebells	Forb	Per	NA	ND	ND
Phacelia crenulata	Desert bluebells	Forb	Per	NA	ND	ND
Ratibida columnifera	Mexican hat	Forb	Per	NA	ND	ND
Rudbeckia hirta	Blackeyed Susan	Forb	Per	NA	ND	ND
Senecio flaccidus	Silver groundsel	Forb	Per	NA	ND	ND
Senna covesii	Desert senna	Forb	Per	NA	ND	ND
Solidago canadensis	Canada goldenrod	Forb	Per	NA	ND	ND
Sphaeralcea ambigua	Desert globemallow	Forb	Per	NA	ND	ND
Sphaeralcea coccinea	Scarlet globemallow	Forb	Per	NA	ND	ND
Sphaeralcea grossulariifolia	Gooseberry globemallow	Forb	Per	NA	ND	ND
Thelesperma filifolium	Greenthread	Forb	Per	NA	ND	ND
Agave parryi	Parry's agave	Shrub	Per	NA	ND	ND
Amorpha fruticosa	False indigo-bush	Shrub	Per	NA	ND	ND
Artemisia ludoviciana	White sagebrush	Shrub	Per	NA	ND	ND
Atriplex canescens	Fourwing saltbush	Shrub	Per	NA	ND	ND
Brickellia californica	Canyon bricklebush	Shrub	Per	NA	ND	ND
Calliandra eriphylla	Fairy duster	Shrub	Per	NA	ND	ND
Chilopsis linearis	Desert willow	Shrub	Per	NA	ND	ND
Dalea formosa	Feather dalea	Shrub	Per	NA	ND	ND
Dasylirion wheeleri	Sotol	Shrub	Per	NA	ND	ND
Encelia virginensis	Virgin River brittlebush	Shrub	Per	NA	ND	ND



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Table 6-1: Proposed Interim Seed Mix and Rates for the Little Rock Mine Reclamation Sites

Species <sup>a</sup>		Life Ferms	b	0	<b>D</b> 4 20	PLS/		
Scientific Name	Common Name	Life-Form	Duration <sup>b</sup>	Seasonality	Rate <sup>a,c</sup>	sq ft <sup>d</sup>		
	Alternate Seed Mix (cont.)							
Erimaceria nauseosa	Rubber rabbitbrush	Shrub	Per	NA	ND	ND		
Lycium pallidum	Wolfberry	Shrub	Per	NA	ND	ND		
Mahonia repens	Creeping Oregon grape	Shrub	Per	NA	ND	ND		
Nolina microcarpa	Beargrass	Shrub	Per	NA	ND	ND		
Rhus trilobata	Skunkbush sumac	Shrub	Per	NA	ND	ND		
Ribes leptanthum	Canyon gooseberry	Shrub	Per	NA	ND	ND		
Robinia neomexicana	NM locust	Shrub	Per	NA	ND	ND		
Senegalia greggii	Catclaw acacia	Shrub	Per	NA	ND	ND		
Vachellia constricta	Whitethorn acacia	Shrub	Per	NA	ND	ND		
Yucca baccata	Broadleaf yucca	Shrub	Per	NA	ND	ND		
Yucca elata	Soap tree yucca	Shrub	Per	NA	ND	ND		
Yucca glauca	Spanish bayonet	Shrub	Per	NA	ND	ND		

## Notes:

NA = Not applicable

ND = Not determined



 <sup>&</sup>lt;sup>a</sup> Seed mix and rates are subject to change based on future investigations
<sup>b</sup> Per – Perennial; Ann = Annual

<sup>°</sup> Rate is in pounds of pure live seed (PLS) per acre; substitutions may change seeding rates

d PLS/sq ft = Pure live seed per square foot, estimated based on published values for seeds per pound lb/ac = pounds per acre

Table 6-3: Proposed Plant Diversity Guidelines for the Little Rock Mine

Class	Seasonality	Numbers	Minimum Occurrence (% cover)	
Grasses	Warm	3	1	
Shrubs	NA	2	1	
Forbs	NA	2	0.1	

Notes:

NA = Not applicable

