

Table 2-1: Tyrone Mine Surface Impoundments

Impoundment Designation <sup>1</sup>	Surface Area <sup>1</sup> (acres)	Mine Use <sup>1</sup>	Liner <sup>1</sup>	Status
<b>DP-27 SA</b>				
<b>Northern Mangas Valley Tailing Area</b>				
No Existing or Planned Surface Impoundments				
<b>Southern Mangas Valley Tailing Area</b>				
CB-1XM	0.7	No. 2 TDRW Pond	Clay	Existing
CB-1XN	NA	Perimeter Stormwater	--	Existing
CB-1XO	NA	Livestock Water and Bird Habitat	--	Existing
No. 1X Tailing Seepage Collection Pond (1X-1) <sup>4</sup> .	0.81	Collect Water from Little Rock Mine, 1X Interceptor Wells, 1A Tailing Dam Seep	Synthetic	Existing
<b>DP-166 No. 2 Leach System, SX/EX Plant, Open Pits</b>				
Seep Collection DC2-1 Replacement	0.02	Seep	Synthetic	Existing in 2014
Seep 2 Collection	0.002	Seep	None	Existing
Seep 3 Collection Replacement	0.02	Seep	Clay	Existing in 2014
Seep 4 Collection Replacement	0.02	Seep	Clay	Existing in 2014
Seep 5E Collection Replacement	0.02	Seep	Clay	Existing in 2014
Seep 8 Collection	0.005	Seep	Clay	Existing
Seep 9 Collection	NA	Seep	NA	Existing
Main Pit Sump <sup>4</sup> .	15.43	Pit Dewatering	None	Existing
Copper Mountain Pit Sump <sup>4</sup> .	2.64	Pit Dewatering	None	Existing
Lube Shop Pond	0.09	Stormwater	None	Existing
No. 2 PLS Pond <sup>4</sup> .	0.99	PLS	Synthetic	Existing
No. 2A Decant Ponds <sup>4</sup> .	4.42	Pit Dewatering	Synthetic	Existing
4C PLS Pond <sup>4,5</sup> .	0.00	PLS	Synthetic	Existing

Table 2-1: Tyrone Mine Surface Impoundments

Impoundment Designation <sup>1</sup>	Surface Area <sup>1</sup> (acres)	Mine Use <sup>1</sup>	Liner <sup>1</sup>	Status
<b><i>DP-166 No. 2 Leach System, SX/EX Plant, Open Pits (cont.)</i></b>				
Future 6150 Pond <sup>4.</sup>	0.46	PLS	Synthetic	Existing in 2014
North Racket PLS Pond <sup>2.</sup>	0.93	PLS	Synthetic	Existing
SX/EW PLS Feed Pond <sup>4.</sup>	0.39	PLS	Synthetic	Existing
5E Pond 1	NA	Seep	Synthetic	Existing
5E Pond 2	0.36	Seep	Synthetic	Existing
<b><i>DP-286 No. 3 Leach System</i></b>				
Canyon 1 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 2 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 3 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 4 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 5 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 6 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 7 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 8 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 9 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 10 PLS Catchment	NA	PLS	Clay/Concrete	Existing
Canyon 11 PLS Catchment	NA	PLS	Synthetic	Existing
No. 3A PLS Pond <sup>4.</sup>	1.67	PLS	Synthetic	Existing
No. 3A PLS Overflow <sup>4.</sup>	1.43	PLS	Synthetic	Existing
Crusher Pond	0.37	Stormwater	None	Existing
Niagara Stormwater	0.16	Stormwater	None	Existing
Thickeners (eight)	1.08	Stormwater	Synthetic & Concrete lined	Existing

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Impoundment Designation <sup>1</sup>	Surface Area <sup>1</sup> (acres)	Mine Use <sup>1</sup>	Liner <sup>1</sup>	Status
<b><i>DP-286 No. 3 Leach System (cont.)</i></b>				
Plant Oxidation Pond (a)	0.28	Sewage	Synthetic	Existing
Plant Oxidation Pond (b)	0.3	Sewage	Synthetic	Existing
SPPC Pond	0.96	Stormwater	Synthetic	Existing
<b><i>DP-363 No. 1A and 1B Leach Systems</i></b>				
1A PLS Tank <sup>4.</sup>	0.01	PLS/Seepage	Stainless Steel	Existing
No. 1A PLS Overflow Pond <sup>4.</sup>	0.9	PLS	Synthetic	Existing
No. 1A Stormwater Pond	0.11	Stormwater	Clay	Existing
1B PLS Tank <sup>4.</sup>	0.02	PLS/Seepage	Stainless Steel	Existing
No. 1B Overflow Pond <sup>4.</sup>	1.24	PLS	Synthetic	Existing
<b><i>DP-396 No. 1C Waste Rock Stockpile</i></b>				
Oak Grove Pond	0.18	Stormwater	Synthetic	Existing
Oak Grove Sediment Basin	2.2	Stormwater	Unlined	Existing
<b><i>DP-435 No. 2A and 2B Leach Systems, and 2B and 9A Waste Rock Stockpiles</i></b>				
2A East PLS Tank <sup>4.</sup>	0.01	PLS	Stainless Steel	Existing
2A West PLS Tank <sup>4.</sup>	0.01	PLS	Stainless Steel	Existing
No. 2A (a) aka Seep 5E Pond Discharge	0.1	Stormwater	None	Existing
No. 2A (b) Surge Pond	0.46	PLS	Synthetic	Existing
No. 2A East PLS Overflow (Pennington Pond) <sup>4.</sup>	0.49	PLS	Synthetic	Existing

<b>DP-455 Gettysburg Pit and Leach System, Savanna Pit and East Main Leach System</b>				
Gettysburg Collection Pit (a)	0.17	PLS	Unlined	Existing
7B PLS Pond <sup>4.</sup>	0.06	PLS	Synthetic	Reclaimed by 2014
6C PLS Collection Pond <sup>4,5.</sup>	0.00	PLS	Synthetic	Existing
East Main Booster Pond <sup>4.</sup>	0.16	PLS	Synthetic	Existing
Savanna Pit Sediment Collection Pond	NA	Sediment Control	Synthetic	Reclaimed by 2014
Savanna Pit Seepage Sump	0.07	Stormwater	Synthetic	Existing
<b>DP-896 No. 1 Leach Stockpile</b>				
No. 1 Stockpile Seepage AST	NA	Seepage Collection	Fiberglass	Existing
No. 1 Overflow Pond <sup>3.</sup>	0.17	Overflow for Seepage Collection	Synthetic	Existing
Precipitation Plant Launderers	0.1	Stormwater	Concrete Lined	Existing

**Notes**

NA = not analyzed

PLS = Pregnant leach solution storage, collection, conveyance structure

TDRW = Tailing Decant Return Water

Table 2-1 includes existing and planned surface impoundments. Surface Impoundments that have been reclaimed are not included.

<sup>1.</sup> Original information from DBS&A. *Tyrone Mine Surface Impoundment Study Work Plan, DP-1341 Condition 87*. November 13, 2006, unless otherwise noted. Modified based on current reclamation.

<sup>2.</sup> Based on as-built pond design information provided by FMI.

<sup>3.</sup> Based on digitized area of approximate pond dimensions from 2011 aerial photograph in Stage 2 APP (DBS&A, 2011).

<sup>4.</sup> Based on information provided by Tyrone Hydrometallurgical Division and Environmental Department.

<sup>5.</sup> The 4C and 6C PLS collection ponds are actually collection points with drains at the base and do not store PLS.

**Tyrone Mine Closure/Closeout Plan Update**

July 2013

113-80040

**Table 2-2: Summary of Tyrone Closure/Closeout-Related Permits**

Permit or Requirement	Agency	ID Number	Area Covered
Registration	U.S. Department of Labor, Mine Safety and Health Administration		Mine
Mining Act Permit	New Mexico Mining Minerals Division	GR010RE Revision 10-1 to GR010RE	Mine Mine
Groundwater Discharge Plans	NMED Ground Water Quality Bureau	DP-1341, DP-166, DP-286, DP-363, DP-396, DP-435, DP-455, DP-896	Mine/Stockpile Unit & East Mine Unit
DP-27 Settlement Agreement	NMED Ground Water Quality Bureau	SA-27	Mangas Valley Tailings
DP-1341 Settlement Agreement and Stipulated Final Order	NMED Ground Water Quality Bureau		Mine
NPDES Stormwater General Permit	U.S. EPA (Region 6)	NMR05GB76	Mine
Water Rights	New Mexico Office of State Engineer	GSF85, GSF85S, GSF02260, GSF3020 M02680, M04978, M04979, M04980	Surface Water & Groundwater
Air Quality	NMED Air Quality Bureau  U.S. EPA (Region 6)	NSR2448-R7 PSD-2448A-R3  P147-R1M2	SX/EW Plant Power Plant  Title V Mine-wide
<b>SARA Title III</b>			
Hazardous Waste Generator/	U.S. EPA/New Mexico Department of Public Safety	NMD035806405	Mine
Hazardous Materials Transporter	U.S. Department of Transportation	062406-550-001OP	NA
Individual Liquid Waste Permit	NMED, Construction Industries Division	SC060183	Mine
Plan of Operation	Bureau of Land Management	Approved on 9/11/03	Copper Mountain South Pit Expansion

**Notes:**

NA = Not applicable

NMED = New Mexico Environment Department

SX/EW = Solution extraction/electrowinning

U.S. EPA = United States Environmental Protection Agency



**Table 2-3: Existing and Proposed Regulatory Status of Tyrone Mine Operational Permits**

Mine Area	Discharge Plan		Description	Facilities/Impoundments/Infrastructure	
	Number	Status		Currently Included Under DP	Proposed for Inclusion under DP
Mining Area	DP-166	Active 5/27/05 – 5/27/10 (Renewal submitted 1/27/10)	Main, Valencia, San Salvador Hill, and Copper Mountain Pits, SX/EW Plant, and No. 2 leach system	Main, Valencia, San Salvador Hill, and Copper Mountain Pits, SX/EW Plant and associated facilities (including raffinate tanks), No. 2 leach System, No. 2 leach stockpile (newly named 4A, 4B, and 4C leach stockpiles (including former Copper Mountain leach stockpile) and newly named 7C waste stockpile), Main Pit stockpile (newly named 8C waste stockpile), PLS collection and overflow impoundments, PLS collection wells 2L3 and 2L5, five Main Pit production wells, SX/EW PLS feed pond, pipelines, lined North Racket Pond, 5E seepage collection pond, seepage interceptor trenches and collection ponds located in Deadman Canyon	NA
	DP-286	Active - Expires 2/26/15	No. 3 leach system	No. 3A stockpile, PLS collection and overflow impoundments, seepage collection and interceptor/barrier systems, perched and regional groundwater collection systems, PLS pumping station and pipelines, pumpback system	No. 3B stockpile, No. 5A stockpile, Tyrone Mill Site old fuel dock No. 1 site and diesel fuel storage tanks
	DP-363	Active 7/30/12- 7/30/17	No. 1A and 1B leach stockpiles and East-Side seepage collection system	No. 1A and 1B leach stockpiles and leaching systems, HDPE-lined 1A PLS Overflow Pond, HDPE-lined 1B PLS Overflow Pond, clay-lined 1A Storm Water Pond, 1A stainless steel PLS tank, 1B stainless steel PLS tank, two gravity-flow seepage collection trenches at the 1A Stockpile, four interceptor/barrier seepage collection trenches (two at the 1A Stockpile and two at the 1B Stockpile), and seepage pumpback wells	NA
	DP-396	Active - Expires 5/18/12	No. 1C/7A waste stockpiles and associated facilities	Reclaimed 1C and 7A waste stockpiles, South Rim Pit, Oak Grove Pond, seepage collection sumps/trenches located along the perimeter of the No.'s 1C and 7A stockpiles, and associated pipelines and pumpback systems	NA



**Table 2-3: Existing and Proposed Regulatory Status of Tyrone Mine Operational Permits**

Mine Area	Discharge Plan		Description	Facilities/Impoundments/Infrastructure	
	Number	Status		Currently Included Under DP	Proposed for Inclusion under DP
Mining Area (con't.)	DP-435	Active 11/7/06 – 10/31/11 (Renewal submitted 6/30/11)	No. 2A and 2B leach systems, 2B and 9A waste rock stockpiles and associated facilities	Nos. 2A, 2B, and 2C leach stockpiles, No. 2B waste rock stockpile, No. 9A waste rock stockpile, 2A West and 2A East PLS collection stations, 2A West and No. 2 raffinate booster pump stations, HDPE-lined 2A East PLS Overflow Pond, HDPE-lined Seep 5E Discharge Ponds, HDPE-lined No. 2A Surge Pond, McCain Spring and Deadman Canyon Springs (Seeps 6 and 31), and associated tanks, pumps, and piping	NA
	DP-455	Active 8/17/10-8/17/15	Gettysburg Pit and leach system, Savanna Pit and East Main leach system	Gettysburg Pit; Savanna Pit; 6B, and 6C leach stockpiles; 7B waste rock stockpile, future Savanna leach stockpile; Gettysburg Pit Collection Pond; HDPE-lined 6C-2 PLS Collection Pond and booster station; HDPE-lined 7B PLS Collection Pond and booster station (to be replaced by new HDPE-lined 6150 collection pond); HDPE-lined East Main Booster Pond; HDPE-lined Savanna Sediment Collection Pond; Savanna North Sump; and associated tanks, pumps, and piping.	NA
East Mine Area	DP-896	Active - Expires 5/18/12	Reclaimed No. 1 Leach Stockpile	Reclaimed No. 1 stockpile, reclaimed B Sump (former No. 1 PLS Pond), seepage collection systems, pipelines, pumping stations, acid unloading area and associated tanks at former Precipitation Plant	NA
Mangas Valley Tailing Area	DP-27 Settlement Agreement	Renewal Denied (DP-27 Settlement Agreement issued on 10/15/03)	Reclaimed Dams 1, 1A, 1X, 2, 3, 3X and associated facilities	Reclaimed Dams 1, 1A, 1X, 2, 3, 3X, reclaimed tailing decant return water ponds, tailing launder, reclaimed stormwater catch basins, sewage effluent pond, No. 1X seepage interceptor system	NA



**Table 3-1: Status of Reclamation and Financial Assurance Reduction at the Tyrone Mine**

Facility	Start of Reclamation	Completion of Reclamation	Seeding Completion Date	CQAR Submittal	Financial Assurance Release Request	Financial Assurance Release Approval
<b><i>Mangas Valley Tailing Unit</i></b>						
Dam 1	June 2006	December 2008 <sup>(1)</sup>	July 2009	April 2009	December 2008 <sup>(2)</sup>	January 2010
Dam 1A	June 2006	August 2008	July 2009	January 2009	December 2008 <sup>(2)</sup>	January 2010
Dam 1X	June 2006	December 2008 <sup>(1)</sup>	July 2009	April 2009	December 2008 <sup>(2)</sup>	January 2010
Dam 2	January 2006	July 2007 <sup>(1)</sup>	April 2009	July 2009	December 2007 <sup>(2)</sup> December 2008 <sup>(2)</sup>	July 2008 January 2010
Dam 3	June 2005	December 2006	December 2006	December 2008	December 2006 <sup>(2)</sup>	March 2007
Dam 3X	September 2004	October 2005	December 2005	August 2008 <sup>(4)</sup>	December 2006 <sup>(2)</sup> December 2007	March 2007 <sup>(2)</sup> July 2008
Tailing Launder	December 2004	End of Year 2014 <sup>(3)</sup>	End of Year 2014 <sup>(3)</sup>	---	---	---
<b><i>Mine Stockpile Unit</i></b>						
1C/7A Stockpile Unit	March 2004	November 2012	June 2012	March 2013 <sup>(4)</sup>	October 2005 <sup>(2)</sup> December 2006 <sup>(2)</sup> December 2012 <sup>(2)</sup>	December 2005 March 2007
Copper Mountain Stockpile	June 2000 2014	July 2001 End of Year 2014 <sup>(3)</sup>	July 2001 <sup>(5)</sup>	---	---	---
Mill/Concentrator	August 2004	December 2007	April 2007	January 2008	December 2006	March 2007
<b><i>East Mine Unit</i></b>						
Burro Mountain Tailing Dam	July 2004	February 2005	December 2004	September 2005	December 2006 <sup>(2)</sup>	March 2007
No. 1 Stockpile	February 2005	July 2009	August 2009	December 2009	December 2009 <sup>(2)</sup>	July 2010

**Notes:**

- <sup>(1)</sup> – Substantial completion of facility reclamation
- <sup>(2)</sup> – Request for partial financial assurance reduction for facility
- <sup>(3)</sup> – Projected completion of final reclamation activities at facility
- <sup>(4)</sup> – Draft submittal
- <sup>(5)</sup> – Original seeding completion date, areas to be further reclaimed and will also be re-seeded by the end of year 2014





Table 4-1: Summary of Buildings/Facilities to be Demolished

Tyrone Tag No.	Description	Dimensions <sup>1</sup> (LxWxH, feet)	Quantity (cubic feet)
<b>Mine Maintenance Facilities Area</b>			
MM-06	Jerome Building	204 x 63 x 50	642,600
MM-07	Plant Warehouse	250 x 100 x 28	700,000
MM-09	Electric Shop	120 x 51 x 50	306,000
MM-10	Pipe Shop	145 x 41 x 40	237,800
MM-11	Carpenter Shop	119 x 69 x 27	221,697
MM-12	Lumber Storage	102 x 61 x 33	205,326
MM-13	Shovel Repair	121 x 70 x 66	559,020
MM-14	Environmental Lab	112 x 27 x 17	51,408
<b>SX/EW Plant Area</b>			
--	Tankhouse	150 x 465 x 30	2,092,500
--	SX/EW Plant Area Shop	31 x 71 x 30	66,030
--	Leach Crew Office	15 x 15 x 15	3,375
--	SX/EW Warehouse	48 x 150 x 20	144,000
--	Gonzales Cells	25 x 52 x 10	13,000
--	Jamison Cells	35 x 44 x 10	15,400
--	Organic Tanks (4)	4 x 32D x 16H	51,472
--	Mixer/Settler Tanks (8)	200 x 366 x 10	732,000
--	Tank Farm (5)	92 x 370 x 10	340,400
--	Water Tank	1 x 30D x 16H	11,310
--	Acid Tanks (2)	2 x 20D x 16H	10,053
--	MCC Building	14 x 30 x 12	5,040
--	Tool Room and Storage	60 x 70 x 12	50,400
--	Chlorinator Room	19 x 66 x 12	15,048
--	2A West Raff Tank	30 x 46 x 16	22,080
--	Rectifiers	20 x 24 x 12	5,760
--	Workroom	66 x 75 x 12	59,400
--	Pump Mixer Control Room	41 x 41 x 12	20,172
--	Cobalt Sulfate Tank	1 x 18D x 16H	4,071
--	Reagent Tanks (2)	25 x 36 x 12	10,800
--	Tool Room	8 x 32 x 12	3,072
<b>SX/EW Plant Area (cont.)</b>			
--	Diluent Storage Tank	1 x 18H x 16D	3,619

Table 4-1: Summary of Buildings/Facilities to be Demolished

Tyrone Tag No.	Description	Dimensions <sup>1</sup> (LxWxH, feet)	Quantity (cubic feet)
--	Pacesetter Filters (2)	48 x 80 x 12	46,080
--	Wash Pad	45 x 68 x --	3,060
<b>Lubrication Shop Area</b>			
--	Prill Tanks (2)	2 x (20D x 35H)	10,996
--	Lubrication Shop	60 x 110 x 35	231,000
--	Southwest Energy Building	42 x 42 x 19	33,516
--	Electric Power Substation	52 x 36 x 10	18,720
--	Powder Magazines (3)	10 x 10 x 10	3,000
--	Storage Sheds	110 x 60 x 10	66,000
--	Lube Shop Addition	50 x 70 x 17	59,500
--	#2 Fuel Dock Concrete Slab	14 x 12 x --	588
<b>Acid Unloading Facility &amp; Former Precipitation Area</b>			
--	Acid Unloading Facility	20 x 10 x 20	4,000
--	Former Precipitation Plant Building	400 x 100 x 16 <sup>1</sup>	640,000
<b>Mill and Concentrator Area</b>			
MC-15	Warehouse and Core Storage	235 x 101 x 33	783,255
MC-20	Reagent Building	150 x 50 x 16	120,000
MC-21	Fuel Station	60 x 50 x --	3,000
MC-22	Tire Shop	79 x 44 x 23	79,948
MC-27	Inactive Diesel Tanks (2 each)	2 x 20 x 15	9,425
<b>2B Leach (Little Rock Haul Road Fuel Dock Area)</b>			
--	Fuel Dock	70 x 40 x --	2,800

**Notes:**

<sup>1</sup> Length and width of facility determined from facility map, height of facility assumed. For tanks, the length (L), diameter (D), and Height (H) are provided.

**Table 4-2: Summary of Key Design Criteria for Facilities to be Closed**

**Stockpiles Regrading Outside OPSDA– applicable to No.'s. 2A, 3A, 4B, 4C, and 7B Leach; 2B, 5A, and 9A Waste; all but the interior slopes of the 1A, 1B, 2B, 2C, 4A, 6B, and 6C Leach; all but the interior slopes of the 3B Waste (Stockpile No.'s 1, 1C, and 7A have been reclaimed; Copper Mountain Leach is projected to be reclaimed by the EOY 2014).**

- Outslopes to be graded to a maximum inter-bench slope of 3.0H:1V
- Maximum uninterrupted slope length of 200 feet for outslopes
- Terrace benches will have maximum bench width of 32 feet
- Bench longitudinal slopes at between 1 and 5 percent
- Bench cross slopes and channels at a maximum of 5 percent
- Top surfaces graded at 1 to 5 percent
- Regrading to be done in such a manner that orients surface water conveyances to the exterior perimeter of the stockpiles
- Slope channels will be located where possible in natural junctions or drainage chutes, but all channels will contain riprap and energy dissipation structures as appropriate
- Top surfaces and outslopes to be covered with 36 inches of Gila Conglomerate (or other suitable material)
- Top surfaces and outslopes to be revegetated in accordance with Appendix C of the MMD Permit
- A moderate maintenance program will be acceptable until cover vegetation establishes

**Stockpiles Regrading Inside OPSDA– applicable to 8C Waste and future Savanna Leach; interior slopes of the 1A, 1B, 2B, 2C, 4A, 6B, and 6C Leach; interior slopes of the 3B Waste. (Copper Mountain Leach is projected to be reclaimed by the EOY 2014)**

- Top surfaces graded at 1 to 5 percent
- Top surfaces to be covered with 36 inches of Gila Conglomerate (or other suitable material)
- Outslopes to remain at angle of repose
- No terrace benches to be constructed
- Surface water conveyances to be directed to the nearest pit sump
- A moderate maintenance program will be acceptable until cover vegetation establishes

**Exempt Pits (Conditionally Waived) – Main, East Main, Valencia, Savanna, Gettysburg, and Copper Mountain**

- Surface water to be eliminated to the maximum extent practicable with the existing pit extraction systems
- A 6-foot high fence will be installed around the perimeter of the open pits to restrict access to unauthorized personnel, wildlife, or livestock
- Signs will be posted on fencing at 500-ft intervals and all access points, warning of potential hazards present

**Non-Exempt (Non-Waived) Pits – San Salvador Hill and South Rim Pits**

- Regrading/backfilling will be performed to ensure positive drainage from areas to be covered and revegetated and to ensure no ponding occurs on covered surfaces
- Pit slopes to be graded to a maximum inter-bench slope of 3.0H:1V
- Maximum uninterrupted slope length of 200 feet for pit slopes
- Terrace benches will have maximum bench width of 32 feet
- Bench longitudinal slopes at between 1 and 5 percent
- Bench cross slopes and channels at a maximum of 5 percent
- Top surfaces graded between 1 and 5 percent
- Top surface regrading to be done in such a manner that orients surface water conveyances to the exterior perimeter of the covered surfaces
- Slope channels will be located where possible in natural junctions or drainage chutes, but all channels will contain riprap and energy dissipation structures as appropriate
- Top surfaces and pit slopes to be covered with 36 inches of Gila Conglomerate (or other suitable material)
- Top surfaces and pit slopes to be revegetated in accordance with Appendix C of the MMD Permit
- A moderate maintenance program will be acceptable until cover vegetation establishes

**Table 4-2: Summary of Key Design Criteria for Facilities to be Closed****Pipelines (applies to process water, PLS and raffinate pipelines that will not be used in closure/post closure water management & water treatment, pipelines located outside the OPSDA, and pipelines located outside the regrade footprint of stockpiles)**

- Residual sediments and fluids will be removed and disposed of on-site
- Pipelines located within the regraded footprint of the stockpiles that will not be part of the post-closure water management and water treatment system will be crushed and covered as part of the stockpile regrading and cover placement of these facilities
- Pipelines to be removed and/or buried if they are a potential source of contamination, otherwise they can be left in place, capped, and buried
- Impacted soils along corridor will be removed unless they are on a stockpile, within the OPSDA, or within the regrade footprint of these facilities
- Pipelines that are left in place will be covered with 36 inches of cover material (assuming they are not already covered with 36 inches of suitable cover)
- Where pipelines are removed, corridor will be ripped and revegetated in accordance with Appendix C of the MMD Permit
- A moderate maintenance program will be acceptable until cover vegetation establishes

**Haul Roads (all haul roads except those located within OPSDA or PMLU access roads)**

- Culverts to be removed where practicable, unless they serve a post closure purpose
- Where located on acid-generating material, surface to be covered with 36 inches of Gila Conglomerate (or other suitable material)
- Where located on non-acid-generating material, surface to be ripped and revegetated in accordance with Appendix C of the MMD Permit
- Cover surfaces to be revegetated in accordance with Appendix C of the MMD Permit
- A moderate maintenance program will be acceptable until cover vegetation establishes

**Surface Impoundments (all surface impoundments outside the regrade footprint of stockpiles, those impoundments that will serve a post-closure function will be closed at the completion of water treatment)**

- Pumping of remaining water in the impoundments and tanks to an approved discharge point or allowed to evaporate
- Flushing of pipelines that will not be part of the post-closure water management and water treatment system to remove residual solutions and dispose of them in an approved manner
- Grading to achieve drainage
- Placement of 36-inches of suitable cover material in areas containing contaminated material
- Synthetic liners (if present) left in place and ripped, or removed
- Removal of all aboveground electrical systems and infrastructure, including outdoor lighting and transmission lines, not used in the industrial PMLU or not necessary for site operations and maintenance, including water treatment
- Areas revegetated in accordance with Appendix C of the MMD Permit

**Notes:**

MMD = Mining and Minerals Department

PMLU = Post Mining Land Use

OPSDA = Open Pit Surface Drainage Area

Table 5-1: Post-Closure Surface Impoundments

Impoundment Designation <sup>1</sup>	Surface Area <sup>1</sup> (acres)	Post-Closure Use	Liner <sup>1</sup>	Status
<b>Facility Area 2 – Southern Mangas Valley Tailing Unit</b>				
No. 1X Tailing Seepage Collection Pond (1X-1) <sup>3</sup>	0.81	Seepage Collection	Synthetic	Existing
<b>DP-166 No. 2 Leach System, SX/EX Plant, Open Pits</b>				
Seep Collection DC2-1 Replacement <sup>2</sup>	0.02	Seepage Collection	Synthetic	Existing in 2014
Seep 2 Collection	0.002	Seepage Collection	None	Existing
Seep 3 Replacement Collection <sup>2</sup>	0.02	Seepage Collection	Synthetic	Existing in 2014
Seep 4 Replacement Collection <sup>2</sup>	0.02	Seepage Collection	Synthetic	Existing in 2014
Seep 5E Replacement Collection <sup>2</sup>	0.02	Seepage Collection	Synthetic	Existing in 2014
Seep 9 Collection	--	Seepage Collection	None	Existing
Main Pit Sump <sup>3</sup>	15.43	Pit Dewatering	None	Existing
Copper Mountain Pit Sump <sup>3</sup>	2.64	Pit Dewatering	None	Existing
No. 2 PLS Pond <sup>3</sup>	1.22	Water Treatment	Synthetic	Existing
No. 2A Decant Ponds <sup>3</sup>	4.42	Pit Dewatering	Synthetic	Existing
4C PLS Pond <sup>3</sup>	0.495	Water Treatment	Synthetic	Existing
Future 6150 Pond <sup>3</sup>	0.46	Water Treatment	Synthetic	Existing in 2014
North Racket PLS Pond <sup>3</sup>	0.93	Water Treatment	Synthetic	Existing
SX/EW PLS Feed Pond <sup>3</sup>	0.39	Water Treatment	Synthetic	Existing
5E Pond 2	0.36	Seepage Collection	Synthetic	Existing
<b>DP-286 No. 3 Leach System</b>				
No. 3A PLS Pond <sup>3</sup>	1.67	Water Treatment	Synthetic	Existing
No. 3A PLS Overflow Pond <sup>3</sup>	1.43	Overflow for Water Treatment	Synthetic	Existing
Crusher Pond	0.37	Stormwater	None	Existing
Tailing Thickeners (eight)	1.08	Water Treatment	Synthetic & Concrete lined	Existing
Plant Oxidation Pond (a)	0.28	Sewage/Stormwater	Synthetic	Existing
Plant Oxidation Pond (b)	0.3	Sewage/Stormwater	Synthetic	Existing
SPCC Pond	0.96	Stormwater	Synthetic	Existing
New Seepage Collection AST	--	Seepage Collection	Fiberglass	To be Installed
New Overflow Pond	--	Overflow for Seepage Collection	Synthetic	To be Installed
<b>DP-363 No. 1A and 1B Leach Systems</b>				
No. 1A PLS Tank <sup>3</sup>	0.01	Seepage Collection	Stainless Steel	Existing
No. 1A PLS Overflow Pond <sup>3</sup>	1.24	Overflow for Seepage Collection	Synthetic	Existing
<b>DP-363 No. 1A and 1B Leach Systems (cont.)</b>				

Table 5-1: Post-Closure Surface Impoundments

Impoundment Designation <sup>1</sup>	Surface Area <sup>1</sup> (acres)	Post-Closure Use	Liner <sup>1</sup>	Status
No. 1B PLS Tank <sup>3</sup>	0.02	Seepage Collection	Stainless Steel	Existing
No. 1B Overflow Pond <sup>3</sup>	1.24	Overflow for Seepage Collection	Synthetic	Existing
<b><i>DP-396 No. 1C Waste Rock Stockpile</i></b>				
Oak Grove Pond	0.18	Stormwater/Overflow for Seepage Collection	Synthetic	Existing
<b><i>DP-435 No. 2A and 2B Leach Systems, and 2B and 9A Waste Rock Stockpiles</i></b>				
No. 2A (b) Surge Pond	0.46	Water Treatment	Synthetic	Existing
No. 2A East PLS Overflow <sup>3</sup>	0.49	Water Treatment	Synthetic	Existing
<b><i>DP-455 Gettysburg Pit, Savanna Pit and East Main Leach System</i></b>				
Gettysburg Collection Pit (a)	0.17	Pit Dewatering/ Water Treatment	Unlined	Existing
6C-2 PLS Collection Pond <sup>3</sup>	0.0	Water Treatment	Synthetic	Existing
East Main Booster Pond <sup>3</sup>	0.16	Pit Dewatering/ Water Treatment	Synthetic	Existing
Savanna Pit Sump	0.07	Stormwater	Synthetic	Existing
<b><i>DP-896 No. 1 Leach Stockpile</i></b>				
No. 1 Overflow Pond	0.17	Overflow for Seepage Collection	Synthetic	Existing
No. 1 Stockpile Seepage AST	0.001	Seepage Collection	Fiberglass	Existing

**Notes:**

AST = Above-ground storage tank

PLS = pregnant leach solution

<sup>1</sup>. DBS&A. *Tyrone Mine Surface Impoundment Study Work Plan, DP-1341 Condition 87*. November 13, 2006.<sup>2</sup>. Structure will be covered and will need to be replaced based on reclamation designs presented in Appendix A<sup>3</sup>. Based on information provided by Tyrone Hydrometallurgical Division and Environmental Department. The 4C and 6C PLS collection ponds are actually collection points with drains at the base and do not store PLS.

**Table 7-1: Proposed Interim Seed Mix and Rates for the Tyrone Mine Reclamation Sites**

Species <sup>a</sup>	Life-Form	Duration <sup>b</sup>	Seasonality	Rate <sup>a,c</sup>
<b>Primary</b>				
Blue grama ( <i>Bouteloua gracilis</i> )	Grass	Per	Warm	0.25
Side-oats grama ( <i>Bouteloua curtipendula</i> )	Grass	Per	Warm	1.25
Black grama ( <i>Bouteloua eriopoda</i> )	Grass	Per	Warm	0.10
Green sprangletop ( <i>Leptochloa dubia</i> )	Grass	Per	Warm	0.15
Plains lovegrass ( <i>Eragrostis intermedia</i> )	Grass	Per	Intermediate	0.05
Bottlebrush squirreltail ( <i>Sitanion hystrix</i> )	Grass	Per	Cool	1.25
New Mexico needlegrass ( <i>Stipa neomexicana</i> )	Grass	Per	Cool	1.75
Streambank wheatgrass ( <i>Agropyron dastachyum</i> v. <i>riparium</i> )	Grass	Per	Cool	1.50
Apache plume ( <i>Fallugia paradoxa</i> )	Shrub	Per	NA	0.10
Mountain mahogany ( <i>Cercocarpus montanus</i> )	Shrub	Per	NA	1.00
Winterfat ( <i>Eurotia lanata</i> )	Shrub	Per	NA	0.60
Yellow sweet clover ( <i>Melilotus officinalis</i> )	Forb	Ann	NA	0.15
Globe mallow ( <i>Sphaeralcea</i> sp.)	Forb	Per	NA	0.10
Blue flax ( <i>Linum lewisii</i> )	Forb	Per	NA	0.15
<b>Total PLS (lb/ac)</b>				<b>8.40</b>
<b>Alternate</b>				
Needle-and-thread ( <i>Stipa comata</i> )	Grass	Per	Cool	ND
Thickspike wheatgrass ( <i>Agropyron dastachyum</i> )	Grass	Per	Cool	ND
Smooth brome ( <i>Bromus inermis</i> )	Grass	Per	Cool	ND
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	Grass	Per	Intermediate	ND
Tobosa ( <i>Hilaria mutica</i> )	Grass	Per	Warm	ND
Bush muhly ( <i>Mohlenbergia porteri</i> )	Grass	Per	Warm	ND
Squawberry ( <i>Rhus trilobata</i> )	Shrub	Per	NA	ND
Rubber rabbitbush ( <i>Chrysothamnus nauseosus</i> )	Shrub	Per	NA	ND
Prairie coneflower ( <i>Ratibida columnaris</i> )	Forb	Per	NA	ND
White sweet clover ( <i>Melilotus alba</i> )	Forb	Ann	NA	ND

**Notes:**<sup>a</sup> Seed mix and rates are subject to change based on future investigations<sup>b</sup> Per – Perennial; Ann = Annual<sup>c</sup> Rate is in pounds of pure live seed per acre; substitutions may change seeding rates

lb/ac = pounds per acre

NA = Not applicable

ND = Not determined

PLS = Pure live seed

**Table 7-2: Functions and Attributes of the Primary Plant Species Proposed for the Tyrone Mine Reclamation Sites**

Species	Character <sup>a</sup>	Attributes and Function
Blue grama ( <i>Bouteloua gracilis</i> )	N,P,W,G	Sod and bunch grass providing ground cover and forage
Side-oats grama ( <i>Bouteloua curtipendula</i> )	N,P,W,G	Bunch grass providing ground cover and forage
Black grama ( <i>Bouteloua eriopoda</i> )	N,P,W,G	Bunch grass providing ground cover and forage
Green sprangletop ( <i>Leptochloa dubia</i> )	N,P,W,G	Erect bunch grass; aggressive short-lived nurse plant with forage value
Plains lovegrass ( <i>Eragrostis intermedia</i> )	N,P,C,G	Bunch grass providing ground cover and early spring forage
Bottlebrush squirreltail ( <i>Sitanion hystrix</i> )	N,P,C,G	Persistent (moderately palatable) bunch grass providing ground cover
New Mexico needlegrass ( <i>Stipa neomexicana</i> )	N,P,C,G	Persistent bunch grass providing ground cover and forage
Streambank wheatgrass ( <i>Agropyron dastachyum v. riparium</i> )	N,P,C,G	Sod-forming grass providing ground cover and forage
Apache plume ( <i>Fallugia paradoxa</i> )	N,P,S	Mid-height shrub providing browse, cover, and erosion control
Mountain mahogany ( <i>Cercocarpus montanus</i> )	N,P,S	Mid-height to tall shrub providing browse and cover
Winterfat ( <i>Eurotia lanata</i> )	N,P,HS	Low shrub providing winter browse
Yellow sweet clover ( <i>Melilotus officinalis</i> )	I,A/B,F	Nitrogen-fixing forb providing forage and ground cover
Globe mallow ( <i>Sphaeralcea</i> sp.)	N,P,F	Persistent mid-height forb providing browse
Rubber rabbitbush ( <i>Chrysothamnus nauseosus</i> )	N,P,S	Mid-height shrub providing cover and erosion control
Blue flax ( <i>Linum lewisii</i> )	N,P,F	Persistent forb with a pretty blue flower

**Notes:**

<sup>a</sup> A/B = Annual or biannual; C = Cool season; F = Forb; G = Grass; I = Introduced; N = Native; P = Perennial; S = Shrub HS = Half shrub; W = Warm season



**Table 7-3: Post-Mining Land Use Designations of Tyrone Mine Buildings**

Tyrone Tag No.	Description	Dimensions <sup>1</sup> (LxWxH, feet)	PMLU <sup>3</sup> .	Description
<b>Mine Maintenance Facilities Area</b>				
MM-01	General Office	195 x 114 x 23	Industrial	Multiple office space, large open bays
MM-02	Mine Operations Office	254 x 60 x 33	Industrial	Multiple office space and change rooms
MM-03	Security	41 x 26 x 17	Industrial	Truck scale
MM-04	Safety Building	80 x 24 x 20	Industrial	Multiple office spaces and classrooms
MM-05	Human Resources/Training	102 x 41 x 20	Industrial	Multiple office spaces and classrooms
MM-06	Jerome Building	204 x 63 x 50	Wildlife Habitat	To be demolished
MM-07 <sup>6</sup> .	Plant Warehouse	250 x 100 x 28	Wildlife Habitat	To be demolished
MM-08	Truck Shop/Machine Shop/Welding Shop	344 x 236 x 60	Industrial	Overhead cranes (five 35-ton and one 20-ton)
MM-09	Electric Shop	120 x 51 x 50	Wildlife Habitat	To be demolished
MM-10	Pipe Shop	145 x 41 x 40	Wildlife Habitat	To be demolished
MM-11	Carpenter Shop	119 x 69 x 27	Wildlife Habitat	To be demolished
MM-12	Lumber Storage	102 x 61 x 33	Wildlife Habitat	To be demolished
MM-13	Shovel Repair	121 x 70 x 66	Wildlife Habitat	To be demolished
MM-14	Environmental Lab	112 x 27 x 17	Wildlife Habitat	To be demolished
MM-15	Chapel	50 x 25 x ___ <sup>7</sup>	Industrial	Potential historic building; (Poor condition rating <sup>2</sup> .)
MM-16	Electrical Building & Chlorine Shack	35 x 35 x 10	Industrial	Potable water supply
MM-18	Analytical Lab	120 x 50 x 14	Industrial	
MM-20	Diesel Tank Farm	120 x 120 x ___	Industrial	
MM-21	Electrical Power Substation	180 x 120 x ___	Industrial	
MM-24	Fire Truck Barn	25 x 25 x 12	Industrial	
MM-25	Ambulance Barn	35 x 25 x 12	Industrial	



**Table 7-3: Post-Mining Land Use Designations of Tyrone Mine Buildings**

Tyrone Tag No.	Description	Dimensions <sup>1</sup> (LxWxH, feet)	PMLU <sup>3</sup> .	Description
<b>SX/ EW Plant Area</b>				
--	Tankhouse	150 x 465 x 30	Wildlife Habitat	To be demolished <sup>3</sup> .
--	SX/EW Plant Area Shop	31 x 71 x 30	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Leach Crew Office	15 x 15 x 15	Wildlife Habitat	To be demolished <sup>3</sup> .
--	SX/EW Warehouse	48 x 150 x 20	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Substation	100 x 90 x 10	Industrial	Remain for post-closure use
--	Raffinate Storage Tanks (2)	120 dia x 34 65 dia x 16	Industrial	Remain for post-closure use
--	Gonzales Cells	25 x 52 x 10	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Jamison Cells	35 x 44 x 10	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Organic Tanks (4)	2 x 32 x 16	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Mixer/Settler Tanks (8)	200 x 366 x 10	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Tank Farm (5)	92 x 370 x 10	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Water Tank	1 x 30 x 16	Wildlife Habitat	To be demolished <sup>3</sup> .
--	PLS Feed Pond	130 x 130 <sup>7</sup>	Industrial	Remain for post-closure use
--	Acid Tanks (2)	2 x 20 x 16	Wildlife Habitat	To be demolished <sup>3</sup> .
--	MCC Building	14 x 30 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Tool Room and Storage	60 x 70 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Chlorinator Room	19 x 66 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .
--	2A West Raff Tank	30 x 46 x 16	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Rectifiers	20 x 24 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Workroom	66 x 75 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Pump Mixer Control Room	41 x 41 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .



Table 7-3: Post-Mining Land Use Designations of Tyrone Mine Buildings

Tyrone Tag No.	Description	Dimensions <sup>1</sup> (LxWxH, feet)	PMLU <sup>3</sup> .	Description
--	Cobalt Sulfate Tank	1 x 18 x 16	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Reagent Tanks	25 x 36 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Tool Room	8 x 32 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Diluent Storage Tank	1 x 18 x 16	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Pacesetter Filters (2)	48 x 80 x 12	Wildlife Habitat	To be demolished <sup>3</sup> .
--	Wash Pad	45 x 68	Wildlife Habitat	To be demolished <sup>3</sup> .
<b>Lubrication Shop Area</b>				
--	Prill Tanks (2 each)	20 ft dia. x 35 ft high each <sup>7</sup>	Waiver Area	To be demolished
--	Dispatch Building	NA	Waiver Area	Demolished
--	Lubrication Shop	110 x 60 x 35 <sup>7</sup>	Waiver Area	Future borrow pit area
--	Southwest Energy Building	42 x 42 x 19 <sup>7</sup>	Not Specified	Owned by others
--	Electric Power Substation	52 x 36 x 10 <sup>7</sup>	Waiver Area	Future borrow pit area
--	Powder Magazines (3)	10 x 10 x 10 <sup>7</sup>	Waiver Area	Future borrow pit area
--	Storage Sheds	110 x 60 x 10 <sup>7</sup>	Waiver Area	To be demolished
--	Lube Shop Addition	50 x 70 x 17	Waiver Area	To be demolished
--	#2 Fuel Dock Concrete Slab	14 x 12 x --	Waiver Area	To be demolished

Table 7-3: Post-Mining Land Use Designations of Tyrone Mine Buildings

Tyrone Tag No.	Description	Dimensions <sup>1</sup> (LxWxH, feet)	PMLU <sup>3</sup> .	Description
<b>Acid Unloading Facility &amp; Former Precipitation Area</b>				
--	Acid Unloading Facility	20 x 10 x 20 <sup>7</sup>	Wildlife	Demolish and salvage <sup>1</sup> .
--	Former Precipitation Plant Building	400 x 100 <sup>7</sup>	Wildlife	Demolish and salvage <sup>1</sup> .
<b>Mill and Concentrator Area</b>				
MC-01	Tailing Thickeners (8)	325 ft dia.	Industrial	Reserved for water treatment
MC-02	Reclaim Water Storage Tanks (3)	1 at 60 ft dia & 2 at 40 ft dia	Industrial	Reserved for water supply
MC-04	Reclaim Water Pump House	138 x 60 x 10	Industrial	Demolish <sup>2</sup> . (Pumps (9X), 7-ton overhead crane (trolley only))
MC-05	Terminal Tanks (3each)	150 ft dia. <sup>7</sup>	Industrial	Pumps
MC-06	Flotation Units (3each)	NA	Wildlife Habitat	Demolished <sup>4</sup> .
MC-07	Secondary Crusher	NA	Wildlife Habitat	Demolished <sup>4</sup> .
MC-08	Mill Pumphouse	NA	Wildlife Habitat	Demolished <sup>4</sup> .
MC-09	SX/EW Changeroom	NA	Wildlife Habitat	Demolished <sup>4</sup> .
MC-10	Intermediate Ore Storage	NA	Wildlife Habitat	Demolished <sup>4</sup> .
MC-11	Primary Crusher	NA	Wildlife Habitat	Demolished <sup>4</sup> .
MC-12	Process Water Tanks	NA	Wildlife Habitat	Demolished <sup>4</sup> .
MC-13	Concentrator-Filter Plant & Dryer	NA	Wildlife Habitat	Demolished <sup>4</sup> .
MC-14	Lime Storage	NA	Industrial	Demolished <sup>4</sup> .
MC-15	Warehouse and Core Storage <sup>6</sup> .	235 x 101 x 33	Wildlife Habitat	To be demolished <sup>3</sup> .

**Table 7-3: Post-Mining Land Use Designations of Tyrone Mine Buildings**

Tyrone Tag No.	Description	Dimensions <sup>1</sup> (LxWxH, feet)	PMLU <sup>3</sup> .	Description
MC-16	Warehouse/Concentrate Unloading	NA	Wildlife Habitat	Demolished <sup>4</sup>
MC-17	Radiators/Power Plant (Powerhouse <sup>6</sup> )	420 x 120 x 30	Industrial	15 diesel engine generators
MC-19	Concentrator Building	NA	Wildlife Habitat	Demolished <sup>4</sup>
MC-20	Reagent Building	NA	Wildlife Habitat	To be demolished
MC-21	Fuel Station	60 x 50	Wildlife Habitat	To be demolished <sup>3</sup> .
MC-22	Tire Shop	79 x 44 x 23	Wildlife Habitat	To be demolished <sup>3</sup> .
MC-24	Spigot Underflow Pump house	60 x 50 x ___ <sup>7</sup>	Industrial	Demolished
MC-25	Tailing Pump house	110 x 50 x ___ <sup>7</sup>	Industrial	Raw water pumps, 5-ton overhead crane
MC-27	Inactive Diesel Storage Tanks (2)	1 x 20 x 15	Wildlife Habitat	To be demolished <sup>2,3</sup>

**Notes:**

LxWxH = Length by Width by Height in feet

Dia = Diameter

ft = feet

<sup>1</sup>. Identified in the 2001 CCP (M3, 2003).<sup>2</sup>. Modified per MMD letter (MMD Response to January 15, 2004 Building Inspection Report) to Phelps Dodge Tyrone, Inc. dated February 10, 2004.<sup>3</sup>. Permit Revision 01-1 to Permit GR010RE, Tyrone Mine, Appendix D. April 12, 2004<sup>4</sup>. "Tyrone Mine Financial Assurance Reduction" letter (December 29, 2006).<sup>5</sup>. Based on Regrading Plans included in Appendix A of this CCP.<sup>6</sup>. Identified in "Tyrone Mine Industrial PMLU Building Use Information and Justification. March 19, 2004.<sup>7</sup>. Golder Associates Inc. estimate from site drawings.

**Table 7-4: Proposed Plant Diversity Guidelines for the Tyrone Mine**

Class	Seasonality	Number	Minimum Occurrence (% cover)
Perennial grass	Warm	3	1
Perennial grass	Cool	1	0.5
Perennial shrub	NA	2	1
Forbs	NA	2	0.1

**Notes:**

NA = Not applicable

**Table 9-1: Reclamation Schedule for Tyrone**

Unit	Anticipated or Actual Start Date for Reclamation to Begin <sup>a</sup>	Anticipated Duration (Years) <sup>b</sup> or Completion Date
No. 1A Leach Stockpile <sup>c</sup>	180 days following Cessation of Operation	2
No. 1B Leach Stockpile <sup>c</sup>	180 days following Cessation of Operation	2
No. 2A Leach Stockpile <sup>f</sup>	180 days following Cessation of use of facility in PSE system	2
No. 2B Leach Stockpile <sup>c</sup>	180 days following Cessation of Operation	1
No. 2C/4A/4B/7B Leach Stockpile <sup>c, d, e</sup>	180 days following Cessation of use of facility in PSE system	2
No. 3A Leach Stockpile <sup>f</sup>	180 days following Cessation of use of facility in PSE system	2.5
No. 4C Leach Stockpile <sup>f</sup>	180 days following Cessation of use of facility in PSE system	2
No. 6B Leach Stockpile <sup>c, g</sup>	180 days following Cessation of use of facility in PSE system	1
No. 6C Leach Stockpile <sup>c, f</sup>	180 days following Cessation of use of facility in PSE system	2
Copper Mountain Leach Stockpile <sup>c</sup>	180 days following Cessation of Operation	1
2B Waste Rock Stockpile	180 days following Cessation of Operation	2
3B Waste Rock Stockpile <sup>c</sup>	180 days following Cessation of Operation	2
7C Waste Rock Stockpile	180 days following Cessation of Operation	2
5A Overburden Stockpile	180 days following Cessation of use as a borrow source for cover material	2
9A Overburden Stockpile	180 days following Cessation of use as a borrow source for cover material	1
Future Savanna Pit Stockpile <sup>c, h</sup>	180 days following Cessation of use of facility in PSE system	1
Future 8C Sludge Disposal Stockpile <sup>i</sup>	180 days following Cessation of sludge disposal from water treatment plant operations	N/A
San Salvador Hill Pit	180 days following Cessation of Operation	2
South Rim Pit	180 days following Cessation of Operation	2
Building/Structure Demolition (non-IPMLU)	180 days following Cessation of Operation	2
Reclamation of Roads	180 days following Cessation of Operation	1
Surface Impoundments (non-PMLU)	180 days following Cessation of Operation	1
Process Solution Elimination	Immediately following Cessation of Operation	6
Water Treatment Plant Construction	Construction of WTP one year prior to completion of PSE	1

**Notes:**

PMLU = post-mining land use

PSE = process solution elimination

WTP = water treatment plant. Construction of the WTP will be initiated one year prior to completion of operation of the PSE system

- <sup>a</sup> Anticipated start dates are subject to modification; actual start dates are associated with facilities under current reclamation; if cessation occurred for multiple facilities at the same time, the duration for reclamation of the facilities is approximately the sum of the durations for each facility.
- <sup>b</sup> Estimated duration for facility reclamation does not include regulatory design review and approval processes; estimated completion date for facilities with ongoing reclamation are based on existing reclamation progress and future forecast for facility completion; some borrow areas may be left open to be used in maintenance activities on the primary reclaimed facilities.
- <sup>c</sup> Leach stockpiles located inside the OPSDA include the future Savanna Pit Stockpile; and the interior slopes of the 1A, 1B, 2B, 2C, 4A, 6B, 6C, Copper Mountain stockpiles. The waste rock stockpiles located inside the OPSDA include the 8C, and the interior slopes of the 3B Stockpile. Only the top surfaces of the stockpiles located within the OPSDA will be reclaimed.
- <sup>d</sup> The 2C, 4A, 4B, and 7B leach stockpiles are treated as one consolidated reclamation unit at the end of year 2014 based on the FMI 2014 mine plan.
- <sup>e</sup> The top surface area of this facility (or portions thereof) will be utilized for all 6 years of operation of the process solution elimination (PSE) system. Cessation of Operation of this facility is considered the end of the 6 year PSE period.
- <sup>f</sup> The top surface area of this facility (or portions thereof) will be utilized for the first year of operation of the PSE system. Cessation of Operation of this facility is considered the end of the first year of the PSE period.
- <sup>g</sup> The top surface area of this facility (or portions thereof) will be utilized for the first four years of operation of the PSE system. Cessation of Operation of this facility is considered the end of the first four years of PSE operation.
- <sup>h</sup> The top surface area of this facility (or portions thereof) will be utilized for the first five years of operation of the PSE system. Cessation of Operation of this facility is considered the end of the first five years of PSE operation.
- <sup>i</sup> 8C Stockpile is the sludge disposal area for the high-density sludge produced from the WTP. This area is located within the OPSDA and is included in the reclamation plan