NEW MEXICO COPPER CORPORATION

NEW MINE PERMIT No. SI027RN

UPDATED MINING OPERATION AND RECLAMATION PLAN

FOR ITS

COPPER FLAT MINE

SUBMITTED TO

NEW MEXICO MINING & MINERALS DIVISION PURSUANT TO

19.10.6.602.D.(15) and 19.10.6.603 NMAC

OCTOBER 2016

PREPARED BY

VEMS INC

Velasquez Environmental Management Services Inc.

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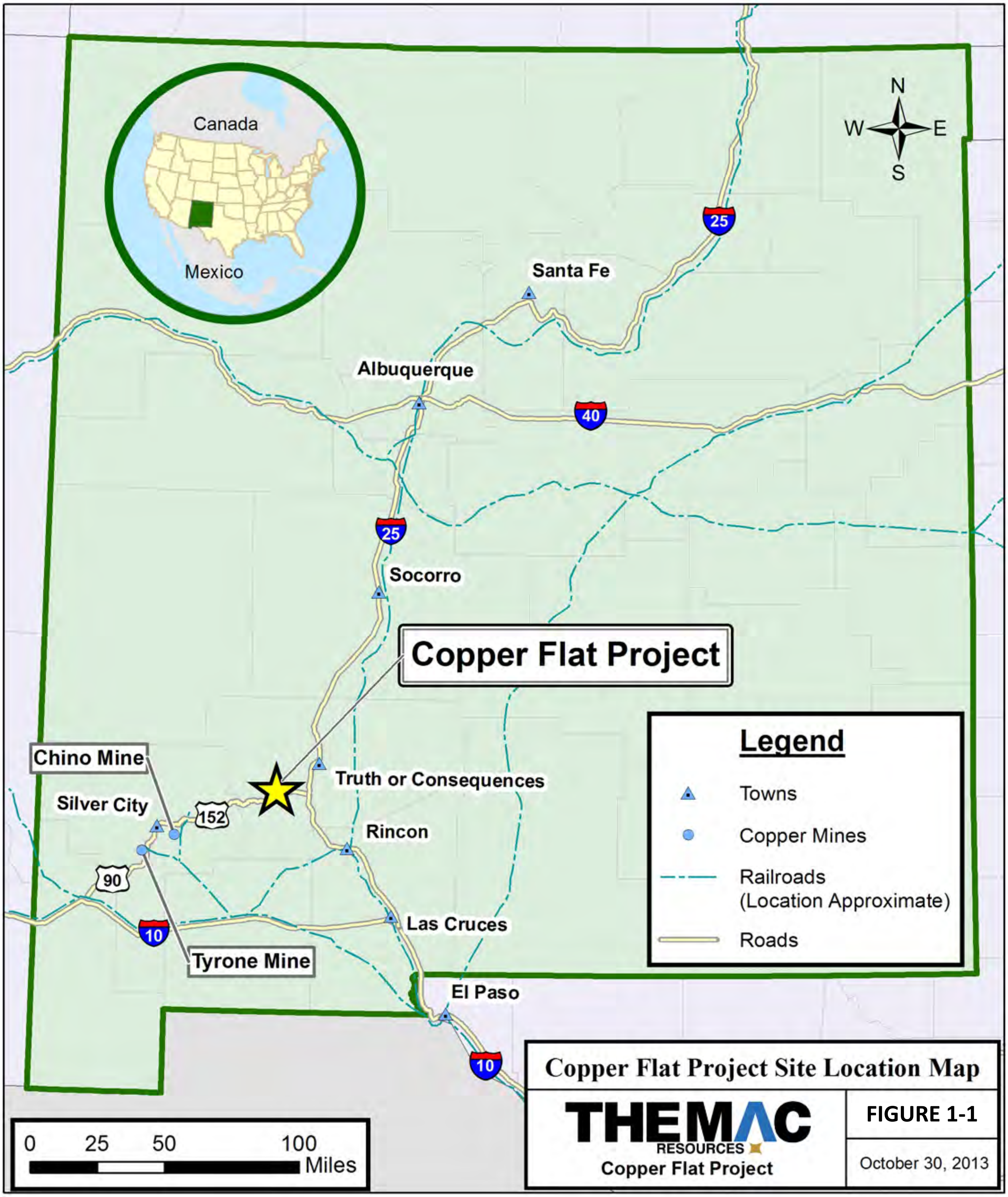
1.0 INTRODUCTION

New Mexico Copper Corporation (NMCC) is developing the Copper Flat Mine located approximately 150 miles south of Albuquerque, New Mexico and 20 miles southwest of Truth or Consequences, NM, north of NM State Highway 152 between the communities of Caballo to the east and Hillsboro to the west in Sierra County, as shown on Figure 1-1. NMCC has proposed to mine approximately 125 million tons of copper ore. Over the life of the mine, it will produce approximately 113 million tons of ore and 33 million tons of waste rock. The mine life for the current reserve is estimated at 11 to 12 years.

On July 18, 2012 NMCC submitted its Permit Application Package (PAP) to the New Mexico Mining and Minerals Division (MMD), including the Mining Operation and Reclamation Plan (MORP) for its Copper Flat Mine Project in Sierra County, NM. On February 18, 2013 the MMD provided comments on NMCC's PAP, including NMCC's Baseline Data Report (BDR) and the MORP. In the intervening time NMCC and MMD have resolved all of MMD's comments related to the BDR with the exception of a determination of the hydrologic consequences of the operation and reclamation on the permit and affected areas as required by 19.10.6.602.D.(13)(g)(v) of the Mining Act regulations. NMCC will submit a revised hydrologic consequences analysis in response to MMD's request under separate cover as an addendum to the BDR when it becomes available.

This document updates NMCC's MORP submittal of July 18, 2012, in particular with respect to Sections 3.15 through 4.8 of the 2012 MORP document. This update addresses proposed mine operations and reclamation and closure of the Copper Flat Project and provides the most recent information available consistent with the information contained in NMCC's Discharge Permit (DP) application submitted to the New Mexico Environment Department (NMED) in December2015 and revised in June 2016, currently undergoing technical review. The information herein is also consistent with the information contained in the Bureau of Land Management's (BLM) draft Environmental Impact Statement (DEIS) published for public comment in November 2015, in particular, with regard to Alternative 2 as described in the DEIS and designated by the BLM as the preferred alternative. This document also takes into account MMD's February 18, 2013 comments and provides more detailed information that may resolve or render a specific comment moot.

This MORP update is organized in a manner that allows the reviewer to compare subsection of 19.10.6.602.D.(15), Description of the Proposed Mine Operation and Reclamation Plan, and 19.10.6.603, Performance and Reclamation Standards and Requirements, of the Mining Act regulations to see how NMCC proposed operations and reclamation of Copper Flat will comply with MMD's Mining Act regulations. Section 2.0 presents NMCC's Mine Operation Plan for Copper Flat and Section 3.0 presents its Reclamation and Closure Plan. The contents of this


Canada
Mexico
N
W
E
S
25
Santa Fe
Albuquerque
40
25
Socorro
Copper Flat Project
Legend
Towns
Copper Mines
Railroads
(Location Approximate)
Roads
Chino Mine
Silver City
152
Truth or Consequences
Rincon
90
Las Cruces
10
Tyrone Mine
El Paso
10
Copper Flat Project Site Location Map
THEMAC
RESOURCES
Copper Flat Project
FIGURE 1-1
October 30, 2013
0
25
50
100
Miles

MORP update are also supported by the appended documents included herewith as well as the other documents included as part of the MORP update by reference herein.

As indicated above, NMCC submitted its DP application to the NMED for review and approval. The DP application was determined administratively complete in December 2015 and is currently undergoing technical review. NMED provided a set comments and a request for additional information in March 2016. NMCC submitted the requested information in June 2016, including a commitment to submit the information contained in this document in response to NMED's request for a more detailed Closure Plan. This MORP update is consistent with and includes much of the same information as was provided to NMED in its DP application. NMCC considers that the Reclamation Plan as contained herein is also the Closure Plan required by the NMED Copper Rules. The DP application as revised in June 2016 is, therefore, included in this MORP by reference.

NMED's requirements for ground water protection during operation of Copper Flat and subsequent reclamation at the end of the project are tied to each other through the New Mexico Mining Act regulations and the New Mexico Water Quality Control Act Copper Rules (NMED Copper Rules) regulatory approval process for the mine. The objective of the Reclamation and Closure Plan is to reclaim and close the facility in a manner protective of ground water in conformance with the NM Copper Rules, meet the reclamation requirements of the New Mining Act and return the mine area to conditions similar to those present before reestablishment of the mine. Reclamation of the site will re-establish the post-mining land uses consistent with the land uses of the site and the surrounding area, i.e., wildlife habitat, grazing, mining and recreation as identified by the Bureau of Land Management in its approved Land Use Management Plan (BLM 1986).

2.0 MINE OPERATIONS PLAN - 19.10.6.602.D.(15)

This Section provides a detailed description of the NMCC's proposed construction and operation of the Copper Flat Project. It is organized to provide the information requested in Sections 19.10.602.D.(15)(a) through (f) of the New Mexico Mining Act regulations and how the operation will meet the performance standards and requirements of 19.10.6.603 NMAC.

2.1 Type & Methods of Mining - 19.10.6.602.D.(15)(a) & (b)

This Section describes the type and method of mining and the engineering techniques proposed at the Copper Flat mine. It contains the required maps and describes the approximate time table and general sequence to be followed in constructing and operating the mine, including the number of acres of land anticipated to be disturbed.

NMCC proposes to construct an open pit mine at its Copper Flat Project. This new facility will entail the expansion of an existing open pit previously developed and operated for a short time in 1982 by Quintana Minerals Corporation (Quintana). A portion of the ore body at Copper Flat is exposed at and near the surface and will be mined by conventional truck and shovel open pit methods. Figure 2-1 is a map of the site as it currently exists, showing the various existing facilities as constructed by Quintana when it operated the mine. Figure 2-2 provides a map of the proposed site facility showing the location of the various features of the project described in more detail later herein. These maps provide the reviewer the ability to differentiate between what currently exists as a disturbance on-site as compared to NMCC's proposed activities.

NMCC proposes to re-establish and expand the previous Quintana mining activities conducted at Copper Flat in 1982. The facilities will be similar to those of the previous operator, including an open pit mine, concentrate production facilities, waste rock stockpiles (WRSPS) and a tailings storage facility (TSF). Upon receiving the required permit approvals the project will begin site preparation and construction for approximately 2 years. The operating life of the project ("life of mine") is anticipated to be 11 to 12 years. Thereafter, the site will be closed and reclaimed per an approved reclamation and closure plan. Table 2-1 provides an approximate timetable indicating development, construction, operation and reclamation of the Copper Flat Project beginning from the time NMCC obtains all of the required permissions and approvals.

NMCC will mine approximately 113 million tons of ore and 45 million tons of waste rock during the operating life of the mine (158 million tons). Annually, the mining operation will supply 8.9 million 10.8 million tons of copper ore to the mill for processing (an average rate of approximately 25.5 to 29.6 thousand tons per day) depending on operational conditions in the concentrator. Table 2-2 shows the estimated annual mine and process production schedule for Copper Flat. Waste rock production will be highest in the early years of

NOTES:

CONCRETE FOUNDATIONS SHOWN REFLECT PLANS BY QUINTANA MINERALS CORPORATION FROM 1981 AND MOST RECENT SURVEY CONDUCTED.

SITE PLAN

SCALE: 1" = 500'

500 250 0 500 1000

SCALE IN FEET

CONTOUR INTERVAL = 10'

DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY

FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE: 1"= 500'		DATE
DESIGNED BY	JPN	OCT 15
DRAWN BY	JPN	OCT 15
CHECKED BY		
PROJECT MGR	RKZ	
CLIENT APPR.		

m3 ARCHITECTURE ENGINEERING CONSTRUCTION MANAGEMENT

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COPPER FLAT PROJECT

SITE GENERAL CIVIL MINE SITE EXISTING CONDITIONS

JOB NO. M3 PN-120085

DWG NO. **FIGURE 2-1**

REV NO. P2 DATE 20 NOV 15

EWRSP = EXISTING WASTE ROCK STOCKPILE
WRSP = WASTE ROCK STOCKPILE

SITE PLAN
SCALE: 1:500

500' 250' 0' 500' 1000'
1" = 500'
DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY
FOR AGENCY REVIEW

THE MAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE: 1" = 500'		DATE
DESIGNED BY	SAM	DEC12
DRAWN BY	SAM	DEC12
CHECKED BY	TDL	JAN13
PROJECT MGR	RKZ	
CLIENT APPR.		

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COPPER FLAT PROJECT

SITE GENERAL
CIVIL
PROJECT AREA
PROPOSED SITE PLAN

JOB NO. M3 PN-120085
DWG NO. **FIGURE 2-2**
REV NO. P18
DATE 16 NOV 15

TABLE 2-1

COPPER FLAT DEVELOPMENT SEQUENCE AND SCHEDULE

Project Build Out Sequence					Project Reclamation Sequence	
		Disturbed Acres				
Year	Project Activity	Facility	Cumulative	19.10.1602.D(15)(c) Reference	Year	Reclamation Activity
1	Mobilize Construction	0.00	0.00	Other Facility or Structures (c)xiii	1	
	Plant Site Grading	84.41	84.41	Other Facility or Structures (c)xiii		
	TSF Phase 1	451.50	535.91	Tailings Storage Facility (c)vii		
	Top Dressing Stockpile 1	29.33	565.24	Topsoil & Topdressing Stockpiles (c)xi		
	Construct Mill	8.51	573.75	Mills (c)viii		
	Construct Ancillary Facilities	8.89	582.64	Other Facility or Structures (c)xiii		
	Storage Areas	3.22	585.86	Storage Areas (c)x		
	EWRSP 1	15.34	601.20	Waste Rock Stockpiles (c)xii		
	EWRSP 2A	8.33	609.53	Waste Rock Stockpiles (c)xii		
	EWRSP 2B	12.73	622.26	Waste Rock Stockpiles (c)xii		
	EWRSP 3	19.54	641.80	Waste Rock Stockpiles (c)xii		
	EWRSP 4	18.10	659.90	Waste Rock Stockpiles (c)xii		
	Mine Haul Roads	5.97	665.87	Waste Rock Stockpiles (c)xii		
	Impoundments : TSF; Proc; SW A	12.92	678.79	Impoundments (c)ii		
	Collection Ditches: SW A	1.38	680.17	Impoundments (c)ii		
2	Top Dressing Stockpile 2	31.55	711.72	Topsoil & Topdressing Stockpiles (c)xi	2	
	Top Dressing Stockpile 3	3.53	715.25	Topsoil & Topdressing Stockpiles (c)xi		
	Construct Ancillary Facilities	21.10	736.35	Other Facility or Structures (c)xiii		
	Open Pit	82.66	819.01	Open Pit (c)vi		
	WRSP 1	3.97	822.98	Waste Rock Stockpiles (c)xii		Reclaim EWRSP 1
	WRSP 2	2.44	825.42	Waste Rock Stockpiles (c)xii		Reclaim EWRSP 2A
	WRSP 3	6.07	831.49	Waste Rock Stockpiles (c)xii		Reclaim EWRSP 2B
	Mine Haul Roads	11.03	842.52	Waste Rock Stockpiles (c)xii		
	EWRSP 4	4.52	847.04	Waste Rock Stockpiles (c)xii		
	Ore Stockpile	2.07	849.11	Ore Stockpiles (c)i		
	Impoundments : Surge; SW B; SW C	8.99	858.10	Impoundments (c)ii		
	Collection Ditches: SW B; SW C	4.42	862.52	Impoundments (c)ii		
3	Top Dressing Stockpile 3	10.58	873.10	Topsoil & Topdressing Stockpiles (c)xi	3	
	Open Pit	66.13	939.23	Open Pit (c)vi		
	WRSP 1	27.80	967.03	Waste Rock Stockpiles (c)xii		
	WRSP 2	4.88	971.91	Waste Rock Stockpiles (c)xii		
	WRSP 3	18.20	990.11	Waste Rock Stockpiles (c)xii		
	TSF Phase 2	28.22	1,018.33	Tailings Storage Facility (c)vii		
4	WRSP 1	7.94	1,026.27	Waste Rock Stockpiles (c)xii	4	
	WRSP 2	19.51	1,045.78	Waste Rock Stockpiles (c)xii		
	WRSP 3	18.20	1,063.98	Waste Rock Stockpiles (c)xii		
	TSF Phase 3	28.22	1,092.20	Tailings Storage Facility (c)vii		
5	Open Pit	8.27	1,100.47	Open Pit (c)vi	5	
	WRSP 2	14.63	1,115.10	Waste Rock Stockpiles (c)xii		
	WRSP 3	18.20	1,133.30	Waste Rock Stockpiles (c)xii		
	TSF Phase 4	28.22	1,161.52	Tailings Storage Facility (c)vii		
6	Open Pit (buildout complete)	8.27	1,169.79	Open Pit (c)vi	6	
	WRSP 1	0.00	1,169.79	Waste Rock Stockpiles (c)xii		
	WRSP 2	4.88	1,174.67	Waste Rock Stockpiles (c)xii		
	WRSP 3	18.20	1,192.87	Waste Rock Stockpiles (c)xii		
7	WRSP 2, 3	2.44	1,195.31	Waste Rock Stockpiles (c)xii	7	
	WRSP 3	18.20	1,213.51	Waste Rock Stockpiles (c)xii		
	TSF Phase 5 (buildout complete)	28.22	1,241.73	Tailings Storage Facility (c)vii		
8	WRSP 3	18.20	1,259.93	Waste Rock Stockpiles (c)xii	8	
9 - 11	WRSP 3 (buildout complete)	6.07	1,266.00	Waste Rock Stockpiles (c)xii	10 - 11	WRSP 3 Contour
12					12	WRSP 3 Contour, TSF Draindown - Active Evaporation
13					13	Pit Rapid Fill, WRSP 2-Upper Lift Contour, WRSP 1-Contour, TSF Draindown - Active Evaporation
14	Mining and Processing Ends				14	Rapid Fill, WRSP-2 Upper Lift Contour, WRSP 1 - Contour, Fill & Contour, WRSP 3, 2, 1, EWRSP 4 Cover & Seed, TSF Draindown - Active Evaporation
15					15	Process Area Demo, Fill & Contour, WRSP 3, 2, 1, EWRSP 3 & 4 Contour, Cover & Seed, Pit Area Contour, TSF Contour, Draindown - Active Evaporation
16					16	Process Area Fill & Contour, WRSP 3, , 2, 1, EWRSP 3 & 4 Contour, Cover, Seed, TSF Contour, Draindown - Active Evaporation
17					17	TSF Contour, Draindown - Active Evaporation
18	Evaporation Pond Construction (Project Buildout Complete)	24.05	1,290.05	Impoundments (c)ii	18	TSF Contour & Cover, Draindown - Active Evaporation, Passive Evaporation
19					19	TSF Contour, Cover, Draindown - Passive Evaporation
20 - 21					20 - 21	TSF Contour, Cover, Seed, Draindown - Passive Evaporation
22 - 38					22 - 38	TSF Draindown - Passive Evaporation
39					39	TSF Evaporation Pond Fill, Cover & Seed

TABLE 2-2
Copper Flat Project
Estimated Mine & Process Scheduler

Period	Ore Annual Kton	WRSP 1 Annual Kton	WRSP 2 Annual Kton	WRSP 3 Annual Kton	Total WRSP Annual Kton	Total Mined Annual Kton	Strip Ratio	Mine Avg TPD	Process Annual Kton	Process Avg TPD
Preproduction	360,000	32,000	30,000	48,000	110,000	470,000	0.31	7,380	0	0
Year 1	8,940,000	2,073,000	1,346,000	5,141,000	8,560,000	17,500,000	0.96	47,950	9,300,000	25,480
Year 2	10,800,000	1,055,000	2,544,000	3,312,000	6,700,000	17,500,000	0.62	47,950	10,800,000	29,590
Year 3	10,800,000	0	1,756,000	4,156,000	6,700,000	17,500,000	0.62	47,950	10,800,000	29,590
Year 4	10,800,000	0	628,000	4,944,000	6,700,000	17,500,000	0.62	47,950	10,800,000	29,590
Year 5	10,800,000	0	0	6,072,000	6,700,000	17,500,000	0.62	47,950	10,800,000	29,590
Year 6	10,250,000	0	0	5,924,000	5,924,000	15,949,000	0.59	43.700	10,025,000	27,470
Year 7	9,900,000	0	0	2,491,000	2,491,000	12,391,000	0.25	33,950	9,900,000	27,120
Year 8	9,900,000	0	0	718,000	718,000	10,618,000	0.07	29,090	9,900,000	27,120
Year 9	9,900,000	0	0	71,000	71,000	9,971,000	0.01	27,320	9,900,000	27,120
Year 10	9,900,000	0	0	3,000	3,000	9,903,000	0.00	27,130	9,900,000	27,120
Year 11	9,900,000	0	0	1,000	1,000	9,901,000	0.00	27,130	9,900,000	27,120
Year 12	1,059,000	0	0	4,000	4,000	1,063,000	0.00	26,580	1,059,000	26,480
Total	113,084,000	3,160,000	8,637,000	32,885,000	44,682,000	157,766,000	0.40	38,340	113,084,000	27,890

production while the mine is developed, i.e., 8.5 million tons in the first year to 2.5 million tons in the seventh year. Thereafter, waste rock production will decrease significantly, i.e., 718,000 tons in year eight to as little as 4,000 tons in year twelve.

The area inside the proposed permit area boundary is 2,190 acres. NMCC's proposed Copper Flat Project will disturb approximately 1,290 acres within the permit area, 910 acres of which were originally disturbed by previous mining operations. There may also be some additional acreage disturbance on lands outside of the permit area boundary related to ancillary facilities such as the well field, the substation and power line, and the water pipeline.

Table 2-3 summarizes the approximate number of acres disturbed by the Copper Flat Project at the end of mine life. The total amount of acreage to be reclaimed is discussed in Section 3.0.

TABLE 2-3
Copper Flat Project Disturbed Acreage

Project Area	Associated 19.10.6.602.D.(15)(c) Requirement	Acres Disturbed
Crushed Ore Stockpile	Ore Dumps & Stockpiles - (c)i	2
Ponds & Surface Impoundments	Impoundments - (c)ii & iii	52
Mine Pit	Pits - (c)vi	165
Tailings Storage Facility	Tailings Disposal Facilities - c)vii	565
Concentrator	Mills - (c)viii	9
Laydown Yard & Fuel Station	Storage Areas - (c)x	3
Growth Media Stockpiles	Topsoil and Top Dressing Stockpiles - (c)xi	75
Waste Rock Stockpiles (existing & proposed)	Waste Rock Stockpiles - (c)xii	305
Administration/Warehouse/Other Facilities	Other Facilities or Structures - (c)xiii	114
Total		1290

2.1.1 Existing Open Pit

Quintana created the existing open pit shown in Figure 2-1 in 1982 when they brought the property into production as an open pit mine and mineral processing plant. The initial mine stripping required to expose the ore body occurred during the four- to six-month period immediately preceding startup of the mineral processing plant. Following startup the open pit and processing plant were in commercial production for three and a half months. At that time, all operations were halted due to a significant decline in copper prices. Approximately 3 million tons of overburden material and 1.2 million tons of ore were mined from the open pit by Quintana. No commercial mining has occurred at this open pit since 1982.

The elevation of the bottom level of the existing Quintana pit is 5,400 feet above mean sea level (amsl), approximately 100 feet beneath the original pre-mining ground surface. The existing open pit encompasses approximately 80 acres of existing disturbance. The bottom benches of the existing pit are flooded, forming a small 5 acre water body. The water level fluctuates with the season in response to precipitation year over year. The depth of the water varies with the underlying open pit and ranges from 10 feet deep to 35 feet deep. The pit currently contains approximately 80 acre-feet (AF) of water.

2.1.2 Proposed Open Pit

As shown in Figure 2-2, NMCC's proposed open pit will be created through the expansion of the existing open pit to a total of approximately 166 acres, Including the pit, explosives magazine and magazine access road. A multiple bench, open pit mining method will be used to mine the Copper Flat ore body. The pit material will be drilled, blasted, and excavated, creating benches approximately 25 ft. high. The blasted material will be loaded by wheel loader to haul trucks where it will be hauled either to the waste rock piles for storage or as ore to the primary crusher where it will be fed, crushed and conveyed to the mill for processing. A description of the process is provided in more detail later herein. Figures 2-3 through 2-11 depict expansion of the pit over time.

Over the 12-year life of the mine, approximately 113 million tons of copper ore and 45 million tons of waste rock will be mined and removed from the open pit. The proposed mining activities will enlarge the open pit over time to a diameter of approximately 2,800 feet. The open pit will reach a depth of approximately 4,650 feet above sea level, which will be approximately 850 to 900 feet beneath the original pre-mining ground surface. The area of the pit will be expanded to approximately 165 acres. The existing diversions of Grayback Arroyo, shown on Figure 2-1, constructed by Quintana during its operation of the mine will provide diversion of water around the pit and will not be affected by the proposed pit expansion (see Figure 2-2).

2.1.3 Waste Rock Stockpiles (WRSPs)

Waste rock will be hauled from the mine pit and placed in designated stockpile areas shown on Figure 2-2 and described in more detail later herein. These new WRSPs will be constructed in an area of the site that is completely underlain by andesite bedrock, a geologic formation that has a transmissivity of less than 10^{-6} centimeters per second (cm/sec) (SRK, May 2013), thus providing a natural liner. These WRSPs will be constructed as units segregated by the grade of copper contained in the waste rock material so as to maximize its potential to be processed as ore in the future. WRSP-1 is located inside the post-mining open pit surface drainage area and will contain the highest non-ore grade material. WRSP-2 will contain the next highest non-grade material. WRSP-3 will contain all the remaining material.

These new WRSPs will cover approximately 221 acres, including haul roads. They will be built generally to a configuration of 3 horizontal to 1 vertical slope angles (18.4 degrees) to help facilitate reclamation at the end of the mine life. Each lift within the stockpile will be

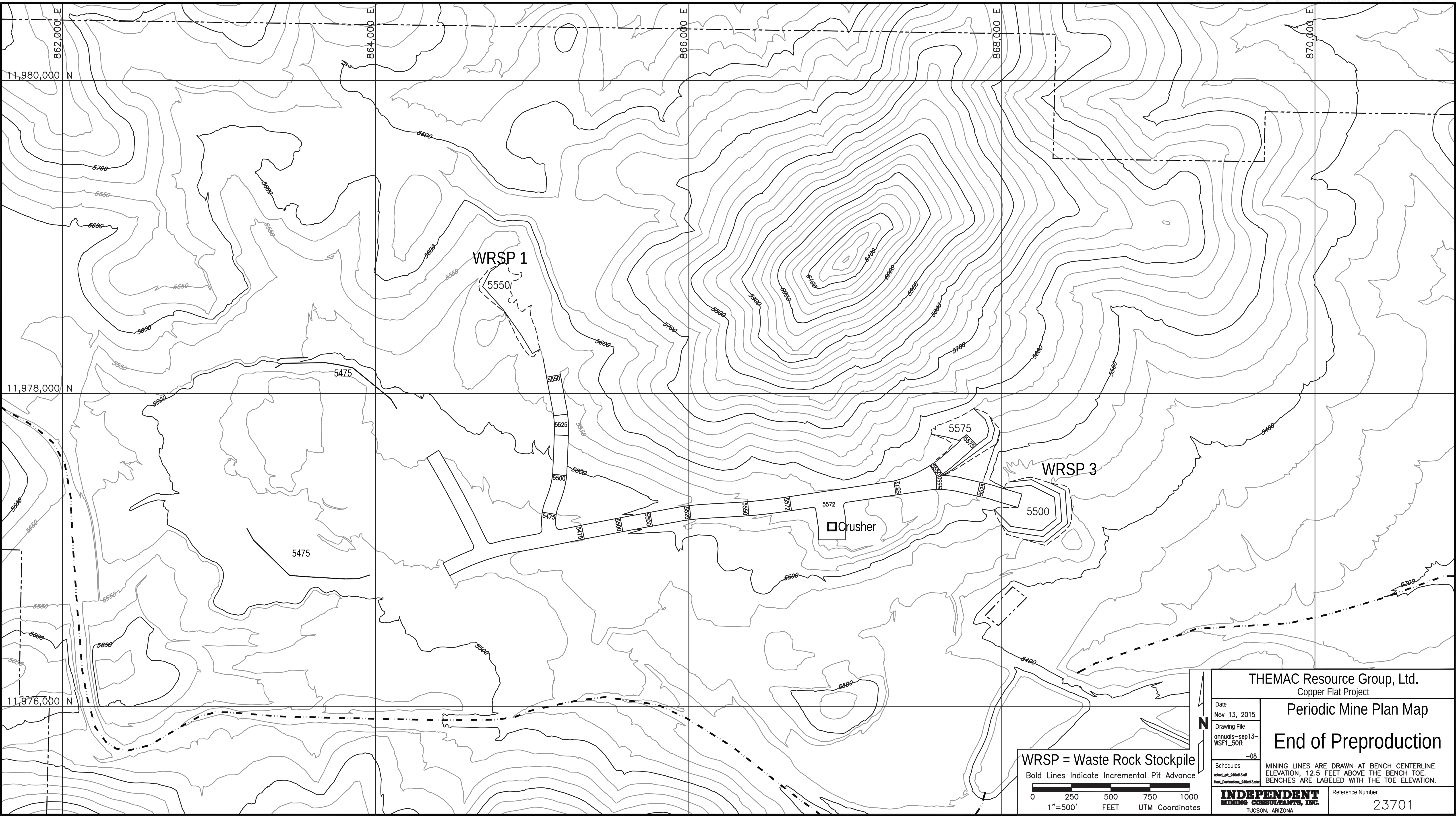
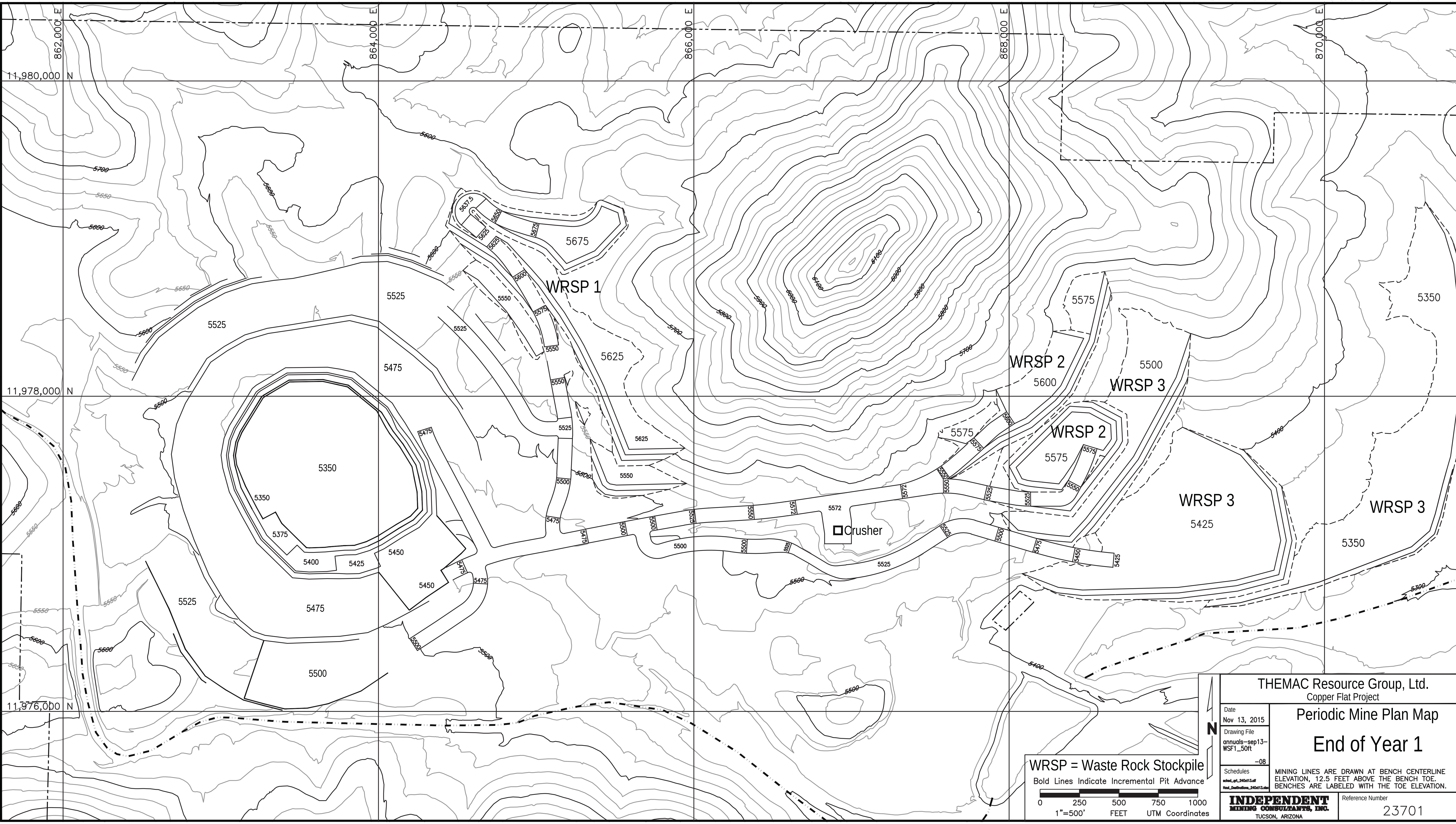

862,000 E
864,000 E
866,000 E
868,000 E
870,000 E
11,980,000 N
11,978,000 N
11,976,000 N
WRSP 1
5550
WRSP 3
5500
5575
5572
Crusher
5475
THEMAC Resource Group, Ltd.
Copper Flat Project
Periodic Mine Plan Map
End of Preproduction
Date
Nov 13, 2015
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
INDEPENDENT MINING CONSULTANTS, INC.
TUCSON, ARIZONA
Reference Number
23701
WRSP = Waste Rock Stockpile
Bold Lines Indicate Incremental Pit Advance
0 250 500 750 1000
1"=500' FEET UTM Coordinates

FIGURE 2-3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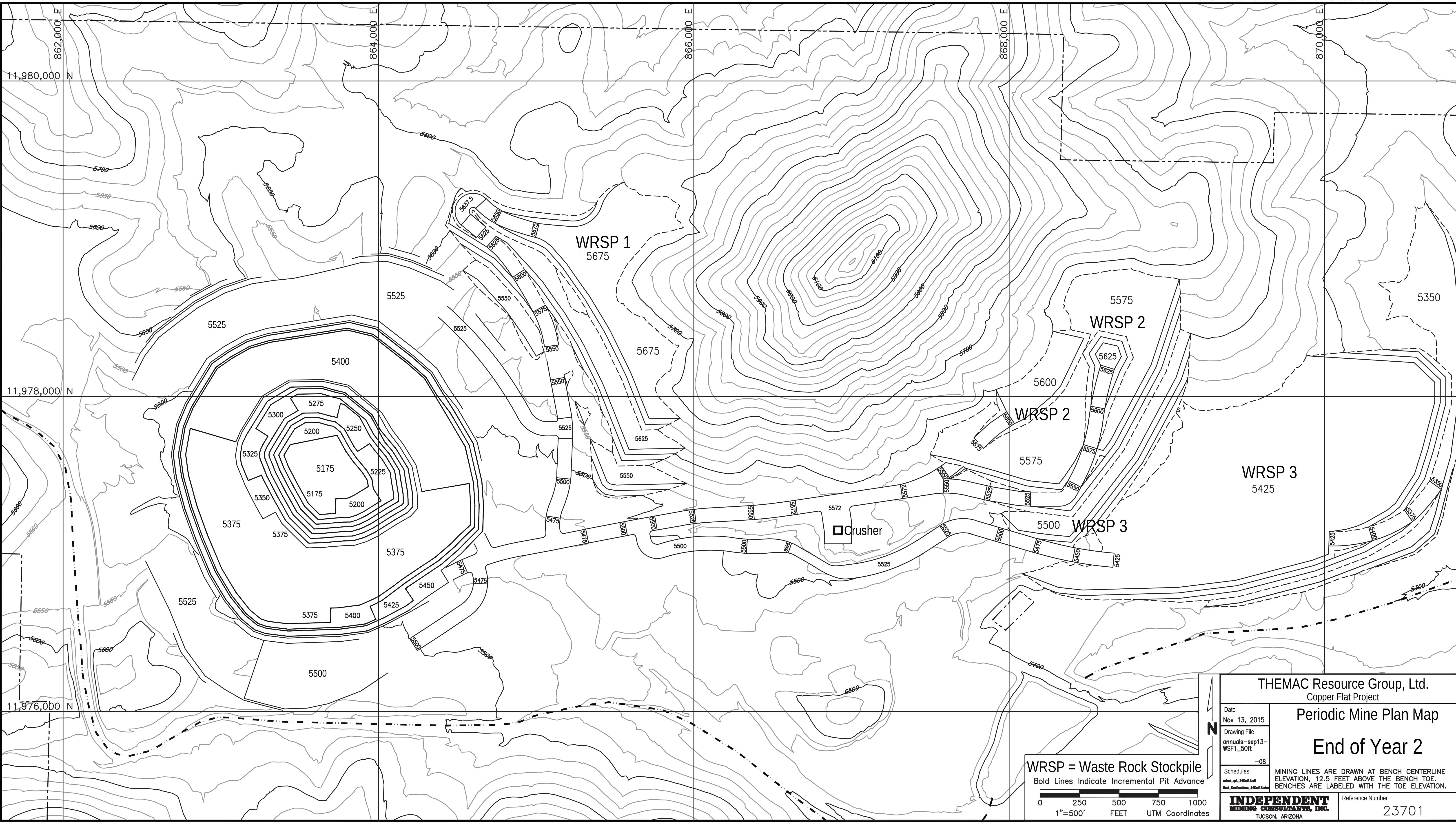
11,978,000 N
11,976,000 N
WRSP 1
WRSP 2
WRSP 3
Crusher
5350
5375
5400
5425
5450
5475
5500
5525
5550
5572
5575
5600
5625
5637.5
5650
5675
THEMAC Resource Group, Ltd.
Copper Flat Project
Date
Nov 13, 2015
Drawing File
annuals-sep13-WSF1_50ft
-08
Schedules
Periodic Mine Plan Map
End of Year 1
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
INDEPENDENT MINING CONSULTANTS, INC.
TUCSON, ARIZONA
Reference Number
23701
WRSP = Waste Rock Stockpile
Bold Lines Indicate Incremental Pit Advance
0 250 500 750 1000
1"=500' FEET UTM Coordinates
N

FIGURE 2-4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870,000 E
11,980,000 N
11,978,000 N
11,976,000 N
WRSP 1
5675
WRSP 2
WRSP 2
WRSP 3
5425
WRSP 3
Crusher
5525
5400
5375
5175
5500
5575
5600
5350
THEMAC Resource Group, Ltd.
Copper Flat Project
Periodic Mine Plan Map
End of Year 2
Date
Nov 13, 2015
Drawing File
annuals-sep13-WSF1_50ft
-08
Schedules
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
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0 250 500 750 1000
1"=500' FEET UTM Coordinates
N

FIGURE 2-5

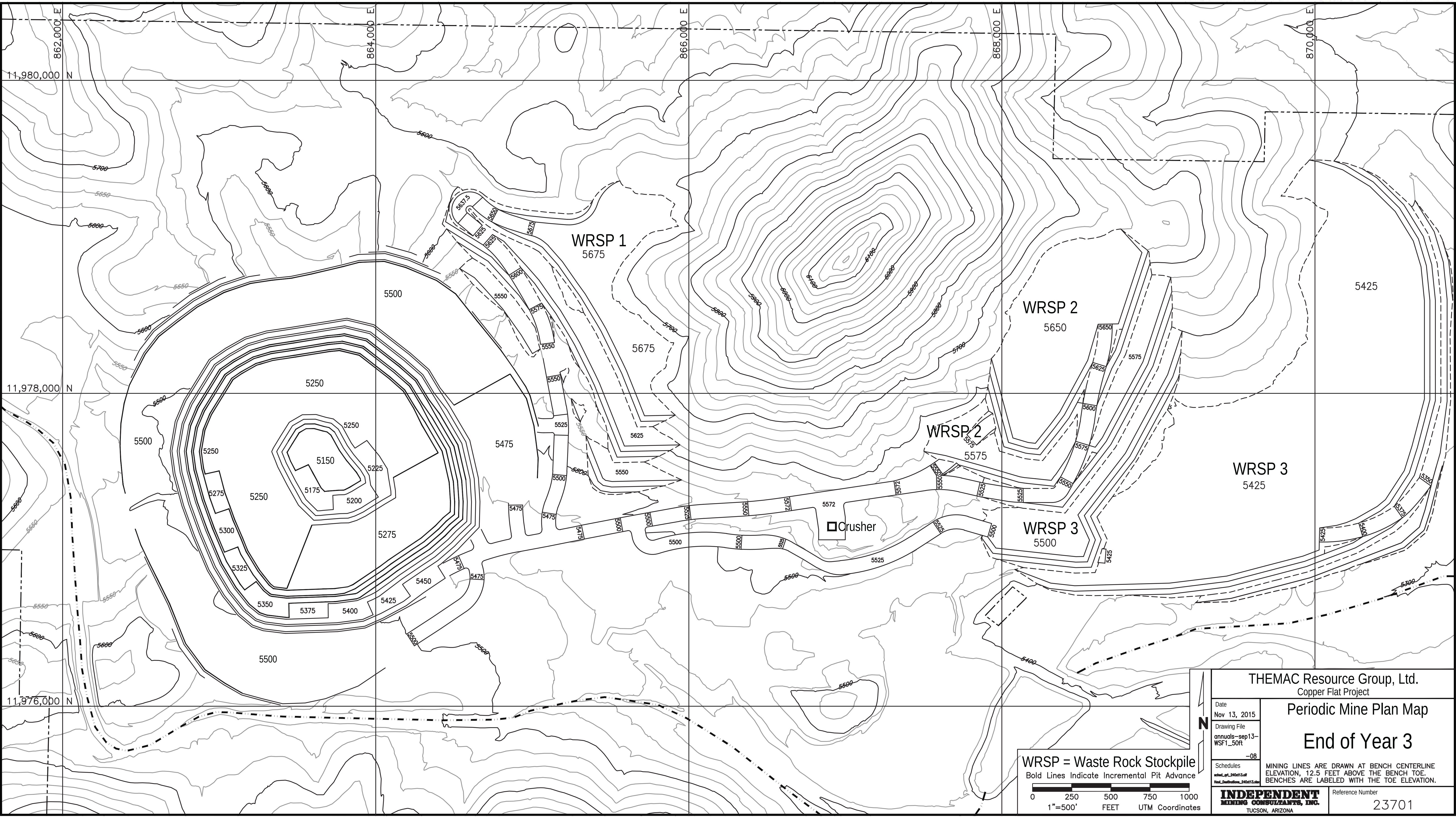
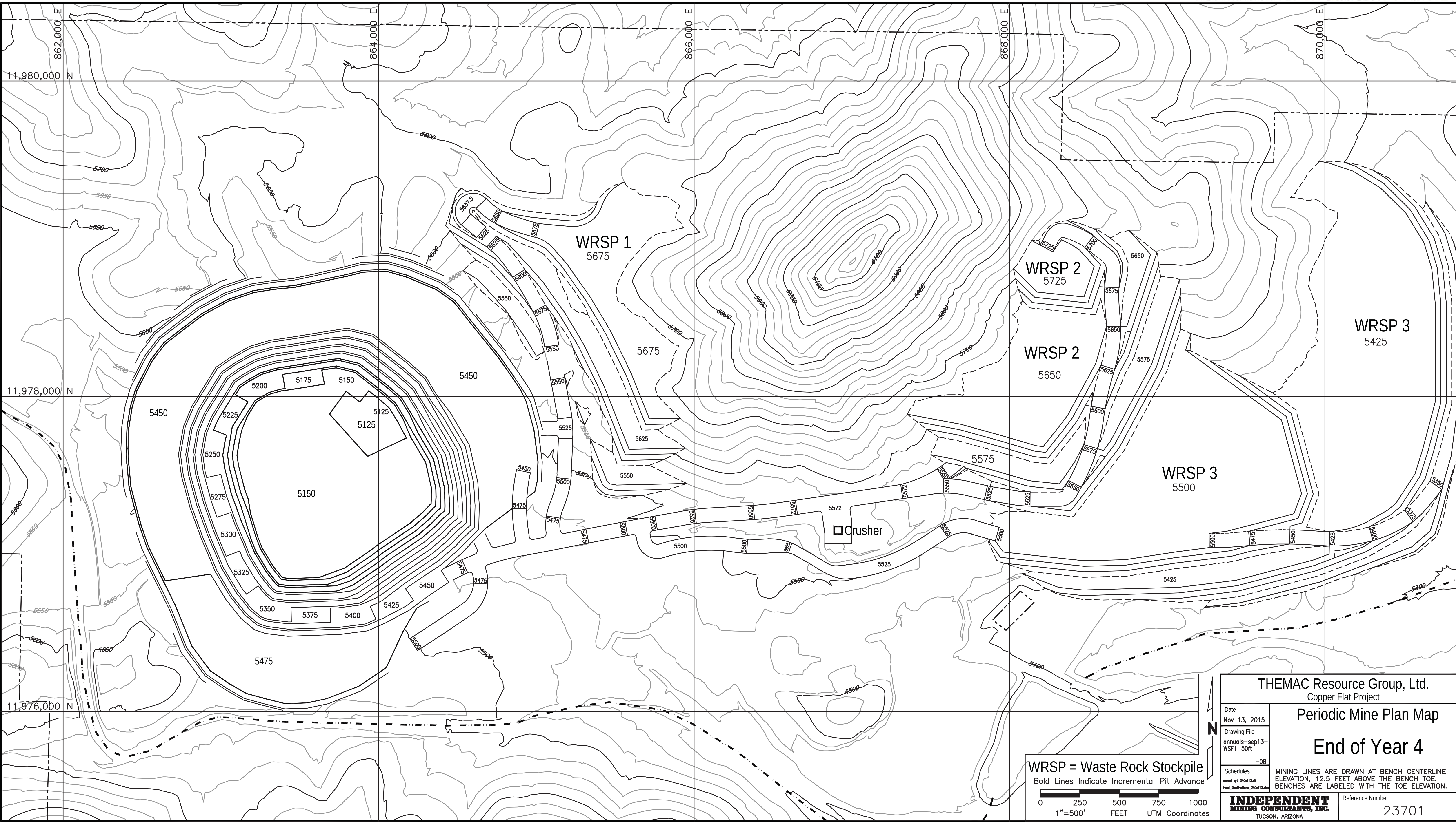

WRSP 1
5675
WRSP 2
5650
WRSP 3
5425
WRSP 3
5500
Crusher
THEMAC Resource Group, Ltd.
Copper Flat Project
Periodic Mine Plan Map
End of Year 3
Date Nov 13, 2015
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
WRSP = Waste Rock Stockpile
Bold Lines Indicate Incremental Pit Advance
0 250 500 750 1000
1"=500' FEET UTM Coordinates
INDEPENDENT MINING CONSULTANTS, INC.
TUCSON, ARIZONA
Reference Number 23701

FIGURE 2-6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WRSP 3
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WRSP 3
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Crusher
5150
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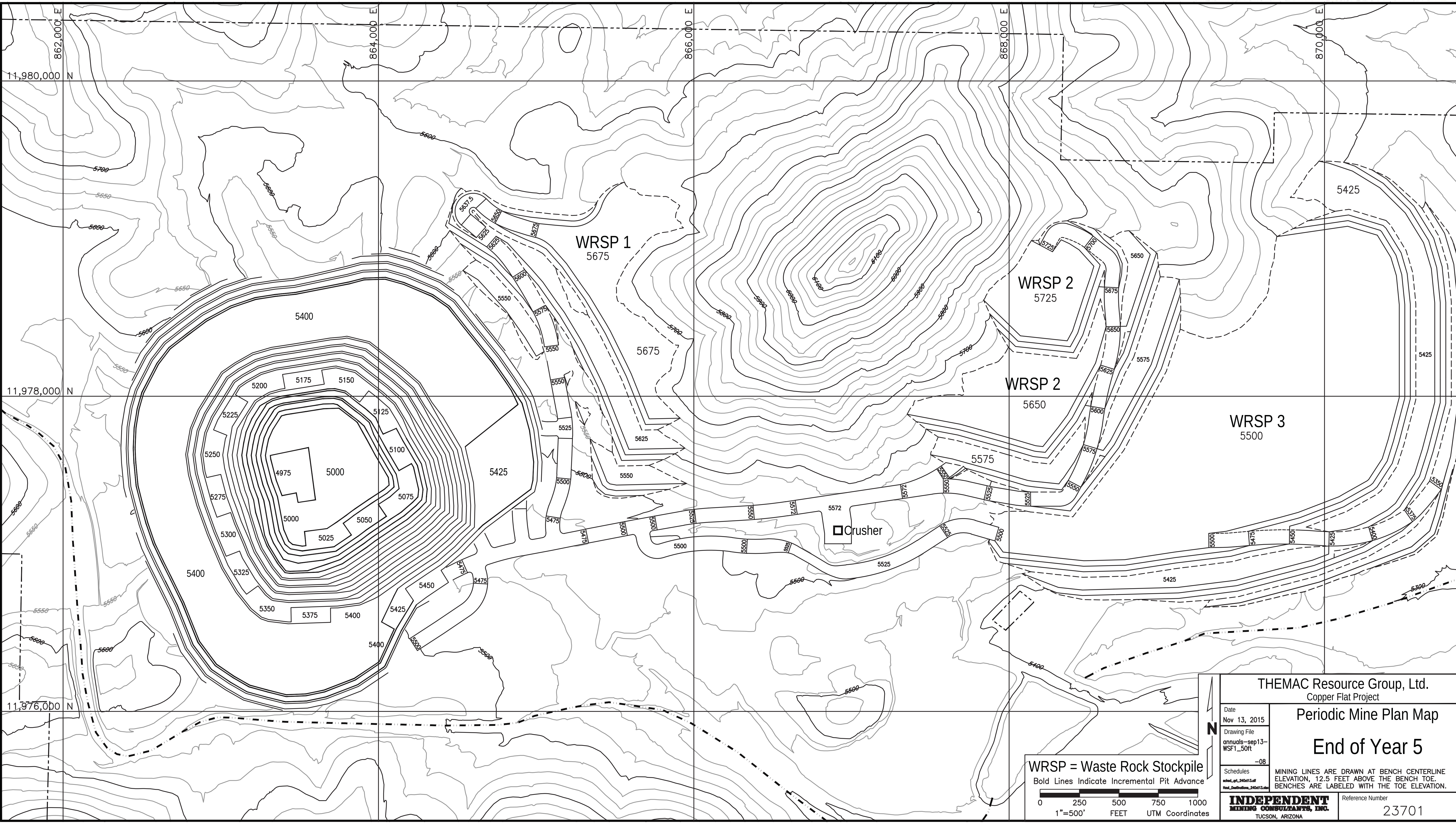
5475
5575
THEMAC Resource Group, Ltd.
Copper Flat Project
Periodic Mine Plan Map
End of Year 4
Date
Nov 13, 2015
Drawing File
annuals-sep13-WSF1_50ft
-08
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
WRSP = Waste Rock Stockpile
Bold Lines Indicate Incremental Pit Advance
0 250 500 750 1000
1"=500' FEET UTM Coordinates
INDEPENDENT MINING CONSULTANTS, INC.
TUCSON, ARIZONA
Reference Number
23701

FIGURE 2-7


862,000 E
864,000 E
866,000 E
868,000 E
870,000 E
11,980,000 N
11,978,000 N
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WRSP 1
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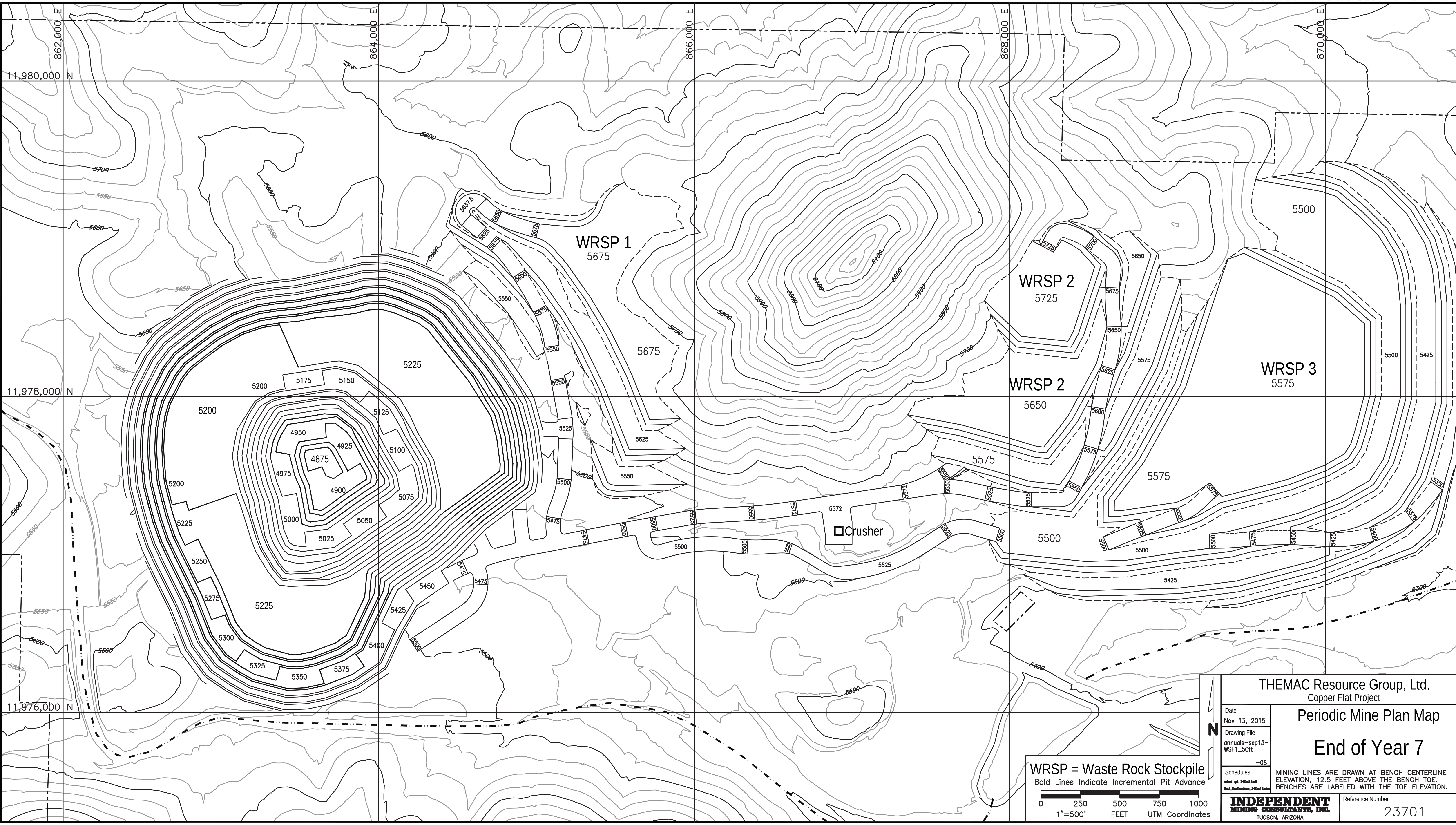
WRSP 2
5725
WRSP 2
5650
WRSP 3
5500
Crusher
5400
5425
5000
4975
5575
5572
THEMAC Resource Group, Ltd.
Copper Flat Project
Periodic Mine Plan Map
End of Year 5
Date
Nov 13, 2015
Drawing File
annuals-sep13-WSF1_50ft -08
Schedules
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
INDEPENDENT MINING CONSULTANTS, INC.
TUCSON, ARIZONA
Reference Number
23701
WRSP = Waste Rock Stockpile
Bold Lines Indicate Incremental Pit Advance
0 250 500 750 1000
1"=500' FEET UTM Coordinates
N

FIGURE 2-8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868,000 E
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11,976,000 N
WRSP 1
5675
WRSP 2
5725
WRSP 2
5650
WRSP 3
5575
5500
Crusher
4875
4900
4925
4950
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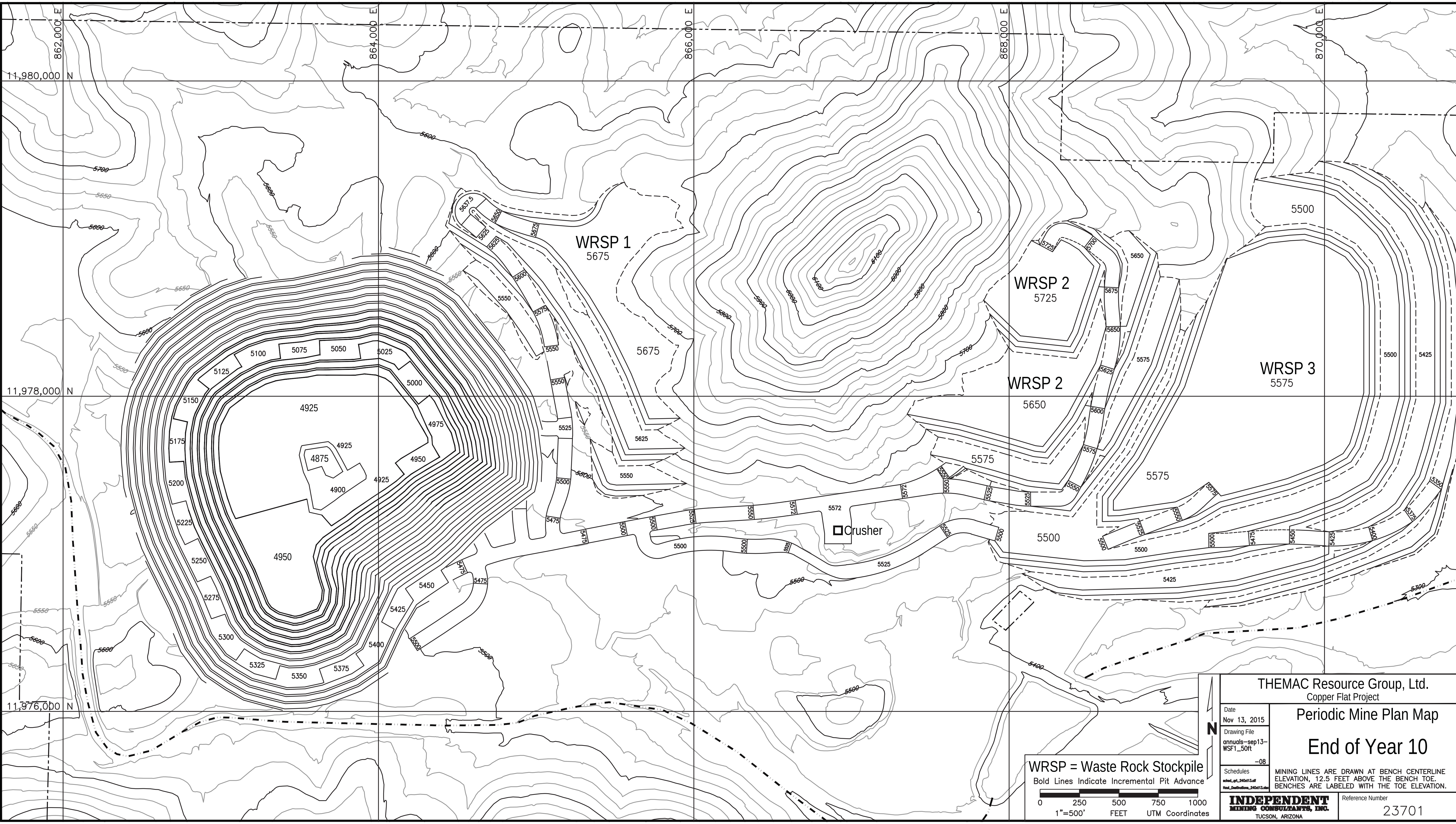
5000
5025
5050
5075
5100
5125
5150
5175
5200
5225
5250
5275
5300
5325
5350
5375
5400
5425
5450
THEMAC Resource Group, Ltd.
Copper Flat Project
Periodic Mine Plan Map
End of Year 7
Date
Nov 13, 2015
Drawing File
annuals–sep13–WSF1_50ft
–08
Schedules
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
WRSP = Waste Rock Stockpile
Bold Lines Indicate Incremental Pit Advance
0 250 500 750 1000
1"=500' FEET UTM Coordinates
N
INDEPENDENT MINING CONSULTANTS, INC.
TUCSON, ARIZONA
Reference Number
23701

FIGURE 2-9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870,000 E
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11,978,000 N
11,976,000 N
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5675
WRSP 2
5725
WRSP 2
5650
WRSP 3
5575
5500
5575
5575
5500
4925
4875
4900
4950
Crusher
THEMAC Resource Group, Ltd.
Copper Flat Project
Periodic Mine Plan Map
End of Year 10
Date
Nov 13, 2015
Drawing File
annuals-sep13-WSF1_50ft
-08
Schedules
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
INDEPENDENT MINING CONSULTANTS, INC.
TUCSON, ARIZONA
Reference Number
23701
WRSP = Waste Rock Stockpile
Bold Lines Indicate Incremental Pit Advance
0
250
500
750
1000
1"=500'
FEET
UTM Coordinates
N

FIGURE 2-10

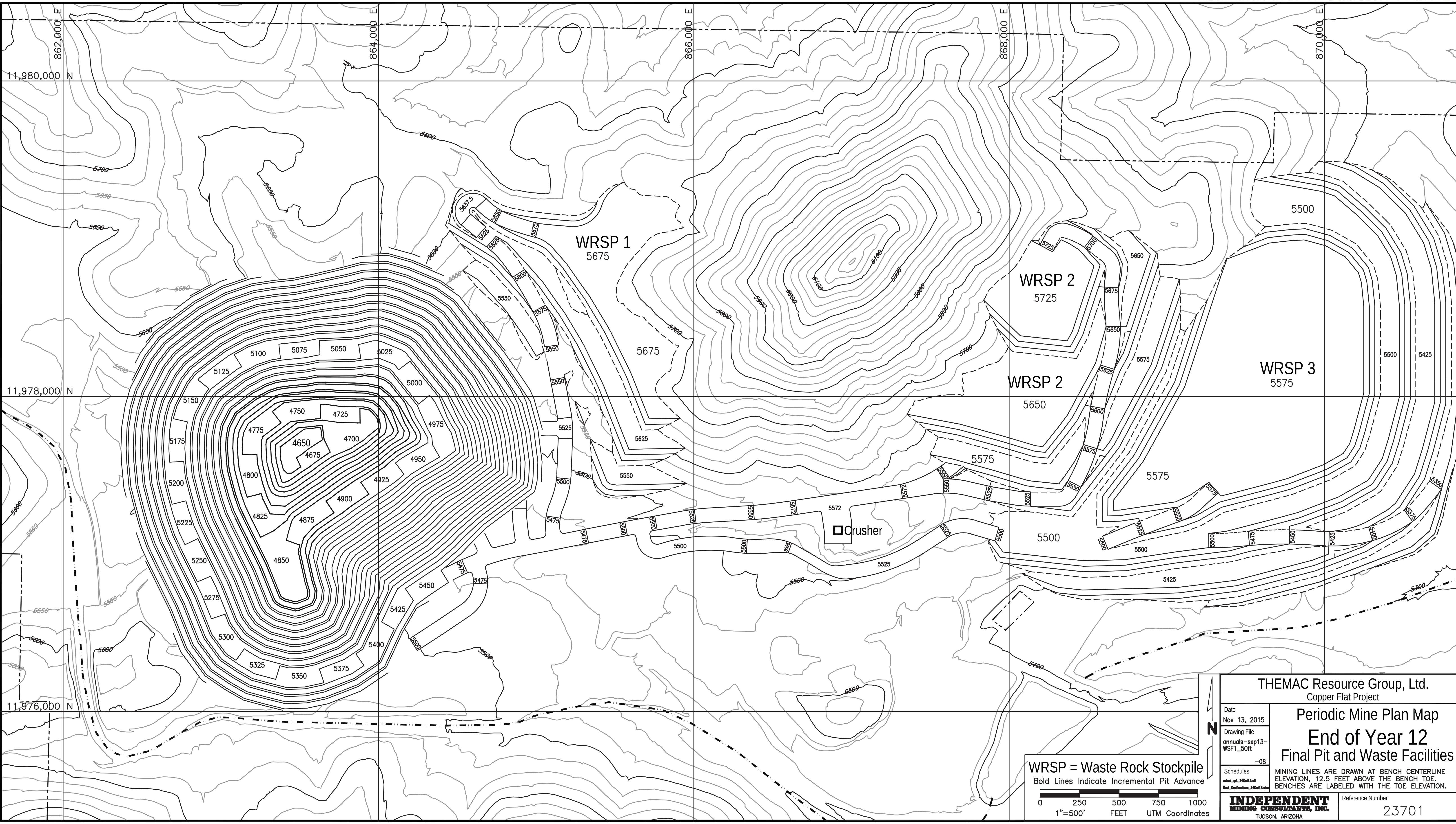
862,000 E
864,000 E
866,000 E
868,000 E
870,000 E
11,980,000 N
11,978,000 N
11,976,000 N
WRSP 1
5675
WRSP 2
5725
WRSP 2
5650
WRSP 3
5575
Crusher
THEMAC Resource Group, Ltd.
Copper Flat Project
Periodic Mine Plan Map
End of Year 12
Final Pit and Waste Facilities
Date
Nov 13, 2015
MINING LINES ARE DRAWN AT BENCH CENTERLINE ELEVATION, 12.5 FEET ABOVE THE BENCH TOE. BENCHES ARE LABELED WITH THE TOE ELEVATION.
WRSP = Waste Rock Stockpile
Bold Lines Indicate Incremental Pit Advance
0 250 500 750 1000
1"=500' FEET UTM Coordinates
INDEPENDENT MINING CONSULTANTS, INC.
TUCSON, ARIZONA
Reference Number
23701

FIGURE 2-11

approximately 75 ft. high and be placed at angle of repose (35.54 degrees) with benches sufficiently wide enough between lifts to maintain the 3 to 1 overall angle for the stockpile. Interceptor trenches will be constructed above each waste rock stockpile to limit storm water run-on. Surface water runoff collection trenches will be constructed to collect and route runoff from the proposed stockpiles to storm water impoundments. The collection trenches will be constructed into the andesite bedrock to prevent water from entering the alluvial surface material down-gradient of the WRSP and in a manner to maximize positive flow while minimizing the potential for ponding and erosion.

In addition to the proposed WRSPs, there are also four existing waste rock stockpiles (EWRSP) on-site generated by the previous Quintana mining activities. These EWRSPs, identified in Figure 2-1, represent an additional 84 acres of disturbance. EWRSP-1 and EWRSP-2B are located in the open pit surface drainage area. EWRSP-2A is located largely coincident with the location of proposed WRSP-1. EWRSP-3 is located in the plant process area next to the primary crusher. EWSRP-4 is also located in the plant process area and will be utilized during operations as a storage area.

2.1.4 Ore Processing Facility

The ore will be processed through a conventional sulfide flotation concentrator, using standard crushing, grinding and flotation technologies. It will be trucked from the open pit to the plant area, crushed and temporarily stored at a stockpile before being processed through a copper sulfide flotation mill, using a flowsheet very similar the Quintana operation (see Figure 2-2). The mill will process ore at an average throughput rate of 27,890 tons per day over the life of the operation. Milling will also include a molybdenum processing circuit and a gravity gold recovery circuit. The processing facility will be located on approximately 128 acres, including the crushed ore stockpile, concentrator, laydown yard and fuel station, process water reservoir and the administration, warehouse, and other facilities. A detailed discussion of the concentration plant process is provided later herein.

The copper concentrate will be shipped in bulk form by truck to an off-site smelter or rail loadout facility. Molybdenum concentrate will be filtered, dried, packaged and shipped by truck to purchasers for further refining. Coarse gold concentrate recovered from the gravity gold circuit will be shipped to a refinery for further processing.

2.1.5 Tailings Storage Facility (TSF)

NMCC will construct a new tailings storage facility (TSF) which will include a lined tailings impoundment with an associated underdrain collection system and underdrain collection pond for the impoundment and the dam. The tailings impoundment and dam will encompass approximately 604 acres of the site, including the footprint of the tailings dam and impoundment, the cyclone plant and surge tank and the surge pond, associated pipeline trenches and a future evaporation pond constructed after the end of life of the project to provide evaporation of drain-down water from the TSF long-term.

Whole tailings will be transported from the processing facility to the TSF cyclone plant via pipeline where the coarse tailings fraction, i.e., the sand, will be separated from the fines fraction. The sand fraction will be utilized to construct the tailings embankment dam in phases during operations. The fines fraction will be disposed of in the TSF impoundment behind the embankment dam. The TSF impoundment will be equipped with a water reclaim or recycle system to maximize water reuse. A water reclaim barge will be installed within the impoundment to recycle water from the impoundment back to the process facility.

The TSF includes an underdrain collection system constructed at the bottom of the TSF impoundment above the liner as well as a dam embankment underdrain blanket constructed under the dam. These features will collect free water that drains from the impoundment and the dam into an underdrain collection pond and route it back to the process facility for re-use. The dam blanket drain will provide the mechanism that will drain water within the dam out of the structure and allow the dam to become consolidated and stable as it is continually constructed during operations as the sand fraction of tailings is emplaced on the dam. The tailings impoundment underdrain system will allow free water in the impoundment to be drained out of the impoundment from underneath the impoundment to the underdrain collection pond and also be recycled to the processing facility. The TSF underdrain collection pond will also serve to capture surface water runoff routed from the downstream face of the tailings dam via runoff control ditches to the pond.

The tailings delivery from the process plant will have an associated surge pond that will be part of the cyclone plant located at the TSF. The purpose of the surge pond will be to capture and temporarily retain tailings materials in the event of a temporary upset in the cyclone plant or the process facility.

Appendix A, Feasibility Level Design, 30,000 TPD Tailings Storage Facility and Tailings Distribution and Water Reclaim Systems, Copper Flat Project, Sierra County, New Mexico, November, 2015, prepared by Golder Associates Inc. (Golder), provides the technical design detail for the TSF. This document is also an appendix to NMCC's Discharge Permit application.

2.1.6 Cover Material Stockpiles

In addition to the facilities described above, three cover material stockpiles, identified as growth media stockpiles (GMSP) in various documents that will be developed from soils material that will be salvaged from the WRSP and TSF construction footprints. The location of these GMSPs is shown in Figure 2-2. These stockpiles will total approximately 75 acres in size and will be utilized as cover material for the various disturbed areas of the mine site at closure and reclamation. Sections 2.2.10 and 4.5 provide a discussion on the use of the terms cover materials, topsoil, topdressing and growth media materials. Section 3.0 provides the details of the use of cover material in NMCC's Reclamation and Closure Plan.

2.1.7 Off-Site Ancillary Facilities

The Copper Flat Project also includes several off-site facilities that are integral to the project, including an electrical substation located on land owned by the State of New Mexico, nine separate 5-acre mill-site claim sites, and an approximate 8-mile long fresh water pipeline. The mill sites are associated with the well field and utilized as support facilities for the pipeline. Figure 2-12 identifies the location of these ancillary facilities relative to the mine.

2.1.8 Closure and Reclamation

NMCC has prepared a Reclamation and Closure Plan as described in Section 3.0 and Appendix E. Section 3.0 provides a description of NMCC's plans for reclamation, including a detailed description of how the disturbed area will be reclaimed to meet the requirements of Section 69-36-7H of the Mining Act (see 19.10.6.602.D.(15)(g) NMAC of the Mining Act regulations). The objective of the Reclamation and Closure Plan is to reclaim and close the facility in a manner protective of ground water in conformance with the NM Copper Rules, meet the reclamation requirements of the New Mexico Mining Act, and return the mine area to conditions similar to those present before NMCC's reestablishment of the mine (BLM DEIS 2015, p. 2-34). The Copper Flat facility will be reclaimed to restore the land to its current use. The Mining Operation Plan and the Reclamation Plan has been designed to use the most appropriate technology (MAT) and best management practices (BMPs) to assure protection of human health and safety, the and the environment.

Section 4.0 provides the description of how the Reclamation and Closure Plan will meet the performance standards required in 19.10.6.603 NMAC. Appendix E presents the detailed design of the Reclamation and Closure Plan. Sections 3.0, 4.0 and Appendix E, together, also provide the information required by Section 20.6.7.11.T of the NMED Copper Rules.

2.2 Maps and Plans for the Mine Facility – 19.10.6.602.D.(15)(c)

This Section provides the maps and plans and other details, including the location, size, and capacities for each unit of the Copper Flat Project facilities described below. Additional details are provided in the various appended documents that contain design documentation and analyses that support the design.

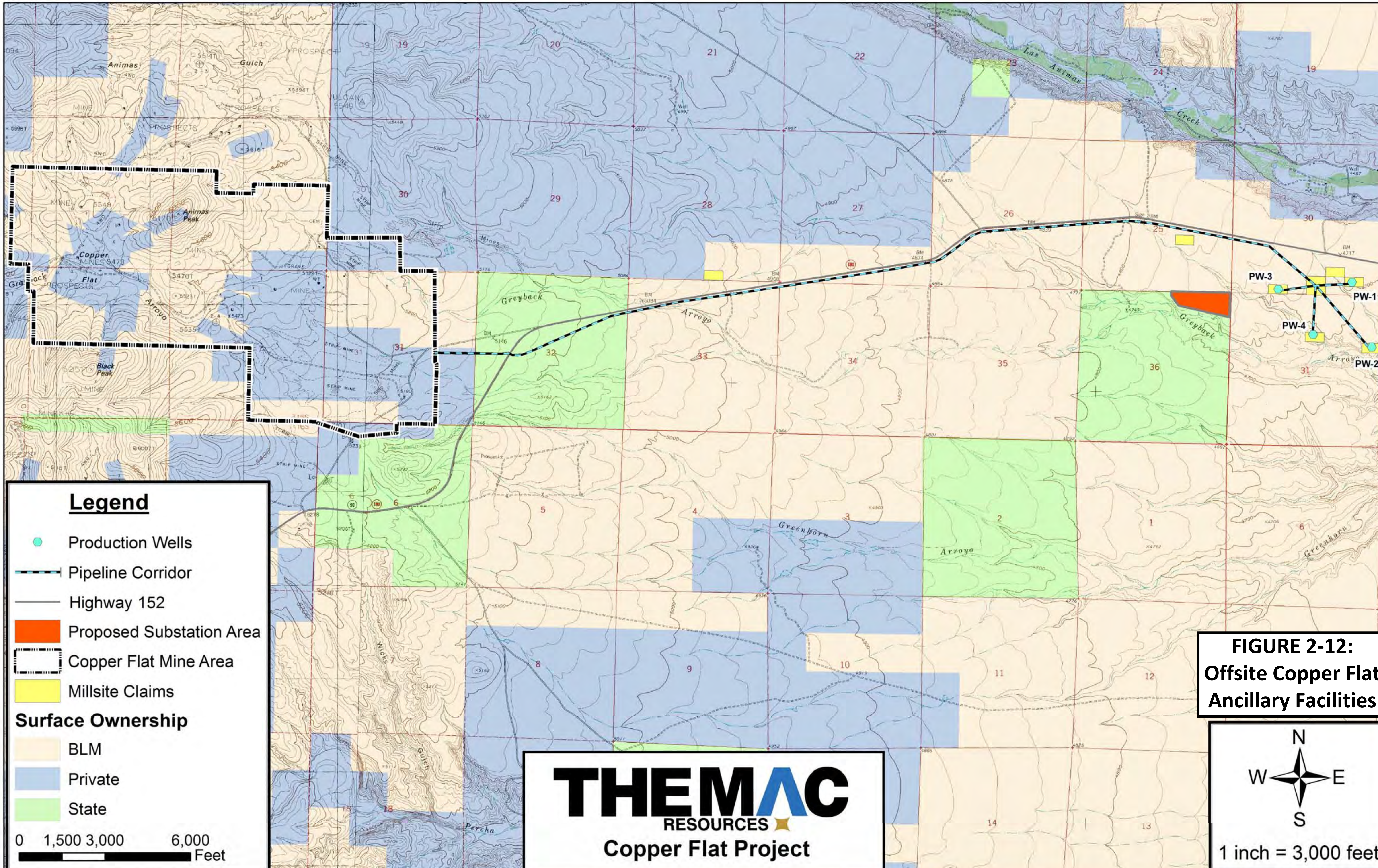

FIGURE 2-12: Offsite Copper Flat Ancillary Facilities

2.2.1 Leach pads, heaps, ore dumps and stockpiles- 19.10.6.602.D.(15)(c)(i)

The Copper Flat Project does not propose to construct and operate any leach pads or heaps. This section discusses the coarse ore stockpile located near the primary crusher in the plant process area as shown on Figure 2-2.

Figure 2-13 is a schematic diagram of the processing plant that shows that ore will be hauled from open pit in trucks and fed directly to the primary crusher for the first stage of crushing to produce a coarse ore stockpile (called the crushed ore stockpile in Figure 2-2). The crusher will size the run-of-mine rock to a nominal 8 inches in diameter or less. A small, temporary run-of-mine ore stockpile may be located adjacent to the crusher only when ore trucked from the open pit cannot be fed directly into the primary crusher; for example, when the crusher is temporarily out of service. Typical operating procedure will be to feed ore directly into the crusher from the open pit. Material contained in the temporary run of mine stockpile by the crusher will be fed into the crusher when direct feed from the open pit is not available.

The crushed rock will be fed by an apron feeder onto the stockpile feed belt conveyor for transport to the coarse ore stockpile where it will be temporarily stored prior to being fed into to the grinding mill. The belt conveyor will include a stacker for placing the coarse ore into the stockpile as seen on Figure 2-13. The coarse ore stockpile will have a design capacity of approximately 75,000 tons.

Ore will be drawn from the coarse ore stockpile and transported by belt conveyor passing through a reclaim tunnel located beneath the stockpile to feed the SAG mill in the grinding circuit. The conveyor system will be equipped with two variable speed apron feeders that will feed the reclaim conveyor. Ore handled through this part of the process will be relatively dry. Water associated with this part of the process will include:

- Moisture associated with the ore;
- Water spray used to control dust within the primary crusher pocket and at the stockpile feed stacker; and
- Water used for housekeeping purposes.

The primary crusher and the coarse ore reclaim equipment will be located below ground level in reinforced concrete structures. These concrete structures are existing structures from the Quintana operation and have concrete sumps built into the structures to contain excess water. Water collected in these sumps will be reused within the ore processing circuit via a pumping and recycling system that will be installed during the construction phase of the project. Water used for housekeeping purposes will be confined to use within the concrete structures where it will be contained and recycled via the sump collection and recycle system.

PRELIMINARY
FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

		DATE
SCALE:	NONE	
DESIGNED BY	EA	JUL 11
DRAWN BY	FC	JUL 11
CHECKED BY		
PROJECT MGR		
CLIENT APPR.		

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COPPER FLAT PROJECT

PROCESSING PLANT OVERALL FLOW SHEET 30,000 TPD CONVENTIONAL TAILINGS

JOB NO. M3 PN-120085
DWG NO. **FIGURE 2-13**
REV NO. P6 DATE 18 MAR 13

Water spray used for dust control at the stockpile feed stacker will be exterior to the concrete structures. The sprays will only be used when necessary to control dust and will be controlled to minimize excess moisture. During normal operations, water from these sprays will evaporate once the ore reaches the coarse ore stockpile, although some residual moisture will remain below the surface of the pile. In the event of an upset condition, any excess water from these sprays will be contained in the storm water impoundment that will control runoff from the plant facility area. The entire plant facility area will be contoured to control and capture precipitation falling onto the plant area in a lined impoundment. The captured water will be recycled for use in the process.

2.2.2 Impoundments and ponds – 19.10.6.602.D.(15)(c)(ii) & (iii)

NMCC will construct several impoundments and ponds at Copper Flat, including:

- Three impacted storm water impoundments to manage runoff;
- A process water reservoir to store and condition recycle water and process makeup water;
- A surge pond to manage upset conditions;
- A tailings impoundment to store tailings and produce water for recycle;
- An underdrain collection pond to capture free tailings liquids from the impoundment and the dam; and
- An evaporation pond (coincident with the underdrain collection pond) to capture and evaporate residual water that the tailings impoundment may continue to produce long-term after site closure.

Details of the design of the impacted storm water impoundments and the process water reservoir are provided in Appendix B, Impoundment Design Report, Copper Flat Project, November, 2015, prepared by M3 Engineering & Technology Corporation (M3). Details of the design of the underdrain collection pond and surge pond are provided in Appendix A. This Subsection discusses the impacted storm water impoundments and the process water reservoir. The tailings impoundment and associated underdrain collection pond and the surge pond are discussed in detail in Subsection 2.2.6, below. The evaporation pond is discussed in Section 3.0 and Appendix E.

IMPACTED STORM WATER IMPOUNDMENTS AND PROCESS WATER RESERVOIR

NMCC proposes to construct a process water reservoir and three (3) impacted storm water impoundments shown on Figure 2-2. The nomenclature of "impacted storm water impoundment" is derived from the NMED Copper Rules. However, the purpose of these impoundments can and will provide water management capabilities beyond just storm water, as discussed herein. The process water reservoir, located in the center of the plant process area, will hold water from several sources including reclaimed water from the TSF, captured storm water, and fresh make-up water from the off-site well field.

Two of the storm water impoundments will capture surface water runoff from the waste rock stockpiles and drainage from under the waste rock stockpile areas. The third will capture surface water runoff from the process plant area. Appendix B provides the technical design details for the impoundments and the process water reservoir. Appendix B is also an Appendix to NMCC's Discharge Permit application.

Figure 2-14 shows the various watershed areas that NMCC will develop on-site by grading and contouring the areas to manage and capture surface water runoff. The developed watershed areas shown are as follows:

- Watershed area A (WS A) wherein the process facilities and ancillary plant areas, including the ore stockpile, will be located. EWRSP-3, as shown in Figure 2-14, also called the low-grade ore stockpile in earlier documents, is also located within WS A;
- Watershed area B (WS B) is a portion of the open pit surface drainage area (OPSDA) wherein the proposed new Waste Rock Stockpile no. 1 (WRSP-1) will be located. EWRSP-2A, as shown in Figure 2-14, also called the north waste rock disposal facility in earlier documents is located at the northern edge of WS B;
- Watershed area C (WS C), wherein the proposed new Waste Rock Stockpiles no. 2 and 3 (WRSP-2 and WRSP-3) will be located;
- Watershed area D (WS D) is a portion of the open pit surface drainage area wherein the open pit is located. Existing waste rock stockpiles EWRSP-1, also called the west waste rock disposal facility in earlier documents, EWRSP-2B, also called the north waste rock stockpile in earlier documents, and EWRSP-4, also called the south waste rock stockpile in earlier documents, shown in Figure 2- 14, are located within WS D; and
- Watershed E (WS E) represents the footprint of the process water reservoir, the impoundment that holds process water prior to it being introduced into the process circuit. WS E is depicted as a watershed to indicate that the reservoir will not collect any storm water runoff from the plant site. Only precipitation that falls directly on the reservoir will be collected therein.

Storm water impoundments will be constructed within watershed areas A, B, and C at locations shown in Figure 2-14 to manage and capture storm water runoff from each area and water that may flow from the interface between the bottom of the WRSPs and the andesite bedrock. Impacted storm water impoundment A is designed to capture and manage surface water runoff from WS A, i.e., the plant area. Impacted storm water impoundment B is designed to capture

WATERSHED SUMMARY

WATERSHED ID	AREA (AC)	Q100 (CFS)
WS A	93.16	167.25
WS B	93.04	204.58
WS C	196.39	312.15
WS D	255.59	543.69
WS E	1.80	9.54

LEGEND:

- FLOW ARROW
- WATERSHED BOUNDARY
- RUNOFF CONCENTRATION POINT
- DRAINAGE SWALE

PLAN VIEW
SCALE: 1" = 300'

300 150 0 300 600
SCALE IN FEET
CONTOUR INTERVAL = 5FT
DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY
FOR AGENCY REVIEW

THEMAC RESOURCES

EWRSP = EXISTING WASTE ROCK STOCKPILE
WRSP = WASTE ROCK STOCKPILE

REFERENCES DWG. NO.	TITLE
0000-CI-021	IMPACTED STORMWATER IMPOUNDMENT A PLAN VIEW
0000-CI-023	IMPACTED STORMWATER IMPOUNDMENT B PLAN VIEW
0000-CI-025	PROCESS WATER RESERVOIR PLAN VIEW
0000-CI-027	IMPACTED STORMWATER IMPOUNDMENT D PLAN VIEW

REVISIONS: NO. | DESCRIPTION | BY | APP'D | DATE | CLIENT

SCALE: 1" = 300'		DATE
DESIGNED BY	SAM	NOV 12
DRAWN BY	SAM	NOV 12
CHECKED BY	TDL	NOV 12
PROJECT MGR	RKZ	NOV 12
CLIENT APPR.		

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COPPER FLAT PROJECT

GENERAL SITE
CIVIL
MINE AREA
DEVELOPED WATERSHED AREAS

JOB NO. M3 PN-120085
DWG NO. FIGURE 2-14
REV NO. P12
DATE 24 AUG 16

and manage water from WS B which contains WRSP 1. Impacted storm water impoundment C is designed to capture and manage water from WS C which contains WRSP 2 and WRSP-3.

As noted above, developed WS B and D are sub-watersheds of the larger open pit surface drainage area. The entire area naturally drains to the mine pit, with the exception of the EWRSP-4 area, which will be re-contoured during operations to drain to the pit. NMCC has opted to develop these two sub-watersheds separately in order to provide control of the amount of water that will report to the mine pit under normal operating conditions. Surface water runoff from WS D will flow directly to the bottom of the pit as shown in Figure 2-14. As such, no additional impoundment is needed at that location. Water contributed from WS B will be diverted to flow into Impacted Storm water Impoundment B as shown on Figure 2-14.

As described in more detail in Appendix B, Impacted Storm water Impoundment B will be constructed at the lower southwestern corner of developed WS B to capture water from the proposed new WRSP-1 under normal operating conditions. However, should overflow from this impoundment occur as a result of an extraordinary precipitation event, it will flow over the spillway and into the open pit via a culvert, as shown in Figure 2-14 and discussed in Appendix B. This will allow NMCC to control the flow of water into the pit while maximizing the harvesting of storm water for use as process water.

The process water reservoir, i.e., WS E, is designed to hold all of the water recycled from the tailings storage facility, process makeup water and water transferred from the impacted storm water impoundments for introduction into the process circuit. It is designed so that only precipitation that falls directly on the footprint of the reservoir will be captured by the reservoir. Water captured in impoundments A, B and C will be transported to the process water reservoir within 30 days for use as an additional source of make-up process water. Water recycled from the TSF will be continually pumped from the TSF to the process water reservoir.

Liner system design

Appendix B provides the details of the liner design for the impacted storm water impoundments and process water reservoir. The impacted storm water impoundment liner design is consistent with the requirements of the NMED Copper Rules for impoundments that will store impacted water for less than 30 days. It will consist of a compacted liner bedding fill layer, overlain with a 60 mil high density polyethylene (HDPE) geomembrane or equivalent. The liner bedding will be a minimum of six inches of sand or fine soil.

The process water reservoir will be double-lined with a lower 60 mil, or equivalent, HDPE geomembrane and a 60 mil, or equivalent, upper HDPE geomembrane liner. An HDPE geonet will be placed between the liners to serve as the pond leak collection and recovery system

(LCRS) and to minimize pressure on the lower pond liner. This design is in accordance with the requirements of the NMED Copper Rules.

Size and storage capacity

The design storage capacity for each of the impacted storm water impoundments is driven by the size of the watershed, required storm intensity and duration, and freeboard. Table 2-4 provides the storage capacity for each storm water impoundment and the process water reservoir.

TABLE 2-4
Impoundment Storage Capacity

Impoundment	Size (Acres)	Capacity (Gal)
Impacted storm water impoundment A	2.90	7,307,000
Impacted storm water impoundment B	2.69	5,598,000
Impacted storm water impoundment C	4.44	10,514,000
Process Water Reservoir	2.12	5,434,000

Design capacity of the impoundments is based on anticipated normal operating conditions at the site plus prevention of overflow resulting from a 100-year, 24-hour return interval storm event while maintaining two feet of freeboard. The process water reservoir is sized to contain the water that will be pumped from the water reclaim system and the underdrain collection pond at the TSF plus capacity for necessary process makeup water pumped from the freshwater off-site well field or the impacted storm water impoundments.

2.2.3 Diversions - 19.10.6.602.D.(15)(c)(iv)

This Subsection requires that the applicant provide maps and plans indicating location, size and capacities for the mine facility diversions. A diversion is defined in 19.10.1.7.D.(3) as a channel, embankment, ore other manmade structure constructed to divert water from one area to another. Diversions at the Copper Flat facility include the following:

- The Grayback Arroyo diversion and other diversion structures constructed to divert surface water around and away from the site;
- Diversions at the TSF to impoundments and/or ponds; and
- Diversion channels, ditches swales, curbs, contours and other manmade surface water control features constructed to manage and divert surface water off of waste rock stockpiles and the plant site.

Grayback Arroyo Diversion

With regard to the Grayback Arroyo and other diversion structures, NMCC will utilize some existing water diversion structures, as discussed in more detail below, at the Copper Flat

Project. NMCC's consulting engineers, M3, performed a peak discharge and volume analysis of the drainage areas contributing to Grayback Arroyo at the site. The report is included as Appendix D. The purpose of the analysis was to evaluate the existing diversions and water conveyance features existing at the Copper Flat site as to their adequacy in conveying flows from storm events and protecting the site from flooding. The return periods analyzed were the 100-year, 200-year, and 500-year 24 hour storms. The capability of certain existing culverts within Grayback Arroyo to safely pass those storms without overtopping the proposed facility roadway or pipeline corridor was also analyzed. Appendix D provides the information required by the Mining Act regulations and the results of the analysis. Following is a synopsis of the results. This document is also an appendix to NMCC's Discharge Permit application.

Figure 2-15 shows the location of the Copper Flat Project permit area boundary within the Greenhorn Arroyo drainage basin watershed. It shows the Greenhorn Arroyo watershed as it existed prior to any mining. As shown in Figure 2-15, the site is located in the head of the basin. Figure 2-16 provides a closer view of the headwater drainage of the watershed in relation to the mine permit area boundary. Grayback Arroyo and its tributaries naturally begin as the headwaters of the drainage basin and converge at the western side of the site, transecting the mine permit area draining from west to east. The main-stem of Grayback Arroyo enters the western boundary of the site; several small unnamed arroyos, tributary to Grayback Arroyo, enter the site at the northwest and southwest corners of the site. As seen on Figure 2-15, Hunkidori Gulch begins at the eastern edge of the site down-gradient of the operations and drains to the east, away from the site. Greenhorn Arroyo begins off of the southeast corner of the site down-gradient from the operations and also drains east. Hunkidori and Greenhorn Arroyos have no impact upon the Copper Flat facility as they are located down-gradient of the mine. Only Grayback Arroyo and its unnamed arroyos, which enter the site from the west, need be the subject of consideration with respect to surface water run-on and runoff management.

Preproduction site preparation activities conducted by Quintanain the early 1980's included the construction of diversion structures to Grayback Arroyo and unnamed arroyos to divert drainage around the site. These structures are shown in Figure 2-17. Diversion structures were constructed to divert the headwaters of Grayback arroyo and its western tributaries as they entered the western site boundary to the south around the open pit. Another diversion structure, similar in purpose but smaller in size, was constructed at the northwest corner of the site to divert drainage from small tributaries to Grayback Arroyo, diverting them to the north east around Animas Peak away from the site into a sub-watershed that joins Grayback Arroyo east of the of the site boundary.

In addition to the diversion structures, Quintana installed large diameter culverts, as shown on Figure 2-18, where the tailings transport pipeline and the access road cross over Grayback Arroyo. These structures are still in place and will be used to control storm water passing

LEGEND

DRAINAGE BASIN BOUNDARY

MINE PROPERTY BOUNDARY

GRAYBACK ARROYO

FLOWLINE

SITE PLAN

SCALE: 1" = 2500'

2500 1250 0 2500 5000

SCALE IN FEET

CONTOUR INTERVAL = 50'

DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY

FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE:	1" = 2500'	DATE
DESIGNED BY	JPN	OCT 15
DRAWN BY	JPN	OCT 15
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PROJECT MGR		
CLIENT APPR.		

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COPPER FLAT PROJECT

GENERAL SITE
CIVIL
GREENHORN ARROYO
PRE-MINING WATERSHED BASIN

JOB NO. M3 PN-120085

DWG NO. **FIGURE 2-15**

REV NO. P2

DATE 20 NOV 15

LEGEND

DRAINAGE BASIN BOUNDARY	
MINE PROPERTY BOUNDARY	
GRAYBACK ARROYO	
FLOWLINE	

SITE PLAN

SCALE: 1" = 1000'

1000 500 0 1000 2000

SCALE IN FEET
CONTOUR INTERVAL = 20 FT
DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY
FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE:	1" = 1000'	DATE
DESIGNED BY	JPN	OCT 15
DRAWN BY	JPN	OCT 15
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PROJECT MGR		
CLIENT APPR.		

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COPPER FLAT PROJECT

GENERAL SITE
COPPER FLAT SITE
EXISTING HYDROLOGY
PRE-QUINTANA MINING

JOB NO. M3 PN-120085
DWG NO. **FIGURE 2-16**
REV NO. P1
DATE 20 NOV 15

LEGEND

- DRAINAGE BASIN BOUNDARY
- MINE PROPERTY BOUNDARY
- GRAYBACK ARROYO
- FLOWLINE

SITE PLAN

SCALE: 1" = 1000'

1000 500 0 1000 2000

SCALE IN FEET
CONTOUR INTERVAL = 20 FT
DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY
FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE:	1" = 1000'	DATE
DESIGNED BY	JPN	OCT 15
DRAWN BY	JPN	OCT 15
CHECKED BY		
PROJECT MGR		
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COPPER FLAT PROJECT

GENERAL SITE COPPER FLAT SITE EXISTING HYDROLOGY POST QUINTANA MINING

JOB NO. M3 PN-120085
DWG NO. **FIGURE 2-17**
REV NO. P1
DATE 20 NOV 15

SITE PLAN
SCALE: 1:500

500' 250' 0' 500' 1000'
1" = 500'
DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY
FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE: 1" = 500'		DATE
DESIGNED BY	JPN	OCT 15
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CHECKED BY		
PROJECT MGR	RKZ	
CLIENT APPR.		

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COPPER FLAT PROJECT

SITE GENERAL
CIVIL
GRAYBACK ARROYO DIVERSION
THROUGH NMCC PROJECT SITE

JOB NO. M3 PN-120085
DWG NO. FIGURE 2-18
REV NO. P1
DATE 20 NOV 15

through the site. Figure 2-18 also shows these structures in relation NMCC's proposed Copper Flat Project facilities. The pre-mine development natural topography and drainage pattern of the site is shown in Figure 2-19. Sixteen (16) sub-basin watersheds naturally contributed to Grayback Arroyo. The upstream drainages merged in the central portion of the current Copper Flat Project area and passed through to the eastern boundary via Grayback Arroyo.

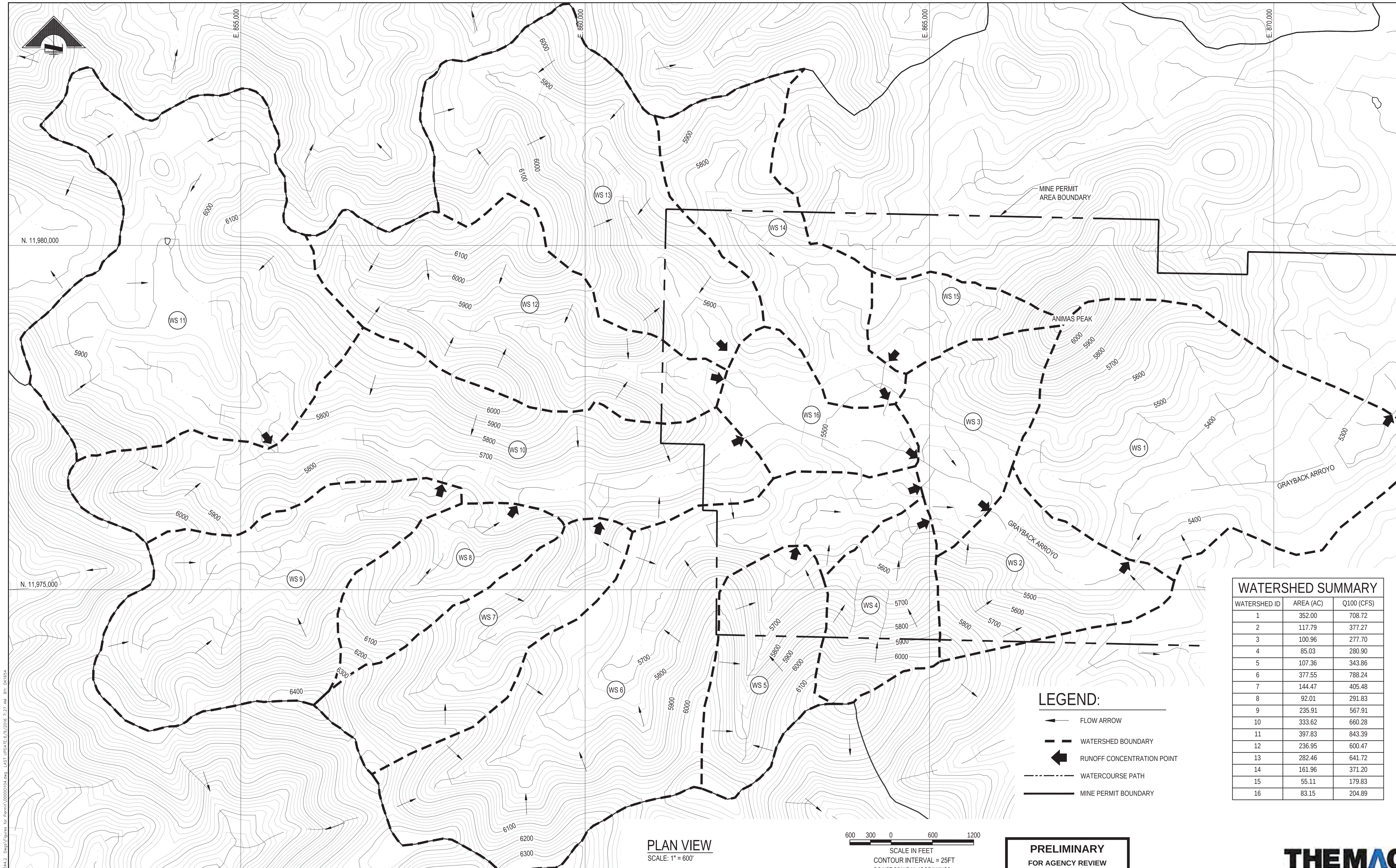
M3's analysis evaluated the diversions and culverts to determine their adequacy in conveying flows from storm events and protecting the site from flooding. Peak discharge and volume analyses for a 100-year, 200-year and 500 year 24-hour storm event was performed for drainage areas contributing to Grayback Arroyo located within the Copper Flat site area. Culvert and channel capacity analysis for the two culvert crossings was conducted for Grayback to determine water surface elevations during the design storm events. Peak flows were analyzed for each sub-basin contributing flow upstream of the site. Figure 2-20 shows the upstream sub-basins in relation to the site.

Diversion of surface drainages away from the mining area was accomplished by Quintana when they developed the site by constructing the diversions described above. Future development of the site by NMCC will result in changes to watersheds shown on Figure 2-19 in the area of the site. Watershed areas no. 15 and 16 will be completely within open pit surface drainage area and will be eliminated as tributaries to Grayback Arroyo. Portions of watersheds 1, 2, 3 and 14 will be incorporated into the site storm water control area of the site and will no longer contribute directly to Grayback Arroyo. These differences can be seen by comparing Figure 2-19 to 2-20.

M3 evaluated the storm flows in the Grayback Arroyo drainage for the 100-year, 200-year, and 500-year 24-hour storm events for the pre-Quintana, i.e., natural conditions in comparison to Post-Quintana NMCC proposed site conditions. The results demonstrate that the existing diversion structures and culverts provide appropriate surface water management of the drainage that is protective of the site.

TSF Diversions

With regard to diversions and other control features at the TSF, Section 6.6, Surface Water Management, of Appendix A, the TSF design report, contains a discussion of the design features of the diversion structures planned to manage surface water runoff at this location. Diversion ditches will be constructed as shown on Figure 2-21, to divert run-on away from the impoundment. The TSF will be built in phases, as shown in Figure 2-21, requiring a series of ditches to be constructed through phase 3 of dam construction to divert run-on to the TSF. When subsequent phases are constructed in the later years of the project, the footprint of the TSF will be such that there will be no run-on of surface water to the TSF as seen on Figure 2-22. The design details for these ditches are contained in Appendix A.



WATERSHED SUMMARY		
WATERSHED ID	AREA (AC)	Q100 (CFS)
1	352.00	708.72
2	117.79	377.27
3	100.96	277.70
4	85.03	280.90
5	107.36	343.86
6	377.55	788.24
7	144.47	405.48
8	92.01	291.83
9	235.91	567.91
10	333.62	660.28
11	397.83	843.39
12	236.95	600.47
13	282.46	641.72
14	161.96	371.20
15	55.11	179.83
16	83.15	204.89

PRELIMINARY
FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE: 1" = 600'		DATE
DESIGNED BY	AJE	OCT 15
DRAWN BY	AJE	OCT 15
CHECKED BY		
PROJECT MGR		
CLIENT APPR.		

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COPPER FLAT PROJECT

GENERAL SITE
CIVIL
PRE QUINTANA
EXISTING WATERSHED AREAS

JOB NO. M3 PN-120085
DWG NO. **FIGURE 2-19**
REV NO. P2
DATE 09 JUN 16

WATERSHED SUMMARY

WATERSHED ID	AREA (AC)	Q100 (CFS)
1	28.21	117.20
2	106.56	363.66
3	34.99	129.54
4	75.02	259.92
5	124.19	342.49
6	331.22	774.13
7	144.47	411.06
8	92.01	291.83
9	235.91	567.91
10	330.41	663.73
11	397.83	843.39
12	227.42	588.30
13	275.51	649.87
14	79.97	243.90

LEGEND:

- FLOW ARROW
- WATERSHED BOUNDARY
- RUNOFF CONCENTRATION POINT
- WATERCOURSE PATH
- MINE PROPERTY BOUNDARY

PLAN VIEW

SCALE: 1" = 600'

600 300 0 600 1200

SCALE IN FEET

CONTOUR INTERVAL = 25FT

DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY

FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT
0000-CI-006	DEVELOPED WATERSHED AREAS														

SCALE: 1" = 600'		DATE
DESIGNED BY	AJE	OCT 15
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CLIENT APPR.		

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COPPER FLAT PROJECT

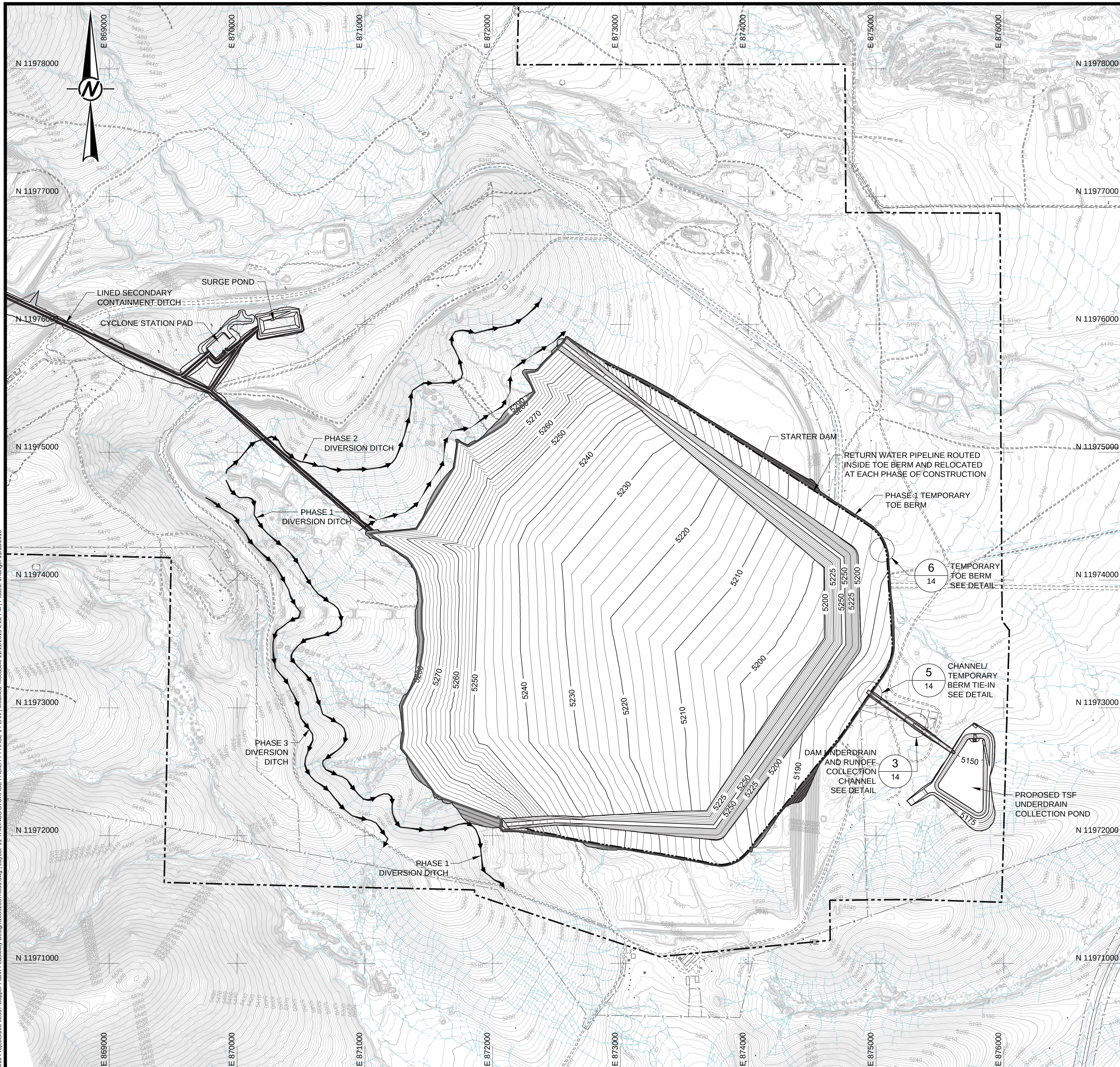
GENERAL SITE
CIVIL
POST QUINTANA
EXISTING WATERSHED AREAS

JOB NO. M3 PN-120085

DWG NO. **FIGURE 2-20**

REV NO. P1

DATE 20 NOV 15



K:\2010 Projects\103-92557 Copper Flat\K-Feasibility Design\10392557K006.dwg | Layout: 11 TAILINGS STORAGE FACILITY PHASE 1 PLAN | Modified: nlocascio 11/11/2015 2:22 PM | Plotted: JRangel 11/13/2015

LEGEND

- 3600 EXISTING GROUND CONTOUR (ft -MSL)
- EXISTING ROADS
- EXISTING DRAINAGE
- EXISTING FENCELINE
- MINE PERMIT AREA BOUNDARY
- 3600 REGRADED CONTOURS (ft -MSL)
- TEMPORARY TOE BERM CENTERLINE
- PHASE 1 PHASE BOUNDARY
- GRADE BREAK
- SLOPE INDICATOR
- 3H:1V or 3H/1V 3 HORIZONTAL TO 1 VERTICAL SLOPE
- 5% GRADE INDICATOR
- 1 / 14 DETAIL CALLOUT: DETAIL ID, DRAWING SHEET LOCATION
- A / 13 CROSS-SECTION CALLOUT: SECTION ID, DRAWING SHEET LOCATION

0 400 800 1200
SCALE FEET

REV	DATE	REVISION DESCRIPTION	DES	CADD	CHK	RVW
F	2015-11-12	ISSUED FOR CLIENT AND AGENCY REVIEW	GM	NIL	GM	MJG
E	2015-10-27	ISSUED FOR CLIENT AND AGENCY REVIEW	GM	NIL	GM	MJG
D	2014-01-06	ISSUED FOR FEASIBILITY REPORT (30,000 TPD)	DMW	JHR	GM	MJG
C	2013-11-15	ISSUED FOR 30,000 TPD M3 USE	DMW	NIL	GM	MJG
B	2013-07-17	ISSUED FOR FEASIBILITY STUDY	DMW	NIL	GM	DAK
A	2013-05-03	ISSUED FOR CLIENT REVIEW	DMW	NIL	GM	DAK

DRAWING USE

PRELIMINARY
FOR AGENCY REVIEW

PROJECT

THEMAC RESOURCES — NEW MEXICO COPPER CORPORATION
Environmentally Responsible. Community-Minded. Local Opportunities.

COPPER FLAT PROJECT
30K TPD TAILINGS STORAGE FACILITY
FEASIBILITY DESIGN
SIERRA COUNTY, NEW MEXICO

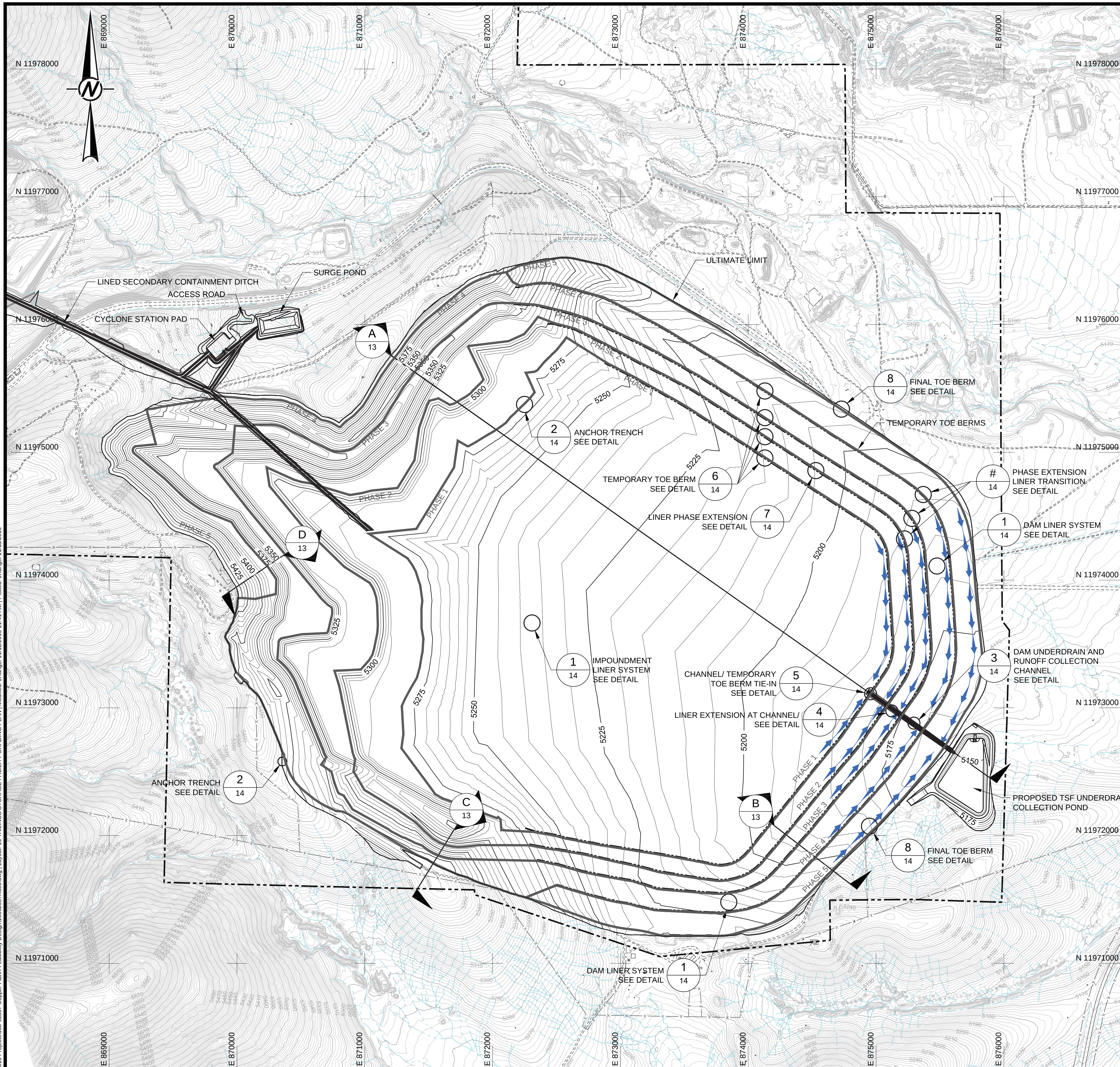
TITLE

TAILINGS STORAGE FACILITY
DIVERSION DITCH LOCATIONS

Golder Associates

PROJECT No.		103-92557	FILE No.	10392557K006
DESIGN	DW	2013-04-08	SCALE	AS SHOWN
CADD	JHR	2013-07-10	DRAWING	
CHECK	GM	2013-07-16		11
REVIEW	DAK	2013-07-17		

FIGURE 2-21



LEGEND

3600	EXISTING GROUND CONTOUR (ft -MSL)
	EXISTING ROADS
	EXISTING DRAINAGE
	EXISTING FENCELINE
	MINE PERMIT AREA BOUNDARY
3600	REGRADED CONTOURS (ft -MSL)
	TEMPORARY TOE BERM CENTERLINE
PHASE 1	PHASE BOUNDARY
	GRADE BREAK
	DRAINAGE
	SLOPE INDICATOR
3H:1V or 3H/1V	3 HORIZONTAL TO 1 VERTICAL SLOPE
5%	GRADE INDICATOR
1 / 14	DETAIL CALLOUT DETAIL ID DRAWING SHEET LOCATION
A / 13	CROSS-SECTION CALLOUT SECTION ID DRAWING SHEET LOCATION

SCALE 0 400 800 1200 FEET

REV	DATE	REVISION DESCRIPTION	DES	CADD	CHK	RVW
F	2015-11-12	ISSUED FOR CLIENT AND AGENCY REVIEW	GM	NIL	GM	MJG
E	2015-10-27	ISSUED FOR CLIENT AND AGENCY REVIEW	GM	NIL	GM	MJG
D	2014-01-06	ISSUED FOR FEASIBILITY REPORT (30,000 TPD)	DMW	JHR	GM	MJG
C	2013-11-15	ISSUED FOR 30,000 TPD M3 USE	DMW	NIL	GM	MJG
B	2013-07-17	ISSUED FOR FEASIBILITY STUDY	DMW	NIL	GM	DAK
A	2013-05-03	ISSUED FOR CLIENT REVIEW	DMW	NIL	GM	DAK

DRAWING USE

PRELIMINARY

FOR AGENCY REVIEW

PROJECT

THEMAC RESOURCES — NEW MEXICO COPPER CORPORATION — Environmentally Responsible. Community Minded. Local Opportunities.

COPPER FLAT PROJECT
30K TPD TAILINGS STORAGE FACILITY
FEASIBILITY DESIGN
SIERRA COUNTY, NEW MEXICO

TITLE

TAILINGS STORAGE FACILITY DAM LIFT PHASES

Golder Associates

PROJECT No.		103-92557	FILE No.	10392557K005
DESIGN	DW	2013-04-08	SCALE	AS SHOWN
CADD	JHR	2013-07-10	DRAWING	
CHECK	GM	2013-07-16		10
REVIEW	DAK	2013-07-17		

FIGURE 2-22

Other Diversion Structures

With respect to diversion channels, ditches swales, curbs, contours and other manmade surface water control features constructed to manage and divert surface water off of waste rock stockpiles and the plant site, Appendix B contains a discussion of the design features incorporated into the design of the stockpiles and plant site to manage surface water runoff from these areas.

2.2.4 Disposal Systems – 19.10.6.602.D.(15)(c)(v)

Disposal systems contemplated at the Copper Flat facility include:

- Waste Rock Stockpiles,
- Tailings Disposal Facilities,
- Sewage disposal,
- Solid waste disposal, and
- Hazardous and chemical waste disposal.

Information regarding the waste rock stockpile disposal system is contained in Subsection 2.2.9 below. Information regarding the TSF disposal system is contained in Subsection 2.2.6 below.

Sewage Disposal

With respect to sewage disposal, NMCC will not use a septic tank and leach field treatment system for disposal of domestic wastes at the Copper Flat Mine. Disposal of domestic wastes generated will be accomplished by installing a single packaged wastewater treatment plant to serve the majority of employees and visitors at the mine. Individual portable toilet facilities for outlying areas of the operation will be utilized, as needed.

The packaged wastewater treatment plant will receive and treat domestic wastes from buildings located in the administration, concentrator, and mine shop areas. The packaged system will be sized for a load based on the number of mine employees and visitors expected at the mine during a 24-hour period and applying an average water use of 50 gallons per day per person. Breaking down the employee headcount for the mine by the planned rotation schedule indicates 160 employees per day will be using facilities connected to the package plant. An additional 40 persons per day are assumed to account for visitors and contractors. Based on these figures, a 10,000 gallon per day plant has been selected for Copper Flat Mine. The plant will be located on a pre-existing concrete slab near the main gate as shown in Figure 2-2. The plant will generate effluent treated to secondary treatment levels. Treated effluent from the plant will be piped to the tailings storage facility for disposal in the impoundment. System specifications and installation will conform to State and local regulations. Individual portable toilet facilities will be provided for employees working in outlying areas of the operation such as the pit, mine stockpile areas, the primary crusher, and the TSF. The portable toilets will be maintained by a licensed contractor on a regular basis.

Solid Waste Disposal

Solid non-hazardous waste generated at the site will include paper, wood, scrap metal and domestic trash. These materials will be disposed of in a permitted on-site Class III sanitary landfill on private land permitted by the State of New Mexico, or by other methods approved by the State and Sierra County. When recycling services are available, scrap paper, wood, and scrap metal will be sold for recycling to a dealer and transported off-site. Electronics will be held onsite and recycled appropriately as sufficient quantities are generated.

Hazardous and Non-Hazardous Waste Disposal

The Copper Flat facility will be a small generator of hazardous waste as defined in 40 CFR 260.10. Small quantity generators generate more than 100 kilograms, but less than 1,000 kilograms of hazardous waste per month. Management of hazardous waste materials at Copper Flat will comply with all applicable Federal, State and local requirements. All hazardous waste generated at Copper Flat will be managed and transported off-site by a licensed contractor for disposal in accordance with state and federal regulations.

2.2.5 Pits – 19.10.6.602.D.(15)(c)(vi)

NMCC proposes to construct an open pit mine at its Copper Flat project as shown in Figure 2-2 and discussed in detail in Section 2.1.2. This new facility will entail the expansion of an existing open pit previously developed and operated for a short time in 1982 by Quintana. A portion of the ore body at Copper Flat is exposed at the surface and the ore body is proposed to be mined solely by conventional truck and shovel open pit methods. The proposed mining activities will enlarge the open pit over time to a diameter of approximately 2,800 feet. The area of the pit will be expanded to approximately 165 acres. All material mined will be drilled and blasted and loaded into mine haul trucks for removal from the open pit. Ore will be hauled to the primary crusher and then conveyed to the mill as described below. Waste rock will be placed in designated stockpile areas as described in Section 2.2.11.

2.2.6 Tailings Disposal Facilities – 19.10.6.602.D.(15)(c)(vii)

NMCC will construct a tailings storage facility (TSF) which will include, a lined tailings impoundment with an associated underdrain collection system and underdrain collection pond for the impoundment and the dam, and a water reclaim or recycle system to maximize water reuse. The TSF will also include a cyclone plant to separate the tailings coarse and fine fractions and a surge pond to handle potential upset conditions at its Copper Flat Project. Appendix A provides the technical design detail for the TSF. As indicated previously, this document is also part of NMCC's Discharge Permit application.

The footprint of the proposed new TSF and related facilities shown in Figure 2-2 will be approximately 604 acres in size at full capacity. As described in Appendix A, a centerline construction method using tailings sand produced from the underflow of the cyclone plant for construction of the dam will be utilized. A starter dam will be constructed using borrow material to provide initial storage capacity and to provide a location for initial discharge of tailings. The centerline construction method allows construction of a stable, drained tailings dam using coarse tailings sands while reducing the quantity of fill material required for dam construction. The design for the new TSF will comply with the design and dam safety guidelines of the New Mexico Office of the State Engineer (OSE) Dam Safety Bureau.

The tailings impoundment is designed to store the tailings produced through processing 113 million tons of ore over approximately 11 years. Tailings deposition will occur continuously from ore processing at an annual average rate of approximately 27,890 tons per day. The tailings impoundment will be lined with an 80-mil HDPE, or equivalent liner, placed on a minimum 12-inch thick liner bedding fill material. In the initial phases of construction the bedding material will consist of recovered sand from the old Quintana starter dam. Later phases of construction will require the use of selected crushed and screened native materials or selected local soil be utilized. Bedding material will comply with agency approved specifications.

The TSF will have two separate underdrain systems; a dam underdrain underlying the dam to collect draining water from the coarse sands used to construct the dam, and an impoundment underdrain system overlying the impoundment liner to collect draining water that is collected behind the dam. The liner will extend from the impoundment under the dam and through the drainage collection ditch which will form a lined conveyance to the underdrain collection pond. Both underdrain systems will overlie the liner. The detail of their design is contained in Appendix A.

The dam underdrain will provide the mechanism that will drain water within the dam, out of the structure to the underdrain collection pond. This will allow the dam to become consolidated and stable as it is continually constructed during operations as the sand fraction of tailings is emplaced on the dam. The tailings impoundment underdrain system will allow free water in the impoundment to be drained out from underneath the impoundment to the underdrain collection pond. Water collected in the underdrain collection pond will be recycled to the processing facility. The underdrain, together with the impoundment synthetic liner, will provide significant mitigation against the potential for seepage from the impoundment. It will also contribute to the ability to recycle water from the system to the process facility while contributing to the stability of the TSF.

The drained water will be collected in the collection trench and be routed to the underdrain collection pond. Collected water will be pumped back to the process facility for reuse. The TSF collection trench and underdrain collection pond will also serve to capture surface water runoff routed from the downstream face of the tailings dam via runoff control ditches to the pond.

The TSF underdrain collection pond will be double-lined with a 60 mil, or equivalent, HDPE geomembrane liner. An HDPE geonet will be placed between the liners to serve as the LCRS and to minimize pressure on the lower pond liner. The pond is sized to contain 24 hours of underdrain flow at maximum estimated drainage rates from the dam and impoundment underdrains, as well as runoff from the 100-year, 24-hour storm event of 3.73 inches incident on the downstream dam face. The pond capacity is approximately 12.24 million gallons with 2 feet of freeboard. Design details are contained in Appendix A.

The TSF will also be equipped with a water reclaim system to collect water forming on the surface of the tailings impoundment for return to the processing facility. The water reclaim system will consist of a floating barge located within the tailings impoundment containing pumps to remove water from the impoundment, a pipeline to transport the reclaimed water to the process water reservoir.

The TSF will also have an associated surge pond that will be part of the cyclone plant located at the TSF. The purpose of the surge pond is to capture and temporarily retain tailings materials in the event of a temporary upset at the cyclone plant. It will also provide temporary storage in the event that an upset occurs in the tailings circuit. The surge pond liner will consist of a compacted liner bedding fill layer, overlain with a 60 mil HDPE geomembrane or equivalent. The liner bedding will be a minimum of six inches of sand or fine soil. It is designed to retain tailings and other process water that is not diverted directly to the tailings impoundment in the event of temporary upset conditions.

Under normal operating conditions the surge pond will be empty. It is designed to receive tailings materials and process water on a temporary basis. Feasibility level design capacity of the surge pond is 1.6 million gallons, sufficient to handle the volume of upset conditions plus direct precipitation from a 100-year 24 hour precipitation event with at least 2 feet of freeboard. This design capacity conservatively assumes that an upset would occur during a maximum precipitation event and that the cyclone plant is running at maximum design rates, allowing time for operators to react to the situation. In addition, the pond will be equipped with dedicated pumps and water level actuators to automatically begin pumping materials to the TSF. The pumps will be tied into the site emergency power grid. The process control room will be equipped with emergency alarms that notify the operator of an upset condition immediately to allow the operator to make necessary adjustments in the process, as needed.

2.2.7 Mills (Process Facilities) – 19.10.6.602.D.(15)(c)(viii)

The Copper Flat ore processing facilities will be constructed at the site of the original Quintana processing plant site which is located southeast of the existing open pit as shown in Figure 2-2. The plant facilities will be approximately 128 acres in size. Ore processing will consist of a conventional sulfide flotation plant to extract copper, a molybdenum processing circuit, and a gravity gold recovery circuit. No smelting, refining or SX/EW operations will be conducted at the Copper Flat site. The plant will produce copper and molybdenum concentrates as well as a small amount of coarse gold concentrate. Figure 2-13 is a conceptual flow diagram of the process. The ore will be fed to the primary crusher and crushed and ground to a fine particle size and then processed through mineral flotation circuits. Ore processing activities will continue 24 hours per day, seven days per week, 365 days per year. The plant will process approximately 11 million tons per year at an average rate of 27,890 tons per day over the life of the project. An overview of the process area is provided herein, including preliminary isometric drawings, to aid the reader in visualizing how the ore is processed.

The process selected for recovering the copper and molybdenum minerals is considered "conventional." The sulfide ore is crushed and ground to a fine size and processed through mineral flotation circuits. The following items summarize the process operations required to extract copper and molybdenum from the Copper Flat sulfide ore. The major equipment for the mineral processing plant is discussed below.

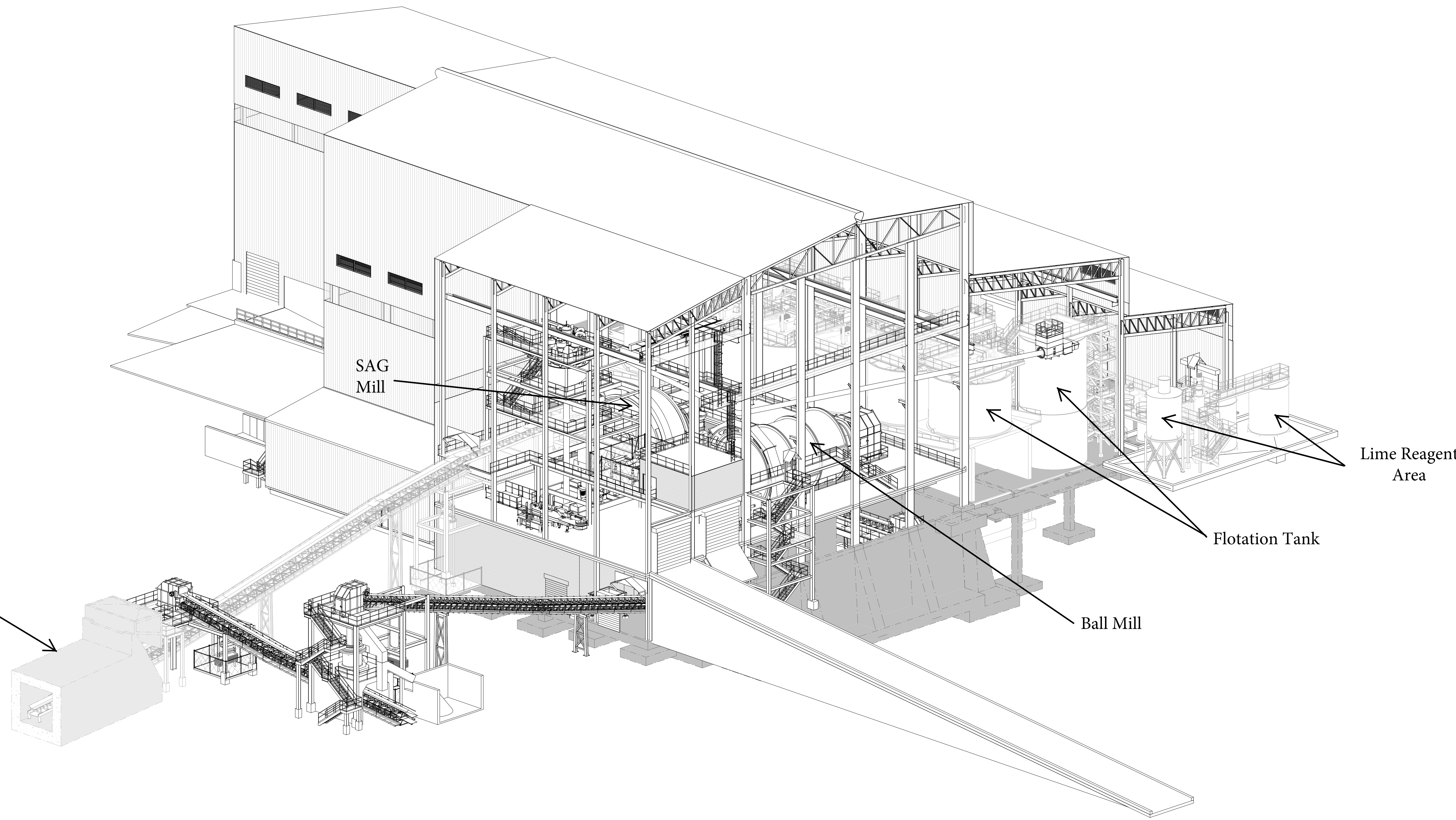
Primary Crushing and Coarse Ore Stockpile

As shown on Figure 2-13, run-of-mine ore will be trucked from the mine to the primary crusher where it will be dumped directly into the crusher dump pocket that feeds a gyratory crusher. A rock breaker will be installed at the dump pocket for use on oversized material. Primary crushed ore will be withdrawn from the crusher discharge pocket by a variable speed, crusher discharge apron feeder. The crusher discharge feeder will feed the coarse ore conveyor that will discharge to coarse ore stockpile. The crushing production rate will be monitored by a belt scale mounted on the conveyor. Tramp iron will be removed using a self-cleaning magnet that will be located at the transfer point between the crusher discharge feeder and the stockpile feed conveyor.

As seen on Figure 2-23, an existing reclaim tunnel is beneath the stockpile location. Ore will be withdrawn from coarse ore reclaim stockpile by variable speed apron feeders. The feeders will discharge to a conveyor belt that feeds the SAG mill in the grinding circuit. Fugitive dust will be controlled with water sprays at the discharge of the stockpile feed conveyor. Dust control in the coarse ore stockpile area will be by dry dust collector systems installed as part of the crushing area.

Crushing and Grinding

Ore from the coarse ore stockpile will be fed through the reclaim tunnel as shown on Figure 2-23 to the SAG mill. Ore will be ground to final product size in a SAG mill and ball mill grinding circuit. The SAG mill will operate in closed circuit with SAG mill discharge screen and pebble



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COPPER FLAT PROJECT

GRINDING GENERAL ARRANGEMENT CONCENTRATOR ISOMETRIC

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FIGURE 2-23

crusher. The SAG mill discharge screen undersize will flow by gravity to the primary cyclone feed sump and the screen oversize will be transported by conveyors to the pebble crusher. Pebble crushing will be conducted in a short-head cone crusher. The SAG mill discharge screen oversize can bypass the pebble crusher via diverter gate ahead of the pebble crusher. The bypassed screen oversize will feed a second diverter gate which will either feed the pebble crusher conveyor that transports crushed pebble to the SAG mill or dump pebbles to the pebble stockpile. Tramp iron, and broken media will be removed using a self-cleaning belt magnet that will be installed over the SAG mill oversize conveyor ahead of the pebble crusher.

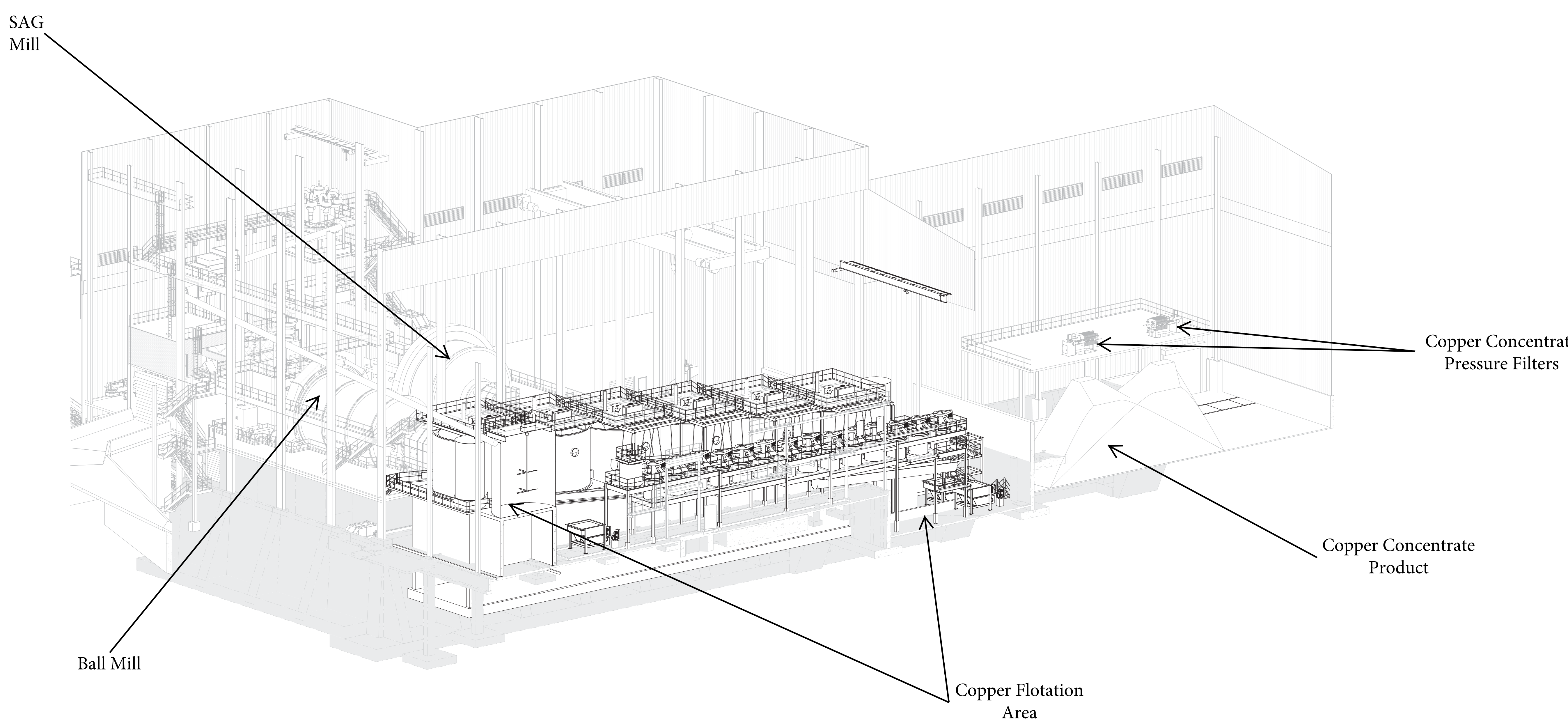
Secondary grinding will be performed in a ball mill which will operate in closed circuit with a cluster of hydrocyclones. The ball mill will discharge into a cyclone feed sump. The contents of the sump will be transferred using a slurry pump to a hydrocyclone cluster. Most of the hydrocyclone underflow slurry will report to the ball mill, but a portion of the underflow will be taken through a Knelson-type gravity concentrator circuit to collect gravity recoverable gold. The gravity separation circuit will consist of two Knelson-type concentrators, each of which will have an upstream scalping screen to remove oversize material. The gravity concentrates will pass through magnetic separators for removal of tramp iron and broken grinding media. The tailings from the gravity concentrators will be pumped back to the cyclone feed sump.

Hydrocyclone overflow (final grinding circuit product) will flow by gravity to the rougher flotation conditioning tank ahead of the rougher flotation cells. The overflow slurry will be sampled and analyzed for metallurgical control prior to flotation.

Grinding balls will be added to SAG mill and ball mill using ball loading systems. Lime slurry will be added to the SAG mill and ball mill feed to adjust the pH of the slurry. If needed, lime slurry may also be added to the primary grinding sumps. In addition, fuel oil will be added to the SAG mill feed to aid in molybdenite collection.

Flotation

Primary grinding hydrocyclone overflow will flow by gravity to the bulk flotation circuit (see Figures 2-23 and 2-24). The bulk flotation circuit will consist of a conditioning tank, one row of rougher flotation cells, a rougher concentrate vertical regrind mill, one row of first cleaner/cleaner-scavenger flotation cells and two second cleaner column flotation cells. The rougher flotation row will consist of six tank type rougher flotation cells with a drop between each cell. Flotation reagents will be added to the hydrocyclone overflow in the rougher flotation conditioning tank where the slurry will be agitated to allow the reagents to react with the ore particles before feeding to the rougher flotation cells. The flotation concentrate from the last four rougher flotation cells will be transported by gravity to the rougher concentrate regrind sump. Tailing from the rougher flotation cell will be sampled and transported to the tailings treatment facility. Rougher flotation tailings will be sampled for metallurgical control.



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COPPER FLAT PROJECT

FLOTATION GENERAL ARRANGEMENT CONCENTRATOR ISOMETRIC

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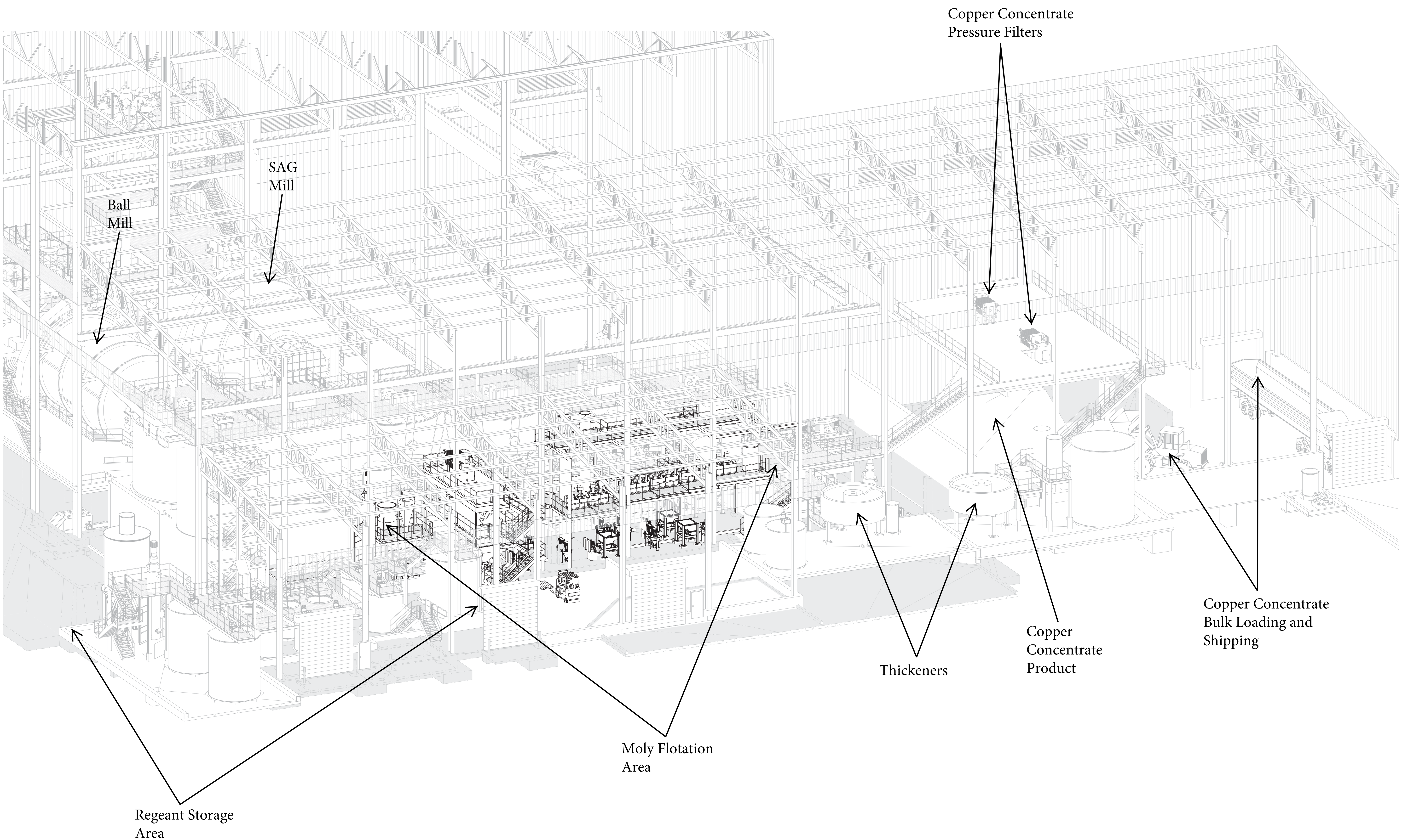
FIGURE 2-24

Concentrate from the last four rougher flotation cells, combined with first cleaner-scavenger concentrate and regrind cyclone underflow, will be pumped from the copper regrind cyclone feed pump box to copper regrind cyclone cluster. Copper regrind cyclone underflow will flow by gravity to the copper regrind mill. The copper regrind mill will operate in closed circuit with hydrocyclone.

Molybdenite Flotation

Figure 2-25 identifies the location of the molybdenum circuit. Regrind cyclone overflow, final regrind circuit product, will flow by gravity to an agitated conditioning tank. Second cleaner tailing and flotation reagents will also be added into this tank. Conditioning tank discharge will flow by gravity to the first cleaner/cleaner-scavenger flotation cells. The first cleaner flotation will consist of eight tank type flotation cells. Concentrate from the first cleaner flotation cells will be pumped to the concentrate distribution box. Tailing from the first cleaner flotation cells will flow by gravity to the first cleaner-scavenger cells. The first cleaner-scavenger flotation circuit will consist of six tank type rougher flotation cells. Concentrate from the cleaner-scavenger cells will be returned to the bulk concentrate regrind circuit sump using a froth pump. Tailing from the cleaner-scavenger cells will be pumped back to the rougher flotation circuit. Cleaner-scavenger tailing may be sent to the final tailing sump. Two discharge ports in the concentrate distribution box will direct the slurry to the feed inlets for the second cleaner column cells operated in parallel. Second cleaner tailing slurry will be pumped from the two columns to the first cleaner conditioning tank from where it will be pumped to the first cleaner flotation cells. The second column cleaner concentrate slurry will be pumped to the copper-moly concentrate thickener. A blower will supply air to bulk second cleaner column cells to the bulk mechanical rougher, first cleaner/cleaner-scavenger and second cleaner bulk flotation tank cells. Flotation reagents will be added at several points in the bulk flotation circuit. Flotation reagents will be added at several points in the bulk flotation circuit.

Bulk second cleaner concentrate will be transported to the copper-moly concentrate thickener. Thickener overflow will be pumped by a horizontal centrifugal pump from an overflow sump to the plant reclaim water storage tank. Copper-moly thickener underflow will be pumped by a slurry pump to the molybdenite flotation circuit. The molybdenum flotation circuit will consist of one row of copper-moly separation (rougher) flotation cells, one row of molybdenite first cleaner flotation cells, a moly regrind circuit, one molybdenite second cleaner flotation cell, and one molybdenite third cleaner flotation cell. The copper-moly separation (rougher) flotation row will consist of eight mechanical rougher flotation cells. Concentrate from the copper-moly separation (rougher) cells will be pumped by froth pump to the molybdenite first cleaner flotation cells. Tailing from the copper-moly separation cells will flow by gravity to the copper concentrate thickener. The molybdenite first cleaner flotation row will consist of four mechanical cells. Concentrate from the molybdenite first cleaner cells will be pumped by froth pump to the feed sump of the molybdenite concentrate regrind circuit. Tailing from the



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MOLY PROCESS GENERAL ARRANGEMENT CONCENTRATOR ISOMETRIC

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FIGURE 2-25

molybdenite first cleaner flotation cells will flow by gravity to the feed launder of the copper concentrate thickener. Concentrate from the moly first cleaner cells will be sampled. Molybdenite concentrate regrinding will be performed in a vertical mill. Molybdenite first cleaner flotation concentrate will feed the vertical mill which will discharge into the moly regrind discharge pump box and pumped to the moly second cleaner column cell.

Slurry will be pumped by the second moly cleaner feed pump to the molybdenite second cleaner flotation column cell. Tailing from the molybdenite second cleaner column cell will be pumped to the moly first cleaner flotation cells. Molybdenite second cleaner concentrate will be pumped to the moly third cleaner column cell. Concentrate from the molybdenite third cleaner column cell will be pumped to the agitated moly filter feed tank that feeds the moly filtering and drying circuit. Tailing from the molybdenite third cleaner column cell will be pumped to the molybdenite regrind cyclone feed sump. A blower will supply air to the second and third moly cleaner column cells.

Flotation reagents will be added at several points in the molybdenite flotation circuit. Molybdenite circuit process streams will be sampled for metallurgical control. Sample points include: concentrate from the copper-moly separation (rougher) flotation row, concentrate from molybdenite first cleaner flotation row, and concentrate from molybdenite third cleaner column cell.

Copper Concentrate Dewatering

Final copper concentrate will be a combination of tailings from copper-moly separation flotation and moly first cleaner flotation cells. Each tailing stream will be sampled before being transported to the copper concentrate thickener feed box from where the combined tailings will be fed to the copper concentrate thickener. Thickener overflow will be pumped from the overflow pump box by a horizontal centrifugal pump to the copper-moly concentrate thickener feed box. Thickener underflow will be pumped by variable speed horizontal centrifugal slurry pump to the copper concentrate stock tank from which it will be pumped to the copper concentrate filters. Horizontal centrifugal pumps will transport copper concentrate slurry from agitated concentrate stock tank to two automatic plate-and-frame pressure filters. The filters will discharge batches of filter cake to a copper concentrate stockpile at the east end of the mill building. Filtrate and filter wash water will be returned to the feed box of the copper-moly concentrate thickener. A front-end loader will fill highway haulage trucks with copper concentrate on a built-in truck scale. A wheel wash system for the concentrate haulage trucks will ensure that concentrate will not be carried out of the load out area.

Molybdenite Concentration

Molybdenite concentrate from the molybdenite third cleaner column cell will flow by gravity to the moly filter feed tank. Concentrate from the agitated tank will be pumped to a disc filter for dewatering. Filter cake will discharge to a conveyor that feeds a Holoflite-type hot oil dryer. The dryer will discharge via a screw conveyor to the molybdenite concentrate storage bins. Filtrate will be pumped to the copper-moly thickener.

Tailings Dewatering

Tailings from the bulk rougher flotation row will flow by gravity to a tailings separation facility where hydrocyclones will be used to separate the coarser sands to build the dam. Underflow sands will be pumped to the crest of the tailings storage facility (TSF). Cyclone overflow fines will be pumped to the TSF and spigotted to the interior of the impoundment. Further settling of the fines produces a supernatant water pond at the back (upstream) of the impoundment that will be reclaimed and pumped to the Reclaim Reservoir. Drainage from the tailings materials will be captured by a synthetic liner and conveyed via a drainage system to a underdrain collection pond. Collected seepage water will be pumped to the Process Water Reservoir.

Reagent Storage and Mixing

Reagents requiring handling, mixing, and distribution system include:

- Potassium Amyl Xanthate (PAX, collector)
- Methyl Isobutyl Carbinol (MIBC, frother)
- Sodium Hydrosulfide (NaHS), copper mineral depressant)
- Flocculant
- Pebble Lime (CaO, pH modifier)
- Fuel oil (molybdenite collector)
- Butyl dithiophosphate
- Antiscalant

Figure 2-26 identifies the general reagent area.

Process Water Handling and Disposal

All water used in the processing of ore will be either be contained within the ore processing circuit, discharged to the TSF, or be in the copper and molybdenum concentrates as moisture content. The plant water system will consist of a lined process water reservoir and a plant process water storage tank. Both will be located near the plant site. Water will be delivered to the reservoir via pipelines. Water reporting to the reservoir includes the following:

- Recycled process water from the TSF;
- Makeup water from the fresh water tank (water from the well field);
- Copper/molybdenum concentrate thickener and copper concentrate thickener; overflows; and
- Storm water from the impacted storm water impoundments.

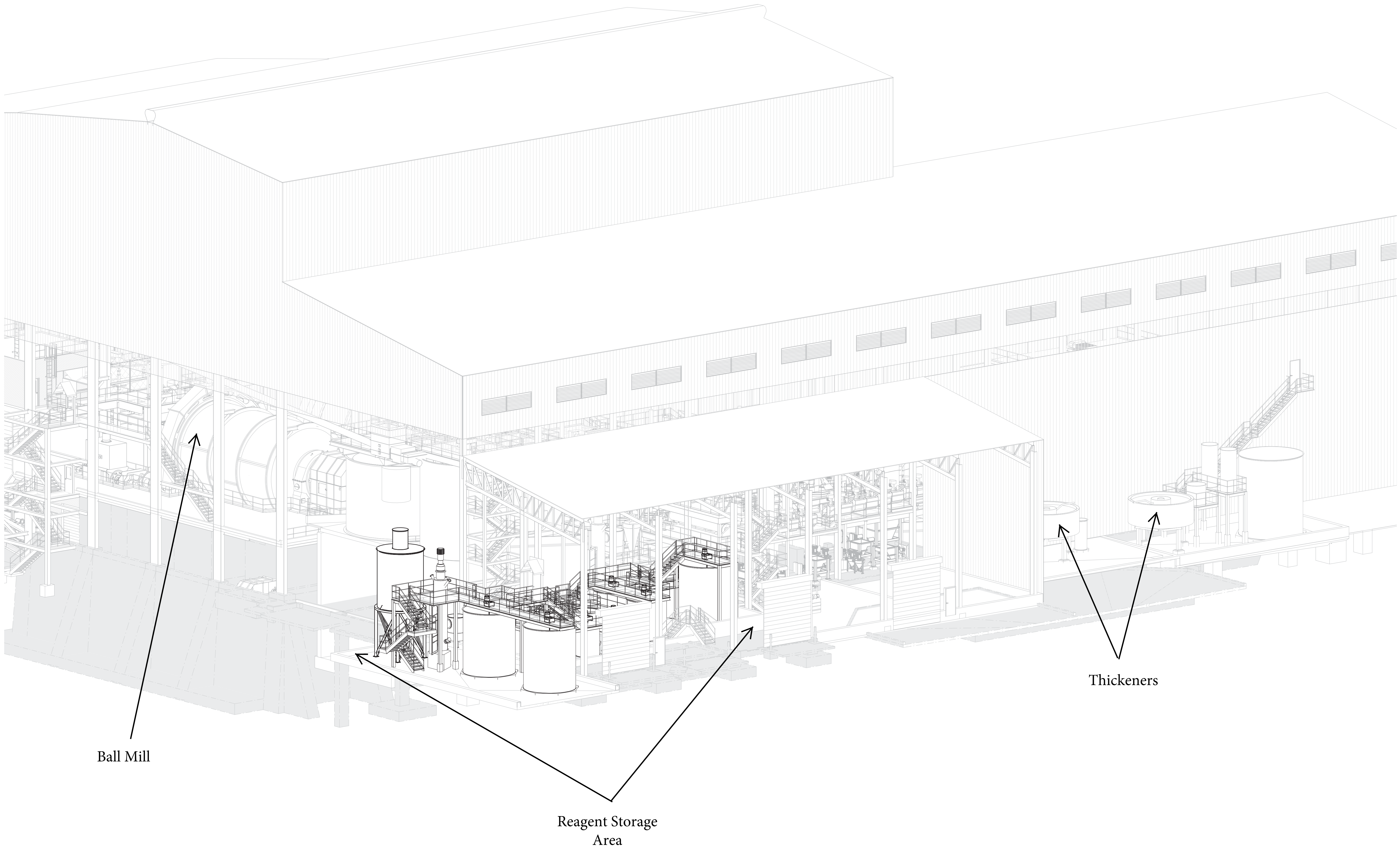

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FIGURE 2-26

Water from the process water reservoir will be pumped to the plant process water tank. The tank will deliver water the processing areas for use as needed a via gravity-flow pipeline. Approximately 73 percent of the water required for processing ore will be provided by recycling water back from the TSF and storm water harvesting. Approximately 23 percent of the water used for processing ore will remain entrained within the tailings. The remaining 4 percent will be lost to evaporation or as moisture in the concentrates. The amount of water in the concentrates will be less than 1 percent of the total water used for processing ore.

2.2.8 Water Treatment Facilities - 19.10.602.D.(15)(c)(ix)

The Copper Flat Project is designed to prevent water discharge into the environment. Therefore, no water treatment facilities other than the packaged waste water treatment facility discussed in Section 2.2.4, above, are planned.

2.2.9 Storage Areas - 19.10.6.602.D.(15)(c)(x)

Planned storage areas for equipment, vehicles, chemicals and solutions at Copper Flat will all be located within the area described as the plant facilities as shown in Figure 2-2. All equipment and vehicles will be utilized and maintained within the confines of the mine permit area. There will be areas specified during operations for parking of mine equipment and vehicles when not in use such that any leakage and/or potential spillage from them will be captured within contained and curbed areas of the facility and not released off-site.

As shown in Figure 2-14 and discussed in Section 2.2.2, all surface runoff is managed so that it reports either to the open pit or an impacted storm water impoundment. Appendix C provides a discussion of the various containment areas designed within the process area to contain the chemicals and solutions utilized at the site to ensure that all potential releases are managed and contained. Appendix C was produced, in part, to address the NMED's Copper Rule with respect to describing proposed sumps, tanks, pipelines and truck and equipment wash units, including information for each unit regarding its location purpose construction material, dimensions and capacity. Appendix C also provides the information requirements of 19.10.6.602.D.(15)(c)(x) of the Mining Act Rules. For example, Drawing No. 0000-CI-008 in Appendix C is a scaled map of the location of the various process facility containment areas. Drawing No. 0000-GA-050 is a scaled map of the concentrator area identifying the containment arrangement for all of the process tanks, including the locations of the sumps and tanks. Drawing No. 1010-AR-012 is a scaled map of the truck shop tank farm showing the location of the tanks and sump. Drawing No. 1010-GA-010 is a scaled map of the fuel station showing the location of the tanks and sumps. Drawing No. 1010-GA-001 is a scaled drawing showing the location of the Truck Wash and its sumps or settling tanks.

2.2.10 Topsoil & Topdressing Stockpiles – 19.10.6.602.D.(15)(c)(xi)

Figure 2-2 identifies the location of three topsoil and topdressing stockpiles (also called Growth Media Stockpiles) that will be developed as part of the site development and construction phases of operation. The general term growth media is used rather than a more specific term such as topsoil, because various natural materials would be stockpiled during construction of the mine for use as growth media during reclamation. Primary considerations for selection of growth media are the quantity required to support reclamation and the available water holding capacity of the materials (BLM DEIS November 2015, p. 3-140). The GMSPs will be made up of soils and underlying suitable unconsolidated alluvial and colluvial materials salvaged from areas where the TSF and waste rock stockpiles will be constructed as discussed in the Golder Supplemental Soils Investigation of July 8, 2013, submitted to the MMD and NMED. The report was submitted as part of NMCC's Copper Flat Mine Baseline Data Report Addendum dated July 17, 2013 (NMCC 2013) as Appendix C, Supplemental Soils Investigation.

Golder collected soil samples during a geotechnical investigation conducted in December 2012 and January 2013 as part of their studies conducted in designing the TSF (see Appendix A). The soils investigation provided sufficient information to develop additional insight about the presence of potential cover materials on-site for reclamation and quantify soil resources available. As shown in Figure 2-2, GMSP No. 1 will be located at the southwest corner of the TSF. GMSP No. 2 will be located north of the TSF north of Grayback Arroyo. GMSP No. 3 will be located east of WRSP-3.

Golder's supplemental soils investigation provides the soils data gathered, including sample and field descriptions of soils in and around the footprint of the proposed TSF and WRSP-3. The information has been utilized to develop salvage strategies for the GMSPs in conjunction with construction of the TSF and WRSP-3 and the Reclamation and Closure Plan (see Appendix E). Section 3.0 of Appendix C of Golder's soils investigation discusses the soil resource characterization conducted, including physical and chemical properties, and reclamation suitability. Section 4.0 of the investigation provides estimates of cover material available.

2.2.11 Waste Rock Stockpiles 19.10.6.602.D.(15)(c)(xii)

NMCC will construct three new waste rock stockpiles (WRSP) in conjunction with operation of its Copper Flat Project as discussed previously in Section 2.1.3. NMCC considers that all material excavated from a mine facility that is not ore or clean topsoil is waste rock. Figure 2-2 shows the location of each of the WRSPs relative to the mine and the process area. Figures 2-3 through 2-11 show the design and construction sequencing for the mine pit and the new proposed WRSPs beginning at the preproduction stage through the life of the mine. As indicated in Section 2.1.3, the proposed WRSPs will be built generally to a configuration of 3 horizontal to 1 vertical slope. This design consideration is an example of NMCC's commitment to "operating for closure", or "design for closure", as it facilitates reclamation at the end of the mine life. Each lift within the stockpile will be approximately 75 ft. high and be placed at angle of repose (1.5 horizontal to 1 vertical) with bench setbacks left between lifts sufficiently wide enough to maintain the 3 horizontal to 1 vertical 1 overall angle for the stockpile.

Surface water runoff collection trenches will be constructed, as needed, to collect and route runoff from the proposed stockpiles to the storm water impoundments describe above. These trenches will be constructed into the andesite bedrock to prevent water from entering the alluvial surface material down-gradient of the WRSP and in a manner to maximize positive flow while minimizing the potential for ponding and erosion.

The planned storage or disposal capacity of the proposed new WRSPs over the life of the mine is as follows:

- WRSP-1 – 3.16 million tons
- WRSP-2 – 8.64 million tons
- WRSP-3 – 32.89 million tons

In addition to the proposed new stockpiles, there exist four small waste rock stockpiles at the site (i.e., EWRSP-1, EWRSP-2A and 2B, EWRSP-3, and EWRSP-4) and generated by the previous Quintana operation. Their location is shown on Figure 2-1. EWRSP-1 is located at the western edge of the open pit surface drainage area (OPSDA) and contains approximately 486,000 tons of material. EWRSP-2A and 2B are located at the northwest side of the site within the OPSDA and contain approximately 760,050 tons of material in total. EWRSP-3 is located next to the primary crusher within the plant facility area and contains approximately 333,300 tons of material. Approximately 123,000 tons of this material consists of unprocessed ore remaining on-site at the end of Quintana's operations, 24,000 tons of which is a small amount of unprocessed run-of-mine ore, 44,000 tons of which is crushed ore contained in the coarse ore stockpile area, and 55,000 tons of which was removed from the coarse ore stockpile and utilized to backfill the process building foundations. EWRSP-4 is located southeast of the mine pit and contains approximately 1.0 million tons of material. As discussed later herein in the Reclamation and Closure Plan, the EWRSPs will be reclaimed either during operations as part of NMCC's contemporaneous reclamation or at the end of the life of mine at closure.

2.2.12 Other Facilities and Structures – 19.10.6.602.D.(15)(c)(xiii)

In addition to the Copper Flat facilities described above within the permit area boundary, there are several other ancillary facilities and structures, located off-site, existing and proposed, that will contribute to the project. These facilities are located within nine mill site claims held by NMCC east of the Copper Flat site as seen on Figure 2-12. These mill site claims are on federal land managed by the Bureau of Land Management (BLM). Seven mill site claims are clustered together in the southern half of Section 30, T5S, R5W and the northern half of Section 31, T5S, R5W, south of State Highway 152. An eighth mill site claim is located in the southeast quarter of Section 28, T15S, R6W, north of Highway 152, and the ninth mill site claim is located in the southeast quarter of Section 25, T15S, R6W, just south of the highway. Each mill site is five acres in size. Portions of these sites have been previously developed and disturbed during installation of the water wells, pipeline and access roads installed by Quintana in the late 1970's or early 1980's to provide water for their operations at Copper Flat. NMCC will operate these wells to provide water for the process facilities. The mill sites will also be utilized for other water-related infrastructure uses such as staging and storage areas for booster tanks, pumps and electrical equipment, maintenance, and monitoring. Access to the mill sites will be along existing unpaved roads. The land is also grazed by cattle.

In addition to the mill site claims controlled by NMCC, Figure 2-12 also shows the location of the proposed substation site in the northeast corner of Section 36, T15S, R6W, land owned by the State of New Mexico and managed by the New Mexico State Land Office (SLO). This 30 acre area is the proposed location of a proposed 10 acre power substation that will be installed and tied into an existing high voltage power line in order to provide the power needed to operate the mine. Access to the substation will be along an existing unpaved road.

2.3 Wildlife Impacts Contingency Plan – 19.10.6.602.D.(15)(d)

Impacts to wildlife from operation of the Copper Flat Project are not expected to be significant (BLM DEIS Nov. 2015, p. 2-95). At the completion of mining activities, the site will be restored to conditions and standards that meet approved post-mining land uses. These uses will include native plant communities similar to surrounding undisturbed areas for wildlife habitat, and grazing land potentially suitable for livestock. Once reclamation is successfully completed, wildlife populations would be expected to return to existing (i.e., pre-mining operation) levels (BLM DEIS Nov. 2015, p. 3-137 and 138).

The Mining Act regulations require that a contingency plan be developed for mitigating impacts to wildlife when there has been an emergency or accidental discharge of a toxic substance that may impact wildlife. It is highly unlikely that there will be any emergency or accidental discharge of toxic substances from the Copper Flat facilities. All process chemicals, diesel fuel, gasoline, hydraulic oils, lubricants, antifreeze and other such liquids will all be stored in such a manner so as to protect them from accidental discharge. All tanks, reagent storage areas and process areas have been designed to provide secondary containment per regulatory requirements. In addition, the processing facility and its related storage areas where toxic substances could be housed is designed such that accidental spills or other upset conditions that may occur will be routed to sumps and/or lined secondary containment ditches that will transport those materials to a surge pond for collection and then pumped either back to the process facility or directly to the TSF. The design of these sumps and ditches is discussed in the various design documents of the appendices.

Borrow areas will be kept free of steep walls and will be sloped and stabilized to allow for safe wildlife entry and exit and prevent erosion. NMCC will construct BLM-approved fencing to prevent livestock from entering the pit, WRSPs, and TSF. Fences of appropriate height will be constructed around water and solution ponds to keep out larger wildlife such as deer and antelope. In areas where a higher level of security or safety is needed, such as the mine substation, chain-link fences suitable for wildlife exclusion will be erected. Gates or cattle guards will be installed along roadways within the proposed mine area as appropriate. NMCC will monitor the fences on a regular basis and repairs will be made, as needed. In the event that livestock manage to enter the proposed mine area via a gate or opening in a fence, the grazing permittee will be contacted immediately. NMCC will assist, as requested, in moving these animals out of the proposed mine area.

The use of avian exclusion devices will be employed, as needed, to prevent deleterious exposure of birds to toxic chemicals or conditions used or created by mining and mineral processing operations.

NMCC's operations Spill Prevention, Control and Countermeasure Plan (SPCC) will provide contingencies to mitigate potential impacts from emergency or accidental releases of petroleum substances, including safeguards and quick clean-up measures to prevent detrimental impacts to humans and wildlife. All other potentially toxic materials will be stored in secured facilities that will exclude wildlife entry.

2.4 Sediment Control – 19.10.6.602.D.(15)(e)

The Copper Flat facility is designed to be a zero discharge facility. As such, sediment control is an important design feature at the site. As described in Appendix D, Grayback Arroyo and its tributaries up-gradient of the site have been diverted entirely around the site. Therefore, the only sedimentation that will be potentially produced will be from surface water runoff from several on-site sources including the mine pit area, the waste rock stockpiles, the process plant facilities and the TSF.

A Storm Water Pollution Prevention Plan (SWPPP) will be developed for construction and maintained during operation. Sediment control will be achieved by the use of BMPs including regrading, seeding and mulching, silt fences, straw bale dams, diversion ditches with energy dissipaters, and rock check dams at appropriate locations during construction and operation. Diversion structures, including existing structures, will divert run-on away from disturbed areas. All sediment control structures will be monitored and maintained on a regular basis. During operations, all runoff from the plant site will be directed into impacted storm water impoundments and other ponds, as discussed below. During reclamation, all ponds will be backfilled, re-contoured and graded, surfaces covered with top dressing, and vegetated.

2.4.1 Open Pit

The open pit surface drainage area is a closed basin that will capture all surface runoff at the bottom of the pit. As such, sediments from this area will be managed entirely within the OPSDA and will not contribute sediments to surface water drainages during operations or upon reclamation. The water collected at the bottom of the pit during operations will all be utilized to control dust within the OPSDA and, to the extent allowed, elsewhere in the operation.

2.4.2 Waste Rock Stockpiles

Sediments produced from the waste rock stockpiles will be managed by constructing surface water trenches as may be necessary during operations to capture, route, and divert runoff into impacted storm water impoundments. Appendix B provides the details of the design of these impoundments and associated trenches, including the criteria for their size, dimension, and capacity.

Runoff from proposed WRSP-1, 2, and 3, as seen on Figures 2-2 and 2-14, will be managed by routing it to Impacted Storm Water Impoundments B and C. Runoff from existing waste rock stockpiles EWRSP-1, EWRSP-2B and EWRSP-4 will be captured in the OPSDA as shown in Figure 2-14. In addition, as discussed in the Reclamation and Closure Plan, EWRSP-1 and EWRSP-2B will be reclaimed during operations, further reducing sediment production. Runoff from the area of EWRSP-2A will be captured in Impacted Storm Water Impoundment B as EWRSP-2A will be incorporated into proposed WRSP-1 during operations. EWRSP-4 will be re-contoured to route runoff into the OPSDA as part of the site preparation process. The area will be utilized as an equipment laydown area during operations. The southern out-slopes of this stockpile will be reclaimed as discussed in the Reclamation and Closure Plan to protect against potential sediments being introduced into Grayback Arroyo from that location. Runoff from EWRSP-3 will be captured in Impacted Storm Water Impoundment A, which will manage runoff from the plant facilities.

2.4.3 Process Plant Facilities

As shown on Figures 2-2 and 2-14, runoff from the process plant facilities will be managed by contouring the plant site footprint to route runoff to Impacted Storm Water Impoundment A. Runoff from all of the facilities located in this area including the primary crusher, crushed ore stockpile, concentrator, fuel station, reagent storage area, administration building, parking lot, EWRSP-3, and all of the associated ancillary areas will be captured in Impacted Storm Water Impoundment A. Runoff from the laydown area containing EWRSP-4 will be routed to the open pit during operations.

An additional impoundment, i.e., the process water reservoir, can also be seen on Figures 2-2 and 2-14. It should be noted that no runoff from the process plant facilities area will be directly captured by this impoundment. However, the process water reservoir is designed such that all runoff water captured in the Impacted Storm Water Impoundments will be transferred to the process water reservoir for use in the process.

2.4.4 Tailings Storage Facility

The location of the TSF is shown on Figure 2-2. Appendix A contains detailed discussion of the design of the TSF. Potential sediment contribution from runoff at the TSF will be from the outer slopes of the dam. Table 6 (page 20) of Appendix A contains the storm water diversion design criteria utilized. The TSF dam will be constructed in phases using the coarse tailings sand from the process as shown in Figure 2-22. Storm water will be diverted around and away from the footprint of the dam as shown in Figure 2-21 via diversion ditches. As such, all precipitation that falls within the footprint of the tailings impoundment from the crest of the dam inward will remain within the impoundment. Precipitation that may fall up-gradient of the impoundment will be diverted around and away from the impoundment. Therefore, the only opportunity for sediment production at the TSF will be from precipitation runoff from the outer slopes of the embankment. As shown on Figure 2-22, a lined runoff collection trench will be constructed at the toe of the dam at each phase of construction to capture surface water runoff from the outer slopes of the dam and route it to the underdrain collection pond located at the southeastern corner of the TSF as seen in the Figure cited above. The purpose of the underdrain collection pond, in addition to capturing and managing storm water runoff from the tailings dam, is to capture water from the dam underdrain and impoundment underdrain collection systems of the TSF. The collected water will be pumped to the process water reservoir discussed above for use in the process.

2.4.5 Sediment Management at Construction & Reclamation

BMPs will be used to limit erosion and reduce sediment in runoff from the Project facilities and disturbed areas during construction, operations, and reclamation. Sections 3.0 of the updated MORP and Section 5.0 of the Reclamation and Closure Plan discuss structural and operational BMPs that will be used to minimize erosion and control sediment. Disturbance will be limited to preserve existing vegetation to the maximum extent possible. Following construction activities, areas such as cut and fill embankments and GMSPs will be seeded as soon as practicable and safe. Revegetation of disturbed areas will reduce the potential for wind and water erosion. Concurrent reclamation will be utilized to the extent practicable to accelerate revegetation of disturbed areas. All sediment and erosion control measures will be inspected periodically and repairs performed as needed. Additional details regarding BMPs will be included in the SWPPP permit required for mine construction and operation.

2.4.6 Non-Point Source Sediment Monitoring

As indicated above, Copper Flat is designed to be a zero discharge facility. As such, there are no non-point discharges that NMCC anticipates will require monitoring. However, NMCC will manage non-point sources to the extent they may occur during construction or reclamation with the use of BMPs including such things as seeding and mulching of disturbed areas, silt fences, straw bale check dams, diversion ditches with energy dissipaters, and rock check dams, as necessary. NMCC has submitted a proposed monitoring plan to the NMED (see Appendix E of the DP Application), pursuant to the requirements of the NMED Copper Rules and its proposed Discharge Plan. This plan has a surface water monitoring component proposed that NMCC will incorporate into this MORP update. Figure 2-27 identifies five (5) surface water quality sampling locations that will be monitored per the plan. NMCC believes this component of the DP monitoring plan will provide the information required by the Mining Act regulations.

The following mitigations address potential non-point source charge management as identified in the BLM DEIS for Copper Flat (BLM DEIS November 2015, p. 3-46):

- Prior to initiation of mine construction or other surface disturbing activities, NMCC will obtain a Multi-Sector General Permit for Storm water Discharges Associated with Industrial Activity and comply with all requirements of that permit.
- Prior to initiation of mine construction or other surface disturbing activities, NMCC will provide final designs for storm water diversion structures and other associated BMPs for review.
- The SWPPP and all associated inspection and maintenance records will be available for inspection upon request.

Because non-point source pollution is regulated by existing laws and regulations and NMCC must comply with those laws, potential effects to water quality from non-point source discharge of sediments are not considered to be significant.

2.5 Post-mining Land Use – 19.10.6.602.D.(15)(f)

The New Mexico Mining Act rules define Post-Mining Land Use (PMLU) as;

> “*a beneficial use or multiple uses which will be established on a permit area after completion of a mining project. The PMLU may involve active management of the land. The use shall be selected by the owner of the land and approved by the Director [of MMD]. The uses, which may be approved as PMLUs, may include agriculture, commercial or ecological uses that would ensure compliance with Federal, State or local laws, regulations and standards and which are feasible.” 19.10.1.7. P. (5) NMAC.*

The Copper Flat Project will be developed and operated on a combination of federal land administered by the BLM and private land owned by NMCC. The current land uses of federal lands administered by the BLM in the area of the Copper Flat facility have been identified

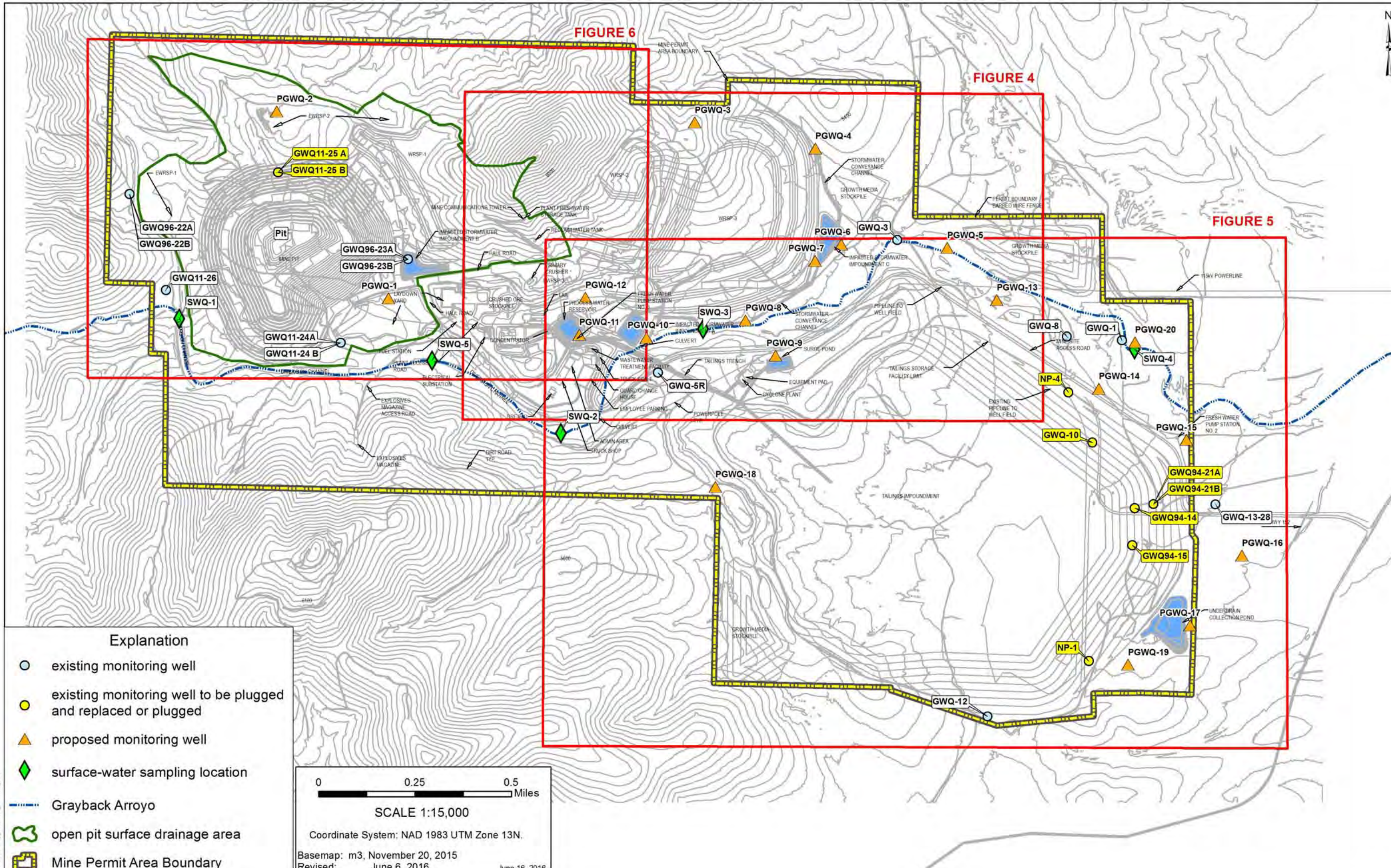


FIGURE 2-27: Proposed surface water quality monitoring locations.

previously in BLM's 1986 White Sands Resource Management Plan (BLM 1986), e.g., grazing, wildlife habitat, recreation and mining.

Land use in the project area will not change from pre-mining approved purposes and the project area will continue to support these approved uses. As described in Appendix E, reclamation and closure of the disturbed area will result in post-mining land uses at Copper Flat that will be sustainable and in keeping with uses currently approved and in use. Mining, grazing, recreation and wildlife habitat are the designations consistent with the surrounding land uses of the Copper Flat site and are appropriate for the site upon reclamation. The Reclamation and Closure Plan is designed to re-establish grazing in the area and allow for long-term use of the reclaimed areas by wildlife known to historically use the area without affecting the potential for other uses such as mining and recreation.

At completion of mining activities, the site will be reclaimed to establish a native plant community similar to the surrounding area. NMCC's reclamation of the site will establish an enhanced native plant community in the area as much of the surrounding area not disturbed by the Copper Flat Project has been significantly disturbed by other historic activities. NMCC's reclamation will result in the development of an early-stage grass/shrub community that will provide a locally-important increase in plant community diversity. Establishment of native vegetation on reclaimed areas at Copper Flat will result in increased erosion protection and direct habitat improvement relative to current conditions.

While the aerial extent of the mine pit will be increased from its current size and, therefore, physically result in permanent loss of some grazing area and wildlife habitat, the vegetation enhancement resulting from reclamation of currently disturbed areas will greatly increase grazing potential and wildlife habitat. As such, there is expected to be a net gain for the land use of the area once reclaimed. In addition, the pit walls created by mining and the pit lake that will form over time upon mine closure will provide enhanced avian wildlife habitat and a water source for transient wildlife. The pit water is known to be devoid of aquatic life and would not be expected to be a future source for aquatic habitat and in any case remain closed to the public as it will remain private land after mine closure.

With respect to the need to obtain approval from the landowner(s) of a post-mining land use, NMCC believes that no such approval is required in this case. The only two landowners of concern at Copper Flat are the federal government and the company. The company is committed to a reclamation and closure plan that re-establishes grazing and wildlife habitat land use of the site at closure. The BLM has approved land uses in its Resource Management Plan for the area. Approval of the Mine Operations Plan required by the BLM for NMCC's mining activities will constitute the approval by the BLM of NMCC's Reclamation and Closure Plan and its goal to return the land to its pre-mining use.

3.0 PROPOSED RECLAMATION PLAN – 19.10.6.602.D.(15)(g)

Appendix E, Mine Reclamation and Closure Plan, Copper Flat Mine, October 2016, prepared by Golder, provides the detailed description of how the disturbed area will be reclaimed to meet the requirements of 69-36-7(H)4 and the performance and reclamation standards and requirements of the Mining Act regulations. This Section of the MORP update is organized to provide the information requested in Sections 19.10.602.D.(15)(h) through(k) of the New Mexico Mining Act regulations and how the Reclamation and Closure Plan will meet the reclamation standards and requirements of 19.10.6.603 NMAC. The Reclamation and Closure Plan and associated design criteria conform to the reclamation requirements described 19.10.6.602.D.(15) NMAC and 19.10.6.603 NMAC, the closure requirements in the Copper Mine Rules (*Subsection A of 20.6.7.18 NMAC, 20.6.7.33 NMAC, 20.6.7.34 NMAC and 20.6.7.35 NMAC*) and applicable mine reclamation regulations set forth by the Bureau of Land Management (BLM) (3809.401(b)(3) and 3809.420(b)(3).

The objective of the Reclamation and Closure Plan is to reclaim and close the facility in a manner protective of ground water in conformance with the NM Copper Rules, meet the reclamation requirements of the New Mining Act and return the mine area to conditions similar to those present before reestablishment of the mine (BLM DEIS 2015, p. 2-34). Reclamation of the site will re-establish the post-mining land uses consistent with the land uses of the site and the surrounding area, i.e., wildlife habitat, grazing, mining and recreation as identified by the BLM in its approved Land Use Management Plan (BLM 1986).

The Reclamation and Closure Plan has been prepared to address the actions that will be undertaken to reclaim the Copper Flat site at the end of the life of the mine as a result of disturbance created by the previous mine operation conducted by Quintana and those caused by NMCC mining operations. Golder has identified the general setting of the Copper Flat Mine area as they currently exist (see Figure E2 of Appendix E) and the configuration of the site at the end of mine life (see Figure E3 of Appendix E). These figures provide the basis for the reclamation design presented in Appendix E. The reclamation designs are depicted in the drawing set provided in Attachment E1 of Appendix E. This Reclamation and Closure Plan describes contemporaneous reclamation that will be conducted, to the extent practicable, during mine operations, facilities to be reclaimed and closed following cessation of mining operations, and the components of the site that will remain post-closure, following completion of reclamation.

The plans and methods developed and presented in the Reclamation and Closure Plan represent detailed designs for reclamation of the facilities sufficient for agency review and approval. Construction design documents and construction quality assurance/construction quality control (CQA/CQC) plans will be prepared by NMCC for submittal to and approval by the

State of New Mexico within 180 days of submission of a notice of intent to implement the closure plan per the NMED Copper Rules (20.6.7.34.B, NMAC). The CQA/CQC plan will provide a detailed description of the work proposed to be performed to close the site and the final reclamation designs for the facilities to be closed. Post-closure monitoring activities will be conducted in accordance with Section 20.6.7.35 NMAC, and post-closure monitoring and maintenance requirements that may be contained in the Copper Flat Mine Permit.

3.1 Reclamation Schedule & Sequence – 19.10.6.602.D.(15)(h)

Section 4.0 of Appendix E provides the anticipated reclamation schedule and sequence for the Copper Flat Mine. In addition, Table 2-1 of this MORP update includes a summary of the sequence and schedule presented in Appendix E. The schedule is based on consideration of practical phasing of the reclamation projects to account for the anticipated labor, equipment and other resources that would be necessary to complete these projects based on current conditions, sequential closure of facilities in a phased cost efficient manner, and total annual acreages that would be reclaimed over this period. The anticipated durations for reclamation presented include earthwork and reseeding. The reclamation schedule is based on the number of years and months from the time NMCC obtains permit approvals to begin operations. Contemporaneous reclamation of EWRSP-1, EWRSP-2, and portions of EWRSP-4 will begin during the initial mine preproduction period.

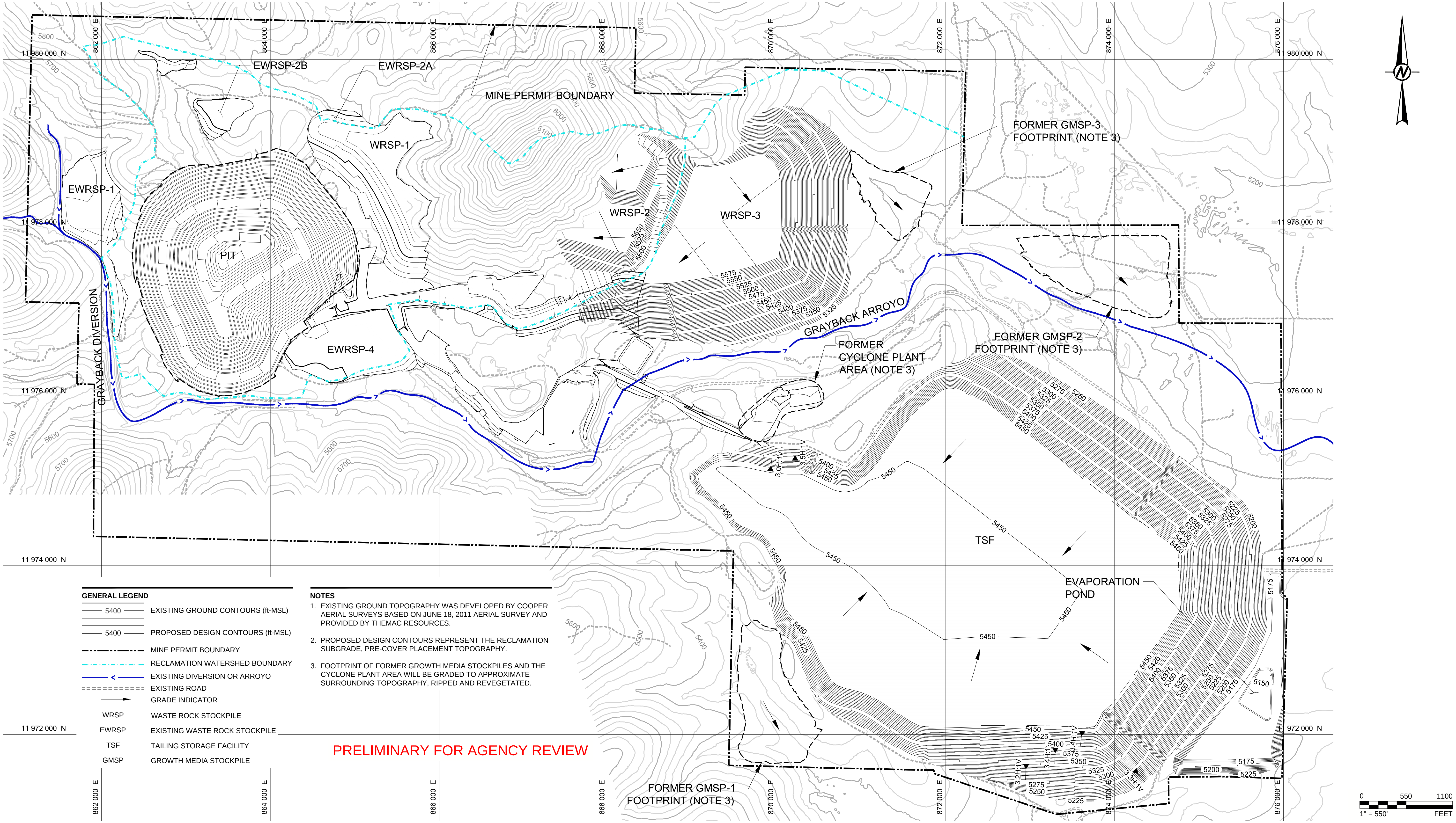
3.2 Reclamation Topographic Map(s) – 19.10.6.602.D.(15)(i)

Figure 3-1 presents the anticipated surface configuration of the permit area upon the completion of reclamation and closure operations. Appendix E contains a drawing package that provides additional detailed depictions of the reclaimed surface various facility units.

3.3 PAG after Reclamation – 19.10.6.602.D.(15)(j)

Generation of acid or other toxic drainage from overburden and waste materials following reclamation that could cause federal or state standards to be exceeded is very unlikely because of the manner in which the overburden and waste will be characterized and disposed of during operations, combined with the reclamation and closure measure that will be implemented as described in more detail in Appendix E. A description of NMCC's waste characterization and handling plan that will be utilized during operations is provided below. These operations practices have been taken into account in the Reclamation and Closure Plan design to ensure that acid generation or other toxic drainage from the site does not occur after reclamation.

NMMC submitted a proposed Mine Plan of Operations (MPO) for the Copper Flat Project in December, 2011 to the Las Cruces, NM office of the Bureau of Land Management (NMCC 2010).



GENERAL LEGEND

5400	EXISTING GROUND CONTOURS (ft-MSL)
5400	PROPOSED DESIGN CONTOURS (ft-MSL)
	MINE PERMIT BOUNDARY
	RECLAMATION WATERSHED BOUNDARY
	EXISTING DIVERSION OR ARROYO
	EXISTING ROAD
	GRADE INDICATOR
WRSP	WASTE ROCK STOCKPILE
EWRSP	EXISTING WASTE ROCK STOCKPILE
TSF	TAILING STORAGE FACILITY
GMSP	GROWTH MEDIA STOCKPILE

NOTES

1. EXISTING GROUND TOPOGRAPHY WAS DEVELOPED BY COOPER AERIAL SURVEYS BASED ON JUNE 18, 2011 AERIAL SURVEY AND PROVIDED BY THEMAC RESOURCES.
2. PROPOSED DESIGN CONTOURS REPRESENT THE RECLAMATION SUBGRADE, PRE-COVER PLACEMENT TOPOGRAPHY.
3. FOOTPRINT OF FORMER GROWTH MEDIA STOCKPILES AND THE CYCLONE PLANT AREA WILL BE GRADED TO APPROXIMATE SURROUNDING TOPOGRAPHY, RIPPED AND REVEGETATED.

PRELIMINARY FOR AGENCY REVIEW

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
C	2016-09-30	ISSUED FOR AGENCY REVIEW	HNL	HNL	TS	TS
B	2016-09-09	ISSUED FOR CLIENT REVIEW	HNL	HNL	TS	TS
A	2016-09-02	ISSUED FOR INTERNAL REVIEW	HNL	HNL	TS	TS

SEAL

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PROJECT
COPPER FLAT PROJECT
MINE RECLAMATION AND CLOSURE PLAN

TITLE
GENERAL ARRANGEMENT
FINAL RECLAMATION TOPOGRAPHY

PROJECT NO.	CONTROL	REV.	4 of 25	FIGURE
1531453	0500	C		3-1

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This document, revised in June, 2011, was also provided to the NM MMD and the NMED for review and comment as part of the Environmental Impact Statement (EIS) that is currently being prepared by the BLM for the Copper Flat Project. Appendix C of the MPO contains a Mine Waste Management Plan for the waste rock which includes a plan for waste characterization and handling. MPO Appendix C also contains results of waste characterization work performed by SRK Consulting U.S. Inc. (SRK) in 1997 in support of an EIS that was being prepared at the time for mining activities proposed by Alta Gold Corporation.

In the intervening time since the MPO was first proposed by NMCC in 2010, the waste characterization portion of the plan was implemented. The results of this work have been submitted and discussed with the NM MMD and the NMED and is utilized in the design of the WRSPs described in the MORP update as well as NMCC's DP application.

NMCC will initiate the materials handling plan contained in Appendix C of the MPO, as ultimately approved by the BLM, NMED and other constituent agencies. Implementation of this plan will result in preventing the release of acid generating materials and other toxic drainage that cause federal or state standards to be exceeded following reclamation.

3.3.1 Waste Characterization

SRK performed extensive geochemical characterization studies in support of NMCC's proposed Copper Flat Project (SRK 2013). The resulting report and additional documentation requested by the NMED upon review of SRK's report represent NMCC's material characterization efforts to date and are incorporated into this application by reference.

SRK conducted a mine waste characterization program for the Copper Flat Project. The geochemical testing of mine waste materials provided the characterization required to determine the potential for Acid Rock Drainage and Metal Leaching (ARDML) from mining facilities. This provided the basis for a quantitative risk assessment and evaluation of the options for design, construction, operation, reclamation and closure of the tailings and waste rock disposal facilities.

The Copper Flat mine waste characterization program was designed to investigate the potential for ARDML due to exposure and oxidation of sulfide minerals, such as pyrite, that are unstable under atmospheric conditions. Upon exposure to oxygen and water, sulfide minerals will oxidize, releasing metals, acidity and sulfate. SRK's geochemical characterization investigated the potential for rock that will be exposed in the Copper Flat waste rock disposal facility and pit walls to generate acid and leach when exposed to the atmosphere. The results of the characterization program were used in quantitative numerical predictions to assess the potential future leachate chemistry associated with the mine facilities, specifically the waste rock stockpiles and the TSF.

SRK's investigation concluded that with respect to waste rock, acid generation is not anticipated to occur for most of the un-weathered waste rock materials during operations. SRK concluded that the acid generating potential of the Copper Flat materials, i.e., acid rock drainage (ARD), is largely dependent on the sulfide mineral content and that the sulfide concentrations in the material varied from less than analytical detection limits to a maximum of 2.52 weight percent (wt%) that was highest in the transitional waste material. Transitional material is the oxidized and partially oxidized surface rock material that overlies the fresh rock material below the surface. Where oxidation of this overlying material is complete, waste rock produced from it will be inert with respect to acid generation. Partially oxidized material occurs in a transition zone beneath the oxidized cover and the underlying un-oxidized material. This transitional material has been exposed to oxidizing conditions over geologic time. Such material will typically exhibit a low paste pH and high paste conductivity, and will be generally acid generating. Examples of this condition can be found in the exposed pit walls and where transitional waste material was deposited on the existing waste rock stockpiles.

SRK determined that 96% of the waste rock that will be produced at Copper Flat will consist of sulfide, non-oxidized Quartz Monzonite/Breccia waste, which typically exhibits either non-acid forming characteristics or a low potential for acid generation. Samples collected by SRK in their investigation from the surface of the existing waste rock stockpiles and pit walls indicated that there is some potential for acid generation from material mined by previous mining operations and exposed to natural weathering conditions. However, as indicated previously, most of the existing waste rock stockpiles will be reclaimed and the existing pit walls will be mined by NMCC's proposed operation.

3.3.2 Material Handling Plan

NMCC's proposed material handling plan is based, in part, on SRK's recommendations to minimize the potential for acid leaching from the waste rock stockpiles and tailings. Based on SRK's findings the materials that will be generated will have only a low potential for acid leaching, NMCC anticipates that it will, generally, not be necessary segregate waste rock. As described in Appendix C of the MPO, most of the waste rock produced by the operation will be low and high sulfide material with only small amounts of oxide and transitional material produced near the surface of the proposed pit expansion. Additionally, it should be noted that the terms "high sulfide" and "low sulfide" are terms relative to specific conditions at Copper Flat and, therefore, to each other. That is, at Copper Flat low sulfide material is defined as material having less than 0.5% sulfide and high sulfide material will have 0.5% sulfide or more. It is further noted that the Copper Flat ore body is a very low sulfide ore body in relation to other ore bodies in the region. The waste produced at Copper Flat will be primarily quartz monzonite and andesite and the ore will be primarily breccia. NMCC will implement a waste material classification program as described in Section 2.5 of the MPO. It is anticipated that the waste rock generated will oxidize very slowly and may only, potentially, produce acid over some period of time. The acid rock ARD potential associated with un-oxidized waste rock is relative in the long-term. SRK determined that the waste rock can be considered as being inert with respect to ARD for a timeframe in the order approximately 20 years. Therefore, the vast majority of the waste material, i.e., about 96%, that will be generated at Copper Flat will generally have a low ARD potential. As indicated above, the transitional materials that have been exposed to oxidizing conditions over time have the most potential for acid generation.

Waste Material Classification

Section 2.6.2 of the MPO generally describes the general material handling approach the will be implemented at Copper Flat. The subsequent work conducted by SRK and presented in its May, 2013 Geochemical Characterization Report confirms the approach to be utilized. However, while the approach is generally the same as described in Appendix C of the MPO, there will be some aspects of material handling that may differ from the information provided therein as supported by the later findings of SRK's material characterization studies.

The overarching approach to waste rock material handling to control ARD will be to control the movement of water through the waste rock stockpiles, in combination with continual diligent monitoring and characterization of the waste materials produced to confirm SRK's conclusion that the majority of the material has a low ARD potential. As discussed in more detail below, NMCC believes that depositing the small amounts of material with high ARD potential; i.e., the transitional waste, when encountered, along with the large amounts of non-ARD materials will further reduce the potential for the ARD materials to create acid. The buffering capacity of the large volume non-transitional waste will neutralize the small volume transitional waste. Should field characterization reveal that more ARD materials than anticipated are being generated the materials handling plan will be adjusted to consider isolation, encapsulation and other means of treatment to mitigate the potential for acid generation. The non-transitional waste will be used as base material in any areas where it has been determined in the field that transitional material should be segregated. However, as a practical matter, under normal circumstances large volumes of non-transitional waste will typically be placed below, above, and all around the transitional waste produced.

SRK recommended in its May 2013 report that, during proposed operations, specific controls would be needed to collect storm water runoff from the waste rock stockpiles and that storm-water diversions would be required to prevent run-on. SRK also recommended that covering the waste rock stockpiles with a re-vegetated 36-inch cover at the end of mine life would reduce infiltration of water and flux of oxygen into the facility, and thus, limit oxidation of sulfide minerals. SRK also noted that migration of seepage from the waste rock stockpiles into the underlying bedrock would be anticipated to be very small, or nil, because of the low permeability of the andesite underlying the area. These recommendations have been incorporated into NMCC's design of its waste rock stockpiles.

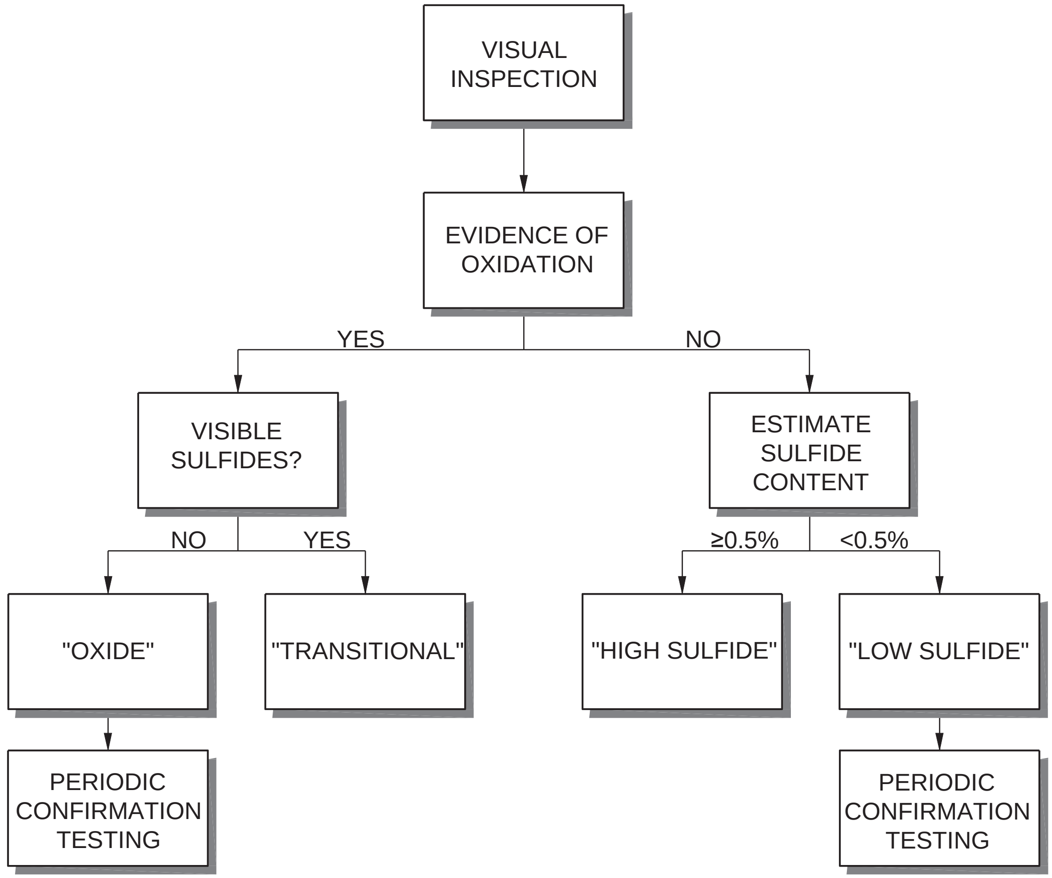
Figure 3-2 describes process that will be utilized in the NMCC's proposed waste classification program during operations. Following the evaluation path shown in Figure 3-2, a determination will be made as to classification, and periodic confirmation testing will be conducted. Confirmation testing will include a field testing program for representative samples of the cuttings, as determined by the qualified geologist or technician. The tests conducted will include paste pH, saturated paste conductivity, and acid base accounting testing (total sulfur, sulfate sulfur, and NP testing).

As described in more detail in Section 2.6.2.5 of Appendix C of the MPO, prior to blasting active benches in the open pit, the drill cuttings from each drill blasthole will be inspected. Blasthole drill cuttings will be visually inspected by a qualified geologist or trained technician prior to blasting and removal of the material from the pit. The rock type, color, degree of oxidation, sulfide content and other pertinent features will be noted and transferred to the bench plan maps. All material characterized as oxide or low sulfide waste will be sampled for confirmation testing. Material classified as low sulfide rock will be subject to periodic confirmation testing at a frequency initially on one confirmation test for each five blastholes designated as oxide waste rock. This frequency will be adjusted as ongoing testing and field observation continues to demonstrate consistent reproducible results supporting visual waste classification. NMCC anticipates a frequency of confirmation testing in the longer term to be one test for every 20 holes. Confirmation testing will be performed on-site using a Leco Furnace to evaluate the classification determinations made.

Waste Rock Flagging and Routing

Waste rock from the open pit will be examined as benches are mined to identify sulfide bearing transition material that may represent ARD potential. Specific procedures will be established by the mine operations team when preparing for startup. However it is anticipated that the procedures employed by the operation will be similar to the following description, which follows standard mine geology practices and methods. The operations team will develop full details after the team is assembled to begin startup of the mine. As requested by the state regulatory agencies, NMCC will meet with them as plans develop to discuss the plan and receive input prior to implementation.

The mine waste rock identification, flagging, and routing process will be similar to mine ore control procedures and the two processes will be completed simultaneously. Identification, digging plan design, field identification for operations, determination of destination and placement, and routing of ore and waste materials will be the responsibility of the mine technical services team, which typically includes geology engineering, and surveying disciplines.



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PREPARED	CM
DESIGN	XXX
REVIEW	TS
APPROVED	XXX

PROJECT
NEW MEXICO COPPER CORPORATION
COPPER FLAT PROJECT
SIERRA COUNTY, NEW MEXICO

TITLE
WASTE CLASSIFICATION FLOWCHART

PROJECT No.	PHASE	Rev.	FIGURE
153-1453	0006	1	3-2

The mining and ore/waste classification cycle begins with blasthole drilling. At Copper Flat, all benches mined will require blasting; therefore all areas mined will be drilled on a regular grid pattern across the full width and length of each bench. Each blasthole will be assigned a unique identification number (ID) for data tracking, and each will be surveyed and plotted onto a blasthole location map that is spatially tied to a three dimensional (3D) model of the mine geology. As holes are drilled and surveyed, the ID and survey coordinates of each blasthole will be logged into a blasthole data base. After drilling, and before blasting, the geology of the bench surfaces and exposed mine faces will be examined for key geologic parameters and the geology mapped to the same scale as the blasthole maps. The blasthole cuttings will be visually examined to determine rock type, sulfide content, and oxidation level and samples taken for laboratory analysis. Data from field examinations will be logged into the blasthole data base and plotted onto the blasthole map, with the analytical results added to the maps and the database upon receipt from the laboratory. When the geologic and analytical data for a specific area is complete, the technical services team will develop ore and waste zone boundaries and identify material types that are subject to a specific routing plan, such as for ore transport or transport of potential ARD material to the WRSP. The boundaries and material designations will be transferred back to the blasthole maps and survey coordinates produced for identifying material boundary lines in the field.

After blasting, and before excavation begins, the material boundary lines will be established on the top of the broken rock by survey, and the broken rock visually examined again to determine if any field adjustment in classification is needed. Field adjustments will be transferred to the blasthole maps for record keeping. Even after having been blasted, the area will be closed to excavation and material removal until all data is received and the “dig plan” is finalized by the technical services team. When an area is opened for excavation of material, the specific ore and waste boundary lines will be visually identified on the top of the broken rock and specific material types designated with color coded flagging. Copies of the blasthole maps showing the corresponding material types and boundaries will be provided to the mine equipment operators for reference during material removal.

As excavation proceeds, the loader operators will selectively excavate specific ore or waste material types following the dig plan established by the technical services team. Each haul truck will be loaded with only the one type of material designated. After loading, the loader operator will communicate the material type to the truck operator through an established signal system. The material type loaded into the truck will designate a pre-determined destination for the load. The truck operator will track loads by material type and destination and the load information will be compiled and maintained by mine staff for reporting.

Transitional Waste Material Disposal

Section 2.6.2.2 of Appendix C of the MPO provides that material classified as "transition waste" will be isolated in a waste rock stockpile area and covered with a minimum of six feet of "non-transition" material. SRK's investigation determined that the transitional material to be excavated will be less than 4% of the total volume of waste produced from the operation. SRK's analysis was performed prior to development of the mine plan proposed in this MORP update for Copper Flat, NMCC's DP application and Alternative 2 of the DEIS. Review of the most recent geologic model and the mine plan indicates that transitional material will still be produced at the same ratio relative to non-transition waste as determined during the SRK investigation.

NMCC anticipates that the transitional waste will be produced in the first 8 years of operation (approximately 5.4 million tons), with about half of it produced in the first 2 years. Some of this material will be disposed of in WRSP-1, which located in the OSPDA. The remainder will be disposed of in WRSP-2 and 3. During the same two years as much as 5.2 million tons of non-transitional acid neutralizing waste material, will also be produced. Some of this acid neutralizing material will be used as neutralizing material for those areas where transitional material may be deposited. NMCC will lay a minimum 10 ft. of base of non-transitional waste underlying the area where transitional material will be deposited in the WRSPs and ensure that at least 10 feet of non-transitional waste surrounds the transitional waste in such a manner that the transitional waste is not exposed to oxidation.

The remaining approximate 2.6 million tons of transitional material will be produced over years 3 through 8 at an average rate of approximately 433 thousand tons per year while at the same time about 27.6 million tons, an average of 4.6 million tons of acid neutralizing non-transitional waste will be produced. As such, the greatest volume of waste material generated, by far, will be classified as un-oxidized high sulfide and/or un-oxidized low sulfide waste. As confirmed by SRK's waste rock characterization investigations, this material poses a low level, short-term risk for ARD. While NMCC considers it unnecessary, and perhaps to some extent, contrary to the desire to minimize potential acid generation, to isolate and concentrate that material in one area, NMCC will continue to identify potential ARD generating waste during operations and take steps to establish disposal areas within the WRSPs for this material ensuring that a minimum of 10 ft. of non-transitional acid-neutralizing waste surrounds the transitional waste within the WRSPs where the potential ARD generating material will be deposited. As a practical matter, NMCC will ensure that non-transitional material is placed below, above and all around the transitional material wherever possible, providing a thick neutralizing "blanket" around the transitional material.

Quality assurance testing will also be performed in addition to the daily field sampling. Up to 10 archived blasthole samples will be randomly selected and subjected to paste pH, saturated paste conductivity, and acid base accounting testing (total sulfur, sulfate sulfur, and NP testing). The testing will be performed by a third-party independent state approved laboratory. The samples will be classified with respect to ARD potential on the basis of NP/AP ratio. The samples will be located on the appropriate bench plan maps and the quality assurance test classifications will be compared to the operational waste classification designations.

SRK has performed significant kinetic testing of waste materials since the time of submittal of the MPO. Humidity cell testing results were first reported to NMED in SRK's May, 2013 report. Continued and more extensive humidity cell results were reported to NMED in February, 2014 in an SRK report titled "Humidity Cell Termination Report for the Copper Flat Project, New Mexico." These documents are included in this MORP update by reference. As indicated earlier in this document, these studies provide the basis for NMCC's mine waste characterization and handling plans.

At the end of the mine life the waste rock stockpiles will be reclaimed in accordance with the approved Reclamation and Closure Plan. As determined by SRK the majority of the waste rock materials can be categorized as being inert from the standpoint of acid generation for about twenty years before beginning to develop ARD potential if left uncovered. The anticipated life of the mine is 11 years. The waste rock stockpiles will be covered with a minimum of 3 ft. of soil. Therefore, covering the waste rock stockpiles with a minimum of 3 ft. of soil will mitigate the potential for acid generation and impacts to groundwater.

3.4 Contemporaneous Reclamation – 19.10.6.602.D.(15)(k)

The concept of operating for closure and contemporaneous reclamation are means by which NMCC will strive to reduce erosion, provide early impact mitigation, limit costs and reduce final reclamation work. NMCC is committed to maximizing these concepts at the Copper Flat Project where feasible. It has designed mine facilities to employ contemporaneous reclamation to the extent appropriate and practicable. Re-contouring, placement of cover materials and revegetation will be implemented, where and when operational conditions permit in areas where mine operation activities are discontinued.

Contemporaneous reclamation is integrated into the design and construction of the Copper Flat facilities, in particular, the WRSPs. The WRSPs will be constructed in their final configurations with the first lift built to occupy the projected footprint of each stockpile. All sequential lifts will be set back to facilitate final out-slope grading and accommodate inter-bench slopes and cross bench drainages as discussed in more detail in the Reclamation and Closure Plan. As each lift is completed, any portion not needed for access to other lifts will be regraded, covered and revegetated as soon as practicable. The top surface of each lift of the WRSPs will also be constructed to a minimum final grade of 1 percent to minimize the final grading operations and achieve positive drainage.

As discussed earlier, at Copper Flat there are several existing waste rock stockpiles (EWRSP-1, 2A and 2B, 3 and 4, see Figure 2-14, that were generated by Quintana during previous operations. NMCC has incorporated these EWRSPs into its contemporaneous reclamation efforts. EWRSP-1 and 2B will be reclaimed during operations as discussed previously and described in the Reclamation and Closure Plan.

EWRSP-2A will be incorporated into new WRSP-1 during operations as it is constructed.WRSP-1 will be reclaimed per the Reclamation and Closure Plan. EWRSP-3 will be incorporated into the process plant facility during operations. As such, it will be reclaimed along with WRSP-1 at the end-of-life of the project. EWRSP-4 will be re-contoured and utilized as a laydown area during operations and will be reclaimed at the end of mining. However, the side-slopes of EWRSP-4 will be reclaimed during operations as described in the Reclamation and Closure Plan to mitigate against potential surface water impacts to Grayback Arroyo.

Opportunities for contemporaneous reclamation of the TSF are limited as they could interfere with operations and could jeopardize dam safety. However, during operation of the TSF, management of tails deposition while constructing the embankment will assist in achieving the desired outslope grade to accommodate final reclamation grading. Also, in the later operational period of tailings deposition, discharge of tailings from selected locations will be used to relocate the supernatant pool to a location adjacent to the location of what will be the post-closure spillway. This will reduce grading requirements and limit earthmoving operations in areas where working conditions can be more challenging due to the presence of soft and saturated tailings. Tailings discharge may also be used to create nominal surface topography on the final top surface that will assist with developing a final drainage pattern.

NMCC may also decommission some access roads and other ancillary facilities prior to final mine closure when determined to be no longer needed for mine operations.

4.0 PERFORMANCE & RECLAMATION STANDARDS & REQUIREMENTS – 19.10.6.603

The Reclamation and Closure Plan described above and in Appendix E has been developed to meet the site-specific characteristics of the mining operation and the site. As indicated herein previously, the current land uses in the area of the Copper Flat facility have been identified by the BLM to include activities such as grazing, wildlife habitat and mining. Reclamation of the disturbed area will result in post-mining land uses at Copper Flat that will be sustainable and in keeping with previous historic uses. Aside from mining, grazing, wildlife habitat, and recreation are the designations consistent with the surrounding land uses of the Copper Flat site and are appropriate for the site upon reclamation. The Reclamation and Closure Plan is designed to re-establish grazing in the area and allow for long-term use of the reclaimed areas by wildlife known to historically use the area without affecting the potential for other uses such as mining and recreation. This section describes how the Copper Flat operation will meet the performance and reclamation standards and requirements of the Mining Act rules and the NMED Copper Rules closure requirements.

4.1 Most Appropriate Technology and Best Management Practices-19.10.603.A

NMCC has designed its operations and reclamation plans to protect human health and safety, the environment, wildlife and domestic animals using Most Appropriate Technology (MAT) and Best Management Practices (BMPs). MAT in mine operations is understood as the selection and application of the most suitable mining technology to achieve the intended purpose while reducing impacts to the environment. The selection of a MAT is typically accomplished in mine feasibility studies that evaluate mining technologies, processes and operating methods. The Copper Flat Project has been designed and will be operated using both MAT and BMPs based on site-specific technical and economic feasibility. Mining technologies, processes and operating methods proposed by NMCC are provided in Section 2.0.

BMPs are defined as any program, technology, process, siting criteria, operating method, measure or device, which controls, prevents, removes or reduces impacts to the environment. BMPs are accepted, effective and practical methods including structural or engineered control devices, systems and materials as well as operational or procedural practices used to prevent or reduce environmental impacts of ground disturbing activities. NMCC will meet or exceed applicable state and federal reclamation requirements through application of MAT and BMPs. NMCC has designed its operations and reclamation plans to use the most appropriate technology for an open pit mine operation. Structural BMPs will be used to limit erosion and reduce sediment in precipitation runoff from proposed Project facilities and disturbed areas during construction, operations and reclamation. These structural BMPs will include:

- Surface stabilization measures such as dust control, regrading, mulching, riprap, temporary and permanent revegetation/reclamation and placing growth media;
- Run-on and runoff control and conveyance measures such as hardened channels, runoff diversions; and
- Sediment traps and barriers such as check dams, grade stabilization structures, sediment detention, sediment/silt fence and straw bale barriers and sediment traps.
- Apply water to control dust on haul roads and other disturbance areas;
- Interim seeding of stockpiles and surface disturbance areas;
- Use of certified weed-free seed and mulch;
- Cleaning heavy equipment before entering the mine area; and
- Noxious weed monitoring and treatment.

BMPs will be employed at appropriate locations during mine construction, operation and reclamation phases of the project and structures will be inspected periodically, with repairs performed as needed. NMCC will limit disturbance and preserve existing vegetation to the maximum extent possible. Additional details regarding structural and operational BMPs will be included in the SPCC plan and the SWPPP permit required for mine operation.

4.1.1 Hydrologic Investigations at Copper Flat

Utilization of MAT and BMP to protect ground water and surface water is the dominant theme in design, operation and reclamation at Copper Flat as it is the medium of greatest concern with respect to potential for environmental impact. As such, all facets of the operation have been designed to ensure water resource protection during operations and following reclamation.

NMCC and its water resource consultant, John Shoemaker & Associates (JSAI), have conducted extensive hydrologic investigation of the Copper Flat site and the surrounding area in support of NMCC's permitting activities for the project. These activities include supplementing the NMCC Abatement Plan previously submitted to NMED and the BDR submitted to NMED and NM MMD, providing detailed analysis for the BLM EIS and supporting various requests for information by the NM OSE.

NMCC has previously submitted to the various agencies, including NM MMD and NMED, JSAI's document titled "Model of Groundwater Flow in the Animas Uplift and Palomas Basin, Copper Flat Project, Sierra County, New Mexico, August 2014" (JSAI 2014c). This document, the subsequent review documentation provided by NMCC and JSAI are, therefore, incorporated into this MORP update by reference. The following information is a synopsis of the volumes of information provided in the groundwater model documentation in an effort to provide specifics as required by the NMED Copper Rules and NMCC's Discharge Plan application and has been utilized in determining MAT for the site.

General Hydrogeologic Setting

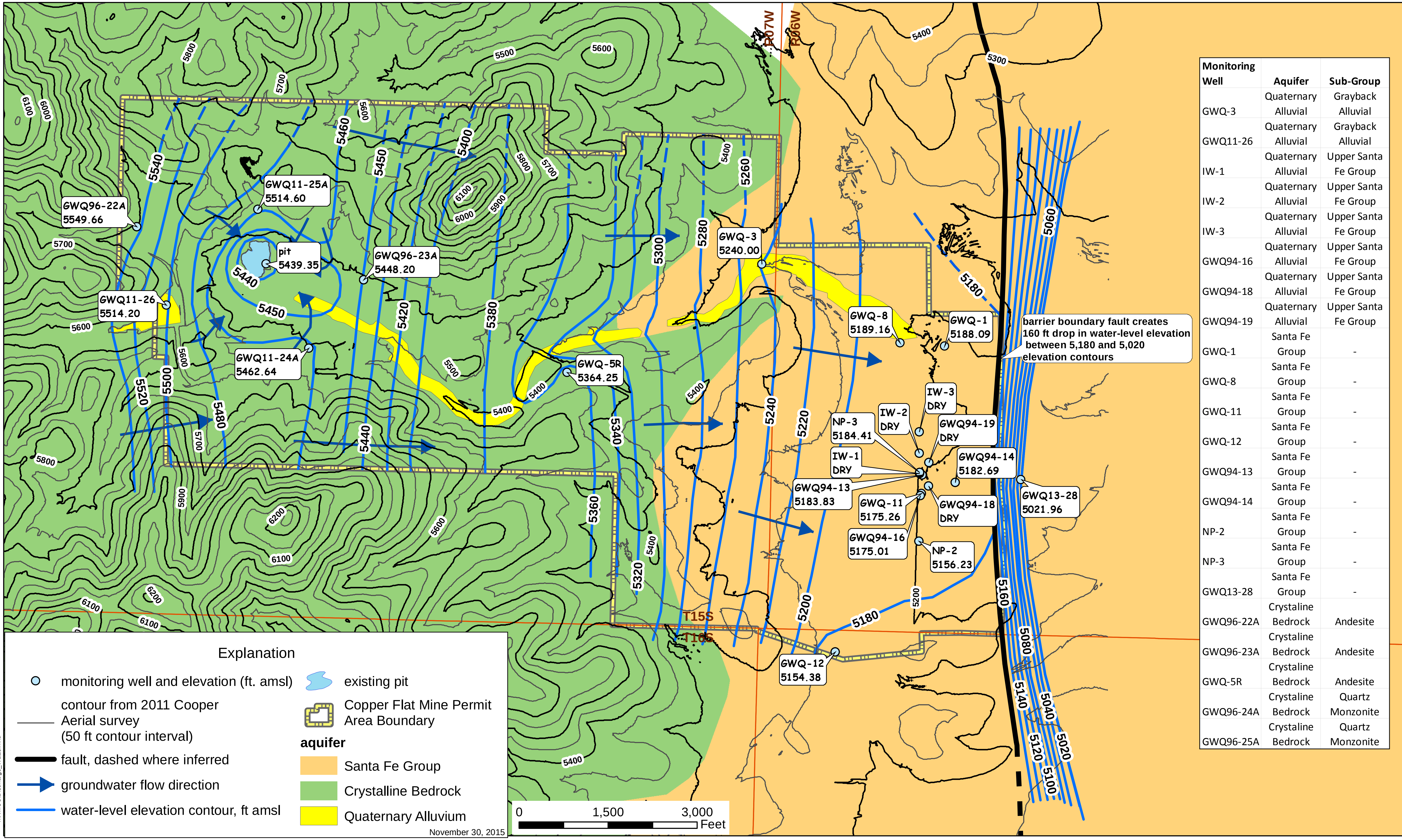
The Copper Flat facility will be located in area that includes the following water-bearing formations within the Animas Uplift: crystalline bedrock (andesite and quartz monzonite) in the western part of the mine permit area, Santa Fe Group sedimentary deposits in the eastern part of the mine permit area, and alluvium of upper Grayback Arroyo overlying the crystalline bedrock and Santa Fe Group in the mine permit area. Figure 4-1 presents the water-bearing formations at the facility, potentiometric surface contours and direction of groundwater flow, selected monitoring wells, and topography. Figure 4-2 presents a geologic map of the facility and surrounding area, and transects of hydrogeologic cross-sections.

Groundwater flow is mainly from west to east in the mine permit area, with groundwater discharging from the crystalline bedrock as subsurface flow across the contact with the Santa Fe Group, and as evaporation from the open pit. Monitoring wells designated as "dry" in Figure 4-1 are shallow wells installed to depths of less than 60 ft. in the Upper Santa Fe Group.

The potentiometric surface contours in the vicinity of the existing open pit shown in Figure 4-1 demonstrate the open pit to be hydraulic sink. Cross-sections PA-PA' and PX-PX' presented in Figures 4-2, 4-3 and 4-4 show groundwater flow in the crystalline bedrock in the vicinity of the open pit. Hydrogeologic cross-sections presented in Figure 4-2 (i.e., TA-TA' and TB-TB') and Figures 4-5 and 4-6 depict the Upper Santa Fe Group in the mine permit area. The crystalline bedrock at the facility is relatively impermeable and groundwater recharge from local precipitation to the crystalline bedrock is limited by low hydraulic conductivity. The groundwater system at the facility conducts little water, and the eastern mine permit boundary generally coincides with the East Animas Fault, shown in Figures 4-1 and 4-2, which acts as a barrier to groundwater flow.

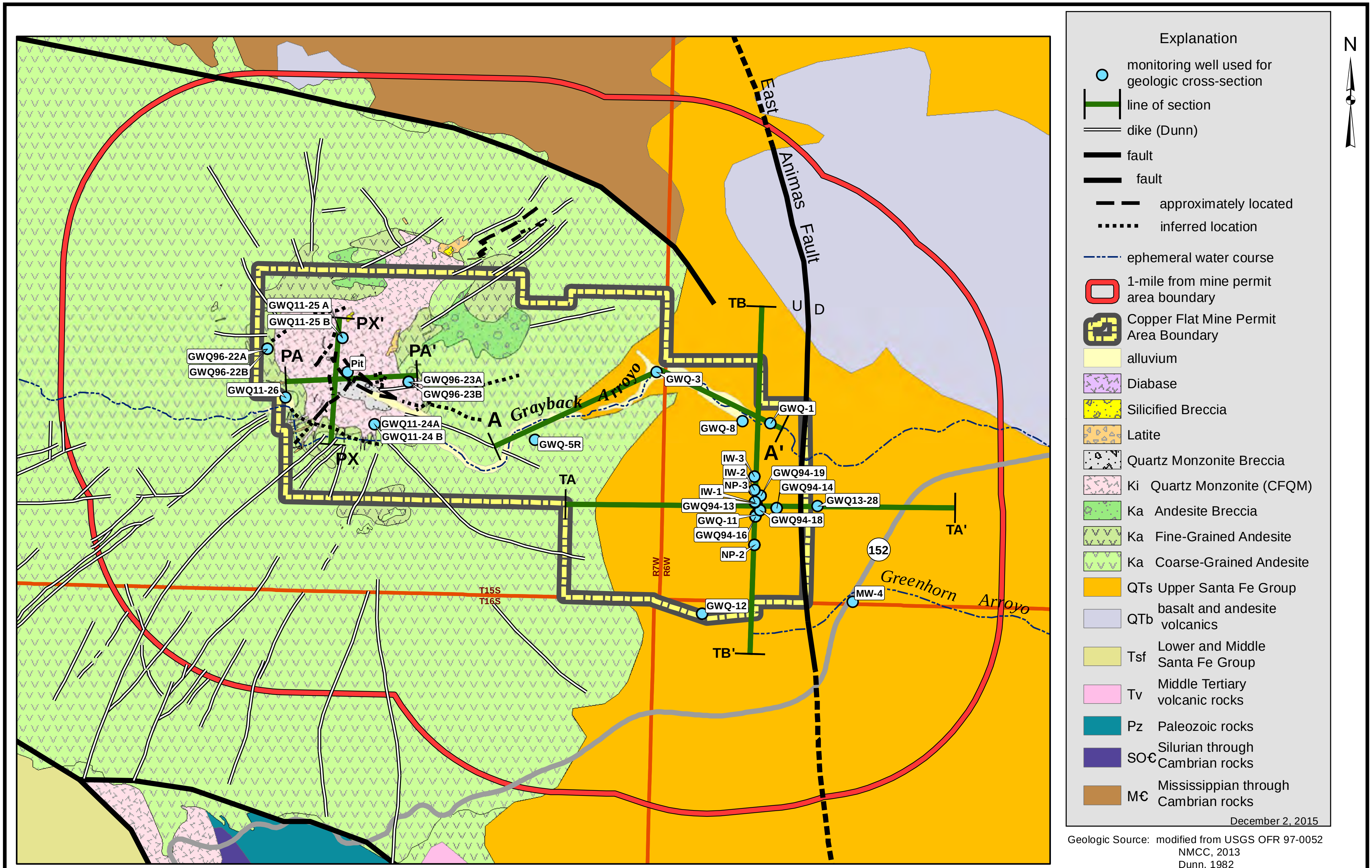
A portion of the original Grayback Arroyo watershed within the mine permit area now drains to and includes the open pit. Grayback Arroyo is an ephemeral drainage in the mine permit area. However, groundwater levels are close to the surface, and there can be base flow discharge to Grayback Arroyo following wet periods. The cross-section A-A', presented in Figures 4-2 and 4-7, show the alluvium of upper Grayback Arroyo overlying the crystalline bedrock and Santa Fe Group in the mine permit area.

The Copper Flat porphyry copper-molybdenum deposit is hosted by the Cretaceous quartz monzonite in the western part of the mine permit area (Figure 4-2). Faults to the north and south of the mine permit boundary juxtapose the andesite with older, Paleozoic sedimentary rocks. The eastern mine permit boundary generally coincides with the East Animas Fault, which



Monitoring Well	Aquifer	Sub-Group
GWQ-3	Quaternary Alluvial	Grayback Alluvial
GWQ11-26	Quaternary Alluvial	Grayback Alluvial
IW-1	Quaternary Alluvial	Upper Santa Fe Group
IW-2	Quaternary Alluvial	Upper Santa Fe Group
IW-3	Quaternary Alluvial	Upper Santa Fe Group
GWQ94-16	Quaternary Alluvial	Upper Santa Fe Group
GWQ94-18	Quaternary Alluvial	Upper Santa Fe Group
GWQ94-19	Quaternary Alluvial	Upper Santa Fe Group
GWQ-1	Santa Fe Group	-
GWQ-8	Santa Fe Group	-
GWQ-11	Santa Fe Group	-
GWQ-12	Santa Fe Group	-
GWQ94-13	Santa Fe Group	-
GWQ94-14	Santa Fe Group	-
NP-2	Santa Fe Group	-
NP-3	Santa Fe Group	-
GWQ13-28	Santa Fe Group	-
GWQ96-22A	Crystaline Bedrock	Andesite
GWQ96-23A	Crystaline Bedrock	Andesite
GWQ-5R	Crystaline Bedrock	Andesite
GWQ96-24A	Crystaline Bedrock	Quartz Monzonite
GWQ96-25A	Crystaline Bedrock	Quartz Monzonite

FIGURE 4-1: Water bearing formations, Copper Flat Mine, Sierra County New Mexico.



Geologic Source: modified from USGS OFR 97-0052
NMCC, 2013
Dunn, 1982

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FIGURE 4-2: Mine site geologic map, Sierra County, New Mexico.

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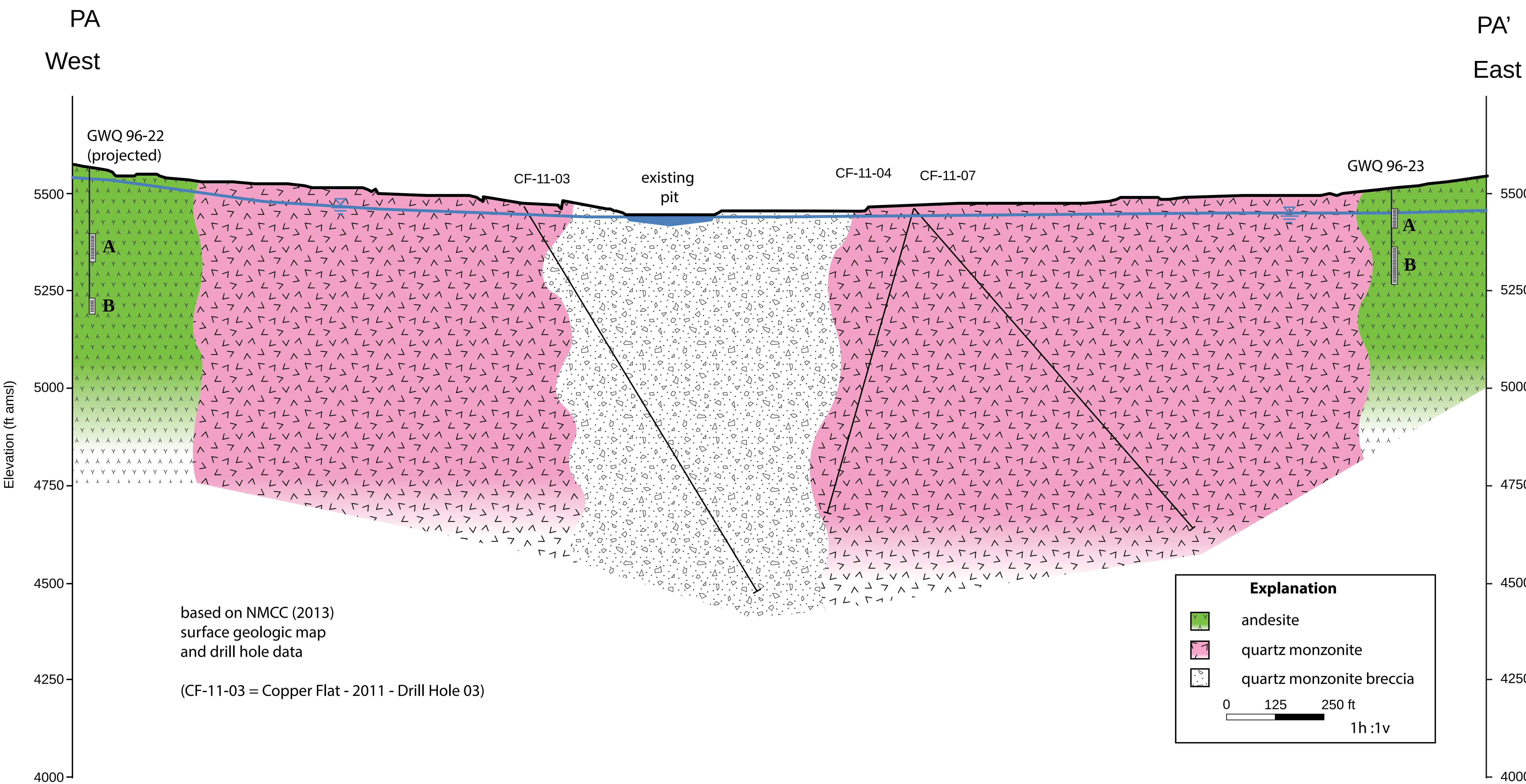

FIGURE 4-3: Hydrogeologic cross- section PA-PA'. Copper Flat Mine, Sierra County, New Mexico.
(Reference Figure 4-2)

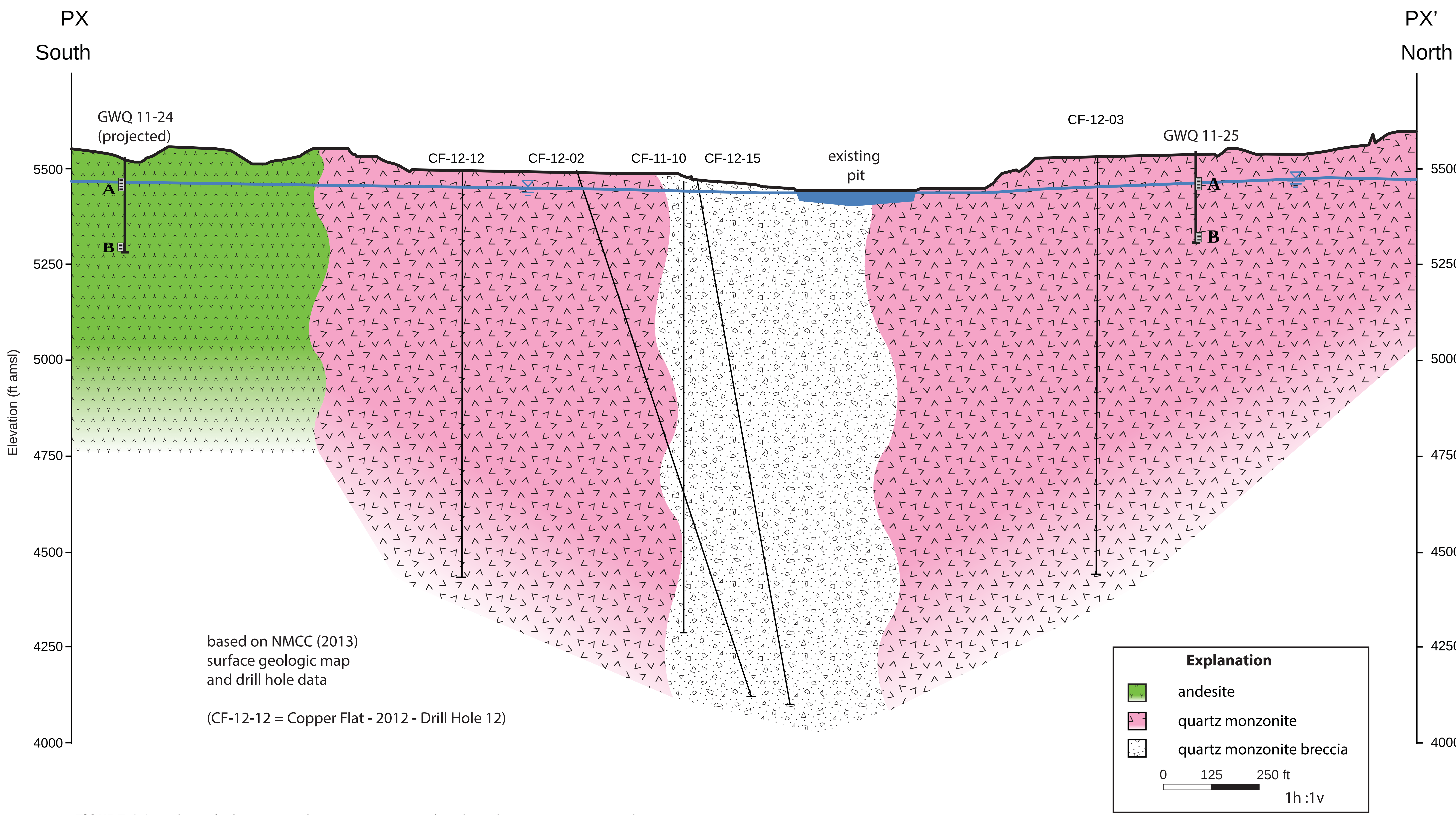

FIGURE 4-4: Hydrogeologic cross-section PX-PX'. Copper Flat Mine, Sierra County, New Mexico. (Reference Figure 4-2)

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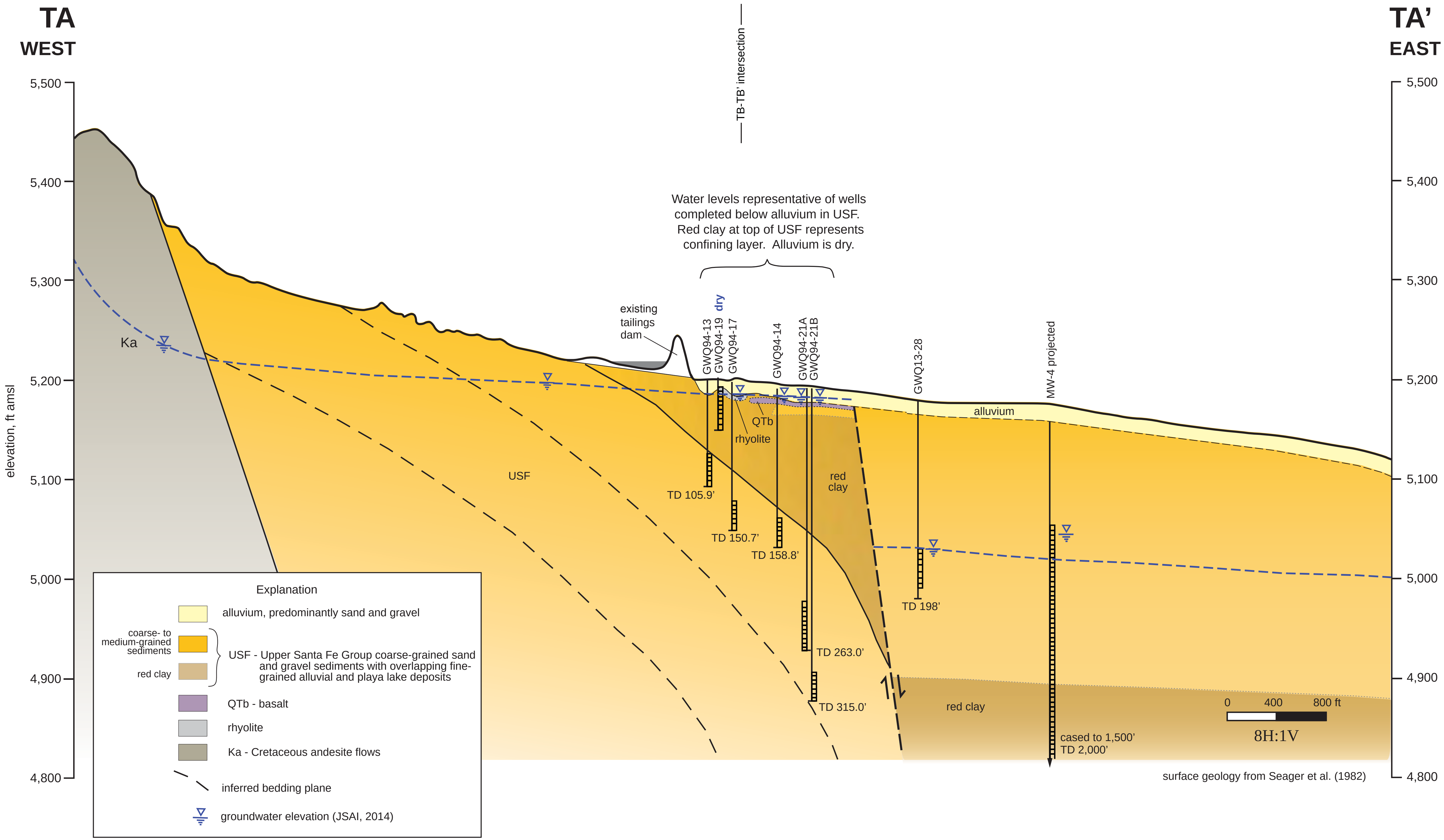

FIGURE 4-5: West to east geologic cross-section TA-TA' through the tailings storage facility (TSF) area, Copper Flat Mine, Sierra County, New Mexico. (Reference Figure 4-2)

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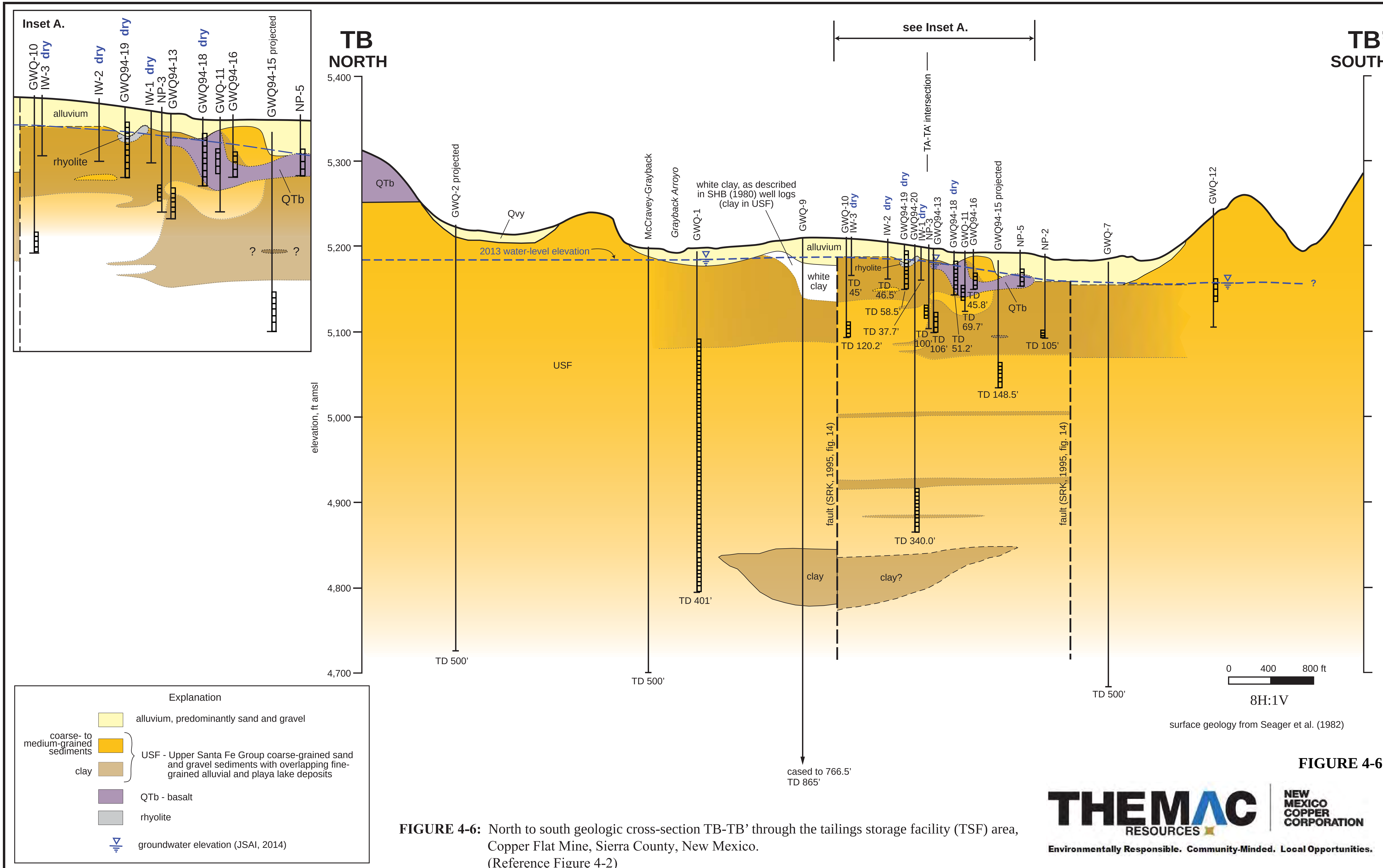

FIGURE 4-6

FIGURE 4-6: North to south geologic cross-section TB-TB' through the tailings storage facility (TSF) area, Copper Flat Mine, Sierra County, New Mexico.
(Reference Figure 4-2)

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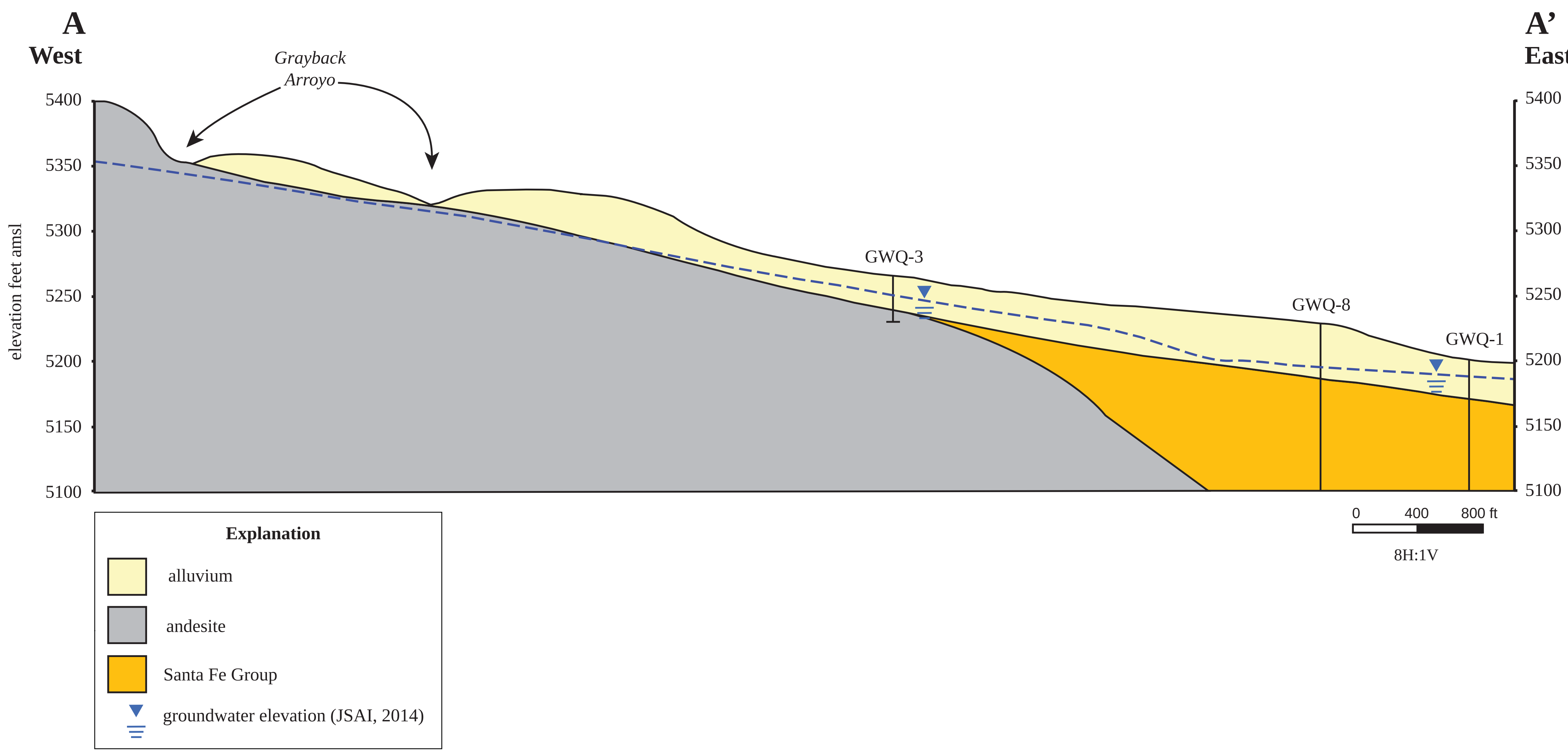

FIGURE 4-7: West to east geologic cross-section along Grayback Arroyo, Copper Flat Mine, Sierra County, New Mexico. (Reference Figure 4-2)

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defines the eastern edge of the Animas Uplift. The Santa Fe Group deposits in the mine permit area are located west of the East Animas Fault. As indicated above, Figures 4-5 through 4-7 present hydrogeologic cross-sections showing geologic formations, water-bearing formations, and groundwater depths.

Most of the precipitation that recharges the groundwater system at the facility originates in the upper part of the watersheds to the west of the mine permit area. The main groundwater systems in the region are found in Santa Fe Group sedimentary deposits downstream of the mine permit area, with groundwater conveyed through more permeable Paleozoic sedimentary rocks located to the north and south of the facility. Runoff from Grayback Arroyo infiltrates the Santa Fe Group sedimentary deposits downstream of the mine permit area.

4.1.2 Implementation of MAT and BMPs at Copper Flat

Table 4-1 presents a summary of the potential sources of water constituents, discharge types, and locations at Copper Flat. Figures 2-2 and 2-14 show the locations of the potential sources during operations. The potential pathways for migration of constituents to ground water identified in Table 4-1 could potentially source from direct infiltration into the water bearing formations, release of fluids to the surface, or run-on and runoff of precipitation through and off of the site. NMCC has designed the Copper Flat facilities to maximally incorporate MAT and BMPs to protect human health and the environment based on site-specific technical and economic feasibility as discussed below.

Tailings Storage Facility (TSF)

The TSF will be a lined impoundment with an associated underdrain collection system and underdrain collection pond for the impoundment and the dam. It will also include a water reclaim or recycle system to increase water reuse. The TSF also includes a cyclone plant to separate the tailings coarse and fine fractions and a surge pond to handle potential upset conditions at its Copper Flat Project. The location of the proposed new TSF is shown in Figure 2-2. Appendix A provides the technical design detail for the TSF. The TSF will be constructed using the coarse tailings sands materials produced from processing the ore for its mineral content. Whole tailings material will be transported via a pipeline from the processing facility to the TSF and delivered to the cyclone plant where sands and slimes fractions will be separated. The coarse or sand fraction of the tailings, or cyclone underflow, will then be pumped to the TSF for use in construction of the dam. The slimes or fines fraction of the tailings, or cyclone overflow, will be pumped to the TSF and deposited in the impoundment that will form behind the dam. Storm water run-on will be diverted around the tailings impoundment as shown in Figure 2-21. The diversion ditches are designed to be able to safely pass the peak flow generated by the 100-year storm event. The tailings impoundment will be lined with an 80-mil HDPE, or equivalent liner, placed on a minimum 12-inch thick liner

TABLE 4-1
Potential Sources of Water Constituents, Discharge Types, and Locations

Potential Source	Discharge Type	Source Location
Tailings Storage Facility (TSF)	Tailings, process water and impacted storm water	Southeast area of site
TSF cyclone plant surge pond	Tailings	Southeast area north of TSF
Tailings slurry pipeline conveyance	Tailings	Process Area to TSF Permit Area Boundary
TSF water recycle system-under-drain collection pond	process water and impacted storm water	Eastern edge of site
TSF water recycle system pipeline conveyances	Process water and impacted storm water	TSF area to process water reservoir
Process water reservoir	Process water and impacted storm water	East-central area of plant site
Impacted storm water impoundment A	Impacted storm water and process water	Plant site Area
Impacted storm water impoundment B	Impacted storm water	Southwest corner of WS B
Impacted storm water impoundment C	Impacted storm water	Southeast corner of WS C
Waste Rock Stockpile (WRSP)-1	Impacted storm water	Western side of Watershed (WS) A
WRSP-2	Impacted storm water	Western portion of WS B
WRSP-3	Impacted storm water	Eastern portion of WS B
Open Pit	Impacted storm water, mine water	Western side of site
Material handling and processing-primary crushing	Process water	Central portion of site within WS A
Material handling and processing-crushing and grinding	Process water	Central portion of site within WS A
Material handling and processing-flotation and concentration	Process water	Central portion of site within WS A
Plant site sumps, tanks, pipelines and truck and equipment wash units	Process water	Central portion of site within WS A
Packaged water treatment plant	Influent sanitary waste, treated effluent water to the TSF	Central portion of site within WS A
Mobile Equipment Fuel Station	Petroleum Products-Diesel, Gasoline, Oil	Central portion of site within WS A

bedding fill material. An underdrain collection system will be installed on top of the liner as described in Appendix A to collect free water that drains from the contents of the impoundment. The collected water will drain via a collection gallery into an underdrain collection pond constructed at the foot of the impoundment dam outside of the dam structure as shown in Figure 2-2 and the design document.

A blanket underdrain collection system will also be installed under the dam to collect and water that drains from the tailings sands used to construct the dam. As the dam drains its free water, it will consolidate the sand material and add stability to the dam. The water captured by the blanket underdrain will also be collected in the undrain collection pond. The underdrain collection pond itself will have a double liner of 60-mil HDPE, or equivalent, and will be equipped with a leakage collection system to detect and collect any leakage through the primary liner layer.

The underdrain collection pond will also provide the collection point for surface water runoff from the down-slope face of the dam. As shown in Figure 2-22, the dam will be constructed in several phases. The dam will be constructed using an engineered material placement technique known as "centerline" construction. During reclamation, inter-benches will be cut into the face of the dam that will provide the location for the placement of runoff collection ditches to capture runoff and route it to the runoff collection trench at the toe of the dam. The runoff collection trench will be lined with 60-mil HDPE as described in Appendix A.

Water from the runoff collection trench will be routed to the underdrain collection pond. The water from the pond will continually be pumped back to the process water reservoir for reuse in processing. The pipeline that transports this water back to the process facility from the underdrain pond will be installed within the lined runoff collection trench, around the TSF as shown in Figure 4-8 and described in Appendix A. Should there be any leakage or spillage from the pipeline, it will simply run back via gravity to the underdrain pond. The underdrain collection pond will be sized to contain 24 hours of underdrain flow at maximum estimated drainage rates from the dam and impoundment underdrains, as well as runoff from the 100-year, 24-hour storm event of 3.73 inches incident on the downstream dam face. The pond capacity will be approximately 12.22 million gallons with 2 feet of freeboard.

The TSF will be equipped with a floating water reclaim barge located in the pond within the impoundment. The purpose of the barge is to pump as much free water as possible gathered within the impoundment back to the process water reservoir for reuse in the process. The water reclaimed from the tailings impoundment will be transported back to the process facility through a pipeline located within a trench lined with 60-mil HDPE that will provide secondary containment in the event of a spill or leak in the line. This lined trench will also contain the tailings pipeline that will transport whole tailings from the processing facility to the cyclone plant describe above. The pipeline from the underdrain collection pond to the process facility will combine with the barge reclaim water pipeline up-gradient of the TSF as shown in Figure 4-8.

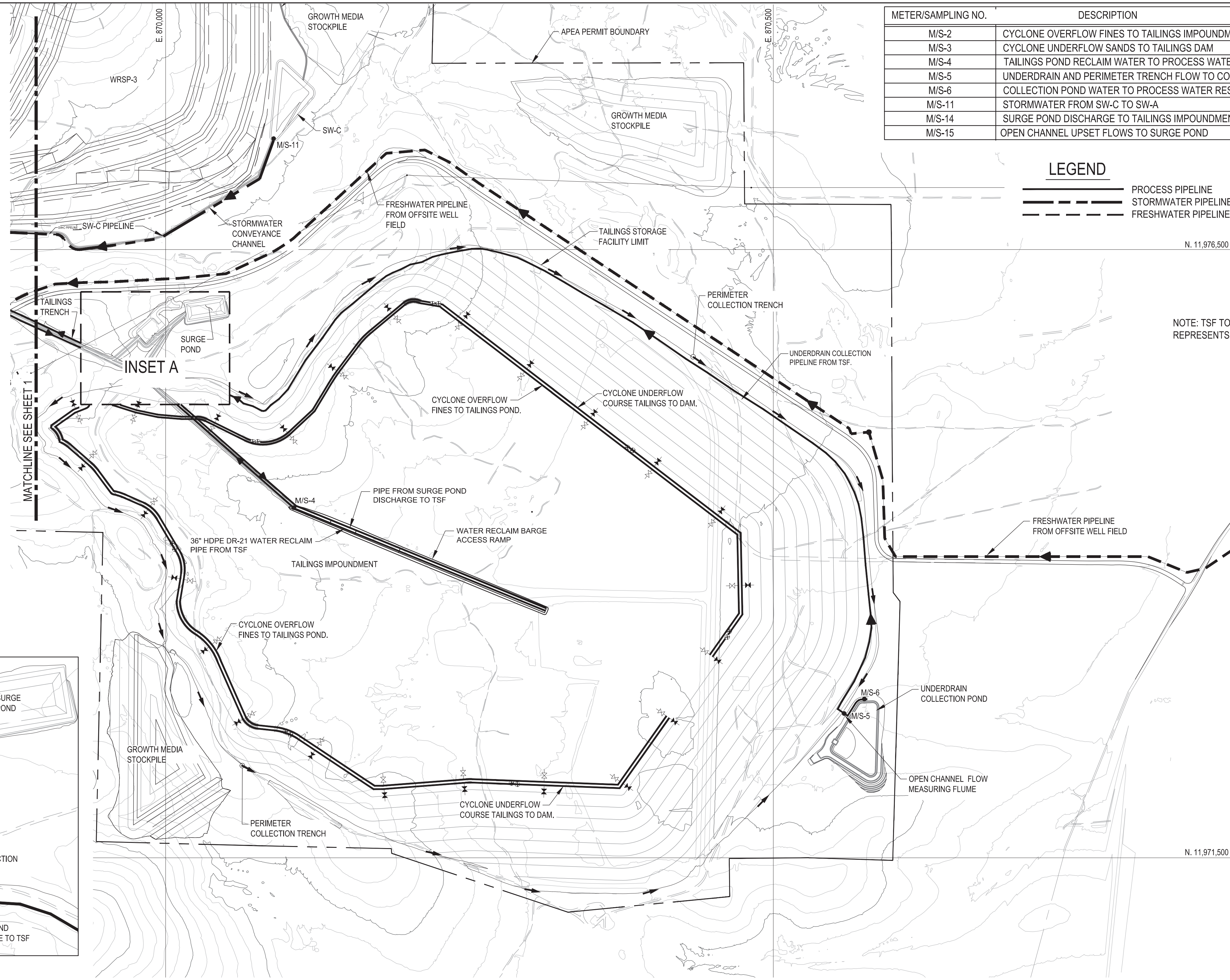
The TSF will also have an associated surge pond locate at the cyclone plant. The purpose of the surge pond will be to capture and temporarily retain tailings materials in the event of a

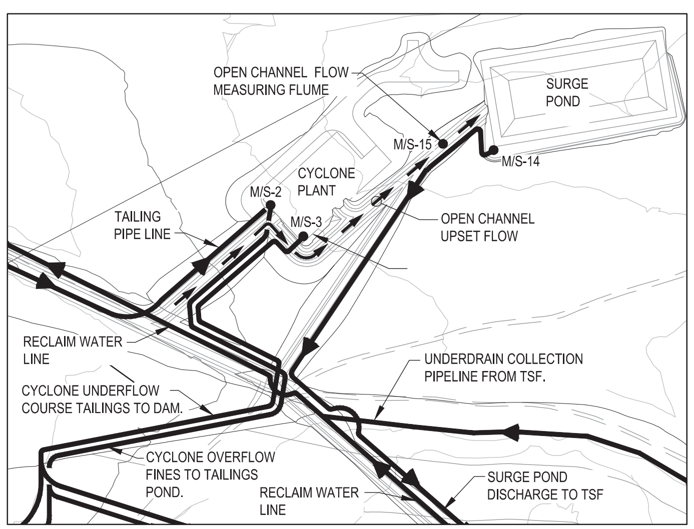
METER/SAMPLING NO.	DESCRIPTION
M/S-2	CYCLONE OVERFLOW FINES TO TAILINGS IMPOUNDMENT
M/S-3	CYCLONE UNDERFLOW SANDS TO TAILINGS DAM
M/S-4	TAILINGS POND RECLAIM WATER TO PROCESS WATER RESERVOIR
M/S-5	UNDERDRAIN AND PERIMETER TRENCH FLOW TO COLLECTION POND
M/S-6	COLLECTION POND WATER TO PROCESS WATER RESERVOIR
M/S-11	STORMWATER FROM SW-C TO SW-A
M/S-14	SURGE POND DISCHARGE TO TAILINGS IMPOUNDMENT
M/S-15	OPEN CHANNEL UPSET FLOWS TO SURGE POND

LEGEND

- PROCESS PIPELINE
- STORMWATER PIPELINE
- FRESHWATER PIPELINE

NOTE: TSF TOPO REPRESENTS FINAL PHASE





INSET A

150 75 0 150 300
SCALE IN FEET

SITE PLAN

400 200 0 400 800
SCALE IN FEET

DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY
FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE:	AS NOTED	DATE
DESIGNED BY	SAM	FEB 13
DRAWN BY	SAM	FEB 13
CHECKED BY	TDL	FEB 13
PROJECT MGR	RKZ	FEB 13
CLIENT APPR.		

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COPPER FLAT PROJECT

SITE GENERAL
CIVIL
PIPELINES AND FLOWMETER LOCATIONS
SHEET 1

JOB NO. M3 PN-120085
DWG NO.
FIGURE 4-8
REV NO. P2
DATE 09 JUN 16

File: P:\2012\120085\CIVIL (5441)\544.2 Dwgs\Figures for Permit\0000C012.dwg LAST UPDATE: 6/9/2016 7:53 AM BY: DK1654 temporary upset in the cyclone plant and provide temporary storage in the event that an upset occurs in the cyclone circuit. The surge pond will be lined with a 60-mil HDPE liner. Under normal operating conditions the surge pond will be dry. However, it has been designed so that it can hold flows for one-half hour from maximum upset conditions that occur at the process facility plus maximum upset conditions at the cyclone plant both occurring during a 100-year, 24 hour precipitation event plus two feet of freeboard, all happening at the same time. Dedicated pumps will begin to evacuate the surge pond to the TSF at a pre-determined capacity of the pond within a half-hour of such an event occurring. In addition, the pumps will be tied into the emergency diesel power system located on-site in case of power is lost to the facility.

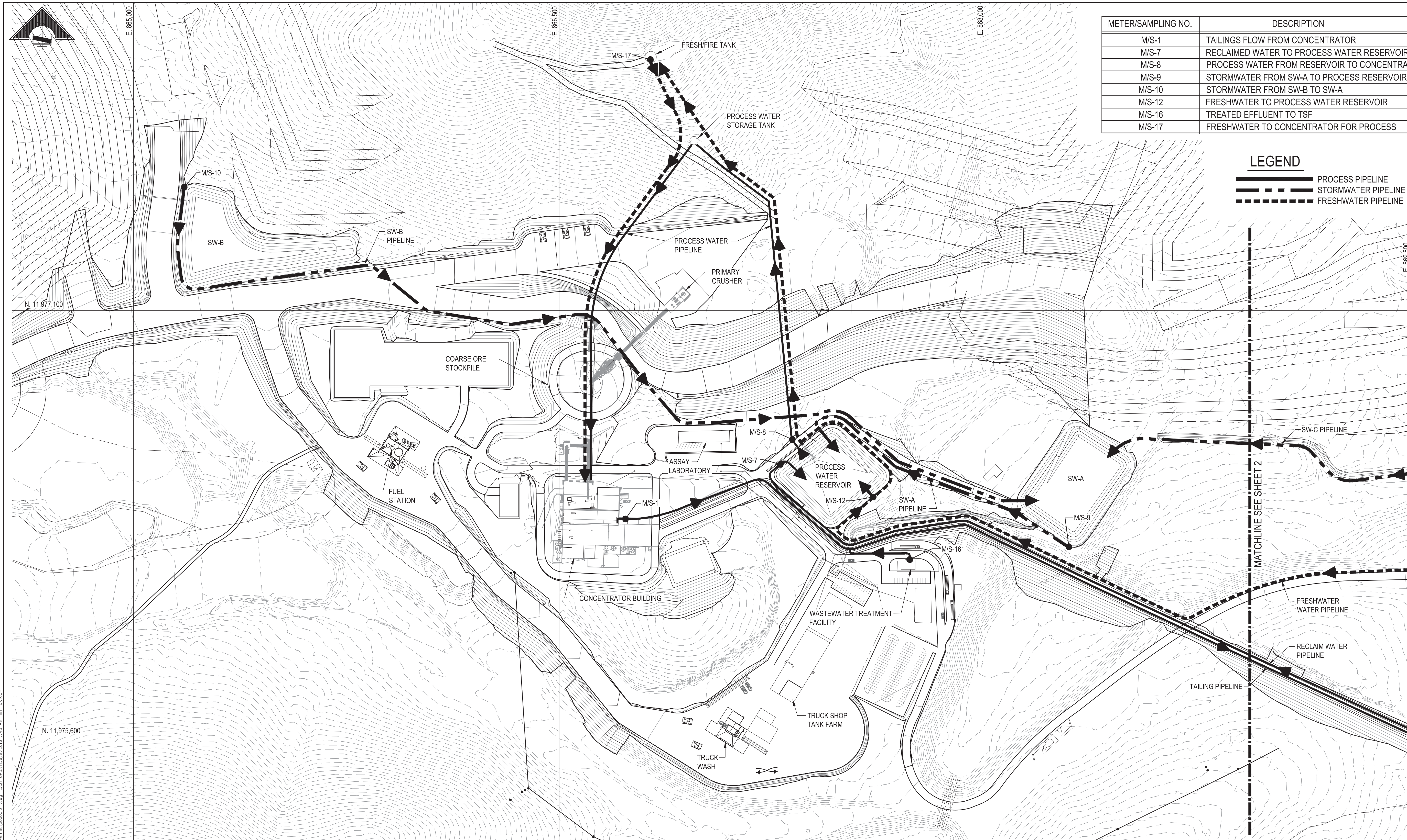
The use of MAT and BMPs at Copper Flat will extend to reclamation and closure of the TSF as described in detail in the Reclamation and Closure Plan. Surface re-grading of the tailings impoundment at closure will be performed that will provide a stable configuration to minimize ponding and promote conveyance of surface water. The final grade of the top surface of the re-contoured impoundment will be at least 1.0% after accounting for the magnitude and location of large-scale settlement of tailings.

Re-grading and contouring of the TSF to its post-mining configuration will begin at the end of the project life after it has been determined that sufficient water has been removed by the underdrain system. Because the Copper Flat TSF will be constructed with an engineered underdrain system, prior to conducting final grading activities NMCC will ensure that adequate drainage of the impoundment has occurred to ensure that large-scale settlement following grading is minimized. Consolidation drainage into the underdrain system is anticipated to continue at declining rates for a period following the cessation of tailings discharge operations. Underdrain water collected will be pumped from the underdrain collection pond and disposed of via evaporation utilizing active and passive systems as described in the TSF Post-Operations Water Management Plan, Attachment E2, of Appendix E.

A 36-inch topdressing soil cover will be placed on the top surfaces of the tailings impoundment and embankment out-slopes as described in Appendix E. The cover area will be seeded. Riprap and other erosion control structures will be placed as necessary in the drainage channels.

Other Impoundments, ponds and reservoirs

All of the impoundments, ponds and reservoirs will be lined with synthetic liner materials as described in more detail above and in Appendix B. In brief, the three impacted storm water impoundments and the surge pond will be lined with 60 mil HDPE liners. The process water reservoir will be double-lined with 60 mil HDPE liners and a leak collection system. There will also be a number of runoff collection trenches and water conveyance ditches constructed at Copper Flat to collect and convey water to the various water retaining structures as shown in Figures 4-8 and 4-9 and described in Appendix A and B. The trenches will have a 60 mil HDPE



METER/SAMPLING NO.	DESCRIPTION
M/S-1	TAILINGS FLOW FROM CONCENTRATOR
M/S-7	RECLAIMED WATER TO PROCESS WATER RESERVOIR
M/S-8	PROCESS WATER FROM RESERVOIR TO CONCENTRATOR
M/S-9	STORMWATER FROM SW-A TO PROCESS RESERVOIR
M/S-10	STORMWATER FROM SW-B TO SW-A
M/S-12	FRESHWATER TO PROCESS WATER RESERVOIR
M/S-16	TREATED EFFLUENT TO TSF
M/S-17	FRESHWATER TO CONCENTRATOR FOR PROCESS

LEGEND

- PROCESS PIPELINE
- STORMWATER PIPELINE
- FRESHWATER PIPELINE

SITE PLAN

150 75 0 150 300

SCALE IN FEET

DO NOT SCALE 11x17 DRAWINGS

PRELIMINARY
FOR AGENCY REVIEW

THEMAC RESOURCES

REFERENCES		REFERENCES		REVISIONS						REVISIONS					
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT	NO.	DESCRIPTION	BY	APP'D	DATE	CLIENT

SCALE: 1"= 150'		DATE
DESIGNED BY	SAM	FEB 13
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PROJECT MGR	RKZ	FEB 13
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COPPER FLAT PROJECT

SITE GENERAL
CIVIL
PIPELINES AND FLOWMETER LOCATIONS
SHEET 2

JOB NO. M3 PN-120085

DWG NO. **Figure 4-9**

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liner, with exception of those trenches located at the WRSPs that are constructed into the impermeable bedrock as discussed earlier herein. The use of this MAT and BMPs will significantly mitigate against the potential for these structures being a pathway for migration. All of the impoundments, ponds, reservoirs, and conveyance ditches are designed to eliminate run-on and capture runoff to the maximum extent possible and contain storm events in accordance with the requirements of the NMED Copper Rules as described in the NMCC DP application during operations.

At reclamation/closure the impoundments, ponds and reservoirs will be decommissioned, the liners ripped and buried in place and the areas regraded, re-contoured, covered with top dressing and vegetated. The details of the reclamation/closure actions to be taken are described in Appendix E.

Waste Rock Stockpiles

As discussed in more detail above, the waste rock stockpiles will be constructed over bedrock that has a permeability of 10^{-6} cm/sec. As such, these areas will not require lining. While the waste rock stockpiles represent a potential source of migration on constituents to ground water, that potential is significantly mitigated by the natural barrier to migration that exists. The waste rock stockpiles also represent sources of potential pathways for migration of constituents to surface water. However, as discussed in detail above, each of the waste rock stockpile areas will be constructed within a developed watershed designed to eliminate run-on, control and capture runoff in a lined impoundment.

Surface water diversion ditches and swales will be constructed within the waste rock stockpile areas to divert water to the impoundments at a controlled rate while reducing the potential for ponding and infiltration. In addition, the WRSPs have been designed and will be constructed in a manner to promote contemporaneous reclamation to the extent practicable such that 3 feet of cover materials will begin to be placed on them, as discussed in Sections 3.4 and 4.2, and Appendix E.

These MATs and BMPs utilized at the WRSPs will provide appropriate protection of human health and safety, the environment, wildlife and domestic animals. During operations the waste rock stockpiles will be constructed to facilitate re-grading during reclamation such that inter-bench slope faces will be 3H:1V or flatter and shaped to enhance runoff and prevent infiltration and ponding. Inter-bench slopes lengths will be no longer than 200 ft. The composite overall slope, which includes the inter-bench slopes and benches, will be 3H:1V or flatter.

All of the WRSPs will be reclaimed in accordance with the approved Reclamation and Closure Plan. The side-slopes will be reconfigured, as needed to meet the requirements of the NMED

Copper Rules and the Mining Act regulations. The details of the reclamation/closure actions to be taken are described in Appendix E.

As discussed above, waste rock will be managed during operations based on NMCC's operations material characterization program and predictive geochemical modeling. Contemporaneous reclamation to the extent practicable, materials management and surface water control measures will be used to maximize runoff, reduce infiltration, and reduce contact with the air, thus minimizing the potential for acid generation. The top surfaces of the waste rock stockpiles will be designed and constructed to a minimum final grade of 1%. The potential for ponding on the final surface will be reduced by careful contouring of the surface.

The waste rock stockpiles will be reclaimed at the end of the life of operations by re-grading re-contoured, as necessary, and a 36-inch soil cover will be placed over the stockpiles, unless NMCC can demonstrate a thinner cover will resist erosion, sustain vegetation and be equally protective of groundwater considering site-specific reclamation plans for the facility in conformance with the NMED Copper Rules. The cover area will be seeded thereafter as soon as practicable. The top surfaces of the stockpiles will be graded to promote positive drainage to storm water conveyance channels. These channels and hydraulic structures will be designed to control erosion on the top surfaces and out-slopes and safely convey storm-water off of the stockpile areas. Cross bench drainages will be trapezoidal and constructed to safely convey storm-water off reclaimed slopes for a 100-year precipitation event that results in the peak discharge. Longitudinal slopes for these drainages will be 1 to 5 percent. Energy-dissipation structures will be constructed at channel outlets to reduce erosive velocities where necessary. Where possible, channels will be constructed to incorporate existing topography, grade controls and exposed inert bedrock, which will promote long-term integrity of the structures. The final designs will be adjusted for local conditions. Temporary erosion control measures will be provided during the reclamation construction and early vegetation establishment periods. These control measures include mulch, straw bales, silt fences and minor corrective re-grading, as necessary.

Process Area

The process area also represents a source of potential migration of constituents to ground water and surface water. With respect to ground water, the potential pathways for migration exist largely in the form of process water handling within the process, in particular at sumps that hold and transfer water from one part of the process to another. The sumps in the process area, including the crushing and grinding and flotation and concentrating areas, are designed and will be constructed using MAT techniques such as water-stops and single monolithic pours to reduce the likelihood of release.

With respect to the potential for release to surface water, the process area will be constructed within a developed watershed that will be graded such that run-on will be eliminated and runoff will be controlled and captured in the lined impacted storm water impoundment A, as shown in Figure 4-9. Water from all of the process facilities, material handling areas, parking areas, storage areas, chemical and fuel inventory areas and pipeline surface areas will be routed to the impoundment.

Also, as noted above, tailings from the process facility will be transported through a pipeline to the cyclone plant. The tailings pipeline will be laid within the same trench as described above that will contain the water reclaim line from the TSF to the process water reservoir. This trench, shown in Figures 4-8 and 4-9, will provide secondary containment for all process water in the event of an upset condition in the process area and/or a significant precipitation event that may cause the process water reservoir to overflow. As discussed in detail in Appendix C, the process area has been designed such that all process water can be captured into this "secondary containment trench" and routed to the surge pond described above. From the surge pond, captured process fluids will be pumped to the TSF.

4.2 Contemporaneous Reclamation – 19.10.6.603.B

The concept of contemporaneous reclamation, operating-for-closure, or "designing for closure", is a means by which NMCC will reduce erosion, provide early impact mitigation, limit costs and reduce final reclamation work. NMCC is committed to maximizing this type of reclamation at the Copper Flat Project where feasible. It has designed mine facilities to employ contemporaneous reclamation to the extent appropriate and practicable. Section 3.4 of this MORP update and the Reclamation and Closure Plan contain a detailed discussion of the contemporaneous reclamation activities that NMCC will undertake to take maximal advantage of site-specific conditions accomplish optimal closure of the site at the end of the mine's life.

4.3 Assure Protection – 19.10.603.C

NMCC has designed its Operations and its Reclamation and Closure Plan to assure protection of human health and safety, the environment, wildlife and domestic animals. Mine development and operation activities will also be implemented to assure that protection.

4.3.1 Signs, Markers and Safeguarding – 19.10.6.603.C.(1)

NMCC will implement and maintain safeguarding measures such as signs, markers, fences and barricades to protect the public, wildlife and domestic animals from potentially dangerous areas associated with the Project. Access to the permit area will be controlled at all times during mining operations and reclamation phase to protect the public from possible injury due to operating conditions such as heavy equipment and truck traffic. All personnel entering the site will be checked in, receive site-specific safety training and will be escorted by trained personnel.

Shafts, Adits or Tunnels – 19.10.603.C.(1)(a)
This Section does not apply to the Copper Flat Project as no underground workings are proposed. However, some historic underground mine workings exist within the permit area and will remain at closure. These historic workings have been and remain the responsibility of federal government. Nonetheless, because the existence of these workings have the potential to attract interest as a result of the increased activity at the site, NMCC will work with the BLM to ensure that they are appropriately safeguarded from unauthorized entry.

Warning Signs – 19.10.6.603.C.(1)(b)
NMCC will comply with the specific standards and regulations with respect to warning signage for mine operations and visitors as required by MSHA. Appropriate warning signs will be posted at strategic locations at the Copper Flat Project site around the perimeter and across the mine permit area beginning with the initial construction period, through mine operations until the completion of reclamation, as appropriate. Other markers or signs may be posted based on the facilities or activities at specific times.

Access Restriction to Hazardous Areas – 19.10.6.603.C.(1)(c)
All hazardous areas within the perimeter of the proposed permit area, such as ponds, electrical installations, power lines, reclaimed areas, explosives storage areas, etc., will be fenced and posted with appropriate warning signs.

Permit Area Boundaries – 19.10.6.603.C.(1)(d)
The mine permit boundary will be fenced and posted with signs warning of unauthorized entry and stating the appropriate hazard warning. A single public access point will be established at the main entrance to the mine site. Fences and locked gates will be placed at all secondary road entrances to the proposed permit area.

Main Entrance Signage – 19.10.6.603.C.(1)(e)
The main entrance to the site will have a security guard in a gatehouse to stop and check in personnel and visitors. Signs will be posted at the main entrance identifying the Project, the operator and a telephone number and other contact information in the event of emergencies related to the mining operation.

4.3.2 Wildlife Protection – 19.10.6.603.C.(2)

Construction, operations and reclamation phases of the Project will not impact critical habitat for wildlife based on wildlife studies conducted on site. Physical disturbances will be limited to only those areas needed for mine facilities and access, minimizing impacts to surrounding habitat that may be used by wildlife. Construction activities such as land clearing and surface disturbance will be conducted, to the extent practicable, in a manner to minimize disturbance to active bird nests and/or birds' young, if possible, and to prevent habitat destruction whenever possible. The services of qualified biological consultants will be retained to provide assistance to NMCC in evaluating areas prior to the occurrence of construction disturbances to provide recommendations on the manner to proceed in the event of the presence of active nests during construction. Reasonable attempts will be made to minimize disturbances to active nests and/or mating bird pairs. Electric transmission or physical power poles will be constructed in a manner to protect raptors from potential electrocution hazards.

NMCC will take measures to minimize adverse impacts on wildlife and important habitat, including the installation of fencing around the perimeter of the permit area boundary to restrict humans and livestock entry to the Project area. Special wildlife exclusion fencing will be used in specific high hazard areas such impoundments, electrical substations and reagent areas. Gates and/or cattle guards will be installed along roadways within the proposed permit area, as appropriate. Because all of the impoundments and ponds are lined with HDPE it will be necessary to make every effort to deter access by wildlife and domestic animals and keep them off of the liner in order to protect its integrity and minimize the potential of puncture. At more remote locations at the site where there is less human activity and wildlife and domestic animals may be more likely to be enticed, it may be necessary to provide additional barriers such as individual exclusionary fencing to deter trespass. All of the ponds and impoundments (with the exception of the tailings impoundment) have been designed with an escape ramp so that an animal that may find its way into the pond may be able to get out.

Reclamation of the site will be performed with the goal of re-establishing the land use of the site as grazing and wildlife habitat, as it is today. Grading, re-contouring, covering and re-establishing vegetation at the site in accordance with the approved Reclamation and Closure Plan will allow NMCC to meet this goal.

4.3.3 Cultural Resources – 19.10.6.603.C.(3)

NMCC conducted cultural resource investigations as part of its baseline data gathering efforts to develop the information needed to assess the potential impacts of the proposed project on cultural resources and to meet compliance requirements for applicable State and Federal regulations, particularly Section 106 of the National Historic Preservation Act as part of its baseline data gathering efforts (Intera 2012). These investigations were conducted in accordance with State and Federal standards, and included survey and tribal consultation. Section 3.13 of the BLM DEIS contains a detailed discussion of the cultural resource considerations applicable to the Copper Flat Project.

In its evaluation in the DEIS, the BLM determined that there would be a significant impact to historic properties from development of the Copper Flat Project that would result in an adverse effect to historic properties. The majority of these impacts would occur due to facility construction, surface activities at the mine area, removal of mineralized ore, and traffic. BLM has determined that prior the commencement of any mine development activities that it will complete Section 106 consultation with the Advisory Council on Historic Preservation, State Historic Preservation Office (SHPO), Tribes, and NMCC. The purpose of the consultation will be to develop measures to avoid, minimize, or mitigate the adverse effects to historic properties. A Programmatic Agreement (PA) will be developed for signature by the parties, which will document the measures to be implemented. The following measures to avoid, minimize, or mitigate adverse effects are examples that may be considered and included in the PA:

- Conducting data recovery excavations of archaeological sites;
- Fencing of sites and activity areas to prevent impacts;
- Implementing a monitoring program to ensure avoidance measures are effective, and to modify such measures if not effective;
- Implementing standard best management practices during construction and operations activities to control erosion and changes to erosion patterns;
- Training of NMCC construction, operations, and reclamation personnel and contractors to recognize when archaeological resources or human remains have been discovered, to recognize when inadvertent damage has occurred to a resource, to halt ground disturbing activities in the vicinity of the discovery, and to notify appropriate personnel; and
- Educating NMCC personnel and contractors on the importance of cultural resources, the laws and regulations protecting cultural resources, the need to stay within defined work zones, and the legal implications of vandalism and looting.

The PA will describe the processes to be followed in the event that previously unknown cultural resources or human remains are discovered during construction or operation of the selected alternative, and will address processes to be followed in the event that inadvertent physical damage to an historic property occurs. While the effects to the resources will remain, the PA and the measures contained within it will resolve these effects and reduce the significance of the impacts. The PA will address all effects to historic properties, and will document NMCC's, the BLM's, and other regulatory agencies' commitment to ensure that the mitigation measures are implemented.

NMCC is committed to this PA process. Roads and project facilities at Copper Flat will be sited as much as possible to avoid cultural resource impacts. If avoidance is not possible or is not adequate to prevent adverse effects, NMCC will undertake data recovery from such sites. Development of a treatment plan, data recovery, archeological documentation and report preparation will be based on the Secretary of the Interior's "Standards and Guidelines for

Archeology and Historic Preservation," 48 CFR § 44716 (September 29, 1983), as amended or replaced. If an unevaluated site cannot be avoided, additional information will be gathered and the site evaluated. If the site does not meet eligibility criteria as defined by the New Mexico SHPO, no further cultural work will be performed. If a site meets eligibility criteria, a data recovery plan or appropriate mitigation will be completed.

An archaeologist will be consulted prior to and during construction to advise NMCC and its contractors and to issue clearances, as necessary, for construction activities and provide guidance and expertise to ensure the protection of cultural properties. The appropriate agency will be notified immediately if additional cultural sites are discovered during these activities. Mitigation strategies will be developed in consultation with the agency.

4.3.4 Hydrologic Balance – 19.10.6.603.C.(4)

NMCC has planned and designed operations of the Copper Flat facility in such a manner to minimize change to the hydrologic balance in the permit area and potentially affected areas. As discussed in Section 3, above, the resulting post-mining reclamation hydrologic balance will be similar to the pre-mining hydrologic balance. The following discussion addresses the methods by which NMCC will ensure this balance occurs.

Non-point Source Surface Releases of Acid or Other Toxic Substances – 19.10.6.603.C.(4)(a)

NMCC has designed and will operate the Copper Flat facility such that no releases of acid or other toxic substances will occur. To the extent that unanticipated releases may occur, all such releases will be contained within the permit area. Because the design of the facility contemplates retaining all surface flows in impoundments and/or ponds with no release of surface flows from the disturbed area, no treatment will be required. Sources of potential non-point source surface water drainage at Copper Flat include; the mine pit, the process plant area, the WRSPs and the TSF. All of these areas and their surface water protection features have been discussed earlier herein.

Surface water drainage in the area of the open pit is into the OPSDA. As such, no non-point source or releases off of the permit area from this location can or will occur as the open pit will act as a hydrologic sink for surface and ground water during and after operations.

The likelihood of acid generation from waste rock is very small (as discussed in Section 3.3, above); therefore, its release as a non-point source to the surface unlikely. NMCC has designed waste handling and disposal plans for the WRSPs as discussed in Sections 2.2.11 and 3.3.2. Surface water runoff and surface water that may manifest itself as a "seep" in the WRSP that could result from percolation of precipitation through the stockpile will be captured in runoff collection trenches and routed to lined impoundments. Water captured in these impoundments will, in turn, be evacuated to the double-lined process water reservoir located in the process plant area, within thirty days of capture (per the NMED Copper Rules) for use in the process. Therefore, non-point source releases from the WRSPs will not occur.

In addition to the WRSPs that will be constructed per NMCC's proposal, there are four existing waste rock stockpiles on-site, i.e., EWRSP-1, EWRSP-2A and 2B, EWSRP-3 and EWRSP-4 as shown in Figure 2-2. EWRSP-1 and EWRSP-2B are located in the OPSDA and, as such, will not contribute non-point source releases during operations. EWRSP-2A is located in the area where WRSP-1 will be constructed and will be incorporated into it during operations. Thus, it will not contribute non-point source releases during operations. However, currently the westernmost edge of EWRSP-1 and the northernmost edge of EWSRP-2A may be contributing surface water runoff away from the site. NMCC will reclaim these areas as described in the Reclamation and Closure Plan so that no non-point source releases occur from them.

As shown in Figure 2-21, the TSF is designed so that no non-point source releases occur from the facility. Run-on into the location of the TSF will be diverted around and away from the TSF. Tailings water will be retained in the lined impoundment behind the dam and will be recycled utilizing a floating water reclaim barge in the impoundment and an underdrain collection system at the bottom of the impoundment. Drainage collection trenches will be constructed on the out-slope side of the tailings dam to capture and direct runoff to the lined underdrain collection pond. An underdrain collection system will also be placed under the dam to collect water that drains from the dam and routed to the pond. The water in the pond will be pumped back to the process water reservoir for reuse in the process. Therefore, there will be no non-point source releases from the TSF.

Surface water runoff from the process plant area will be captured in a lined impoundment. That water will also be pumped to the process water reservoir for use in the process. Sources of potential non-point source releases in this area include the primary crusher and ore storage pile, the grinding and concentrator facilities, the reagent storage areas and two existing waste rock stockpiles, EWRSP-3 and EWRSP-4. . All surfaces will be graded to drain into contained area or impoundment. Therefore no non-point source releases will occur from plant area.

EWRSP-4 will be graded and contoured to be utilized as an equipment lay-down area. Runoff from EWRSP-4 will be routed to the mine pit during operations. The southern exterior of EWRSP-4 will be reclaimed during operations as described in the Reclamation and Closure Plan to ensure that no non-point source surface releases of acid or other toxic substances occur.

Control of Suspended Solids – 19.10.6.603.C.(4)(b)

Sediment control will be achieved by the use of BMPs to stabilize the site and ensure that the permit area does not contribute suspended solids above background levels, or if applicable above the Water Quality Control Commission's standards, to intermittent and perennial streams. All of the water courses in the permit area and the potentially affected areas are ephemeral, flowing only in response to precipitation events. This condition notwithstanding, the following types of BMPs may be utilized and maintained, as needed during construction, operation and reclamation/closure of the facilities:

- Fiber rolls (waddles)
- Ditches/swales
- Diversion channels
- Energy dissipaters
- Slope drains
- Sediment traps and fences
- Stilling basins
- Impoundments and ponds

A SWPPP will be developed for the permit area that outlines the mechanisms to control storm water run-on and runoff from disturbed areas. The SWPPP will be based on the final mine design. Mine employees will be trained to its requirements prior to commencement of construction and/or mining operations.

Roads will be constructed with a center crown to direct storm water to the side ditches. The ditches will have sediment control features such as water bars, fiber rolls or other traps to reduce sediment if the water enters an arroyo. These sediment control devices will be placed around construction or operational areas for temporary surface disturbance activities. Grading, revegetation, where appropriate and/or necessary and concurrent or contemporaneous reclamation will also be utilized as sedimentation control mechanisms.

Background Surface Water Quality – 19.10.6.603.C.(4)(c)
As part of the baseline study previously submitted, NMCC installed a surface water sampler where Grayback Arroyo enters the proposed mine permit boundary. The sampler is designated as SWQ-1 in Figure 8-7 of the BDR. This sampler was dry on each quarterly sampling event during the baseline study. However, continued sampling has continued since that time and any results that become available will be reported to establish background surface water quality.

Diversions of Overland Flow – 19.10.6.603.C.(4)(d)
NMCC's design of the Copper Flat facility includes several diversion structures to control overland flow of water at the site including runoff control and diversion ditches at the WRSP facilities, in the plant process area and at the TSF. The design specifications for these structures can be found in the various Appendices included in this MORP update. These structures have been designed and will be constructed and maintained to minimize adverse impacts to the hydrologic balance and assure public safety in accordance with the requirements of the

performance and reclamation standards and requirements of the Mining Act regulations and the requirements of the NMED Copper Rules.

Slope stability is of utmost importance in construction and operation of the Copper Flat facility. None of these structures will be located so as to increase the potential for landslides. All of the structures are designed to safely pass the peak runoff from a 100 year, 24 hour precipitation event and have been certified by a professional engineer registered in New Mexico as having been designed in accordance with 19.10 NMAC and the NMED Copper Rules. A complete set of diversion design documents will be kept on-site for inspection by the Director or his designee. When no longer needed, upon completion of reclamation/closure of the site, temporary diversions will be removed.

4.3.5 Stream Diversions – 19.10.6.603.C.(5)

NMCC does not propose to construct any stream diversions at the Copper Flat facility. There is a permanent existing diversion of Grayback Arroyo, an ephemeral watercourse that transects the site from west to east that will be maintained to continue to divert water safely around and through the site. NMCC has performed a diversion analysis to determine the ability of this diversion to protect the site. The report of this analysis is contained in Appendix D of the MORP update. The 24-hour storm flows for 100-year, 200-year and 550-year return periods were evaluated for the existing diversion structure. The report concludes that the existing diversion structure is protective of the site. The report also recommended minor repair and maintenance of the upstream inlets of the culverts located at the roadway and pipeline crossing (see Drawing 0000-CI-103 in Appendix D). NMCC will conduct said repair and maintenance at the beginning of construction.

4.3.6 Impoundments – 19.10.6.603.C.(6)

NMCC's design of the Copper Flat facility includes several impoundments, reservoirs and ponds, as shown on Figures 2-2 and 2-14, including three impacted process water impoundments, one process water reservoir, one tailings storage impoundment, one underdrain collection pond and one surge pond. The design specifications for these structures can be found in Appendix A and B. In addition, there will be an evaporation pond constructed after the end-of-life of the mine to provide long-term passive capture and evaporation of residual fluids that may be produced from the tailings impoundment. This pond will be constructed essentially as an extension of the underdrain collection pond, expanding its size and capacity as described in Appendix E. The liner system of the underdrain collection pond will extended to the constructed evaporation pond. As such, the design of the pond is the same as that for the underdrain collection pond, except that it will be more shallow in depth as described in Appendix E. The design of the underdrain collection pond is described in Appendix A.

These impoundments have been designed and will be constructed and maintained to minimize adverse impacts to the hydrologic balance, protect adjoining property and assure the safety of the public in accordance with the requirements of the performance and reclamation standards and requirements of the Mining Act regulations and the requirements of the NMED Copper Rules.

As shown in the design documents provided herewith, all of the impoundments, ponds and reservoirs (except the tailings impoundment) meet or exceed the design requirements of Section 19.10.6.603.C.(6)(a)(i through ix). The tailings impoundment meets or exceeds the design requirements specified by the OSE. When no longer required, the impoundments, ponds and reservoirs will be reclaimed in accordance with the Reclamation and Closure Plan.

4.3.7 Minimization of Mass Movement – 19.10.6.603.C.(7)

All slopes, embankments and the stockpiles will be designed, constructed and maintained to prevent the potential for mass movement both during operations and following closure. Details of the WRSP and TSF designs are presented in Section 2.

4.3.8 Riparian and Wetland Areas – 19.10.603.C.(8)

Disturbance to riparian and wetland areas at Copper Flat will be minimal. The Copper Flat Project area is primarily a terrestrial habitat with limited riparian and wetland habitats. The primary riparian areas are associated with the Grayback Arroyo and the established diversion. Arroyo areas within the proposed permit area boundary occur along Grayback Arroyo, the diversion channel, and pit lake. The arroyo vegetative cover has the highest woody plant density within the proposed mine area. The majority of vegetation within this land cover consists of shrubs, with Emory's baccharis (*Baccharis emoryi*) being the most abundant. Burro bush (*Hymenoclea monogyra*) is also frequent in Grayback Arroyo. Grasses make up 24 percent of the relative vegetation cover, with vine mesquite (*Panicum obtusum*) being the most abundant. Other vegetation found in Grayback Arroyo includes desert willow (*Chilopsis linearis*), Goodding's willow (*Salix gooddingii*), cottonwood, four wing saltbush (*Atriplex canescens*), and salt cedar (*Tamarix* spp.) (BLM DEIS 2015, Section 3.11.1.1, pg 3-142,143). This variety and distribution of vegetation in this area of the arroyo is quite typical of the riparian habitat throughout the area in the arroyos in the vicinity of the site.

NMCC operations will not change the existing surface water flow conditions and will maintain the existing hydrologic conditions that support the riparian areas. All riparian areas will be managed appropriately according to state and federal requirements.

Mining operations will involve the drawdown of groundwater from the pumping of water from the fresh water well field that will provide a portion of the water required for processing. However, none of the hydric soils at the mine site or elsewhere in the potentially affected area will be affected by that drawdown. Hydric soils in the wetlands along the arroyos and other water courses in the area do not rely on groundwater. They have an alternative source of water, such as flooding from surface water runoff or a perched water table.

The BDR (Intera 2012) indicates that during mine area surveys, two locations within the proposed mine area boundary appeared to meet wetland conditions as defined by the Clean Water Act (i.e., dominance byhydrophytic vegetation, hydric soils, and wetland hydrology). One of these areas is a small cattail wetland adjacent to the pit lake. The second wetland area, a patch dominated by Goodding's Willow, is estimated to be 1.5 acres in size. It is located within the mine at the bottom of Grayback Arroyo just below the culvert where the pit access road crosses Grayback Arroyo. Seep willow (*Baccharis salicifolia*) also occurs here (BLM 2015 DEIS, Section 3.11.1.1, pg 3-145).

Hydric soils of the small cattail wetland adjacent to the pit lake will be removed at the outset of operations since pumping of the pit lake will be necessary prior to mining and continuously throughout the life of the mine. This small wetland will be mined out when the pit is deepened so no surface soils will remain. As discussed in Appendix E, this small wetland will be replaced with the addition of two small water retention basins east of EWRSP-1. The second wetland area near the main mine entrance will not be affected by drawdown associated with activities at Copper Flat because it will be outside of the drawdown area. This area overlies the andesite bedrock of the Animas Uplift. As a result, there is no aquifer underlying the surface (BLM DEIS, November 2015, Section 3.8.2.1.1, page 3-110).

Engineering designs provided in the Reclamation and Closure Plan have set a minimum 50-foot set-back from Grayback Arroyo for the final reclamation footprints for GMSP-2, GMSP-3, WRSP-2, and WRSP-3 footprints and a 25-foot set-back for EWRSP-1. Riparian areas delineated at the plant area will not be disturbed and the land bridge will remain which will be protective of the Gooding's Willow community in Grayback Arroyo east of the mine entrance.

4.3.9 Roads – 19.10.6.602.C.(9)

For the most part, existing haul roads will be utilized to haul material to the crusher, stockpiles and WRSPs. Some minor realignment of these roads may be necessary and road widths will vary. Roads will be constructed and maintained to control erosion. Drainage control structures will be used, as necessary, to control runoff and minimize erosion, sedimentation and flooding. Drainage facilities will be installed as road construction or extension progresses and will be capable of passing a 10-year, 24 hour precipitation event. Culverts and drainage pipes will be constructed and maintained to avoid plugging, collapsing or erosion.

Haul roads are not expected to create new disturbances, as they will be constructed on previously disturbed land. Mined material will be hauled to the WRSPs and the mill using conventional mining haul trucks. The on-site service roads will be designed for easy access and traffic movement within the operations area. No roads will be constructed that cross intermittent or perennial streams. Access to the project area is via an existing county road (Gold Dust Rd./Co. Rd. Bo27) which will remain following closure. Prior to final closure, the State of New Mexico and the BLM will determine which other roads will be made permanent in the project area to conduct post-closure monitoring or provide adjacent landowner access. A number of pre-1981, primitive roads currently exist within the proposed project boundary. Some of these roads will not be utilized during the proposed operations and will remain.

4.3.10 Subsidence Control – 19.10.6.603.C.(10)

No underground or in situ mining are proposed to be conducted at Copper Flat. Therefore, subsidence control is not a consideration for the Copper Flat Project.

4.3.11 Explosives Blasting – 19.10.6.603.C.(11)

Blasting will be conducted in a manner to prevent injury to persons or damage to property not owned by the operation. The generation of fly rock will be minimized to ensure that it is confined to the permit area. Blasting will be limited to the daylight hours and performed by trained and certified blasters. Safe seismic disturbance and air blast limits will be established to prevent damage to buildings.
Blasting agents and explosives such as ammonium nitrate and diesel fuel will be stored onsite in bins and tanks. Detonators, detonating cords, boosters, caps and fuses will be stored in two separate magazines. Ammonium nitrate will be stored in a 75-ton capacity, 3,000 ft^3 silo. All explosive materials will be stored away from the plant site in compliance with MSHA, New Mexico State Mine Inspector's regulations, Bureau of Alcohol, Tobacco and Firearms (BATF), and U.S. Department of Homeland Security requirements. The magazines will be situated away from occupied buildings in compliance with the BATF and each magazine will be secured with two locks (see Figure 2-2).

Appropriate warning signs will be placed in such a way that a bullet passing through the sign will not strike the magazines. NMCC employees who use and handle explosives will do so in accordance with MSHA regulations and will meet all BATF, MSHA and state qualification and certification requirements. All transportation of explosives will meet MSHA and state requirements. An inventory will be kept of all explosives received into and distributed out of the magazines.

4.4 Site Stabilization & Configuration – 19.10.6.603.D

The permit area will be stabilized to minimize future impact to the environment and protect air and water resources. The final surface configurations of the disturbed areas subject to reclamation/closure will be suitable to achieve the post-mining land uses in accordance with the approved Reclamation and Closure Plan. Contemporaneous reclamation actions undertaken at Copper Flat during operations will have a positive impact on site stabilization, configuration, and final reclamation. Contemporaneous reclamation is discussed in more detail in Section 3.4. Appendix E contains a more detailed discussion of the steps to be taken to stabilize and configure the site so as to achieve the post-mining land use. These steps are summarized below.

4.4.1 Final Slopes and Drainage Configuration – 19.10.6.603.D.(1)

The final slopes and drainage configuration of the reclaimed areas are designed to be compatible with the post-mining land use. The reclamation design is driven by the requirements of the NMED Copper Rules as well as the Mining Act regulations to promote slope and drainage stability. Consideration will be given to providing a diversity of topographic relief that assists in promoting vegetation diversity within the prescriptive context of the NMED Copper Rules thus providing a geomorphic component to the design. For example, the topographic disturbances, slopes, and other aspects of the disturbed project areas will be contoured to blend in with the surrounding topography to the extent practicable within the constraints of the NMED Copper Rule. Final slopes will be 3H:1V or shallower and will be restructured to resemble existing topography to the extent practicable. A few areas may have steeper slopes and would be stabilized by physically with coarser materials to add to general diversity and stability. Flatter disturbed areas (slopes of 4H:1V or less) will be minimally regraded to restore an appropriate drainage system and revegetated. Re-grading will be completed to direct water away from out-slopes, particularly on the WRSPs and the TSF. Where possible, the size and shape of new channels will approximate former drainages. All drainage channels, ditches and earthen water control structures will be revegetated and/or protected from erosion by riprap, sediment traps or other BMPs.

4.4.2 Backfilling – 19.10.6.603.D.(2)

The impoundments, ponds and reservoirs constructed at the site will be backfilled with embankment materials and re-contoured and reclaimed to blend into the natural topography. Because the Copper Flat deposit must be mined sequentially from top to bottom, NMCC will not backfill the pit.

4.4.3 Minimizing Mass Movement – 19.10.6.603.D.(3)

All reconstructed slopes and embankments of the WRSPs and TSF are designed and will be constructed and maintained to prevent the potential for mass movement. The Reclamation and Closure Plan contains the design details in Section 2 of Appendix E.

4.4.4 Acid and other Toxic Drainage Formation – 19.10.6.603.D.(4)

Section 3.3 provides a discussion of the measures that will be taken to reduce, to the extent practicable, the formation of acid and other toxic drainage that may otherwise occur following closure to prevent releases that cause federal or state standards to be exceeded. NMCC's waste characterization efforts confirm that the likelihood of the formation of acid from the Copper Flat Project is very small (SRK 2013). NMCC's material handling, waste classification, waste rock flagging and routing and transitional waste materials disposal plans, as discussed in Section 3.3, to be implemented during operations, will prevent the formation of acid and other toxic drainage following reclamation/closure.

4.4.5 Non-Point Source Releases – 19.10.6.603.D.(5)

Section 4.3.4 provides a discussion of the measures that will be taken to ensure that there will be no non-point source surface releases of acid or other toxic substances during operations.

4.5 Topsoil (Topdressing or Cover Material) – 19.10.6.603.E

An important feature of "topsoil" is the presence of decomposed organic matter and bacterial, fungi, and other organisms that make the topsoil biologically active. These organisms are important to critical soil processes such as decomposition of organic matter and rendering nitrogen and other nutrients into plant-available forms. The alluvial sediments that will be stockpiled at Copper Flat for use in reclamation are unlikely to contain sufficient organic matter, nutrients and biological activity to support reclamation at the time of stockpiling but they are likely to contain adequate fine grained sediments (i.e., silts and clay) to provide water holding capacity when used as growth media (BLM DEIS page 3-41). As such, the discussion of "topsoil" in the context of salvaging materials for use in reclamation of the Copper Flat site reflects the nature of the materials available to stockpile. It is, therefore, more appropriate to refer to the materials utilized as cover material for reclamation and closure of the site as "topdressing" or "growth media." Additional information regarding the cover growth material requirements for reclamation is provided in Section 3.1 and 5.5 of Appendix E.

4.5.1 Topdressing Suitability – 19.10.603.E.(1)

The suitability of topdressing/cover materials is based on the material's ability to provide erosion control, sustain vegetation, and reduce net infiltration. In general, soils and underlying colluvial and alluvial materials in the permit area are considered suitable and have no chemical limitations for growth of native and adapted reclamation species.

The NMED Copper Rules, 20.6.7.33.F.(2) NMAC, require that the proposed soil cover system be designed to limit net-percolation by having the capacity to store at least 95 percent of the long-term average winter (December, January and February) precipitation or at least 35% of the long-term average summer (June, July and August) precipitation, whichever is greater as determined by utilizing field or laboratory test results or published estimates of available water capacity. The suitability of topdressing cover materials to meet this standard is discussed in detail in Section 5.5.1 of Appendix E.

The available water capacity (AWC) for the salvageable growth media within the limits of the TSF and WRSP-2 and -3 were estimated utilizing the laboratory results of soils samples taken during Golder's Supplemental Soils Investigation at Copper Flat (see Subsection 3.3.1 and Table 3, Golder, 2013). These estimates show an average AWC of approximately 0.9 inches of water per 1 foot of soil for the salvageable growth media within the footprint of WRSP-2 and -3, with a range of between 0.6 and 1.3 inches of water per 1 foot of soil. The AWC estimates for the salvageable growth media within the footprint of the TSF show an average AWC of approximately 1.2 inches of water per 1 foot of soil, with a range of between 0.4 and 2.2 inches of water per 1 foot of soil.

While the actual water retention of the salvaged soils will vary based on the types of soil materials that are placed in the GMSPs, the range of materials identified as suitable cover at the site indicates that the proposed cover system at Copper Flat will meet the storage requirements of the NMED Copper Rules.

4.5.2 Topdressing Salvage – 19.10.603.E.(2)

NMCC will salvage as much material as can be safely and practicably recovered and safely stored in the planned stockpiles. As part of the proposed operations, NMCC will bulk salvage suitable soils and near-surface alluvial materials from within the TSF, WRSP-2 and WRSP-3 footprints. Topdressing materials will be carefully recovered and stockpiled during the preproduction phase of the Project. Surficial soil materials will be salvaged in association with the construction of the plant, pipeline corridor, access roads and ancillary facilities. The salvaged growth media in these locations will be windrowed for local redistribution during final reclamation of the site. Suitable soils and other suitable cover materials including unconsolidated subgrade materials, colluvium and overburden will be salvaged to meet the volumetric requirements for final cover construction at closure as discussed in Section 3.1 and 5.5.2 of Appendix E.

4.5.3 Topdressing Stockpiling - 19.10.603.E.(3)

Salvaged reclamation cover materials will be stored in the three GMSPs shown in Figure 2-2. The GMSPs are located so as not to be disturbed or impacted by mining operations. The surfaces of the stockpile will be shaped after construction with overall slopes of 3H:1V or shallower to minimize soil loss. To further minimize erosion and the establishment of undesirable weeds, the GMSPs will be seeded with the interim seed mix Additional information regarding stockpiling of growth media is contained in Section 5.5.3 of Appendix E.

4.5.4 Topdressing Re-Distribution - 19.10.603.E.(4)

Topdressing will be distributed in a manner to establish and maintain vegetation. Details regarding the manner in which it will be distributed and applied on regraded areas during for reclamation are discussed in Section 3.1, Growth Media Placement, of Appendix E.

4.5.5 Topdressing Stabilization - 19.10.603.E.(5)

Cover materials will be stabilized after distribution. Seedbed preparation, including scarification and disking along the contour, will be performed prior to seeding and mulching operations as described in the Section 3.0 of Appendix E.

4.5.6 Topdressing Amendment - 19.10.603.E.(6)

As discussed in Section 5.5.1 of Appendix E, most semi-arid native plants have adapted to low to moderate soil fertility conditions and are relatively unresponsive to increased soil fertility compared to crop plants. Fertilizer additions have been shown to have negative impacts in reclamation including increases in weedy annuals, shifts in species composition and decreases in drought, disease and pest resistance. Topdressing amendment requirements are discussed in Section 5.5.6 of Appendix E.

4.6 Erosion Control – 19.10.6.603.F

Reclamation activities described in Sections 3.0 and 5.6 of Appendix E will stabilize disturbed areas to a condition that protects against erosion. All disturbed areas will be regraded and shaped to a final contour that achieves positive drainage, reconstructs slopes with lengths and gradients that will provide long-term stability and seeded and mulched to establish a vegetative cover. Storm water will be diverted away from facilities. Drainage channels will be designed to regulate the velocity of water and minimize the potential for channel erosion. BMPs for storm water diversions, drainage and other water conveyance channels may include lining the channel with rock, riprap, vegetation or other geotechnical materials.

4.7 Revegetation – 19.10.6.603.G

As discussed in Section 2.5 of this updated MORP, NMCC's Copper Flat Project will take place on a combination of federal land administered by the BLM and private land owned by NMCC (by virtue of patented mining claims). The current land uses of federal lands administered by the BLM in the area of the Copper Flat facility have been identified previously in BLM's 1986 White Sands Resource Management Plan (BLM 1986); e.g., grazing, wildlife habitat, recreation and mining.

Revegetation of the site will be consistent with the requirements of 19.10.6.603.G.(3) NMAC; i.e., the previously accepted historic post-mining land uses as identified by the BLM in its land management plan consistent with the surrounding land uses of the Copper Flat site. The Reclamation and Closure Plan is designed to re-establish grazing in the area and allow for long-term use of the reclaimed areas by wildlife known to historically use the area without affecting the potential for other uses such as mining and recreation. Revegetation success is discussed in Section 5.7 of Appendix E.

4.8 Perpetual Care – 19.10.6.603.H

The Copper Flat facility will be reclaimed in conformance with the Reclamation and Closure Plan, as approved. The Plan is designed to meet all of the applicable environmental requirements of the Act, 19.10.6 NMAC, the NMED Copper Rules and other laws following closure. As indicated above, NMCC will reclaim the disturbed areas consistent with the BLM's land management plan as currently approved. The lands surrounding the site are currently self-sustaining and do not require perpetual care. After the lands disturbed by NMCC's mining activities are reclaimed, the land will return to being self-sustaining requiring no perpetual care following closure.

5.0 REFERENCES

Intera et al. Baseline Data Characterization Report for Copper Flat Mine, Sierra County, New Mexico, June 2012 (Intera 2012).

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US Bureau of Land Management. Copper Flat Mine Draft Environmental Impact Statement, Sierra County, New Mexico, November 2015 (BLM 2015).

Appendix A

Feasibility Level Design, 30,000 TPD Tailings Storage Facility
And
Tailings Distribution and Water Reclaim Systems

Copper Flat Project

Sierra County, New Mexico

Golder Associates Inc.

Revised, June 2016

Appendix A is contained in a separate volume binder, submitted with this Mine Operating and Reclamation Plan and the Copper Flat Mine Discharge Permit Application, dated December 2015, and revised June 2016.

Appendix B

Impoundment Design Report

M3 Engineering & Technology Corp.

November, 2015

Appendix B is contained in a separate volume binder, submitted with this Mine Operating and Reclamation Plan and the Copper Flat Mine Discharge Permit Application, dated December 2015.

Appendix C

Copper Flat

Process Facility Containment Report

M3 Engineering & Technology Corporation

December, 2015

Appendix C is contained in a separate volume binder, submitted with this Mine Operating and Reclamation Plan and the Copper Flat Mine Discharge Permit Application, dated December 2015.

Appendix D

Copper Flat

Site Diversion Analysis

M3 Engineering & Technology Corporation

Revised, June 2016

Appendix D is contained in a separate volume binder, submitted with this Mine Operating and Reclamation Plan and the Copper Flat Mine Discharge Permit Application, dated December 2015, and revised June 2016.

Appendix E

Mine Reclamation and Closure Plan

Copper Flat Mine

Golder Associates Inc.

October, 2016