ROSEMONT PROJECT

PLAN OF OPERATIONS

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Executive Summary

The subject of this Plan of Operations is known as the Rosemont Project ("Project"), which is owned and will be developed and operated by Augusta Resource (Arizona) Corporation (Augusta), a wholly owned subsidiary of Augusta Resource Corporation. The Rosemont Project area consists of a group of patented mining claims, unpatented mining claims and fee land that cover most of both the Rosemont Mining District and the adjacent Helvetia Mining District (the Property), wholly within the political boundary of Pima County in southeastern Arizona. Specifically, the Project is located approximately 30 miles southeast of Tucson, west of State Highway 83. Access to the Property is from Interstate 10 to State Highway 83 south, then west on the future Project Access Road.

The Project area and near vicinity have a history of mining exploration and activities. The core of the Rosemont Property consists of 132 patented lode claims that in total encompass an area of nearly 2,000 acres (800 hectares). A contiguous package of 850 unpatented lode mining claims with an aggregate area of approximately 12,000 acres (almost 5,000 hectares) surrounds the core of patented claims. Associated with the property are 14 parcels of fee land grouped into six individual areas that enclose a total of 911 acres (369 hectares). Most of the unpatented claims were staked on Federal land administered by the United States Forest Service (Coronado National Forest), but a limited number of claims in the northwest portion of the property are on Federal land administered by the Bureau of Land Management (BLM). The area covered by the patented claims, unpatented claims and fee lands totals approximately 14,880 acres (6,026 hectares).

The Rosemont Project is a copper mining project. In addition to a copper resource, it has been determined through drilling and metallurgical testing that recoverable quantities of molybdenum and silver are also resident in the deposit. Augusta has confirmed or identified the availability of approximately 440 million tons of ore which is planned to be mined at a rate of approximately 27 million tons per year. This rate translates into a project life of approximately 16 years. Additional reserves resulting in at least four more years of mine life (i.e. up to 20 years of total mine life) are expected to be developed as exploration drilling continues. Approximately 348 people will be employed full time, drawn from a largely locally available pool of workers. This schedule estimates a mill through-put of approximately 75,000 tons per day.

Mining of the ore will be through conventional open pit mining techniques. Overburden and waste rock will be blasted and transported by haul truck to the waste rock deposition areas. Ore will be blasted and either hauled by haul truck to the leach pad, or crushed and loaded onto a conveyor for transport to the mill, depending on the type of ore. Ore will be processed either by conventional sulfide milling, or by leaching. The copper concentrates from the milling operations will be further processed by either on-site concentrate leaching, or they will be transported off site for smelting. Leach ore will be placed on a lined leach pad. Solutions from the pad will be collected in a solution pond and then processed through a Solvent Extraction – Electrowinnning (SX-EW) plant. Copper cathodes generated from the SX-EW plant will be transported off site to copper warehouses or directly to customers.

The total disturbance footprint of the operation is estimated to be 4,000 acres, with approximately 840 acres on private land, 3,135 on federal lands managed by the Coronado National Forest, and 20 acres on state trust lands.

In general, the Rosemont Project has been designed as a sustainable development, defined as a development that meets the needs of the present without compromising the ability for future generations to meet their own needs. Specifically, Rosemont is being developed using the underlying principles and analysis that acknowledge the significant economic benefit this Project can bring to the local area, while fully considering the environmental impacts a mining operation can have.

Because this is a new project, the opportunity exists to ensure that all activities associated with the mine are environmentally sound and as protective of the environment as possible. Augusta has emphasized sustainability in its approach to facility siting, water supply, water conservation, concurrent reclamation, and the community benefits of the Santa Rita Mountains Regional Trust. Specific sustainable concepts are outlined below and discussed further throughout this document.

- *Facility siting*. In siting waste rock and tailings facilities, it was determined that multiple facility footprints located at a lower elevation and covering multiple drainage basins would not be as environmentally sound as a single consolidated facility covering a smaller area or located within a single drainage basin. The Project mining activities, therefore, have been designed to be confined to the Barrel Canyon drainage to the greatest extent possible, at an elevation that results in little or no anticipated visual impact to Green Valley or Tucson. The industrial nature of the milling facility has been located in a recessed canyon, screened from view of local areas by surrounding ridgelines.
- *Water supply*. Of significant importance to the project is the supply of water, estimated at approximately 5,000 to 8,000 ac-ft per year. By contracting for and purchasing Central Arizona Project (CAP) water in an amount equivalent to that used at the mine, Augusta proposes to recharge CAP water to the regional aquifer at the Pima Mine Road location in the upper Santa Cruz groundwater basin. Recharge of CAP water at this groundwater recharge facility will offset the potential impact of groundwater withdrawal on a regional scale. That is, by recharging CAP water in sufficient amounts, the overall water balance and safe-yield goal of the Tucson Active Management Area (AMA) will be satisfied.
- *Water conservation*. Augusta understands that water is a critical resource in eastern Pima County, and has incorporated a number of water conservation efforts at the Rosemont Project. These include the use of dry tailings placed with waste rock instead of conventional tailings pond construction and operation; drips and emitters for the leach process instead of sprinklers and atomizers; reduced surface area for freshwater ponds; lined and elevated tankage to minimize seepage losses; and covered storage tanks.
- *Concurrent reclamation*. The deposition of waste rock will be initiated with a series of perimeter berms that are designed to: 1) reduce visual impacts from State Hwy 83 and surrounding areas,

and 2) allow reclamation to begin within the first year of operations. Soil will be salvaged prior to pit operation and used as a vegetation growth medium as soon as the perimeter berms are established, during the early phases of mine operations. Waste rock will continue to be deposited behind, i.e. to the west of, the perimeter berms during the life of the mine.

- *Santa Rita Mountains Regional Trust*. The Project plan will have provisions for contributing a portion of proceeds from production to the development of conservation projects of regional importance, to be developed with participation from local stakeholders.

In the coming months, Augusta will continue to pursue the extensive engineering, permitting, and public involvement efforts associated with acquiring all of the necessary approvals for operations. Development and implementation of an environmental management system will tie all of the environmental program requirements into a cohesive, easy to manage package. Though the exact format of the system has not yet been determined, the Rosemont environmental management system will be produced at the conclusion of the NEPA review process, and will incorporate all requirements and conditions as stipulated in federal, state, and local agency permits and approvals.

1 Introduction

The subject of this Plan of Operations is known as the Rosemont Project ("Project"), which is owned and will be developed and operated by Augusta Resource (Arizona) Corporation (Augusta), a wholly owned subsidiary of Augusta Resource Corporation. Augusta maintains offices in Vancouver, British Columbia, Canada and Denver, Colorado.

1.1 Owner and Operator

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1.2 Project Location, Access and Areas of Operation

The Rosemont Property consists of a group of patented mining claims, unpatented mining claims and fee land that cover most of both the Rosemont Mining District and the adjacent Helvetia Mining District (the Property), wholly within the political boundary of Pima County in southeastern Arizona (Figures 1 through 3). Specifically, the Project is located approximately 30 miles southeast of Tucson, west of State Highway 83. In geographical terms, the Rosemont Property location coordinates are approximately 31º 50'N and 110º 45'W. Access to the Property will be from Interstate 10 to State Highway 83 south, then west on the Project Access Road.

The core of the Rosemont Property consists of 132 patented lode claims that in total encompass an area of 1968 acres (797 hectares) (Appendix A). A contiguous package of 850 unpatented lode mining claims with an aggregate area of approximately 12,000 acres (ca. 5000 hectares) surrounds the core of patented claims. Associated with the property are 14 parcels of fee land grouped into six individual areas that enclose a total of 911 acres (369 hectares). Most of the unpatented claims were staked on Federal land administered by the United States Forest Service (Coronado National Forest), but a limited number of claims in the northwest portion of the property are on Federal land administered by the Bureau of Land Management (BLM). The area covered by the patented claims, unpatented claims and fee lands totals approximately 14,880 acres (6,026 hectares).

Surveyed brass caps on short pipes cemented into the ground mark the patented mining claim corners. Cairns and wooden posts mark the unpatented claim corners, end lines and discovery monuments, most of which have been surveyed. The fee lands are located by legal description recorded at the Pima County Recorders Office.

1.3 Mining and Exploration Background

The early history and production from the Rosemont Property has been described in Anzalone (1995), from which the following summary is taken.

Sporadic prospecting reportedly began in the northwestern portion of the Property, the Helvetia Mining District, sometime in the middle 1800s. By the 1880s the production from mines on both sides of the northern Santa Rita Mountains area supported the construction and operation of the Columbia Smelter at Helvetia on the west side of the Santa Rita Mountains and the Rosemont Smelter in the Rosemont Mining District on the east side of the Santa Rita Mountains. Copper production ceased in 1951 after the production of about 227,300 tons of ore containing 17,290,000 pounds of copper, 1,097,980 pounds of zinc and 180,760 ounces of silver. An unknown, but probably minor, portion of the production came from the Rosemont Deposit.

Since shutdown in 1951, the area stretching from Peach-Elgin to Rosemont has seen a progression of exploration campaigns. Churn drilling at the Peach-Elgin deposit in 1955 and 1956 by Lewisohn Copper Company began the definition of that deposit. Drilling in 1956 by American Exploration and Mining Company initiated exploration of the Broadtop Butte prospect. Banner Mining Co. had acquired most of the claims in the area by the late 1950's, and drilled the discovery hole into the Rosemont deposit. Anaconda Mining Company acquired the property in 1963 and carried out a major exploration program that identified Rosemont as a major porphyry copper deposit and advanced the Broadtop Butte and Peach-Elgin prospects (see Figure 3). The Rosemont project carried on after Amax and Anaconda joined in the Anamax partnership until 1986 when Anamax sold the Peach-Elgin – Rosemont property to a real estate company during the dissolution of Anaconda. By the end of the Anaconda-Anamax programs, exploration drilling totaled in excess of 297,321 feet (90,623 meters), of which approximately 232,000 feet (70,713 meters) define the Rosemont deposit.

ASARCO purchased the property in 1988, renewed exploration of the Peach-Elgin deposit and initiated engineering studies on Rosemont. ASARCO drilling on Rosemont was limited to a small number of geotechnical diamond drillholes. ASARCO sold the entire property to real estate interests in 2004.

2 Overall Project Description

The Rosemont Project is a copper mining project. In addition to a copper resource, it has been determined through drilling and metallurgical testing that recoverable quantities of molybdenum and silver are also resident in the deposit. Augusta has confirmed or identified the availability of approximately 440 million tons of measured and indicated mineral resources, which is planned to be mined at a rate of approximately 27,000,000 tons per year. This rate translates into a project life of approximately 16 years. Approximately 348 people will be employed full time, drawn from a largely locally available pool of workers. This schedule estimates a mill through-put of approximately 75,000 tons per day. An additional unconfirmed 100 million tons of ore would support additional mine life to 20 years of project operations. This Plan described activities anticipated for a 20-year mine life.

Mining of the ore will be through conventional open pit mining techniques. Overburden and waste rock will be blasted and transported by haul truck to the waste rock deposition areas (Figure 4). Ore will be blasted and either hauled by haul truck to the leach pad, or crushed and loaded onto a conveyor for transport to the mill, depending on the type of ore. Ore will be processed either by conventional sulfide milling, or by leaching. The copper concentrates from the milling operations will be further processed either by on-site concentrate leaching, or by transport off site for smelting. Leach ore will be placed on the leach pad. Solutions from the pad will be collected in a solution pond and then processed through a Solvent Extraction – Electrowinnning (SX-EW) plant. Copper cathodes generated from the SX-EW plant will be transported off site for further processing.

The project is expected to disturb approximately 4,000 acres of land as shown in Table 1, below, and Figure 5.

Table 1. Anticipated Project Disturbance

Disturbance Category	Patented Mining Claims and Fee Lands (Private Land)	Forest Service Lands (Unpatented Mining Claims)	Total
Access road and utility corridor	30	265	295
Facilities and Plants	90	200	290
Tailings and Waste Rock	245	2,295	2,540
Leach Pad	10	210	220
Pit	445	60	505
Ponds	10	125	135
Total	830	3,155	3,985

2.1 Plan Environmental Highlights

In general, the Rosemont Project has been designed as a sustainable development, defined as a development that meets the needs of the present without compromising the ability for future generations to meet their own needs. Specifically, Rosemont is being developed using the underlying principles and

analysis that acknowledge the significant economic benefit this Project can bring to the local area, while fully considering the environmental impacts a mining operation can have.

Because this is a new project, the opportunity exists to ensure that all activities associated with the mine are environmentally sound and as protective of the environment as possible. Augusta has emphasized sustainability in its approach to facility siting, waters supply, water conservation, concurrent reclamation, and the community benefits of the Santa Rita Mountains Regional Trust. Specific sustainable concepts are outlined below and discussed further throughout this document.

- *Facility siting*. In siting waste rock and tailings facilities, it was determined that multiple facility footprints located at a lower elevation and covering multiple drainage basins are would not be as environmentally sound as a single consolidated facility covering a smaller area or located within a single drainage basin. The Project mining activities, therefore, have been designed to be confined to the Barrel Canyon drainage to the greatest extent possible, at an elevation that results in little or no anticipated visual impact to Green Valley or Tucson. The industrial nature of the milling facility has been located in a recessed canyon, screened from view of local areas by surrounding ridgelines.
- *Water supply*. Of significant importance to the project is the supply of water, estimated at approximately 5,000 ac-ft per year. By contracting for and purchasing Central Arizona Project (CAP) water in an amount equivalent to that used at the mine, Augusta proposes to recharge CAP water to the regional aquifer at the Pima Mine Road location in the upper Santa Cruz groundwater basin. Recharge of CAP water at this groundwater recharge facility will offset the potential impact of groundwater withdrawal on a regional scale. That is, by recharging CAP water in sufficient amounts, the overall water balance and safe-yield goal of the Tucson Active Management Area (AMA) will be satisfied.
- *Water conservation*. Augusta understands that water is a critical resource in eastern Pima County, and has incorporated a number of water conservation efforts at the Rosemont Project. These include the use of dry tailings instead of conventional tailings; drips and emitters for the leach process instead of sprinklers and atomizers; reduced surface area for freshwater ponds; lined and elevated tankage to minimize seepage losses; and covered storage tanks.
- *Concurrent reclamation*. The deposition of waste rock will be initiated with a series of perimeter berms that are designed to: 1) reduce visual impacts from State Hwy 83 and surrounding areas, and 2) allow reclamation to begin within the first year of operations. Soil will be salvaged prior to pit operation and used as a vegetation growth medium as soon as the perimeter berms are established, during the early phases of mine operations. Waste rock will continue to be deposited behind, i.e. to the west of, the perimeter berms during the life of the mine.
- *Santa Rita Mountains Regional Trust*. The Project plan will have provisions for contributing a portion of proceeds from production to the development of conservation projects of regional importance, to be developed with participation from local stakeholders.

In the coming months, Augusta will continue to pursue the extensive engineering, permitting, and public involvement efforts associated with acquiring all of the necessary approvals for operations. Development and implementation of an environmental management system will tie all of the environmental program requirements into a cohesive, easy to manage package. Though the exact format of the system has not yet been determined, the Rosemont environmental management system will be produced at the conclusion of the NEPA review process, and will incorporate all requirements and conditions as stipulated in federal, state, and local agency permits and approvals.

In addition to the larger project concepts, many plans for environmentally sensitive operating practices are also being discussed. These opportunities include:

- Encouragement and incentives for employees to car pool including shift scheduling to accommodate this potential. The use of 12-hour work shifts instead of the standard 8-hour shift results in fewer shift changes and fewer commute miles for employees.

- Use of shielded low-pressure sodium lighting which meets Pima County's lighting codes, thus minimizing the impact on to surrounding observatories. M3 Engineering has performed an analysis of the requirements and has suggested standards to meet or exceed this requirement.

- White paper recycling through the Department of Economic Security Programs.

- Cardboard recycling dependent upon the market and availability of recyclers in Tucson.

- Use of Philips Altos or equivalent light bulbs. These specific bulbs do not fail Toxic Characteristic Leach Procedure (TCLP) testing for hazardous waste disposal considerations.

- Use of non-chlorinated solvents and cleaners in parts washers and in aerosol de-greasers to eliminate the chlorinated hazardous waste.

- Use of solvents with a flashpoint greater than 140 degrees Fahrenheit (a lower flashpoint is automatically a hazardous waste by definition).

- Use of best management practices for used oil in order to facilitate recycling. The possibility of using used oil for blasting will be reviewed.

- Recycling of mine equipment tires greater than three feet in diameter provided there are outlets. A market currently exists for shredded tires for use in playgrounds.

- Paving, where practicable, of access roads. Unpaved roads will be watered or otherwise treated for dust control.

2.2 Physiographic Setting

2.2.1 Climate

Meteorological records for the immediate vicinity of the Rosemont Project are of limited duration and were obtained 56 to 75 years ago. The U.S. Forest Service obtained measurements of rainfall and temperature at Rosemont during the period from August 1914 to June 1931 (University of Arizona, 1977). Elevation of the meteorological station at Rosemont was 4,800 feet above sea level. Daily temperature and precipitation at Helvetia, located a few miles to the west at 4,400 feet elevation are available through the Western Regional Climate Center (2006) for the period from June 1916 through April 1950. More recent meteorological records are available for weather stations in the region and provide a basis for projecting climatic conditions for the Rosemont Project area. These weather stations include: Canelo, located about 25 miles to the southeast at elevation of 5,010 feet; and Santa Rita Experimental Range, located about 8 miles to the southwest at 4,300 feet.

Augusta has recently installed a new meteorological data station on the site, and is now collecting current weather and climate information. Recent site-specific data collection began in the second quarter of 2006.

2.2.1.1 Temperature

Minimum temperatures for Rosemont during the period from 1914 to 1931 usually occurred in January and averaged about 36˚F; maximum temperatures usually occurred in June and were above 90˚F. Average monthly minimum temperature for Helvetia during the period 1916 through 1950 was 35.9˚F in January, and average maximum temperature was 92.1˚F in June. For comparison, average monthly minimum temperature for Santa Rita Experimental Range during the 30 year period from 1971 through 2000 was 37.2˚F in December, and average maximum temperature was 92.5˚F in June. Average monthly minimum temperature for Canelo during the 30-year period from 1971 through 2000 was 28.3˚F in January, and average maximum temperature was 90.0˚F in June.

2.2.1.2 Precipitation

Annual average precipitation for Rosemont estimated by Sellers (University of Arizona, 1977) for the period 1931 through 1970, was approximately 16 inches. Based on records available from the Western Regional Climate Center (2006), average annual precipitation for Helvetia for the period 1916 through 1950 was 19.73 inches. For comparison to more recent information, average annual precipitation for Santa Rita Experimental Range for the period from 1971 through 2000 was 22.22 inches. Average annual precipitation for Canelo for the period 1971 through 2000 was 18.01 inches (Western Regional Climate Center, 2006).

More than half of the precipitation recorded at these stations fell during the summer months of July, August, and September. The months with the least recorded precipitation are April, May, and June. In

general, annual precipitation has been less than average for the past 10 years (1995-2005), resulting in severe drought conditions.

2.2.2 Geology

The regional, local and property geology of the Rosemont deposit has been described in Anzalone (1995) and Wardrop (2005), from which the following summary is taken.

Precambrian sedimentary and intrusive rocks form the regional basement beneath a Palaeozoic sequence of quartzites, siltstones and carbonate rocks. Sedimentary deposition ceased for a time during uplift and formation of a widespread unconformity in the early Mesozoic, and then resumed with the deposition of continental and shallow marine deposits. Subsequent granitic intrusions and felsic volcanic eruptions dominated the late Mesozoic and early Cenozoic corresponding to the Laramide Orogeny when most of the porphyry copper deposits of the region formed. Compressional tectonics during the Laramide Orogeny created both low-angle thrust faults and high-angle strike-slip faults. Extensional tectonic activity followed the Laramide Orogeny and was accompanied by voluminous felsic volcanic eruptions. Numerous low-angle normal faults formed during this time, and these have been particularly important in the Rosemont area. The extensional tectonics eventually produced the large-scale block faulting that produced the present Basin and Range Province. A generalized geologic map of the Rosemont Property is presented in Figure 6.

2.2.3 Seismicity

Limited seismic research has been conducted to date at the Rosemont property. A preliminary seismic hazard analysis conducted by Vector (2006a) included a review of publicly available information.

The U.S. Geological Survey has developed probabilistic estimates of ground motion for all geographic coordinates within the United States on a 0.1 x 0.1 degree grid of latitude and longitude. Typically, a search based on latitude and longitude is completed for a known project site and ground motion values for PGA, 0.2- and 1-second spectral acceleration are returned based on the nearest grid corner at: 2 percent in 50 years and 10 percent in 50 years probabilities of exceedance. These two levels of exceedance correspond to approximately 2475- and 475-year return periods, respectively. For the proposed Rosemont mine site, the State of Arizona guidelines recommend two levels of design ground motion: 1) the maximum probable earthquake (MPE), having a return period of 100 years; and, 2) the maximum credible earthquake (MCE), ground motions associated with the maximum credible earthquake which can reasonably be expected to occur at the site within the current geologic setting. In order to estimate the 100 year return period event, the hazard curves used by the USGS in generating their seismic hazard maps were researched. Figure 7 illustrates the hazard curve for the proposed Rosemont mine site.

Based on the seismic hazard curve presented in Figure 7, a preliminary estimate of the MPE design ground motion would be on the order of 0.02g. This is a very low design ground motion and consistent with the low level of historic seismicity in the project area.

For development of the 2002 National Seismic Hazard Maps, the USGS used five equally weighted attenuation relationships, including: Boore, et al. (1997); Sadigh, et al. (1997); Abrahamson and Silva (1997); Spudich, et al. (1999); and, Campbell and Bozorgnia (2003). The same attenuation relationships are used here to establish a "ball-park" estimate range of project design MCE ground motions of 0.15 to 0.20 varying the fault mechanism between strike-slip and normal, respectively. These ground motion estimates consider the background event, Mw=6.5, established by dePolo (1994) occurring at a depth of 15 km directly beneath the site. If the Santa Rita fault zone is determined to be active, under the State of Arizona guidelines, then ground motions associated with the MCE on that fault, lying 11.2 km from the proposed Rosemont mine site could go as high as 0.34g.

2.2.4 Hydrology

The Rosemont Project is located in the northern Santa Rita Mountains, and is situated partly inside and partly outside the Tucson Active Management Area (AMA). Davidson Canyon and Cienega Creek drain areas located east of the crest of the Santa Rita Mountains and east of the Rosemont copper deposit. The upper Cienega basin occurs east from the Santa Rita Mountains and the Rosemont Project area, and the upper Santa Cruz basin is located west and north of the Santa Rita Mountains. Groundwater may possibly occur at places in Holocene alluvium along the principal drainage channels near the Rosemont Project. Modest amounts of groundwater may be stored in the Mesozoic and Paleozoic basement rocks of the Santa Rita Mountains, and large amounts of groundwater are stored in the basin-fill deposits that occur beneath the floor of the Santa Cruz basin to the west, and of the upper Cienega basin to the east.

Hydrogeologic conditions in the vicinity of the Rosemont Project are described by Harshbarger and Hargis (1976, 1980, and 1981), and Hargis & Montgomery (1982).

3 Operations Description

Much of the information for the operations has been obtained from two reports prepared by WLR (2006) and Washington Group International (2006). Where other sources were used, the appropriate reference is provided. In addition, note that, where appropriate, detailed designs will be provided as they are developed.

3.1 Roads

3.1.1 Access Roads

The primary access road to the property connects with State Highway 83 at a point between mile markers 46 and 47. The design of the access road will be the typical collector road standard, with two 14-ft lanes and two shoulders within a 68-ft easement (Figure 8). Siting and design of the highway intersection will recognize the needs for safe ingress and egress from the access road.

3.1.2 Haul Roads

Mine haul roads will be constructed around the north, east and south edges of the planned ultimate pit limits (see Figure 4). Temporary haul roads will be constructed internal to the ultimate pit limits as necessary to provide access to all working faces in the open pit mine and connecting with the primary crusher, oxide leach pad and waste rock deposition areas located to the southeast, east and northeast of the pit.

Mine haul roads will be constructed using material excavated within the open pit, typically consisting of limestone, skarn, andesite and quartz monzonite porphyry rock types. Road surface material may be crushed and screened as needed to produce a smooth running surface.

Haul roads will generally be about 120-130 ft wide, inclusive of safety berms, and will support the traffic of 250- to 355-ton off-highway mine haulage trucks. The maximum gradient for the mine haul roads will be 10 percent, although short intervals may be constructed as steep as 12 percent. The minimum inside lane radius for switchbacks within the pit will be 40 ft. Roads will be slightly crowned to promote drainage of surface runoff to side ditches or berms. Safety berms will be constructed to a minimum height of about 6 to 8 ft (i.e., to the center of the largest truck wheel).

Haul truck speeds will not exceed 35 mph and will usually be less than 25 mph on ramp gradients of 10 percent or more. Fugitive dust will be suppressed by wetting the road surfaces using a fleet of appropriately-sized water trucks (20,000- to 35,000-gallon capacities). Chemical dust suppressants may be used where conditions warrant.

An access road will also be constructed between the open pit and the truck shop located near the plant site. This road will have the same design parameters and speed limits as mine haul roads.

3.2 Mine Pit

Open pit mining will be conducted from 50-ft benches using large-scale equipment, including: 12.25-in.-diameter blasthole drills, 50- to 60-cubic-yard (cy) electric rope shovels and 250- to 355-ton off-highway haulage trucks. Interramp slope angles will vary according to rock strength, lithology and structural controls, but are expected to range between 40° and 51°. Where possible, catch benches will be spaced on 100-ft vertical intervals to maximize the effective widths for containing scree.

In the final design (Figure 4), the pit is about 6,100 ft across north to south at the rim, 4,600 ft across east to west, and will be about 1,500 to 2,400 ft deep (the pit bottom elevation is projected at 3,350 to 3,500 ft). The pit area totals about 505 acres in plan view.

The first phase (starter pit) will be located towards the southwest corner of the ultimate pit, leaving about a 200- to 250-ft-wide subsequent pushback (Phase 3) to the final limits along the west side. Phase 2 expands the starter pit to the east and north. Phase 3 further extends the pit to the east, south and pushes to the ultimate limits along the west wall. Phases 4, 5 and 6 progressively expand the pit to the north and east, following the orebody down its easterly dip. The potential Phase 7 (additional mine life from year 17 through year 20) would result in expand the pit to the north, south, and east.

Sulfide milling is scheduled for 24 hours per day, seven days per week, 360 days per year at an ore processing rate of 75,000 tons per day (tpd), or 27 million tons per annum. The open pit mine will operate using the same schedule. A provision of five days per year has been made for mill maintenance and weather delays in pit operations. The mine will use four rotating crews, each working 12-hour shifts, to provide continuous operator coverage.

The mine production schedule is presented in Table 2 below.

Table 2. Rosemont Mine Production Schedule

Time Period	Sulfide Mill Ore Ktons	Oxide Leach Ore Ktons	Waste Ktons	Total Ktons	Strip Ratio
Preprod	3,100	13,500	44,500	61,100	2.68
Yr 1	24,500	14,700	46,400	85,600	1.19
Yr 2	27,000	10,300	50,800	88,100	1.36
Yr 3	27,000	6,200	54,900	88,100	1.65
Yr 4	27,000	2,500	58,600	88,100	1.99
Yr 5	27,000	4,400	49,300	80,700	1.57
Yr 6	27,000	900	52,800	80,700	1.89
Yr 7	27,000	500	53,200	80,700	1.93
Yr 8	27,000	2,000	51,700	80,700	1.78
Yr 9	27,000	400	53,300	80,700	1.95
Yr 10	27,000	700	53,000	80,700	1.91
Yr 11	27,000	1,900	51,800	80,700	1.80
Yr 12	27,000	-	53,700	80,700	1.99
Yr 13	27,000	500	53,200	80,700	1.94
Yr 14	27,000	600	29,100	56,700	1.05

Table 2. Rosemont Mine Production Schedule

Time Period	Sulfide Mill Ore Ktons	Oxide Leach Ore Ktons	Waste Ktons	Total Ktons	Strip Ratio
Yr 15	27,000	-	600	27,600	0.02
Yr 16	25,900	-	2,400	28,300	0.09
Total	**431,500**	**59,100**	**759,300**	**1,249,900**	**1.55**

(Excludes 2,500 ktons of stockpiled sulfide ore rehandle in Year 1. Ore includes inferred material.)

Phase 7 (years 17 through 20 of mine life), if completed, would result in an additional estimated 77,000 Ktons of sulfide mill ore.

Preproduction stripping will require 15 to 21 months for phasing in mine operations, training work crews, constructing access/haul roads, and clearing and grubbing the pit and waste rock deposition areas that will be disturbed during the initial years of operation. Peak material handling rates will occur in Years 1-4, averaging about 245,000 tpd of total material before falling off to nearly 225,000 tpd for most of the remaining years.

The major pieces of mining equipment required to fulfill the production schedule are summarized in Table 3. The final equipment selection and fleet sizes may vary slightly as the result of additional mine planning evaluations.

Table 3. Major Mining Equipment

Equipment	Fleet Size
Blasthole Drills, 12.25-in.	3
Electric Shovels, 60-cy	3
Front-End Loader, 24-cy	1
Off-Highway Haul Trucks, 355-ton	15
Crawler Dozers, 850-hp	3
Crawler Dozers, 570-hp	2
Wheel Dozers, 620-hp	2
Motor Graders, 500-hp	2
Motor Grader, 265-hp	1
Water Truck, 30,000-gallon	2
Water Trucks, 10,000-gallon	1

The bulk of the production blasthole drilling will be performed by electrically-powered rotary rigs capable of 140,000-150,000 lbs of bit loading (pulldown) pressure using 12.25-in.-diameter tri-cone bits. The 9.875-in.-diameter rotary blasthole drill will have a pulldown capacity of 120,000 lbs and will be used for trim shots along ultimate pit walls, developing new benches near the existing topographic surface, other specialty drilling requirements and for backup to the primary drill fleet.

The primary drilling pattern will have an approximate spacing and burden of 34 feet, with about 10 feet of subgrade. Ammonium nitrate and fuel oil (ANFO) blasting agents will be used for nearly all rock breakage in dry ground, comprising an estimated 90-95% of the total explosive usage. Ammonium nitrate emulsions will be employed in wet conditions. Non-electric caps, delays and cords will be used to initiate blasts in conjunction with TNT boosters, a typical practice in large-scale, open pit mines. All blastholes will be stemmed with cuttings and/or crushed rock to confine the blasting agent for maximum effectiveness and to minimize fly rock.

All blasting operations will be conducted during daylight hours under the supervision of certified blasters—either employed directly by the company or by licensed contractors. Access to blasting areas will be restricted to authorized personnel only, who will follow strict safety and communication procedures. Blasting caps and boosters will be stored in secure magazines located southeast of the open pit and west of the Upper Barrel Canyon waste rock deposition area. The magazines will be constructed to meet all applicable fire code and industry safety standards, and will be accessible only to authorized personnel. Bulk ammonium nitrate will be stored in steel bins located north of the pit and south of the mill site (see Figure 4). Blasting agents will be transported to the blast site in prill trucks designed for mixing ammonium nitrate and fuel oil as each hole is loaded. Caps, delays, cords and boosters will be transported from the magazines to the blast site in a separate vehicle.

Electrically-powered rope shovels with 50- to 60-cy dippers will perform the bulk of the ore and waste rock loading. A hydraulic front shovel, with a 35- to 40-cy dipper, may be used for ultimate pit wall trimming/scaling, constructing drop cuts and pit bottom sumps, new road and bench pioneering, other specialty loading assignments and to backup the primary loading fleet. A 23-cy front-end loader will be used primarily for safety berm maintenance, road construction, bench toe cleanup and other light loading requirements.

Off-highway trucks with payload capacities of 250 to 355 tons will be used for the production haulage of all ore and waste rock. These will be diesel-powered units with either mechanical or electrical drive systems. The use of an alternative trolley-assist system is also being evaluated as a means of reducing diesel fuel consumption by substituting power from the electric grid. A computer-based truck dispatch system will be employed to direct haulage trucks to available loading units, maximize unit truck productivities and maintain production/performance records of the mine operations. This will require the use of a high-bandwidth radio communication system for data transfer between mobile units and the computer base station.

An electric power line will be constructed around the perimeter of the pit to supply energy to the drills, shovels, pit dewatering systems and, potentially, to a trolley-assist system for the haul trucks. Radial power lines will extend down into the pit to substations located near the working faces. The mine power grid will be constructed and maintained by company electricians and specially-trained technicians.

Water from sumps and pit dewatering wells will be pumped to the PWTS (process water, tailings and stormwater) storage pond located immediately southeast of the plant site (Figure 4). This will help reduce the plant makeup water requirements from other sources.

Large (600- to 850-hp) crawler dozers will be used for road and sump construction, clearing benches, trimming pit wall faces, maintenance of the waste rock deposition areas, spreading and cross-ripping heap leach ore on the leach pads, regrading waste rock deposition area slopes for reclamation, and other miscellaneous tasks in and around the mine. Rubber-tired dozers (625-hp) will be used primarily for shovel area cleanup and road patrol, with some blasthole site clearing. Motor graders (275- to 500-hp) will be used to construct and maintain roads throughout the mine area. The 275-hp graders will also maintain the unpaved portions of the project access road from Highway 83 to the plant site.

Water trucks, with capacities of 20,000 to 35,000 gallons each, will be used to control dust emissions from the mine haul roads. Road water will be taken from the pit dewatering system or the PWTS pond located near the plant site. Temporary holding tanks will be used for some limited storage and to fill water trucks close to the main haul roads.

3.3 Ore Transport

Sulfide ore will be transported from the open pit to the primary crusher located near the east pit rim via large (250- to 355-ton) off-highway haulage trucks. After crushing, the sulfide ore will travel by overland conveyor to a partially-covered crushed ore stockpile. The material will then ultimately pass through feeders and onto another conveyor that will discharge into the SAG mill at a daily rate of 75,000 tons.

A run-of-mine (ROM) coarse ore stockpile will be located near the primary crusher to temporarily hold sulfide ore mined during preproduction stripping before the mill startup and to provide equipment utilization flexibility and short-term ore storage in case of interruptions in crusher operation. The ROM stockpile will typically hold about 250,000-500,000 tons of sulfide ore, but will reach a projected maximum size of about 3.1 million tons at the end of preproduction stripping.

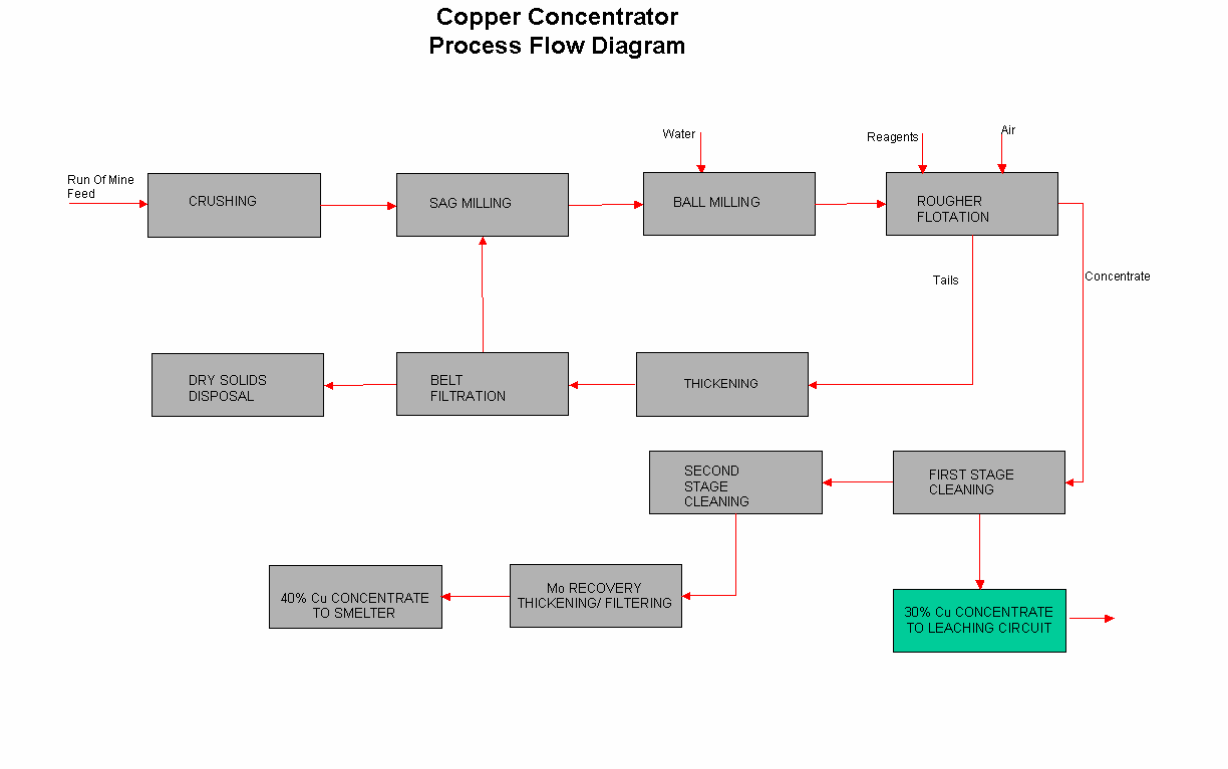
Oxide ore will be transported from the open pit to the leach pad by the mine haulage trucks. This material will not be crushed, but will be dumped in lifts atop a lined pad for subsequent leaching. Crawler dozers will be used to spread the oxide ore and cross rip the material to promote leach solution infiltration. Oxide ore mining will be concentrated in the early years of operation, peaking at about 41,000 tpd in Year 1.

Figure 4 shows the general site arrangement; including the locations of the ROM ore stockpile, primary crusher and overland conveyor, crushed sulfide ore storage and oxide leach pad areas.

3.4 Concentrator

Run-of-mine ore from the pit will be hauled to the primary crusher site located immediately east of the pit (Figure 4). From the primary crusher, the coarse ore will be transported approximately 3,800 ft by overland conveyor to a coarse-ore stockpile located near the mill. From the stockpile, ore will be

conveyed to the mill for grinding. Concentrates will either be retained onsite for leaching, or will be trucked offsite (at a rate of approximately two trucks per hour) north to I-10, and then to an appropriate smelter. The conceptual flow diagram for the concentrator process is provided below.



3.4.1 Crushing

Primary crushing is achieved with a 60-in x 110-in gyratory crusher to produce an 8-in feed for the grinding circuit.

3.4.2 Grinding

The grinding circuit consists of two 36.5-ft x 19-ft EGL semi-autogenous (SAG) mills followed by two 22-ft diameter by 36.5-ft ball mills in parallel. The SAG mill discharge passes over a Trommel screen and the screen oversize (critical) reports to a pebble crusher before being returned to the SAG mill. Cyclone classification is employed to produce the required particle size distribution of 80 percent passing 145 microns and density for rougher flotation. A grinding circuit thickener has been included in this circuit for density control and water recycle. The circuit is quite conventional and appropriate for this ore. A single SAG mill circuit may be substituted for the two-mill circuit, pending optimization studies.

3.4.3 Flotation

The flotation circuit consists of a bank of eleven 4,500-ft^3 rougher flotation cells. The concentrate from the first two rougher cells reports directly to a single stage cleaner circuit, consisting of two parallel trains

of two 10.8-ft diameter by 38-ft tall column cells. The final concentrate cleaner cell reports to the concentrate thickener. The final concentrate is then filtered using a ceramic filter to produce a shippable concentrate containing 10 percent moisture.

The middling concentrate from the rougher cells is reground to 80 percent passing 45 microns in a Vertimill, before being pumped to the cleaner circuit.

The cleaner circuit tailing flows to a bank of eight 1,000-ft^3 scavenger cells. The scavenger concentrate is combined with the rougher middling concentrate in the regrind circuit before reporting to the cleaner cells.

3.4.4 Tailings Deposition

The rougher flotation tailing and the scavenger flotation tailing are combined in a tailings thickener for water recovery. The thickener underflow slurry is then pumped to a bank of connected large vacuum belt filters where moisture is reduced from 40 to 50 percent water to 10 to 15 percent moisture. The damp tailings are then transported to a combined waste rock and tailings disposal area.

Design criteria and objectives for the dry tailings disposal included (Vector 2006b):

- Provision of secure long-term storage of up to 550 million tons (mt), which is sufficient for the ore to be mined and processed during about 20 years of project life at a projected rate of 75,000 tons per day (tpd).
- Location within the immediate general area of the mine (approximately five mile radius from the proposed mine pit).
- Prevention of airborne release of tailings solids to the environment by provision of dust suppression measures.
- Compliance with all applicable regulations including Arizona BADCT standards for groundwater protection.
- Creation of a site-specific design that accounts for local factors including climate, geology, hydrogeology, seismicity, and vegetation.
- Integration of environmental monitoring technology for water quality assurance.
- Establishment of an effective and efficient reclamation program, with a focus on concurrent reclamation.

The concept developed for this plan involves placement and compaction of waste rock in an engineered berm in the lower portion of the waste rock deposition area to provide a dry tailings buttress. Dry tailings will be delivered by conveyor and placed behind the buttress with a radial stacker similar to that used for some heap leach operations. A dozer will be used to spread the dry tailings and provide sufficient

compaction for trafficability of the conveyor and stacker, and limit settlement to that similar to the waste rock buttress. The active stacking area will be limited to allow dust and erosion control. Stormwater sediments will be captured in a sediment pond located downstream of the waste rock deposition area. Figure 9 presents a conceptual dry stack for the Rosemont project.

Advantages of the dry tailings disposal over conventional tailings is that it eliminates the need for an engineered embankment and seepage containment system, maximizes water conservation and minimizes water makeup requirements, results in a very compact site limiting disturbance to a single drainage, and allows opportunities for concurrent reclamation and covering for dust control.

3.5 Waste Rock

The waste rock deposition areas will be located to the southeast, east and northeast of the proposed open pit, as shown in Figure 4. Each phase of waste rock deposition will be initiated with a perimeter berm designed to minimize the visual effects from the project to traffic along State Highway 83 and viewers in the surrounding area. The outside face of the perimeter berms will be revegetated and reclaimed as they are completed, as a high priority component of mine operation. The remaining portions of each phase will then be deposited west of (behind) the perimeter berms.

The first waste deposition area to be developed is located southeast of the pit, in the Barrel Canyon drainage, and is referred to as Upper Barrel with a crest elevation of approximately 5,400 ft. This area will have a capacity of about 370 million tons and will be active during the first five to six years of operation.

The next waste deposition area to be developed is Middle Barrel, which will have a crest elevation of about 5,300 ft and a storage capacity of 250 million tons. Middle Barrel is immediately adjacent to and east-northeast of the Upper Barrel area, lower in the Barrel Canyon drainage. Middle Barrel will be set back from the pit area to allow room for the construction and operation of a 60-million-ton-capacity heap leach pad. Waste rock will be directed to the Middle Barrel storage area between Years 4 and 10.

The last waste deposition area to be developed will be the Lower Barrel area, with a crest elevation varying between 5,000 and 5,300 ft. Lower Barrel is located north of the Middle Barrel storage area and has a maximum storage capacity of approximately 1,100 million tons, although about 650 million tons are presently incorporated into the first six phases of the mine development plan. The upper lifts in the Lower Barrel storage area will be constructed in 100- to 200-ft-high increments.

All of the waste deposition areas will receive pit run waste rock consisting largely of limestone and skarn rock types, with some andesite, quartz monzonite porphyry and arkose. The presence of substantial quantities of limestone and skarn will provide a large buffering capacity within the waste rock deposition areas. These rock types have very low potential for the generation of acid rock drainage. Waste rock production from the pit will range from about 130,000 tpd to a maximum of nearly 165,000 tpd. The total

disturbed area for all waste rock deposition areas (Upper Barrel, Middle Barrel, and Lower Barrel combined) is estimated at 2,550 acres.

The Lower Barrel waste deposition area will also receive dry tailings from the sulfide ore processing plant at a nominal rate of 75,000 dry tons per day. This material will be stacked behind large containment berms constructed from pit run waste rock; consequently, this waste rock deposition area will be active from late preproduction through the end of the mine's life (presently estimated at 20 years).

The waste rock deposition facilities will be constructed in lifts that will generally not exceed 200 to 250 ft in height and will not extend beyond the divide that defines the eastern and southern edges of the Barrel Canyon drainage basin. The top surfaces will be constructed with upward gradients of about 0.5 percent to the southeast, east and northeast so that stormwater runoff is directed back towards the open pit. The stormwater runoff from the perimeter berm will be collected along the western toes of the waste rock facilities and allowed to drain through the course rock along the bottom. Similarly, surface runoff from the eastern faces will be allowed to collect along the toes and drain through the base of the waste rock deposition facilities. This water will ultimately be collected in a sediment control pond located northeast of the Lower Barrel waste deposition area. This pond will provide sediment control and water catchment for all of the disturbed areas within the Barrel Canyon drainage system.

Waste rock will be hauled to the dumping faces along the advancing edges of the waste rock deposition facility. Mine haulage trucks will back up to the dumping face, which is protected by a safety berm, and discharge their loads over the side. Trucks may occasionally dump their loads atop the current lift, particularly when another overriding lift or surface regrading is planned for the area. Dozers will be used to maintain safety berms along all waste rock deposition facility crests, pushing excess material over the face and maintaining proper surface gradients for drainage.

Previously undisturbed areas affected by advancing waste rock deposition facilities may be cleared and grubbed prior to the deposition of pit run or dry tailings material. Recoverable growth media encountered will be stockpiled for use in future reclamation activities or placed directly into active reclamation areas.

As advancing waste rock faces approach the ultimate limits of the storage facility, set backs will be employed for each lift to approximate a 3:1 (horizontal to vertical) slope. In some areas of the Lower Barrel waste deposition area, by managing lift widths, the ultimate slope of the waste rock piles, from toe to crest, will be approximately 4:1. The final faces will be regraded by pushing down the crests and smoothing the overall slope to between 3:1 and 4:1. Growth media will then be spread across the surface, seeded, fertilized and managed as necessary to promote revegetation of the waste rock deposition area. Reclamation of these areas will be conducted as soon as practicable after the ultimate waste rock facility limits have been reached, which is anticipated to be concurrent with waste rock disposal operations in other parts of the storage facility.

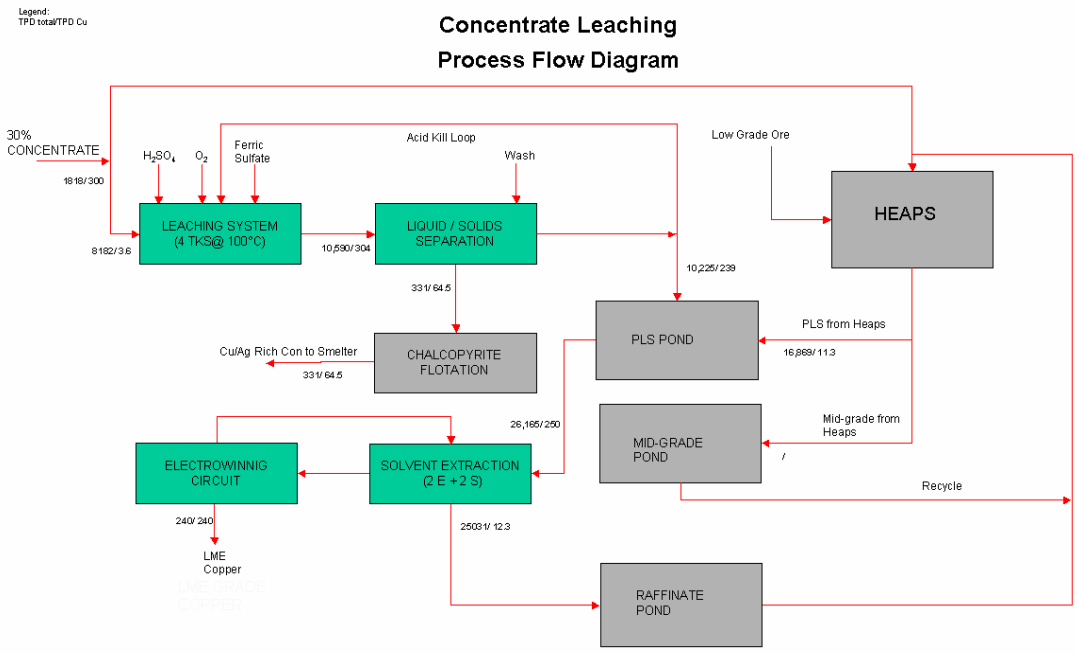
3.6 Leaching Operations

The oxide ore heap leach pads and solution ponds will occupy an area of approximately 220 acres located southeast of the proposed open pit. The leach pad site is surrounded on three sides (downhill) by the waste rock deposition facilities described in Section 3.5. All leach facilities will be lined.

Oxide ore will be transported from the open pit to the lined leach pad by mine haulage trucks via a waste rock ramp running along the south and east edges of the pad area. The oxide ore will not be crushed, but will be placed in lifts 50 to 100 ft high atop the lined pad for subsequent leaching. Crawler dozers will be used to spread the oxide ore and cross rip the material to a depth of 5-6 ft to promote the infiltration of barren leach solution. Oxide ore mining and placement on the leach pad will be concentrated in the early years of operation, peaking at about 41,000 tpd in Year 1. About 85 percent of the oxide ore will be placed onto the leach pad by the end of Year 5.

Ore placement rates will be dictated by how much oxide ore is encountered as a part of supplying 75,000 tpd of sulfide ore to the mill. These placement rates will vary considerably over the long and short term. Oxide ore will be initially delivered to the leach pad at rates in excess of what can be leached and processed by the SX plant. Consequently, not all of the material will be placed under leach at once, with different sections being leached according to copper recovery, solution balances and other metallurgical considerations.

As described above, it is anticipated that copper concentrates will also be leached at Rosemont. The pregnant leach solution (PLS) from the concentrate leach facilities will be processed in the same electrowinning plant as the heap leach solutions. A conceptual flow diagram of that process is provided below.



The leaching and SX/EW operations at the Rosemont Project will be consistent with other modern operations in Arizona that utilize lined leach pads. Drip emitters will be used to minimize the potential for evaporation or overspray of leaching solutions. This will conserve groundwater and protect the ground and vadose zones that surround the leach pad. Solutions will be collected in ponds that are double lined with leak detection and operated to maintain at least three feet of freeboard above the normal operating range. In addition, stormwater from the leach pad will be collected in the operating pond. Sizing of the pond or series of ponds has been planned such that all solutions can be captured for a seven day leach facility drain down in case of power failure. This will meet the prescriptive Best Available Demonstrated Control Technology (BADCT) requirements for these types of facilities in Arizona as regulated by ADEQ.

All leach solutions collected in the process ponds (known as pregnant leach solution, or PLS) will be routed to the Solvent Extraction Plant (SX) for processing. Each flow system is isolated, recycled, and contained in this process. The plants will be designed to be non-discharging and are operated to isolate process solutions from the environment.

3.7 Warehouse

A traditional warehouse facility will be developed. It is anticipated that this facility will be located within the general plant area adjacent to the mill or mine maintenance shops, as shown in Figure 4.

3.8 Maintenance Shops

The mine equipment maintenance shops will be located south of the processing plant along the access road to the primary crusher (see Figure 4). The heavy equipment shop will have a minimum of eight bays: five for repairing haulage trucks; one for water trucks and graders; and two for dozers and miscellaneous equipment. A separate wash pad and lubrication bay will handle routine preventative maintenance tasks and a tire shop will be dedicated for mounting and repairs. A light vehicle shop will be located nearby, but will be separate from the heavy equipment facilities. The largest bays will be 50 ft wide and over 80 ft long to accommodate trucks with payload capacities of up to 355 tons. A 60-ton bridge-type crane will be used in the shop and will have a clearance height of 55 ft.

Average daily diesel fuel consumption is estimated at about 30,000 gallons. On site diesel fuel storage will total about 200,000 gallons, providing capacity for nearly seven days of pit operations. Details of fuel and lubricant storage are provided in Section 4.2.2, below.

As part of the sustainable development activities being undertaken at this site, chemicals used in the shops will be selected not only on the basis of cost, but also on the basis of their relative toxicity, disposal considerations, and effectiveness.

3.9 Administration Buildings and Change House Facilities

Administration buildings and change house facilities will be developed. It is anticipated that these facilities will be located within the general plant area, as shown in Figure 4.

3.10 Powerlines and Electrical Substations

Estimates of peak demand and energy for the project indicate a peak load ranging from 80 megawatts (MW) to 100 MW and approximately 500 GWh to 700 GWh of annual energy requirements. It is currently anticipated that power for the project will be acquired from Tucson Electric Power (TEP), TRICO Electric Cooperative (TRICO), and/or a third party. It is also anticipated that the purchased power will be delivered over the TEP system or the Southwest Transmission Cooperative (SWTC) system to an interconnection point with project-owned transmission facilities.

An interconnection with the TEP system would be at a point (the Rosemont Tap) on the Vail-Kantor line approximately 7.5 miles northwest of the project site (Figure 10). This line is presently operated at 115-kV and interconnected with the Western Area Power Administration transmission system; the Arizona Corporation Commission has recommended that it be uprated to 138-kV and reconnected at TEP's Vail substation. This interconnection option would require the development of a new 138-kV switchyard at the Rosemont Tap, the construction of an approximately 8.7-mile long 138-kV line to the project, and a new 138-kV substation at the project (including a 138-kV breaker bay and a 138/46-kV transformer).

An interconnection with the SWTC system would be made at the existing Sahuarita substation which is located approximately 12.8 miles northwest of the project site (Figure 11). This interconnection option would require the addition of a 230-kV line termination at the Sahuarita substation, the construction of an approximately 15.6-mile long 230-kV line to the project, and a new 230-kV substation at the project (including a 230-kV breaker bay and a 230/46-kV two winding transformer).

Depending on the ultimate location of the project water supply facilities, portions of the proposed transmission lines discussed above may also be underbuilt with lower voltage lines to serve these facilities.

The project proponent is currently in discussions with TEP and SWTC relative to these two options.

3.11 Water, Water Management, Solid Waste

3.11.1 Water Supply

Freshwater requirements are currently estimated by Augusta to be approximately 5,000 to 8,000 acre-feet per year. The most viable source of water supply for the project is groundwater. Potential sources of available groundwater include: 1) the bedrock and/or shallow alluvium on or near Rosemont Project; 2) basin-fill deposits of Cienega Wash drainage basin and/or Davidson Canyon located east and north of Rosemont Project; and 3) basin-fill deposits of the upper Santa Cruz basin west of the Rosemont Project.

Groundwater availability on the project is extremely limited, and the environmentally sensitive nature of nearby Cienega Creek and Davidson Canyon makes basin fills in these areas a less desirable source for groundwater. Therefore, the most viable source of groundwater supply is the basin-fill deposits of the upper Santa Cruz basin, which lies west of the Rosemont Project and Santa Rita Mountains. The most

direct access routes to groundwater in the basin-fill deposits for the Rosemont Project are along or south of Santa Rita Road, on federal, state, or private land. The project proponent is currently evaluating the best alternative for a groundwater supply system in this area.

Central Arizona Project (CAP) water is available for use by the Rosemont Project. However, the current source of CAP water is approximately 18 miles northwest of the project, near Pima Mine Road and Interstate-19. Cost for transport of CAP water to the Project would be large, requiring approximately 18 miles of pipeline and rights-of-way. In addition, availability of CAP water is subject to interruption from planned maintenance outages and unplanned emergency outages along the CAP aqueduct. The project proponent has contracted to utilize CAP water as an indirect source of water. By contracting for and purchasing CAP water in an amount equivalent to that used at the mine, the project proponent plans to recharge CAP water to the regional aquifer at other locations in the upper Santa Cruz basin. Recharge of CAP water at an established groundwater recharge facility in the upper Santa Cruz basin will offset the potential impact of groundwater withdrawal on a regional scale. That is, by recharging CAP water in sufficient amounts, the Rosemont Project will be consistent with the safe-yield goal of the Tucson Active Management Area (AMA).

Depending upon the final configuration of the water supply lines, it is anticipated that up to three pumping stations, along with the requisite power, will be required to supply the Project with water.

3.11.2 Surface Water Management System

Surface water management at the Rosemont Project is comprised of a series of surface water controls (e.g. berms, ditches, etc.) and three surface water ponds, as shown in Figure 4. A sizing and design study for the ponds has been completed by Augusta (Vector 2006c). Typical pond sections, per ADEQ Best Available Demonstrated Control Technology (BADCT) requirements are shown in Figure 12.

The freshwater pond is located above the mill site and will primarily be filled by pipeline, though there is a small contributing basin to the reservoir. The freshwater pond will be designed to provide storage for three days' freshwater requirements for the entire mine site (67 ac-ft) with 5 feet of freeboard. As described above, freshwater requirements are currently estimated to be 5,000 acre-feet per year by Augusta Resources.

The lined PWTS dam downstream of the mill site is designed to be a multi-use pond. The PWTS pond would likely be regulated by the Arizona Department of Environmental Quality (ADEQ) and be classified as a non-storm water pond. The pond is sized to store seven days of tailings slurry (586 AF) and the 100-year, 24-hour runoff volume (205 ac-ft) with 5 feet of freeboard. It will provide temporary, emergency containment facility for:

- Tailings slurry storage in case the filter plant for dewatering the tailings is temporarily out of service;
- Process water overflow storage in case of power loss or process upsets;

- Contact surface water storage for runoff from mill site; and
- 100-year, 24-hour stormwater runoff storage.

The unlined stormwater pond is located at the outlet of the Barrel Canyon drainage basin and downstream of the ultimate footprint of the waste rock/dry tailings disposal area. The purpose of the dam is to provide sediment and stormwater control for the site (and, thereby, the protection of downgradient surface water quality), and the reservoir is sized to store the 100-year, 24-hour storm event and safely pass the design storm event for the yet to be determined hazard classification. Given the location and size of the dam, the dam is likely to be classified as a large, high hazard dam by the Arizona Department of Water Resources – Office of Dam Safety.

All three surface water ponds at the Rosemont Project will be monitored for water quality, discharge flows, and protection of downgradient surface and groundwater.

3.11.3 Solid Waste

Augusta will maintain an onsite construction waste landfill at the Rosemont Project, to be managed in accordance with appropriate State and local regulations. Only inert construction debris will be allowed in the onsite landfill. All other garbage, refuse, and solid wastes will be collected in appropriate receptacles and disposed of in an approved, offsite sanitary landfill. No garbage or refuse, either burnable or non-burnable, will be disposed of on federal lands covered by this Operating Plan.

The Rosemont Project will implement a series of pollution prevention efforts, including:

- Recycling whenever possible,
- Reuse of materials whenever possible,
- Replacing hazardous materials with low or no hazard materials whenever possible,
- Managing materials such that wastes are not created, i.e. not mixing wastes,
- Working with vendors to receive bulk deliveries rather than small quantity deliveries of materials, thus minimizing packaging,
- Minimizing quantities of chemicals purchased,
- Working with vendors for return of products where appropriate, i.e. lead-acid batteries, small vehicle tires, computer toner, etc.
- Purchasing light bulbs that are safe for disposal rather than those that may create a hazardous waste, and
- Looking for markets to recycle HDPE piping, equipment tires, metals, etc.

In addition, waste shall be managed to meet the following criteria:

- Blowing trash is minimized by keeping lids on receptacles and emptying trash regularly,
- Wastes shall be segregated to promote reuse and recycling, and
- Materials shall be stockpiled in such a way that reuse is possible, i.e. electrical wire rolled, pipes stacked, barrels cleaned and stacked, etc.

4 Environmental Protection Measures

4.1 Air Quality

The Project area is located in extreme southeastern Pima County on the eastern flanks of the Santa Rita Mountains. The Mount Wrightson Wilderness Area, which in not a Class I Airshed is located 18 miles to the southwest. The closest Class I Airshed is Saguaro National Park East, located about 40 miles to the north of the Project. Other Class I airsheds in the region are: Chiricahua National Monument / Chiricahua Wilderness (about 85 miles to the east); Santa Teresa Wilderness (about 90 miles to the north); and the Galiuro Wilderness (about 60 miles to the north).

The Project area is not within any non-attainment areas for priority pollutants. The boundaries of non-attainment areas for PM_{10} and CO are distant from the Project Area.

Authority for air quality permitting has been delegated by the Environmental Protection Agency (EPA) to the Arizona Department of Environmental Quality (ADEQ). ADEQ has subsequently delegated their authority for permitting to the Pima County Department of Environmental Quality (PCDEQ). Air permits for mining operations in the immediate area have been issued by PCDEQ to the Asarco, L.L.C. Mission Complex, and by ADEQ to the Phelps Dodge Sierrita, Inc. operations. Due to shared jurisdiction within Pima County, either agency could technically issue the permit for the Rosemont Project. It is anticipated, however, that the permit application will be processed through PCDEQ.

Because the anticipated process at Rosemont will incorporate facilities covered under 40 CFR 60.380 Subpart LL, Title V permitting and New Source Performance Standards (NSPS) review will apply. Overall, the facilities will incorporate the following processes:

- Mining
- Milling
- Leaching
- SX-EW Processing
- Filtering
- Concentrate Leach
- Tailings Disposal

Metallic Mineral Processing Plants are covered under Subpart LL and are specific to operations from mining through concentrating. Included are all material transfer and storage operations that precede those operations that produce refined metals from metallic mineral concentrates. In addition to Subpart LL, Subpart Kb for petroleum storage will also apply to this Rosemont facility. Petroleum storage is specific to fuel and reagent tank storage, and would not apply to "flow through" process tanks.

In the arid southwest, fugitive air emissions are a problem if not properly controlled. In an effort to conserve water and protect watershed areas, alternative forms of dust control are being investigated. It is anticipated that a combination of dust suppressants, water, and cover or hooding will be used to manage

fugitive emissions from process areas. Capping, seeding, and land management techniques will be used on waste rock piles and storage areas. In addition, captured water from operations and stormwater will be used when and where appropriate to control dust and to conserve groundwater resources. Management techniques for operations such as speed control, cleanup, and road maintenance will also be used to conserve resources and manage the potential to create fugitive air emissions.

4.2 Surface Water

4.2.1 Stormwater Management Plan

Stormwater management at the Rosemont Project will be regulated under an industrial general permit, currently implemented under ADEQ's Arizona Discharge Elimination System (AZPDES) permit program. The AZPDES general permit for industrial facilities has not been completed at this time, and the overall program delegation to the State of Arizona is currently under legal appeal and review. The Arizona Mining Association has requested that EPA extend coverage for mining operations under the National Pollution Discharge Elimination System Program (NPDES) Multi-Sector Industrial General Permit (MSGP) in the event the Court determines the AZPDES permit is invalid. It is anticipated that Rosemont will be covered under one of these programs, depending upon the availability of coverage at the time of operations.

The facilities at the Rosemont project have been designed with effective stormwater management in mind. Stormwater that runs onto the facility from unimpacted upgradient areas will be diverted where possible. Where diversion is not possible, stormwater will be captured and used in the process and in specific areas for dust control. It is anticipated that water use appropriations for a beneficial use of this captured water will be filed with the Arizona Department of Water Resources (ADWR).

Sustainability principles will also be used when managing stormwater through the use of a life-cycle approach to design and water management. Long-term water management will be accomplished through a "design for closure" scenario where facility placement and design will be managed with a goal of closure without long-term water management issues. Toward this end, Augusta is embarking on a large-scale geochemical management plan such that materials are excavated and placed to minimize the potential to generate acid or alkaline rock drainage. Mineralized materials will be encapsulated, to the extent practicable, in the low-grade waste deposition areas, thus reducing stormwater contact and potential metals leaching.

Currently, all mining facilities fall within the Barrel Canyon drainage basin. This will simplify the design component of the final closure plan associated with run-on and run-off stormwater management. Closure designs currently include revegetation, rip-rap drainage management, and re-contoured slopes for managing erosion potential.

4.2.2 Spill Prevention Control and Countermeasures

The Oil Pollution Prevention Act defines spill prevention, control and countermeasure (SPCC) requirements for the management of petroleum products in areas that may discharge to waters of the United States. Regardless of whether or not there is an opportunity for discharge, these rules provide good guidelines for facilities and tank management as well for countermeasure planning.

Augusta plans to meet the requirements for on-shore facilities specified in the Oil Pollution Prevention Act in 40 CFR 112. This will include secondary containment for all diesel, gasoline, and lubrication tanks and drums. It is currently anticipated that emergency alarms will be placed on the petroleum tanks to provide an early warning in an overfill condition. In addition, tanks will be located strategically within the facility so that most or all of the petroleum products will be interior to the operations; this will provide an opportunity for cleanup and will reduce the potential for impacts to the natural environment.

The SPCC program will impact facilities design as well. It is anticipated that these designs will include:

- Providing dual-walled tanks for gasoline storage,
- Placing the petroleum containers on a curbed concrete pad with enough containment for the largest tank plus sufficient freeboard for precipitation,
- Storage of organic reagents within the operating area with drain to a collection sump or pond, and
- Providing dual-walled tanks for large diesel storage if possible or, if not, locating diesel tanks within secondary containment of sufficient size to contain the full volume of the tank plus freeboard for precipitation.

Used oil will be managed on-site in bulk containers. For used oil that is not reused on site, a commercial oil recycler will recycle the oil. Used greases will be disposed of in 55-gallon drums. The drums will then be shipped off for incineration, landfilling, or recycling dependent upon the constituent concentrations of contaminants in the grease.

4.3 Groundwater

At the initiation of facility design, a pre-application meeting will be held with Arizona Department of Environmental Quality personnel to review Aquifer Protection Permit (APP) requirements with respect to groundwater characterization and protection. The pre-application meeting will be held to review the following:

- Proposed mine facilities types and locations
- Type and nature of anticipated mine wastes
- Type and amount of geologic and hydrologic data available

- Types and amounts of additional geologic and hydrologic data to be collected to adequately characterize hydrogeologic conditions
- Number, location, and anticipated design of monitor wells
- Procedures to establish Points-of-Compliance (POCs)
- Number, location, and anticipated design of POC monitor wells
- Groundwater monitoring and analytical requirements
- Establishing Pollution Management Areas
- Method(s) for delineating Discharge Impact Area (DIA)
- Method(s) of demonstrating compliance at POCs

Following the pre-application meeting, a Scope of Work will be developed to describe how each of the above elements will be addressed in the APP application. The scope of work will be submitted to ADEQ for approval or consent.

To comply with ADEQ regulations, and to allow collection of data for environmental analysis, a monitor well drilling, testing, and monitoring program will subsequently be initiated to characterize groundwater conditions at the mine site and hydrologically downgradient thereof. Hydraulic testing will be conducted at each monitor well to determine aquifer hydraulic parameters and groundwater conditions. A quarterly groundwater monitoring program will be initiated to properly characterize groundwater quality on and downstream from the project site. The quarterly monitoring program will be continued throughout the life of the mine and following mine closure. Chemical attenuation capacity testing will be conducted for the different rock units in the mine area to characterize the extent to which key chemical constituents are naturally attenuated by the rock units. After hydrogeologic characterization is complete, a groundwater flow and solute transport model will be developed to delineate the DIA for the mine and to demonstrate environmental compliance at the selected POCs.

Hydrogeologic investigations will be closely coordinated with the other technical aspects of the APP application, including engineering investigations and Best Available Demonstrated Control Technology (BADCT) demonstrations. As part of the APP application, a report will be prepared to document hydrogeologic investigations, including results of drilling and testing, results of groundwater monitoring, results of attenuation capacity testing, and results of groundwater modeling.

4.4 Solid Waste

See 3.11.3 above.

4.5 Scenic Values

As described above, mining activities for the Project will be contained within a single drainage basin, reducing the visual impact to the surrounding area. A key component of the mine design is a series of

"perimeter berms" which will be constructed in the initial phases of the mining operation (Figure 13). Reclamation of these screening berms will proceed concurrently with the ongoing mining activities to provide a visual barrier, primarily from State Route 83, to waste rock and tailings deposition, the heap leach facility, and the mill and plant operations. Full details of the reclamation plan are provided in Section 6 of this document.

In addition, scenic values will be maintained through other design concepts, such as siting the mill facilities in a recessed canyon and using low-profile buildings to minimize visual impacts to surrounding areas. Visual impacts at night will be controlled by application of "dark skies" technology for lighting.

4.6 Biological Resources

The primary plant community in the vicinity of the project area is Madrean evergreen woodland, as described by Brown (1982). Dominant tree species in this community include Emory oak (*Quercus emoryi*), alligator juniper (*Juniperus deppeana*), velvet mesquite (*Prosopis velutina*), skunkbush (*Rhus trilobata*), Palmer agave (*Agave palmeri*), and a variety of other shrubs and cacti. On-going grazing has had an impact on the onsite vegetation.

Based on a prior review of threatened, endangered, or sensitive species, it was determined that four species have potential to be present on the site: Chiricahua leopard frog (*Rana chiricahuaensis*), yellow-billed cuckoo (*Coccyzus americanus*), lesser long-nosed bat (*Leptonycteris yerbabuenae*), and Huachuca water-umbel (*Lilaeopsis schaffnerianaecurva*). The frog and the water-umbel are restricted to sites with permanent water, and the cuckoo is normally found in areas with water and gallery riparian forest.

Augusta has initiated a thorough biological evaluation of onsite habitats, as well as species-specific surveys where appropriate to identify the potential for these species to occur on the Project site and in the Project area. If the Project is determined to have the potential to adversely affect federally-listed species, it is anticipated that consultation with the US Fish and Wildlife Service under Section 7 of the Endangered Species Act will be required.

In addition, Augusta is reviewing the potential for Forest Service Sensitive Species to occur within the Project Area.

4.7 Cultural Resources

The Rosemont study area has seen human occupation for thousands of years, from the prehistoric Archaic period to modern times. A number of surveys have been conducted in the Rosemont area, starting in 1975, when the Arizona State Museum conducted extensive surveys in preparation for the mining proposed by the ANAMAX Company. Previous surveys have identified a total of 132 archaeological sites either within the Project area, or within one mile of it. The sites cover a range of occupation from approximately 7,000 years ago to the present.

Although review of cultural resources within the Project area has been extensive, Augusta understands that additional surveys will be necessary prior to development of the mine, primarily because the previous surveys were conducted before modern survey techniques and requirements were developed. Should it be determined that the proposed Project may result in adverse impacts to cultural resources, consultation with the State Historic Preservation Office under Section 106 of the National Historic Preservation Act will be required.

4.8 Hazardous Substances

A number of hazardous substances may exist at mining sites. Hazardous substances are defined under several programs:

1. Hazardous substances are defined in the Department of Transportation rules as those substances or materials that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has been designated as hazardous under Federal hazardous materials transportation law. The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR 173.

2. Hazardous substances are defined by the Mine Safety and Health Administration (MSHA) as substances regulated by the Consumer Product Safety Commission (CPSC) under the Federal Hazardous Substances Act or EPA under the Comprehensive, Environmental, Compensation, and Liability Act (CERCLA).

3. Hazardous substances are further defined in CERCLA as any substance designated pursuant to section 311(b)(2)(A) of the CWA; any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA; any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act; any toxic pollutant listed under section 307(a) of the CWA; any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. 7521 et seq.); and any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act (15 U.S.C. 2601 et seq.). The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

4. The Consumer Product Safety Commission (CPSC) defines a hazardous substance as any substance or mixture of substances which is toxic, corrosive, an irritant, a strong sensitizer, flammable or combustible, or generates pressure through decomposition, heat, or other means, if such substance or mixture of substances may cause substantial personal injury or substantial

> illness during or as a proximate result of any customary or reasonably foreseeable handling or use, including reasonably foreseeable ingestion by children. It also includes any radioactive substance. The CPSC definition of a hazardous substance does not include: regulated pesticides, foods, drugs, or cosmetics; fuels when stored in containers and used in the heating, cooking, or refrigeration system of a house; tobacco and tobacco products; or source material, special nuclear material, or byproduct material as defined in the Atomic Energy Act of 1954.

As indicated by the definitions above, hazardous substances include any chemical that could provide a risk to health or the environment. A number of these substances are anticipated to exist at modern mining operations. Following basic pollution prevention activities under the sustainable development principle, Augusta plans to manage hazardous, or potentially hazardous, substances by managing the source. All products will be reviewed prior to purchase and an approval process put into place so that the relative hazard of the material is weighed equally with disposal considerations, cost, and effectiveness. Once a material is approved for use on site, the employees will be instructed in the hazards, both to human health and the environment, as part of the MSHA Hazard Communication (HazComm) Program. Proper handling and disposal techniques can be developed prior to use. This will help conserve resources and eliminate the unnecessary generation of hazardous and other wastes.

By managing the materials before they are purchased, and by giving the employees the proper information regarding storage, handling, and disposal, accidents or incidents associated with hazardous substances will be minimized, if not eliminated.

4.9 Public Safety

Public safety around a mine site can best be assured through education and access restriction. Federal mining law through MSHA requires that personnel accessing the mine site have the appropriate training and skills necessary to ensure they will not be injured.

Augusta will work with the Forest Service and other local groups to allow “restricted” access to areas that are not impacted by operations. This may require the use of fencing, berms, signage, or security guards depending upon the location and the perceived hazard of the area.

In addition to ensuring public safety while on the property, Augusta is committed to ensuring public safety while employees, vendors, products, and supplies enter and exit the facility. The company is working with the Arizona Department of Transportation (ADOT) to revise plans for the area and ensure that additional traffic and highway access will be incorporated into the design plans.

4.10 Fire Protection

Fire protection at mining sites is regulated through MSHA. MSHA requires that at least one portable fire extinguisher be available for all structures, mobile equipment, power shovels, drills, electrical installations, and other equipment. In addition, two portable fire extinguishers are required near combustible liquid storage tanks or transfer pumps. Processing plants must be equipped with waterlines

and outlet valves on each floor, including a sufficient length of fire hose to project a water stream from any point in the plant. If water is not available, a dry powder extinguisher can be substituted.

Vehicles transporting explosives and blasting agents are a special case and must be equipped with fire protection as recommended by the National Fire Protection Association.

In addition to meeting MSHA's requirements for fire extinguishers, Augusta plans to install a water storage tank or pond at an elevation such that water for fighting fires is available through gravity feed. The amount of water specifically reserved in the tank or pond system has not been determined, but preliminary numbers estimate the requirement at 50,000 gallons.

In addition to onsite fire protection, the company plans to manage materials such that the potential for fire would remain internal to the plant site. For example, chemicals will be stored near the point of use in containers appropriate for the stored contents. Wastes that meet the standards for combustibility will be managed as hazardous and disposed of off-site as required.

Additionally, fire protection will be provided on the perimeter of the operations. Where needed, clearing and grubbing of vegetation (potential fuel sources) will take place on the periphery of the operating units to prevent the spread of fire, should it occur.

As appropriate, the company may apply for burn permits from Pima County Department of Environmental Quality (PCDEQ) in order to manage debris such as noxious weeds on private property. It is anticipated such activities will take place no more than two times per year during the wet seasons.

4.11 Noxious Weeds

If necessary, Augusta will initiate a program to control noxious weeds occurring within the boundary of the Project. Reseeding activity will be exclusively with certified seed, weed-free straw will be used, and any equipment from outside the United States will be cleaned prior to use.

Forest Service approval will be obtained prior to initiating any weed control program on federal land. Weed control will be limited to chemicals and procedures approved by the Forest Service. The purpose of the program will be to control the growth and dissemination of noxious weeds on disturbed sites and topsoil stockpiles. A written annual report summarizing the noxious weed control program for the previous year will be submitted to the Forest Service. Note that the noxious weed control program will be implemented on private lands as well as Forest lands.

4.12 Laws and Regulations

Compliance with laws and regulations is paramount to managing an operating facility whether it is at a mine site, at a maintenance facility, or at a landfill. No matter what size the operation, compliance with all laws and rules is necessary to avoid unnecessary impacts to the environment and to avoid unnecessary enforcement costs.

Every part of the Rosemont operation will be geared toward compliance with applicable regulations, sustainable development principals, Augusta Resource Environmental Policy, and long-term management of environmental risk. Mining plans will consider future closure costs and current bonding requirements to produce an economically and environmentally responsible operation.

As an overview of the plans that may be required for mining operations in Arizona, including an overview of the authorities having jurisdiction over such operations, Table 4, Permits and Authorities, was developed. This table is provided on the following pages. As the operation proceeds, the status column will be updated and the status of applicable permits/submissions can be readily viewed.

Finally, implementation of an environmental management system will tie all of the environmental program requirements into a cohesive, easy to manage package. The type of environmental management system to be utilized at Rosemont has not yet been determined. The Rosemont Environmental Management System will be produced at the conclusion of the NEPA review process, and will incorporate all requirements and conditions as stipulated in federal, state, and local agency permits and approvals.

4.13 Regional Human Environment, Community Values and Sonora Desert Conservation

Augusta plans to proactively address Human Environment, Community Values, and the Sonoran Desert Conservation Plan (SDCP) objectives through the dedication of a formal regional trust.

These commitments to the regional trust are integrated into this Plan of Operations to demonstrate that Augusta intends for mine operations to:

- Meet SDCP open space criteria;
- Include preservation of high priority core biological lands;
- Mitigate visual impact on multiple-use lands with concurrent reclamation
- Provide critical operating funds for open space management
- Provide Endowment Funds to continue ongoing regional benefits after mining; and
- Allow a post-mining Rosemont Ranch to operate as open space ranchland

The concepts for the regional trust are presented below, anticipating that more details will be provided as mine plans are advanced and as public review and community involvement progress.

4.13.1 Santa Rita Mountains Regional Trust

Augusta recognizes that the unique location and nature of the Rosemont deposit presents both opportunities and responsibilities for sustainable mine development. Specific approaches to water supply, concurrent mine reclamation, dry tailings technology selection, and facility design and siting have been included in Augusta's planning processes to minimize impacts to the extent practicable.

Table 4. Permits and Authorities

Agency	Item	Description	Status	Term	Conditions
Federal Permits					
U.S. Environmental Protection Agency	NPDES General Storm Water Permit	Discharge of stormwater		5 years	Delineated in stormwater management plan
Department of Transportation	Hazardous Materials Transportation Registration	Shipment of hazardous materials		Annual or 3 year renewal	Labeling, packaging, and shipping
U.S. Environmental Protection Agency	Hazardous Waste - RCRA, RCRA ID Number	Waste activities and disposal of hazardous waste		Life	Manifests, reporting, and inspections
U.S. Army Corps of Engineers	Section 404 Permit	Discharge of fill material to onsite washes		3 years	Variety
Mine Safety and Health Administration	MSHA Number	Miner registration number		Life	Operate following MSHA rules
Forest Service	Plan of Operations	Plan for mining operations in the National Forest			Prepare a plan and manage according to the plan, update as required
Forest Service	Closure Plan	Bonding requirements for operations in the National Forest			Prepare a plan and manage according to the plan, updates as required
Forest Service	NEPA Review	Review of major federal action with CEQ oversight			Follow the Record of Decision
Bureau of Alcohol, Tobacco, and Firearms	Blasting Operator Registration	Registration of all personnel that may handle blasting materials		As needed	Background and fingerprint checks of all persons with access, update as required by Federal Agencies
Federal Communications Commission	Radio Licenses for Industrial/Business Pool Conventional Use	Communications equipment must be licensed		10 years	Follow license requirements
State					
Arizona Department of Environmental Quality	Aquifer Protection Permit	Dumps, tailings, leaching facilities, processing plant for ground water protection		Life	Inspections, monitoring, maintenance, and reporting

Table 4. Permits and Authorities

Agency	Item	Description	Status	Term	Conditions
Arizona Department of Environmental Quality	AZPDES General Storm Water Permit	Discharge of stormwater		5 years	Delineated in stormwater management plan
Arizona Department of Environmental Quality	Solid Waste Management Inventory Number	Landfill and waste area requirements		Life	Monitoring, maintenance, and operations
Arizona Department of Environmental Quality	Hazardous Waste Management Number	Management of hazardous waste		Life	Monitoring, maintenance, and operations
Arizona Department of Environmental Quality	Waste Tire Cell Registration	Management of off-road tires greater than 3 feet in diameter		Life	Annual reporting, cover requirements
Arizona Department of Water Resources	Groundwater Withdrawal Permits	Groundwater withdrawal rights		Life	Groundwater withdrawal
Arizona Department of Water Resources	Safety of Dams Permit	Requirements for dam construction		Life	Monitoring, maintenance
Arizona Department of Water Resources	Water Storage Permit	Underground storage of CAP water			Annual reporting, storage, and CAP purchase contracts
Arizona State Mine Inspector	Reclamation Plan	Post-mining land uses and plans for regrading		Life	Annual updates
Local					
Pima County Department of Environmental Quality	Air Quality Permit	Terms for air emissions control		5 years	Fugitive and stack control
Pima County Department of Environmental Quality	Drinking Water System	Drinking water system operations		Life	Monitoring, maintenance, and operations
Pima County Department of Environmental Quality	Hazardous Waste Generator Number	Hazardous materials management		Life	Monitoring, maintenance, and operations

Additional mitigation measures will be advanced and developed during the course of the public and agency review process and as permit conditions are determined by local, state and federal agencies. However, Augusta also recognizes that there are community values and community needs that can be addressed up front in a Plan of Operations, so that the effects of a new mining operation within the community can include positive and sustainable benefits on the regional environment.

To meet community needs, Augusta proposes sponsoring a regional trust to be known as the Santa Rita Mountains Regional Trust (SRMRT). Beneficiaries of the SRMRT would include community groups and resource management programs associated with open space acquisition and management, public safety operations, outdoor recreation, education, wildlife management, invasive species control, dark skies initiatives, historical preservation, and maintenance of the rural nature of the Santa Rita Mountains. Both Santa Cruz and Pima Counties would benefit from SRMRT activities.

Initial SRMRT Funding Priorities	**Potential Trust Beneficiaries**
Open Space Land Acquisition	Pima Co, Santa Cruz Co
Protection of Existing Open Space Land	Pima County SDCP priorities
Invasive species control	Santa Rita Exp. Range, SDCP lands
Dark skies initiative	Smithsonian, Univ. of Arizona
Internships	Forest Service, BLM, Pima Co
Graduate fellowships U of AZ	Mines, Geology, Agriculture
Public safety & off-road enforcement	Santa Cruz Co, Pima Co
Historic preservation	Santa Cruz Valley, Santa Ritas
Recreation	Forest Service, Pima Co, BLM
Others to Be Determined	by Trustees and Advisors

These funding priorities were selected as having value to the regional community, having few alternate sources of funds, and for providing long term sustainable benefits. The trust would be managed by a board of Trustees with the authority and flexibility to adjust funding priorities to meet changing regional needs and conditions.

4.13.2 SRMRT Funding

The SRMRT trust concept has two separate components: a fixed Annual SRMRT Budget, and an Endowment Fund. The Annual Budget component would continue for the operating life of the mine. The Endowment Fund component would provide ongoing funds for use during mine life and after mine operations are completed, the mine successfully closed, the land rehabilitated, and the Rosemont project has been returned to open space ranchland.

- Fixed Annual SRMRT Budget contributions provide annual funding during the estimated 20-year life of the mine.

- The Endowment Fund portion of the SRMRT Trust accumulates assets invested in open space lands and cash, over the life of the mine.
- The cash component of the Endowment Fund provides for ongoing, perpetual funds to manage open space and related SRMRT activities after mine closure as a permanent contribution to the region.

It is proposed in this Plan of Operations that the SRMRT would be funded by the Rosemont Project operator through fixed annual contributions throughout the operating life of the mine. The SRMRT Endowment Fund would be funded by the project operator with a variable Endowment Fund contribution formula tied to the annual price of copper until the financial goal of the Endowment Trust is realized.

4.13.3 SRMRT Organization

Concepts for the trust structure, organization, and management have been identified, and are being discussed with local groups named above as Trust Beneficiaries. The SRMRT would be administered by a third-party Board of Trustees. Augusta would participate in, but not control, selection of funding priorities and expenditures.

4.13.4 Fiscal Management

The SRMRT Trust would have a third party institution serve as financial manager, with fiduciary duties to ensure that funds are distributed and managed to achieve the operational and endowment goals as adopted by the Trustees.

4.13.5 Schedule for SRMRT Implementation

The SRMRT would be organized, chartered, and initiated so that the annual fund benefits could begin concurrently with copper production.

Additional details of SRMRT Trust Organization will be attached to this Plan of Operations as agreements are reached with the relevant parties that choose to participate as Trustees for the potential beneficiaries of the Trust.

At the time of filling of this Plan of Operations, the Rosemont Project operator has committed to funding the SRMRT with an amount at least as large as their purchase prices for the Rosemont Ranch ($21 million).

5 Community and Social Resources

5.1 Demographics, Population, Services

A 35-mile radius from the Rosemont Project was selected to evaluate the pool of potential employees, which would provide an estimated 30- to 45-minute drive to reach work. The Project is located in Pima County near the southern border with Santa Cruz County, and within a comfortable work commute to Cochise County to the east. Access to the Project is from State Highway 83, which is well connected to surrounding towns. For details on the area, see Table 5 showing the communities, the populations, potential pool of employees and level of education.

Table 5. Local Demographics

Cities within 35 mile Radius of Rosemont Operations	Population 25 yrs & over	High School Degree or Higher	Bachelor Degree or Higher	Mean travel time to current worksite in minutes (workers 16 yrs or older)	Estimated mean travel time to Rosemont Operations
Benson, Redington, Casabel, Mescal	3,553	2,738	509	24	24
Hereford, Miracle Valley, Nicksville, Parker Lake	4,492	4,010	1,076	25	25
Saint David	1,045	798	133	26	20
Sierra Vista, Fry	22,854	20,097	5,883	26	22
Fort Huachuca	3,182	3,146	744	16	23
Elgin, Canelo	186	157	54	40	28
Harshaw, Lochiel, Patagonia	987	804	285	24	18
Tumacacori, Tubac, Amado, Agua Linda, Carmen	2,789	2,172	673	26	15
Rio Rico, Nogales, Fairbank	18,839	10,503	2,219	38	30
Green Valley, Madera Canyon	16,962	15,586	5,842	21	10
Tucson (area code 85744)	8,113	7,683	2,396	25	24
Vail, Corona de Tucson, Santa Rita	2,078	1,996	379	26	17
Continential, Sahuarita	5,323	4,367	950	28	16
TOTAL	**90,403**	**74,057**	**21,143**		
AVERAGE				**27**	**21**

This area of 36 communities in Pima, Santa Cruz, and Cochise Counties has 44,145 households offering approximately 90,403 potential employees 25 years of age or older. Of that group, 74,057 completed high school with 21,143 residents holding a bachelor's degree or higher level of education. Population is growing in the area at about 2 to 2.5 percent annually.

Future Rosemont employees will have good access to college-level and continuing technical education courses in Sierra Vista, Nogales, and Tucson through several local colleges, including the University of Arizona, Pima Community College, Cochise College and the University of Phoenix. The University of Arizona offers undergraduate and graduate degrees in mining engineering through its Department of Mining and Geological Engineering, part of the College of Engineering.

An evaluation of the skill levels of potential employees for the Rosemont Project shows that there would not be a significant overlap with the major employers in the area, which are dominated by government entities—from the US Army and the Forestry Service to the University of Arizona and local school districts. The unemployment rate for Pima County has remained at a relatively steady four percent, though the rate would be expected to be higher around the Rosemont Project due to the rural nature of the area.

Pima County does not have a large industrial economic base to compete for potential employees to the Rosemont Project, which would offer a relatively well-paid position over a 20-year mine life. Major manufacturers in the area include, but are not limited to, Raytheon Systems (10,756 employees), Bombardier Aerospace (600 employees), IBM Storage System Division (1,800), Texas Instruments (650), and Honeywell (750).

There are three large open pit copper mines operating within a 75-mile radius of the Rosemont Project. Historical community census data shows that these three mines employ approximately 963 people. The mines are the Silver Bell Mine near Marana and the Mission Complex near Sahuarita (both owned by ASARCO), and the Sierrita Mine near Green Valley, owned and operated by Phelps Dodge.

Silver Bell Mining in Marana is 75 miles northwest of the Rosemont Project. The mine produces copper, operating four open-pits and other plant facilities situated on 18,000 acres. The Silver Bell Mine currently operates a solvent extraction plant, tankhouse, warehouse, administrative and maintenance areas and employs 125 at the time of recent community census data.

The Mission Complex near Sahuarita is located approximately 20 miles northwest of the Rosemont Project. It is an open-pit mine composed of the Mission, Eisenhower, Pima, Mineral Hill and South San Xavier properties and the nearby North San Xavier mine. The Mission mine produces copper and silver. The current pit is approximately 2.5 miles long by 1.5 mile wide and 1,200 feet deep, and the mine is situated on approximately 20,000 acres. The Mission Complex currently is operating one mill with crushing, grinding and flotation facilities, warehouse, maintenance and administrative areas, and employs 188 people. A spur to the Union Pacific Railroad services this facility.

The Sierrita Mine is located near Green Valley, approximately 15 miles west of the Rosemont Project, and is one of the largest mining operations in the area, with recent community census data showing the mine employing approximately 750 people. The mine produces copper, molybdenum and rhenium. The site has a SX/EW plant, a concentrator and a molybdenum roasting plant.

5.2 Area Land Uses: Mining, Recreation, Grazing, Wine, Astronomy

An estimated 3,000 small businesses are listed in the area around the Rosemont Project that could benefit from the economic boost to the local economy from Rosemont and its employees. Experiential tourism, wineries, spiritual retreat and renewal centers, bed and breakfast inns, art boutiques and gourmet restaurants are developing in the nearby small towns of Sonoita and Elgin.

These businesses are replacing the historical local economy of ranches and farms, which have been negatively impacted by the rising cost of land, nearly a decade of drought, and volatile livestock markets. While much of the area is still designated for cattle grazing, there are fewer herds. Development pressures have created a burst of new home construction on small 5- to 10-acre tracts of land, what current residents call "ranchettes", replacing the large ranches. What was once a rustic rural setting is now growing into a suburban community expanding toward Tucson, located north of the Rosemont Project with a population of approximately 800,000.

The region is a population in transition experiencing at least two significant waves of migration in the past 50 years. Historically, the area had been populated by families with Mexican and Native American ancestry or from families migrating to this country during the US western migrations of the 1800s. Most residents' roots are deep, with families who have lived in the area for generations and have farms, ranches or small businesses. In the late 1960s and 1970s, the area had an influx of counterculture residents wanting a back-to-nature lifestyle without a lot of government oversight. Within the last 10 to 15 years, there has been a steady influx of new residents seeking a second home in a scenic rural setting or who are affluent young retirees wanting an active outdoor lifestyle and a potential second career.

Much of the land reviewed in the study is rural and open space, including the Coronado National Forest, noted for its rugged terrain of peaks and transition forests, and its recreational use and tourism. Outdoor enthusiasts can choose from a variety of activities such as astronomy, hiking, biking, horseback riding, birding, fishing, hunting, mountain climbing, golfing and exploring, either on foot or using all terrain vehicles (ATVs). Augusta is sensitive to the value of tourism and maintenance of open space and will endeavor to return land used in mining to its current uses of cattle grazing and outdoor activities. The Project plan also provides several concepts that mitigate impacts to current recreational use, including reconnection of roads over Lopez Pass and Gunsight Pass, designation of ATV areas to replace lost trails, and maintenance of public access in all areas except the Barrel Canyon basin.

Tourism destinations nearest the Rosemont Project include the Nature Conservancy's Patagonia-Sonoita Creek Preserve, the Appleton-Whittell National Audobon Research Ranch, the La Cienega National Conservation Area and Mount Graham, the site of international observatories, including the Vatican, Mt. Graham, Multiple Mirror and Whipple Observatories. Another local industry attracting tourists is the wine business, now about 30 years old. The nearby communities of Elgin and Sonoita are the focus of these operations with Callaghan Vineyards, the Sonoita Vineyards and the Village of Elgin Wine Companies being the primary operators. The nearest of these to the proposed Project is approximately 30 miles away.

5.3 Outreach Plan: Community Contact and Response Mechanism

Augusta has a commitment to open and forthright communications about the Rosemont Project to the community and interested stakeholders. A comprehensive communications system will be put into place to identify, interact with, and address questions and concerns by stakeholder groups and individuals. Augusta wants to show it has a long-term commitment to be a responsible mine developer, with operations that become a dependable employer and an integral part of this region. This commitment also includes plans to remain a viable employer and neighbor in the area, as operator of the working Rosemont cattle ranch.

Augusta's key objectives in developing community outreach, education and involvement regarding its Rosemont Project are as follows:

- Providing as much information as possible in an understandable format
- Inviting public comment and participation in the process
- Responding to public information requests with as much information as possible
- Delivering on promises

A new website, www.rosemontranch.com, has been launched and will be updated regularly to keep the public informed on the progress of the mine's development, as well as to provide an interactive location for questions and comments.

The communications system will include, but not be limited to:

- Regular community briefings involving Rosemont experts and other private and public experts involved in the development of the site
- The www.rosemontranch.com website with an interactive system for the public to seek information about the mining activities and to find employment opportunities
- Printed materials about the Project, offering most-asked questions and answers
- Regular local mailings regarding the status of the Rosemont operations, meeting notices and employment opportunities
- Rosemont Ranch guided tours at all phases of development
- Sites in the area where the public can submit questions or suggestions about the project
- The creation of a Rosemont Community Liaison Office with displays and maps detailing the progress at the Rosemont Ranch., as well as offering a meeting space for community briefings
- An active speakers bureau to offer presentations to public and private groups about all aspects of the mining process and the latest technology being used in the Rosemont Project
- Timely and regular communications to local reporters, including news releases and meeting announcements
- Briefings for local editors and reporters involved in news coverage of the Rosemont Project, and meetings with editorial boards to discuss the economic and environmental impact of the project

6 Reclamation Plan

6.1 Proposed Post-Mine Land Uses and Reclamation Goals

Post-mining reclamation objectives for the Rosemont property are expected to be consistent with typical rural lifeways embodied in the use concepts associated with western open space. This is in alignment with currently existing patterns of use, such as dispersed recreation, wildlife habitat, and ranching. Current and probable post-mine recreational activities include horseback riding, hunting, prospecting, all-terrain vehicle and motorcycle riding, four-wheeling, hiking, and bird-watching. Because of the project's proximity to a metropolitan area (Tucson), opportunities may also exist to plan for certain commercial uses consistent with the anticipated terms of conservation easements and open-space ranching. The project, once permitted, is anticipated to have at least a 16-year mine life, so land use goals would need to be updated at that time in light of surrounding development and land use at the time of closure. However, regardless of selected post-mine land use, certain established minimum land rehabilitation practices will be employed, with other use-specific practices applied in addition, as needed. This section is preliminary and discusses reclamation and closure in a conceptual way. In addition, it mentions operational concepts that facilitate efficient reclamation and closure.

It should be noted that in Arizona, several regulatory programs guide the development and implementation of mine reclamation and closure activities. Primarily, the following agencies will be involved:

- *US Forest Service – Coronado National Forest*. A portion of the lands affected by the Rosemont project will be National Forest lands. Therefore, as a part of the environmental impact analysis, the development of an approved plan of operations, and the development of mitigation, the Forest Service will review the reclamation plan and establish a reclamation bond amount for reclamation of Forest System lands.

- *Arizona Department of Environmental Quality—Aquifer Protection Permit.* As a part of its APP program, ADEQ regulates the closure of APP permitted facilities. The Rosemont project will have several facilities subject to APP closure, such as the leach pad, the tailing and waste rock area, and regulated ponds. These facilities will be closed in accordance with APP closure requirements contained in an approved closure plan, which are primarily designed for the protection of groundwater. Nevertheless, APP closure activities can be integrated with land reclamation activities to meet the overall reclamation goals. The APP program also requires that a bond be posted to cover the costs of completing the closure operations.

- *Arizona State Mine Inspector – Land Reclamation Program.* A portion of the lands affected by the Rosemont project will be private lands owned by Augusta. These lands are subject to the requirements of the state reclamation law, which only regulates private lands. A reclamation plan and a reclamation bond must be filed with the Arizona state mine inspector for these private lands.

Reclamation goals, therefore are to provide a post-mining landscape that is consistent with the surrounding area and that allows for the safe enjoyment of the post-mining land-uses.

6.2 Summary of Disturbance Areas

The table below summarizes the areas of disturbance by category and identifies the major reclamation activities associated with that type of disturbance.

Table 6. Areas of Disturbance

Facility	Area Impacted (acres)	Expected Types of Reclamation and Closure Activities
Facilities and Plants including: Administration Areas (office, warehouse); Mine Maintenance Facilities (truck shop, tanks); Mine Operations; Concentrator (mill building, reagent storage, storage bins, etc.); SX-EW (operations facilities, tanks, product storage, shipping docks, etc.)	290	Remove buildings, remove and dispose of industrial materials, recontour building sites, re-establish drainage, stabilize erosive areas with BMPs, revegetate
Pit	505	Some smoothing of benches; safety barricades; revegetation of limited areas on upper benches where available growth media allows
Waste Rock Area, Leach Stockpile, Tailings, Soil Stockpiles	2770	Perimeter berm will be revegetated concurrent with operations. At closure, grade facilities to a minimum 3:1 slope with irregular contours as possible for water control. Establish post-mine drainage, revegetate. Tailings cells will be reclaimed progressively by covering with the waste rock. As the rock disposal areas progress, the faces can be re-seeded for open space uses such as wildlife or ranching, and at closure the area will meet the criteria for post mining land uses
Process and Stormwater Ponds	135	Remove or fold in liners in accordance with APP closure and fill or leave in place for wildlife and cattle watering
Access Roads and Utility Corridors	295	Regrade and rip unnecessary roadways and revegetate. Leave roadways in place for access as appropriate

6.3 Reclamation Techniques

6.3.1 Plan Initiatives

The reclamation plan, at this conceptual level, has several key concepts which are referred to as initiatives. These initiatives provide a physical and philosophical foundation for the reclamation plan and will remain constant even as the detail of the plan is further developed in the planning and design process.

- **Begin with the end in mind**. The design of the facilities will consider ease of closure. For example, overall slopes of waste rock areas will average 3:1. This will allow the slope to be worked for planting and will reduce erosion potential.
- **Constrain disturbance to Barrel Canyon drainage**. In order to limit environmental effects of the project, mine activities are planned for containment within the Barrel Canyon drainage, to the greatest extent practicable.
- **Make use of a perimeter screening berm**. During initial mine development, a perimeter berm which outlines the lateral extent of the waste rock placement area will be established. This berm will be constructed of local, inert rock and will be covered over with salvaged soil materials from early mine development and then revegetated. The use of fresh soil to cover the rock material provides the greatest possible opportunity for vegetation establishment because of the live microbes and native seeds still present in the soil material. This vegetated berm will provide visual screening of the other operations.
- **Salvage soil resources**. Augusta will salvage soil resources for use in capping waste rock and tailings. Further, soil will be direct-applied to the perimeter berm whenever possible to maximize the well-documented advantages of using fresh soil for reclamation.
- **Concurrently reclaim tailings and waste rock**. When areas or cells of tailings and waste rock are closed, reclamation activities will begin within a reasonable amount of time.
- **Prepare a comprehensive drainage plan**. One of the most challenging aspects of mine reclamation is to restore stable, functional drainage that integrates the site into the regional hydrologic patterns and protects water quality. At the time of closure, a drainage plan will be developed that establishes the measures needed to insure the restoration of functional drainage.
- **Consult with Forest Service professionals** to determine desired seed mixes and planting techniques.

Figure 14 provides an initial design concept for final reclamation of the Project.

6.3.2 Facilities and Plants

Assuming the approved reclamation plan does not include leaving any buildings, all structures and appurtenances will be removed from federal lands. Any stained soils will be removed. Compacted areas will be ripped. The sites will be graded and contoured to blend with surrounding topography, drainage will be established in accordance with the closure drainage plan. Planting will occur in accordance with Section 6.9.

6.3.3 Pit

The primary objective of pit reclamation is to ensure public safety. The pit is located almost completely on private lands. The perimeter of the pit will be made inaccessible to vehicle and foot traffic. Some smoothing of the upper pit benches will be done in order to reduce the visual effects of the pit. This

smoothing effect will continue naturally, and over time the benches will become less obvious. Groundwater collected in, and stormwater runoff into, the pit, will be addressed as necessary in the APP permit. Long-term management of the open pit will be addressed to ensure groundwater quality is maintained.

6.3.4 Tailings and Waste Rock

Waste rock and tailings are co-located. Dry tailings will be deposited in cells amongst the waste rock. Therefore, reclamation of this area will include both material types and will address post mining land uses, air quality considerations, water quality considerations, stormwater drainage issues, and long-term facilities management.

Activities will include:

Grading and roughing. Initially, the tailings and waste rock surface will be ripped and roughed in order to provide a good contact with capping material.

Capping. Borrow materials will be applied to the roughened surface of the waste rock and tailings to an approximate depth of 12 in to 18 in., depending on the amount of available material. This practice serves to minimize windborne dust. Generally this type of capping will consists of coarse rocky run of mine material approximately 2" in size. Although the size of the material is larger than that of soil, the material is suitable as a planting medium.

Grading and construction of drainage structures and post-mine diversion channels. In accordance with the comprehensive drainage plan for closure, functional site drainage will be constructed in order to allow for stormwater flow across the site, and prevent excessive erosion from surface water runoff. These structures will be designed for long-term water management.

Stormwater diversion will involve constructing upgradient diversions to minimize the accumulation of water accumulating in the waste rock deposition areas, as well as minimizing the erosion potential of run-on waters. Stormwater capture will involve strategically placing sediment traps and stormwater impoundments to manage stormwater run-off by allowing entrained sediments time to drop out. This will reduce the run-off velocities, minimize erosion, and provide capture of the run-off water as needed.

Planting. Planting will be done using the concepts described in Section 6.9.

6.3.5 Leach Pad Reclamation

Reclamation of the heap leach pad requires special planning and will involve the following key measures:

Draindown. After solutions are no longer being applied to the heap, the heap will be allowed to drain down over a period of several months. This will allow time for process solutions to migrate to the collection area until there is no evidence of process water flow-through.

Decommissioning. Piping and solution distribution infrastructure will be removed.

Capping. Capping of the leach stockpile will provide a buffer to the leached material, and will encapsulate the leach material to isolate it from water infiltration. Encapsulation of the leach facilities using waste rock is proposed, using material with a net neutralization potential that will provide buffering capacity for the leached material beneath.

6.3.6 Pond Reclamation

The most important aspects of process pond reclamation are examination of the performance of the liner, and the proper handling and disposal of the liner system. The liner in the pond will be removed and the area examined for signs of leakage. If the liner has performed properly and no signs of leakage are found, the liner will be either be folded and buried in the pond or an alternative disposal method will be used. The pond area will be regraded so that the area does not capture water and the area vegetated as appropriate. If signs of liner leakage are discovered, additional remedial steps will be taken. For example, the suspect area will be sampled and the material excavated until clean soil is encountered.

In both cases, the pond will be re-graded so that water does not impound and infiltrate, the area will be capped, and re-seeded as appropriate.

In the case of unlined ponds, a determination will be made as to the long-term applicable use that the pond may have. If there could be a long-term use for wildlife or cattle watering, the pond may remain in place.

6.3.7 Road Reclamation

Roads will be evaluated with Forest Service personnel near closure time to determine which roads will be closed and which will remain open. If desired, some roads may be down-graded to a lower use standard by reclaiming part of the road width and by roughening.

Road reclamation concepts include ripping, establishing drainage controls, and vegetating by seeding or hydro-seeding.

6.4 Stormwater Control Plan

A stormwater control plan will be developed in parallel with site engineering. It is expected that coverage under the Clean Water Act Multi-Sector General Stormwater permit (or the Arizona equivalent) will be needed during operations. Therefore, a Stormwater Pollution Prevention Plan (SWPPP) will be developed which addresses all of the requirements of that permit program including establishing BMPs, training, inspections, monitoring and reporting. The concept for Rosemont's stormwater management will be to retain any stormwater onsite which has contacted mining materials. Currently planned are three impoundment features which are designed, at least in part, to provide stormwater retention capabilities. These ponds will be sized and engineered to retain flows and associated runoff from the 100-year, 24-hour storm. In other areas, BMPs will be established to address the addition of sediment into waterways.

It is expected that in the post-mine land configuration large retention ponds would not be needed, and that stormwater would flow through the property once the mine areas have been vegetated. At the time of closure, a comprehensive drainage plan will be developed to address the steps needed to ensure a functional drainage configuration that protects water quality.

6.5 Erosion Control

A construction drainage plan will be developed prior to construction. A comprehensive site drainage plan will be developed prior to final closure to address the establishment of post-mine drainage and erosion control.

6.6 Utility Abandonment

Power and fuel utilities will be closed and decommissioned in accordance with a plan developed in concert with the utility providers and the Forest Service.

6.7 Public Safety and Fencing

Public safety will be a priority concern. Fences and barriers will be erected as needed to insure the public cannot access areas of the property that could be hazardous, such as the pit area. It is the goal of reclamation to largely eliminate hazardous areas. This will be accomplished by removing structures, contents of equipment yards, unneeded utilities and infrastructure, and any offsite disposal of chemicals.

6.8 Soil Resource Management

Available soil materials will be surveyed and catalogued for depth and quality. High quality growth media will be salvaged during construction and pre-stripping operations. Much of this material is slated for concurrent use in covering and vegetating the perimeter berm. Any remaining material will be

stockpiled in a location away from disturbance, labeled in the field, and seeded. Disturbance to the stockpile(s) will be minimized during operations.

6.9 Planting and Mulching

Successful revegetation is dependent on many variables, such as time of year, available moisture, viability of seed, soil chemistry, slope, aspect, and many others. Every attempt will be made to line up the variables in a way that increases the odds of success. The planting plans will vary by facility type, but in general will include the following key measures:

- Seed bed or transplant site preparation — to create a receptive surface for seeds or transplanted plants.
- Mulching — to hold growth medium in place and create moist micro-habitats for seed germination
- Seeding and/or hydroseeding — to apply seed sources to the reclaimed site
- Weed control — to promote the establishment of native vegetation

Detailed planting plans for each disturbance type will be included in the Rosemont Reclamation Plan.

6.10 Reclamation Monitoring

Final reclamation will be monitored and assessed for success in accordance with standard industry practices which will be developed in concert with Forest Service personnel. A post-closure monitoring period of 5 to 10 years is anticipated.

6.11 Financial Assurance

Augusta is financially capable and will post financial assurance reclamation bonds (or other instruments of financial guarantees as appropriate) in accordance with the requirements of at least three agencies as discussed in Section 6.1.

Augusta is considering using a recently developed insurance vehicle that provides enhanced levels of protection. This Mine Reclamation Insurance Program provides financial assurance for mine reclamation obligations as may be required by federal and state regulators. The insurance program provides reclamation funding and protection due to cost overruns for lengthy large-scale mine site closures. The insurance program may also provide coverage for unknown pollution legal liability exposures.

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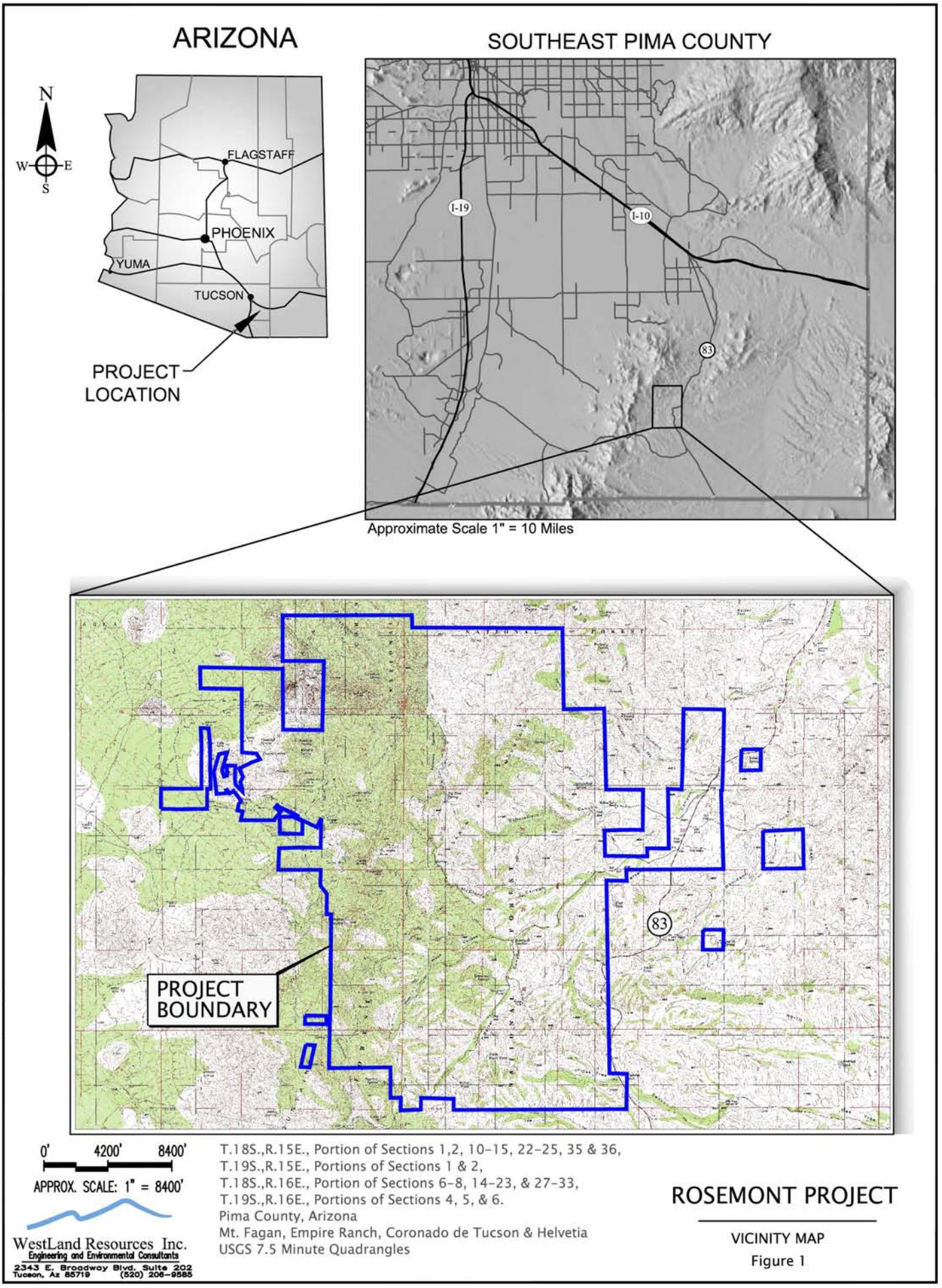
FIGURES



T.18S.,R.15E., Portion of Sections 1,2, 10-15, 22-25, 35 & 36,
T.19S.,R.15E., Portions of Sections 1 & 2,
T.18S.,R.16E., Portion of Sections 6-8, 14-23, & 27-33,
T.19S.,R.16E., Portions of Sections 4, 5, & 6.
Pima County, Arizona
Mt. Fagan, Empire Ranch, Coronado de Tucson & Helvetia
USGS 7.5 Minute Quadrangles

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ROSEMONT PROJECT

VICINITY MAP
Figure 1

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PROJECT BOUNDARY

LAND OWNERSHIP

- STATE TRUST
- BLM
- PRIVATE LANDS
- PRIVATE ROSEMONT LANDS
- CORONADO NATIONAL FOREST

Data Source: ARLIS, 2000.

- PATENTED CLAIMS
- BLM UNPATENTED CLAIMS
- CORONADO NATIONAL FOREST UNPATENTED CLAIMS

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0' 2000' 4000'

SCALE 1" = 4000'

ROSEMONT PROJECT

LAND POSITION MAP

Figure 2

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LEGEND

- GRAZING LEASE
- FEE LAND
- PATENTED CLAIMS
- UNPATENTED CLAIMS

Data Source: Vector Colorado, LLC

N

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0' 2000' 4000'

SCALE 1" = 4000'

ROSEMONT PROJECT

LAND MANAGEMENT MAP

Figure 3

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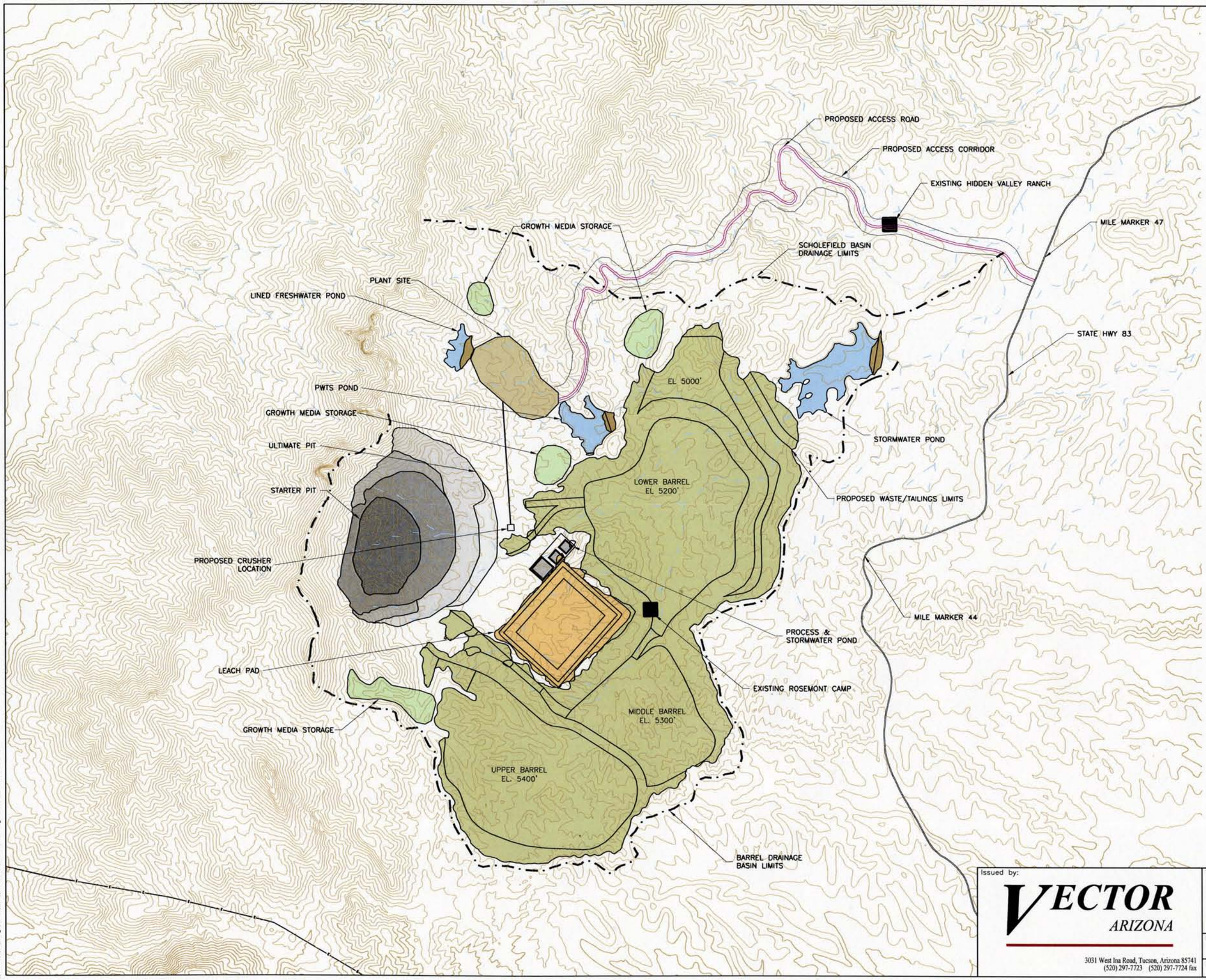

LEGEND:

- EXISTING CONTOURS
- EXISTING DRAINAGE
- EXISTING PAVED ROAD
- EXISTING POWERLINE

PIT STAGES

- PREPRODUCTION
- YEAR 03
- YEAR 05
- YEAR 10
- YEAR 16

NOTES:

1) LEACH PAD TO ACCOMMODATE 60 MILLION TONS.
2) STORMWATER POND SIZED TO ACCOMMODATE 100YR – 24HR STORM EVENT PLUS FREEBOARD AND SEDIMENT LOADING.
3) LINED CONTINGENCY POND SIZED FOR 7 DAYS TAILINGS SLURRY AND 100YR – 24HR STORM EVENT.
4) LINED FRESHWATER POND SIZED FOR 3 DAYS OF SITE WATER REQUIREMENT.
5) THE PLANT SITE AREA INCLUDES:
   A. ADMINISTRATION BUILDINGS (OFFICE, WAREHOUSE, LABORATORY, CHANGE HOUSE)
   B. MINE MAINTENANCE FACILITIES (TRUCK SHOP, FUEL STORAGE)
   C. CONCENTRATOR COMPLEX (SECONDARY CRUSHER, ORE STORAGE PILE, MILL BUILDING, THICKENERS, REAGENT STORAGE, STORAGE BINS)
   D. SX–EW (OPERATIONS FACILITIES, TANKS, PRODUCT STORAGE, SHIPPING DOCKS)
   E. SANITATION/WASTEWATER FACILITIES

N

SCALE

1500' 0 1500' 3000'

CONTOUR INTERVAL 50'

0.25 0 0.25 0.5 MILE

Issued by:

VECTOR ARIZONA

3031 West Ina Road, Tucson, Arizona 85741
(520) 297-7723 (520) 297-7724 fax

Title:

GENERAL FACILITIES ARRANGEMENT

G REVISION

Project: ROSEMONT PROJECT SITING STUDY	Project no.: 065003-00-20	Figure 4
Location: PIMA COUNTY, ARIZONA	Date: 7/06	

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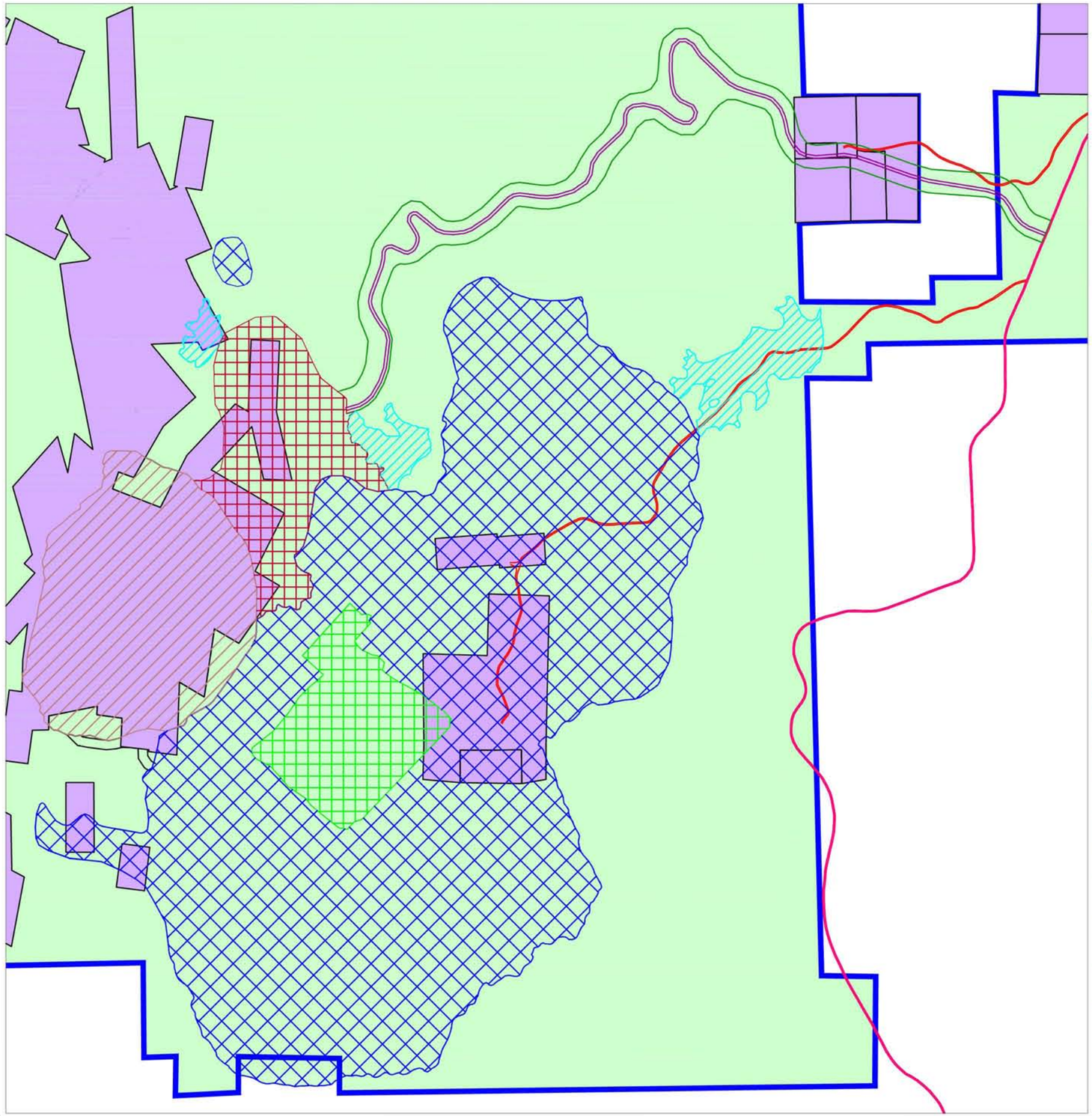

Anticipated Project Disturbance			
Disturbance Category	**Patented Mining Claims and Fee Lands (Private Land)**	**Forest Service Lands (Unpatented Mining Claims)**	**Total**
Access road and utility corridor	30	265	295
Facilities and Plants	90	200	290
Tailings and Waste Rock	245	2,295	2,540
Leach Pad	10	210	220
Pit	445	60	505
Ponds	10	125	135
Total	830	3,155	3,985

LEGEND

- PIT
- PONDS
- LEACH PAD
- FACILITIES AND PLANTS
- TAILINGS & WASTE ROCK
- FOREST SERVICE LAND (Unpatented Mining Claims)
- PRIVATE LANDS (Patented Mining Claims & Fee Lands)
- ACCESS ROAD
- EXISITING ROAD

N
W E
S

0' 1200' 2400'

SCALE 1" = 2400'

ROSEMONT PROJECT

DISTURBANCE CATEGORY MAP

Figure 5

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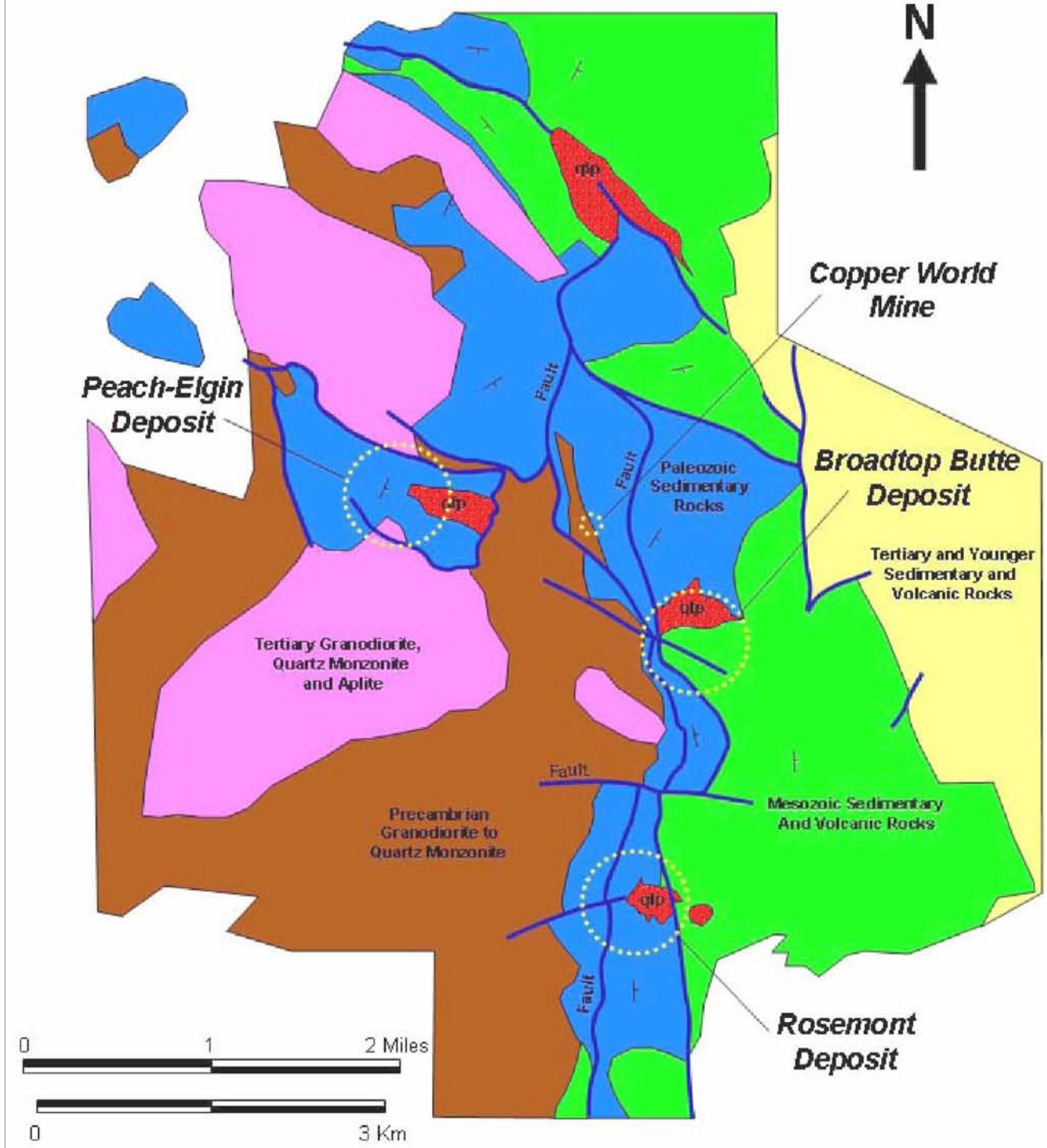

Generalized from Hardy, J.J., Jr., 1997.[5]

Data Source: WLR Consulting, Inc.

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ROSEMONT PROJECT

GENERALIZED GEOLOGIC MAP

Figure 6

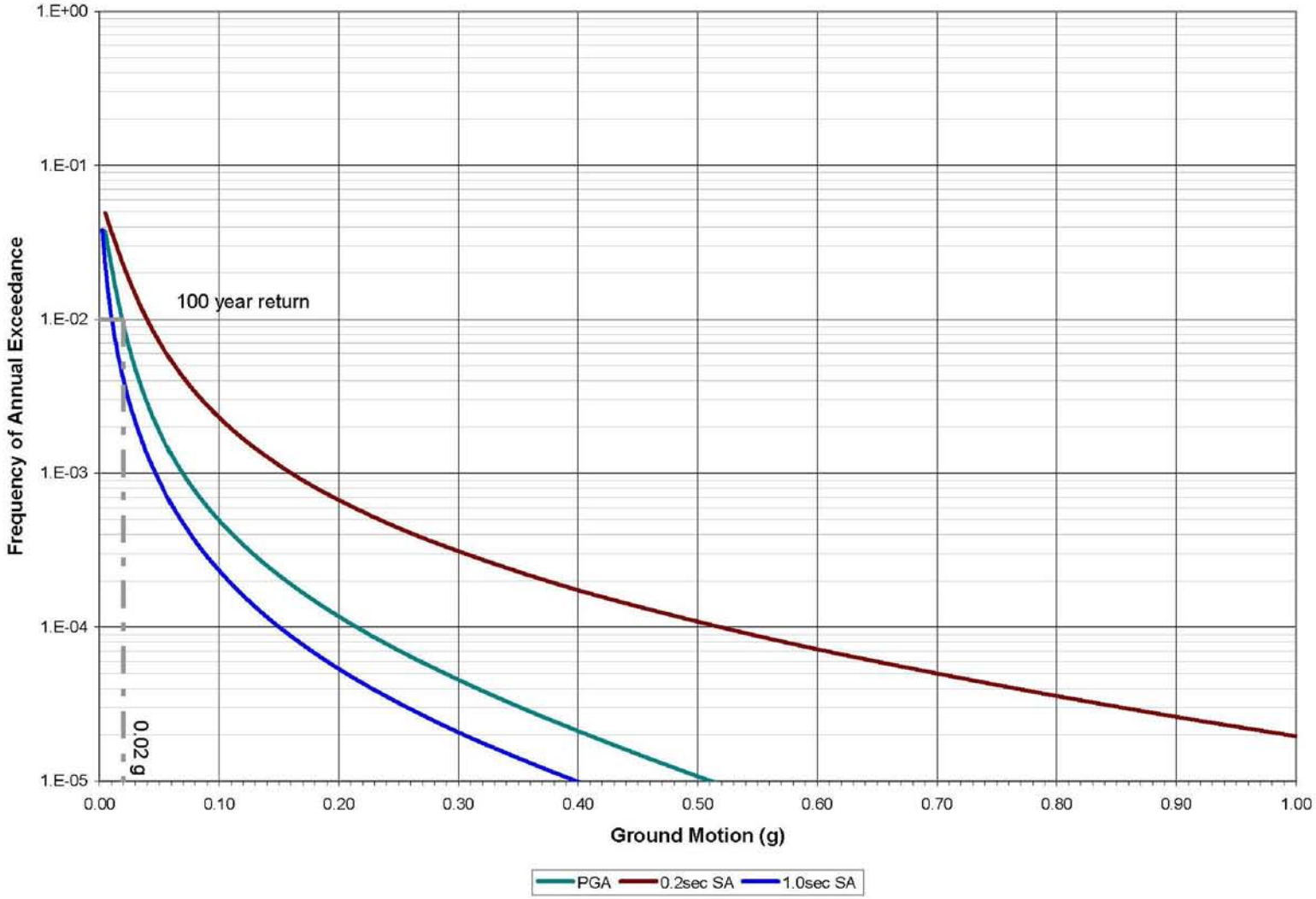

Figure 7 – Seismic Hazard Curve for the Proposed Rosemont Mine Site (based on data developed by the USGS for the 2002 National Seismic Hazard Maps)

Data Source: Vector Colorado, L.L.C.

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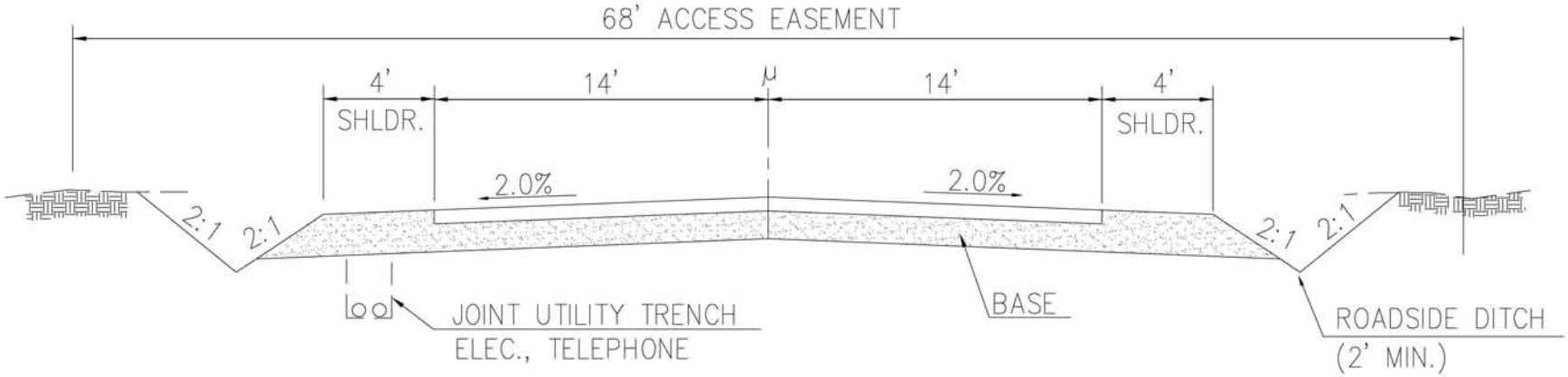
ROSEMONT PROJECT

SEISMIC HAZARD CURVE
FOR ROSEMONT PROPERTY
Figure 7



TYPICAL ACCESS ROAD SECTION

N.T.S.

DESIGN SPEED IS 35 MPH

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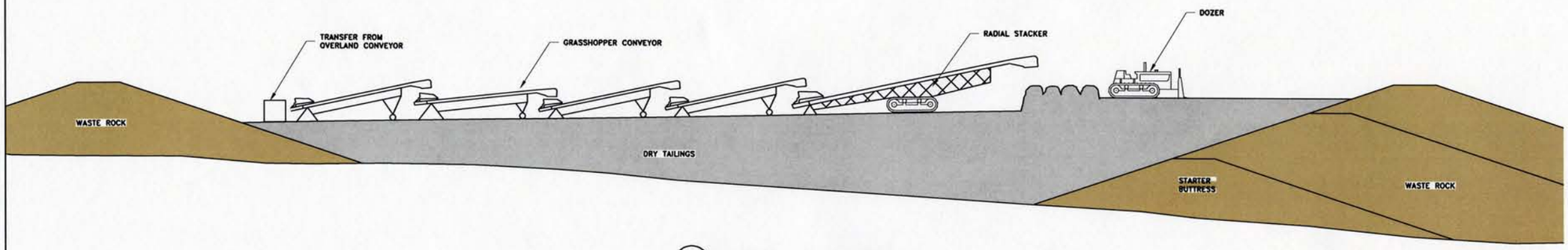
ROSEMONT PROJECT

TYPICAL ROADWAY CROSS-SECTION

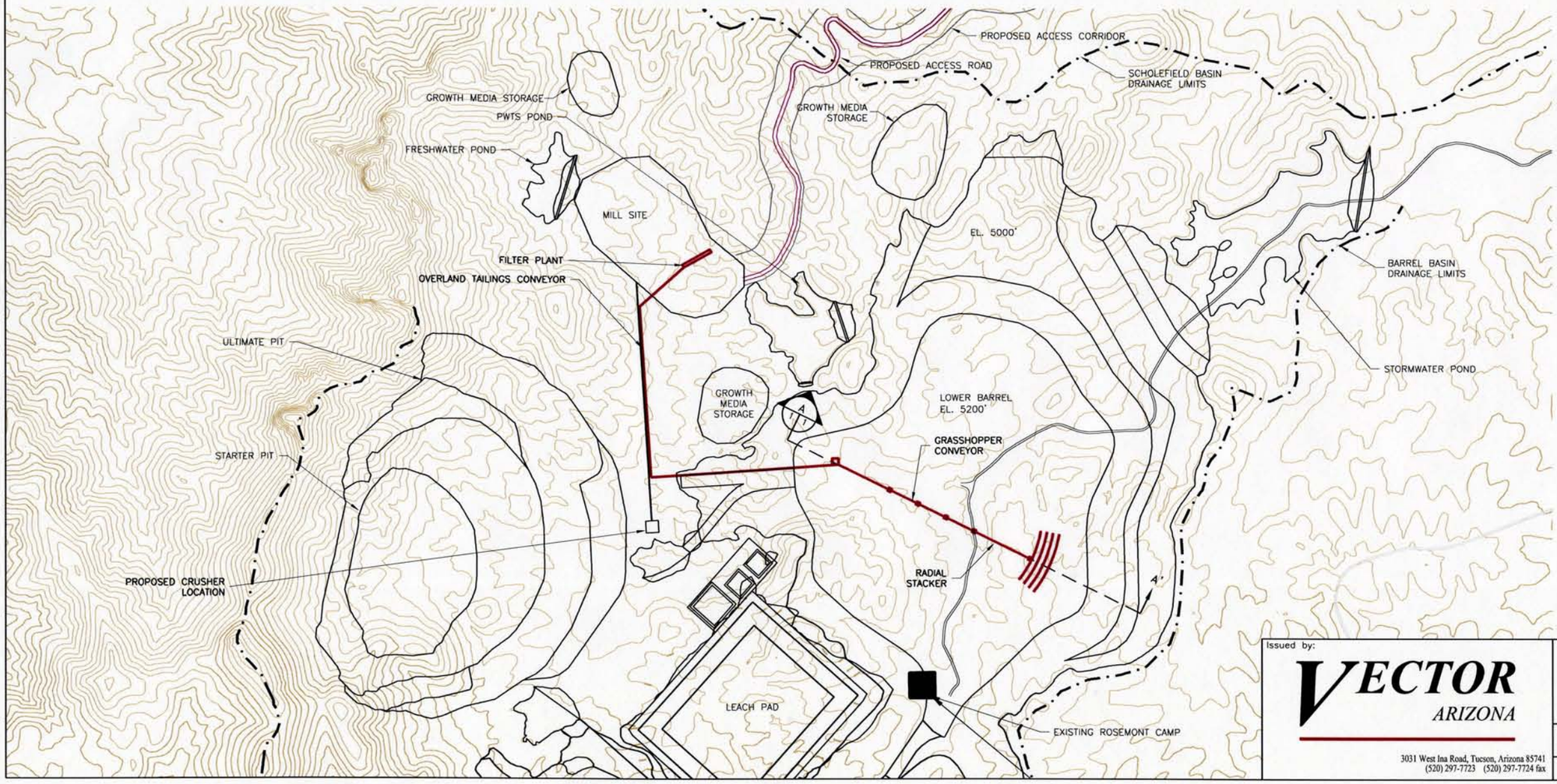
Figure 8

LEGEND:

- EXISTING CONTOURS
- EXISTING PAVED ROAD
- DRAINAGE BASIN



A 1 1 CONCEPTUAL DRY STACK SECTION
N.T.S



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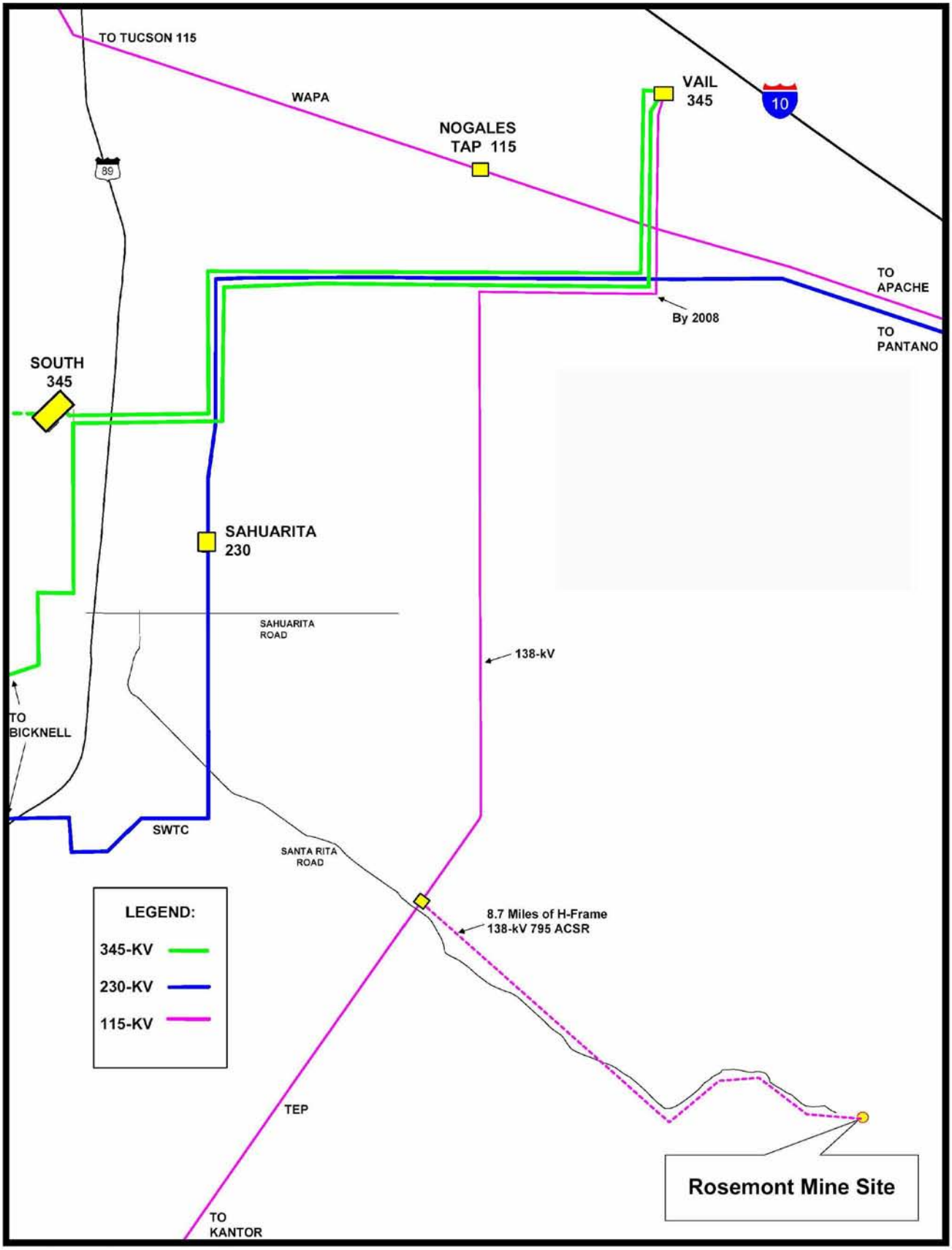
Title: DRY TAILINGS PLAN

G REVISION

Project: ROSEMONT PROJECT SITING STUDY
Project no.: 065003-00-20
Location: PIMA COUNTY, ARIZONA
Date: 7/06

FIGURE 9



Data Source: Navigant Consulting

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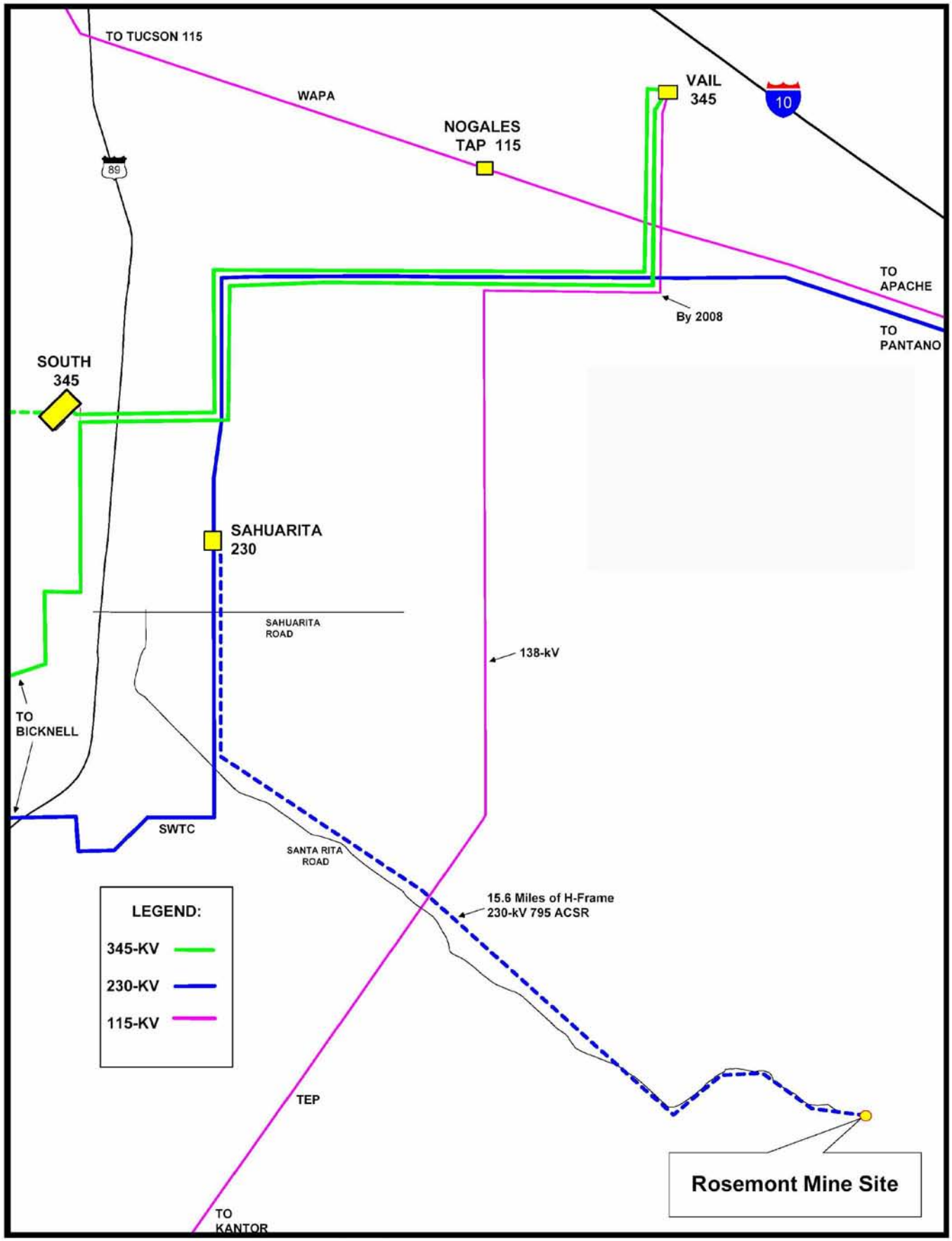
Tucson, Az 85719 (520) 206-9585

ROSEMONT PROJECT

TEP INTERCONNECTION OPTION

Figure 10



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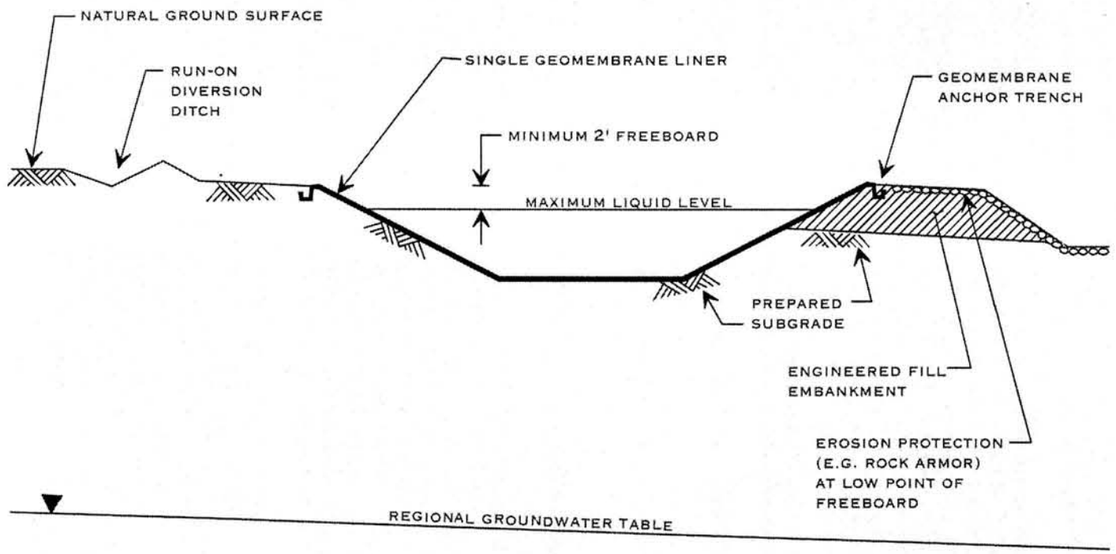
ROSEMONT PROJECT

SWTC INTERCONNECTION OPTION

Figure 11

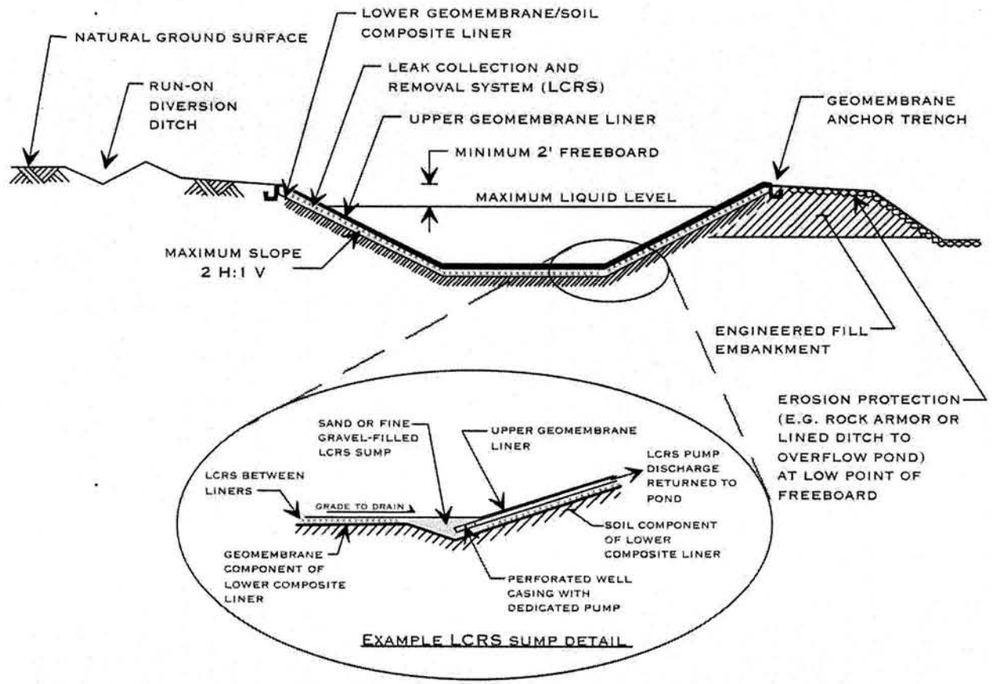
DWG FullPath: M:\projects\1049.05\figures-as-sent-8-1-06\fIG12-TYPICAL-IMPOUNDMENT-ADEQ-BADCT.dwg

EXAMPLE OF NON-STORM WATER POND CROSS-SECTION
(PRESCRIPTIVE BADCT DESIGN)



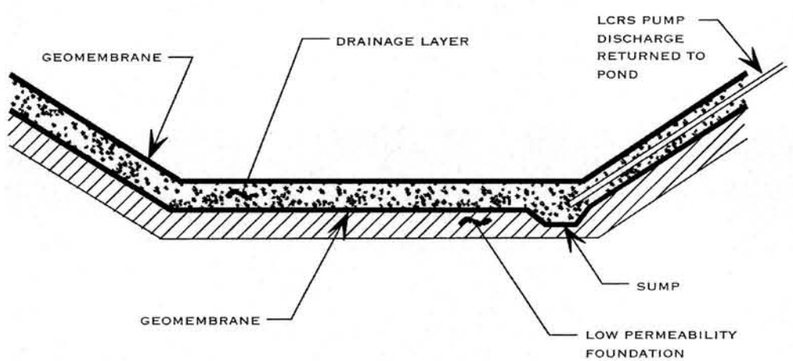
[NOT TO SCALE]

EXAMPLE OF PROCESS SOLUTION POND CROSS-SECTION
(PRESCRIPTIVE BADCT DESIGN)



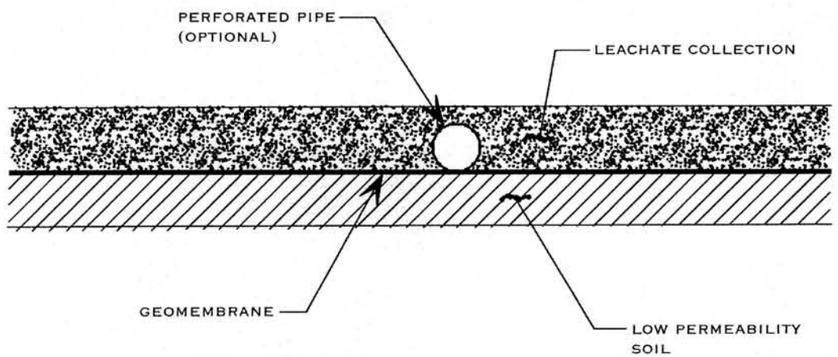
[NOT TO SCALE]

POND LINER SCHEMATIC



[NOT TO SCALE]

COMPOSITE PAD LINER SCHEMATIC



[NOT TO SCALE]

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Data Source: ADEQ BADCT

ROSEMONT PROJECT

TYPICAL IMPOUNDMENT CROSS-SECTIONS
Figure 12

Data Source: WLR Consulting, Inc.

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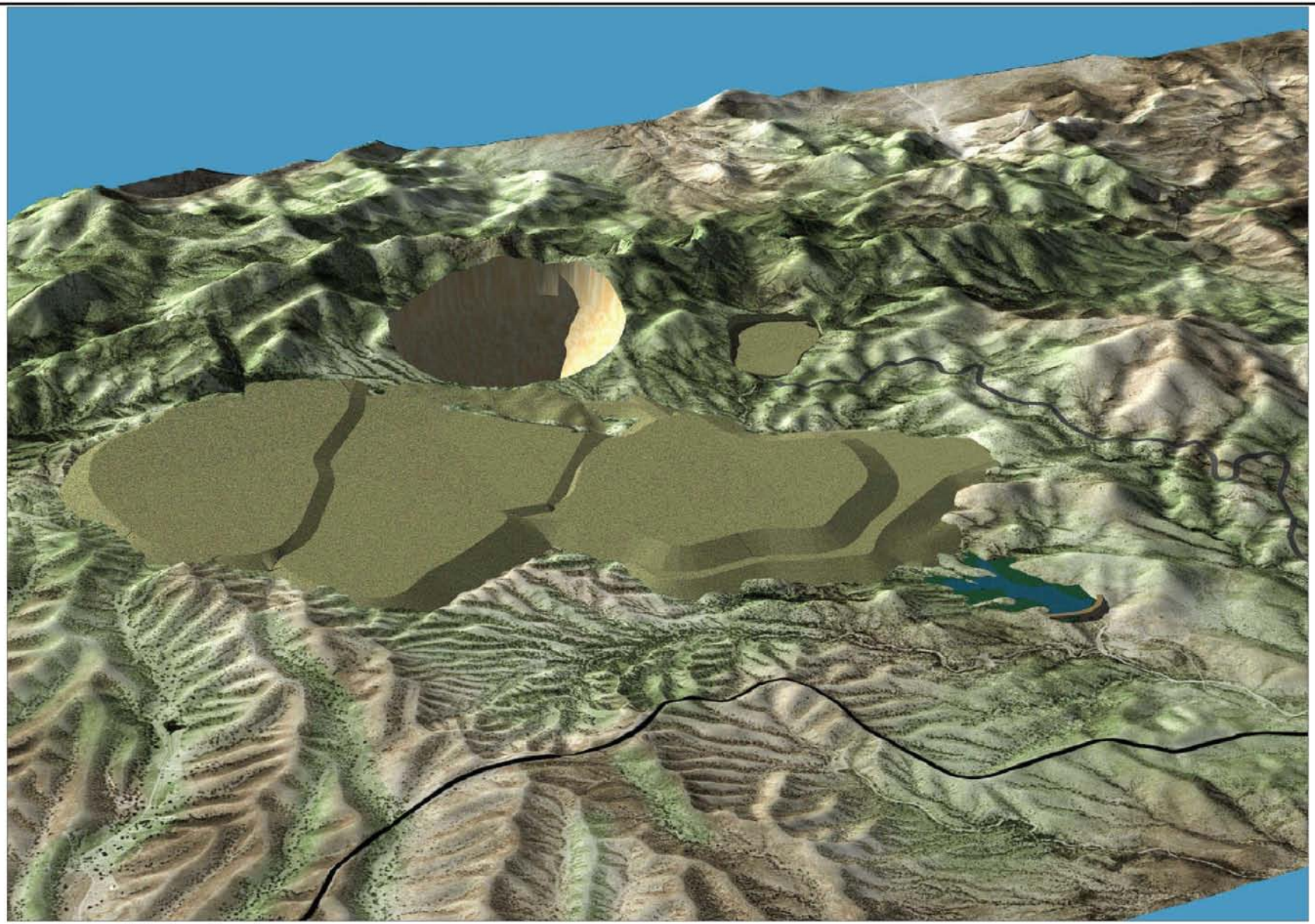
ROSEMONT PROJECT

CONCEPTUAL DESIGN OF PERIMETER BERMS

Figure 13



Data Source: WLR Consulting, Inc.

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ROSEMONT PROJECT

CONCEPTUAL RECLAMATION DESIGN

Figure 14

APPENDIX A

CLAIM INFORMATION

APPENDIX A
ROSEMONT CLAIMS

The following contiguous group of unpatented mining claims are situated in the Helvetia Mining District, Pima County, Arizona. The Location Notices of which are of record in the office of the County Recorder of Pima County, Arizona, and the Bureau of Land Management serial numbers are filed at Phoenix, Arizona.

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
1	York Fraction	2022	340	2198
	York Fraction/Amended	5436	80	
2	Travis #1	1983	253	2199
	Travis #1/Second Amended	5436	806	
3	Jim	995	391	2200
	Jim/Amended	5436	802	
4	Isle Royal Fraction	2054	188	2201
	Isle Royal Fraction/Amended	5436	808	
5	Indian Club Fraction	2054	187	2202
	Indian Club Fraction/Amended	5436	809	
6	Pilot Fraction	2051	261	2203
	Pilot Fraction/Amended	5436	810	
7	A.O.T. Fraction	2054	186	2204
	A.O.T. Fraction/Amended	5436	811	
8	Malachite Fraction	2110	263	2211
	Malachite Fraction/Amended	5436	807	
9	MAX 121 B/Relocation	5609	574	13284
10	MAX 123 B/Relocation	5609	576	13286
11	MAX 125 B/Relocation	5609	578	13288
12	MAX 126 B/Relocation	5609	579	13289
13	MAX 127 B/Relocation	5609	580	13290
14	MAX 128 B/Relocation	5609	581	13291
15	MAX 129 B/Relocation	5609	582	13292
	MAX 129 B/Amended	6126	1202-1203	
16	MAX 130 B/Relocation	5609	583	13293
17	MAX 131 B/Relocation	5609	584	13294
18	MAX 132 B/Relocation	5609	585	13295
19	MAX 133 B/Relocation	5609	586	13296
20	MAX 134 B/Relocation	5609	587	13297
21	MAX 135 B/Relocation	5609	588	13298
22	MAX 136 B/Relocation	5609	589	13299
23	MAX 137 B/Relocation	5609	590	13300
24	MAX 138 B/Relocation	5609	591	13301
25	MAX 139 B/Relocation	5609	592	13302

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
26	MAX 140 B/Relocation	5609	593	13303
27	MAX 141 B/Relocation	5609	594	13304
28	MAX 142 B/Relocation	5609	595	13305
29	MAX 143 B/Relocation	5609	596	13306
30	MAX 144 B/Relocation	5609	597	13307
31	MAX 145 B/Relocation	5609	598	13308
32	MAX 146 B/Relocation	5609	599	13309
33	MAX 147 B/Relocation	5609	600	13310
34	MAX 148 B/Relocation	5609	601	13311
35	MAX 149 B/Relocation	5609	602	13312
36	MAX 150 B/Relocation	5609	603	13313
	MAX 150 B/Amended	7073	604-605	
37	MAX 151 B/Relocation	5609	604	13314
38	MAX 152 B/Relocation	5609	605	13315
	MAX 152 B/Amended	7073	606-607	
39	MAX 153 B/Relocation	5609	606	13316
40	MAX 154 B/Relocation	5609	607	13317
	MAX 154 B/Amended	7073	608-609	
41	MAX 155 B/Relocation	5609	608	13318
42	MAX 156 B/Relocation	5609	609	13319
	MAX 156 B/Amended	7073	610-611	
43	Rosalind	314	120	14972
	Rosalind/Amended	1062	539	
44	Michael M.	314	117	14973
	Michael M./Amended	1062	540	
45	Lydia J.	314	119	14974
	Lydia J./Amended	1062	541	
46	Ida D.	314	118	14975
	Ida D./Amended	1062	542	
47	D & D #1	759	202	14976
	D & D #1/Amended	1062	543	
48	D & D #2	759	201	14977
	D & D II/Amended	1062	544	
49	El Frijoli	300	277	14978
	Frijoli/Amended	1062	545	
50	Frijoli II	1062	546	14979
51	Frijoli III	1062	547	14980
52	Frijoli IV	1062	548	14981
53	Frijoli V	1062	549	14982
54	Frijoli VII	1062	551	14984
55	Frijoli VIII	1062	552	14985
56	Frijoli IX	1062	553	14986
57	Frijoli X	1070	494	14987
58	Frijoli XI	1454	349	14988

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
59	Frijoli XI Extension	1454	350	14989
60	Deering Springs No. 2 A/Relocation	5636	741	15002
61	Deering Springs No. 4 A/Relocation	5636	742	15003
62	Deering Springs No. 6 A/Relocation	5636	743	15004
63	Deering Springs No. 8 A/Relocation	5636	744	15005
64	Deering Springs No. 10 A/Relocation	5636	745	15006
65	Deering Springs No. 12 A/Relocation	5636	746	15007
66	Deering Springs No. 14 A/Relocation	5636	747	15008
67	Deering Springs No. 15 A/Relocation	5636	748	15009
68	Deering Springs No. 16 A/Relocation	5636	749	15010
69	Deering Springs No. 17 A/Relocation	5636	750	15011
	Deering Springs No. 17 A/Amended	6126	1204-1205	
70	Deering Springs No. 21 A/Relocation	5636	751	15012
71	Deering Springs No. 22 A/Relocation	5636	752	15013
72	Deering Springs No. 23 A/Relocation	5636	753	15014
73	Deering Springs No. 24 A/Relocation	5636	754	15015
74	Deering Springs No. 25 A/Relocation	5636	755	15016
75	Deering Springs No. 26 A/Relocation	5636	756	15017
76	Deering Springs No. 27 A/Relocation	5636	757	15018
77	Deering Springs No. 28 A/Relocation	5636	758	15019
	Deering Springs No. 28 A/Amended	6126	1206-1207	
78	Deering Springs No. 29 A/Relocation	5636	759	15020
79	Deering Springs No. 30 A/Relocation	5636	760	15021
80	Deering Springs No. 31 A/Relocation	5636	761	15022
81	Deering Springs No. 32 A/Relocation	5636	762	15023
82	Deering Springs No. 33 A/Relocation	5636	763	15024
83	Deering Springs No. 34 A/Relocation	5636	764	15025
84	Deering Springs No. 35 A/Relocation	5636	765	15026
85	Deering Springs No. 36 A/Relocation	5636	766	15027
86	Deering Springs No. 37 A/Relocation	5636	767	15028
87	Deering Springs No. 38 A/Relocation	5636	768	15029
88	Deering Springs No. 39 A/Relocation	5636	769	15030
89	Deering Springs No. 42 A/Relocation	5636	770	15031
90	Deering Springs No. 51 A/Relocation	5636	771	15032
91	Deering Springs No. 52 A/Relocation	5636	772	15033
92	Kid 1	3368	529	25210
93	Kid 2	3368	530	25211
94	Kid 3	3368	531	25212
95	Kid 4	3368	532	25213
96	Kid 5	3368	533	25214
97	Kid 6	3368	534	25215
98	Kid 7	3368	535	25216
99	Kid 8	3368	537	25217
100	Kid 9	3368	536	25218

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
101	Kid 10	3368	538	25219
102	Kid 11	3368	539	25220
103	Kid 12	3368	540	25221
104	Kid 13	3368	541	25222
105	Kid 14	3368	542	25223
106	Kid 15	3368	543	25224
107	Kid 16	3368	544	25225
108	Kid 17	3368	545	25226
109	Kid 18	3368	546	25227
110	Kid 19	3368	547	25228
111	Kid 20	3368	548	25229
112	Kid 21	3368	549	25230
113	Kid 22	3368	550	25231
114	Kid 23	3368	551	25232
115	Kid 24	3368	552	25233
116	Kid 25	3368	553	25234
117	Kid 26	3368	554	25235
118	Kid 27	3368	555	25236
119	Kid 28	3368	556	25237
120	Kid 29	3368	557	25238
	Kid 29/Amended	6216	1001-1002	
121	Kid 34	3368	562	25243
122	Kid 35	3368	563	25244
123	Kid 36	3368	564	25245
124	Kid 37	3368	565	25246
125	Kid 38	3368	566	25247
126	Kid 39	3368	567	25248
127	Kid 40	3368	568	25249
128	Kid 41	3368	569	25250
129	Kid 42	3368	570	25251
130	Kid 43	3368	571	25252
131	Kid 44	3368	572	25253
132	Kid 45	3368	573	25254
133	Kid 46	3368	574	25255
	Kid 46/Amended	6216	1003-1004	
134	Kid 47	3368	575	25256
	Kid 47/Amended	6216	1005-1006	
135	Wasp 52	3786	52	25257
	Wasp 52/Amended	6216	955-956	
136	Wasp 53	3786	53	25258
	Wasp 53/Amended	6216	957-958	
137	Wasp 54	3786	54	25259
138	Wasp 55	3786	55	25260
139	Wasp 56	3786	56	25261

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
140	Wasp 57	3786	57	25262
141	Wasp 58	3786	58	25263
	Wasp 58/Amended	3842	133	
142	Wasp 60	3786	59	25264
	Wasp 60/Amended	6216	959-960	
143	Wasp 61	3786	60	25265
	Wasp 61/Amended	6216	961-962	
144	Wasp 101	3786	63	25268
145	Wasp 102	3786	64	25269
146	Wasp 103	3786	65	25270
147	Wasp 104	3786	66	25271
148	Wasp 105	3786	67	25272
149	Wasp 106	3786	68	25273
150	Wasp 107	3786	69	25274
151	Wasp 111	3786	70	25275
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153	Wasp 113	3786	72	25277
154	Wasp 114	3786	73	25278
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160	Wasp 120	3786	79	25284
161	Wasp 121	3786	80	25285
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175	Wasp 205	3786	94	25299
176	Wasp 206	3786	95	25300
177	Wasp 207	3786	96	25301
178	Wasp 208	3786	97	25302
179	Wasp 209	3786	98	25303
180	Wasp 210	3786	99	25304

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
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182	Wasp 212	3786	101	25306
183	Wasp 213	3786	102	25307
184	Wasp 214	3786	103	25308
185	Wasp 215	3786	104	25309
186	Wasp 216	3786	105	25310
187	Wasp 217	3786	106	25311
188	Wasp 218	3786	107	25312
189	Wasp 313	3786	144	25349
190	Wasp 315	3786	146	25351
191	Wasp 317	3786	148	25353
192	Wasp 319	3786	150	25355
	Wasp 319/Amended	6216	975-976	
193	Wasp 321	3786	152	25357
	Wasp 321/Amended	6216	977-978	
194	Wasp 323	3786	154	25359
	Wasp 323/Amended	6216	979-980	
195	Wasp 325	3786	156	25361
	Wasp 325/Amended	6216	981-982	
196	Wasp 327	3786	158	25363
	Wasp 327/Amended	6116	983-984	
197	Wasp 329	3786	160	25365
	Wasp 329/Amended	6216	985-986	
198	Wasp 331	3786	162	25367
	Wasp 331/Amended	6216	987-988	
199	Wasp 333	3786	164	25369
	Wasp 333/Amended	6216	989-990	
200	Wasp 335	3786	166	25371
	Wasp 335/Amended	6216	991-992	
201	Wasp 337	3786	168	25373
	Wasp 337/Amended	6216	993-994	
202	Wasp 339	3786	170	25375
	Wasp 339/Amended	6216	995-996	
203	Wasp 341	3786	172	25377
204	Wasp 343	3786	174	25379
205	Wasp 344	3786	175	25380
206	Wasp 345	3786	176	25381
207	Wasp 346	3786	177	25382
208	Wasp 347	3786	178	25383
209	Wasp 348	3786	179	25384
210	Wasp 349	3786	180	25385
211	Wasp 350	3786	181	25386
212	Wasp 351	3786	182	25387
213	Wasp 352	3786	183	25388

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
214	Wasp 353	3786	184	25389
215	Wasp 354	3786	185	25390
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217	Max 43	4792	586	25664
218	Max 45	4792	588	25666
219	Max 47	4792	590	25668
220	Max 49	4792	592	25670
221	Max 71	4792	614	25692
222	Max 72	4792	615	25693
223	Max 73	4792	616	25694
224	Max 74	4792	617	25695
225	Max 75	4792	618	25696
226	Max 76	4792	619	25697
227	Max 77	4792	620	25698
228	Max 78	4792	621	25699
229	Max 79	4792	622	25700
230	Max 80	4792	623	25701
231	Max 81	4792	624	25702
232	Max 82	4792	625	25703
233	Max 83	4792	626	25704
234	Max 84	4792	627	25705
235	Max 85	4792	628	25706
236	Max 86	4792	629	25707
237	Max 87	4792	630	25708
238	Max 88	4792	631	25709
239	Max 89	4792	632	25710
240	Max 90	4792	633	25711
241	Max 91	4792	634	25712
242	Max 93	4792	636	25714
243	Max 95	4792	638	25716
244	Max 97	4792	640	25718
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247	Max 102	4792	645	25723
248	Max 103	4792	646	25724
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251	Max 106	4792	649	25727
252	Max 107	4792	650	25728
253	Max 108	4792	651	25729
254	Max 109	4792	652	25730
255	Max 110	4792	653	25731
256	Max 111	4792	654	25732
257	Max 112	4792	655	25733

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
258	Max 113	4792	656	25734
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260	Max 115	4792	658	25736
261	Max 116	4792	659	25737
262	Max 117	4792	660	25738
263	Max 118	4792	661	25739
264	Max 119	4792	662	25740
265	Max 120	4792	663	25741
266	Elk 1	3368	576	27423
267	Elk 2	3368	577	27424
268	Elk 3	3368	578	27425
269	Elk 4	3368	579	27426
270	Elk 5	3368	580	27427
271	Elk 6	3368	581	27428
272	Elk 35	3368	610	27451
	Elk 35/Amended	6121	1273-1274	
273	Elk 36	3368	611	27452
274	Elk 37	3368	612	27453
275	Elk 39	3368	614	27455
276	Elk 41	3368	616	27457
277	Elk 43	3368	618	27459
278	Elk 45	3368	620	27461
279	Elk 70	3368	645	27465
280	Elk 71	3368	646	27466
281	Elk 72	3368	647	27467
282	Elk 73	3368	648	27468
283	Elk 74	3368	649	27469
284	Elk 75	3368	650	27470
285	Elk 76	3368	651	27471
286	Elk 77	3368	652	27472
287	Elk 78	3368	653	27473
288	Elk 79	3368	654	27474
289	Elk 80	3368	655	27475
290	Elk 81	3368	656	27476
291	Elk 83	3368	658	27478
292	Elk 85	3368	660	27480
293	Elk 87	3368	662	27482
294	Alpine #5	2221	495	27513
	Alpine #5/Amended	6121	1283-1284	
295	Alpine #6	2221	496	27514
	Alpine #6/Amended	6121	1285-1286	
296	Alpine #7	2221	497	27515
	Alpine #7/Amended	6121	1287-1288	
297	Alpine #8	2221	498	27516

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
	Alpine #8/Amended	6121	1289-1290	
298	Alpine #9	2221	499	27517
	Alpine #9/Amended	6121	1291-1292	
299	Alpine #10	2221	500	27518
	Alpine #10/Amended	6121	1293-1294	
300	Alpine #11	2221	501	27519
	Alpine #11/Amended	6121	1295-1296	
301	Alpine #12	2221	502	27520
	Alpine #12/Amended	6121	1297-1298	
302	Alpine #13	2221	503	27521
303	Alpine #14	2221	504	27522
304	Alpine #15	2221	505	27523
305	Alpine #16	2221	506	27524
306	Alpine #17	2221	507	27525
307	Alpine #18	2221	508	27526
308	Alpine #19	2230	138	27527
309	Alpine #20	2230	139	27528
310	Alpine #21	2230	140	27529
311	Alpine #22	2230	141	27530
312	Alpine #23	2230	142	27531
313	Alpine #24	2230	143	27532
314	Santa Rita Wedge	5901	1379	28871
315	Buzzard No. 5	2089	294	36021
316	Shadow #4	2827	66	36025
317	John 1	3934	508	36026
318	John 2	3934	509	36027
319	Flying Dutchman No. 2	2089	295	36028
320	Flying Dutchman No. 3	2089	296	36029
321	Flying Dutchman No. 4	2089	297	36030
322	Flying Dutchman No. 5	2089	298	36031
323	Flying Dutchman No. 6	2089	299	36032
	Flying Dutchman No. 6/Amended	6121	1267-1268	
324	Black Bess No. 2	2089	290	36034
325	K.W.L.	2078	442	36036
326	G.E.J.	2078	443	36037
327	R.F.E.	2078	444	36038
328	R.C.M.	2078	445	36039
329	Sycamore #1	2078	445	36040
330	Sycamore #2	2078	447	36041
331	Sycamore #3	2078	448	36042
332	Sycamore #4	2078	449	36043
	Sycamore #4/Amended	6121	1299-1300	
333	Sycamore #5	2078	450	36044
	Sycamore #5/Amended	6121	1301-1302	

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335	Sycamore #7	2078	452	36046
	Sycamore #7/Amended	6121	1305-1306	
336	Sycamore #8	2078	453	36047
	Sycamore #8/Amended	6121	1307-1308	
337	Sycamore #9	2078	454	36048
338	Sycamore #10	2078	455	36049
339	Sycamore #11	2078	456	36050
340	Sycamore #12	2078	457	36051
341	Naragansett Extension #1	937	372	36052
342	Naragansett Extension #2	937	373	36053
343	Naragansett Extension #3	937	374	36054
344	Naragansett Extension #4	937	375	36055
345	Naragansett Extension #5	937	376	36056
346	Naragansett Extension #6	937	377	36057
347	Naragansett Extension #7	937	378	36058
348	Naragansett Extension #8	937	379	36059
349	Naragansett Extension #9	2020	358	36060
350	Schwab Extension #1 North	1271	92	36061
351	Rocky 1	3726	117	36062
352	Amole No. 2	2051	262	36063
353	Falls No. 3	2110	267	36065
354	Falls No. 4	2110	268	36066
355	Perry No. 1	2112	11	36067
356	Perry #2	2112	12	36068
357	Perry #3	2112	13	36069
358	Perry #4	2112	14	36070
359	Perry #7	2112	17	36073
360	Perry #8	2112	18	36074
361	Perry #9	2112	19	36075
362	Perry #10	2112	20	36076
363	Perry #11	2112	21	36077
364	Perry #12	2112	22	36078
365	Perry #15	2112	25	36081
	Perry #15/Amended	2139	441	
366	Perry #16	2112	26	36082
367	Perry #17	2112	27	36083
368	Perry #18	2112	28	36084
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369	Gunsite 1-A	1980	353	36086
370	Gunsite No. 2	1941	339	36087
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371	Gunsite No. 3	1941	340	36088

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373	Gunsite 5A	2022	341	36090
374	Gunsite 6-B	2110	264	36091
375	Gunsite No. 7	1941	344	36092
376	Gunsite 7A	2411	174	36093
377	Gunsite No. 8	1941	345	36094
378	Gunsite No. 9	1941	346	36095
379	Gunsite No. 10	1941	347	36096
380	Gunsite No. 11	1941	348	36097
381	Gunsite No. 12	1941	349	36098
382	Gunsite No. 13	1941	350	36099
383	Gunsite No. 14	1941	351	36100
384	Gunsite No. 15	1941	352	36101
385	Gunsite No. 16	1941	353	36102
386	Gunsite No. 17	1941	354	36103
387	Gunsite No. 18	1941	355	36104
388	Gunsite No. 19	1941	356	36105
389	Gunsite No. 20	1941	357	36106
390	Gunsite No. 21	1941	358	36107
391	Gunsite No. 22	1941	359	36108
392	Gunsight No. 23	1941	359	36109
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393	Gunsite No. 24	1943	14	36110
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394	Gunsite No. 25	1943	15	36111
395	Gunsite No. 26	1943	16	36112
396	Gunsite No. 27	1943	13	36113
397	Gunsight No. 28	1967	325	36114
398	Gunsight No. 29	1967	326	36115
399	Gunsight No. 30	1967	327	36116
400	Gunsight No. 31	1967	328	36117
401	Gunsight No. 32	1967	329	36118
402	Gunsight No. 33	1967	330	36119
403	Gunsight No. 35	1967	332	36121
404	Gunsight No. 36	1967	333	36122
405	Gunsight No. 37	1967	334	36123
406	Gunsight No. 38	1967	335	36124
407	Gunsight No. 39	1967	336	36125
408	Gunsight No. 40	1967	337	36126
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412	Gunsight 44	1994	152	36130
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419	Williams Folly	5406	878	36137
420	Williams Folly #2	5406	879	36138
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422	Santa Rita #2	2148	521	46741
423	Santa Rita #3	2148	522	46742
424	Santa Rita #7	2148	526	46746
425	Santa Rita #17	2148	536	46756
426	Santa Rita #18	2148	537	46757
427	Santa Rita #19	2148	538	46758
428	Santa Rita #20	2148	539	46759
429	Santa Rita #21	2148	540	46760
430	Santa Rita #22	2148	541	46761
431	Santa Rita #23	2148	542	46762
432	Santa Rita #24	2148	543	46763
433	Santa Rita #25	2148	544	46764
434	Santa Rita #29	2148	548	46768
435	Santa Rita #30	2148	549	46769
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437	Catalina #1	2148	518	46771
438	Catalina #2	2148	517	46772
439	Catalina #3	2148	516	46773
440	Catalina #4	2148	515	46774
441	Catalina #5A	2170	437	46775
442	Catalina #6A	2170	435	46776
443	Catalina #7	2148	512	46777
444	Catalina #8	2148	511	46778
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446	Fred Bennett	712	107	46780
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447	Rosemont #9	936	424	46781
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448	Rosemont #11	936	420	46782
449	Rosemont #11-A	2078	458	46783
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453	Rosemont #16	936	430	46787
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454	Rosemont #17	936	432	46788
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455	Rosemont #18	936	433	46789
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457	Fred Bennett Fraction	2022	338	46791
458	Last Chance No. 3/Relocation	2929	209	46794
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466	Travis #3	1983	255	46806
467	Travis #4	1983	256	46807
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468	Travis #5	1983	257	46808
469	Travis #6	1983	258	46809
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472	Sam	1009	439	46812
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473	Fred	1009	440	46813
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521	Joe	995	396	74391
522	Ben	995	392	74392
523	Pete	995	394	74393
524	Adolph Lewisohn	710	346	74394
525	Adolph Lewisohn	936	419	74395
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527	Rosemont	936	418	74397
528	Albert Steinfeld	710	348	74398
529	Albert Steinfeld	936	427	74399
530	Hugh Young	712	108	74400
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557	Falcon #2A	6216	901-902	99790
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559	Falcon #4A	6216	905-906	99792
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575	Falcon #20A	6216	937-938	99808
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724	H-120A	9018	1362-1363	313614
725	H-121A	9018	1364-1365	313615
726	H-122A	9018	1366-1367	313616
727	H-123A	9018	1368-1369	313617
728	H-124A	9018	1370-1371	313618
729	H-125A	9018	1372-1373	313619
730	H-126A	9018	1374-1375	313620
731	H-127A	9018	1376-1377	313621
732	H-128A	9018	1378-1379	313622
733	H-129A	9018	1380-1381	313623

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734	H-130A	9018	1382-1383	313624
735	H-131A	9018	1384-1385	313625
736	H-132A	9018	1386-1387	313626
737	H-133A	9018	1388-1389	313627
738	H-134A	9018	1390-1391	313628
739	H-135A	9018	1392-1393	313629
740	H-136A	9018	1394-1395	313630
741	H-137A	9018	1396-1397	313631
742	H-138A	9018	1398-1399	313632
743	H-139A	9018	1400-1401	313633
744	H-140A	9018	1402-1403	313634
745	H-141A	9018	1404-1405	313635
746	H-142A	9018	1406-1407	313636
747	H-143A	9018	1408-1409	313637
748	H-144A	9018	1410-1411	313638
749	H-145A	9018	1412-1413	313639
750	H-146A	9018	1414-1415	313640
751	H-147A	9018	1416-1417	313641
752	H-148A	9018	1418-1419	313642
753	H-149A	9018	1420-1421	313643
754	H-150A	9018	1422-1423	313644
755	H-151A	9018	1424-1425	313645
756	H-152A	9018	1426-1427	313646
757	H-153A	9018	1428-1429	313647
758	H-154A	9018	1430-1431	313648
759	H-155A	9018	1432-1433	313649
760	H-156A	9018	1434-1435	313650
761	H-157A	9018	1436-1437	313651
762	H-158A	9018	1438-1439	313652
763	H-159A	9018	1440-1441	313653
764	H-160A	9018	1442-1443	313654
765	H-161A	9018	1444-1445	313655
766	H-162A	9018	1446-1447	313656
767	H-163A	9018	1448-1449	313657
768	H-164A	9018	1450-1451	313658
769	H-165A	9018	1452-1453	313659
770	H-166A	9018	1454-1455	313660
771	H-167A	9018	1456-1457	313661
772	H-168A	9018	1458-1459	313662
773	H-169A	9018	1460-1461	313663
774	H-170A	9018	1462-1463	313664
775	H-171A	9018	1464-1465	313665
776	H-177A	9018	1476-1477	313671
777	H-178A	9018	1478-1479	313672

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778	H-179A	9018	1480-1481	313673
779	H-180A	9018	1482-1483	313674
780	H-181A	9018	1484-1485	313675
781	H-182A	9018	1486-1487	313676
782	H-183A	9018	1488-1489	313677
783	H-187A	9018	1490-1491	313678
784	H-188A	9018	1492-1493	313679
785	H-189A	9018	1494-1495	313680
786	H-190A	9018	1496-1497	313681
787	H-191A	9018	1498-1499	313682
788	H-192A	9018	1500-1501	313683
789	H-194A	9018	1502-1503	313684
790	H-195A	9018	1504-1505	313685
791	H-196A	9018	1506-1507	313686
792	H-197A	9018	1508-1509	313687
793	H-198A	9018	1510-1511	313688
794	H-199A	9018	1512-1513	313689
795	Hope 201	9792	2826-2827	330891
796	Hope 201A	9922	1016	330892
797	Hope 202	9792	2830-2831	330893
798	Hope 203	9792	2832-2833	330894
799	Hope 204	9792	2834-2835	330895
800	Hope 205	9792	2836-2837	330896
801	Hope 206	9792	2838-2839	330897
802	Hope 207	9792	2840-2841	330898
803	Hope 208	9792	2842-2843	330899
804	Hope 209	9792	2844-2845	330900
805	Hope 210	9792	2846-2847	330901
806	Hope 211	9792	2848-2849	330902
807	Hope 212	9792	2850-2851	330903
808	Hope 213	9792	2852-2853	330904
809	Hope 214	9792	2854-2855	330905
810	Hope 215	9792	2856-2857	330906
811	Hope 216	9792	2858-2859	330907
812	Hope 222	9797	2864-2865	330910
813	Hope 223	9797	2866-2867	330911
814	Hope 224	9797	2868-2869	330912
815	Hope 225	9797	2870-2871	330913
816	Hope 226A	9865	1328-1329	330914
817	Hope 227A	9865	1330-1331	330915
818	Hope 228A	9865	1332-1333	330916
819	Hope 229A	9865	1334-1335	330917
820	Hope 230	9797	2880-2881	330918
821	Hope 231	9797	2882-2883	330919

No.	Name of Claim	Book	Page Nos.	BLM Serial No.
822	Hope 232	9797	2884-2885	330920
823	Hope 233	9797	2886-2887	330921
824	Hope 234	9797	2888-2889	330922
825	Hope 235	9797	2890-2891	330923
826	Hope 236	9797	2892-2893	330924
827	Hope 237	9797	2894-2895	330925
828	Hope 238	9797	2896-2897	330926
829	Hope 239	9797	2898-2899	330927
830	Hope 240	9797	2900-2901	330928
831	Hope 241	9797	2902-2903	330929
832	Hope 242	9797	2904-2905	330930
833	Hope 243	9797	2906-2907	330931
834	Hope 244	9797	2908-2909	330932
835	Hope 245	9797	2910-2911	330933
836	Hope 246	9797	2912-2913	330934
837	Hope 250	9797	2914-2915	330935
838	Hope 251	9797	2916-2917	330936
839	Hope 252	9797	2918-2919	330937
840	Hope 253	9797	2920-2921	330938
841	Hope 254	9797	2922-2923	330939
842	Hope 255	9797	2924-2925	330940
843	Hope 256	9797	2926-2927	330941
844	Hope 257	9797	2928-2929	330942
845	Elk 47 Relocated	9797	2930-2931	330943
846	H-172B Relocated	9865	1336-1337	331308
847	H-173B Relocated	9865	1338-1339	331309
848	H-174B Relocated	9865	1340-1341	331310
849	H-175B Relocated	9865	1342-1343	331311
850	H-176B Relocated	9865	1344-1345	331312
851	Cushing RE	12667	602-603	367650
852	Gun RE 34	12667	604-605	367651
853	MMRE	12667	606-607	367652
854	Tailor	12667	608-609	367653

All of said claims are located in Sections 1, 2, 11, 12, 13, 14, 24, 25, and 36, Township 18 South, Range 15 East; Sections 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32 and 33, Township 18 South, Range 16 East; Sections 4, 5, 6, 7, 8, and 9, Township 19 South, Range 16 East; and Sections 1 and 2, Township 19 South, Range 15 East; G&SRB&M

854 claims @ $125/each = $106,750.00