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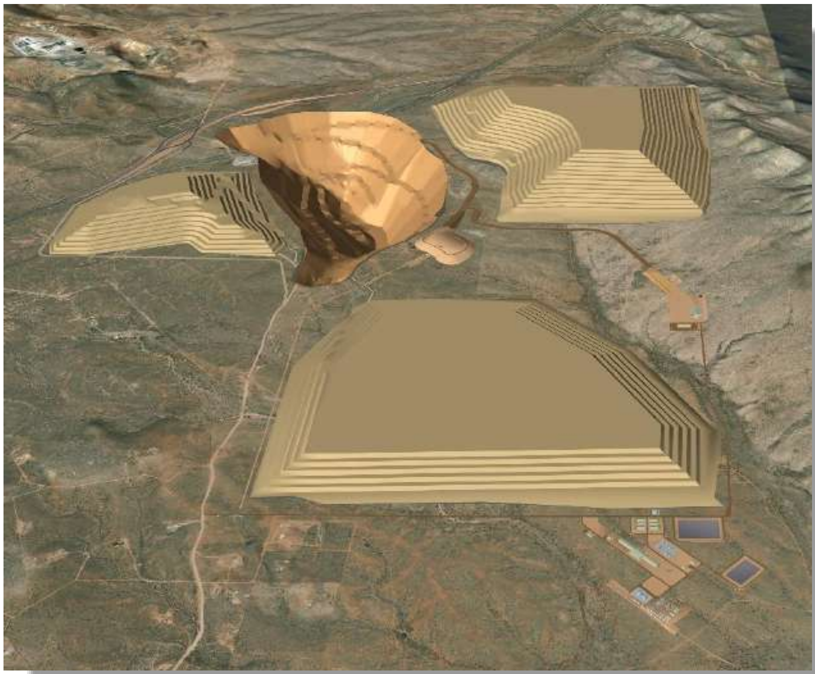

NI 43-101 Technical Report

Preliminary Economic Assessment

Cochise County, Arizona, USA

Qualified Persons:
John Woodson, PE, SME-RM
Jeffrey Bickel, CPG
Abyl Sydykov, PhD, PE
Dr. Terence P. McNulty, PE, DSc
R. Douglas Bartlett, CPG
Jacob Richey, PE
Thomas M. Ryan, PE

Prepared For:

Gunnison Copper

DATE AND SIGNATURES PAGE

The effective date of this Technical Report is November 1, 2024. The issue date of this Technical Report is December 18, 2024. See Appendix A, Preliminary Economic Assessment Contributors and Professional Qualifications, for certificates of qualified persons. These certificates are considered the date and signature of this Technical Report in accordance with Form 43-101F1.

GUNNISON PROJECT
FORM 43-101F1 TECHNICAL REPORT

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1 EXECUTIVE SUMMARY

M3 Engineering & Technology Corp. (M3) was commissioned by Gunnison Copper Corporation (GCC) to prepare a Preliminary Economic Assessment (PEA) in accordance with the Canadian National Instrument 43-101 (NI 43-101) standards for reporting mineral properties, for the Gunnison Project (the Project) in Cochise County, Arizona, USA. The Project considers to mine the Gunnison Deposit as an open pit, using heap leaching to produce PLS that then reports to a Solvent Extraction and Electrowinning (SX-EW) plant. The plant capacity of the Gunnison Project is 175 million pounds per annum (mppa) of cathode copper. The SX-EW plant will be constructed in a single stage of development.

The Gunnison Project is located about 62 miles east of Tucson, Arizona on the southeastern flank of the Little Dragoon Mountains in the Cochise Mining District. The property is within the copper porphyry belt of Arizona. The Gunnison Project hosts the Gunnison (formerly known as the I-10) Deposit and contains copper oxide and sulfide mineralization with associated molybdenum in potentially economic concentrations. Oxidized, mineralized bedrock lies 300 to 800 feet beneath of alluvial basin fill.

GCC selected M3 and other respected third-party consultants to prepare mine plans, mineral resource estimates, process plant designs, complete environmental studies, and cost estimates used for this Technical Report. The costs are based on 3rd quarter 2024 U.S. dollars.

1.1 KEY DATA

The key results of this PEA for the Project are as follows:

- Copper price: $4.10/lb. A premium of $0.02/lb has been added for producing Grade A cathode copper.
- The average annual production is projected to be approximately 167 million pounds of copper. Total life of operation production is projected at approximately 2,712 million pounds of copper.
- The Project currently has 831.6 million short tons of measured and indicated oxide, transitional, and sulfide mineral resources at an average grade of 0.31% Total Copper (TCu) and inferred oxide, transitional, and sulfide mineral resources of 79.6 million short tons at an average grade of 0.20% TCu; using a cut-off grade of $0.05/ton. The tonnage of material in the Gunnison conceptual mine plan used for this PEA is 550.6 million tons having an average grade of 0.355% TCu.
- The anticipated heap leach recovery is estimated to be 90% of the AsCu and CNCu copper grade. 60% recovery for copper sulfide (CuS) material but only within the sulfide mineral domain (no CuS recovery in the Oxide or Transition mineral domains).
- The average direct, life-of-mine operating cost is estimated to be $7.01 per ton of mineralized material mined, which is equivalent to $1.42/lb Cu. The average all-in operating cost including royalties and taxes is $8.22 per ton of mineralized material mined which is equivalent to $1.69/lb Cu.
- The estimated initial capital cost is $1,342.6 million, including capitalized pre-production costs and acid plant. Sustaining capital costs are estimated to be $529.9 million. Another $346.2 million is attributable to deferred stripping sustaining capital.
- The total cost for reclamation and closure is estimated to be $93.0 million and averages $0.034 per pound of copper recovered. A credit of $31.0 million is expected from salvage value of capital equipment.
- The economic analysis for the Gunnison open pit before taxes indicates an Internal Rate of Return (IRR) of 22.8% and a payback period of 3.8 years. Based on an long-term average copper price of $4.10 per pound (plus $0.02 Grade A cathode premium), the Net Present Value (NPV) before taxes is $1,545 million at an 8% discount rate.

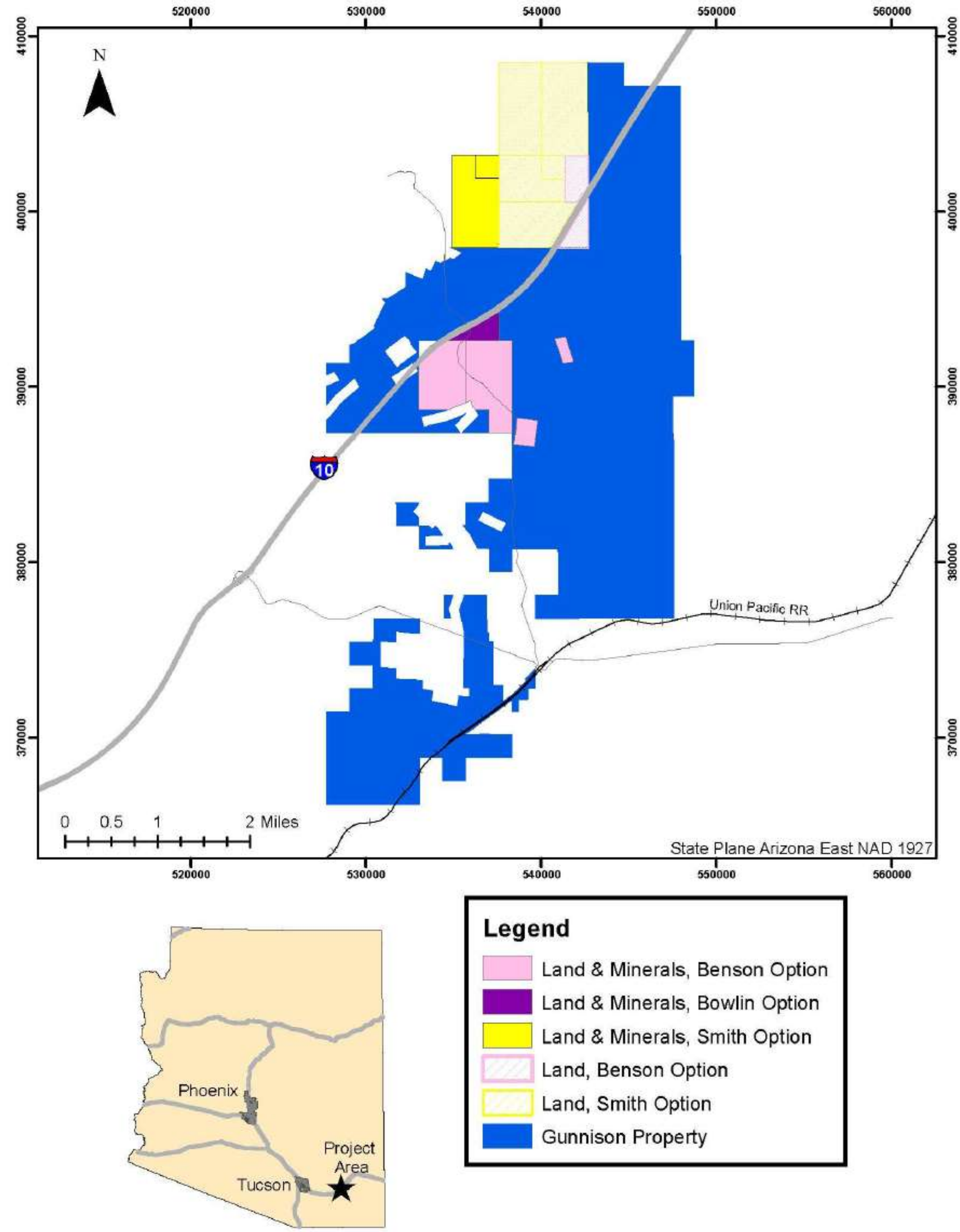
- The economic analysis for the Base Case after taxes indicates that the Project has an IRR of 20.9% with a payback period of 4.1 years. The NPV after taxes is $1,260 million at an 8% discount rate.

The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the conclusions reached in the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

1.2 PROPERTY DESCRIPTION AND LOCATION

The Project is located in Cochise County, Arizona, approximately 62 miles east of Tucson and 1.5 miles southeast of the historic Johnson Camp mining district. Figure 1-1 is a general location map and property location near the US Interstate 10 (I-10) freeway. Total area is approximately 9,756 acres (3,949 hectares).

The Project is held by GCC through its wholly owned subsidiary Excelsior Mining Arizona, Inc. (GCAZ). Acquisition of all mineral interest from the James L. Sullivan Trust was completed in January of 2015. These assets represent, among other things, the mineral rights to the Gunnison and South Star Copper deposits (the Gunnison Project).



Source: GCC, December 2024

Figure 1-1: Project Location Map, Gunnison and South Star Deposits

1.3 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Project is located in a sparsely populated, flat to slightly undulating ranching and mining area about 65 road miles east of Tucson, Arizona. The Tucson metropolitan area is a major population center (approximately 1,000,000 persons) with a major airport and transportation hub and well-developed infrastructure and services that support the surrounding copper mining and processing industry. The towns of Benson and Willcox are nearby and combined with Tucson can supply sufficient skilled labor for the Project.

Access to the Project is via the I-10 freeway from Tucson and Benson to the west or Willcox to the east. The Gunnison Deposit can be accessed via good quality dirt roads heading approximately 1 mile east from the south side of “The Thing” travel center and roadside attraction on the Johnson Road exit from I-10.

The elevation on the property ranges from approximately 4,600 to 4,900 feet above mean sea level in the eastern Basin and Range physiographic province of southeastern Arizona. The climate varies with elevation, but in general the summers are hot and dry, and winters are mild.

Vegetation on the property is typical of the upper Sonoran Desert and includes bunchgrasses, yucca, mesquite, and cacti.

1.4 HISTORY

There is no direct mining history of the Gunnison Deposit; however, the district has seen considerable copper, zinc, silver, and tungsten mining beginning in the 1880’s and extending to the present day. Modern mining and leaching operations at the Johnson Camp Mine, began in the 1970s by Cyprus Minerals. Successor owners and operators include Arimetco, North Star, Summo Minerals, and Nord Resources Corporation. Nord mined fresh material until mid-2010 and maintained leaching operations until late 2015, when the property was purchased by GCC.

In 1970, a division of the Superior Oil Company (“Superior”) joint ventured into the northern half of the Gunnison Deposit with Cyprus and the private owners (J. Sullivan, pers. com.). During the early 1970s, Superior did most of the drilling and limited metallurgical testing on Gunnison and by early 1974 had defined several million tons of low-grade acid-soluble copper mineralization.

The Gunnison Project was previously designed as a copper in-situ recovery ("ISR") mine using solvent extraction-electrowinning ("SX-EW") to produce copper cathode. The ISR operation commenced ramp-up to production in 2020; however, it had operational issues related to low flow rates, so the Company began evaluating alternatives and opportunities to fix the ramp-up challenges. Well stimulation (small scale, shallow level, hydraulic fracking), has the potential to fundamentally change the performance of the wellfield and fix many of the low productivity issues. The Company has obtained a permit for well stimulation and the next step would be to conduct field trials. If well stimulation is successful, it could provide an operation with superior economics to the open pit operation and be in copper production much quicker than an open pit. However, due to the substantially improved viability of the open pit operation, GCC intends to focus the an open pit operation as the alternative to ISR. The Company intends to maintain the optionality of future ISR operations and well stimulation trials as this remains an asset to the Company. This includes maintaining full compliance with all regulatory and permit requirements, including maintaining hydraulic control, pumping, monitoring and regulatory reporting.

1.5 GEOLOGICAL SETTING AND MINERALIZATION

There are two oxide copper deposits controlled by GCC, Gunnison Deposit and South Star Deposit, both situated in the Mexican Highland section of the Basin and Range physiographic province. The province is characterized by fault-bounded mountains, typically with large igneous intrusions at their cores, separated by deep basins filled with Tertiary and Quaternary gravels.

The Gunnison Project (Gunnison Deposit) lies on the eastern edge of the Little Dragoon Mountains. The ages of the rocks range from 1.4-billion-year-old Pinal Group schists to recent Holocene sediments. The southern portion of the Little Dragoon Mountains consists predominately of the Tertiary Texas Canyon Quartz Monzonite whereas the Pinal Group schists and the Paleozoic sediments that host the regional copper mineralization dominate the northern half.

Copper sulfide mineralization has formed preferentially in the proximal (higher metamorphic grade) skarn facies, particularly along stratigraphic units such as the Abrigo and Martin Formations near the contact with the quartz monzonite and within structurally complex zones. Primary mineralization occurs as stringers and veinlets of chalcopyrite and bornite. Primary (unoxidized) mineralization remains “open” (undetermined limits) at depth and to the north, south, and east.

Oxidation of the mineralization occurs to a depth of approximately 1,600 feet, resulting in the formation of dominantly chrysocolla and tenorite with minor copper oxides and secondary chalcocite. The bulk of the copper oxide mineralization occurs as chrysocolla, which has formed as coatings on rock fractures and as vein fill. The remainder of the oxide mineralization occurs as replacement patches and disseminations.

1.6 DEPOSIT TYPES

The Gunnison Deposit is a classic copper-bearing, skarn-type deposit (Einaudi et al., 1980; Meinert et al., 2005). Skarn deposits range in size from a few million to 500 million tons and are globally significant, particularly in the American Cordillera. The Gunnison Deposit is large, being at the upper end of the range of size for skarn deposits and is associated with a mineralized porphyry copper system that has been largely unexplored.

1.7 EXPLORATION

Since Gunnison’s discovery, numerous companies have explored the area. During this time period, extensive drilling, and assaying, magnetic and IP geophysical surveys, metallurgical testing, hydrological studies, ISR tests, and preliminary mine designs and evaluations have occurred. The focus since the 1970’s has been to utilize ISR or a combination of ISR and open pits as a potential mining strategy.

Stephen Twyerould first became involved with the Gunnison Project in mid-2005 and AzTech (later named Excelsior Mining Arizona, Inc.) became involved in mid-2006. Since that time, significant work has been completed such as cataloguing, reviewing, and compiling high-quality historical data spanning over thirty years of investigations by Superior Oil and Gas, Cyprus, Quintana, CF&I, Magma Copper Corporation, Phelps Dodge Corporation, and James Sullivan. GCC conducted detailed ground magnetics over the exploration targets in June 2011.

GCC initiated a re-logging program in December 2010 that was completed in the third quarter of 2011. In addition, a re-assaying program began in March 2011 during which all of the Magma holes were re-assayed. In May 2011, a re-assay program was initiated for the Quintana Minerals holes (DC, S, and T series) to include sequential copper analyses for cyanide-soluble (CNCu) and acid-soluble copper (ASCu). Previous results only included total copper (TCu) assays.

1.8 DRILLING

The Gunnison Deposit drillhole database includes 217 drillholes totaling 245,509 feet. Among the total drillholes, 88 were historical drillholes that were completed by several companies. These holes extend to a depth of approximately 2,450 ft below the surface at the Gunnison Deposit and cover an area of approximately 310 acres, with additional drilling extending beyond this area. There is a slightly higher density of drilling along the central axis of the Gunnison Deposit.

1.9 SAMPLE PREPARATION, ANALYSIS AND SECURITY

The laboratory sample preparation and analysis procedures used by the previous owners of the deposits are unknown; however, major commercial laboratories using best practices at the time completed the majority of analyses.

The data, information, samples, and core from the deposits have been under the control and security of AzTech Minerals since November 2006 and then GCC since October 2010. The original information and samples are stored at the Sullivan's core storage facility in Casa Grande, with numerous copies held by GCC at its Phoenix, Arizona office. It is the opinion of RESPEC Company LLC (RESPEC), the reviewer of the assay data for this Technical Report, that the sample procedures, processes, and security are reasonable and adequate.

1.10 DATA VERIFICATION

The verification of location and assay data in the drillhole database covers historic drilling and the verification of the data collected by GCC. No significant issues have been identified with respect to the data provided by GCC's quality assurance/quality control ("QA/QC") programs. QA/QC data are not available for the historical drilling programs at the Gunnison Deposit, but GCC analyses dominate the assays used directly in the estimation of the mineral resources. Additionally, most of the historical data were generated by well-known mining companies, and the GCC drill data are generally consistent with the results generated by the historical companies.

Assaying and QA/QC procedures were industry standard. The TCu, CNCu, and ASCu assays used to estimate grades in the Gunnison model are acceptable for estimating mineral resources, based on RESPEC's review of the available data for repeat, check, duplicate, standard and blank assays, and on paired comparisons of assay data from different drilling campaigns.

1.11 MINERAL PROCESSING AND METALLURGICAL TESTING

Column tests and other metallurgical testing conducted during the last decade or more, supplemented by recent developments, have supported the following predictions of heap leaching performance for copper-bearing material from the Gunnison resource that has been crushed to a nominal minus 6-inch product.

Copper extractions according to the mineralogical categories defined by assay procedure are as follows: acid-soluble copper (ASCu), 90%; cyanide-soluble copper (CNCu), 90%; and sulfide copper (CuS), 60% (CuS recovery is limited to the sulfide mineral domain). The predicted leaching response of primary sulfide minerals, essentially all chalcopyrite, assumes that accelerated oxidation and de-passivation of chalcopyrite will be at least moderately effective.

However, the copper will dissolve slowly over a period of several years due to kinetic limitations and imperfect solution access. For instance, chrysocolla, the dominant ASCu species, dissolves in two stages with declining rate as copper content in the layer silicate structure diminishes. Accordingly, the following approximate rates are predicted.

Table 1-1: Rates of Copper Extraction during Heap Leaching

Species	Year 1 (%)	Year 2 (%)	Year 3 (%)
ASCu	81	4.5	4.5
CNCu	81	4.5	4.5
CuS	48	9	3

Column tests and other metallurgical tests have indicated that acid consumptions for the dominant rock formations in the Gunnison resource will be as follows, expressed as pounds of 98% H_2SO_4 per ton of heap feed: Martin, 70; Upper Abrigo, 48; Middle Abrigo, 48; Lower Abrigo, 24; and TQM/Bolsa/Pinal, 24.

In the Gunnison resource, much of the acid-consuming gangue is comprised of dolomite and/or calcite that contain little copper. This presents an opportunity for reducing acid costs by particle segregation, or “sorting”. Mineralized material sorting has been done manually for millennia and has been a common practice for decades in waste segregation, metal recycling, and upgrading of some types of mineralized material. However, major advances have been made during the last few years in sensor efficiency and sorting equipment capacity.

Preliminary testing by one supplier of optical sensing and physical sorting equipment has produced very encouraging rejection of acid consumers, but more refinements will be needed to minimize copper losses into the reject fraction. The objective of future test programs will be an economic balance of acid cost, copper losses, and sorter capital and operating expenses.

Discussions with six manufacturers of sensors and/or sorting equipment have confirmed the practicality of developing and operating systems that can meet the needs of the Gunnison Project. Some recent sorting installations for the mineralized material consisting of copper, iron, and gold have daily treatment rates at or above those contemplated for the Gunnison Project. Depending on the types and selectivity of sensors and the required numbers of sorters and associated conveyors, preliminary cost estimates indicate a CAPEX range of $36-100 million with an OPEX of $0.30-0.50/ton. Although not included in this PEA and economic analysis, future studies should investigate the use of sorting technology as a hedge against high acid costs or higher than expected acid consumption.

1.12 MINERAL RESOURCE ESTIMATE

The Gunnison mineral resources have been updated to include resources on lands newly acquired by GCC. The mineral resources were constrained by a pit optimization. Table 1-2 is a summary of the oxide, transitional, and sulfide mineral resource tabulated at a total copper cut-off of 0.05%. Table 1-3 is a summary of the resource by oxidation zone.

Table 1-2: Gunnison Oxide, Transition, and Sulfide Mineral Resource Summary
Effective September 4, 2024

Total Resources (Oxide + Transitional + Sulfide)			
Resource Class	Short Tons (millions)	Total Cu (%)	Cu Pounds (millions)
Measured	191.3	0.37	1,420
Indicated	640.2	0.29	3,684
Measured + Indicated	831.6	0.31	5,104
Inferred	79.6	0.20	325

Notes:
1. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
2. Mineral Resources are reported at a 0.05% total copper cut-off within an optimized pit.
3. Rounding may result in apparent discrepancies between tons, grade, and metal content.
4. The Effective Date of the Mineral Resource estimate is September 4, 2024.

Table 1-3: Gunnison Mineral Resource Summary
Effective September 4, 2024

Pit-Constrained Oxide Resources			
Resource Class	Short Tons (millions)	Total Cu (%)	Cu Pounds (millions)
Measured	155.5	0.39	1,200
Indicated	470.5	0.29	2,709
Measured + Indicated	625.7	0.31	3,909
Inferred	71.3	0.20	0,283
Pit-Constrained Transitional Resources			
Resource Class	Short Tons (millions)	Total Cu (%)	Cu Pounds (millions)
Measured	31.9	0.32	202
Indicated	112.5	0.28	638
Measured + Indicated	144.4	0.29	840
Inferred	5.7	0.21	24
Pit-Constrained Sulfide Resources			
Resource Class	Short Tons (millions)	Total Cu (%)	Cu Pounds (millions)
Measured	3.9	0.25	19
Indicated	57.3	0.29	337
Measured + Indicated	61.2	0.29	356
Inferred	2.5	0.37	18

Notes:
1. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
2. Mineral Resources are reported at a 0.05% total copper cut-off within an optimized pit.
3. Rounding may result in apparent discrepancies between tons, grade, and metal content.
4. The Effective Date of the Mineral Resource estimate is September 4, 2024.

The Mineral Resources presented herein are inclusive of the Economic Analysis presented in Section 22 which therefore represents a subset of the Mineral Resources under slightly different economic inputs, most notably lower copper price.

1.13 MINERAL RESERVE ESTIMATE

The Gunnison Project does not currently have any mineral reserves.

1.14 MINING METHODS

Mining of the Gunnison Deposit will be accomplished using conventional open pit hard rock mining methods. The mine plan was developed to produce 175 million pounds of recoverable copper per year with mining being completed by an owner-operated fleet. Mining of the deposit is expected to be accomplished with hydraulic front shovels and 320-ton trucks. Mining is planned on 50-ft bench heights.

An annual schedule was developed for the mine plan. Leach material will be dumped into near pit gyratory crushers to be conveyed to the leach pad. All leach material produced through Year 7 is planned to be treated in a conventional leach operation. Beginning in Year 8, a portion of the leach material is planned to be treated in a sulfide leach operation with the rest of the material treated in a conventional leach operation. The heap tonnage production varies by year as it is based on the requirement of 175 million pounds of recoverable copper being placed on the heap annually. The mine plan presented in this Technical Report is achieved by mining 6 phase expansions to achieve the ultimate pit limit in the Gunnison deposit. The phases are practical expansions of the Gunnison pit incorporating haul road designs, operating room for equipment and all practical mining requirements.

Pit slope angles are based on recommendations provided by Call and Nicholas Inc.(CNI) in an October 2024 memo. Overall pit slope angles were provided along with the recommendation that interramp slopes could be up to 3-degrees steeper. The shallow east dipping beds of the Paleozoic rock formations is the controlling factor for the 36-degree overall slopes in these rocks on the west pit wall.

The mine production schedule was developed using the phase designs, and the required leach pad feed rate to produce ~175 million pounds of recoverable copper per year. Sufficient waste is moved during the mine life to assure continued release of the required heap material. The cut-off grade of the mineralized material is equal to or greater than $0.60 net of process. The $0.60 was chosen as the cut-off grade to approximate the capital cost per ton of capacity of the leach pad.

The waste storage areas are east and west of the pit. The waste dumps are planned to be constructed in 50-ft lifts at an angle of 2.5:1.

Mining is planned to be executed using a conventional open pit mining fleet. The reference to specific equipment manufacturers is to illustrate equipment size and is not to be considered a recommendation by Independent Mining Consultants. Production drilling is expected to be accomplished with 125,000lb pull-down force class drills with mast lengths capable of single pass drilling 50 ft benches. Holes will be loaded with ANFO when dry and an emulsion slurry when wet. Hydraulic front shovels with 46-50-yard buckets are planned to load a majority of the material with a 43-yard front end loader available to provide loading flexibility. Haul trucks are planned to be 320-ton class trucks. Haul truck productivities are based on haulage time simulations for annual waste and heap material haul profiles. A fleet of auxiliary equipment to support the main operating equipment will be required. This will be comprised of 500 hp rubber-tired dozers, 600 hp track dozers, motor graders with 24-ft mold boards, 100-ton haul trucks fitted with 20,000-gallon water tanks and other support equipment.

The requirements for mine supervision, operations, and maintenance personnel were calculated using the equipment list and mine schedule. Mine operations and maintenance labor increases to 382 persons at the end of Year 8 and stays above 350 persons until labor requirements begin to decline in Year 13. Maintenance personnel requirements are set to be approximately 60% of required operations personnel. There are expected to be 48 salaried staff for supervision, engineering, geology, and mineralized material control.

Pit dewatering will be required during mining because the Gunnison Deposit is mostly below the water table in highly fractured bedrock. A groundwater flow model for the Gunnison ISR project was completed as part of the 2016 Aquifer Protection Permit (APP) application reviewed and approved by the Arizona Department of Environmental Quality (ADEQ) and the 2016 Underground Injection Control (UIC) Permit application reviewed and approved by the U.S. Environmental Protection Agency (EPA).

The groundwater flow model was combined with the mine phase plan to estimate the dewatering flow rates required to keep the pit dry over the course of the mine life. The drainage into a pit at the Gunnison Project site is likely to result in significant flows into the pit, up to about 4,000 gpm during the pit construction. This dewatering rate may be a high estimate due to limitations of model construction. An average dewatering rate of 3,000 gpm is more likely. This rate of dewatering is recognized to be high relative to other open pit mines in Arizona, however, the mineralized body at Gunnison is quite fractured and broken relative to other mineralized bodies therefore a high rate of dewatering is expected

1.15 RECOVERY METHODS

The open pit mining result in a copper-bearing pregnant leach solution (PLS) from which copper is extracted using the well-established SX-EW process. The Project constructs an SX-EW plant in a single construction period prior to production to produce 175 mppa of cathode copper.

1.15.1 Open Pit-Heap Leach Recovery Methods

For the open pit-heap leach, mineralized oxide material from the open pit mine is placed on the leach pad as crushed material, described in Section 16. The oxide material will be irrigated with acidified raffinate pumped from the Gunnison Raffinate Pond. Copper-bearing PLS solutions are collected by an overliner collection system and discharged to the Leachate Collection Pond. PLS is pumped from the Leachate Collection Pond to the Gunnison SX Feed Tank.

The Gunnison open pit SX-EW Plant has the capacity to produce 175 mppa of cathode copper. This increase in capacity is accomplished by increasing the size of the SX mixer-settlers and adding additional electrowinning cells to the EW tankhouse. Commensurate increases to the capacities of the piping, tanks, and other equipment are required throughout the Gunnison open pit SX-EW Plant. The PLS from the leach pad provides the feed for the SX-EW process.

The location of the leach pad is southeast of the Gunnison pit in an area where the natural drainage is toward the southeast. The full leach pad will be approximately 893 acres in area and oriented to match existing topography so that it allows gravity drainage of solutions down to the southeastern toe of the pad for collection and transport by pumping system to the JCM PLS pond with one set of pumps and to the SX Feed Tank with another set. The Leach Pad will be constructed in three phases. The initial phase of the leach pad consists of approximately 313 acres and is constructed during the initial construction period for the mine and processing plant. Phase 2 adds an additional 223 acres of leach pad to be constructed at the beginning of Year 4. Phase 3 completes the build-out of the pad with a 357 acres constructed in Years 6 and 7 to provide the capacity for the Life of Mine.

Sulfuric acid for the heap leach option is provided by a molten sulfur burning sulfuric acid plant constructed prior to operation to provide the acid necessary for leaching and SX-EW process. The acid plant is designed to produce 3,000 short tons per day of 98% sulfuric acid which is sufficient to meet the process demand in most years. Molten sulfur is delivered to the plant by rail. In years when the demand exceeds acid plant capacity, sulfur acid will be delivered by rail tank cars.

1.16 PROJECT INFRASTRUCTURE

The open pit requires relocation of Interstate 10 because the northern portion of the deposit lies beneath the freeway. A portion of the freeway approximately 2.8 miles long will be rerouted to the north along with its interchange with Johnson Road. The preferred location of that interchange will be determined during roadway design in consultation with the Arizona Department of Transportation (ADOT), which has control of the Interstate and is the coordinating agency for the relocation design and construction. Access to the Gunnison SX-EW plant will be off Johnson Road south of the pit approximately 1 mile north of Dragoon.

The mine pit is located in the northern portion of the Gunnison Project area and is flanked by waste stockpiles to the east and west to store alluvial overburden and waste rock removed from the pit during the mining operation. Mineralized material removed from the pit is hauled to the leach pad located southeast of the pit. Crushed material is dumped on the leach pad, spread, ripped, and covered with a piping network to deliver acidified leach solution. The leach solution drains out of the southeast toe of the leach pad and collected as PLS in the Leachate Collection Ponds. The PLS is pumped to the SX Feed Tank for extraction in the Gunnison plant.

The Gunnison SX-EW plant will be constructed in the southeast corner of the site with a nominal copper production capacity of 175 mppa. The electrowinning building (tankhouse) will be a steel building with corrugated metal roofing and siding. It will contain 112 electrowinning cells on each end of the building (total of 224 cells) and two automatic cathode stripping machines.

The Gunnison Tank Farm is located downhill from the SX area and the tankhouse to facilitate gravity drainage of solutions to the Tank Farm. The Tank Farm has a concrete containment that drains to a sump with an oil-water separator to return spilled liquid to the proper location for recycling. There is a Plant Runoff Pond located downstream of the Tank Farm to capture any surface flows in the event of an upset condition at the plant.

Ancillary facilities needed to support the Gunnison Project include buildings, ponds, tanks, and trenches. Ancillary buildings include an Administration Building, Warehouse, Plant Maintenance building, Change House, Security Building (gatehouse), and Sulfuric Acid Plant-Cogeneration complex. Other facilities will include ponds, and tanks. A new assay lab facility will be constructed to handle production samples, solution assays, and cathode sampling.

Power for the facility will be tapped from an existing 69 kilovolt (kV) power line that enters the project area from the southeast. The existing power line will terminate at the new Gunnison Substation. The requirement to feed the SX-EW from a higher voltage transmission line will be evaluated as the project progresses.

Fresh well water will be extracted from pit dewatering wells adjacent to the Gunnison open pit. Fresh water will be pumped to the 500,000 gallon process water/firewater tank. The lower 300,000 gallons in the storage tank will be reserved for fire suppression. Process water for plant use will be taken from the storage tank above this reserve level for fire suppression.

The sulfur-burning sulfuric acid plant will be constructed south of the Gunnison processing plant along with the accompanying rail spur and loading-unloading facilities. The plant design will be increased to produce 3,000 short tons of concentrated sulfuric acid per day. The waste heat from the acid making process produces steam to generate 44 MW of electrical power from a steam turbine generator. Of that amount, 14 MW of power will be required for operation of the acid plant, leaving 27.8 MW for delivery back to the power grid. The sulfuric acid plant includes molten sulfur day tanks, sulfur burner and waste-heat boiler, drying and adsorption tower area, cogeneration building, water treatment building, power distribution building and substation, cooling towers, office building, sulfuric acid storage area, and a rail yard for unloading molten sulfur and sulfuric acid.

1.17 MARKET STUDIES AND CONTRACTS

The Company has an offtake agreement for the copper cathodes produced by the Project that is negotiated annually. The current agreement is for payment at the average monthly HG Copper COMEX settlement price.

The use of consensus prices obtained by collating the prices used by peers or as provided by industry observers and analysts is recognized by the Canadian Institute of Mining and Metallurgy (CIM) for technical reports and has the advantage of providing prices that are acceptable to a wide body of industry professionals (peers). These prices are generally acceptable for most common commodities, major industrial minerals, and some minor minerals.

The PEA has selected $4.10 per pound copper for all thru the end of mine life. A Grade A cathode credit of $0.02 per lb has been added to the long-term copper price, bringing the expected copper price to $4.12 per lb.

Market studies indicate that the long-term prices for the major reagents are as follows.

Sulfuric Acid	$150/st purchased
Sulfuric Acid	$130/st for excess sulfuric acid produced that is sold on open market
Molten Sulfur	$110/st

The price for sulfuric acid is predicted to be $150/st. Based on a delivered sulfur cost of $110/ton, the cost of acid produced in GCC's sulfuric acid costs are estimated to be $36.46 for the 3,000 stpd acid plant for the Gunnison open pit.

1.18 ENVIRONMENTAL AND PERMITTING

The open pit mining and heap leaching option has not been permitted. The open pit requires surface disturbance and relocation of an interstate highway.

Some additional environmental permits are required for an open pit mine at Gunnison. Federal, state, and local government existing environmental permits are listed in Table 20-1. A permit from ADOT will be required for the planned relocation of Interstate 10. The permit may require additional environmental studies, including cultural, biological, and native plant surveys, depending on the I-10 routing.

An Aquifer Protection permit (APP) exists for the prior ISR mining activities. This permit will require major modifications to accommodate the open pit and discharging facilities that have the possibility of impacting an aquifer. Facilities that may be constructed at Gunnison that may require an amended APP include leach pads, waste rock stockpiles, non-stormwater ponds, process solution ponds (PLS and Raffinate), re-injection wells for a portion of the open pit dewatering, and the acid plant.

Other existing permits requiring modification include the Arizona Mined Land Reclamation Plan, Air Quality permits, and to the existing Underground Injection Control permit to accommodate the open pit.

Water management associated with the open pit mine will include dewatering of the pit and run-on and run-off controls. As discussed in Section 16.9, dewatering is expected to generate up to 4,000 gpm during pit development. This water can be used for a variety of uses including dust control and makeup water for mineralized material leaching. Dewatering water not used for mine operations will be re-injected in a local aquifer. Surface water will be diverted around the pit, leach pad, process plant, and other non-APP facilities. Water will be managed using engineered features such as diversions or retention structures.

Reclamation and closure must be conducted on all APP-regulated facilities in accordance with the stipulations of the APP permit at the end of operations. Non-APP facilities, such as buildings and infrastructure, will be reclaimed in accordance with the approved Mined Land Reclamation Program overseen by the Arizona State Mine Inspector's Office. Reclamation of the pit (which is not expected to be an APP-regulated facility) will consist of erosion control. At closure, the heap leach pad (an APP-regulated facility) and the waste rock stockpiles (which may be regulated under APP) will be managed to prevent, contain, or control discharges. In the case of the heap leach pad, it is anticipated that closure will include neutralizing or rinsing of all spent mineralized material, elimination of free liquids, stabilization of heap materials, and recontouring of the heap to eliminate ponding. The waste rock stockpile will be recontoured in a similar manner to eliminate ponding and minimize infiltration. Process solution and non-stormwater ponds will be closed in accordance with the approved APP closure plan. Other facilities such as the plant and buildings will be removed and the land surface will be contoured and graded.

1.19 CAPITAL AND OPERATING COSTS

1.19.1 Capital Costs

The Gunnison open pit is built in one stage of development with the pre-stripping of the open pit, leasing of the mine mobile fleet, construction of the initial heap leach pad and ponds, an SX-EW plant with a capacity of 175 mppa, 3,000 stpd sulfuric acid plant, and relocation of Interstate 10 to make room for pit expansion to the north. The initial capital costs total $1,342.6 million.

1.19.1.1 Mine Capital Costs

The mine capital includes three components: capital to lease / purchase the mining fleet, capital for mine support equipment, and the cost of pre-stripping. Mine capital costs for mobile equipment were developed from the mine equipment list presented in Section 16. Mine capital costs including equipment and pre-production development are presented in Table 1-4. Initial mine capital is $306.1 million, while sustaining mine capital costs are $334.9 million. An additional $346.2 million of waste stripping costs between the Years 1 and 12 included in Table 1-7 are applied to sustaining capital costs as deferred stripping.

Table 1-4: Summary of Mine Capital Costs ($000's)

Category	Initial Capital			Sustaining Capital	Total Capital
	Year -2	Year -1	Total		
Preproduction Development	$96,897	$114,795	$211,692		$211,692
Major Equipment	$57,136	$37,279	$94,415	$334,850	$429,265
Total	**$154,033**	**$152,074**	**$306,107**	**$334,850**	**$640,957**

1.19.1.2 Plant Capital Costs

The plant capital includes several components: development of the heap leach pad and ponds, capital for the Gunnison SX-EW plant, and cost for ancillary facilities and infrastructure, costs to construct the sulfuric acid plant and railroad siding and railyard, the Interstate highway relocation, freight, indirect costs, Owner's costs, and contingency. Table 1-5 summarizes the initial capital costs to develop the Gunnison Plant exclusive of mine development. These costs are estimated to be $1,036.5 million. Including the mine initial capital costs, the total initial capital cost to develop the Gunnison Project is $1,342.6 million over a construction period of three years.

Table 1-5: Initial Capex for Gunnison Plant & Acid Plant Development

Description of Capital Cost Item	Estimated Cost ($000)
Gunnison Heap Leach and Ponds	$163,670
Gunnison SX-EW Plant	$144,980
Infrastructure/Utilities	$42,275
Ancillary Facilities	$12,083
Mine Services	$19,217
Sulfuric Acid Plant	$243,118
Other (Freight)	$37,805
Total Direct Field Cost	**$663,148**
Total Direct Field Cost w/o Mobile Equipment	**$660,097**
Mobilization (2)	$9,372
Temporary Construction Facilities (4)	$3,301
Temporary Construction Power (4)	$660
Fee - Contractor (5)	In Direct Cost
Total Constructed Cost	**$673,430**
Total EPCM (6)	$106,065
EPCM Temp. Fac. & Utility Setup (7)	$3,367
Commissioning (8)	$3,351
Vendor Supervision of Specialty Const. (9)	$5,027
Vendor Pre-commissioning (10)	$1,676
Vendor's Commissioning (10)	$1,676
Capital Spares (11)	$6,703
Commissioning Spares (12)	$1,676
Mobile Equipment	$3,051
Total Contracted Cost	**$806,021**
Contingency (13)	$161,204
Bonds & Insurance	In Owner's Cost
Highway Relocation	$45,605
Added Owner's Cost (14)	$23,657
Total Contracted Cost with Contingency	**$1,036,487**
Escalation (15)	$0
Total Evaluated Project Cost (12)	**$1,036,487**

Notes:
1. Specific Indirect Field Costs have been added to the direct labor rates listed for each Area Indirects added to direct labor include: field payroll burden, overtime adjustment, small tools and expendables allowance, field supervisory labor & burden, contractor operating overheads & profit.
2. Mobilization is included at 5% for civil direct costs and 1% for all other direct costs without Mobile Equipment.
3. Transportation & Busing and Camp costs will be carried in the Owner's Costs.

4. Temporary Construction Facilities is included at 0.5% of Total Direct Cost without Mobile Equipment. Temporary Construction Power is included at 0.1% of Total Direct Cost without Mobile Equipment.
5. Contractors' fee included in Labor rates and Subcontract unit cost.
6. The EPCM cost has been calculated at 16.8% of the Total Constructed Costs w/o costs from Kinley.
7. EPCM Temporary Facilities and Utility Setup is included at 0.5% of Total Constructed Costs.
8. Commissioning is included at 1% of Plant Equipment w/o Mobile Equipment.
9. Supervision of Specialty Construction included at 1.5% of Plant Equipment Costs w/o Mobile Equipment.
10. Vendor Pre-commissioning included at 0.5% of Plant Equipment Costs w/o Mobile Equipment. Vendor Commissioning included at 0.5% of Plant Equipment Costs w/o Mobile Equipment.
11. Capital Spare Parts included at 2% of Plant Equipment Costs w/o Mobile Equipment.
12. Commissioning Spare parts are included at 0.5% of Plant Equipment Costs w/o Mobile Equipment.
13. Contingency is based on Total Contracted Cost is calculated as 20%.
14. Added Owners Cost - To be provided by Owner. (Initial fills are included in Owner's Costs)
15. All costs are in 3rd quarter 2024 U.S. dollars with no escalation. Total Evaluated Project Cost is projected to be in the range of -35% to +25%.

1.19.1.3 Sustaining Capital Costs

Sustaining capital costs for the mine, leach pad, sulfuric acid plant, and deferred stripping are shown by Year of operation in Table 1-6. Mining sustaining capital costs are mainly mobile equipment replacement costs. Sustaining capital in the plant areas includes expansions to the heap leach pad in Years 4, 6 and 7. There are no anticipated sustaining capital costs for the Gunnison SX-EW, since improvements to these facilities will be covered in operating maintenance costs. The sulfuric acid plant has $72 million in capital improvements planned in Years 6 and 7. Deferred stripping costs occurs in Year 1 through Year 12.

Table 1-6: Gunnison Project Sustaining Capital Costs by Year

	Mining Sustaining Capital ($000)	Heap Leach Pad Sustaining Capital ($000)	Sulfuric Acid Plant Sustaining Capital ($000)	Deferred Stripping Sustaining Capital ($000)	Total Annual Sustaining Capital Cost ($000)
1	$17,975			$43,611	$61,586
2	$53,482			$23,333	$76,815
3	$813			$50,747	$51,560
4	$21,163	$47,299		$28,750	$97,213
5	$6,489			$24,916	$31,405
6	$14,293	$37,873	$36,000	$3,638	$91,803
7	$14,763	$37,873	$36,000	$41,182	$129,817
8	$61,156			$21,588	$82,744
9	$13,171			$46,807	$59,978
10	$80,491			$34,308	$114,799
11	$44,679			$15,127	$59,805
12	$0			$12.157	$12,157
13	$6,007				$6,007
14	$368				$368
TOTAL	**$334,850**	**$123,044**	**$72,000**	**$346,163**	**$876,057**

1.19.2 Operating Cost

1.19.2.1 Mine Operating Costs

The LOM mine operating cost per lb over the LOM is $0.81/lb Cu plus the equipment leasing cost of $0.06/lb Cu, resulting in a full mine operating cost of $0.87/lb Cu.

Mine operating costs are summarized by material type: mineralized material, alluvium waste, and hardrock waste (sedimentary) in Table 1-7. Pre-production mine operating costs of $211.7 million and deferred stripping costs of $346.2 million are included in Table 1-7 below but are applied as Capital costs. The total mining cost per short ton of mineralized material not including equipment lease payments is $5.02, which equates to $1.02/lb Cu. After subtracting the pre-stripping and deferred stripping costs, the total mined operating cost is $0.87/lb Cu.

Table 1-7: Summary of Mine Operating Costs

Mined Type	LoM ($M)	$/st Mined Type	$/st Mineralized Material Processed	$/lb Copper Recovered (US$)
Mined Mineralized Material	$1,059.2	$0.63	$1.92	$0.39
Waste – Sedimentary	$730.8	$0.43	$1.33	$0.27
Waste – Alluvium	$973.8	$0.58	$1.77	$0.36
Total Mined Costs[1]	**$2,763.9**	**$1.64**	**$5.02**	**$1.02**
Additional Cost of Lease Payments	$163.8	$0.10	$0.29	$0.06
Total Mined Costs including Lease Payments	**$2,927.7**	**$1.74**	**$5.31**	**$1.08**
Pre-Stripping Cost	($211.7)	($0.13)	($0.38)	($0.08)
Deferred Stripping Cost	($346.2)	($0.21)	($0.63)	($0.13)
Total Mined Operating Costs	**$2,369.8**	**$1.40**	**$4.30**	**$0.87**

Notes:
1. This value includes the cost of pre-stripping, ($0.08/lb Cu), which is capitalized, and deferred stripping costs ($0.13/lb Cu), which reports to sustaining capital. However, it is missing the equipment leasing cost of $0.06/lb Cu which brings the total to $0.87/lb Cu.

1.19.2.2 Plant Operating Costs

Table 1-8 shows the average and Life of Mine (LOM) operating costs breakdown for the processing plants. The heap leaching cost of $0.24/lb Cu includes crushing, conveying, and leaching costs. In operating Year 8, the leach pad will include sulfide material that will be treated using enhanced heap leaching circuit which will include crushing and reagent additions. This incremental cost will add $0.07/lb Cu to the heap leaching cost. The SX-EW plant costs ($0.19/lb Cu) include all costs beyond the PLS pond to the production of cathode copper. Operating costs include operating labor, reagents, power, maintenance labor and spare parts, and operating supplies and services.

Table 1-8: Summary Process Operating Cost

Area	LoM ($000)	$/st Mineralized Material Processed	$/lb Copper Recovered (US$)
Heap Leach Operating Cost	$648,989	$1.18	$0.24
Incremental Sulfide Material Cost	$187,368	$0.34	$0.07
SX-EW Operating Cost	$503,570	$0.91	$0.19
G & A	$150,292	$0.27	$0.06
Treatment & Refining Charges	$0.00	$0.00	$0.00
Operating Costs	**$1,490,219**	**$2.71**	**$0.55**
Royalties	$526,238	$0.96	$0.19
Property & Severance Tax	$141,384	$0.26	$0.05
Closure & Salvage Value	$61,950	$0.11	$0.02
Other Production Costs	**$729,572**	**$1.32**	**$0.27**
Total Plant Costs	**$2,219,791**	**$4.03**	**$0.82**

1.19.2.3 General and Administrative Operating Costs

General and Administrative (G&A) costs include labor and fringe benefits for administration and support personnel and other support expenses. G&A expenses are shown in Table 1-9 in $ thousands.

Table 1-9: Summary General and Administrative Operating Cost

Item	Average Annual Cost ($000)	$/lb Copper	LoM Operating Cost ($000)	%
Labor	$4,360	$0.03	$78,488	52.2%
Accounting (excluding labor)	$69	$0.000	$1,238	0.8%
Safety & Environmental (excluding labor)	$60	$0.000	$1,073	0.7%
Human Resources (excluding labor)	$46	$0.000	$825	0.5%
Security (excluding labor)	$69	$0.000	$1,238	0.8%
Assay Lab (excluding labor)	$275	$0.002	$4,952	3.3%
Office Operating Supplies and Postage	$46	$0.000	$825	0.5%
Maintenance Supplies	$138	$0.001	$2,476	1.6%
Propane, Power	$69	$0.000	$1,238	0.8%
Communications	$92	$0.001	$1,651	1.1%
Small Vehicles	$138	$0.001	$2,476	1.6%
Claims Assessment	$23	$0.000	$413	0.3%
Legal & Audit	$321	$0.002	$5,777	3.8%
Consultants	$229	$0.002	$4,127	2.7%
Janitorial Services	$69	$0.000	$1,238	0.8%
Insurances	$1,834	$0.012	$33,013	22.0%
Subs, Dues, PR, and Donations	$55	$0.000	$990	0.7%
Travel, Lodging, and Meals	$183	$0.001	$3,301	2.2%

Item	Average Annual Cost ($000)	$/lb Copper	LoM Operating Cost ($000)	%
Recruiting/Relocation	$183	$0.001	$3,301	2.2%
Community Relations	$92	$0.001	$1,651	1.1%
Total	**$8,350**	**$0.055**	**$150,292**	**100.0%**

1.19.2.4 Sulfuric Acid Plant

The Project requires a sulfuric acid plant. The annual operating costs for the sulfuric acid plant, power plant, and associated facilities is $38.3 million or $36.46 per ton sulfuric acid and $0.26 per pound of copper produced. The actual sulfuric acid plant costs are included in the heap leach and SX-EW costs as components of the reagent costs. The low cost of sulfuric acid is mainly due to the power credit from selling cogenerated power back to the utility. The acid plant operating costs are summarized in Table 1-10.

Table 1-10: Sulfuric Acid Plant Costs – Open Pit

Cost Category	Annual Cost	$/short ton-Acid	$/lb-Copper
Labor	$4,707,942	$4.48	$0.031
Reagents	$37,744,286	$35.95	$0.252
Fuels (Propane)	$946,080	$0.90	$0.006
Power (Credit)	($18,448,080)	($17.57)	-$0.123
Maintenance	$7,046,725	$6.71	$0.047
Operating Supplies	$6,286,605	$5.99	$0.042
Total	**$38,283,558**	**$36.46**	**$0.26**

1.19.2.5 Reclamation and Closure Cost

The Gunnison Project will require the reclamation and closure of several elements.

Three main components comprise the reclamation costs:

- Gunnison Mine Leach Pad, Solution Ponds, & Waste Dumps
- Gunnison Plant, Ponds, Ancillary Facilities & Infrastructure
- Bond Fees

These costs are accounted for in the financial model as sustaining capital costs. In the current FS, reclamation costs have been refined and are now accounted for as expenses (operating costs). The reclamation and closure costs used in the financial model are estimated to be $93.0 million. Bonding fees are estimated to be $0.4 million. These costs are summarized in Table 1-11 below.

Table 1-11: Summary Reclamation and Closure Cost

Area	Reclamation & Closure Cost ($M)
Solution Management	$1.9
Civil Contouring	$41.9
Plant Demolition	$41.2
Indirect Costs	$4.2
Contract Administration	$3.4
Total Reclamation & Closure	**$92.6**
Estimated Bond Fees	$0.4
Total Reclamation, Bonding, & Closure	**$93.0**

1.20 ECONOMIC ANALYSIS

The financial evaluation presents the determination of the Net Present Value (NPV), payback period (time in years to recapture the initial capital investment), and the Internal Rate of Return (IRR) for the Project. Annual cash flow projections were estimated over the life of the operation based on the estimates of capital expenditures and production cost and sales revenue. The sales revenue is based on the production of a copper cathode for open pit mining.

New facilities include Crushing-Conveying system, the Heap Leach Pad, SX-EW plant, the facilities at the Mine Services Area, the ancillary buildings located at the SX-EW plant, and the sulfuric acid plant.

Infrastructure changes include realignment of Interstate 10 in the vicinity of the Gunnison open pit, rerouting/relocating the powerlines and substations for the new Gunnison SX-EW and installation of the rail spur into the Gunnison property and the railyard.

The sulfuric acid plant has been upsized from 1,650 stpd to 3,000 stpd to meet the new acid demand for the heap leach option.

1.20.1 Plant Production Statistics

The design basis for the SX-EW process plant production is 175 mppa of cathode copper divided from one new SX-EW plant built in a single construction stage. Average annual full-rate production is projected to be approximately 150.6 million pounds of copper cathode over the 18-year life of mine and 167.3 million pounds per year over the first 16 years. Total production for the life of the operation is projected at approximately 2,712 million pounds of copper.

1.20.2 Copper Sales

The copper cathodes are assumed to be shipped to buyers in the US market, with sales terms negotiated with each buyer. The financial model assumptions are based on experience with copper sales from similar operations in the US.

1.20.3 Initial Capital

The initial capital cost estimate for the Gunnison project, exclusive of open pit development is shown in Table 1-12 below. The estimated initial capital cost for the project is $1,342.6 million. The financial indicators have been calculated assuming 100% equity financing of the initial capital. Any acquisition cost or expenditures, such as property acquisition, permitting, and study costs, prior to project authorization have been treated as “sunk” cost and have not been included in the analysis.

Table 1-12: Initial Capital Requirement

	Time	Initial Capital ($M)
1	Mine (including Pre-stripping)	$211.7
2	Mine (Initial Owner's Fleet Leasing Costs)	$94.4
3	Mine Services Area	$18.2
4	Crushing Plant- Conveying-Leach Pad-Solution Ponds	$164.3
5	SX-EW Plant (includes SX, Tank Farm, EW Tankhouse, and Reagents)	$166.7
6	Plant Ancillary Buildings	$11.4
7	Acid Plant and Railyard	$243.1
8	Utilities – Power Transmission & Distribution, Water Systems	$21.7
9	Freight	$37.8
10	Indirects	$145.9
11	Owner's Cost	$23.7
12	Highway Realignment	$45.6
13	Contingency	$161.2
	Total Initial Capital	**$1,342.6**

1.20.4 Sustaining Capital

A schedule of capital cost expenditures during the production period was estimated and included in the financial analysis under the category of sustaining capital. The total life of operation sustaining capital is estimated to be $876.1 million. This capital will be expended from Year 1 through Year 16.

1.20.5 Working Capital

A 15-day delay of receipt of revenue from sales is assumed for accounts receivables. A delay of payment for accounts payable of 30 days is also incorporated into the financial model. An allowance for initial replacement parts inventory for the plant is also included. All the working capital is recaptured at the end of the mine life and the final value of these accounts is zero.

1.20.6 Revenue

Annual revenue is determined by applying estimated metal prices to the annual payable metal estimated for each operating year. Sales prices have been applied to all life of operation production without escalation or hedging. The revenue is the gross value of payable metals sold before treatment charges and transportation charges. The average copper price used in the evaluation is $4.12/lb for the life of the mine.

1.20.7 Total Operating Cost

The average cash operating cost over the life of the operation is estimated to be $1.42 per pound of copper produced, excluding the cost of the capitalized pre-production leaching. Cash operating cost includes process plant operations, water treatment, and general administrative cost. Table 1-13 below shows the estimated operating cost and other production costs by area per pound of copper produced.

Table 1-13: Life of Operation Operating + Production Costs

Operating Cost	$/lb Copper
Mining (including fleet leasing costs)	$0.87
Heap Leach	$0.24
Sulfide Material Incremental Cost	$0.07
SX-EW	$0.19
General and Administrative	$0.06
Sub-Total: Operating Cash Cost	**$1.42**
Royalties, Taxes (excludes Income Tax), Reclamation & Salvage	$0.27
Total Cash Cost	**$1.69**

1.20.8 Total Cash Cost

Total Cash Cost is the Total Operating Cost plus royalties, property tax, severance tax, salvage value, and reclamation and closure costs. The average Total Cash Cost over the life of the operation is estimated to be $1.69 per pound of copper produced.

1.20.9 Royalty

There are four entities that are entitled to royalties: the State of Arizona, Greenstone, Altius and Bowlin Travel Centers, Inc. The State has a flat royalty of 5.5% on copper produced from State land.

The Greenstone royalty is paid at the rate of 3.0% of the value of copper produced while the Altius royalty is paid at a rate of 1.50%. Bowlin Travel Centers, Inc. has been granted a 1% gross revenue royalty on any copper mined and processed from an area that it has optioned to GCAZ.

Royalties for the life of the operation are estimated at $526.2 million and average $0.19 per pound of copper recovered.

The minor Bowlin royalty which amounts to approximately $500,000, was not included in the cash flow analysis. It translates to $0.002/lb Cu over the LOM.

1.20.10 Property and Severance Taxes

Property and severance taxes are estimated to be $141.4 million and average $0.05 per pound of copper recovered. Property taxes were estimated to be approximately $3.5 million per year during production, totaling $54.2 million for the life of the operation. Severance taxes are calculated as 2.5% of net proceeds before taxes from mining. Severance taxes are estimated to be approximately $87.2 million for the life of the operation.

1.20.11 Reclamation and Closure

An allowance for reclamation and closure costs is estimated to be $93.0 million ($0.034/lb copper cathode). Reclamation and closure activities are assumed to occur for 3 years beginning the year after mining has ceased.

1.20.12 Income Taxes

Taxable income for income tax purposes is defined as metal revenues minus operating expenses, royalty, property and severance taxes, reclamation and closure expense, depreciation, and depletion. The combined federal and state corporate income tax rate in Arizona is 25.9 percent and is applied to 'taxable income' derived from the Gunnison Project.

Income taxes are estimated by applying state and federal tax rates to taxable income. The primary adjustments to taxable income are tax depreciation and the depletion deduction. Income taxes estimated in this manner total $700.7 million for the life of the Project.

1.20.13 Net Present Value (NPV) and Internal Rate of Return (IRR)

The economic analysis for the Project, before taxes, indicates an Internal Rate of Return (IRR) of 22.8% and a payback period of 3.8 years. The Net Present Value ("NPV") before taxes is $1.54 billion at an 8% discount rate using the mid-year convention. The economic results after taxes indicates that the Project has an IRR of 20.9% with a payback period of 4.1 years. The NPV after taxes is $1.26 billion at an 8% discount rate using the mid-year convention. The analysis assumes 100% equity financing.

Table 1-14: Economic Results

Item	Base Case
Years of Commercial Production	18
Total Copper Produced (million lbs)	2,712
LOM Copper Price (avg $/lb) includes $0.02/lb cathode premium	$4.12
Initial Capital Cost ($M)	$1,342.6
Sustaining Capital Cost ($M)	$876.1
Payback of Capital (pre-tax / after-tax)	3.8 / 4.1
Internal Rate of Return (pre-tax / after-tax)	22.8% / 20.9%
LOM Direct Operating Cost ($/lb Copper recovered)	$1.42
LOM Total Production Cost ($/lb Copper recovered)	$1.69
Pre-Tax NPV at 8% discount rate ($M) – mid-year	$1,545.0
After-Tax NPV at 8% discount rate ($M) – mid-year	$1,259.6

The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the conclusions reached in the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability. The project's after-tax economic results show greatest sensitivity to copper price fluctuations, followed by initial capital expenditures and operating cost changes. Table 1-15, Figure 1-2 and Figure 1-3 below illustrate these sensitivities.

Table 1-15: Sensitivity Analysis – Open Pit

Copper Price			
	NPV @ 8.0%, after-tax ($M)	IRR%	Payback
Base Case	$1,260	20.9%	4.1
20%	$2,054	27.6%	3.1
10%	$1,660	24.4%	3.5
-10%	$848	17.1%	4.7
-20%	$431	12.8%	6.0
Operating Cost			
	NPV @ 8.0%, after-tax ($M)	IRR%	Payback
Base Case	$1,260	20.9%	4.1
20%	$979	18.4%	4.4
10%	$1,120	19.7%	4.2
-10%	$1,396	22.1%	3.9
-20%	$1,530	23.2%	3.7
Initial Capital			
	NPV @ 8.0%, after-tax ($M)	IRR%	Payback
Base Case	$1,260	20.9%	4.1
20%	$1,031	17.3%	4.8
10%	$1,145	19.0%	4.4
-10%	$1,374	23.2%	3.7
-20%	$1,488	25.9%	3.3

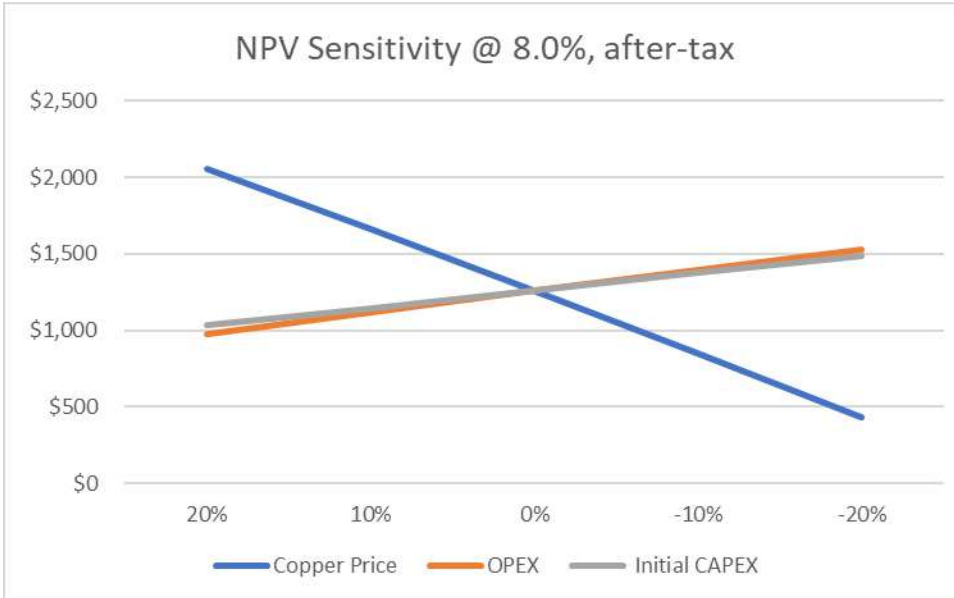


Figure 1-2: Open Pit NPV Sensitivity – After Tax

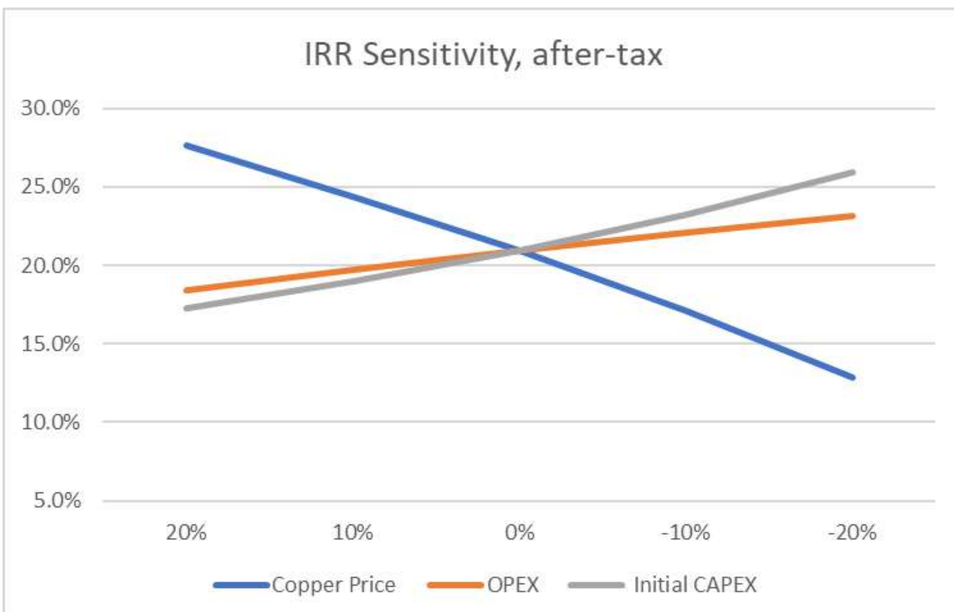


Figure 1-3: Open Pit IRR Sensitivity – After Tax

1.21 ADJACENT PROPERTIES

The Gunnison Project lies within the porphyry copper metallogenic province of the southwestern United States. It is located in the Cochise Mining District, which is dominated by Cu-Zn skarns. With the acquisition of the Johnson Camp Mine, GCC now controls a majority of historical producing properties in the district. Tungsten and minor lead-silver-gold have been produced in adjacent properties in the district (Cooper and Silver, 1964). In particular, tungsten has been historically produced in the area west of the Gunnison Project in the northern half of the Texas Canyon quartz monzonite stock before and during World War I. Lead-silver was also historically produced from Paleozoic limestones in the Gunnison Hills east of the Gunnison Project in the early 1900s (Cooper and Silver, 1964). Mineralization on adjacent properties is not necessarily indicative of the mineralization on the Gunnison Project. The author has relied on reports by others (as referenced) for the information presented in this section and has been unable to verify the information.

1.22 INTERPRETATION AND CONCLUSIONS

A production schedule has been developed using input from independent consultants and existing Project data. The production schedule anticipates recovery of 85% of the mineral resources in the mine plan resulting in production of 2,712 million pounds of cathode copper over a mine life of 18 years.

The economic analysis indicates an after-tax NPV of $1,260 million at a 8% discount rate with a projected IRR at 20.9%. Payback is anticipated in 4.1 years of production. The economics are based on a $4.10/lb copper price with a premium of $0.02/lb added for producing Grade A cathode copper, a design copper production rate of 167 mppa for 18 years. Direct operating costs are estimated at $1.42/lb of copper, inclusive of Mining Operating costs. Initial CAPEX totals $1,342 million, which includes the mine, Gunnison SX-EW plant, leach pad and ponds, acid plant, rail spur, and owner's costs. Sustaining capital costs of $876 million are projected for mine fleet replacement and additions to the leach pad.

The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the conclusions reached in the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

1.22.1 Risks

Project risks for the open pit include slope stability, blasting costs, mine design complication, copper recovery problems, leach pad flow problems in the leach pad, acid consumption underestimate, permitting difficulties, and interstate relocation cost and complications. Recommendations are provided to investigate potential risk items or advance mitigation strategies. Many of these risks can be addressed by investigations in subsequent phases of the study and design processes, including geotechnical investigations and additional metallurgical test work. Further investigation regarding the cost and process of relocating the interstate highway can mitigate that risk.

1.22.2 Opportunities

Several opportunities have been identified which could enhance the viability and economic attractiveness of the Project. Opportunities, detailed in Section 25.3, include higher copper recoveries than predicted, increases in the price of copper, identification of additional resources, reduced acid costs, consolidation savings, mining exposed sulfide mineralization, and reductions to capital costs, particularly in the initial stage of operation. Other opportunities include concurrent mining of the Strong & Harris project, potential in-pit leaching, monetization of mined gravel and limestone and discovery of additional resources from exploration drilling.

1.23 RECOMMENDATIONS

Based on the results of this PEA, it is recommended that GCC consider proceeding with a Pre-feasibility Study (PFS) of the Gunnison Project which is expected to be completed late 2026 (subject to appropriate financing). A feasibility study will be proposed on successful completion of the PFS.

Additional drilling for resource verification and geotechnical coverage is recommended to support mine planning. Updating the acid plant design for the selected capacity is also recommended. Additional planning and costing work are required to establish the schedule and costs for the relocation of Interstate 10 and the addition of the rail spur to the Union Pacific Railroad.

Additional drilling will be required for metallurgical studies. Pilot metallurgical heap leach testing is recommended to investigate the recovery kinetics and flow characteristics for the heap leach design. In addition, mineralized material sorting studies are recommended to determine the effectiveness and economics.

A mine plan, heap leach design, SX-EW design and highway move design are necessary to complete the PFS.

GCC has proposed a list and budget for additional work that will support the pre-feasibility study shown in Table 1-16.

Table 1-16: Gunnison Project Pre-feasibility Budget

Detail	Cost $US
Resource Upgrade	$4,091,448
Metallurgy	$7,856,000
Geotechnical	$210,000
Pit design	$300,000
Infrastructure design/PFS study	$1,385,000
Total	**$13,842,448**

2 INTRODUCTION

Gunnison Copper Corporation (GCC) commissioned M3 Engineering & Technology Corporation (M3) to prepare a Preliminary Economic Analysis (PEA) covering the process and infrastructure design, capital cost, operating cost, and an independent Technical Report prepared in accordance with NI 43-101 standards for reporting mineral properties, for the Gunnison Project (the "Project") – Gunnison Deposit in Cochise County, Arizona, USA ("October 2024 Technical Report"). This Technical Report focuses on mining the Gunnison Deposit as an open pit-heap leach project.

The Gunnison Project started as an attempt to mine the Gunnison Deposit by in situ copper leaching, using successful techniques similar to in situ leaching widely used for extracting uranium. The initial in situ copper leaching stage of development produced lower than anticipated results in the first year of operation. As a result, GCC began assessing an alternative development path for the Gunnison Project that would involve mining as a conventional open pit. The forecasted economics from an open pit operation are well understood, and attract a broader group of investors and operating mining companies than in situ copper recovery that is not currently being executed at commercial scale.

This Technical Report includes conventional heap leaching, SX-EW flowsheet, a sulfuric acid plant, and infrastructure that supports a mining operation that can produce up to 175 mppa. The mining rate from a conventional truck and shovel operation ranges from 50,000 short tons per day (stpd) to 120,000 stpd, with an average of 95,000 stpd.

A traditional open pit heap leach operation is common in Arizona, and there are several SX-EW plants around the state. The facilities needed for an open pit project include the leach pad(s), waste dumps, process ponds, the SX-EW plant, ancillary support facilities, and normal mine infrastructure: power, water, fuel, and access roads. The Gunnison Project also includes a railroad spur and siding from the main United Pacific-Southern Pacific Railroad (UPSP) and a sulfur burning sulfuric acid plant and cogeneration facility. The acid is capable of supplying acid to the heap leach and SX-EW operations that costs significantly less than purchased sulfuric acid, partly due to the power credit from cogeneration. Other capital items include the mining fleet and support equipment.

The Gunnison (formerly known as I-10) deposit contains both acid soluble copper oxides, soluble copper sulfides, and primary chalcopyrite sulfide mineralization. The mine plan presented in this Technical Report ncludes all three mineralization types for heap leaching. The heap leaching of sulfide mineralization will be enhanced by a process that increases leach kinetics.

On October 15, 2010, Gunnison Copper Corp. (formerly known as Excelsior Mining Corp.) (the "Company" or "GCC"), completed a reverse takeover ("RTO") by acquiring all of the issued and outstanding common shares of AzTech Minerals, Inc. ("AzTech") through a plan of merger with Excelsior Mining Arizona, Inc. ("GCAZ"). GCAZ was the surviving corporation in the plan of merger and acquired all assets of AzTech, including the Gunnison Project. The Company is listed on the TSX under the symbol "MIN".

Legally, the Company is the parent of AzTech, (GCAZ) however, as a result of the share exchange described above, control of the combined companies passed to the former shareholders of AzTech. This type of share exchange is referred to as a "reverse takeover". The executive management of AzTech continued on as the executive management of GCC.

GCC retained several consultants, including M3, to provide a review of prior work on the Project and to prepare technical and cost information to support a PEA and this Technical Report in accordance with the Canadian NI 43-101 reporting standards. Mr. John Woodson of M3 is the principal author and Qualified Person responsible for the preparation of this Technical Report, as well as for the process plant infrastructure, development of the capital and operating costs and economic analysis. Mr. Woodson has been to the Gunnison site numerous times while traveling but has not formally visited the Gunnison property. As the other Qualified Persons have visited the site, including colleagues from M3, Mr. Woodson has determined that a formal site visit to the Gunnison property was not required.

Other contributing authors and Qualified Persons responsible for preparing sections of this Technical Report include Abyl Sydykov of M3 for recovery methods; Dr. Terence McNulty, metallurgical consultant; Douglas Bartlett of Clear Creek Associates (CCA) for hydrology and environmental/social/permitting topics; Jacob Richey of Independent Mining Consultants, Inc. (IMC) for mining methods and mine costs; Thomas M. Ryan of Call & Nicholas, Inc. (CNI) for pit slope angles; and Jeffrey Bickel of RESPEC Company LLC (RESPEC) for the estimation of Gunnison Deposit resources.

R. Douglas Bartlett, CPG, of Clear Creek Associates (CCA), is responsible for the preparation of Section 16.9 - Mining Methods and Section 20– Environmental Studies, Permitting, and Social Impact. Mr. Bartlett visited the site March 2018.

Dr. Terence P. McNulty is responsible for reviewing the historical metallurgical testing programs for both the Gunnison development program and the Johnson Camp heap leach evaluation. Dr. McNulty is responsible for the preparation of Section 13 – Mineral Processing and Metallurgical Testing and Section 24 – Other Relevant Data and Information. Dr. McNulty visited the Johnson Camp Site in 1990s. Dr. McNulty has worked extensively on copper hydrometallurgical projects in the US and elsewhere.

M3 was responsible for developing process design criteria, process flowsheets, an equipment list, general arrangements of the site plan and process facilities, process ponds, infrastructure, capital cost, operating cost, PEA-level financial assessment, and integrating the work by other consultants into a final Technical Report prepared in accordance with Canadian NI 43-101 standards. M3 also scaled previous work by others for the sulfur-burning sulfuric acid plant that is included in the project.

2.1 LIST OF QUALIFIED PERSONS

Site visits and areas of responsibility are summarized in Table 2-1 for the Qualified Persons.

Table 2-1: Dates of Site Visits and Areas of Responsibility

Author	Company	Designation	Site Visit Date	Section Responsibility
John Woodson	M3 Engineering & Technology Corp. – Tucson, AZ	P.E. SME-RM	N/A	Sections 1.1, 1.16, 1.17, 1.19 (except 1.19.1.1 and 1.19.2.1), 1.20, 1.22, 1.23, 18, 19, 21 (except 21.1.2 and 21.2.1), 22, 25, 26, and 27.
Jeffrey Bickel	RESPEC Company LLC	CPG	April 3, 2024	Sections 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.12, 1.21, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, and 23
Abyl Sydykov	M3 Engineering & Technology Corp. – Tucson, AZ	PhD, P.E.	December 17, 2024	Sections 1.15 and 17
Dr. Terence P. McNulty	T.P. McNulty & Associates	P.E., DSc	Johnson Camp Site in 1990s*	Sections 1.11, 13 and 24
R. Douglas Bartlett	Clear Creek Associates	CPG	May 15, 2019	Sections 1.18, 16.9, and 20
Jacob Richey	Independent Mining Consultants, Inc.	P.E.	December 5, 2024	Sections 1.14, 1.19.1.1, 1.19.2.1, 16 (except 16.2 and 16.9), 21.1.2, and 21.2.1
Thomas M. Ryan	Call & Nicholas, Inc.	P.E.	October 18, 2023	Section 16.2

* visits to JCM which is adjacent to the Gunnison Project but not direct site visit to the Gunnison Project

2.2 DEFINITIONS OF TERMS USED IN THIS TECHNICAL REPORT

- **Lixiviant:** Aqueous media, in this case, sulfuric acid, to extract copper from the oxide copper mineralization.
- **Pregnant Leach Solution (PLS):** Lixiviant after it is loaded with dissolved copper. PLS is stripped of copper in the solvent extraction process.
- **Raffinate:** Lixiviant after it has been stripped of copper in the solvent extraction process. Raffinate is re-acidified and pumped back to the wellfield to dissolve more copper.
- **Diluent:** Organic medium in which solvent extract takes place in the SX settlers.
- **Extractant:** Organic chemical that is used to extract copper from PLS into the diluent and then transfer the copper from the diluent to the electrolyte.
- **Electrolyte:** The aqueous solution carrying concentrated copper in solution which is pumped into the EW Tankhouse to electroplate copper onto steel blank sheets. The depleted electrolyte is recirculated to the SX circuit to load more copper.
- **Sulfuric acid:** A dense, colorless liquid chemical (H_2SO_4) used extensively to leach oxide copper.
- **Sulfurous acid:** The chemical species, H_2SO_3, which is formed by dissolving sulfur dioxide, SO_2, in water was used briefly as a lixiviant for copper in the 1920's.

2.3 UNITS AND ABBREVIATIONS

This Technical Report is in English units. Tons are short tons and ktons mean 1,000 short tons. Copper grades are in percentage by weight. All tonnages reported in this document are in dry tons. Lengths are in feet (except where noted) and currency is in U.S. dollars (except if noted otherwise).

Table 2-2: Units, Terms and Abbreviations

Abbreviation	Unit or Term
%	percent
°	degree (degrees)
°C	degrees Centigrade
$M	million dollars
µ	micron or microns, micrometer, or micrometers
A	Ampere
a/m^2	amperes per square meter
AA	atomic absorption
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
APP	Aquifer Protection Permit
AQL	Aquifer Quality Limit
ASCu	Acid soluble copper
AzTech	AzTech Minerals, Inc.

Abbreviation	Unit or Term
BADCT	Best Available Demonstrated Control Technology
BLM	US Department of the Interior, Bureau of Land Management
cfm	cubic feet per minute
cm	Centimeter
cm^2	square centimeter
cm^3	cubic centimeter
CoG	cut-off grade
CNCu	Cyanide soluble copper
Cu	Copper
CuS	Copper sulfide
dia.	Diameter
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
FA	fire assay
famsl	feet above mean sea level
FS	Feasibility Study
ft	foot (feet)
ft^2	square foot (feet)
ft^3	cubic foot (feet)
ft^3/st	cubic foot (feet) per short ton
g	gram
g/L	gram per liter
g/st	grams per short ton
GA	General Arrangement
gal	gallon
GCAZ	Excelsior Mining Arizona Inc.
GCC	Gunnison Copper Corporation
GCH	Excelsior Mining Holdings Inc.
g-mol	gram-mole
gpl	gram per liter
gpm	gallons per minute
Ha	hectares
HDPE	High Density Polyethylene
hp	horsepower
IMC	Independent Mining Consultants
in	inch
IRR	Internal Rate of Return

Abbreviation	Unit or Term
ISR	In-Situ Recovery
JCM	Johnson Camp Mine
kg	kilograms
km	kilometer
km^2	square kilometer
ktons	thousand short tons/ kilotons
kst/d	thousand short tons per day
kst/y	thousand short tons per year
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
kWh/st	kilowatt-hour per short ton
L	liter
L/sec	liters per second
lb	pound
LHD	Load-Haul-Dump truck
LoM	Life-of-Mine
M	meter
m.y.	million years
m^2	square meter
m^3	cubic meter
M3	M3 Engineering & Technology Corp.
Ma	million years ago
mg/L	milligrams/liter
mi	mile
mi^2	square mile
MIW	Mine-influenced water
MM lb	million pounds
mm	millimeter
mm^2	square millimeter
mm^3	cubic millimeter
mppa	million pounds per annum (year)
Mst	million short tons
Mst/y	million short tons per year
MVA	megavolt ampere
MW	million watts
NI 43-101	Canadian National Instrument 43-101
NPV	Net Present Value

Abbreviation	Unit or Term
PAST	Professional Archeological Services of Tucson
PEA	Preliminary Economic Assessment
PFS	Pre-Feasibility Study
PLS	Pregnant Leach Solution
PMF	probable maximum flood
POO	Plan of Operations
ppb	parts per billion
ppm	parts per million
psi	pounds per square inch
QA/QC	Quality Assurance/Quality Control
RC	reverse circulation drilling
RQD	Rock Quality Description
RT	Reverse takeover
SEC	U.S. Securities & Exchange Commission
sec	second
SG	specific gravity
st	short ton (2,000 pounds)
stpd	short tons per day
st/h	short tons per hour
st/y	short tons per year
SX-EW	Solvent Extraction (SX) - Electrowinning (EW)
t	tonne (metric ton) (2,204.6 pounds)
TCu	Total copper
TSF	Tailings Storage Facility
TSP	total suspended particulates
UIC	Underground Injection Control
USEPA	United States Environmental Protection Agency
V	volts
VFD	variable frequency drive
W	watt
WTP	Water treatment plant
XRD	x-ray diffraction
yd^2	square yard
yd^3	cubic yard
yr	year

3 RELIANCE ON OTHER EXPERTS

The authors, as Qualified Persons, relied upon historical data for the Gunnison Project provided by Gunnison Copper Corp. In the opinion of the authors, the Gunnison historical data, in conjunction with borehole assays conducted by GCC, are present in sufficient detail to prepare this Technical Report and are generally correlative, credible, and verifiable. The Project data are a reasonable representation of the Gunnison Project. Any statements in this Technical Report related to deficiency of information are directed at information that, in opinion of the authors, is recommended by the authors to be acquired.

The authors relied on a summary of title document review dated February 22, 2021 prepared by Lewis Roca Rothgerber Christie LLP, and review of underlying option agreements, in making legal determinations of the lands and claims at Gunnison.

Clear Creek Associates (CCA) reviewed and updated the environmental report prepared for the Gunnison property and prepared Section 20 for the Gunnison open pit and heap leach operation. CCA has relied on information provided by GCC operations personnel and reports filed with agencies since 2019. A report by Haley & Aldrich (2014a) documents the environmental condition of the Gunnison property.

NORAM Engineering and Constructors Ltd. (2022) prepared a design and capital cost estimate for a molten sulfur burning sulfuric acid plant to produce 1,650 short tons of concentrated sulfuric acid per day. This report served as the basis for upsizing the sulfuric acid plant to 3,000 short tons of concentrated sulfuric acid per day.

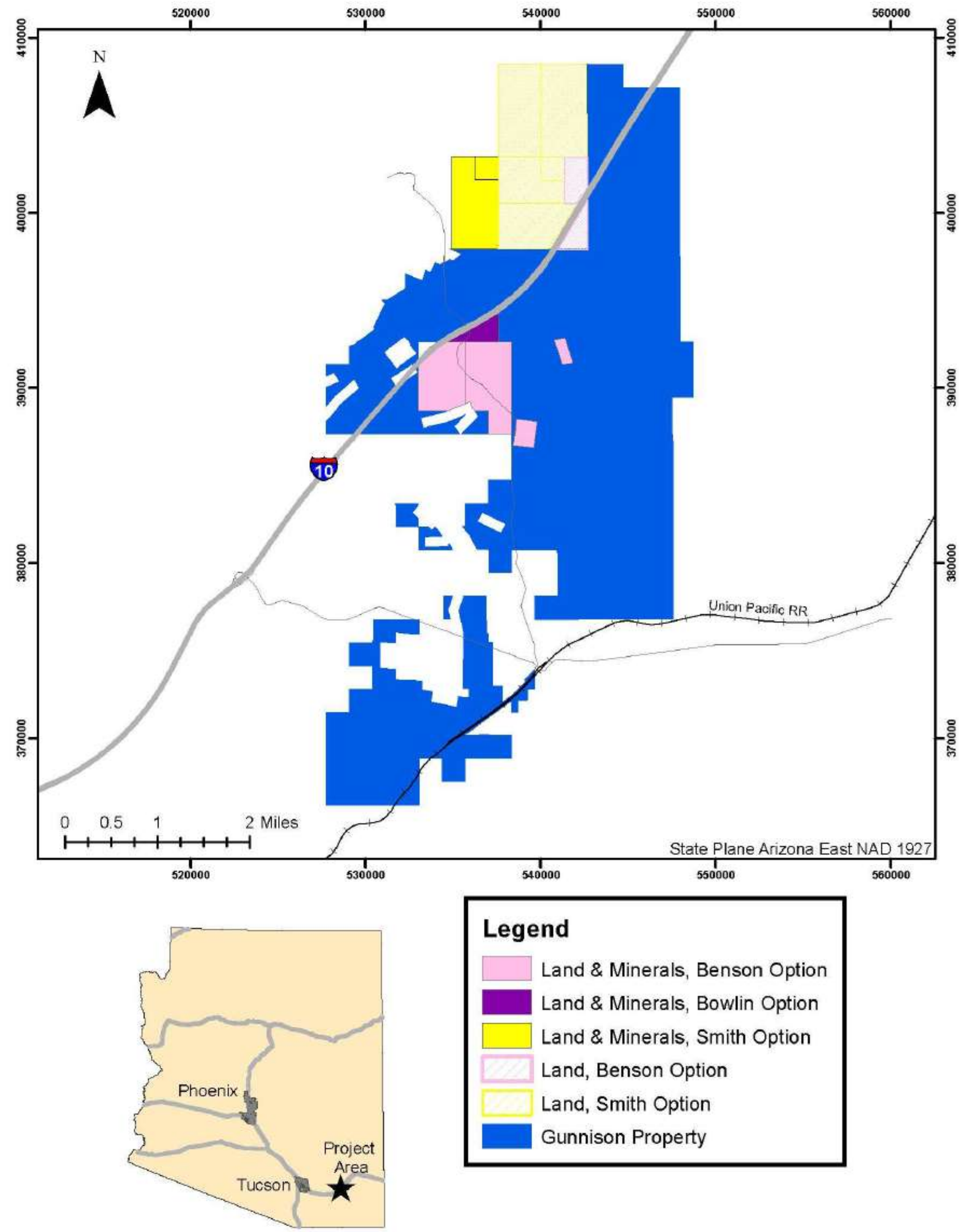
Information concerning the costs and design of the Interstate 10 relocation was provided by Kimley Horn, who have experience designing and estimating divided, limited access highway projects in collaboration with the Arizona Department of Transportation.

4 PROPERTY DESCRIPTION AND LOCATION

The Project is held by GCC through its wholly owned subsidiaries Excelsior Mining Arizona, Inc. (GCAZ) and Excelsior Mining Holdings, Inc. (GCH). Acquisition of all mineral interests comprising the Gunnison Project from the James L. Sullivan Trust was completed in January of 2015. These assets represent, among other things, the mineral rights to the Gunnison and South Star Copper deposits of the Gunnison Project (the Project).

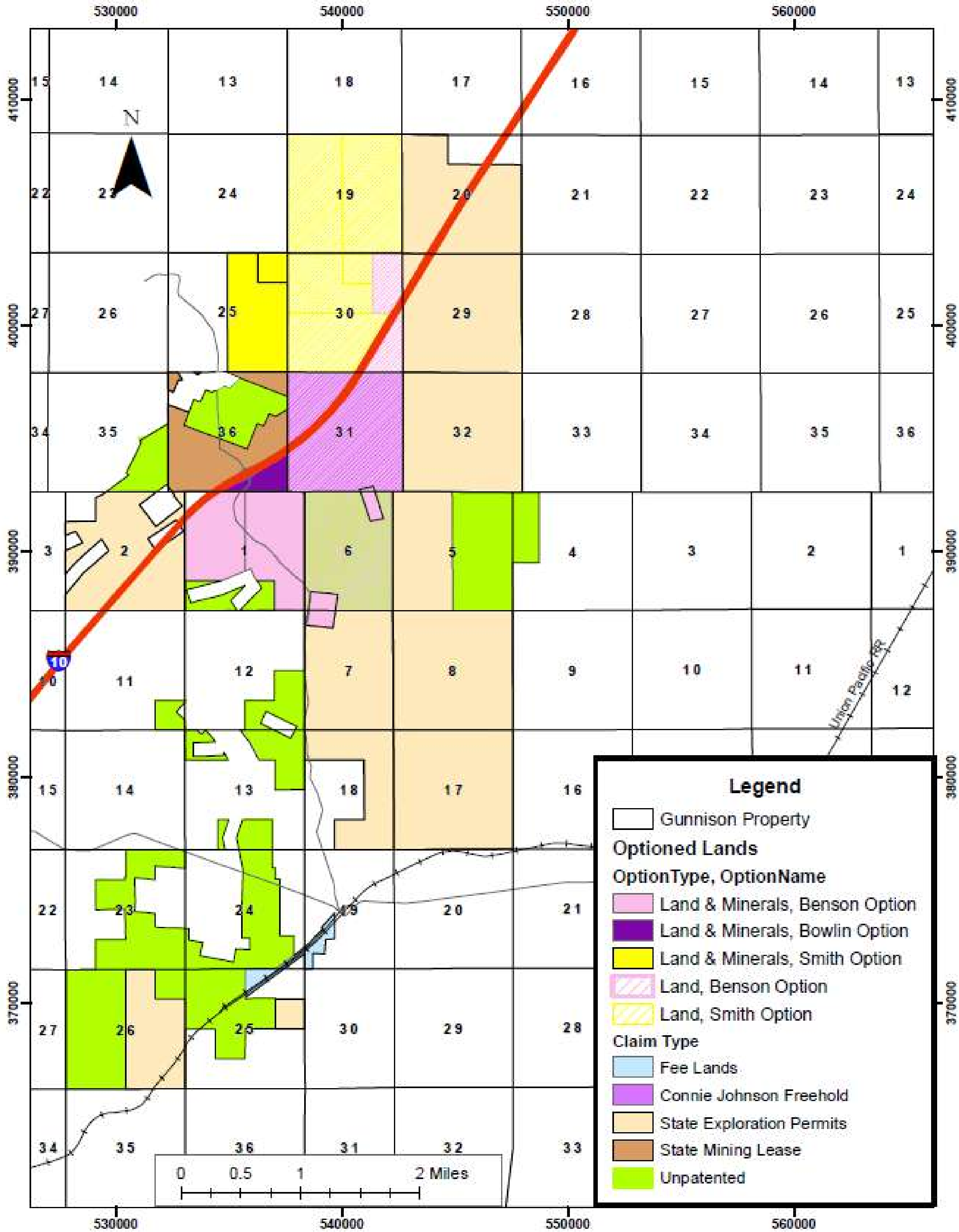
The Project is located in Cochise County, Arizona, approximately 65 miles east of Tucson. Figure 4-1 is a general location map and property location near the I-10 freeway. The Project includes portions of Section 25, 35 and 36 T15S R22E, Sections 1, 2, 11, 12, 13, 23, 24, 25, and 26 T16S R22E, Sections 4, 5, 6, 7, 8, 17, 18 and 19 T16S R23E, and Sections 19, 20, 29, 30, 31 and 32 T15S R23E and is centered at 32º 04' 55" N latitude and 110º 02' 40" W longitude. Total area of the Project is approximately 9,756 acres (3,949 Ha).

Figure 4-2 shows the claim status for the Gunnison Project as of October 2024. Table 4-1 contains a summary of the land packages that constitute the Gunnison Project. Following the table is brief descriptions of the claims, permits, deeds and land holdings. Appendix B contains a detailed list of all the mining claims and land packages.



Source: GCC, 2024

Figure 4-1: Location of the Gunnison Project, Gunnison and South Star Deposits – October 2024



Source: GCC, 2024

Figure 4-2: Project Mineral Rights by Claim Type – October 2024

Table 4-1: Summary of Land Packages that Constitute the Gunnison Project

Claim Type	# of Claims	Approximate Area	Approximate Holding Costs	Surface Rights
Federal Unpatented Mining Claims	188	2,860 acres 1157 hectares	Annual $37,600.00	Subject to US mining law
Arizona State Mineral Lease	1	319 acres 129 hectares	Annual $18,345.95	Subject to AZ state laws
Arizona State Exploration Permits	11	4,952 acres 2,004 hectares	Annual up to $109,915.2	Subject to AZ state laws
Gunnison Freehold Mineral Rights via "Connie Johnson" Deed	1	616 acres 249 hectares	Nil	Subject to deed of trust (see below)
Bowlin Option	1	65 acres 25 hectares	Nil	Subject to Bowlin Option (see below)
Benson Option	3	562 acres 228 hectares	Nil	Subject to Benson Option (see below)
Smith Option	2	320 acres 130 hectares	Nil	Subject to Smith Option (see below)
South Star Freehold land and mineral rights.	4	62 acres 25 hectares	Annual $649.34	Controlled by GCC
Total	**211**	**9,756 acres 3,949 hectares**	**Annual $166,510.49**	

Ownership of the unpatented mining claims is in the name of the holder (locator), subject to the paramount title of the United States of America, under the administration of the U.S. Bureau of Land Management ("BLM"). Under the Mining Law of 1872, which governs the location of unpatented mining claims on federal lands, the locator has the right to explore, develop, and mine minerals on unpatented mining claims without payments of production royalties to the U.S. government, subject to the surface management regulation of the BLM. As of the Effective Date, annual claim-maintenance fees are the only federal payments related to unpatented mining claims, and GCC represents these fees have been paid in full to August 31, 2025. The current annual holding cost for Gunnison is estimated at $166,510.49, including the county recording fees.

GCC has rights to use the surface of the Project that is in the form of a State Mineral Lease and fee land parcels. The federal unpatented claims grant surface access but do not provide for surface ownership. Unpatented mining claims give the owner the right to develop and exploit valuable minerals contained within the claim, so long as the claim is properly located and validly maintained.

4.1 UNPATENTED MINING CLAIMS

There are 188 unpatented mining claims held by Gunnison in the name of GCAZ and GCH totaling 2,860 acres (1,157 ha). A complete list of the claims is provided in Appendix B. The unpatented claims are for minerals only, with no surface ownership. The BLM requires that all unpatented claims use a rental year from September 1 through August 31; claims for which fees are not paid by August 31st are automatically forfeited. The claims otherwise have no expiration dates and under current mining law can be held indefinitely if properly maintained. The claims are located on the ground and the location descriptions are filed with the BLM.

4.2 STATE MINERAL LEASE AND PROSPECTING PERMITS

GCAZ and GCH hold the Arizona State Mineral Lease and Prospecting Permits. The tenements are administered by the Arizona State Land Department and are for minerals only. Rents, fees, and expenditure commitments are due each year and all payments and expenditure commitments are current. The 2025 expenditure commitment will be up to $99,443 with fees of up to $28,819.1. A detailed list of these fees and the due dates is supplied in Appendix B. A state royalty is payable on state leases for copper that is produced and sold. The amount is set by the Arizona State Land Department using a sliding scale royalty. The sliding scale royalty uses an upper and lower limit based on copper price and has the highest possible royalty rate of 8% and the lowest possible royalty rate of 2%. GCC is required to pay a minimum annual royalty regardless of production. The minimum annual royalty is $6,381.20 and is due each year on or before the anniversary of the commencement date of the lease and shall be a credit for GCC, fully recoupable against production royalties. Mineral lease and prospecting permit boundaries are described by the Arizona State Land Department. Surface rights include the right to use the surface for exploration, mining, mineral processing, and related activities subject to a state approved Mineral Development Report or Exploration Plan as the case may be. The mineral lease was renewed by the Arizona State Land Department June 16, 2014, and expires on June 15, 2034. The individual expiration dates of the Prospecting Permits are shown in Appendix B and range from February 22, 2026 to November 3, 2026. There are provisions in the Arizona State mining law to retain the area held by the permits, subject to meeting certain state requirements, by converting the permits to mineral leases or by applying for new exploration permits.

4.3 "CONNIE JOHNSON" DEED

GCC owns the mineral rights in Section 31, T15S., R23E, that were subject to the provisions of a Deed of Trust dated January 22, 1998, between GCAZ and the seller of the mineral rights. The Deed of Trust was released, and the mineral rights transferred to GCAZ through a Beneficiary Deed of Full Release and Full Reconveyance that was recorded on February 6, 2015. The area (approximately 616 acres or 249 ha) covers about 1/3 of the Gunnison deposit, is for the minerals only and is defined by the boundaries of Section 31, T15S.and R23E. Surface and mineral rights are defined by the Deed of Trust and include "All mines and minerals in and under Section 31, Township 15 South, Range 23 East, Gila and Salt River Base and Meridian, containing 615.62 acres, more or less, together with the power to take all usual, necessary or convenient means for working, getting, laying up, dressing, making merchantable, and taking away the said mines and minerals, and also for the above purposes, or for any other purposes whatsoever, to make and repair tunnels and sewers, and to lay and repair pipes for conveying water to and from any manufactory or other building…".

4.4 FEE SIMPLE LAND

Mineral and in some cases mineral and surface rights to a small portion of the South Star deposit are held directly by GCAZ. Mineral rights only pertain to Parcel F (approximately 15.3 acres), Section 25 T16S., R22E and Parcel A (approximately 39 acres), Section 19, T16S., R23E., Union Pacific Railroad that covers an easement along the Union Pacific Railroad. Surface and Mineral rights are held via Parcel D (approximately 14.24 acres), Section 19 T16S., R22E., and Parcel E (approximately 4.28 acres), Section 19 T16S., R23E. Holding costs for the fee simple land amount to approximately $649 per year in property taxes. Property boundaries are defined by the property descriptions on public record.

GCAZ has entered into an option agreement with certain landowners that provide GCAZ the right to acquire approximately 2563.05 acres of Fee Simple Lands that are referred to as the "Smith Option" and the "Bowlin Option". The terms of the Smith Option agreement commenced in September 2022 and require an upfront fee of $40,000 and an annual fee of $30,000. GCAZ has a period of seven years to exercise the option at a price that starts at $3,500/acre in Year 1 and increases over the seven year term at $500 per year to $6,500/acre in Year 7. The terms of the Bowlin Option agreement commenced in January 2023 and require an annual fee of $40,000.00. The term of the Bowlin Option agreement is seven years, provided that the option may be extended by an addition five years in return for an increased annual fee of $50,000.00 for years eight to twelve. The purchase price for the property under the terms of the Bowlin

Option agreement is $2,000 per acre for a portion of the property and the remainder of the property will be valued by an independent appraiser at the time of option exercise, provided that such amount shall not be less than $15 million (adjusted annually by the US Consumer Price Index (CPI-U). There are also alternatives for GCC to acquire a smaller portion of the property or for the seller to require a relocation of its travel center to a new land parcel procured by GCC.

GCAZ has entered into an option agreement with certain landowners that provide GCAZ the right to acquire approximately 3898.14 acres of Fee Simple Lands that are referred to as the "Benson Option" The terms of the Benson Option agreement commenced in November 12, 2024 and require an upfront fee of $1,000,000 and an annual fee of $250,000 in years two, three, four, five and six. GCAZ has a period of six years to exercise the option at a price that starts at $28,000,000 in Year 1 (with the $1 million credited against the purchase price) and increases over the six year term at a rate of $2,000,000 per year (plus the $250,000 annual fee which is credited against the purchase price), to $37,000,000 in year six.

4.5 ADDITIONAL ROYALTIES

4.5.1 Greenstone Royalty

Greenstone Excelsior Holdings L.P. ("Greenstone") holds a 3.0% gross revenue royalty over the Gunnison Project. The gross revenue royalty is defined as royalty percentage times receipts, which is the sum of physical product receipts and deemed receipts. The Greenstone royalty applies to the entirety of the Gunnison Project and production therefrom.

The Gunnison Project is also subject to a Metal Stream Agreement with Triple Flag Mining Finance Bermuda Ltd. ("Triple Flag") that is applicable to all oxide minerals production from the parts of the Project located in the "Stream Area". The Metal Stream Agreement is summarized in Table 4-2.

Table 4-2: Triple Flag Metal Stream Agreement for the Gunnison Project

<table>
<tr><td>Stream Deliveries</td><td>GCAZ ("Seller") is required to deliver Grade A Copper Cathodes in an amount equal to the "Payable Copper". The amount of Payable Copper is calculated based on a percentage of the amount of copper that is sold and delivered to Offtakers under the terms of Offtake Agreements (for percentages see heading – Payable Copper).</td></tr>
<tr><td>Payment</td><td>The Buyer pays to the Seller a price for copper equal to 25% of the daily official LME Grade A Settlement quotation for copper quoted in U.S. Dollars, as published in the Metal Bulletin.</td></tr>
<tr><td>Payable Copper</td><td>"Payable Copper" means a percentage of the Reference Copper equal to:
<table>
<tr><th>Scenario</th><th>Stage 1
(25 mppa)</th><th>Stage 2
(75 mppa)</th><th>Stage 3
(125 mppa)</th></tr>
<tr><td>Upfront Deposit</td><td>16.5%</td><td>5.75%</td><td>3.5%</td></tr>
<tr><td>Upfront Deposit + Expansion Option</td><td>16.5%</td><td>11.0%</td><td>6.0%</td></tr>
</table>
At the current stage of the Project, the Buyer has made the initial upfront deposit ($65 million). The Metal Stream Agreement was completed placed on the planned ISR operation. As the annual production rate from the open pit operation is expected to exceed 125 mppa, it is assumed that the "Stage 3" stream percentage will be applicable.
The "Expansion Option" provides Buyer the option to invest an additional $65 million in the event Seller approves an expansion to at least 50 mppa.</td></tr>
</table>

4.5.2 Callinan Royalty

Callinan Royalties Corporation (now a wholly owned subsidiary of Altius Minerals Corporation) holds a gross revenue royalty over the Gunnison Project. The gross revenue royalty is defined as royalty percentage times receipts which is the sum of physical product receipts and deemed receipts. The royalty rate is 1.625% while the plant capacity is less than 75 million pounds per annum and 1.5% once plant capacity is greater than or equal to 75 million pounds per annum.

4.5.3 Bowlin Royalty

Pursuant to the terms of the Bowlin Option agreement, Bowlin Travel Centers, Inc. has been granted a 1% gross revenue royalty on any copper mined and processed from the area marked “Land & Minerals, Bowlin Option”.

4.6 ENVIRONMENT AND PERMITTING

4.6.1 Gunnison Project

The Gunnison Project operates under an Aquifer Protection Permit (APP), Air Quality Permit (AQP), a Resource Conservation and Recovery Act (RCRA) site specific ID number. All of these permits are issued and administered by the Arizona Department of Environmental Quality (ADEQ). In addition, Gunnison operates under an Underground Injection Control Permit (UIC) administered by the EPA. Gunnison also has a site wide Reclamation Plan approved by Arizona State Mine Inspector (ASMI).

Existing closure liabilities at Gunnison are covered under the APP, UIC and ASMI. These include closure of the existing ponds, wellfield, and disturbed grounds. There are existing bonds in place to cover all reclamation and closure obligations.

All permits will need major modifications for open pit mining.

4.7 OTHER SIGNIFICANT RISK FACTORS

There are no other known significant factors or risks that may affect access, title, or the right or ability to perform work on the property

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Gunnison Project (the Project) is located in a sparsely populated, flat to slightly undulating ranching and mining area about 65 road miles east of Tucson, Arizona. The Tucson metropolitan area is a major population center (approximately 1,000,000 persons) with a major airport and transportation hub including well developed infrastructure (highways and rail) and services that support the surrounding copper mining industry. The towns of Benson and Wilcox are nearby and combined with Tucson can supply sufficient skilled labor for the Project.

Access to the Gunnison Project is via the Interstate10 (I-10) freeway from Tucson and Benson in the west or Wilcox in the east. The Gunnison deposit can be accessed via a short, improved dirt road heading approximately 1 mile east from the south side of the "Thing" roadhouse on the Johnson Road exit from I-10.

The Project area encompasses approximately 15 square miles within Cochise County, Arizona and includes unpatented mining claims, private land, Arizona State Prospecting Permits, a single Arizona State Mineral Lease, and direct ownership of mineral rights. Unpatented mining claims give the Owner exclusive right to possess the ground (surface rights) covered by the claim, as well as the right to develop and exploit valuable minerals contained within the claim, so long as the claim is properly located and validly maintained.

For the Fee Simple lands (private), both the land and mineral rights are owned by GCAZ or GCAZ has the option to acquire such land and mineral rights. The Connie Johnson Deed grants the mineral right to GCAZ as well as access to mining. The Arizona State Prospecting Permits gives lessee the right to explore and convert mineral discoveries to Arizona State Mineral Leases so long as the claim is validly maintained. Surface rights for the various land packages are sufficient for GCAZ to conduct its mining operations, subject to applicable laws and permits.

The Gunnison SX-EW plant and ancillary facilities have been located on hill tops that will be accessed by existing roads on State lands covered by State permits northeast and south of the Gunnison deposit.

The main Union Pacific Southern Pacific (UPSP) railway runs 3 to 5 miles south of the Gunnison deposit. Engineering plans, cost estimates, and preliminary discussions have been made to construct a siding and rail spur to the Gunnison Project to supply lime and tanker cars of sulfuric acid and/or molten sulfur for the production of sulfuric acid onsite after the initial years of copper production. A railroad spur could also be used to ship cathode copper.

The existing 69 kV electrical power line skirts the eastern border of the Gunnison Project and lands at the main Johnson Camp Mine substation. This power line can be tapped at the Gunnison process plant substation which lies slightly to the north of the UPSP rail line. Other higher voltage transmission lines coming from the Apache generating station, located just to the east of the Gunnison Project. The Gunnison Project including sulfuric acid plant at full production will be able to co-generate up to 27.8 MW of power to the electrical grid operated by Sulphur Springs Valley Electrical Cooperative.

Freshwater supply will be provided from dewatering wells located in and around the Gunnison open pit. There will be years when there is excess non-contact water produced that will be re-injected into the water table at a location on the northeast end of the property. Four wells have been budgeted in the capital cost estimate for these purposes.

The elevation on the property ranges from approximately 4,600 to 4,900 feet above mean sea level in terrain of the eastern Basin and Range physiographic province of southeastern Arizona. The climate varies with elevation, but in general the summers are hot and dry, and winters are mild.

The area experiences two rainy seasons in general, one during the winter months of December to March and a second summer season from July through mid-September. The summer rains are typical afternoon thunderstorms that can be locally heavy. Average annual rainfall for Dragoon is 13.2 inches and the average highs range from 58ºF in January to

94º F in June. Occasional light snow falls at higher elevations in the winter months. Exploration programs and mining activities operate year around in the region.

Vegetation on the property is typical of the upper Sonoran Desert and includes bunchgrasses, yucca, mesquite, and cacti. Figure 5-1 shows the typical vegetation and topography of the Project.

Source: RESPEC, 2024

Figure 5-1: Typical Vegetation and Topography of the Gunnison Project (Johnson Camp Mine in the background)

6 HISTORY

Prior to GCC involvement, there was no direct mining history of the Gunnison Deposit, but the adjacent Cochise district has seen considerable copper, zinc, silver, and tungsten mining beginning in the 1880s and extending to the present day. Between 1882 and 1981, the district produced 12 million tons of ore containing 146 million pounds of copper, 94 million pounds of zinc, 1.3 million pounds of lead, 720 thousand ounces of silver, and minor quantities of gold (Keith et. al., 1983). Much of the historical production came from small-scale underground copper-zinc mines located on what is now the Johnson Camp property controlled by GCC. The most significant of these producers were the Republic and Moore mines. From 1904-1940, the ore from these mines reportedly contained 4 to 4.5 percent copper and 0.5-0.75 ounces of silver per ton (Cooper, 1964). The zinc content for this period was not reported. Post 1940, the ore contained 1.5 to 3 percent copper, 5 to 10 percent zinc, and about 0.3 ounces of silver per ton. The Republic mine was the site of the historic concentrating plant in the district. Smaller underground mines in the area, such as the Peabody, reportedly yielded very high-grade ore which averaged 7.5 percent copper, 4 ounces of silver per ton, and contained as much as 44 percent zinc (Cooper, 1964). The term 'ore' is used in the historic sense only. Copper-oxide mineralization has been mined 1.5 miles northwest of Gunnison Deposit at the Johnson Camp open-pit operation since 1975, most recently by Nord Resources Corporation from 2008 until 2010. This property is now controlled by GCC. Overall, approximately 39 million tons of ore and 187 million pounds of copper have been produced out of the Johnson Camp open pits.

In the 1960s, it was recognized that potentially economic copper-skarn mineralization could be identified remotely by magnetic highs related to the magnetite content of these mineralized bodies. As a result, a magnetic high lying southeast of the now nonexistent town of Johnson was drilled in the 1960s and the Gunnison Deposit was discovered.

Since Gunnison's deposit discovery, several companies have explored the area. During this time period, extensive drilling and assaying, magnetic and IP surveys, metallurgical testing, hydrological studies, In-situ Recovery (ISR) tests, and preliminary mine design and evaluations have been undertaken.

By the late 1960s, the Gunnison Deposit was partly controlled by Cyprus and partly by private owners. In 1970, a division of the Superior Oil Company (Superior) joint ventured into the northern half of the Gunnison Deposit with Cyprus and the private owners. During the early 1970's, Superior did most of the drilling and limited metallurgical testing of the Gunnison Deposit, and by early 1974 had defined several million tons of low-grade, acid-soluble copper mineralization. During this time, the southern portion of the Gunnison Deposit was controlled by Quintana Minerals Corporation, who drilled several diamond holes and conducted metallurgical testing.

By the late 1970s, Superior had relinquished its rights to the Gunnison Deposit. Cyprus maintained the ground holdings on the Gunnison Deposit for a time but did very little work. Cyprus handed most of the ground covering the Gunnison Deposit back to the private owners in 1977.

The focus since the 1970s has been to utilize ISR or a combination of ISR and open pits as a potential mining strategy. By the early 1980s, Mr. James Sullivan had gained full control of Section 6 of the Gunnison Deposit and by 1991 had gained control of Section 31 and Section 36 via the State Mineral Lease. Apparently, no work was done from the early 1980s through 1992.

6.1 1993 TO 1998: MAGMA COPPER AND PHELPS DODGE

Magma Copper Company (Magma) optioned Gunnison Deposit from Mr. Sullivan in 1983. Magma drilled 8 holes, completed several metallurgical tests (some on six-inch diameter core), undertook limited hydrological studies, and calculated a copper-oxide resource. Magma's interest in the Project was for ISR of the copper-oxide resource. Metallurgical test work completed by Magma indicated that greater than 70% recovery is possible with ISR. Shortly after being acquired by BHP-Billiton (BHP), Magma (BHP) relinquished the Project in 1997.

After BHP relinquished its option on the Gunnison Deposit in 1997, Phelps Dodge Mining Company (Phelps Dodge) optioned the Gunnison Deposit and, in conjunction with Mr. Sullivan, drilled several holes on the periphery of the deposit. In 1998, before Phelps Dodge finished their investigation of both deposits, the company decided to focus its exploration activities outside the continental U.S. and returned the Project to Mr. Sullivan.

6.2 1999 – 2006

No work was done at the Gunnison Project in 1999 through 2006.

6.3 2007 – 2010: AZTECH MINERALS

AzTech Minerals Inc. (AzTech) acquired an option for the Project in May 2007. Prior to this, Mr. Steven Twyerould and AzTech had spent nearly two years compiling, summarizing, and digitizing historical project data from over thirty years of investigations by Superior, Cyprus, Quintana, CF&I, Magma, Phelps Dodge, and James Sullivan. This process involved building a digital database, verifying historical data, re-interpreting the geology in 3D, and calculating a copper mineral resource.

Biological surveys were conducted for AzTech by Darling Environmental & Surveying, Ltd (Darling). It was found that no federally listed, endangered, threatened species, or proposed and candidate species for listing were present in the survey area from their known distributions and ranges. In addition, the survey area does not contain suitable habitat necessary for survival or life-history requirements of such species. Anthropological surveys conducted for AzTech by Darling indicated only random artifacts were present and occasional clusters of artifacts scattered outside of the area of mineralization. No burial sites or significant cultural sites were identified. Nine lines of ground magnetic data were also obtained, and a water-table depth study was completed in June 2010.

In June 2010, AzTech and GCC announced their intent to merge. The merger was completed in October 2010 when AzTech merged with GCAZ, with GCAZ as the surviving corporation.

6.4 HISTORICAL RESOURCE ESTIMATES

Historical resource estimates for the Gunnison Deposit were completed by Superior in 1974, Phelps Dodge in 1998, and AzTech in 2010 (Table 6-1). The Superior and Phelps Dodge estimates were not prepared in accordance with the requirements of NI 43-101 and CIM definitions. Mr. Bickel has not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves and GCC is not treating the historical estimate as current mineral resources or mineral reserves. All of these historical estimates are superseded by the mineral resource estimates presented in Section 14 of this Technical Report and are not to be relied upon; they are presented here only for ease of reference and historical completeness.

Table 6-1: Comparison of Previous Oxide Copper Resource Estimates to AzTech 2010 Estimate

Source	TCu Cut-off	Gunnison Deposit	
		Million Tons	TCu Grade
AzTech	0.3%	242	0.45%
Phelps Dodge	0.3%	300	0.47%
Superior Oil	0.3%	304	0.47%
TCu = Total Copper			

6.5 ISR DEVELOPMENT PLAN

The Gunnison Project was previously designed as a copper in-situ recovery (ISR) mine using SX-EW to produce copper cathode. The ISR operation commenced ramp-up to production in 2020; however, it had operational issues related to low flow rates, so the Company began evaluating alternatives and opportunities to fix the ramp-up challenges. Well stimulation (small scale, shallow level, hydraulic fracking), has the potential to fundamentally change the performance of the wellfield and fix many of the low productivity issues. The Company has obtained a permit for well stimulation and the next step would be to conduct field trials. If well stimulation is successful, it could provide an operation with superior economics to the open pit operation and be in copper production much quicker than an open pit. However, due to the substantially improved viability of the open pit operation, GCC intends to focus the open pit operation as the alternative to ISR. The Company intends to maintain the optionality of future ISR operations and well stimulation trials as this remains an asset to the Company. This includes maintaining full compliance with all regulatory and permit requirements, including maintaining hydraulic control, pumping, monitoring and regulatory reporting.

7 GEOLOGICAL SETTING AND MINERALIZATION

The Gunnison Project including the Gunnison copper deposit is located in southeastern Arizona within the Mexican Highland section of the Basin and Range province (Figure 7-1). The province is characterized by fault-bounded mountains, typically with large intrusive cores, separated by deep basins filled with Tertiary and Quaternary gravels. Generalized stratigraphy of the Project area is shown in Table 7-1 below.

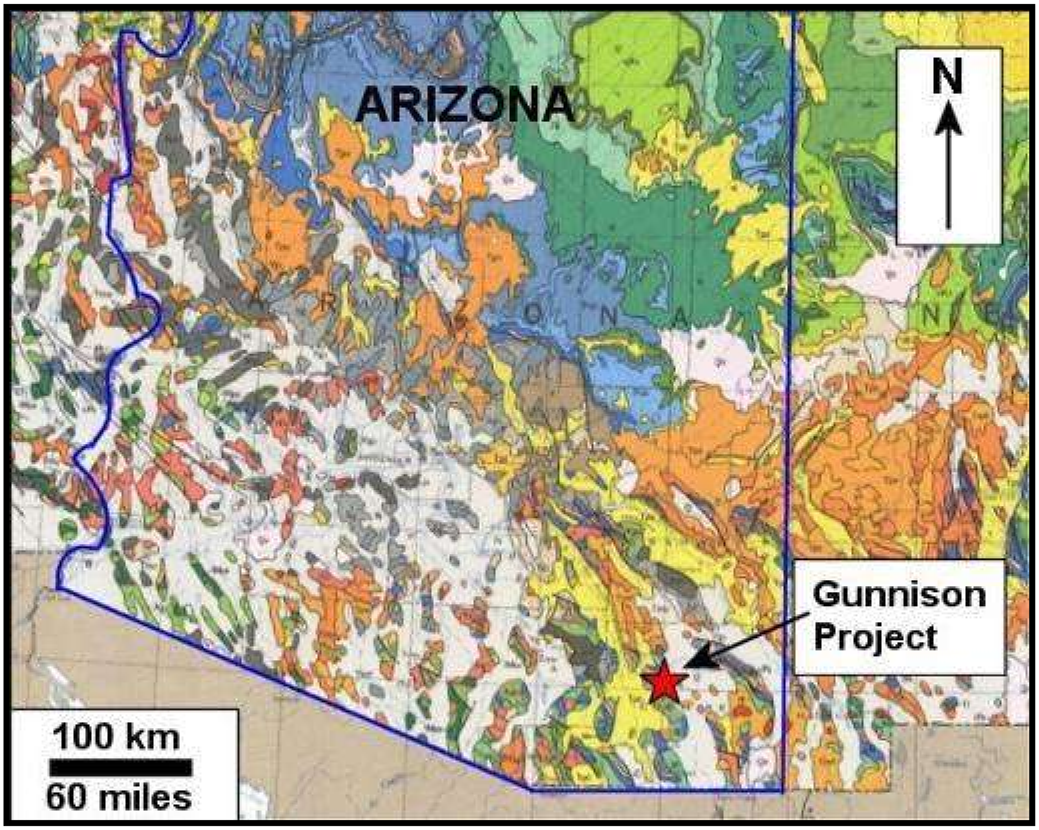


Figure 7-1: Regional Geologic Setting of the Gunnison Project (Modified from King and Beikman, 1974)

Table 7-1: Stratigraphy of the Gunnison Project Region (Modified from Weitz, 1979; Clayton, 1978)

Rock Unit or Formation	Age	Gunnison Geology	Regional Geology
Basin Fill/Alluvium	Upper Tertiary and Quaternary	Unconsolidated boulders, sand, and gravel.	Stream laid gravels, sand and silt.
Texas Canyon Quartz Monzonite	Lower Tertiary	Quartz monzonite and related intrusions.	Intrusions important in mineralizing event.
Horquilla Limestone	Middle Pennsylvanian	Pyroxene-rich calc-silicate hornfels and skarn, marble.	Limestone with abundant thin beds of shale.
Black Prince Limestone	Lower Pennsylvanian	Pyroxene-rich calc-silicate hornfels and skarn, marble.	Limestone with thin shale at the base.
Escabrosa Limestone	Lower Mississippian	Garnet-rich skarns and calc-silicate hornfels, marble.	Cliff forming limestone and dolomite. Copper skarns.
Martin Formation	Upper Devonian	Diopside-garnet skarns with diagnostic magnetite.	Dolomite with some shale and sandstone. Copper skarns.
Abrigo Formation	Upper Cambrian	Garnet-epidote-pyroxene-amphibole skarns and calc-silicate hornfels.	Shale, impure limestone and sandy dolomite. Copper skarns.
Bolsa Quartzite	Middle Cambrian	Red-brown to white quartzite and green hornfels.	Red-brown to white quartzite.
Apache Group (Pioneer Shale)	Upper Precambrian	Quartzite and metadiabase sills.	Basement rocks.
Pinal Schist	Lower Precambrian	Sericite schist.	Basement rocks.

7.1 REGIONAL GEOLOGY

The Gunnison Project including the Gunnison copper deposit is situated on the eastern edge of the Little Dragoon Mountains (Figure 7-2). The Little Dragoon Mountains are an isolated, fault bounded, up thrown block within the Basin and Range province in southeastern Arizona. The ages of the rocks range from the Proterozoic Pinal Schist to Holocene sediments. The southern portion of the Little Dragoon Mountains consists predominantly of the Eocene age Texas Canyon Quartz Monzonite, whereas the Pinal Schist and the Paleozoic sedimentary units that host the regional copper mineralization dominate the northern half.

The oldest rocks in the area, the Pinal Schist, are composed of Proterozoic sandstones, shales and volcanic flows that have been metamorphosed to greenschist and amphibolite facies. The Proterozoic Apache Group unconformably overlies the Pinal Schist and is composed of conglomerates, shales, and quartzite that were subsequently intruded by diabase sills. The Apache Group is then unconformably overlain by the Paleozoic rocks that host the mineralization including the Bolsa, Abrigo, Martin, and Escabrosa Formations. Overlying the mineralized rocks are the Black Prince and Horquilla Limestones. Tertiary/Quaternary basin fill has filled in the valleys.

The Texas Canyon Quartz Monzonite is thought to be the source of the copper mineralization at the Gunnison and South Star deposits, and is coarsely porphyritic, with potassium feldspar phenocrysts from 1 to 10 cm. Livingston *et al.* (1967) determined the age to be 50.3 ± 2.5 million years (Ma), which is uncorrected for current decay constants, and Reynolds *et al.* (1986) list eight determinations ranging from 49.5 to 55.0 Ma. The intrusion crops out to the west of the Gunnison deposit.

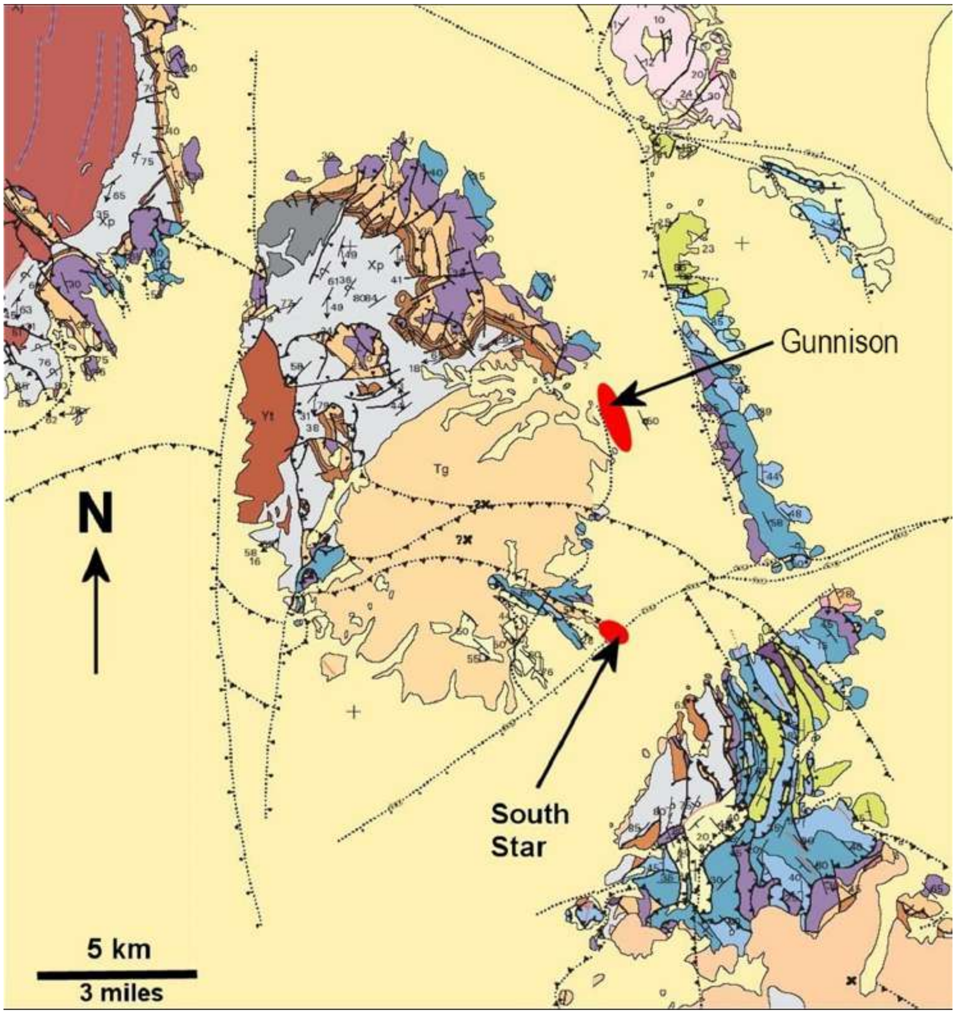


Figure 7-2: Geologic Map of the Little Dragoon Mountains (Modified from Drewes et al, 2001)

Several deformations have occurred in the Project area, with the most relevant being the Laramide Orogeny, to which the mineralization is related, and Basin and Range extension that has modified the topography to its current appearance. Much earlier, Pre-Apache Group deformation of the Pinal Schist included isoclinal folding with steep to overturned fold axes with a general northeastern structural trend. Minor deformation took place in the late Precambrian Era and between the end of the Paleozoic Era, but prior to the Cretaceous Period. The post Paleozoic, but pre-Cretaceous deformation produced steep northeast-to easterly-striking faults with offsets up to hundreds of feet.

The Laramide deformation was at right angles to the Pre-Apache Group deformation, with structures striking in a northwesterly direction. Older faults were reactivated and modified; folding and thrust faulting are common features of the Laramide deformation. The Centurion Fault of Laramide age is located south of the Gunnison deposit.

Structural trends at the regional scale include lithological units that strike approximately north-northwest and dip 20° to 45° NE; recurrent northeast-striking normal faults, and local north-northwest striking faults of variable slip directions. Regional geology and structure have been described extensively by Cooper and Silver (1964).

Two episodes of block faulting prior to the Quaternary Period have created the Basin and Range topography that dominates the current landscape and postdates the mineralization.

7.2 GUNNISON DEPOSIT GEOLOGY

The Gunnison deposit is covered by un-mineralized basin fill, varying between 300 and 800 feet in thickness. The mineralized Paleozoic host rocks below the basin fill strike approximately north-northwest and dip 20° to 45° east-northeast. Baker (1953) recognized three sets of faults in the Johnson Camp area and similar faults have been interpreted in the Gunnison deposit area. These faults include the "Northeaster" (N10° to 30°E striking; 70° to 75° dip to the SE), "Easter" (N60° E to S60° E striking; 30° to 50° S and higher angle reverse faults dipping 75° S) and "Northwestern" orientations (N15° W strike; steep E or W dip). Only minor displacements are thought to have occurred in the Gunnison deposit area; however, numerous sheared and brecciated faults, generally filled with copper-oxide mineralization, cut through the deposit.

The Paleozoic host rocks have been intruded by the Texas Canyon quartz monzonite along the western margin of the deposit. The intrusion has formed wide zones of calc-silicate and hornfels alteration, as well as extensive low-grade copper sulfide mineralization within the Paleozoic rocks. Metamorphic alteration grading outward from the stock includes garnet-wollastonite-idocrase, diopside, tremolite and chlorite-talc (Kantor, 1977) (Figure 7-3). More specifically, the Martin Formation grades from a wollastonite-diopside-rich rock near the porphyry, to a distal diopside-tremolite-actinolite assemblage, and finally to dolomite. The Abrigo has garnet-actinolite-epidote-diopside alteration with some biotite hornfels near the porphyry, and this grades to a distal tremolite alteration leading into un-metamorphosed limey shale. Quartz-orthoclase-carbonate ± magnetite and chalcopyrite veins are characteristic of the lower Abrigo where it is mineralized.

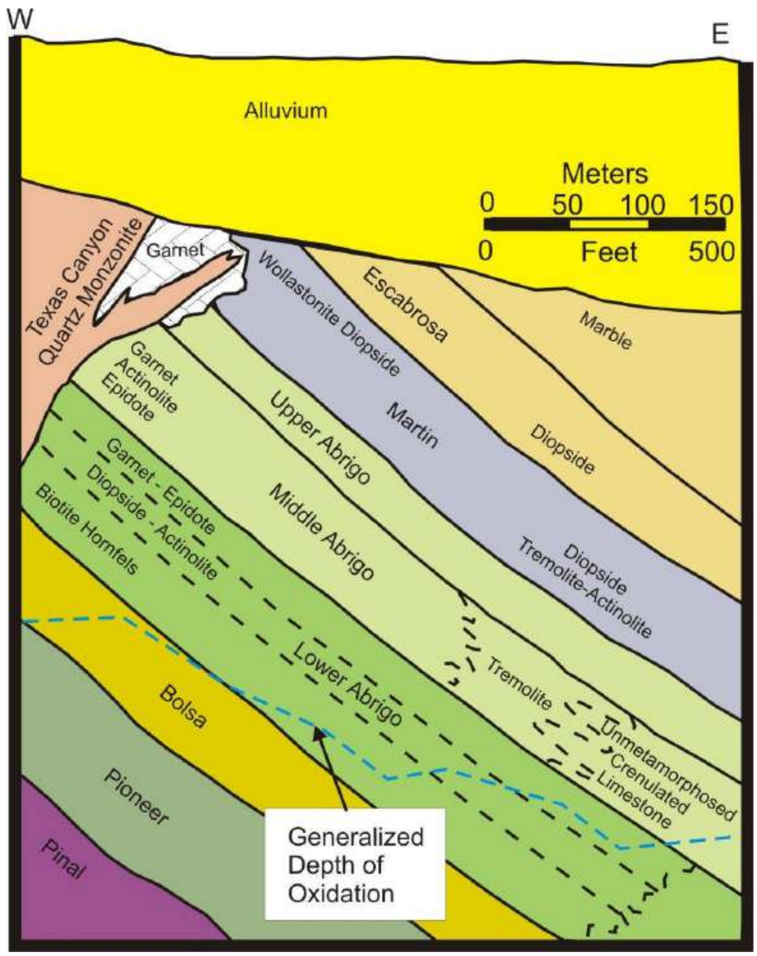


Figure 7-3: Gunnison Deposit Generalized Geological Cross Section (after Kantor, 1977)

7.2.1 Structural Framework of the Gunnison Deposit

At the Gunnison deposit, the mineralized formations strike approximately N10° to N40° W and dip from 30° to 45° NE. The strong regional trend of N10° to N30° E striking normal faults is overprinted by an abundance of N10° to N40°W striking reverse faults, joint sets, and normal faults which range in dip from 35° NE, sub-parallel to bedding, to 75° NE. The reverse faults strike parallel to the long axis of the deposit. Late-stage N70° E to S70° E striking vertical faults at the north end of the deposit contain local zones of high-grade copper-oxide mineralization. Porphyritic quartz monzonite intrusions occur along the western margin of the mineralization. At the southern end, the intrusion forms a sill between the Lower Abrigo Formation and the Bolsa Quartzite. At the northern end of the deposit, the intrusion commonly occurs as thin dikes and sills which cut the strata in numerous locations.

GCC has carried out on-going studies to model and understand the subsurface structural geology of the Gunnison deposit and its relation to mineralization and hydrology. GCC's methods and procedures for collecting and analysis of subsurface structural data, and the resulting interpretations and models are summarized in Section 9.

7.3 MINERALIZATION

Within the Project area the important mineralized host rocks include the Abrigo and Martin Formations and, to a lesser extent, the Horquilla Limestone, and the lower parts of the Escabrosa Limestone. Mineralization is also found in the Bolsa Quartzite and Precambrian basement rocks. Copper mineralization is related to calc-silicate skarns that have replaced these carbonate rocks adjacent to the Texas Canyon quartz monzonite (TQM).

Oxidation has occurred to a depth of approximately 1,600 feet and has resulted in the formation of dominantly chrysocolla with minor tenorite, copper oxides, and secondary chalcocite. Copper-oxide mineralization is present in the calc-silicate skarns as fracture coatings and vein fillings mainly in the form of chrysocolla. The remainder of the oxide mineralization occurs as replacement patches and disseminations. Copper-oxide mineralization extends over a strike length of 11,100 feet, has an aerial extent across strike of up to 3,000 feet and is more than 900 feet thick in places. Figure 7-4 shows the plan view geology of the deposit and Figure 7-5 and Figure 7-6 are east-west cross sections. Note the thickness and continuity of mineralization. The north-south long-section view in Figure 7-7 also confirms the thickness and continuity of mineralization.

Copper sulfide mineralization has formed preferentially in the proximal (higher metamorphic grade) skarn facies, particularly within stratigraphic units such as the Abrigo and Martin Formations, and within structurally complex zones. There are three types of sulfide mineralization within the skarns. In decreasing order of abundance, these are fracture coatings and vein fillings, distinct quartz-orthoclase-carbonate ± magnetite and chalcopyrite veins 0.2 to 10 cm wide (Weitz, 1976), and disseminations. The veins have retrogressive haloes of chlorite, actinolite and epidote. Primary mineralization also occurs as stringers and veinlets of chalcopyrite and bornite.

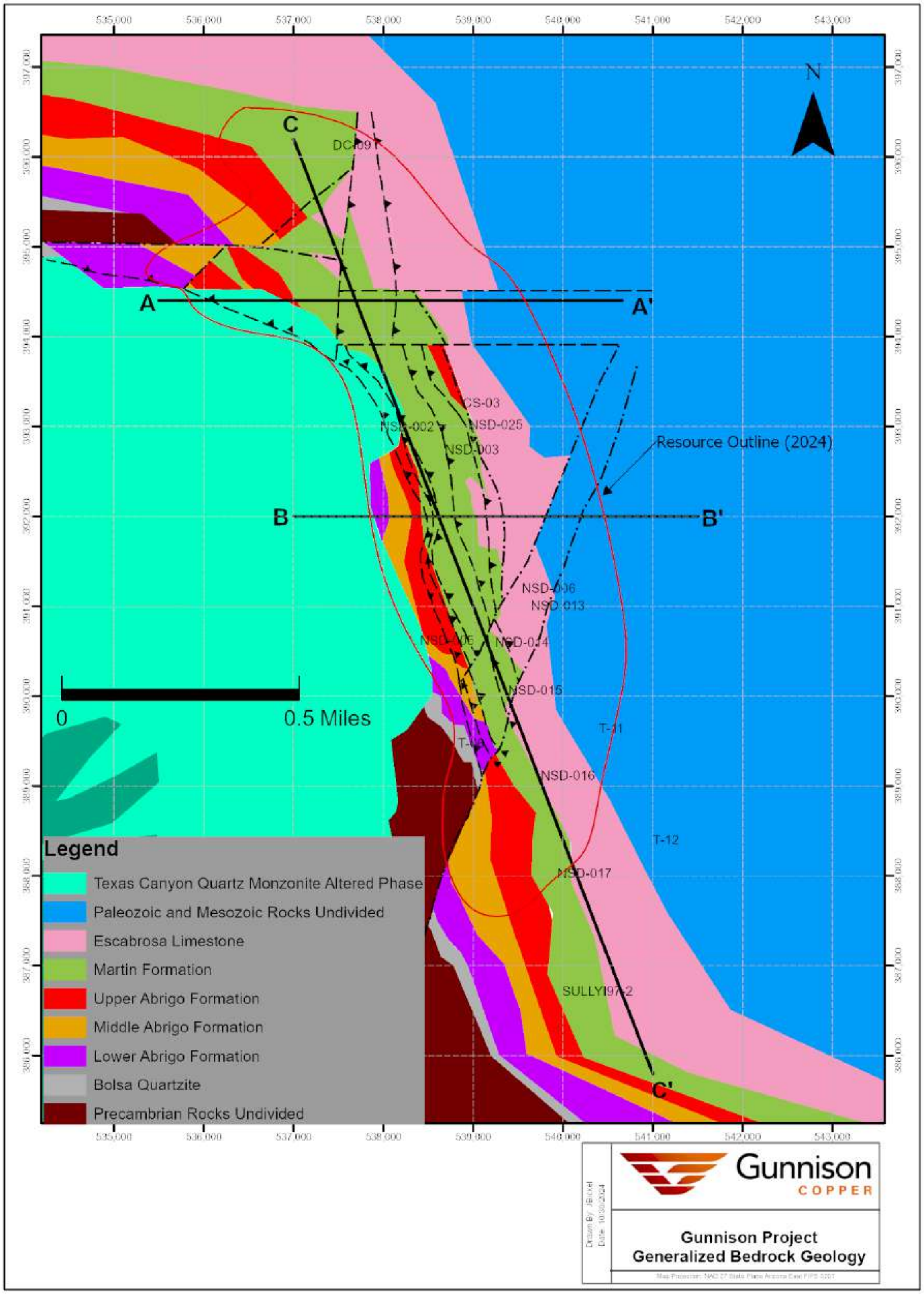


Figure 7-4: Gunnison Generalized Geology in Plan View, Below Basin Fill

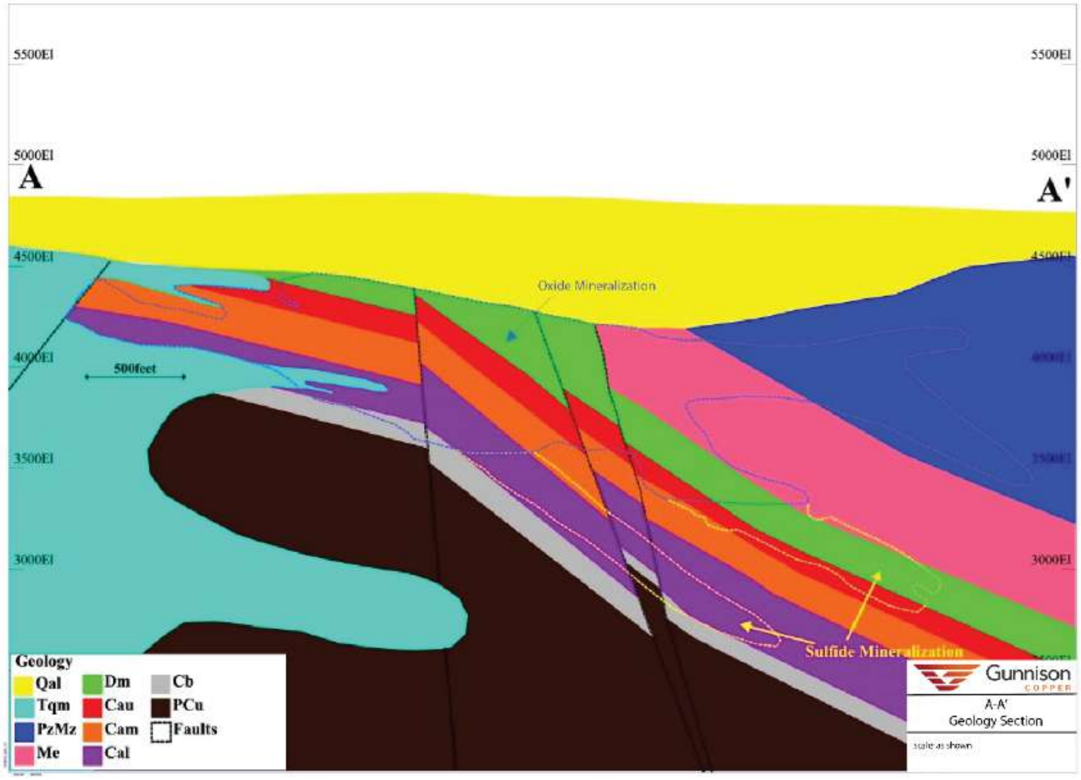


Figure 7-5: Gunnison Deposit East – West Geology Section at 394,400N Looking North

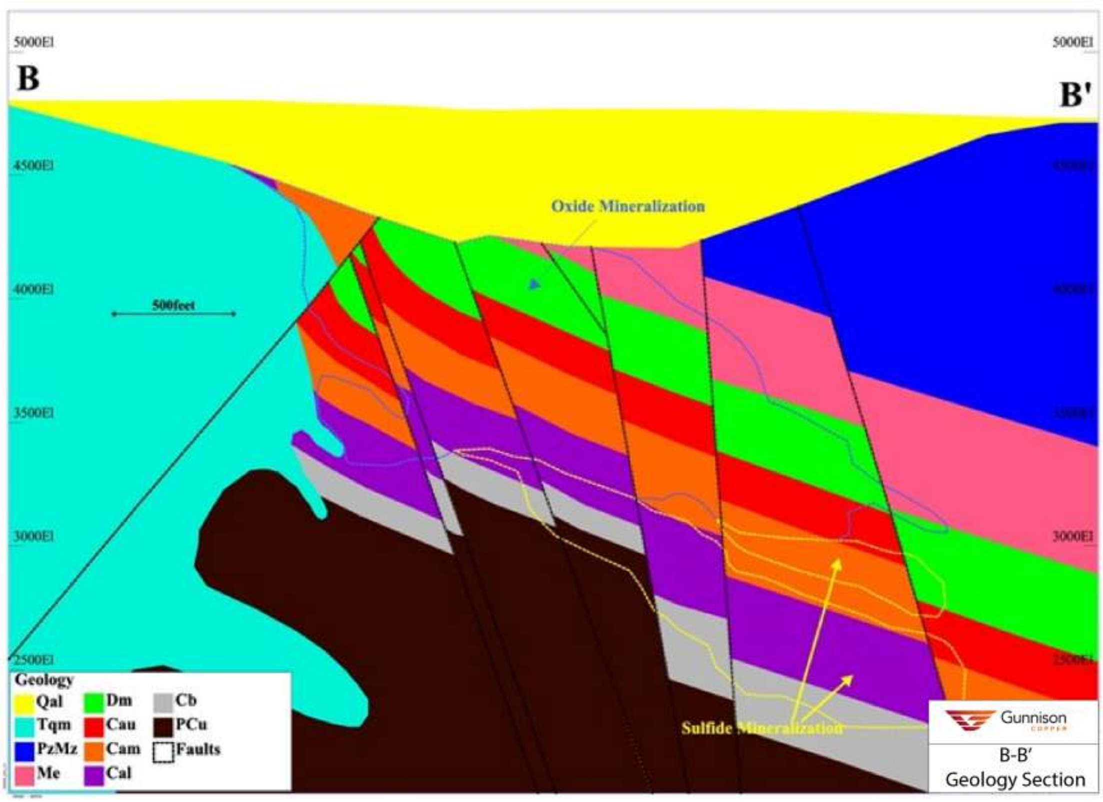


Figure 7-6: Gunnison Deposit East – West Geology Section at 392,000N, Looking North

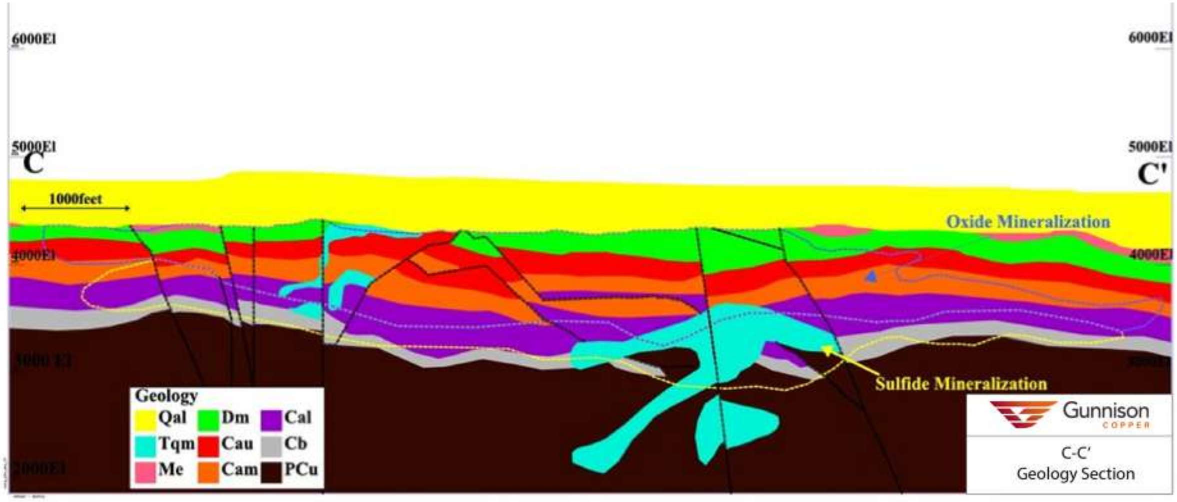


Figure 7-7: Gunnison Deposit North – South Geology Section, Looking East

Figure 7-8: Photograph of Typical Oxide Mineralization for the Gunnison Deposit
Hole J-9: 780 to 806 feet

Texturally, pyrite and magnetite are later than, and replace, the skarn minerals, and chalcopyrite formed last. The magnetite occurs as disseminated 0.2 to 0.5 mm euhedral to anhedral grains and is closely associated with pyrite. Ninety percent of the magnetite is in the skarns and may compose up to five percent by volume of the rock. The disseminated magnetite and magnetite bearing veins are most likely what is giving the magnetic response for the deposit (Colburn and Perry, 1976).

Primary chalcopyrite-molybdenite disseminations and veins also occur in the mineralized porphyry below and to the west of the skarn mineralization at the Gunnison Deposit. Only nine drillholes intersected the quartz monzonite over significant lengths (lengths > 100 feet). Most were mineralized with a best interval of 289 feet averaging 0.31% Cu and 0.028% Mo, including 30 feet at a grade of 1.35% Cu. This mineralization has never been fully assessed.

Both oxide and sulfide mineralization exhibit strong fracture control. This fracturing and faulting are best developed in terms of width and close spacing in a zone around the intrusive contact, and this decreases away from the intrusive contact in the less altered rocks to the east. The initial formation of the skarn created denser minerals and liberated CO_2 resulting in volume reduction, which created significant fracturing, and a consequent increase of porosity and permeability, allowing penetration by the later copper-bearing fluids. Weitz (1976) calculated a 30% volume reduction in the skarn-altered portions of the Abrigo and Martin formations at the Gunnison Deposit.

Oxide copper also exists within the transition zone. It mainly occurs along fractures and in quartz vein selvages as chrysocolla. Secondary supergene copper sulfide minerals such as chalcocite are often associated with the oxide mineralization in the transition zone. The transition zone is typically 100 feet to 200 feet in thickness and is strongly fractured and broken, similar to the oxide zone.

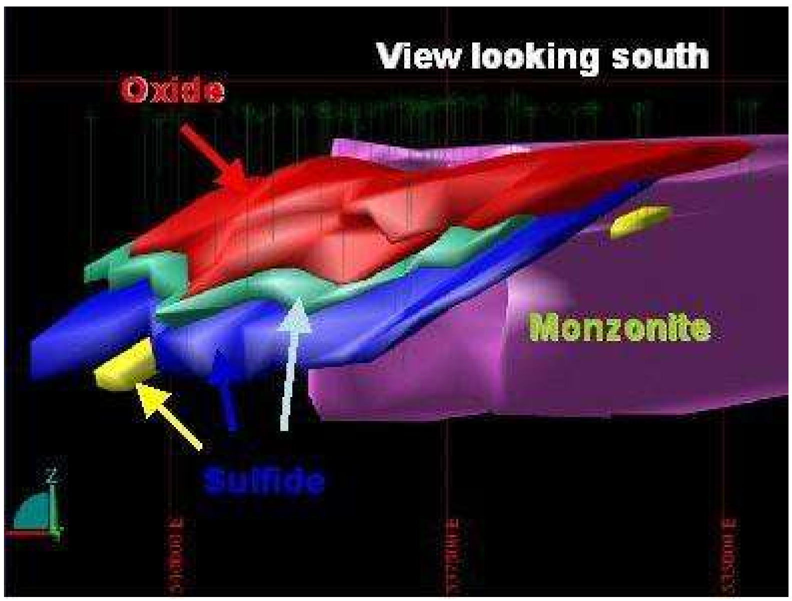


Figure 7-9: Generalized 3D View of Mineralization Looking South

7.4 ONGOING MODELING AND ANALYSIS

In 2021, GCC engaged RESPEC Company LLC (RESPEC) to review data from the production wells completed in 2018-2019 and assist with the construction of new geological models for the small area in and around the initial production wellfield for internal purposes. The models generated in 2021 have not been integrated into the overall geological model used in the estimation of the current mineral resources. Mr. Bickel has reviewed the models and determined that any discrepancies between these new interpretations and the modeled geology described in this Technical Report are immaterial to the mineral resources tabulated in Section 14. The reasoning behind this determination is discussed in Section 12.6.

8 DEPOSIT TYPES

The Gunnison Deposit is a classic copper skarn (Einaudi et al, 1980 and Meinert et al, 2005). Skarn deposits range in size from a few million to 500 million tonnes and are globally significant, particularly in the American Cordillera. They can be stand-alone copper skarns, which are generally small, or can be associated with porphyry copper deposits and tend to be very large. The Gunnison Deposit is large, at the upper end of the range of size for skarn deposits and is likely associated with a mineralized porphyry copper system that has not been discovered.

Copper skarns generally form in calcareous shales, dolomites, and limestones peripheral or adjacent to the mineralized porphyry. Copper mineralizing hydrothermal fluids are focused along structurally complex and fractured rocks and convert the calcareous shales and limestones to andradite rich garnet assemblages near the intrusive body, and to pyroxene and wollastonite rich assemblages at areas more distal to the stock. Retrograde hydrothermal fluids produce actinolite-tremolite-talc-silica-epidote-chlorite assemblages that overprint earlier garnet and pyroxene. The mineralization is typically pyrite-chalcopyrite-magnetite proximal to the mineralizing porphyry and chalcopyrite-bornite more distally from the body. The copper-gold porphyry and skarn model by Sillitoe (1989) (Figure 8-1) is being used as a conceptual exploration model for the Gunnison Deposit. Application of the model entails testing magnetic highs (potential skarns) around magnetically quiet areas (copper porphyry).

Copper-zinc skarns are important in the region and have been historically mined from the Republic, Copper Chief, Moore, and Mammoth mines from underground operations (Baker, 1953). These copper and zinc rich skarns are probably more distal to the mineralized porphyry, whereas the Gunnison and South Star skarns contain only Cu and are proximal to the mineralizing porphyry system. Tungsten and minor lead-silver-gold have also been produced in the district (Cooper and Silver, 1964).

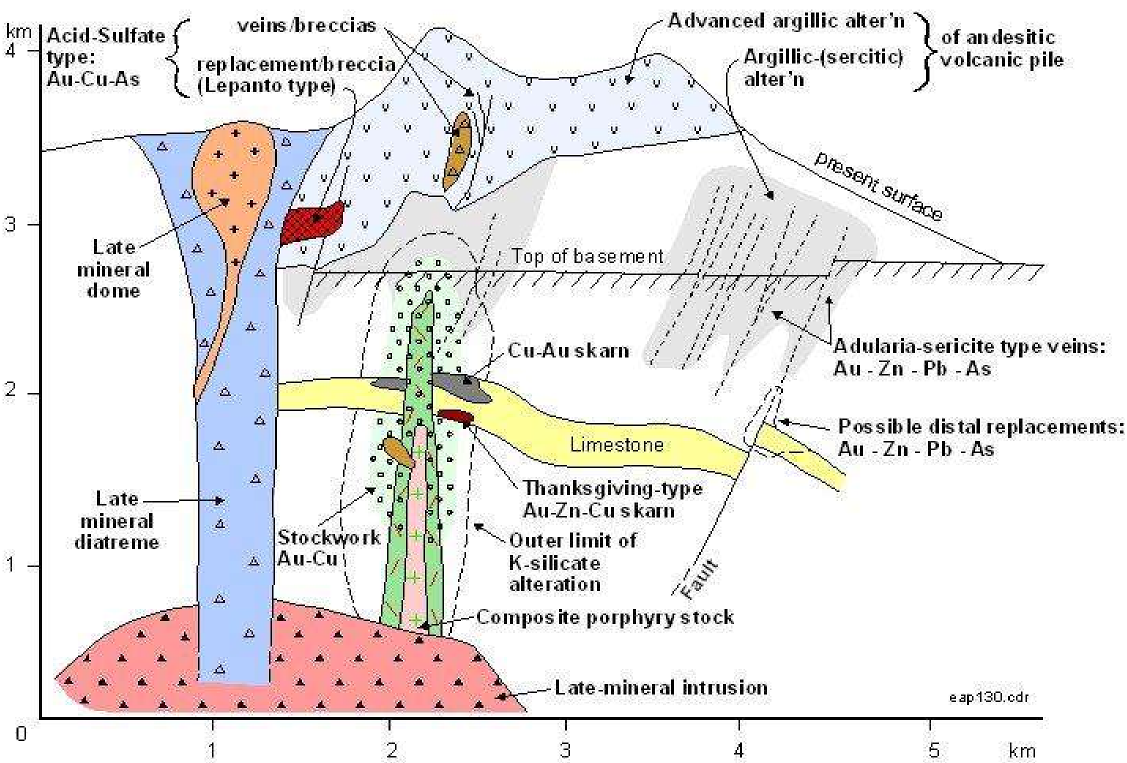


Figure 8-1: Porphyry Copper and Skarn Model (from Sillitoe 1989)

9 EXPLORATION

GCC's initial exploration at the property began with a re-logging program in December 2010 that was completed in 2011. In addition, a re-assaying program began in March 2011 during which all of the Magma Copper drillholes were re-assayed. Prior to the re-assay, historical Cyprus/Superior (CS) holes that had both total copper (TCu) and acid soluble (ASCu) results were re-split and check assayed at Skyline Labs in Tucson. The results are described in Section 12. In May 2011, a re-assay program was initiated for the Quintana Minerals holes (DC, S and T series) to include sequential Cu analysis. Previous results only included TCu assays.

From late in 2010 through early 2015, GCC has drilled 54 diamond drillholes, totaling 78,615 ft, for metallurgical samples and copper resource definition and expansion. Commencing in 2011, GCC also drilled 33,077 ft in 32 rotary holes for hydrologic testing and observation in the Gunnison deposit area.

Southwest Exploration Services, LLC and COLOG were contracted by GCC to complete down-hole geophysical surveys during the 2011 to 2015 drill programs. Some holes were not surveyed due to bad ground conditions, and the surveys were shortened in others not reaching the total drilled depths. Altogether, down-hole geophysical data were obtained from a total of 66 drillholes in the deposit. Data collected included temperature, caliper log, sonic log, and acoustic televiewer. The down-hole geophysical data have been analyzed and evaluated as described in Section 9.1.2.

From late 2018 through late 2019, GCC drilled 57 wells totaling 74,342 feet into and around a 400-foot by 400-foot area. Southwest Exploration Services, LLC was contracted by GCC to complete down-hole geophysical surveys during the 2018 to 2019 drill program. All of the wells were surveyed. Some surveys did not reach the total drilled depths due to bad ground conditions. The down-hole geophysical data have been analyzed and evaluated as described in Section 9.1.2.

9.1 GCC STRUCTURAL GEOLOGIC METHODS

GCC's technical team has made a substantial effort to understand the structural geology of the Gunnison Deposit, particularly as it relates to controls on oxide copper mineralization. This subsection summarizes how GCC has collected, interpreted, and modeled subsurface structural data as part of its exploration program. GCAZ collects structural data by the following four main methods.

9.1.1 Structural Logging

As a part of the core logging process, GCC's geologist logged structure type (fault, shear, breccias, etc.), took angle to core axis measurements of the structures, and noted the mineralogy existing on the feature planes, infill, gouge, and selvages.

9.1.2 Down-hole Geophysical Surveys

For GCC's drilling programs since 2011, borehole geophysical tools including an acoustic borehole televiewer, were used to collect geophysical data down the holes. Images produced by the televiewer are used by GCC's geologist to identify and interpret structures by comparing the geophysical logs with the core, characterize structures by type and infill or gouge mineralogy, and obtain their true structural orientation using WellCad software. Other data collected from the surveys included caliper, sonic, and temperature logs.

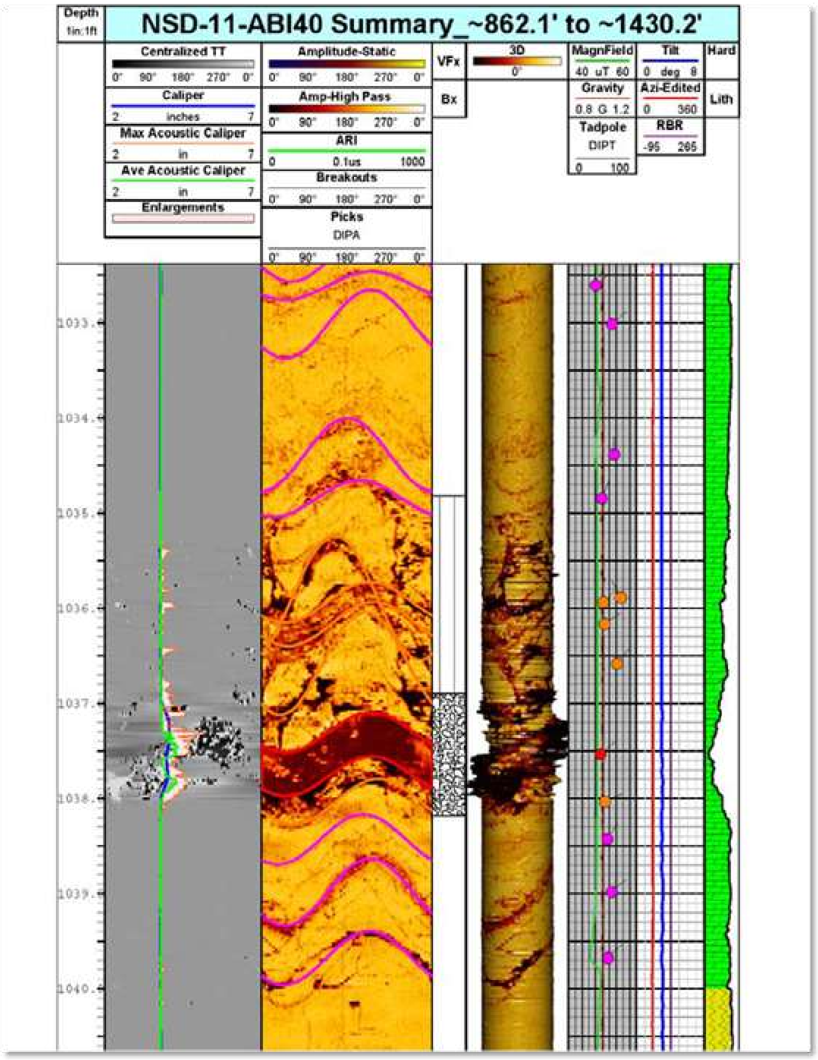


Figure 9-1: Graphical Example of Geophysical Log

9.1.3 Fracture Mapping

For every assay sample (every 10ft unless truncated by a lithologic boundary), GCC's geologist logged "Fracture Mapping". This is the quantity of fractures per assay sample in the drill core, which can be used to calculate fractures per foot. The following categories were logged for Fracture Mapping:

- quantity of mineralized open fractures per assay sample,
- quantity of mineralized closed fractures per assay sample,
- quantity of non-mineralized open fractures per assay sample; and
- quantity of non-mineralized closed fractures per assay sample.

9.1.4 Structural Analysis

GCC staff performed a Structural Analysis that examined all collected structural data and was an important input to all geology interpretations.

Figure 9-2 shows the major faults which displace stratigraphy in the deposit projected at the bedrock surface. Their spatial locations and orientations were defined in the Structural Analysis. The numerous parallel reverse faults which strike approximately N-NW cause repetition in stratigraphic section. All reverse faults dip steeply (70-80°) to the NE, except the westernmost reverse fault which dips approximately 60°SW. A subset of NE-striking normal faults, which dip steeply to the SE, is located on the margins of the deposit to the north and south. Also at the north end, E-W sub-vertical faults intersect the deposit along its short axis.

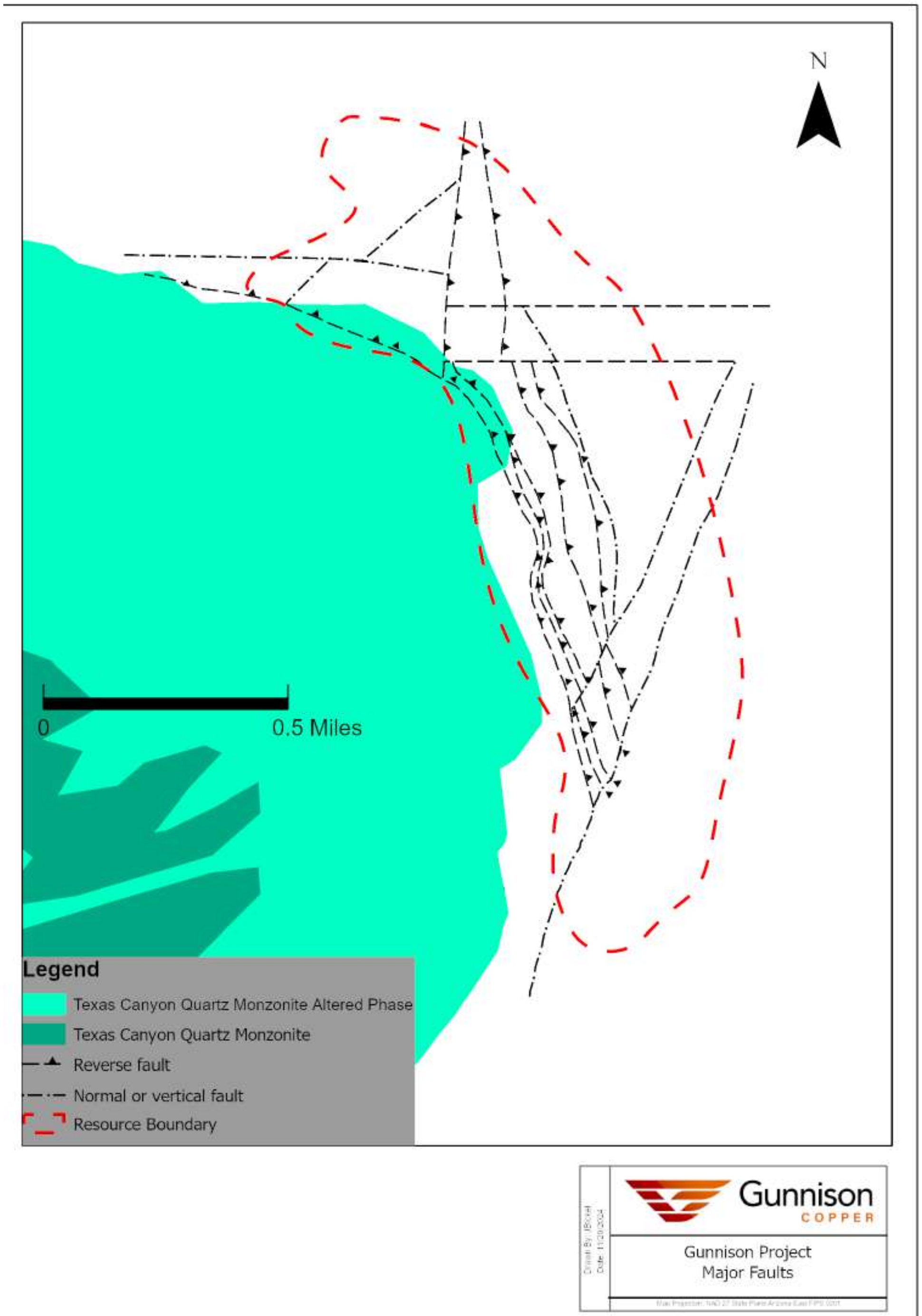


Figure 9-2: Plan View of Major Faults at Bedrock Surface which Displace Stratigraphy

The Structural Analysis also showed that, aside from the major faults which displace stratigraphy, the deposit is dominantly cut by faults, fractures, and joints which strike and dip sub-parallel to bedding. Figure 9-3 is a contour plot of structural data from the geophysical surveys. It contours the poles to dip directions for all structural features measured in the deposit (excluding bedding orientations). Note the strong presence of features which dip moderately to the NE and strike N-NW. These features are approximately sub-parallel to the strike and dip of the stratigraphic units at Gunnison.

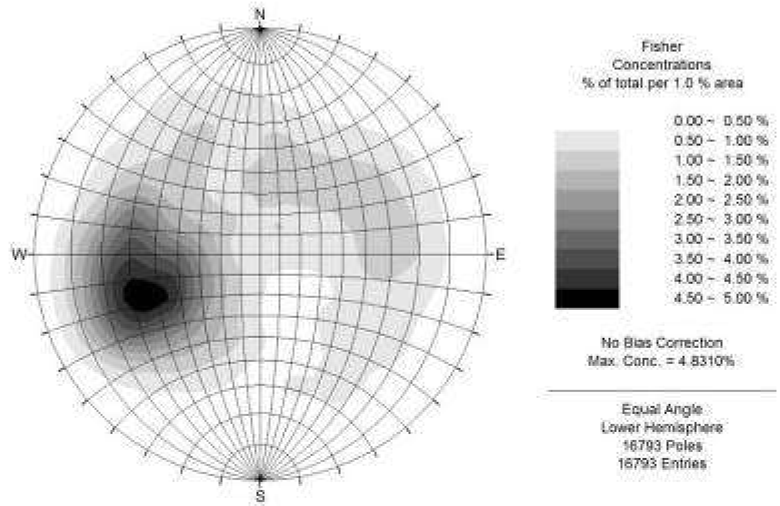


Figure 9-3: Contour Plot of Poles to Dip Directions for Structural Features, Excluding Bedding Orientations

The structural architecture of the subsurface resulting from the interpretations made in the Structural Analysis is a framework of high angle structures with numerous conjugate structures which are sub-parallel to bedding. Figure 9-4 is a schematic east-west cross section showing this framework. The cross section shows the approximate thickness of the structural zones as defined by the Structural Analysis.

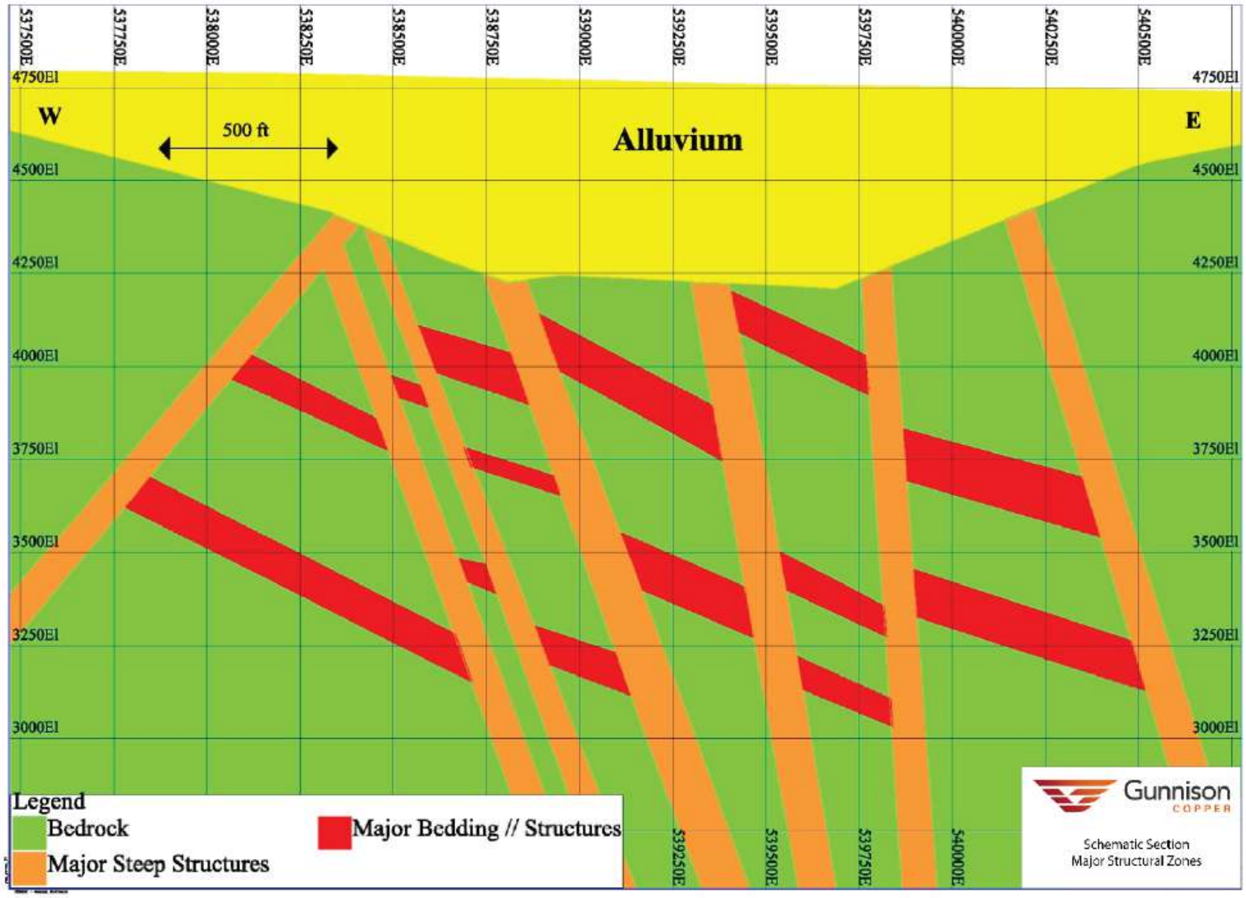


Figure 9-4: Schematic East – West Cross Section Showing the Structural Framework of the Deposit

10 DRILLING

GCC's digital database for the Gunnison deposit mineral resource estimate includes 217 drillholes totaling 245,509 feet. A total of 122 core and RC holes were drilled in the deposit area, and 96 of these, totaling 140,034 feet, directly contributed assay data to the estimation of copper resources. GCC has also drilled 57 wells totaling 74,342 feet in their production wellfield area in 2018-2019. These wells are summarized in Section 10.3. The data from these wells were not used in the mineral resource estimate tabulated in this Technical Report, which is discussed in Section 14.

Historical drilling was primarily conducted by diamond drilling methods, although six Phelps Dodge drillholes were drilled by reverse circulation methods. The majority of drillholes have vertical orientations, which cross the predominant, generally shallow-dipping mineralized zones at the Gunnison deposit. A few angle holes were also completed by GCC, in attempts to intersect interpreted geologic structures within the deposit.

The predominant sample length for the drill intervals in the GCC database is 10 feet (3.048 meters), with a relatively small percentage of shorter or longer intervals based on lithologic factors. RESPEC believes the drillhole sample intervals are appropriate for the style of mineralization at the Gunnison Deposit. Furthermore, RESPEC is unaware of any sampling or recovery factors that may materially impact the accuracy and reliability of the results and believes that the drill samples are of sufficient quality for use in mineral resource estimations.

Figure 10-1 is a plan map showing the Gunnison deposit drillholes by company.

10.1 HISTORICAL DRILLING

The database includes 88 historical drillholes that were completed by several companies as shown in Table 10-1. These holes extend to a depth of approximately 2,450 ft below the surface at the Gunnison deposit and cover an area of approximately 310 acres, with additional drilling extending beyond this area. There is a slightly higher density of drilling along the central axis of the Gunnison deposit.

The historical drillholes are vertical and the mineralization ranges from flat lying to a 30° dip to the east, resulting in a ratio between sample length and true thickness of 1 to 0.87 depending on the true dip of the mineralization.

Table 10-1: Pre-Existing Drilling at the Gunnison Deposit
(Diamond Drilling Includes Percussion Pre-Collar)

Company	Date	Type	Pre-fix	# of holes	Feet drilled
Cyprus	early 1970s	Diamond core	K	4	3,755
Cyprus/Superior	early 1970s	Diamond core	CS	36	45,786.6
Cyprus/Superior	early 1970s	Diamond core	CYS	1	887
Cyprus/Superior	early 1970s	Diamond core	J	10	12,167
Cyprus/Superior	early 1970s	Diamond core	K-20-X	1	983
James Sullivan	late 1980s	Diamond core	JS	3	1,665.5
Magma Copper	mid 1990s	Diamond core	MCC	6	8,099
Minerals Exploration	early 1970s	Diamond core	JD	4	2,206
Phelps Dodge	late 1990s	RC chip	Sully!97	6	6,026
Quintana	early 1970s	Diamond core	DC	1	1,080
Quintana	early 1970s	Diamond core	S	3	3,394
Quintana	early 1970s	Diamond core	T	12	20,756
Superior	early 1970s	Diamond core	D	1	1,500
			Total	**88**	**108,305.1**

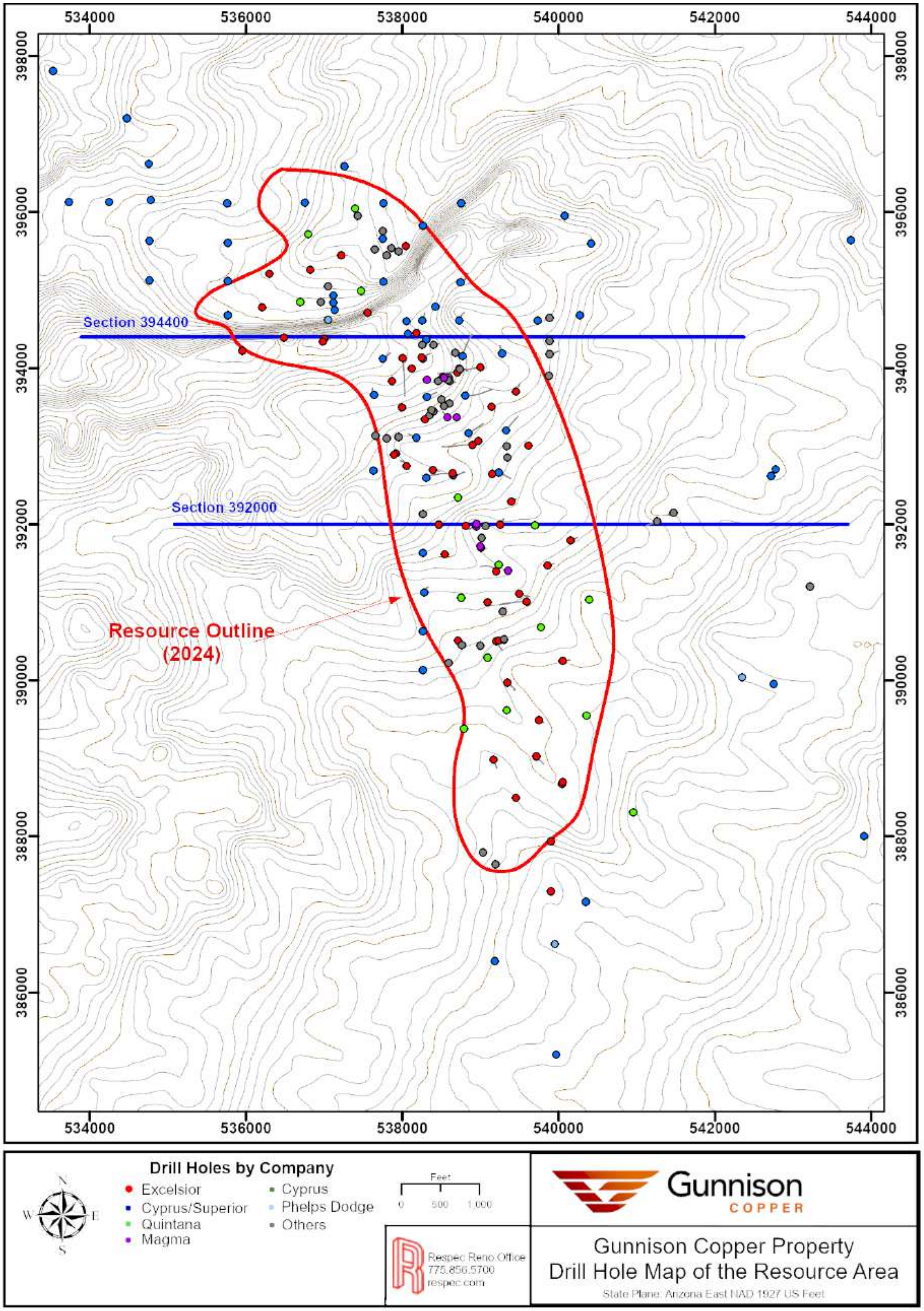


Figure 10-1: Gunnison Deposit Drillhole Collar Locations

Historical core drilled by Cyprus-Superior, Magma, and Quintana is NQ diameter with the exception of two Magma holes (MCC-7 and MCC-8), which were 6-inch metallurgy core holes. James Sullivan diamond drillholes were drilled with HQ-diameter core. The Cyprus-Superior holes used Joy Manufacture Co. as a drilling contractor. Magma drillholes were drilled by Christensen Boyles Corp. RESPEC has no further information on the drilling contractors, rig types, core sizes, and rotary or reverse-circulation drill-bit diameters used to perform the historical drilling.

Sampling of the drill core was on irregular downhole intervals based on geology using half-core splits. For the most part, the entire mineralized intersections have been sampled without any indication of sampling biases towards "high-grading". Individual down-hole sample intervals ranged from less than 2 feet to about 30 feet. Sample intervals larger than 25 feet generally represent intervals in the overburden (composite chip sampling). All historical drill core was split manually, divided in half, and placed in sample bags for transport to the assay laboratories. Samples have been assayed at commercial laboratories or in-house laboratories as listed in Table 10-2. All laboratories were located in Arizona.

Table 10-2: List of Assay Laboratories Used by Historical Operations

Company	Assay Laboratory	Comments
Superior	American Analytical and Research Laboratories	
Quintana	Southwest Assays and Chemists	
Phelps Dodge	Actlabs / Skyline Lab[1]	Some check assays at Morenci[2]
Magma	Magma's San Manuel mine laboratory[2]	

[1] Certified by American Association of Laboratory Accreditation
[2] Denotes non-independent analytical lab

10.1.1 Historical Collar Position Surveys

GCC has located 46 historical drillhole collars and had them surveyed by Darling Geomatics using a Trimble Global Positioning System (GPS), which can be accurate to 0.05 ft horizontally and 0.2 ft vertically.

10.1.2 Historical Down – Hole Surveys

Historical borehole deviation data, where available, has been documented and added to the GCC database. Twenty-nine total historical holes have available survey data. The data came from either gyroscopic or down-hole camera surveys as a part of the initial procedures for the historical drillholes.

Table 10-3: Summary of Historical Borehole Deviation Surveys

Company	Hole Series	# of Holes Surveyed	Survey Types
Cyprus - Superior	CS	17	Gyroscopic
Cyprus - Superior	J	5	Gyroscopic
Magma	MCC	6	Survey Camera

10.2 GCC DRILLING 2010 – 2015

Fifty-four diamond core holes have been drilled by GCC for a total of 78,615 feet of drilling. Fifteen of these holes were for metallurgical samples and the rest were drilled for resource definition or exploration purposes (Table 10-4; Figure 10-2). Twenty holes were completed from December 2010 to May 2011, eleven holes were drilled from March 2012 to May 2012, and an additional 23 diamond holes were drilled from September 2014 to January 2015. 6 ¼ inch pre-collars were drilled with rotary methods to the base of alluvium (100 to 700 feet) and then cased with 4 ½ inch steel casing. HQ-size diamond core was drilled to a maximum depth of 2,000 feet, except where conditions required reduction to NQ size.

Five metallurgy holes were drilled with PQ diameter core. GCC also completed diamond drilling through the entire section of alluvium for 2 holes in the 2012 program (NSM-001 and NSD-032). Of the 54 holes drilled, 44 have been assayed for inclusion into the mineral resource estimate described in Section 14. GCC has also drilled 32 rotary holes for hydrologic purposes between 2010 and 2015. Assays from these holes do not influence the mineral resource, but the rock chips collected from drilling were logged and used to aide in geologic interpretations of the deposit.

Table 10-4: Listing of GCC Diamond Drilling 2010 – 2015

Hole ID	Northing (feet)	Easting (feet)	Elevation (feet)	Azimuth	Dip	Pre- Collar Depth (feet)	Diamond Depth (feet)	Total Depth (feet)	Purpose
NSD-001	393496.2	537998.1	4827.2	0	-90	460	1045.5	1505.5	Resource
NSD-002	392910	537923.6	4809.8	0	-90	580	1327	1907	Resource
NSD-003	392651.2	538646	4805	270	-70	565	1443	2008	Resource
NSD-004	391619.2	538540.6	4781.7	0	-90	510	799	1309	Resource
NSD-005	390510.7	538711.4	4740.2	0	-90	420	1488	1908	Resource
NSD-006	391109.8	539499.2	4753.6	0	-90	390	1610	2000	Resource
NSD-007	391470	539858.8	4737	0	-90	430	1370	1800	Resource
NSD-008	392291.2	539398.8	4783.4	0	-90	560	1212.5	1772.5	Resource
NSD-009	393007	539614.5	4788.2	0	-90	620	1173	1793	Resource
NSD-010	391983.3	538810.4	4768.2	0	-90	540	969	1509	Resource
NSD-011	393882.5	538523	4834.3	0	-90	650	788	1438	Metallurgy
NSD-012	390998.4	539093	4749	0	-90	400	1331.5	1731.5	Resource
NSD-013	391010.1	539587.2	4748.9	270	-70	480	1527	2007	Resource
NSD-014	390507	539202.9	4733.7	0	-90	400	1512.5	1912.5	Resource
NSD-015	389971.5	539349.6	4730.6	0	-90	400	1556	1956	Resource
NSD-016	389026	539713	4731.4	0	-90	420	1268.5	1688.5	Exploration & Resource
NSD-017	387936.5	539900.7	4695.4	0	-90	400	949	1349	Exploration & Resource
NSD-018	382749.3	538255.3	4688.2	210	-70	140	1264	1404	Exploration
NSD-019	393832.7	537871	4848.3	0	-90	620	834	1454	Resource
NSD-022	391700.4	539007.9	4759.5	0	-90	500	839	1339	Metallurgy
NSD-023	394132.1	538004.1	4857.3	180	-70	557	989	1546	Resource
NSD-024	394009.6	538994.7	4823.3	270	-70	672	1300	1972	Resource
NSD-025	393019.7	538893.5	4789.8	270	-70	637	1006.5	1643.5	Resource
NSD-026	394710.5	537551.9	4846.6	0	-90	466	702	1168	Resource
NSD-027	394377.4	537002.1	4883.3	0	-90	404	600.5	1004.5	Resource
NSD-028	394391.7	536487.3	4880.6	0	-90	396	359	755	Resource
NSD-030	394780.8	536207.8	4784.9	0	-90	240	527	767	Resource
NSD-031	395445.8	537220.3	4770.2	0	-90	416	592	1008	Resource
NSD-032	395280.2	536824	4786.4	0	-90	338	905	905	Resource
NSD-033	392745.5	538051.5	4809.1	0	-90	499	1080	1579	Resource
NSD-034	388494.6	539451.3	4708.7	0	-90	343	654	997	Resource
NSD-035A	388985.8	539165.4	4713.4	0	-90	321	838.9	1159.9	Resource
NSD-036	394225.5	535954.6	4888.2	0	-90	504	289.3	793.3	Resource

Hole ID	Northing (feet)	Easting (feet)	Elevation (feet)	Azimuth	Dip	Pre- Collar Depth (feet)	Diamond Depth (feet)	Total Depth (feet)	Purpose
NSD-037	395565	538041.6	4751.3	0	-90	524	760.4	1284.4	Resource
NSD-038	388669.9	540044.5	4719.4	0	-90	402	1191	1593	Resource
NSD-039	389494	539748.4	4729.3	0	-90	383	1131.8	1514.8	Resource
NSD-040	390249.4	540050.5	4722.9	0	-90	222	1658	1880	Resource
NSD-041	391796.5	540151.9	4746.9	0	-90	383	1383	1766	Resource
NSD-042	391998.8	538464.7	4793.1	0	-90	460	1053	1513	Resource
NSD-043	393699.3	539451.7	4802.4	0	-90	628	1108	1736	Resource
NSD-044	387296.5	539902.7	4684.9	0	-90	322	445	767	Resource
NSM-001	394139.3	538247.4	4850.5	0	-90	0	1150	1150	Metallurgy
NSM-002	392695.2	538391.1	4809.4	0	-90	507	493	1000	Metallurgy
NSM-003	392892.6	537897	4810.2	0	-90	608	420	1028	Metallurgy
NSM-004	393948.5	538702.4	4829.1	0	-90	596	518.3	1114.3	Metallurgy
NSM-005A	393065.2	538976.9	4786.9	0	-90	592	579.5	1171.5	Metallurgy
NSM-006	393997.1	538123.5	4847.5	0	-90	529	688	1217	Metallurgy
NSM-007	394447.2	538182.6	4844.2	0	-90	604	563.9	1167.9	Metallurgy
NSM-008	393344.9	538291.6	4815.6	0	-90	548	725	1273	Metallurgy
NSM-009	392647.8	539150.5	4794.1	0	-90	585	764.1	1349.1	Metallurgy
NSM-010A	390508.5	539236.6	4732.7	0	-90	424	414.9	838.9	Metallurgy
NSM-011	391996.1	539252.3	4774.9	0	-90	540	799.7	1339.7	Metallurgy
NSM-012	391397.3	539202.4	4765.4	270	-70	584	298	882	Metallurgy
NSM-013	394341	536980.7	4881.1	0	-90	404	549	953	Metallurgy

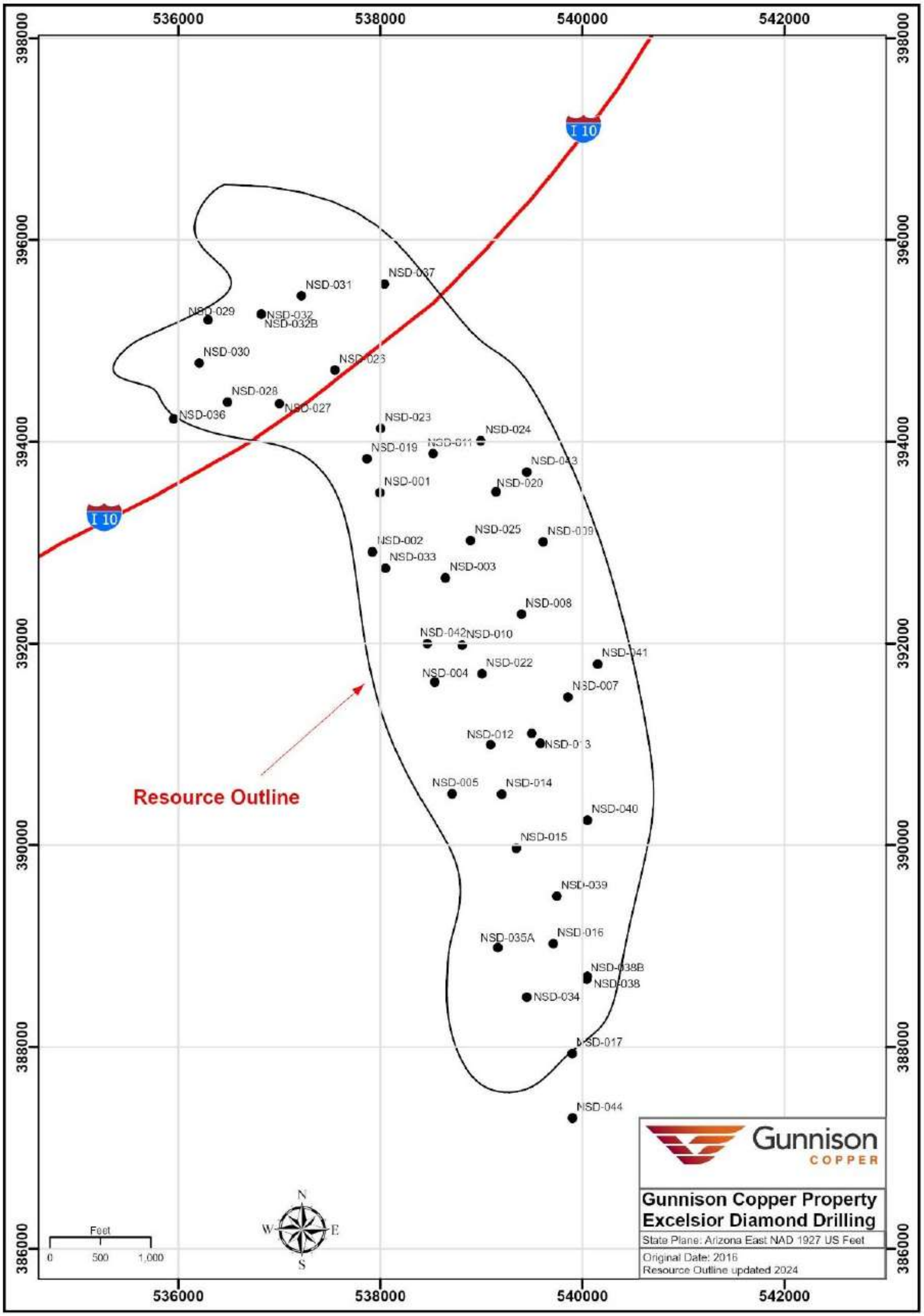


Figure 10-2: GCC 2010-2015 Drillhole Collar Locations

The shaded areas in Figure 10-2 show lands not controlled by GCC. These areas are excluded from the Project mineral resources.

The GCC drillholes are mostly vertical. All GCC drillhole collars have been surveyed by Darling Geomatics using a Trimble GPS, which can be accurate to 0.05 ft horizontally and 0.2 ft vertically. Borehole deviation surveys were conducted for each drillhole using a Reflex down-hole camera survey for each GCC drillhole. Additionally, borehole geophysical logging was carried out on 84% of the GCC drillholes. Where available, the deviation surveys acquired from the geophysical logging supersede the camera surveys due to higher precision of the data.

10.2.1 GCC Drill Logging and Sampling Procedures

Following delivery of drill core from the drill sites to GCC's core storage facility in Casa Grande, Arizona, the core was laid out to check labeling, identify any missing intervals, and cleaning. GCC technicians measured and recorded core loss and RQD. The core was then logged digitally using customized AcQuire data-entry forms, which were then forwarded to the GCC database administrator. Additional logging of individual fractures from the borehole geophysical data was done in WellCad software.

The logging geologist marked up the core for sampling and splitting prior to photographing the core. Sample intervals were standardized at 10 feet; however, sample intervals were terminated at lithological boundaries. Other geological factors also led to shorter sample intervals at the discretion of the geologist. The core was then photographed wet and dry, and magnetic susceptibility was measured within each sample interval using a SM-30 handheld susceptibility meter.

Specific-gravity measurements were made using the water-displacement method for every assay sample in zones of mineralization, and every 10 feet outside of mineralized zones. The geologist made the determination on where SG measurements were taken in consideration of mineralized and un-mineralized materials, but measurement intervals most typically respected the assay intervals. The core was not wrapped or waxed for the density measurements. A quartz (SG = 2.65) and marble (SG = 2.71) standards were measured alternatively every 20 samples for quality control of the SG measurements. Readings outside of acceptable limits (three standard deviations) resulted in re-measurement of all samples back to the previous successful standard measurement. Duplicate SG measurements were made every 20 samples.

Samples were split using hydraulic splitters and bagged for shipment to the assay laboratory. Care was taken to ensure that no bias was introduced into the splitting by visually observing the mineralization in the core and splitting appropriately. The fines produced were also manually split and included in the sample.

10.2.2 GCC Core Recovery and RQD

Core recovery and RQD were measured for each drill run in every GCC diamond drillholes. Recovery was very high (average of 95%) with only rare occurrences of poor recovery due to discrete structures and/or narrow voids. RQD averaged 66%. Table 10-5 below defines RQD and Core Recovery as they relate to the total copper resource domains described in Section 14.2.7. The RQD and recovery values for geotechnical intervals lying within the modeled low-grade and high-grade domains are similar and are also close to the values for intervals lying outside of the modeled domains.

Table 10-5: Core Recovery and RQD for GCC Diamond Drilling 2010 – 2015

	All GCC Drilling	Inside Low-Grade Domain	Inside High-Grade Domain	Inside All Domains	Outside All Domains
% RQD	66%	63%	67%	65%	68%
% Recovery	95%	96%	96%	96%	95%
Intervals Measured	7,752	2,139	2,309	4,448	3,304

10.3 GCC WELL DRILLING 2018-2019

From late 2018 to late 2019, GCC drilled 57 wells totaling 74,342 feet. Of the 57 wells completed, 41 were Injection/Recovery production wells ("IR Wells") contained within a 400-foot by 400-foot area in the deposit and the remaining 16 were drilled and designed for various monitoring and compliance purposes exterior to the wellfield, in accordance with their operational permits. A map of the 2018-2019 drilling is shown in Figure 10-3. The monitoring and compliance well types include Hydraulic Control Wells ("HC Wells"), Intermediate Monitoring Wells ("IMW Wells"), Observation Wells ("OW Wells"), and Point of Compliance Wells ("POC Wells"). The 2018-2019 drilling campaign is summarized in Table 10-6.

Table 10-6: Summary of 2018-2019 GCC Drilling

Well Type	Count	Total Footage	Alluvium Footage	Bedrock Footage
IR Wells	41	53,387	24,925	28,462
HC Wells	9	11,790	5,160	6,630
IMW Wells	2	2,616	1,080	1,536
OW Wells	2	2,620	1,210	1,410
POC Wells	3	3,929	1,420	2,509
Total	**57**	**74,342**	**33,795**	**40,547**

The 41 IR Wells and 9 HC Wells were drilled by rotary methods with conventional circulation through the alluvium and into the bedrock to a specified footage, and were cased and sealed in accordance with compliance requirements. The bottoms of the wells were then drilled through the rest of the mineralized zone by reverse-circulation methods and sampled per GCC's internal sampling procedures. All monitoring and compliance wells were generally drilled by rotary methods with conventional circulation in the alluvium and by mud-rotary methods with conventional circulation in the bedrock. The bedrock in the compliance wells was sampled per GCC's internal sampling procedures. Some exceptions made to the specific drilling methodologies described above were employed to address specific ground conditions.

10.4 GCC DRILLING SUMMARY STATEMENT

It is the opinion of the author that the drilling and sampling procedures conducted by GCC provided samples of drill intercepts which are representative of significant copper mineralization at the Gunnison and of sufficient quality for use in the interpretations herein, most importantly the estimation of Mineral Resources. Detailed interpretations of the geologic and mineralized intercepts of the drilling results pertinent to the Mineral Resources are provided in Sections 7 and 14.

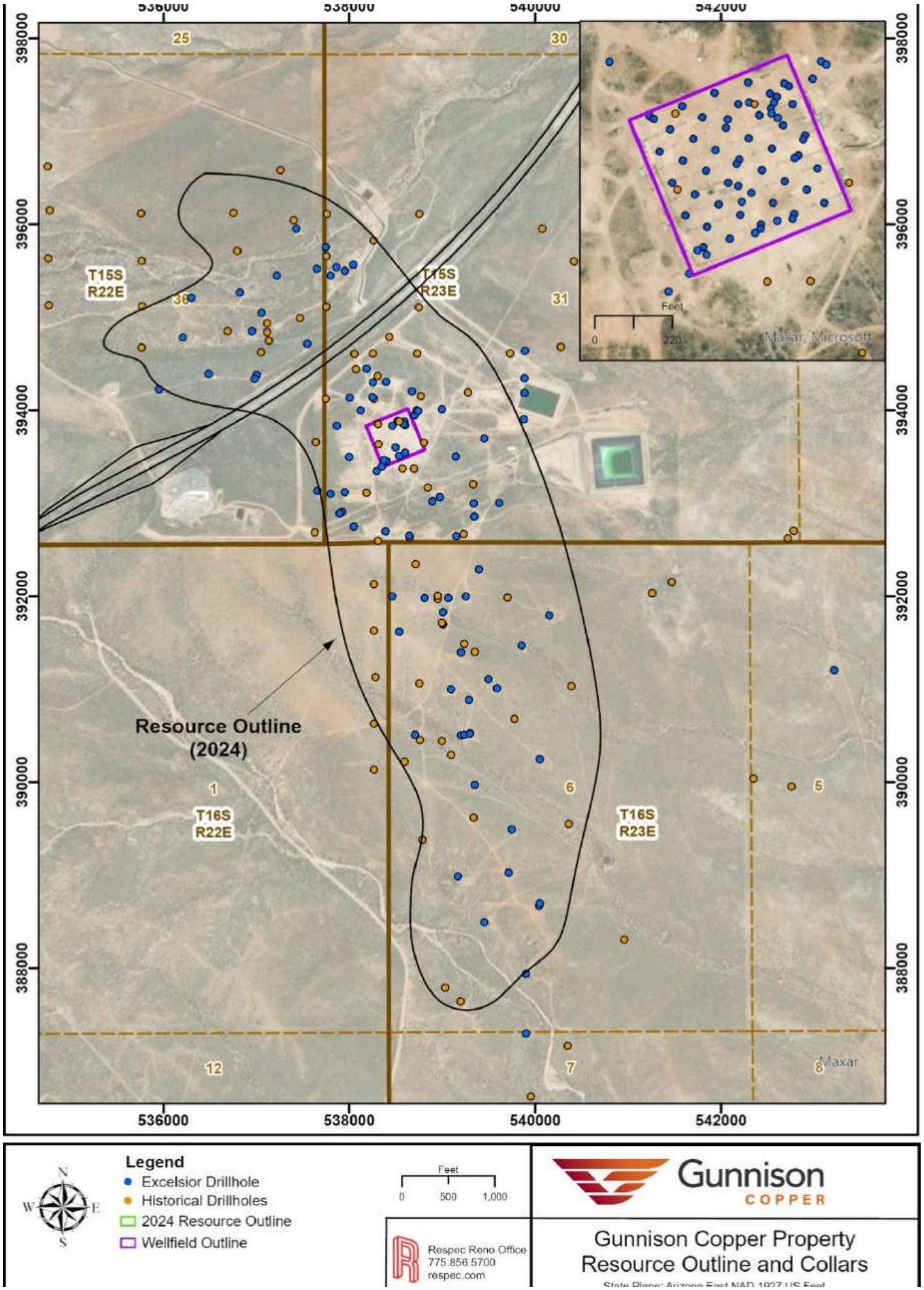


Figure 10-3: Collar Locations with 2018-2019 Drilling in Wellfield Area shown inside the Insert

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

The following sections summarize the extent of Mr. Bickel's knowledge regarding the sample preparation, analysis, security, and quality assurance/quality control protocols used in the various drilling programs at the Gunnison deposit.

11.1 HISTORICAL SAMPLE PREPARATION, ANALYSIS AND SECURITY

The laboratory sample preparation and analytical procedures used by the previous owners of the deposits are unknown. However, the commercial analytical laboratories known to have been used by the historical operators at the Gunnison deposit are, or were at the time, well recognized and widely used in the minerals industry. In addition, all of the historical operators were reputable, well-known mining/exploration companies, and there is ample evidence that these companies and their chosen commercial laboratories followed accepted industry practices with respect to sample preparation, analytical procedures, and security.

James Sullivan maintained security of the project information and drill samples since the early 1980's to 2006. Information and samples collected by Superior, Cyprus and Quintana in the 1970's to 1980's were handed over to James Sullivan and relocated to his core facility in Casa Grande, Arizona between 1980 and 1998. Magma Copper had security and control of its own information and samples from approximately 1993 to 1997, after which Magma relinquished control to James Sullivan who relocated all the Magma Copper information and samples to his core facility. Phelps Dodge maintained its information and samples until 1998, after which time they were transferred to James Sullivan and were relocated to his core facility.

From November 2006 until October 2010, the original information and samples were under the control of AzTech Minerals at the former James Sullivan core facility. GCC has maintained control of the core facility since October 2010.

11.2 GCC SAMPLE PREPARATION, ANALYSES AND SECURITY

GCC's drill core sampling procedure is as follows:

- Assay tickets are placed at the start of the assay interval.
- Sample intervals are recorded within the AcQuire form as well as written within paper ticket books.
- All skarn and porphyry units are sampled. Additional sampling of rock types and/ or mineralization is left up to the discretion of the geologist, under the guidance with senior staff.
- Sample intervals are based on lithologic boundaries and are not taken across the boundary with the following exceptions:
    - short intervals (~<1 foot) can be included within a larger sample where isolating the unit would be problematic; and
    - thin lithologic units can be included within a larger sample when sampling such a unit is impractical.
- Sample length is 10 feet within all rock types. It is understood that irregular sample lengths may be needed at geological boundaries.
- In areas of poor ground conditions or poor recovery, sample lengths may extend up to 20 feet.
- Samples must be bracketed on either side by an additional sample (no isolated samples).

The core samples were manually split by a GCC technician using a hydraulic splitter, with one half placed in a numbered sample bag and the other half retained in the core box. Quality Assurance/Quality Control processes are discussed in Section 12.3.

11.2.1 GCC Analytical Methods

Skyline Assayers and Laboratories (Skyline) in Tucson, AZ has been GCC's primary assay lab for drill samples since 2010. Skyline is accredited with international standard ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories. Total copper (TCu), acid-soluble copper (ASCu) and cyanide-soluble copper (CNCu) were analyzed. Samples were also assayed for molybdenum in some cases at the discretion of the geologist. GCC has no relationship with Skyline other than Skyline being a service provider.

Upon receipt at Skyline, GCC's drill samples were lined up and coded into Skyline's lab information system. Any missing, illegible, or damaged samples were reported. Samples were crushed to 70-80% passing minus 10 mesh. The crushed samples were then split and recombined 3 times, and 250 to 280 grams of material were split and pulverized to 95% passing 150 mesh. Washed river rock was used to clean the crusher between samples.

The analytical methods for copper assays are as follows:

Total Cu (TCu) analysis: Samples are digested in a mixture of hydrochloric, nitric and perchloric acids. This solution is heated and taken to dryness. The contents are treated with concentrated hydrochloric acid and the solution is brought to a final volume of 200 mL with de-ionized water. This solution is read by Atomic Absorption using Standard Reference Materials made up in 5% hydrochloric acid.

Sequential Analysis of Acid-Soluble Cu (ASCu) and Cyanide-Soluble Cu (CNCu): Samples are digested in 5% sulfuric acid and supernatant solution is diluted to 100 mL with de-ionized water. The residue is digested in 10% sodium-cyanide solution and diluted to 100 mL. The ASCu samples are read on Atomic Absorption units using 0.5% H_2SO_4 calibration standards. The CNCu samples are read on Atomic Absorption units using 1% NaCN calibration standards.

11.2.2 GCC Sample Security

Drilling was carried out 24 hours a day, 7 days a week, during the drilling periods. Drill core was temporarily stored at the drill rig, supervised by both the driller and the site geologist. The drilling occurred on isolated ranch land behind a locked gate, limiting the access to authorized GCC and drilling personnel. The core was placed in closed core boxes on pallets and banded for pick up by a transport service. A transfer form was signed by both parties upon pickup and delivery of the core to GCC's core facility in Casa Grande. Once in Casa Grande, the core was stored in a locked facility. Core samples ready for assaying were transported from the core facility to the assay laboratory by Skyline personnel.

In the opinion of the author, there were no significant issues with respect to the sample collection methodology, sample security, sample preparation or sample analyses in the Gunnison deposit exploration and the sample preparation, analysis, and security protocols of GCC for the Gunnison Project meet current industry standards.

12 DATA VERIFICATION

Verification of data relevant to the mineral resources of the Gunnison Deposit was completed under the supervision of Mr. Bickel of RESPEC.

The major contributors to the current Gunnison Deposit database include GCC and Cyprus-Superior, with smaller quantities of data from and Quintana and several other companies. Mr. Bickel experienced no limitations with respect to their activities related to the verification of the Project data related to these companies.

No significant issues have been identified with respect to the data provided by GCC's quality assurance/quality control ("QA/QC") programs. QA/QC data are not available for the historical drilling programs at the Gunnison Deposit, but GCC analyses dominate the assays used directly in the estimation of the mineral resources, most of the historical data were generated by well-known mining companies, and the GCC drill data are generally consistent with the results generated by the historical companies. Mr. Bickel believes the Gunnison Deposit data are acceptable as used in the estimation of the mineral resources presented in this Technical Report.

12.1 INTRODUCTION

In order to place the following discussions of database auditing and QA/QC into context, it is helpful to understand the origin of the most relevant Project data. There are 122 holes in the Project database that were drilled in the Gunnison deposit area; these holes have a total of 9,996 assayed sample intervals in the database. Of these sample intervals, 7,573 directly contribute data to the estimates of mineral resource grades discussed in Section 14.

Table 12-1 lists the drillholes by company, as well as the percentages of the 7,573 sample intervals that are attributable to each company. Note that the percentages shown for all companies have been adjusted to reflect GCC's analyses of historical sample pulps and resampled historical core, as these GCC analyses replaced the historical assays in the Project database where available.

Table 12-1: Drillhole Data by Company

			Percent of Coded Assays		
Company	**Hole Series**	**Number of Holes**	**Total Copper**	**Acid-Soluble Copper**	**Cyanide-Soluble Copper**
GCC	NSD, NSM	44	69.0%	70.7%	100.0%
Cyprus - Superior	CS, CYS, J	43	24.0%	24.9%	0.0%
Quintana	S, T, DC	15	5.5%	2.6%	0.0%
Magma	MMC	8	0.0%	0.0%	0.0%
Cyprus	K	2	0.4%	0.5%	0.0%
Phelps Dodge	SullyI97	2	0.3%	0.1%	0.0%
Others	D, JS	8	1.2%	1.2%	0.0%
	Totals	**122**	**100.0%**	**100.0%**	**100.0%**

12.2 DATABASE AUDITING

12.2.1 Collar Table

GCC provided RESPEC with two spreadsheets described as originating from Darling Environmental & Surveying, Ltd. of Tucson, Arizona – one spreadsheet with 2012 survey data and the other with 2015 surveys. RESPEC used this information to audit the locations of 71 GCC, 26 Cyprus-Superior, 13 Quintana, and 7 Magma drillholes. With the exception of one hole in which the survey location was based on an open hole in the ground, all of the locations of the historical holes were based on drill casing in the ground.

Out of the 117 holes audited, two discrepancies between the database and surveyed locations were identified, one of which was resolved by GCC. The other discrepancy involved a Cyprus-Superior hole, whereby the x, y, and z coordinates in the database differed from the survey coordinates provided to RESPEC by 0.2 to 1.5 feet. The database coordinates were accurately transcribed from a 2015 survey, while the audit records used by RESPEC have older coordinates.

In addition to RESPEC's auditing of the database, M3 (2014) stated that, "*During the author's site visit in 2007, a number of the drillholes locations were checked with a handheld GPS and found to reasonably match the recorded collar coordinated* [sic]."

12.2.2 Survey Table

RESPEC audited the down-hole deviation survey data for the GCC drillholes using both original digital files generated as part of the down-hole geophysical-survey data and scanned copies of original handwritten paper documentation of Reflex EZ-Shot measurements. The survey data for eight of the 45 GCC NSD-series core holes were audited, which includes 2,804 individual surveys out of the 10,233 surveys of the GCC holes. Six discrepancies between the database and the original records were identified, all in the azimuth readings. Two of the discrepancies exceed 0.1 degrees (0.4 and 0.6 degrees) and none are considered material.

RESPEC audited down-hole deviation data from three Magma holes and four Cyprus-Superior CS-series holes. No errors were found in the Magma deviations in the Project data, which were audited using scans of original paper records from Eastman Whipstock, Inc. The depths of two out of the four CS-holes audited have discrepancies in the depths of the down-hole readings, whereby the down-hole back-up data have readings at depths of 200, 300, and 400 feet, for example, while the database has these same readings at depths of 300, 400, and 500 feet. GCC examined all of the data for these two holes and found that the information used by RESPEC in the audit is actually derived from averaged values of multiple readings over 100-foot intervals. The data used by RESPEC in the audit represent the "from" depth of each averaged interval, while the database has the same data at the "to" depth. GCC is investigating the deviation data for all CS holes in detail and will make corrections if warranted. However, all of the CS-series holes are vertical, and the dip changes for each 100-foot data point are usually small (the average dip change for each 100-foot interval in the four holes audited is less than 0.4 degrees), so any inaccuracies are unlikely to materially affect the modeling of the Project mineral resources.

12.2.3 Assay Table

A total of 6,427 sample intervals were analyzed by Skyline for GCC, including intervals from GCC drillholes as well as intervals from historical (pre-GCC) core holes and re-analyses of historical sample pulps. RESPEC obtained and compiled GCC's digital analytical data directly from Skyline and used a computer script to complete an automated audit of the database values. A total of 5,141 TCu values and 6,413 ASCu and CNCu (sequential leach) values were audited using the automated routine. A small number of discrepancies between the Skyline and database values were identified, all but one of which were found to be re-analyses in the database due to QA/QC issues. No errors were found in the ASCu and CNCu data.

RESPEC used historical paper records to audit the database values of five CS-series and two J-series holes drilled by the Cyprus-Superior joint venture. Out of the total of 1,858 CS-series sample intervals in the database that have historical analyses, 656 TCu and 650 ASCu values were audited using scanned copies of original American Analytical assay certificates. Five discrepancies were found in the TCu data (<1% of the audited data), only one of which was significant. Six discrepancies in the ASCu data were also identified (<1% of the audited data), with two of them being significant. One of the significant errors in the ASCu data is from the same sample interval as the single significant TCu error; these are the result of incorrect repeating of the analyses from the previous sample interval in the hole. GCC found that the other discrepancies are due to the derivation of the database values from handwritten geologic logs, as opposed to the copies of the original assay certificates used by RESPEC in the auditing; GCC corrected their database to match the values on the certificates.

In the J-series holes, 173 TCu values and 103 ASCu values in the Project database were checked against typed Cyprus Mines assay sheets; there are 425 J-series sample intervals in the Project database. No discrepancies were identified.

12.3 QUALITY ASSURANCE/QUALITY CONTROL PROGRAMS

12.3.1 Historical QA/QC

QA/QC data are not available for any of the historical drilling programs, if any ever existed. GCC has attempted to validate, and has partially replaced, the historical assay data through a resampling and re-assaying program.

12.3.2 GCC QA/QC

The QA/QC program instituted by GCC for the Gunnison deposit 2011 to 2015 drilling programs included the systematic analyses of certified analytical standards, coarse blanks, and field duplicates. Skyline performed copper analyses on all of GCC's original drill samples and their related QA/QC samples. The QA/QC program was designed to ensure that at least one standard, blank, or field duplicate was inserted into the drill-sample stream for every 10 drill samples. The 2011 and 2012 drill programs also employed check assaying by ALS. All holes drilled by GCC at the Gunnison Deposit have been subject to this QA/QC program.

12.3.3 Certified Standards

Certified standards were used to evaluate the analytical accuracy and precision of the Skyline analyses during the time the drill samples were analyzed. Two certified standards were purchased from African Mineral Standards ("AMIS"), located in Eastern Johannesburg, South Africa. These standards were chosen by GCC because they are derived from oxidized copper deposits. The certified values and standard deviations for these standards are listed in Table 12-2.

Table 12-2: GCC Certified Standards

Standard ID	Standard Source	Certified Value (TCu%)	Standard Deviation (%)	Standards Analyzed
AMIS0118	AMIS	0.4615	0.0135	419
AMIS0249	AMIS	0.3692	0.0072	42

Prior to each drilling campaign, GCC attempted to obtain certified standards for ASCu but could not locate any.

Of the standards listed in Table 12-2, the 301 standards submitted with GCC NSD-series core holes were evaluated by RESPEC, all of which were the AMIS0118 standard. Standards submitted with samples from the NSH-series rotary holes were not reviewed, as these drill data were not used in the mineral resource estimation.

GCC assigned sample numbers for the standards in sequence with their accompanying drill samples, and the standards were inserted into the drill-sample stream submitted for analysis.

Figure 12-1 charts the Skyline analyses of standard AMIS0118.

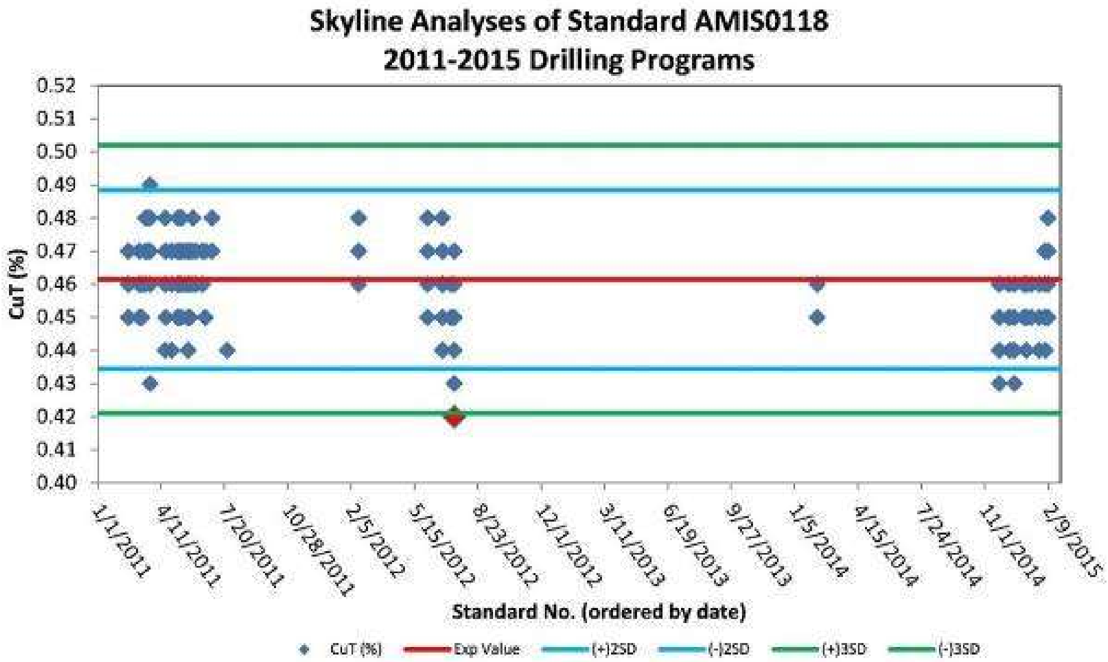


Figure 12-1: Plot of Certified Standard AMIS0118 Analysis

In the case of normally distributed data, 95% of the standard analyses are expected to lie within the two standard-deviation limits (shown as blue lines) of the certified value (shown as the red line), while only 0.3% of the analyses are expected to lie outside of the three standard-deviation limits (green lines). Samples outside of the three standard-deviation limits are therefore considered to be failures. As it is statistically unlikely that two consecutive analyses of standards would lie between the two and three standard-deviation limits, such samples could also be considered failures, unless further investigation proves otherwise.

Only one sample of the 301 assays evaluated lies outside the three standard-deviation limits, and therefore could be considered as a failure (shown as a red diamond in Figure 12-1). However, the failure exceeds the limit by only 0.001% Cu. If the certified standard values and standard deviations were rounded to two decimal places, as the Skyline assays are, instead of three, this standard analysis would not be considered a failure.

There is one case of consecutive analyses that lie between the two and three standard-deviation limits, and these two analyses were performed in the same laboratory batch. However, one of the standards lies above the upper two standard-deviation limits while the other is below the lower two standard-deviation limit. This pair of analyses represent a case worth investigating further but that does not qualify as a 'failure'.

Table 12-3 compares the mean of Skylines analyses of the standard against its certified value.

Table 12-3: Skyline Analyses of Standard AMIS0118

Drill Program	Standard Analyses		Count
	Mean	%Diff	
2011	0.47	1.00%	178
2012	0.46	-0.50%	43
2014 - 2015	0.45	-1.80%	80
All	0.46	0.10%	301

The data reviewed indicate no bias in the Skyline analyses of the standards inserted with the 2011 and 2012 drill samples, with a slight low bias of about 2% in Skyline's analyses of the standards associated with the 2014-2015 drill samples.

12.3.4 Coarse Blanks

Coarse blanks are samples of barren material that are used to detect possible laboratory contamination, which is most common during sample-preparation stages. Therefore, in order for analyses of blanks to be meaningful, they must be sufficiently coarse to require the same crushing and pulverizing stages as the drill samples. It is also important for blanks to be placed in the sample stream within a series of mineralized samples, which would be the source of most contamination issues.

Blank results that are greater than five times the lower detection limit of the analysis are typically considered failures that require further investigation and possible re-assay of associated drill samples (0.05% and 0.005% Cu for the GCC copper analyses, based on the 0.01% and 0.001% Cu detection limits, respectively).

GCC used landscape river rock purchased from a local home-improvement store as coarse blank material. These blanks were coarse enough to require the same primary and secondary crushing applied to the drill samples.

A total of 236 coarse-blank analyses were analyzed from the 2011 through 2015 drill programs. Of these, 47 were associated with drillholes not used in mineral resource estimation (NSH-series holes), leaving a total of 189 blanks with TCu, ASCu, and/or CNCu analyses that were evaluated by RESPEC. Of these, 126 blanks were preceded by mineralized (above background) drill samples.

There were no failures in the TCu analyses of the blanks and no systematic contamination issues were found in the blank analyses. While two 0.007% ASCu analyses of blanks slightly exceeded the threshold limit of 0.005%, these clearly are not material to the mineral resource modeling discussed in Section 14.

12.3.5 Field Duplicates

Field duplicates are secondary splits of drill samples. Field duplicates are mainly used to assess inherent geologic variability and subsampling variance. The field duplicate samples were submitted to Skyline with, and immediately following, their associated original drill samples. Only drillholes used in the mineral resource estimate, all of them core holes, are considered in this discussion. Duplicate samples produced by other drilling methods, such as the NSH-series holes which employed conventional-rotary drilling, were not evaluated.

In the case of GCC's core drilling, field duplicates consisted of quarter-core splits, with the paired originals being half-core splits; a quarter-core split was left in the core library. The field duplicates were collected at regular intervals, which resulted in a large percentage of duplicates being derived from original samples with values at or below the analytical detection limit.

A total of 107 core duplicates were collected by GCC and analyzed by Skyline. The core-duplicate data for TCu are presented in Figure 12-2; 17 pairs in which both the duplicate and original analyses are below the detection limit were removed from the dataset.

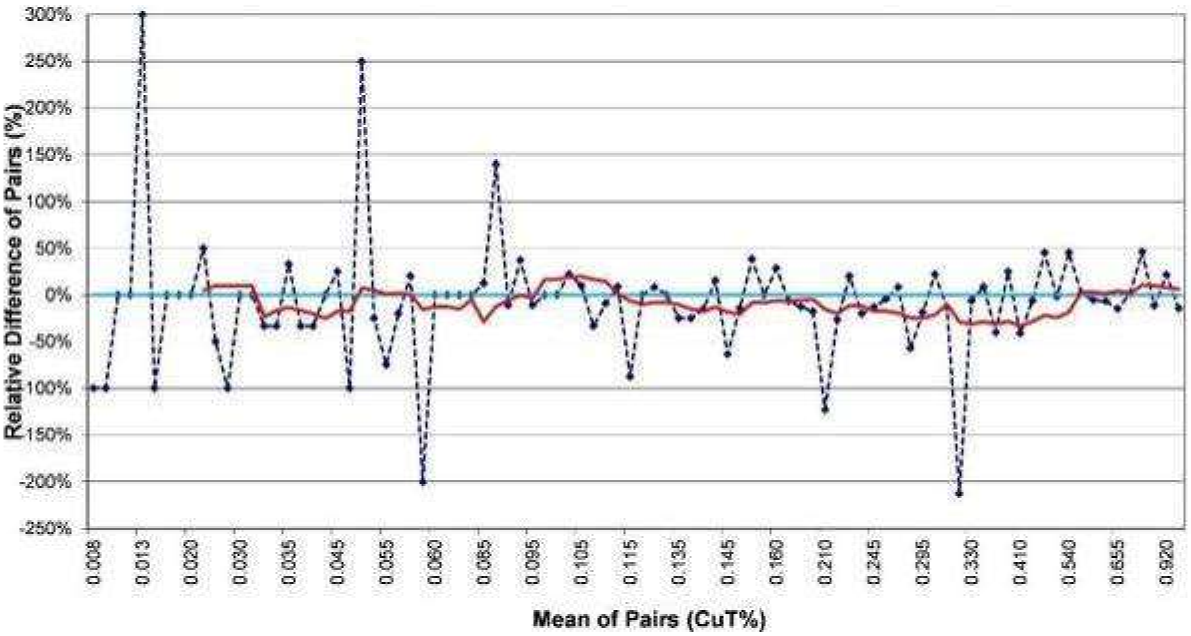


Figure 12-2: Core – Duplicate TCu Analyses Relative to Original Assays

Figure 12-2 is a relative-difference graph, which shows the percentage difference (plotted on the y-axis) of each duplicate assay relative to its paired original analysis. The x-axis of the graph plots the means of the TCu values of the paired data in a sequential, non-linear fashion. The red line is the moving average of the relative differences of the pairs and provides a visual guide to trends in the data. Positive relative-difference values indicate that the duplicate analysis is greater than the original. Relative-difference graphs are very useful in determining biases in the data that may not be evident using only basic descriptive statistics.

The TCu mean of the core-duplicate analyses is 4% lower than the mean of the original samples, but this difference decreases to 2% if the single duplicate pair at a mean of the pair ("MOP") of 0.330% is removed from the dataset. While there is an indication of a low bias in the core duplicates relative to the originals in the MOP range of ~0.15 to ~0.4% TCu, there are insufficient data to make statistically meaningful conclusions. The average of the absolute values of the relative differences is 25% at a MOP cut-off of 0.1% TCu, indicating a moderate amount of variability between the original and core-duplicate assays.

Figure 12-3 shows the 80 core-sample field-duplicate pairs for ASCu in which both the originals and duplicates were above the lower detection limit; 27 pairs with both below the detection limit were excluded. The mean ASCu grade of the core duplicates is 3% lower than the mean of the original analyses, although the means are identical if five pairs with relative differences exceeding ±150% are removed. The average of the absolute values of the relative differences is 34% at a MOP cut-off of 0.1%, lowering to 23% if the five high relative-difference pairs are removed. As with the TCu data, there is a suggestion of a low bias in the ASCu analyses of the core duplicates in the MOP range of ~0.08 to 0.2%, but no statistically valid conclusions can be drawn due to insufficient data in this grade range.

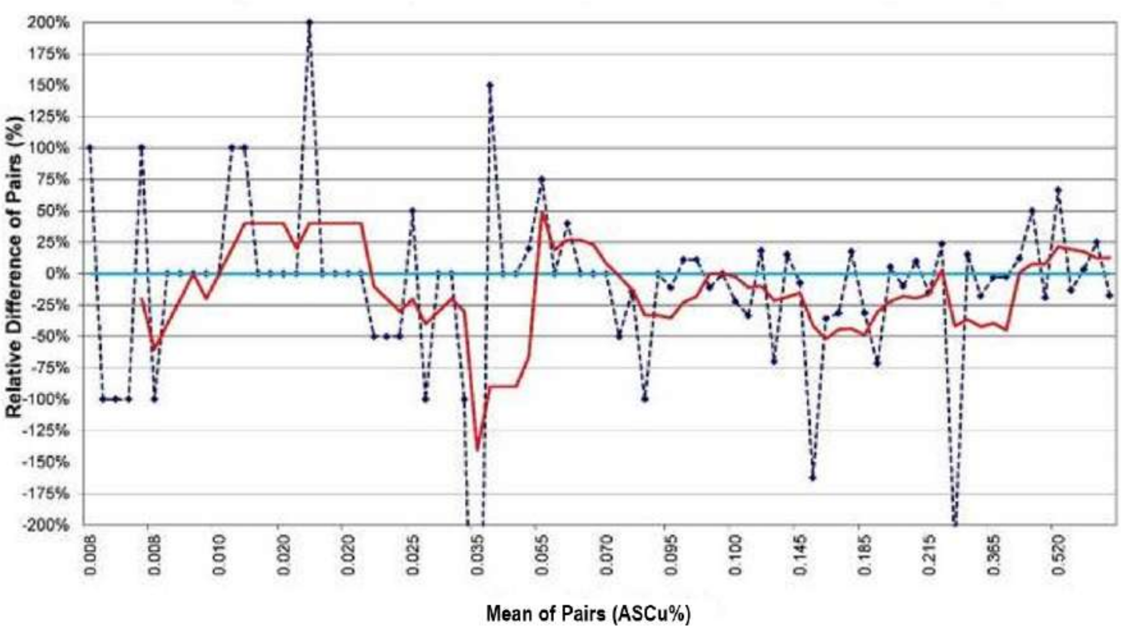


Figure 12-3: Core – Duplicate Analyses Relative to Original ASCu Assays

The mean of the ASCu/TCu ratios derived from the core duplicates is identical to that of the original analyses for all pairs where both TCu analyses exceed 0.03% (low TCu values can lead to meaningless ratios).

While these statistical analyses of the core duplicate TCu and ASCu show no statistically significant issues, more data are needed to properly evaluate GCC's subsampling of the core.

12.3.6 Replicate Analyses

Replicate analyses are secondary splits of the original sample pulps that are analyzed by the original laboratory in the same assay batch as the original analysis. These are mainly used to assess variability instilled by the subsampling of the pulp and the analysis itself.

The replicate analyses were analyzed regularly by Skyline as part of its internal QA/QC program. Only the 814 replicates of samples derived from GCC's NSD core holes are evaluated in this discussion.

The TCu replicate data are presented in Figure 12-4; 138 pairs in which both the duplicate and original analyses are below the detection limit were removed from the dataset.

No bias is evident in the replicate data, and the means of the replicates and the originals are identical at a range of MOP cut-offs. Removal of extreme relative-difference pairs does not affect the means of the datasets because they occur on both sides of the 0% line. Variability of the replicate data is low, as measured by the average of the absolute values of the relative differences, which is 4% for all of the data and 2% at a MOP cut-off of 0.1%.

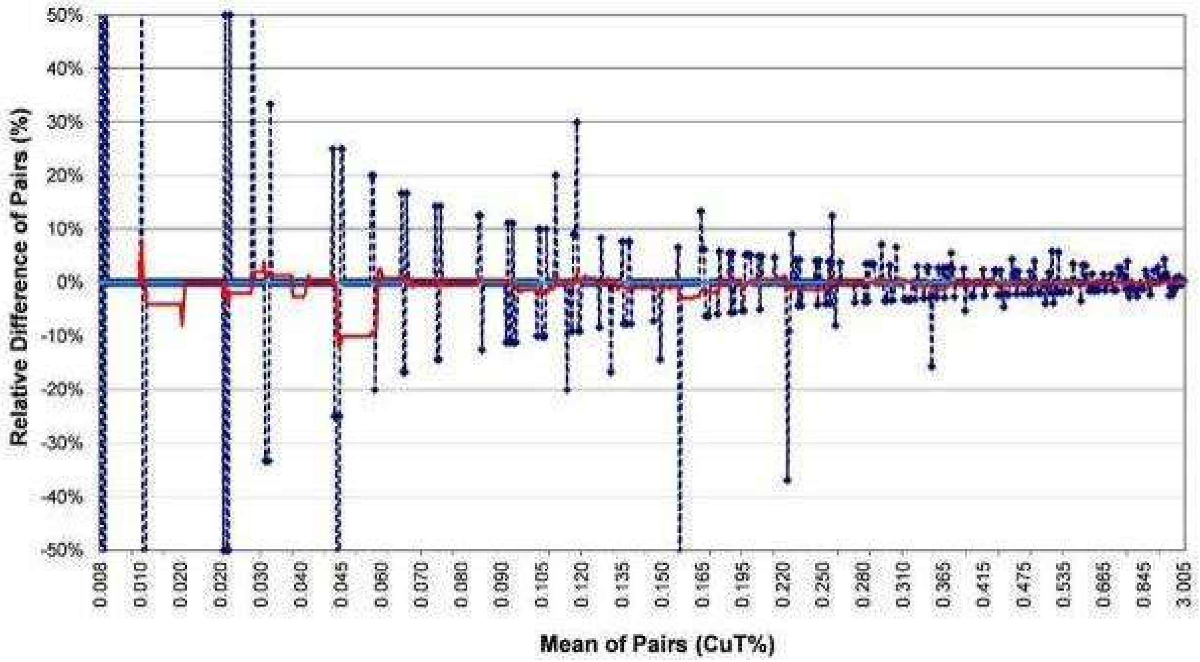


Figure 12-4: Replicate TCu Analyses Relative to Original Assays

Figure 12-5 shows the 975 of 1,289 total replicate-original pairs for ASCu in which both the originals and duplicates were above the lower detection limit; 314 pairs in which both analyses are below the detection limit were excluded. The relative differences displayed at the lowest-grade portion of the ASCu chart are an artifact of variable detection limits that cause extreme, but artificial, variability.

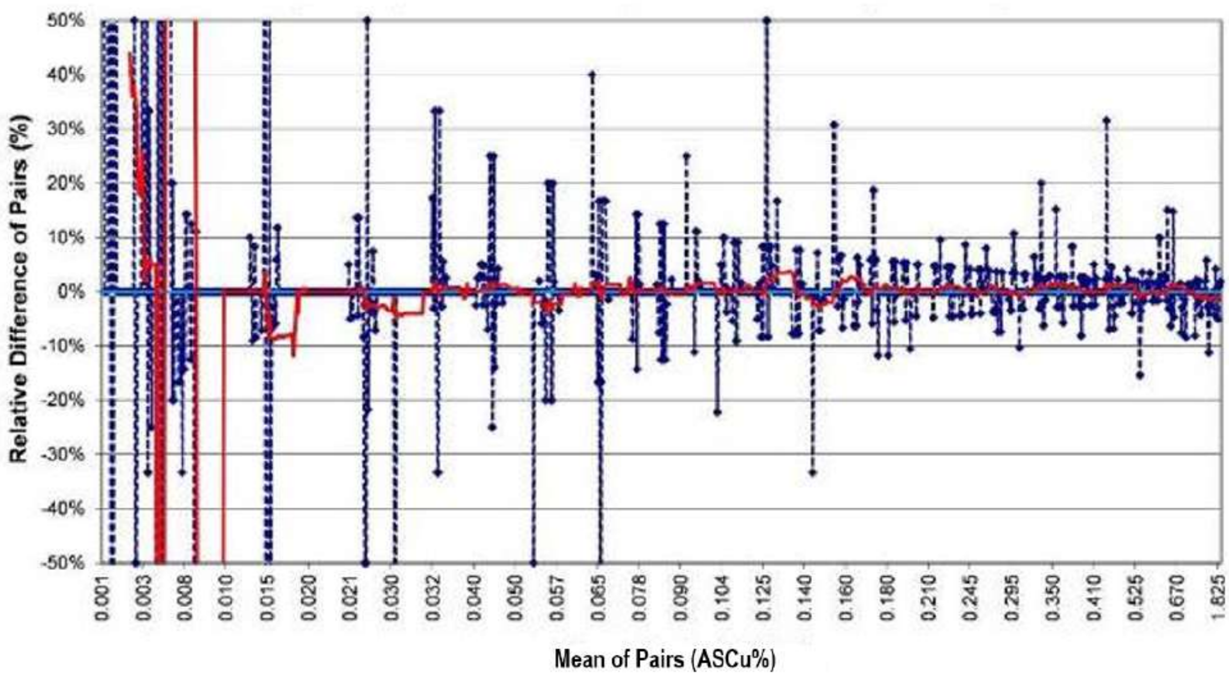


Figure 12-5: Replicate ASCu Analyses Relative to Original Assays

As with TCu, no bias is evident in the ASCu replicate data, and the means of the replicate and original analyses are identical. The average of the absolute values of the relative differences is ~3% at a MOP cut-off of 0.1% ASCu.

The mean of the ASCu/TCu ratios derived from the replicate analyses (0.52) is similar to that of the original analyses (0.53) in pairs where both TCu analyses exceed 0.03%.

12.3.7 Check Assays

As a further check on analytical accuracy, GCC selected a portion of the original sample pulps from each yearly drill program and sent these to ALS for re-assaying of the original Skyline pulps. Roughly every 20th sample, or approximately 5% of the total sample data, was selected for re-assay. A total of 220 pulps from the 2011, 2012 and 2014/2015 programs were sent to ALS for check assays.

Figure 12-6 compares the ALS check TCu assays to the original Skyline assays from NSD-series core holes from the 2011 and 2012 drilling programs, the ALS check-assay results from which are very consistent. Eight data pairs in which both the check and original analyses are less than the detection limit were removed. The graph shows a very consistent low bias of about 5% in the ALS check assays relative to the Skyline original analyses at MOP greater than about 0.07% TCu. The variability of the duplicate TCu analyses above this MOP is ~7%.

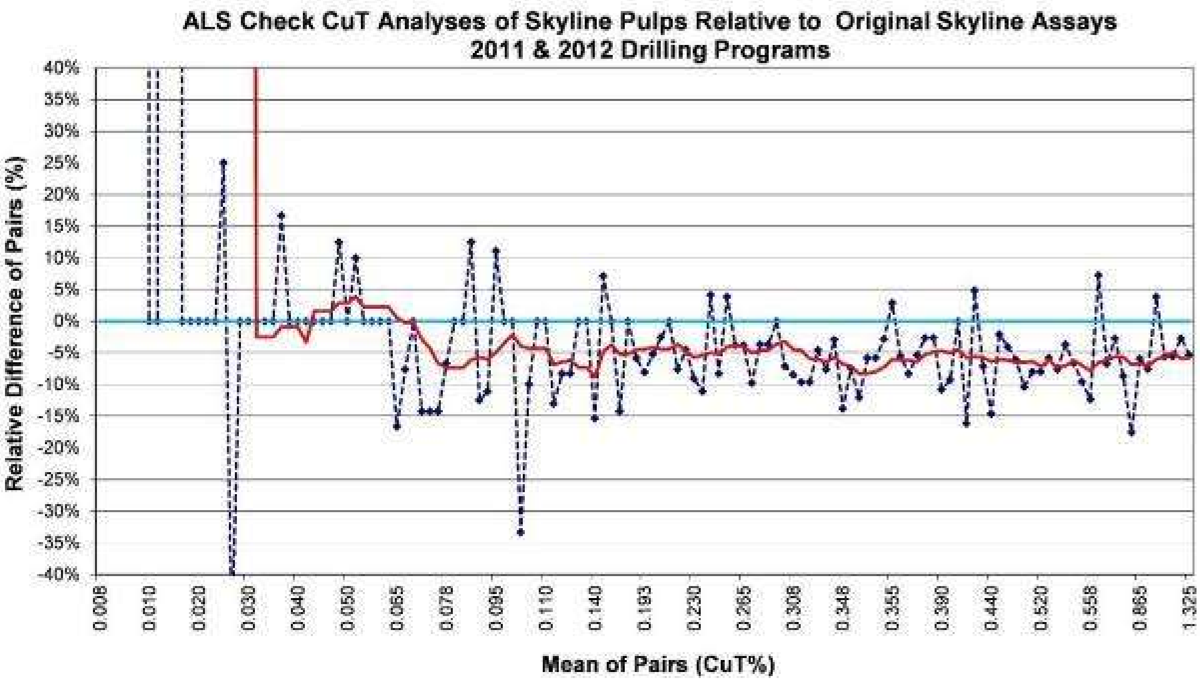


Figure 12-6: ALS Check TCu Assays Relative to Original Skyline Analyses

The check-assay data for ASCu for the 2011 and 2012 drilling programs are very similar to the TCu data, with a consistent low bias in the ALS analyses, in this case of about 8% to 10% relative to the original Skyline assays. The variability of the ASCu duplicate pairs is ~10%.

The check-assay data for the 2014-2015 drilling program yield different results. While there are fewer duplicate pairs, with only 29 pairs above a MOP cut-off of 0.1% TCu, the ALS check TCu assays of the samples from the 2014-2015 program are higher than the original assays up to a MOP grade of ~0.3% TCu, although the extent of the high bias continually decreases over this grade range; in the range MOP range of 0.1 to 0.3% TCu, the ALS analyses are ~5% higher than the original assays. It is worth noting that the Skyline standard analyses for the 2014-2015 drilling program are also biased low. The limited data above the 0.3% TCu cut-off shows reasonably close agreement between the check and original analyses. The variability in the paired data is ~5% above a MOP cut-off of 0.1% TCu.

The ASCu paired data is again similar to the TCu data for the 2014-2015 drilling program, with a high bias in the check assays of about 10% up to a MOP of ~0.07% ASCu. At higher grades, the check analyses are close to the original analyses. Variability is ~4% above a MOP cut-off of 0.05% ASCu.

GCC included standard pulps with the submissions of Skyline drill-sample pulps to ALS for check assaying at the end of each drill program. ALS analyzed a total of 28 AMIS0118 standard pulps in the check assaying of pulps from the 2011 and 2012 drilling programs and three AMIS0249 standards with the 2014-2015 sample pulps. Figure 12-7 charts the results of the ALS analyses of standard AMIS0118 from the 2011 and 2012 drilling programs, and Table 12-4 summarizes the results for all ALS analyses of the standards.

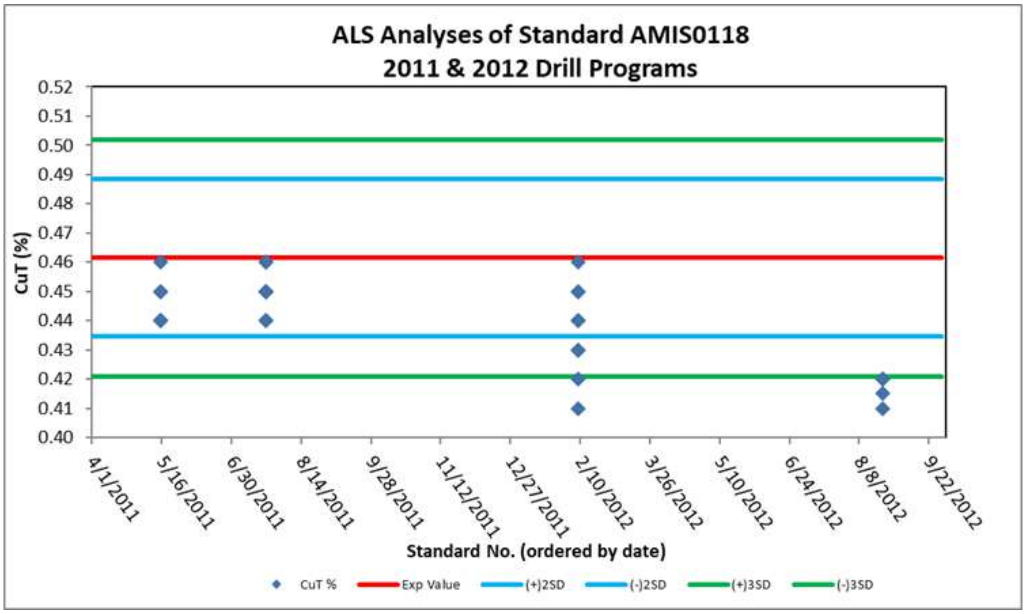


Figure 12-7: Plot of ALS Check Assay Analyses of Standard AMIS0118

Table 12-4: Summary of ALS Analyses of Standards from Check – Assaying Programs

Drill Program	ALS Mean	Certified Value	%Diff	Count
2011 & 2012	0.44	0.4615	-4.70%	28
2014 & 2015	0.36	0.3692	-3.00%	3

The 2011 and 2012 ALS TCu analyses of AMIS0118 are systematically biased low, and the magnitude of this bias is consistent with the magnitude of low bias in the ALS analyses of 2011 and 2012 Skyline drill-sample pulps relative to the original Skyline analyses. While the 2014-2015 ALS analyses of the three AMIS0249 are slightly low, there are insufficient standard analyses to determine a definitive bias. GCC does not have ASCu standards.

It is important to note that the analytical procedures employed by ALS differed significantly from those used by Skyline. Skyline analyzed TCu by atomic absorption following multi-acid digestion. A sequential-leach procedure was performed separately for the ASCu and CNCu analyses. In the case of ALS, ASCu and CNCu were also obtained from sequential-leach analyses. A third analysis was then run on the residua of the sequential-leach analyses. TCu is indirectly determined by adding the three values (ASCu + CNCu + residual Cu). This means that an error in any of the three analyses will similarly affect the calculated TCu value as well. It is unfortunate that ALS did not complete TCu analyses directly on the sample pulps in addition to the sequential-leach analyses.

12.3.8 GCC Inter – Laboratory Check Program

In light of the discrepancies between the original Skyline and ALS check assays, M3 (2014) recommended additional inter-laboratory check-assaying programs. Following these recommendations, GCC selected 30 coarse rejects from the original Skyline drill samples at the end of each of the 2011, 2012, and 2014-2015 drill programs and sent them to ALS. ALS prepared and analyzed the 30 pulps at the end of each program and then sent the pulps to Skyline for check assays.

RESPEC completed a detailed analysis of this inter-laboratory program using techniques described above for the other duplicate datasets. The data were examined as a whole as well as by drill program. Consistent TCu and ASCu biases were found between the ALS analyses and both the Skyline check assays of the ALS pulps and the original Skyline analyses of the drill core for all three drill programs. In all cases, the Skyline TCu and ASCu analyses are biased high relative to those of ALS. These biases are consistent with those identified in the original check-assaying of the 2011 and 2012 drilling programs discussed above but are not consistent with the check-assay data from the 2014-2015 program.

Table 12-5 compares the means of the original Skyline analyses of core, the ALS analyses of the Skyline coarse rejects, and the Skyline check analyses of the ALS pulps. One of the 90 samples was removed from the dataset due to an extreme outlier in a 2011 ASCu analysis. Based on detailed reviews, as well as the exclusion of this single outlier sample, RESPEC believes the means shown in Table 12-5 provide a reasonable summary of the results of the inter-laboratory check program.

Table 12-5: Summary of the Inter – Laboratory Check Program

	2011			2012			2014-2015			All Data					
	Skyline		ALS Cse Rej	Skyline		ALS Cse Rej	Skyline		ALS Cse Rej	Skyline		ALS Cse Rej	Skyline Chk vs Core	ALS vs Skyline	
	Core	ALS Chk		Core	ALS Chk		Core	ALS Chk		Core	ALS Chk			vs. Core	vs Chk
TCu	0.52	0.53	0.5	0.79	0.79	0.77	0.35	0.35	0.34	0.55	0.56	0.54	0.40%	-3.20%	-3.60%
ASCu	0.4	0.42	0.39	0.66	0.64	0.63	0.21	0.23	0.2	0.43	0.43	0.41	0.90%	-4.50%	-5.30%
ASCu/TCu	0.76	0.79	0.77	0.84	0.8	0.8	0.6	0.65	0.59	0.73	0.75	0.72	2.30%	-1.20%	-3.50%
CNCu	0.007	0.008	0.009	0.026	0.037	0.017	0.048	0.04	0.032	0.27	0.022	0.022	7.40%	18.50%	24.10%

Note: One 2011 sample removed due to spurious ASCu analysis

In contrast to the Skyline – ALS biases, comparisons between the original Skyline analyses and the Skyline check analyses of the ALS pulps (which are derived from Skyline coarse rejects) show no biases. The close correspondence between the two sets of Skyline analyses suggests that laboratory sample preparation is not the cause of the Skyline – ALS biases. This leads to the conclusion that the biases are probably rooted in either the subsampling of pulps to obtain aliquots for analysis or in the analyses themselves; RESPEC believes the former explanation is very unlikely.

GCC inserted standards with the coarse rejects analyzed by ALS and the ALS pulps analyzed by Skyline (Table 12-6). All of the ALS and Skyline analyses of these standards yielded values within two standard-deviations of the certified standard grades. While the data are not sufficient to derive definitive conclusions, the Skyline analyses of the standards tend to be higher than the certified values in the 2011 and 2014-2015 data, while the ALS analyses are generally lower. Note that Skyline's much more numerous analyses of the same standard inserted with the original drill samples show no high bias whatsoever.

Table 12-6: Skyline and ALS TCu Analyses of Standards – Inter – Laboratory Program

Drilling Program	Standard		ALS		Skyline	
	Certified Value	Std Dev	Analysis	%Diff	Analysis	%Diff
2011	0.4615	0.0135	0.45	-2.50%	0.48	4.00%
			0.49	6.50%	0.48	4.00%
			0.45	-2.50%	0.47	1.80%
2012	0.4615	0.0135	0.47	1.80%	0.46	-0.30%
			0.46	-0.30%	0.46	-0.30%
			0.45	-2.5	0.45	-2.50%
2014-2015	0.3692	0.0072	0.365	-1.10%	0.38	2.90%
			0.355	-3.8	0.38	2.90%
			0.355	-3.80%	0.38	2.90%

12.3.9 Summary of GCC QA/QC Results

No significant issues were identified in the results of Skyline's analyses of the certified standards, coarse blanks, and replicates. While the analyses of the core duplicates are slightly lower than the original analyses over certain grade ranges, there are insufficient data at these grades to allow for definitive conclusions.

The check-assay data indicate that Skyline analyses are systematically higher than ALS at relevant grades. ALS analyses of standards inserted with the drill-sample pulps for check assaying are systematically ~5% lower than the certified values, while Skyline analyses of the same standards submitted with the original drill samples show no biases or other issues. The inter-laboratory program undertaken to further examine the ALS versus Skyline discrepancies accomplished little more than largely confirming the biases identified in the check-assaying program. Based on these data taken as a whole, as well as the differences between the analytical methods employed by Skyline and ALS, RESPEC concludes that there are no significant issues with the Skyline analyses of the original GCC drill samples, although there may be a slight low bias in the 2014-2015 data.

The accuracy of the ASCu and CNCu analyses in the Project database cannot be directly assessed. These analyses only measure a portion of a sample's copper content, and this portion will vary laboratory to laboratory based on the specifics of the analytical methodologies. Key variables include the leaching time, the temperature of the leach solution, the strength of the leach solution, and the degree of agitation. In other words, there is no 'correct' value in any particular sample. What is important, however, is the consistency in the analyses, which in the case of the Gunnison deposit can be evaluated by examining the ratios of the core duplicates and the replicate analyses. In both cases, the differences between the duplicate and original ratios are very close (less than one percent). RESPEC finds no issues with the soluble copper analyses in the Project database.

The core-duplicate data are useful in estimating variability in the copper analyses that is attributable to geological heterogeneity, subsampling by GCC and the laboratory, and analytical precision. At a cut-off of about 0.1% for both TCu and ASCu, the variability in the core duplicates is about 20%. Since the core duplicates are comprised of ¼-core samples, and the original drill samples are ½-core samples, this variability probably overstates the variability inherent in the original ½-core samples. The data therefore suggest that the total uncertainty in any single TCu or ASCu value in the existing the Gunnison deposit data is less than ± 20%. Approximately 3% of this total is attributable to analytical precision, as evidenced by the replicate data.

12.3.10 QA/QC Recommendations

RESPEC recommends that GCC consider the following changes to their QA/QC protocols:

- The addition of two certified TCu standards, one at a grade lower than the standard presently in use and the other at a higher grade;
- The addition of preparation duplicates to the QA/QC protocols. Preparation duplicates are analyses by the primary assay laboratory of second pulps prepared from the original coarse rejects. These duplicates monitor the subsampling undertaken by the primary lab;
- The TCu, ASCu, and CNCu analytical procedures used by the check-assay laboratory should be identical to those used by GCC's primary lab; and
- The use of the present inter-laboratory check program should be terminated. In the event that discrepancies between check assays and the original analyses cannot be resolved by the laboratories' analyses of certified standards, the check-assay pulps should be sent to a third 'umpire' lab along with the same standards analyzed by the primary and check-assay labs.

12.4 GCC RESAMPLING AND RE-ASSAYING OF HISTORICAL CORE AND SAMPLE PULPS

12.4.1 Resampling of Cyprus – Superior Drill Core

Core Duplicates: GCC resampled selected intervals of Cyprus-Superior core from holes CS-02 and CS-06 and sent the 40 core-duplicates to Skyline for preparation and analysis. M3 (2014) stated that the mean of the Skyline TCu analyses is 12% lower than the mean of the original analyses (0.37 *vs*. 0.42%, respectively), and the mean of the Skyline ASCu analyses is 8% lower (0.21 versus 0.23%). M3 (2014) concluded that "*these results indicate that the original analyses may be biased high relative to Skyline for TCu and ASCu, but the number of pairs is too small and the scatter of points too large to confirm that a systematic bias is present.*" RESPEC independently analyzed the data and agrees with this conclusion. While the potential bias is more evident in the TCu data than ASCu, the mean of the ASCu/TCu ratios of the original and core-duplicate datasets are very close, which suggests any bias in the Skyline TCu data is mirrored in their ASCu analyses. Approximately 25% of the data directly used in the estimation of resource grades are derived from the original Cyprus-Superior analyses.

12.4.2 Pulp–Check Analyses and Resampling of Quintana Drill Core

Core Duplicates: The core from 101 sample intervals in holes T-01 and T-05 was resampled by GCC and analyzed for TCu by Skyline. A systematic low bias in the Skyline analyses is evident at mean grades of the pairs greater than ~0.08% TCu, and the mean of the Skyline analyses is 10% lower than the mean of the original assays (Figure 12-8).

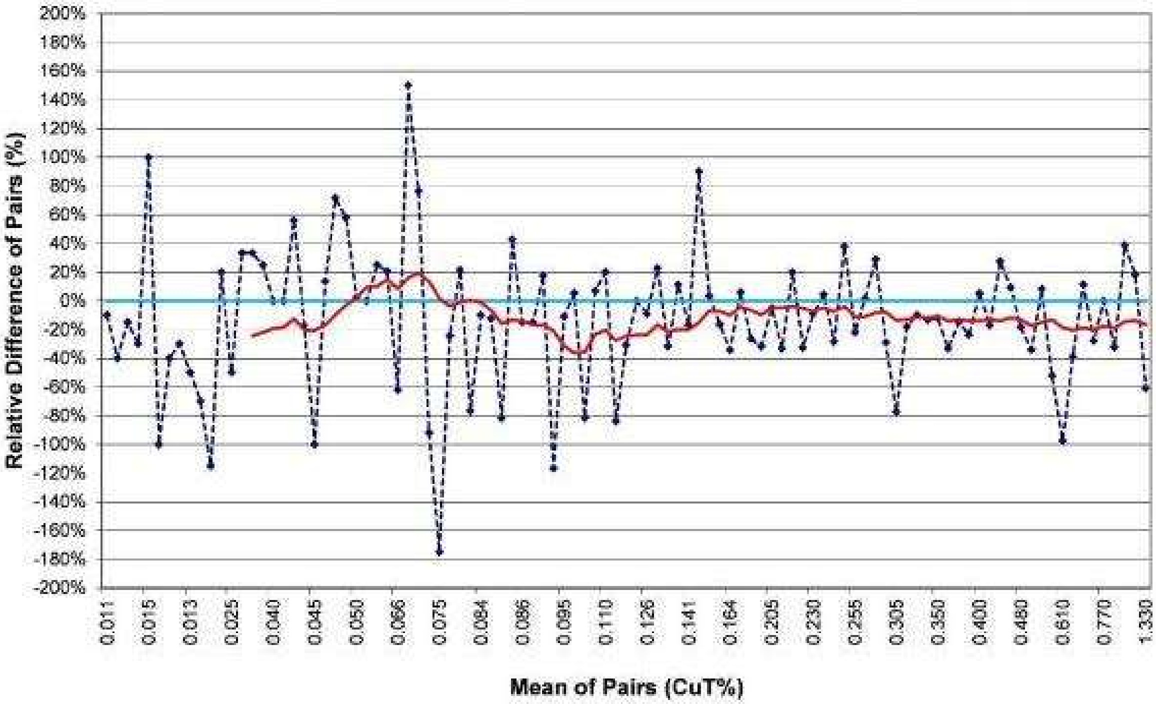


Figure 12-8: Skyline TCu Analyses of Core Duplicates Relative to Original Quintana Assays

Skyline also completed ASCu analyses on 274 core duplicates from seven T-series holes and holes S-3 and DC-09 (Figure 12-9).

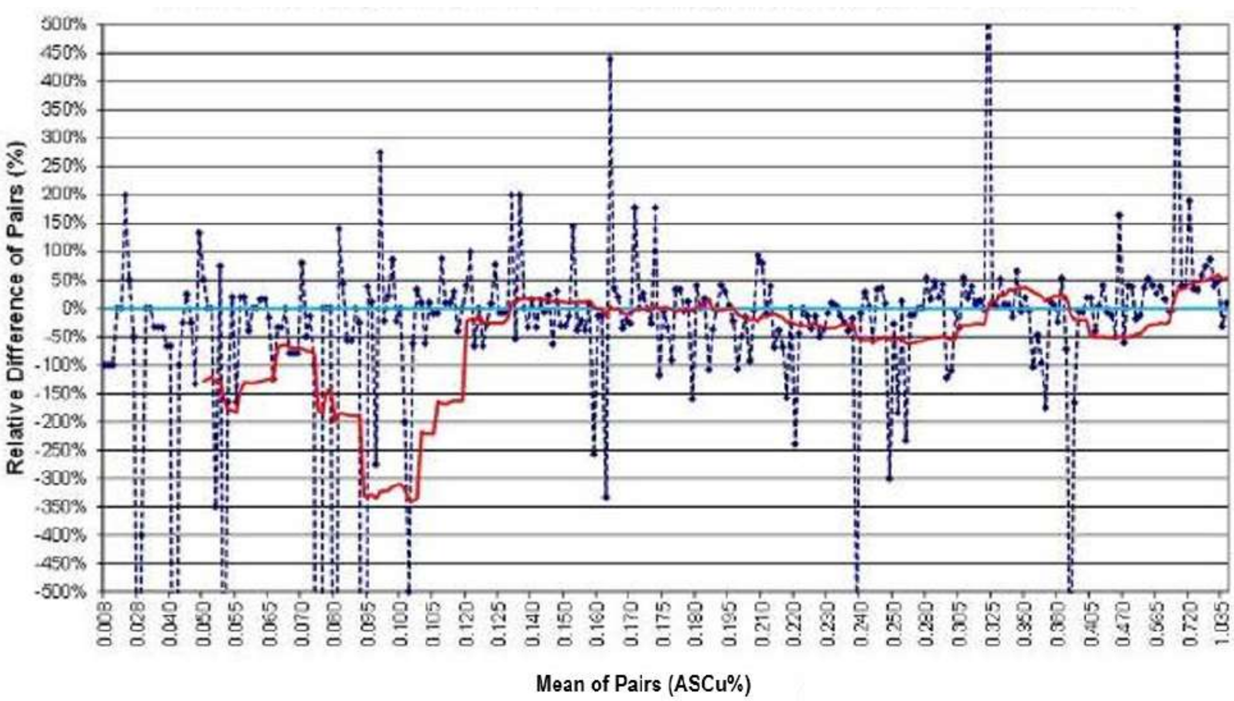


Figure 12-9: Skyline ASCu Analyses of Core Duplicates Relative to Original Quintana Assays

The mean of the Skyline data is close to the mean of the original analyses (1% higher). However, the Skyline mean includes an anomalous number of instances in which the Skyline analyses are significantly lower than the originals (as seen in pairs with relative differences >~-150 to -200%). These pairs, in part, lead to an apparent low bias in the Skyline analyses for pairs with means up to about 0.1% ASCu, as well as in the range of ~0.2 to 0.3% ASCu.

RESPEC also investigated the core-duplicate data for the 58 sample intervals within the dataset in Figure 12-9 for which paired ASCu analyses are available. These pairs also show a low bias in the Skyline analyses within a similar range of the MOP of ~0.15 to ~0.3% ASCu, although there are not enough data to make definitive conclusions. The mean of the Skyline ASCu/TCu ratios is identical to the mean of the ratios of the original analyses.

Re-Assays of Original Pulps: Skyline completed ASCu analyses on original Quintana sample pulps from seven T-series holes (S-01, S-04, and DC-09). A total of 331 of these pairs are compared in Figure 12-10.

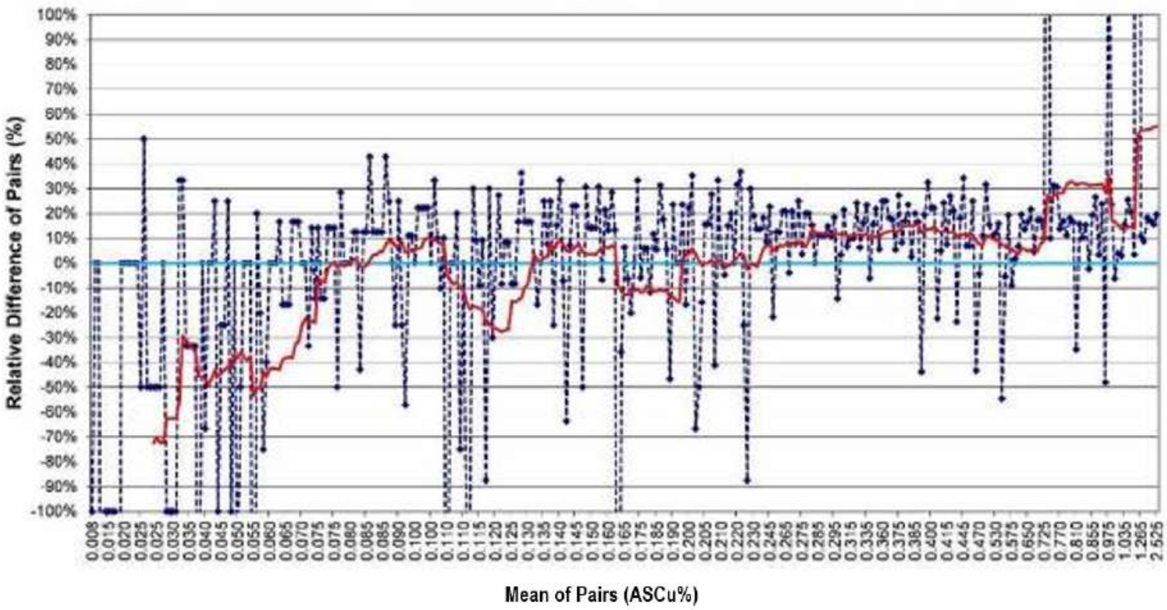


Figure 12-10: Skyline ASCu Analyses of Pulp Relative to Original Quintana Assays

The mean of the Skyline analyses of the original pulps is 12% higher than the original assays (0.30 vs. 0.27% ASCu, respectively); removal of all pairs with relative differences >100% decreases the difference to 9%. A strong and systematic high bias in the Skyline analyses is seen at MOP's greater than about 0.25% ASCu.

There is a distinct bias in the pairs with relative differences in excess of about 40%, and relative differences of this magnitude are high for check analyses of pulps. Instances in which the Skyline analyses are significantly lower than the originals dominate these pairs. If not for these high relative-difference pairs, the high bias in the Skyline analyses would be exacerbated, and it would extend the bias to MOP's greater than ~0.12% ASCu. There are no Skyline TCu analyses that accompany this ASCu dataset.

Quintana TCu and ASCu analyses in the Project database represent 5.5% and 2.6%, respectively, of the data directly used in the estimation of the Project mineral resources.

12.4.3 Resampling of Magma Copper Drill Core

Core Duplicates: GCC resampled historical Magma drill core and sent the 519 core-duplicate samples to Skyline for preparation and analysis of both TCu and ASCu. Skyline's core-duplicate results differ significantly from the original

Magma analyses, which led GCC to completely replace the Magma analytical data with analyses of resampled core. The Skyline TCu analyses of the core duplicates are compared to the original analyses in Figure 12-10. While the ASCu comparison is similar to that shown in Figure 12-11, the magnitude to the differences in the two datasets is less. This leads to the Skyline mean of the ASCu/TCu ratios (0.74) in the duplicate analyses being significantly higher than the mean of the ratios of the original analyses (0.62).

Note that the pairs with extreme relative differences are highly biased towards those in which the Skyline analyses are lower than the originals.

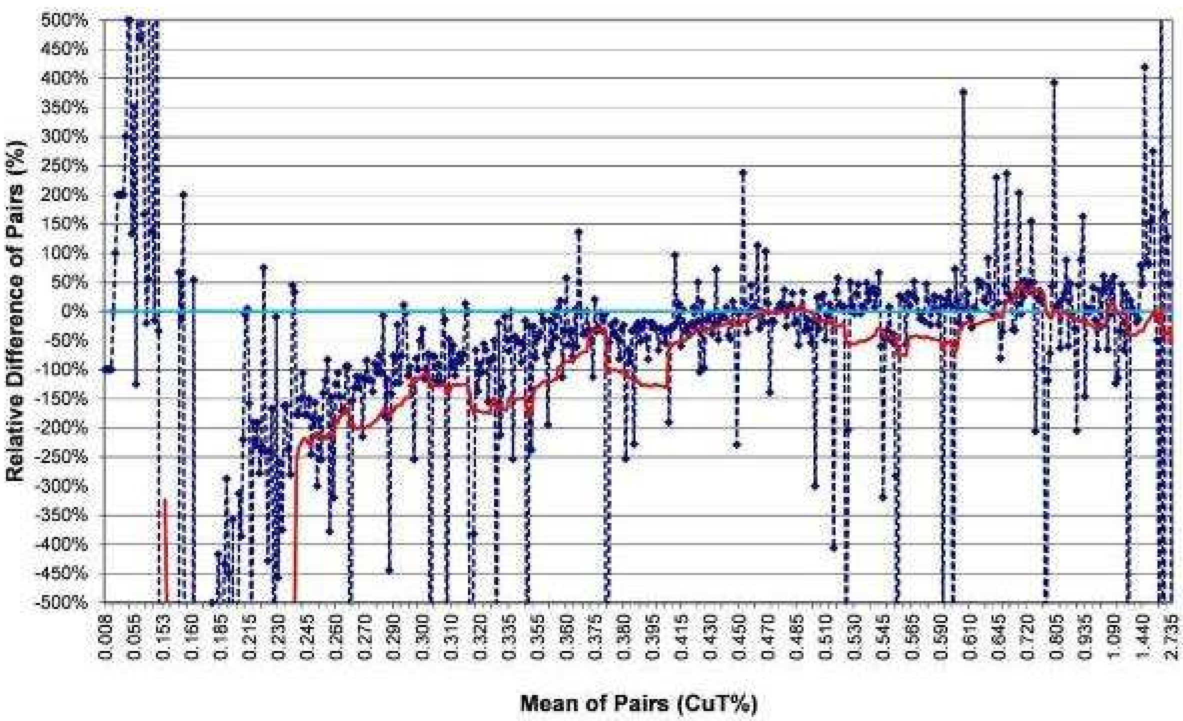


Figure 12-11: Skyline TCu Analyses of Core Duplicates Relative to Original Magma Assays

GCC completely replaced all original Magma assays in the Project database with Skyline's duplicate-core analyses.

12.5 SITE INSPECTIONS

Mr. Bickel visited the Gunnison Project site and Casa Grande core shack most recently on January 2nd, 2024 and again on April 3rd, 2024. Core from several holes drilled at the Gunnison deposit was examined, and procedures for logging, sampling, sample handling, and SG determination were reviewed. Prior to this, Mr. Bickel has made numerous site visits to Gunnison dating back to 2021. During the visits, Mr. Bickel verified drillhole collar locations, inspected the Gunnison drill core, and reviewed GCC procedures for logging, sampling, sample handling, and SG determinations.

Mr. Bickel did not collect samples of core for the purposes of verifying the presence of copper mineralization at the Gunnison deposit. Outcrops a short distance to the east of the deposit with visible copper-oxide mineralization were inspected and significant copper mineralization in long intervals of GCC drill core and cuttings were visually confirmed by Mr. Bickel during the site visit. The existence of the Gunnison Deposit has been known widely in the industry for many years prior to GCC's involvement, based on the results of drilling programs conducted by major copper-mining and exploration companies (*e.g.*, Magma, Cyprus, and Superior).

12.6 DISCUSSION OF 2018-2019 PRODUCTION WELLFIELD DRILLING DATA

Mr. Bickel reviewed the data collected from the 2018-2019 production wellfield drilling, which was completed after the estimation of the Gunnison deposit mineral resources. While the production wellfield data is immaterial to the mineral resources estimated herein, as the holes were drilled within an area that includes only about 3% of the total copper in the mineral resources, it provides data for a limited comparison with the estimated mineral resource grades.

Based on visual comparisons of the wellfield data and the block-model lithologic codes and estimated grades, the wellfield drill logging and total-copper and acid-soluble grades reasonably match the modeled geology and estimated grades of the resource block model. However, the mean of bench composites of the total-copper assays created from the production well data was found to be about 10% higher than the mean of the estimated grades of model blocks that encompass the wellfield bench composites. A relative-difference quantile plot that compares the wellfield total-copper data to the estimated grades of the blocks that encompass the drill data shows that this 10% difference is evident systematically at grades between about 0.4% to 1% TCu, with the wellfield data having lower grades than the estimated block grades below 0.3% TCu and significantly higher grades at grades above 1% TCu. Similar differences were also seen with the acid-soluble grades. The grade differentials at the low- and high-grade portions of the grade distributions are expected, due to the grade averaging of widely spaced drill data that occurs during estimation versus the very minor averaging that results from the compositing of the raw, closely spaced, wellfield assay data.

Due to the very limited area of wellfield drilling as compared to that of the entire resource block model, the only conclusion that can be drawn is that the estimated total-copper block grades, as well as the associated acid-soluble grades, derived from the exploration core holes are biased low with respect to the closely spaced, reverse-circulation wellfield data within the small wellfield area. Significantly more post-model drilling would be needed prior to making global conclusions with respect to the entire area encompassed within the mineral resource estimation.

12.7 SUMMARY STATEMENT

Extensive verification of the data pertinent to mineral resource estimation has been undertaken. In addition to the drill-data auditing and the compilation and evaluation of the QA/QC data described above, the explicit, ‘hands-on’ approach applied to the estimation of the Project mineral resources, as described in Section 14, allowed RESPEC to verify GCC’s geological modeling and further verify the drill data. It is the combination of the GCC geologic model and the drill-hole copper analyses that formed the basis of the resource modeling.

In consideration of the information summarized in this and other sections of this Technical Report, RESPEC has verified that the Project data are acceptable as used to support the estimation and classification of the Project mineral resources reported herein.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

This section discusses historical and recent metallurgical test work and the conclusions that can be drawn from that work for an open pit heap leach mining operation.

13.1 EARLY LABORATORY TEST PROGRAMS PRE-2006

Since 1972 and through 2012, samples from the Gunnison Project and neighboring Johnson Camp Mine (of similar mineralogy and geology), have been tested and evaluated by Superior Oil, Quintana Minerals, Phelps Dodge, Magma Copper, and Nord Resources. Unfortunately, the usefulness of those tests has often been impaired by the absence of sample locations, descriptions, and/or mineralogical characterization, or by unrealistic or inappropriate test conditions and parameters. Salient features of the metallurgical reports are summarized below in chronological order with titles and names of firms.

Metcon conducted some agitated sulfuric acid leaching tests on crushed samples of mined Martin and Upper Abrigo formations with heads of 0.61% TCu and 0.57% ASCu, yielding PLS grades of 1.3-1.7 gpl Cu (Metcon, 1972). MSRDI performed a variety of tests on coarse core rejects from drill hole T-2 at different depth intervals (MSRDI, 1973a). Mineralogist Laszlo Dudas observed that 60% of the copper was present as true chrysocolla, but that the remainder was a semi-refractory form of dilute copper silicate impregnating a layer silicate lattice. Both sulfuric acid and aqueous ammonium carbonate were used in agitated leaches, but acid was more effective. The deepest core interval consumed 9-14 pounds acid per pound of copper leached (lb/lb) and MSRDI concluded that a sufficiently high acid dosage should readily dissolve 70-80% of the total copper. Actual extractions by MSRDI were in the range 72.3-81.1%.

MSRDI also conducted tests that included heat treating followed by ammonium carbonate leaching, calcite flotation prior to leaching with sulfuric acid, and simulated vat leaching with sulfuric acid (MSRDI, 1973b). None of these methods produced results that were sufficiently encouraging to justify further evaluation.

Magma carried out a series of bottle roll tests on minus 10-mesh samples of unspecified origin (Magma, 1992). An average of 62.8% of the total copper dissolved at pH 1.5, producing pregnant leach solution (PLS) grades of 0.46-1.2 gpl Cu, essentially proportional to the ASCu assay of the samples. Magma then published an addendum presenting head and "tailing" (leach residue) assays that revealed leaching of calcium and magnesium minerals and precipitation of gypsum (Magma, 1993). Because of gypsum precipitation, residue assays as high as 12% S were produced from samples containing <0.1% S.

Magma conducted subsequent bottle roll tests with sulfuric acid on two minus 10-mesh composites and obtained 50.7 and 84.9% ASCu extractions, but the residue from the former test still contained 0.28% ASCu, casting doubt on the validity of the test (Magma, 1995). The residue from the latter test assayed only 0.05% ASCu, as one would expect from the higher ASCu extraction.

Magma ran "mini-column" acid leaches with epoxy-coated core fragments (to seal fractures created by drilling and core splitting) (Magma, 1996). Total copper extraction was very poor at only 16.9%, but it is worth noting that recirculation ("stacking") of the leaching solution produced a PLS grade of 0.72 gpl Cu. The tests were run at only 1 gpl free acid, which likely limited copper extraction.

Hazen Research, Inc. (HRI) loaded clear PVC columns 6 inches in diameter by 10 feet high with fragments of 6-inch core and smaller pieces and leached the columns with sulfurous acid (H_2SO_3) at concentrations of 20 gpl and 40 gpl aqueous SO_2 (HRI, 1996). After 5 months of operation, 70% of the copper had dissolved from the column with the stronger lixiviant and 48% had dissolved from the other. Equivalent sulfuric acid consumptions were 9 lb/lb from the more acidic column and 8 lb/lb from the other.

These results were very encouraging, and the use of sulfurous acid deserves further consideration, as digestion with sulfurous acid is sometimes the preferred analytical procedure for assaying ASCu. Although sulfurous acid will attack calcium carbonate, it probably forms calcium sulfite, not gypsum, and calcium sulfite, may be more soluble than gypsum is in dilute sulfuric acid. The stronger lixiviant produced an initial PLS grade of 2.88 gpl Cu that eventually equilibrated at about 0.3 gpl Cu.

Phelps Dodge subjected six samples to ammonia leaching, sulfidization and flotation, and dilute sulfuric acid leaching in bottle rolls (Phelps Dodge, 1996). The first two techniques did not yield promising results, but bottle roll copper extractions with dilute sulfuric acid were in the range 74-98% with five of the six above 92%. Heads of 0.43 to 0.88% TCu produced residues that generally contained 0.01-0.06% TCu, with one at 0.14% TCu.

Although a significant number of metallurgical tests were conducted by five laboratories for four property owners between 1972 and 1996, the results were variable and do not allow reliable interpretations or projections of copper extraction.

13.2 RECENT LABORATORY METALLURGICAL TESTING

Gunnison completed numerous in-situ related metallurgical testing from 2011 to 2015. This test work included modified saturated column tests and various innovative horizontal box tests. As these tests were specifically designed for in-situ mining recovery techniques, they are not considered directly applicable to open pit heap leaching techniques. Nevertheless, recoveries typically ranged from 60 to 100% acid soluble copper and acid consumption for the saturated column tests were high whilst acid consumption for the horizontal box tests were low. Metallurgical testing from similar rock types at the adjacent Johnson Camp property are considered more applicable to open pit mining at Gunnison.

Column leaching tests conducted in early-2011 at Mountain States R&D were reported by Dr. Ronald J. Roman (Roman, 2011). The tests were conducted in 8-inch diameter columns 20 feet high on samples from the JCM active mining operation in pits named Copper Chief (CC) and Burro (BP). The samples were crushed and screened to minus 1-inch fragment size, blended, agglomerated and cured, and loaded into the columns which were all leached concurrently.

The samples varied significantly in breakage characteristics with the minus 6-mesh fraction ranging from 20 to 47% of the total sample weight. Agglomeration of fines and curing of the samples with dilute aqueous sulfuric acid was done by mixing the samples and solution in a portable cement mixer to a target of 8% moisture. The amount of 100% sulfuric acid in the curing solution that was added to the samples varied from 9.8 to 14.3 lb/ton of sample and averaged 12.2 lb/ton. This quantity was added to the eventual net acid consumption estimate.

The columns were then charged with agglomerated and cured samples and irrigated with a lixiviant consisting of acidified JCM SX raffinate. The reported application rate and the flowrate entered on the laboratory worksheets, were incorrectly stated as 0.0024 gallons per minute per square foot of charge surface (gpm/ft^2). The recorded flowrate of 13.25 liters per day equated to 0.0024 gallons per minute, but the charge surface area was only 0.394 square feet, resulting in a solution application rate of 0.00609 gpm/ft^2. This may not be significant, but it calls into question the correspondence between the column data and the standard heap application rate of 0.005 gpm/ft^2. It could also account for flooding of the seventh column and rejection of that column containing Lower Abrigo mineralized material from the Burro Pit from the test series. Head assays were calculated from residue and solution weights or volumes and assays. Acid consumptions were average values at the copper extraction shown in Table 13-1. The assays shown were conducted after hot acid digestion because that procedure gave results that correlated most closely to column copper extractions. However, they overstate ASCu.

Table 13-1: 2011 Column Leaching Tests

Column #	Formation Name	Calculated Head Assays		Leach Days	Acid Consumption		Copper Extraction	
		%TCu	%ASCu		lb/ton	lb/lb	%TCu	%ASCu
1	CC Bolsa Quartzite	0.57	0.54	79	18	3.9	67	70
2	CC Pioneer Shale	1.25	1.23	111	12	2.1	82	84
3	CC Lower Abrigo	0.19	0.15	70	50	29.6	48	58
4	CC Diabase	0.51	0.47	102	33	5.9	73	79
5	BP Pioneer Shale	0.29	0.26	102	23	7.0	74	81
6	BP Bolsa Quartzite	0.31	0.29	62	13	4.2	76	83
8	BP Diabase	0.47	0.43	95	35	6.4	76	82

During 2012, further column testing for Nord was done under Dr. Roman's supervision. There were 35 tests, but some were inconclusive and the laboratory daily reporting sheets are missing for some. Results from the 23 reliable and well-documented tests are summarized in Table 13-2.

Table 13-2: 2012 Column Leaching Tests

Column #	Size	Formation Name	Head Assays		Leach Days	Acid Consumption		Copper Extraction	
			%TCu	%ASCu		lb/ton	lb/lb	%TCu	%ASCu
1	-1"	Bolsa Quartzite	0.40	0.47	79	19	3.9	67	70
2	-1"	Pioneer Shale	1.23	1.21	111	11	2.1	82	84
3	-1"	Lower Abrigo	0.24	0.20	70	45	29.6	48	58
4	-1"	Diabase	0.47	0.44	102	33	5.9	73	79
5	-1"	Pioneer Shale	0.26	0.24	102	24	7.0	74	81
6	-1"	Bolsa Quartzite	0.22	0.20	62	15	4.2	76	83
8*	-1"	Diabase	0.36	0.33	95	37	6.4	76	82
9	-6"	Bolsa Quartzite	0.25	0.16	111	29	18.9	33	52
10	-6"	Lower Abrigo	0.26	0.24	137	9	8.9	49	53
11	-6"	Bolsa Quartzite	0.67	0.48	155	29	4.6	71	98
12	-6"	Diabase	0.51	0.17	155	66	15.9	45	133
13	-6"	Mid/Up. Abrigo 1	0.34	0.32	165	56	18.3	49	51
14	-6"	Lower Abrigo	0.63	0.55	162	44	9.6	43	49
15	-6"	Mid/Up Abrigo 3	0.31	0.27	74	40	28.0	24	28
16	-6"	Mid/Up Abrigo 2	0.40	0.37	126	36	13.8	37	40
17	-1"	Mid/Up Abrigo 1	0.29	0.28	87	43	9.9	48	50
18	-1"	Lower Abrigo	0.91	0.85	164	77	6.5	58	63
19	-1"	Mid/Up Abrigo 3	0.24	0.22	87	39	52.1	16	17
20	-1"	Mid/Up Abrigo 2	0.38	0.37	87	39	9.9	43	44
21	-1"	Lower Abrigo	0.24	0.20	93	39	30.1	26	34

Column #	Size	Formation Name	Head Assays		Leach Days	Acid Consumption		Copper Extraction	
			%TCu	%ASCu		lb/ton	lb/lb	%TCu	%ASCu
22	-1"	Lower Abrigo	0.24	0.20	93	41	25.6	30	37
23	-1"	Lower Abrigo	0.24	0.20	91	43	36.8	24	29
24	-1"	Lower Abrigo	0.24	0.20	91	57	47.9	24	30

*Note: Column 7 was discontinued due to plugging

The data presented in Table 13-1 and Table 13-2 require comments and tentative conclusions. Questionable values are highlighted in red. The %ASCu extraction for Column 12 appears suspicious and a likely error was the low ASCu head assay. Also, the acid consumption appears high for diabase and the minus 6-inch fragments surely would not consume more acid that the fine minus 1-inch crushed product, especially with a shorter leach retention time. Samples of the Abrigo formation show some variability in acid consumption, but the lb acid/ton and lb acid/lb figures reported for Column 24 appear too high and may have been incorrect calculations.

It is important to note that acid consumptions and copper extractions obtained from column tests do not faithfully predict acid consumptions or copper extractions that will be obtained in commercial heaps, as both will depend on leach cycle time, as well as various factors including care taken during heap construction. Also, the original reports expressed copper recovery, which is misleading. It is more correct to use copper extraction. Copper recovery should apply to commercial cathode production and is always somewhat lower than the leaching extraction during column or heap leaching. This is mainly due to copper contained in SX raffinate and recycled to the heap. Neglecting losses such as reprecipitation on the heap, some of this soluble copper will eventually be recovered during rinsing and decommissioning.

There were only a few comparisons between fine and coarse column feeds, but they do not make a strong case for converting JCM from ROM to crushing and agglomeration. A logical explanation for this unusual behavior is that copper mineralization is primarily confined to fractures and that high-carbonate fracture fillings dissolve rapidly during leaching, enabling easy access of the leaching solution. Nonetheless, a minus 6-inch fragment population probably does not represent ROM very faithfully, so it is quite possible that ROM underperforms a finer heap feed sufficiently to consider reactivating the crushing and screening plant. Simple agglomeration with a water spray at a conveyor head pulley to about 8% moisture may suffice. Crushing may be especially important as the pits deepen into transition mineralization.

Information on the leaching behavior of the largest fragments in an ROM size distribution is not available, and the top size will be strongly dependent on blasting practice. However, it is likely that most of the non-sulfide (oxide) copper mineralization occurred post-original fracturing. If so, the rock fragments most resistant to size reduction during blasting presumably will be those with the lowest fracture density and, possibly, with the lowest oxide copper grade. This line of reasoning suggests that crushing may not be economically justifiable, neglecting the physical effect that large fragments exert by "shadowing" underlying finer pieces and depriving them of solution contact.

Due to the potential importance of learning about oxide copper grade as a function of fragment size, this topic is included in the Recommendations paragraphs at the end of this section.

13.3 PREDICTED GUNNISON HEAP LEACHING PERFORMANCE

Nord information from 2009-2010 indicated an average of 0.15% ASCu by the standard cold acid assay procedure, equating to 3 pounds of soluble copper per ton. For that entire period of operation, totaling 13,791,898 tons of mixed ROM and crushed mineralized material, and producing 27,061,512 pounds of cathode with the application of 154,792 tons of sulfuric acid, Nord reported an average of 1.96 pounds of cathode copper produced per ton of mineralized material leached, corresponding roughly to 65% ASCu recovery during approximately 2-years of ramp-up and, possibly, sporadic operation. If the planned Gunnison heap leaching operation performs no better than the Nord operation, the average Gunnison heads of 0.27% ASCu with a 0.05% ASCu residue would equate to a copper recovery of 81%.

However, since the Gunnison open-pit and heap leaching project would essentially be an expansion of the existing JCM operation with its experienced operators and the same rock types, an ultimate ASCu recovery of 90% is realistic. The underlying rationale is as follows:

- Nord operated Johnson Camp during 2009 and 2010, crushing most of the mineralized material that was leached, but leaching the remainder as ROM. The average ASCu grade of the crushed mineralized material, 0.17%, was higher than the average grade of the ROM, 0.11%. The overall ASCu recovery increased from 60% in 2009 to 70% in 2010. It is highly likely that the operation closed without dissolving and recovering all the leachable copper, leaving the latter in solution inventory.
- It is clear from core logs that ASCu mineralization in the Gunnison resource was post-fracturing, resulting in most ASCu occurring as fracture fillings and accessible to leaching fluids.
- The dominant ASCu mineralization in the Gunnison deposit is chrysocolla, and southern Arizona chrysocolla typically dissolves in two stages, the second having significantly slower dissolution kinetics, but ultimately dissolving; This is another reason for predicting higher copper recoveries than were obtained by Nord.
- Statistically, some ASCu will be inaccessible to fluids, but some transition mineralization will be accessible and will gradually dissolve, provided sufficient ferric iron is present as an oxidant for chalcocite. If chalcopyrite is present in the transition zone, its heap leaching extractions will be very low, possibly 15-20%, unless biological augmentation or other developing technology is applied.
- In the aggregate, overall copper extraction during leaching is likely to be approximately 90% of the ASCu assay, assuming industry-standard heap leaching practices, including stacking belt heap construction and irrigation with raffinate that has been fortified with sulfuric acid to approximately pH1.5. For the pit, mineralized material will be crushed to nominally minus-6-inch and the following copper extractions are expected for the dominant copper species: ASCu, 90%; CNCu, 90%; and CuS, 60%. The sulfide extraction assumes some form of augmented chalcopyrite oxidation, de-passivation, and leaching.
- It is unlikely that all assayed ASCu will dissolve during the first year of operation, as there will be inevitable inefficiencies, so it is reasonable to assume for the purpose of this PEA that the annual incremental equivalent ASCu recoveries into the PLS (leaching extractions) will be as shown in Table 13-3:

Table 13-3: ASCu Equivalent Recoveries versus Time

Year	Recovery
1	81
2	4.5
3	4.5

- Similarly, transition sulfide minerals, mostly chalcopyrite, will dissolve gradually at assumed annual extractions of Year 1, 48%; Year 2, 9%; and Year 3, 3%.

Consumption of sulfuric acid during the Nord campaign averaged 22.4 lb/ton on material that was mostly Lower Abrigo and Bolsa quartzite. Recognizing the difference in carbonate content of the Lower Abrigo between the JCM resource and the Gunnison resource, the predicted acid consumptions for rock types in the Gunnison resource are given in Table 13-4 in pounds of 98% H_2SO_4 per ton of mineralized material.

Table 13-4: Acid Consumption in Pounds per Ton

Rock Types	Gunnison Open Pit
Martin	70
Upper Abrigo	48
Middle Abrigo	48
Lower Abrigo	24
TQM/Bolsa/Pinal	24

13.4 RECOMMENDATIONS FOR OPEN PIT MINING OF THE GUNNISON RESOURCE

Ten years have passed since the last column tests were conducted on samples from Gunnison and from the Copper Chief and Burro pits, so GCC management should consider launching a sampling and metallurgical testing program using transparent columns. The following suggestions are intended as guidelines only, as additional testing may be indicated during a Pre-feasibility Study.

The coarsest fragments in a ROM size distribution may contain insufficient ASCu grade to justify crushing, and the effect of shadowing underlying finer particles may be minor. However, it may be worthwhile to conduct an analysis of rock quality data to quantify the economics of crushing open-circuit to several product sizes, or to achieve tighter control of particle size distribution by crushing in closed-circuit with screens.

GCC could consider conducting parallel large-diameter column (or equivalent) tests on a bulk sample. Large columns can be made of 36-inch or 48-inch diameter PVC or sewer-grade glazed ceramic pipe or 4-foot x 4-foot x 20-foot-high plastic-lined cribs. Ideally, a large sample (at least 250 tons) of ROM from the most important future mineralized zone would be collected, blended, and split as well as possible with a front-end loader.

The Johnson Camp operation has not been comparing cathode production with mined tonnages and either core or blasthole assays. This type of metallurgical accounting should be done, as it was by Nord, to allow auditing the quality of heap construction and operation. Such information could then be used to refine correlations between column test results and future commercial performance.

13.4.1 Core Logged as Non-Sulfide Copper

An Outline of Typical Sample Preparation and Testing Protocols

Drill core splits that have been logged as essentially all non-sulfide copper minerals should be composited according to rock type and prepared for column testing. Although the heaps may be loaded with ROM material, it is not practical to simulate leaching of such coarse rock fragments, so it will be necessary to load columns with at least three nominal size ranges, expressed as an 80% passing feed size, or F_{80}. Copper extraction kinetics, ultimate extractions, and terminal acid consumptions can then be extrapolated.

Presumably, core rejects are sufficiently fresh that weathering of any sulfide mineral grains and host rocks has not occurred. If this is not the case, drilling of fresh holes twinned with earlier holes may be justified in the interests of reliable information.

Compositing, sampling, and assaying of heads will be complicated by the fact that heads for whole core splits will not be precise when leaching the coarsest fragments. This will require some judgment on the part of the sample prep lab at the selected analytical laboratory. It is suggested that alternate intervals of split core be selected for further size reduction, leaving intervening whole core splits for testing. Head assays on representative samples of crushed core will be used for all head assays, but this will only be an assumed value for the coarse size, awaiting confirmation by metallurgical accounting at the end of column testing.

The core segments representing each rock type and selected for crushing will be crushed through a 2-inch (50 mm) sieve and blended. Portions will be reserved for head assays, approximately 500 grams will be archived, and approximately half of the total weight will be split out for further crushing through a 1-inch (25 mm) sieve. The minus 1-inch material will be blended, a portion reserved for head assays, and approximately 500 grams will be archived. Approximately 5 kg will be set aside for bottle roll tests and crushed/screened through 10-mesh. Specific gravities of core and bulk densities of crushed samples should be obtained.

Head assays will be run in duplicate for total copper (TCu), acid-soluble copper (ASCu), and cyanide-soluble copper (CNCu). Duplicates that vary by more than 0.02% Cu will be rerun. A 200-gram sample representing each rock type will be submitted to the Colorado School of Mines' Geology Department, Hazen Research, or Montana Technological University (Butte) for QEMSCAN, to characterize and quantify copper species and accessory rock-forming minerals.

Bottle Rolls

Standard revolving bottle roll tests are essential to a complete understanding of the chemistry of mineralized material and gangue. Properly executed, they establish maximum achievable copper extraction and maximum total sulfuric acid consumption.

The bottle roll tests should be conducted at ambient temperature with the mouths open to allow ingress of air in case readily oxidized and leached secondary copper minerals, typically chalcocite, are present. It is usually not cost-effective to leach longer than 48-72 hours, and a satisfactory kinetic curve can be generated by extracting small samples at 4, 8, 16, 24, and 48 or 72 hours and assaying solids and solution for copper.

The bottle charge should contain at least 500 grams of solids. An aqueous sulfuric acid solution at nominally pH 1.0 (approximately 10 gpl free acid), or acidified Johnson Camp Mine (JCM) raffinate, and weighing the same as the solids (50% solids by weight), should be added at test time zero. The sample slurry should be checked immediately for pH and the bottle contents adjusted with pH 0.5 aqueous sulfuric acid or acidified JCM raffinate to pH 1.0. The acidity should be re-adjusted to pH 1.0 each time a sample is withdrawn from the bottle.

Following completion of the standard bottle rolls, an acid-cure bottle roll with each rock type should be conducted as follows: Perform a 4-hour test with 40% of the final acid dosage, normalized for grams of acidified raffinate per dry gram of sample. Follow each test with the same timed series as before and with the same control of pH.

Heap Leaching Simulation

Recommended testing is by column simulation of heap leaching as follows: Use transparent columns at least 21 feet in height and 12 inches in diameter for uncrushed core and the minus-2-inch samples. Use columns at least 21 feet high and 8 inches in diameter for the minus-1-inch material. Technically, this is too small a column diameter for the uncrushed core, but core availability may preclude a larger diameter, and height is more important than diameter.

When loading the columns, insert a flow distributor after each 36 inches of material. This can be a drilled or perforated plastic disk or a circular piece of plastic screen with openings around 0.25-inch, avoiding a finer mesh that could become plugged with gypsum. The distributors will serve as markers at the conclusion of testing. With the finer crush size, load the material slowly and in small increments to minimize compaction.

Prepare a composite of the minus-2-inch material that approximates the first five years of mining by making up a weighted mixture of rock types.

Plan on the following number of columns:

- Prepare one column each of uncrushed core splits for each rock type;
- Prepare one column each of minus-2-inch material for each rock type;
- Prepare one column of the minus-2-inch composite; and
- Prepare two columns each of minus-1-inch material for each rock type.

Conventional column testing usually includes operation of each column in closed circuit with a small solvent extraction circuit. This protocol offers the advantage of generating information on the buildup of cations and anions as they approach equilibrium with the copper minerals and accessory minerals specific to each column charge. However, this approach is expensive and the information's value is sometimes questionable. An advantage of the Gunnison deposit is that the JCM SX-EW facility has been treating heap and dump leach liquors from similar mineralization for decades and the mature raffinate probably is comparable in overall composition to raffinate that would eventually approach equilibrium with fresh columns of a composite of Gunnison material. Therefore, the QP recommends leaching the new column charges with current JCM raffinate that has been adjusted with sulfuric acid to the desired pH.

Although an argument could be made for testing the composite before testing individual rock types, this would be an inefficient use of laboratory effort and unduly expensive, since one technician can as easily monitor 5 or 6 columns as 1 or 2. Therefore, the following columns can be operated concurrently. In all cases, the JCM raffinate should be adjusted with pH 0.5 aqueous sulfuric acid to pH 1.0 to 1.5 (approximately 10 gpl free acid) prior to column irrigation. The technician in charge of monitoring the columns should be very diligent in preventing free acid from falling below pH 2.5 in order (1) to prevent hydrolysis of ferric ion and precipitation of basic ferric oxides that will impair solution percolation through the charge and reduce leaching efficiency, and (2) to ensure that sufficient free acid is available to promote efficient and rapid leaching.

With the aim of mimicking natural moisture content, the column charges should be dampened homogeneously with site water to approximately 5-8 weight percent moisture. It will probably be realistic to assume that the core rejects are dry with no pore moisture.

All columns should be operated until the daily copper assay of the pregnant leach solution (PLS) has fallen below 0.2 gpl. The leached columns should be washed with site water at 0.005 gpm per square foot (0.203 liters per minute per square meter) for 5 days and the off-solution collected separately from the PLS.

The change in charge height ("slump" if a decrease or "swell" if an increase) must be measured before unloading the columns. The columns should then be unloaded from the bottom and the 36-inch charge intervals (separated by screens) identified and placed in separate buckets pending sample preparation and assaying. This will allow an accurate estimation of ultimate copper extraction as a function of heap depth, which may differ among rock types and is almost certain to differ for the minus 1-inch crushed material.

Uncrushed Core

Before loading the columns, screen the split core at 2-inch, weighing and combining the minus-2-inch fraction with the minus 2-inch crusher product (see the next paragraph). When charging the 2-inch oversize fragments, be careful not to create size segregation. A good way of doing this is to cone and quarter all of the screened core, then to fill the charging bucket with alternating hand shovel loads of fragments from opposing quarters.

Minus-2-inch Crushed Core

As with the uncrushed core, the stockpile for each rock type should be coned and quartered and the column charged with buckets that have been filled by shovel loads from opposite quarters.

Minus-1-inch Crushed Core

This will be the finest material to be tested and it is likely to exhibit the highest ultimate copper extraction and the most rapid extraction. However, this may only occur if fine particles are prevented from migrating downward through the charge until they accumulate sufficiently to interfere with even solution access to fragments in the charge. For this reason, agglomeration will be examined and this will be done by curing one of the two column charges with 40% of the total acid requirement indicated by the bottle roll test. An effective way of agglomerating is to use a portable cement mixer with a plastic (usually polyurethane) barrel. Otherwise, the column tests can be run as above.

All solution volumes should be measured and the residues dried at 90°C, noting percent moisture. Solutions should be assayed for copper, iron, sulfate, chloride, pH, and free acid (by titration) and a quantitative element scan obtained by ICP. Solid residues should be assayed for TCu, ASCu, and CNCu. It would also be instructive to obtain a QEMSCAN or MLA scan on each residue by the same laboratory that will perform the scans on unleached resource samples.

13.4.2 Proposed Operating Strategies for Crushing, Mineralized Material Sorting, and Agglomeration

GCC envisions feeding ROM mineralized material open-circuit through two gyratory crushers to approximately 4-6 inches (100-150 mm), screening at 1-inch, and feeding the plus-1-inch fraction over conveyor belts equipped with mineralized material sorters (more accurately, “particle separators”).The finer sieve opening may be a size other than 1-inch, depending on tests by sorter vendors. Fragments containing carbonates above the setpoint and copper below the setpoint will be discharged from the belts to reject conveyors and a reclaim pile. Remaining upgraded mineralized material will be combined with the minus-1-inch fraction and agglomerated with SX raffinate. If biological augmentation is adopted, the agglomerating solution will also contain biological culture, at least during the first year or so of operation.

This will be a new paradigm for GCC, requiring new maintenance, repair, and operating procedures preceded by appropriate training of current and supplementary personnel. Gyratory crushers are very rugged and reliable, but proper maintenance and repair of the eccentric shafts and mantles will need well-trained personnel. The particle separators will be quite trouble-free but will be linked by programmable logic controllers to some type of distributed control system, necessitating at least one full-time instrumentation and process control technician. Agglomeration can probably be done by solution sprays at conveyor transfer head pulleys. Construction of the heap will require care and attention, as correct placement of agglomerated mineralized material will be accomplished with “grasshopper” conveyors and a radial stacker, rather than truck dumping. Maximum lift height will probably be 10 meters (32.8 feet).

13.4.3 Justification for Mineralized Material Sorting

Some of the Gunnison resource, especially the Martin formation, contains abundant carbonates and is expected to consume at least 50 pounds of sulfuric acid per ton. A potentially attractive way of reducing acid expense during heap leaching is to segregate mined rock that contains excessive carbonates, but minimal copper. Mineralized material “sorting” by particle analysis and rejection has been practiced in coal and uranium mines for about 75 years and there have been recent and very successful applications in the gold, copper, and non-metallic mineral industry sectors. Furthermore, there have been recent developments in sensing technology that allow rapid simultaneous on-stream analysis of multiple mineral characteristics such as color and metal grade.

Preliminary cost estimates have been in the range $36-100 million CAPEX and $0.30-0.50 per ton OPEX, depending on a number of variables. Important variables that could impact costs are (1) the size screen that established minimum particle size in the sorter feed, and (2) the fraction of primary crusher discharge that must be sorted. If the crushed product exhibits typical behavior for copper mineralization, the fines will have the highest copper grade. More testing will be needed to confirm this relationship and to learn if both the acid-consuming gangue and the copper minerals are concentrated in the fines. If they are, the lower screen aperture will be adjusted to the balance point among copper losses, acid consumption, and sorter expense.

A preliminary survey has revealed projects globally that are sorting daily quantities around or above the planned production rate for Gunnison. A few hard-rock mining examples include Ferbasa's iron ore mines in the Brazilian State of Bahía, the waste dump reclamation project at the Michilla copper mine in Chile, and the Mahd adh Dhahab ("Cradle of Gold") gold mine in Saudi Arabia. There are numerous examples of high-volume sorting in the coal industry.

14 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

Jeffrey Bickel, C.P.G., of RESPEC, is the Qualified Person responsible for the mineral resources reported in this Technical Report. Mr. Bickel is independent of GCC by the definitions and criteria set forth in the Canadian National Instrument 43-101 ("NI 43-101"); there is no affiliation between Mr. Bickel and GCC except that of an independent consultant/client relationship.

The Gunnison Deposit Mineral Resources are classified in order of increasing geological and quantitative confidence into Inferred, Indicated, and Measured categories in accordance with the "CIM Definition Standards – For Mineral Resources and Mineral Reserves" and therefore Canadian National Instrument 43-101.

14.2 RESOURCE MODELING

14.2.1 Data

The Gunnison deposit copper resources were modeled and estimated using data generated primarily by GCC, with additional information from historical operators, including data derived from core, reverse circulation, and conventional rotary drillholes. Historical operators included Cyprus Minerals, Superior Minerals, Quintana Minerals, Magma Copper, Phelps Dodge, Minerals Exploration, and James Sullivan. No holes were drilled subsequent to the previously reported mineral resources presented in the Gunnison Copper Project Pre-Feasibility Update prepared by M3 in 2016 (M3, 2016). These data, as well as digital topography of the Project area, were provided to RESPEC by GCC in a digital database in Arizona State Plane, East Zone coordinates in US Survey feet using the NAD27 datum. This database is summarized in more detail in Section 10.

All modeling of the Gunnison deposit resources was performed using proprietary software developed at RESPEC as well as GEOVIA Surpac™ mining software. The Gunnison resource block-model extents and block dimensions are provided in Table 14-1.

Table 14-1: Block Model Summary

	x (ft)	y (ft)	z (ft)
Min Coordinates	529,000	384,750	0
Max Coordinates	549,450	398,250	5,200
Block Size	50	100	25
Rotation	0	0	0

14.2.2 Deposit Geology Pertinent to Resource Modeling

The Gunnison copper mineralization occurs primarily in Paleozoic sedimentary units adjacent to the Texas Canyon Quartz Monzonite, although the quartz monzonite and Precambrian rocks host minor quantities of mineralization as well. The primary controls on the Gunnison mineralization include: (i) proximity to the Texas Canyon Quartz Monzonite; (ii) carbonate-bearing stratigraphic units altered to various calc-silicate/skarn mineral assemblages; and (iii) the degree of fracturing. The development of primary copper-sulfide skarn mineralization is related to the proximity to the intrusion. The skarn mineralization preferentially developed in carbonate-bearing units, with the combination of this and proximity to the intrusion leading to the Martin and Abrigo formations being the primary host units. Fracture intensity is controlled by two factors: fracturing related to volume loss during skarn development and fracturing related to preand post-mineral faulting. The effects of oxidation overprint the primary copper mineralization to depths of approximately 1,600 feet.

Geologic factors are critical to the modeling of the Gunnison copper mineralization therefore include lithology, structure, and oxidation.

14.2.3 Modeling of Geology

GCC completed stratigraphic interpretations on a set of east-west vertical cross sections that were used for all modeling of the Gunnison deposit. These sections are spaced at 100-foot intervals over a north-south extent of 9,000 feet, which covers the mineral resource area, with four 500-foot spaced sections appended to the north and south of the 100-foot sections. The stratigraphic units modeled on the cross sections include the Naco Group, Escabrosa Limestone, Martin Formation, Abrigo Formation (subdivided into the upper, middle, and lower units), Bolsa Quartzite, undivided Precambrian rocks (including the Pinal Schist and Apache Group), Texas Canyon Quartz Monzonite, and Tertiary/Quaternary basin fill. Following a review of geological modeling, the GCC stratigraphic cross sections were used to assign a single lithologic code to each block in the model (Figure 14-1 and Figure 14-2).

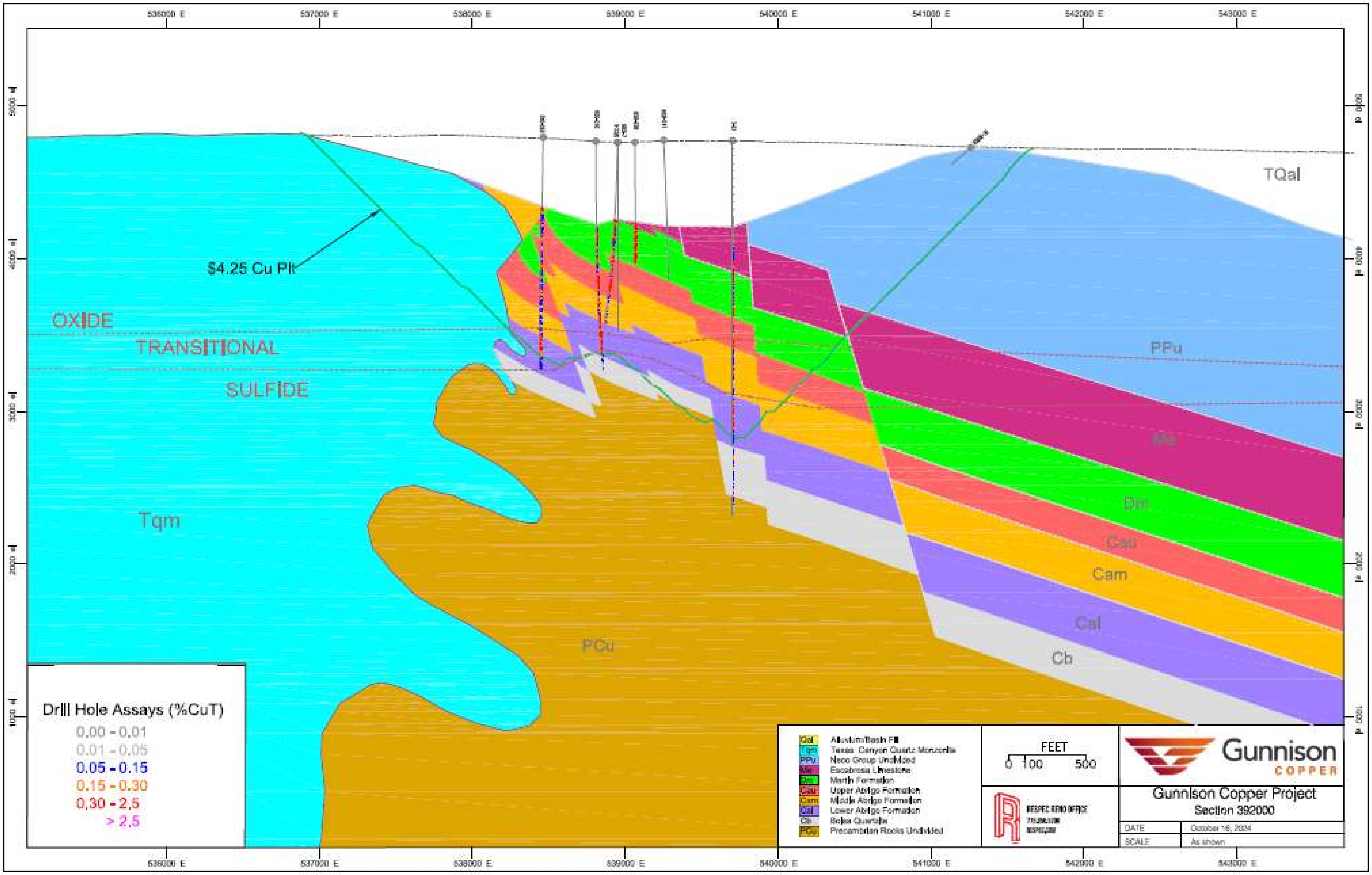


Figure 14-1: Cross Section 392000N Showing Gunnison Geologic Model

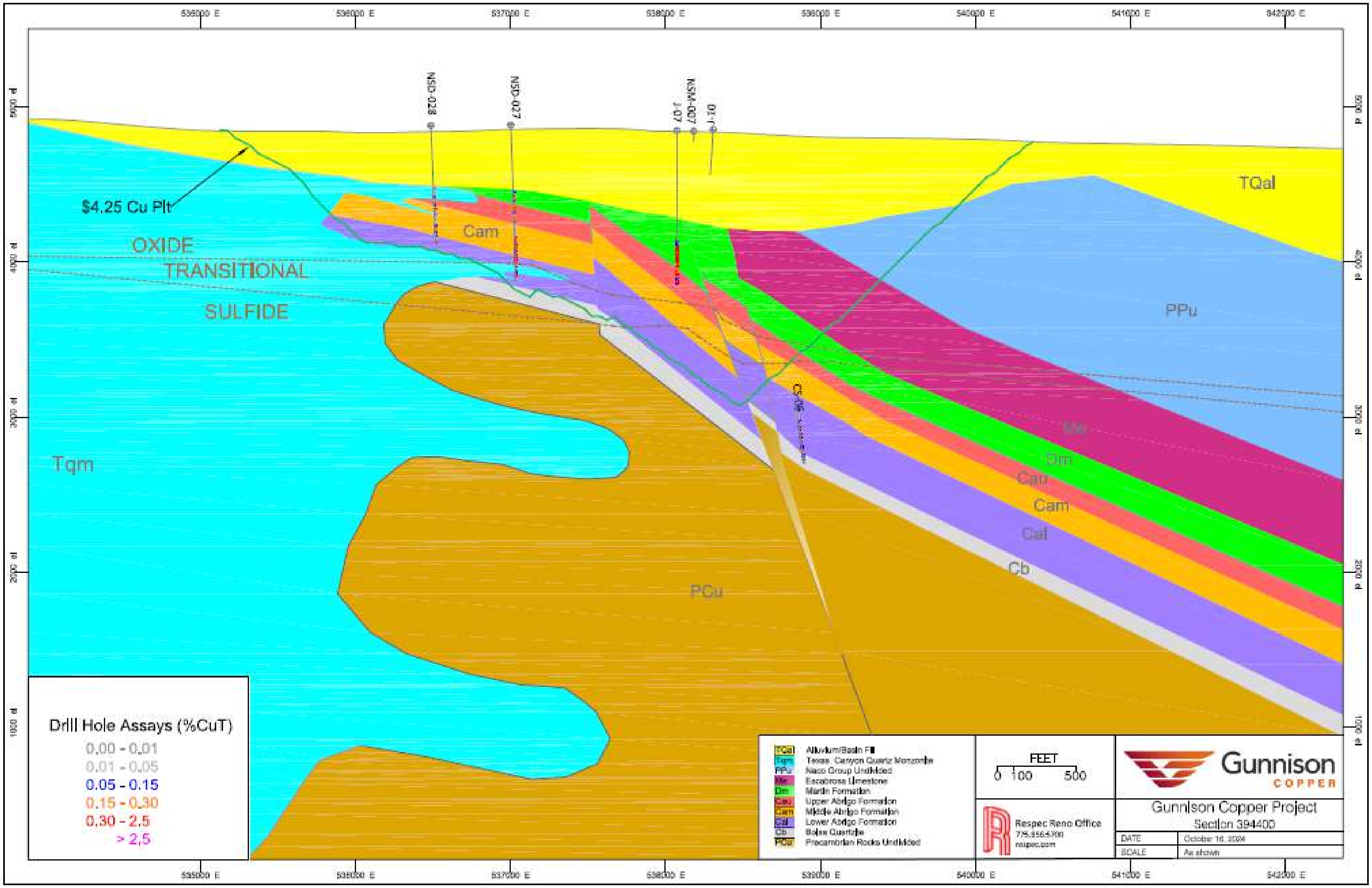


Figure 14-2: Cross Section 394400N Showing Gunnison Geologic Model

As part of the geologic modeling, GCC also completed detailed structural interpretations. A total of 61 individual structural domains were modeled as three-dimensional wire-framed solids (Figure 14-3). These solids were used to code model blocks to each of the 61 modeled structural domains. A block that encompasses any volume of one of the structural domains was assigned the code of that domain, which effectively expands the volumes of the structural domains from those represented by the structural solids.

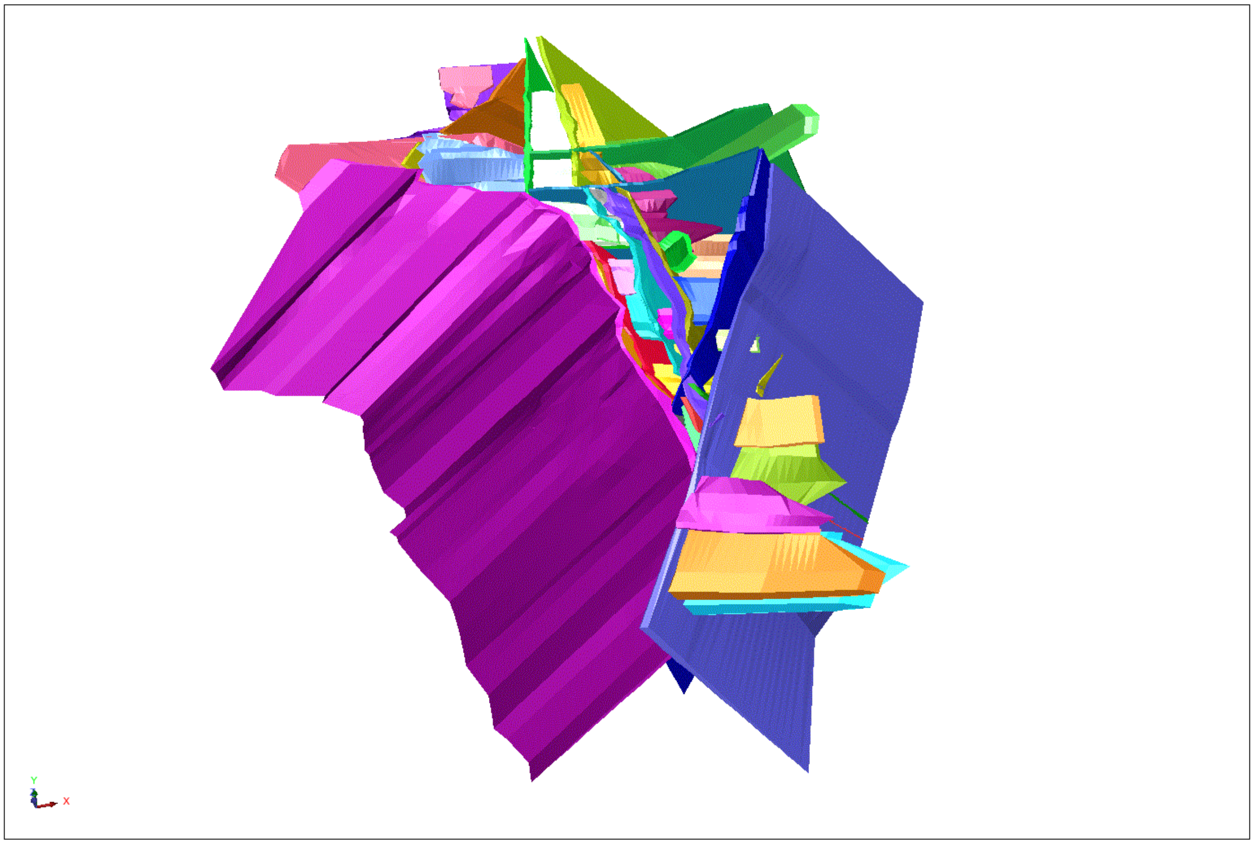


Figure 14-3: Oblique Northerly View of Structural – Domain Wire – Frame Solids

14.2.4 Oxidation Modeling

Using drillhole logging and copper sequential-leach data (TCu), acid-soluble copper (ASCu), and cyanide-soluble copper (CNCu), GCC modeled both the base of more-or-less complete oxidation and the bottom of oxidation/top of unoxidized materials on a set of 100-foot spaced, east-west vertical sections. In general, if the ASCu to TCu ratio was greater than or equal to 50%, the mineralization was assigned to oxide. If the ASCu to TCu ratio ranged between 49% to 20%, the mineralization was assigned as transitional material. These oxidation ratio rules were modified primarily by geological common sense.

The outcome of the modeling was to interpret three dimensional surfaces between oxide, transitional, and sulfide portions of the Gunnison deposit. The surfaces were then used to code each model block to one of the three oxidation zones after RESPEC verified GCC's modeling of the surfaces.

14.2.5 Fracture – Intensity Modeling

Fracture intensity at the Gunnison deposit is defined based on geological logging and down-hole geophysical data. A relative fracture-intensity value was assigned to each logged interval in the Project database on a scale of one to five, irrespective of the rock unit, with a value of "5" representing the most fractured rock (Table 14-2).

Table 14-2: Fracture – Intensity Scale

Intensity Code	Description (% of Core ≤ 4 inches)
1	Very Weak (0-5%)
2	Weak (5-20%)
3	Moderate (20-50%)
4	Strong (50-80%)
5	Very Strong (80-100%)

The wireframe solids discussed in Section 14.2.3 were used to code the fracture-intensity intervals in the Project database to the structural domains. Fracture-intensity intervals lying outside of the structural domains were also assigned a code, leading to a total of 3,485 coded fracture-intensity intervals in the database, 26% of the intervals inside of the solids and the remainder outside. The intervals inside and outside of the structural domains have length-weighted mean fracture intensity values of 3.4 and 2.3, respectively.

The coded fracture-intensity values were composited to 25-foot lengths for use in inverse-distance-to-the-fifth-power interpolations of the fracture intensity into the resource-model blocks. All composites coded to the 61 structural domains were used for the interpolation of values into each of the structural domains coded into the model, and outside-domain composites were used to estimate the values in the remainder of the model. The inside-domain estimations used one of eight search-ellipse orientations to match the average strike and dip of each modeled structural domain. Fracture intensity values of the Paleozoic sedimentary units and Precambrian rocks outside of the structural domains were estimated using an ellipse that is consistent with the average strike and dip of the sedimentary units, while the Texas Canyon Quartz Monzonite was estimated using an isotropic search ellipse (Table 14-3). These search ellipses for fracture intensity were also used in the estimation of TCu grades and ASCu to TCu ratios (ASCu/TCu); see Table 14-11 for details of the search-ellipse orientations.

Table 14-3: Fracture – Intensity Estimation Parameters

Structural Domains, Paleozoic Sediments, Precambrian Rocks						
	Search-Ellipse Ranges (ft)			Composite Constraints		
Estimation Pass	Major	Semi-Major	Minor	Min	Max	Max/hole
1	700	700	233	4	10	4
2	1000	1000	333	1	10	4
Texas Canyon Quartz Monzonite						
	Search-Ellipse Ranges (ft)			Composite Constraints		
Estimation Pass	Major	Semi-Major	Minor	Min	Max	Max/hole
1	700	700	700	4	10	4

Figure 14-4 is an east-west cross section showing the fracture-intensity model in the deposit.

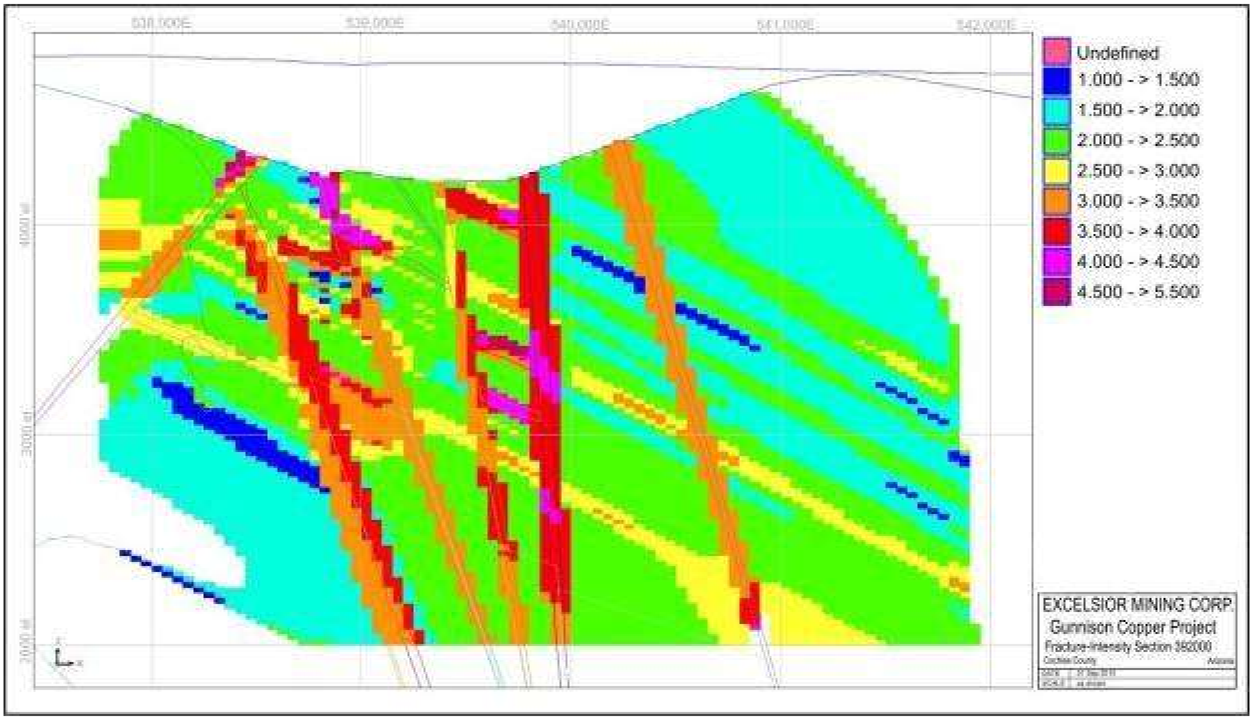


Figure 14-4: Fracture – Intensity Model Cross Section 392000N

14.2.6 Density Modeling

Specific-gravity ("SG") determinations were made by GCC for every assay sample in zones of mineralization and an additional 10 feet beyond the limits of each mineralized zone. The logging geologist determined where SG measurements were taken with regards to mineralized and non-mineralized materials; determinations were made on core from the NSD-series holes as well as the NSM-series metallurgical holes. The water-displacement method was used to determine the SG values using whole-core samples, which were not wrapped or waxed for the measurements. RESPEC notes that this methodology does not allow for the determination of actual in-situ bulk, specific gravity in zones of highly broken core, because natural void spaces cannot be properly measured, leading to some overstatement of SG in these cases.

Model tonnage factors were assigned based on the combination of lithologic, oxidation, and total-copper mineral-domain coding of each block in the model. The TCu mineral-domain codes (discussed in Section 14.2.7) include domain 100 (low-grade), domain 200 (high-grade), or domain 0 (un-modeled/un-mineralized). Table 14-4 shows descriptive statistics of the underlying SG data by these categories, as well as the tonnage factors assigned to the model blocks (calculated from the SG means).

Table 14-4: Specific Gravity Statistics and Model Coding of Tonnage Factors

Unit	TCu Domain	Oxidation Zone	Specific Gravity					Tonnage Factor
			Mean	Median	Min	Max	Count	(ft^3/ton)
Qal	0	ox	2.5	2.54	2.28	2.74	17	12.81
Tqm	200	ox + trans	2.61	2.59	2.27	3.14	35	12.27
	100	ox + trans	2.57	2.58	2.33	3.06	115	12.47
	0	ox + trans	2.56	2.58	2.14	2.88	177	12.51
	100	unox	2.59	2.6	2.16	3.18	237	12.37
	0	unox	2.56	2.59	2.21	2.7	80	12.51
Ppu	100	ox + trans	2.72	2.67	2.58	3.47	27	11.78
	0	ox + trans	2.71	2.67	2.36	3.46	137	11.82
Me	200	ox + trans	2.96	3.04	2.03	3.58	63	10.82
	100	ox + trans	2.84	2.7	2.42	3.67	101	11.28
	0	ox + trans	2.68	2.66	2.26	3.69	125	11.95
Dm	200	ox + trans	2.79	2.76	2.18	3.81	478	11.48
	100	ox + trans	2.82	2.75	2.12	3.66	125	11.36
	0	ox + trans	2.72	2.71	1.97	4.23	444	11.78
	200	unox	2.9	2.85	2.6	3.25	31	11.05
	100	unox	2.85	2.86	2.46	3.21	26	11.24
	0	unox	2.86	2.85	2.7	3.11	10	11.2
Cau	200	ox + trans	2.82	2.83	2.14	3.75	337	11.36
	100	ox + trans	2.85	2.85	2.27	3.32	277	11.24
	0	ox + trans	2.75	2.77	2.07	3.54	332	11.65
	200	unox	2.98	2.99	2.46	4.11	89	10.75
	100	unox	2.88	2.87	2.44	3.42	59	11.12
	0	unox	2.85	2.81	2.42	3.43	42	11.24
Cam	200	ox + trans	2.85	2.81	2.1	4.55	368	11.24
	100	ox + trans	2.96	2.96	2.1	3.41	201	10.82
	0	ox + trans	2.91	2.88	2.24	3.84	239	11.01
	200	unox	2.9	2.89	2.38	3.65	81	11.05
	100	unox	2.98	2.96	2.47	3.48	79	10.75
	0	unox	3.05	3.03	2.41	3.67	177	10.5
Cal	200	ox + trans	2.71	2.7	1.79	3.72	269	11.82
	100	ox + trans	2.66	2.66	2.32	3.01	97	12.04
	0	ox + trans	2.66	2.66	2.34	3.01	32	12.04
	200	unox	2.75	2.73	2.15	3.59	472	11.65
	100	unox	2.72	2.69	2.3	3.57	293	11.78
	0	unox	2.81	2.76	2.42	3.41	90	11.4
Cb	100	ox + trans	2.75	2.64	2.61	3	3	11.65
	200	unox	2.62	2.61	2.47	2.9	30	12.23
	100	unox	2.64	2.64	2.31	3	173	12.14
	0	unox	2.63	2.62	2.48	2.99	48	12.18
Pcu	0	ox + trans	2.7	2.7	2.26	3.01	85	11.87
	200	unox	2.69	2.69	2.56	2.87	15	11.91
	100	unox	2.74	2.73	2.43	3.11	94	11.69
	0	unox	2.69	2.69	2.25	3.01	155	11.91

14.2.7 Total Copper and Soluble Copper Modeling

The Gunnison deposit mineral domains were modeled jointly by RESPEC and GCC to respect the detailed lithologic, structural, and oxidation modeling completed by GCC. Following a statistical evaluation of the drillhole copper data, TCu mineral domains were interpreted on 100-foot spaced, east-west vertical cross sections that span the 2.1-mile north-south and 1.3-mile east-west extents of the deposit. The TCu domains were then used to explicitly constrain the estimation of copper grades into 50 x 100 x 25-foot (x, y, z) model blocks using 20-foot composites and inverse-distance interpolation. The TCu grade estimation was further controlled by the incorporation of a number of unique search ellipses that reflect the various orientations of the modeled structural domains, as well as the strike and dip of the favorable stratigraphic units in areas outside the structural domains. The estimation of the ASCu/TCu ratios was constrained by modified versions of the TCu mineral domains, as well as by oxidation zone (oxide, transitional, and sulfide).

14.2.7.1 Mineral Domains

A mineral domain encompasses a volume of ground that is ideally characterized by a single, natural, population of a metal grade that occurs within a specific geologic environment. In order to define the mineral domains at the Gunnison deposit, the natural TCu grade populations were identified on population-distribution graphs for all drillhole samples in the Gunnison deposit area. This analysis led to the identification of low-grade and high-grade populations, with a gradational change between the two. Ideally, each of these populations can be correlated with specific geologic characteristics that are captured in the Project database, which then can be used in conjunction with the grade populations to interpret the bounds of each of the TCu mineral domains. The approximate grade ranges of the low- (domain 100) and high- (domain 200) grade domains are listed in Table 14-5.

Table 14-5: Approximate Grade Ranges of Total – Copper Mineral Domains

Domain	Total Copper (%)
100	~0.01 to ~0.15
200	> ~0.15

Using these grade populations in conjunction with GCC's lithologic and structural interpretations, the Gunnison TCu mineralization was modeled by interpreting mineral-domain polygons on the set of 100-foot spaced cross sections described in Section 14.2.3. The interpretation of the TCu mineral-domain polygons was guided by the lithologic, structural, and fracture-intensity controls described in Section 14.2.2.

Representative cross sections showing the TCu mineral-domain interpretations are shown in Figure 14-5 and Figure 14-6.

As discussed further below, ASCu and CNCu were not estimated directly into the block model, but were instead derived from the estimations of TCu grade and ASCu ratios. In addition to other constraints discussed below, the ASCu domain was created to envelope an area of anomalously low soluble copper ratios in the Paleozoic sedimentary rocks and Precambrian rocks within the oxide zone. This low-ratio mineral domain, interpreted on the Project cross sections, models a low-ratio rind that more-or-less lies along the contact of the sedimentary units with the Texas Canyon Quartz Monzonite. This low-ratio contact zone appears to be related more to clay mineralogy than to oxidation.

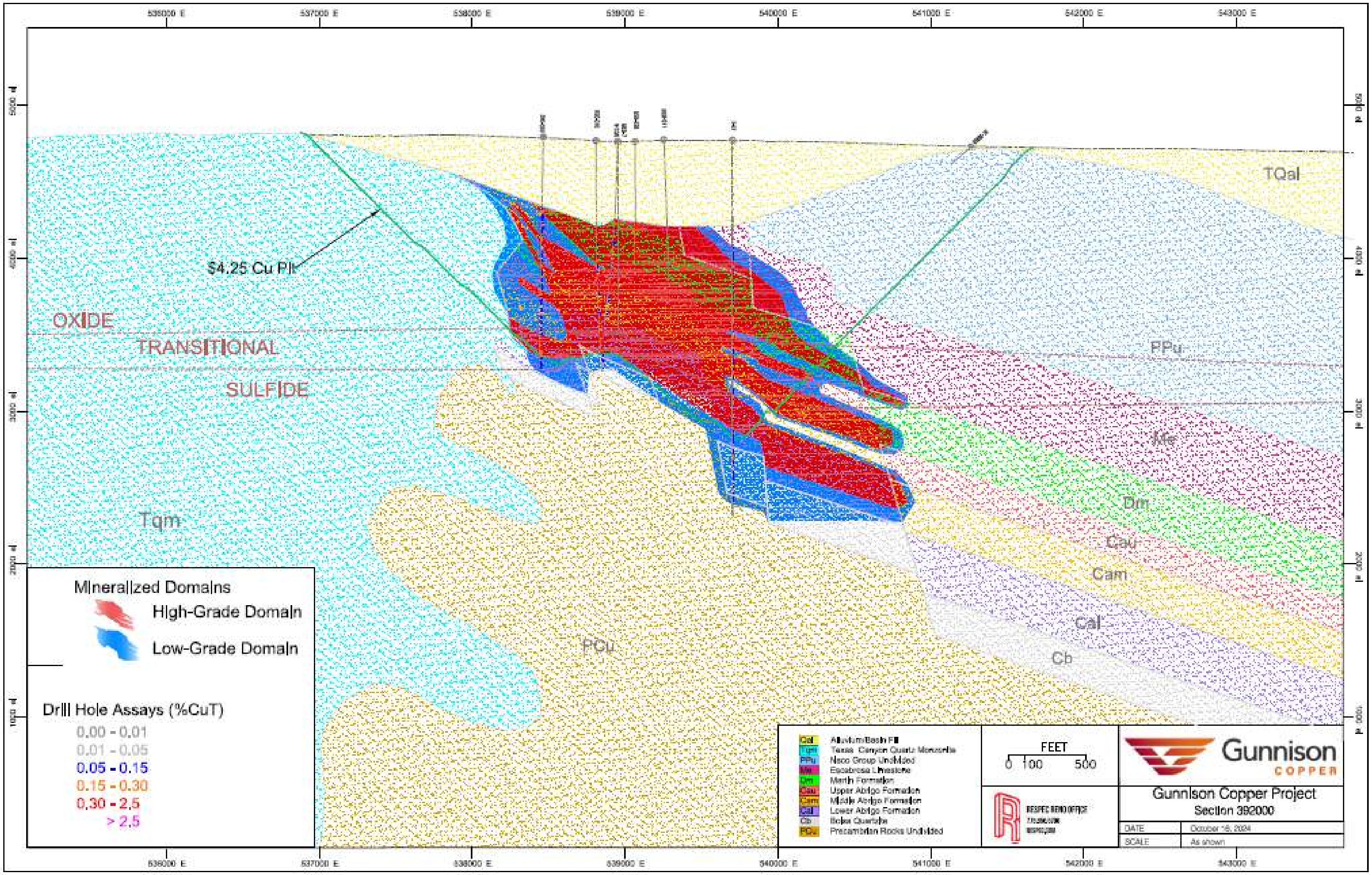


Figure 14-5: Cross Section 392000 N Showing Total – Copper Mineral Domains

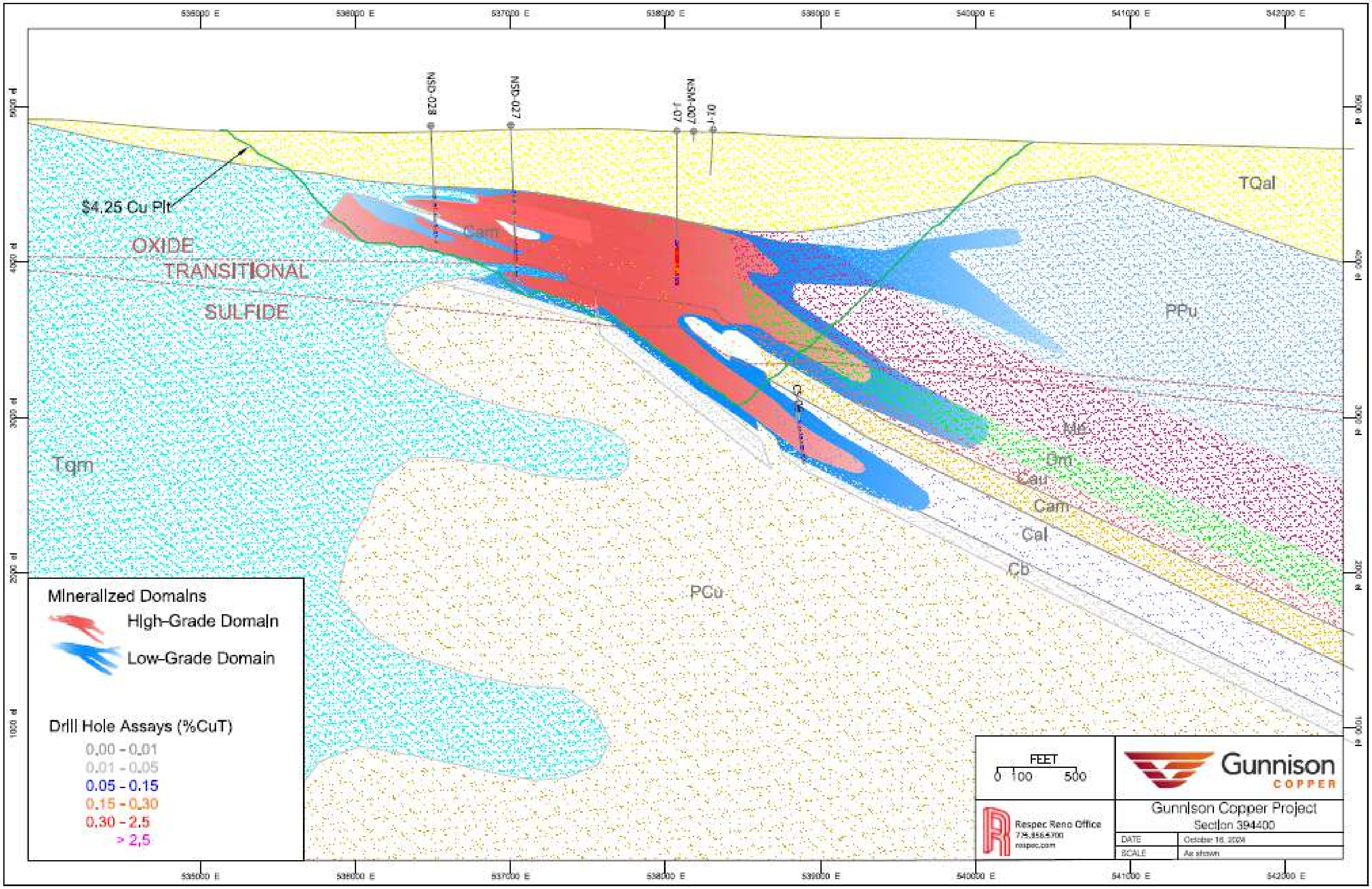


Figure 14-6: Cross Section 394400 Showing Total – Copper Mineral Domains

14.2.7.2 Assay Coding, Capping, and Compositing

The TCu cross-sectional mineral-domain polygons were used to code drillhole TCu intervals to their respective mineral domains. The ASCu and CNCu database intervals were coded to the oxide, transitional, sulfide, and low-ratio domains using the oxidation surfaces and low-ratio sectional polygons. Only those intervals that were also coded to one of the two TCu mineral domains were coded to one of the ASCu and CNCu domains. As an additional constraint, ASCu and CNCu intervals were not coded if the TCu value was less than 0.03%, in order to alleviate spurious ratios caused by analyses of either species close to, or at, the analytical detection limits.

Descriptive statistics of the coded TCu analyses are provided in Table 14-6.

Table 14-6: Descriptive Statistics of Coded Total – Copper Analyses

Domain	Assays	Count	Mean (Cu%)	Median (Cu%)	Std. Dev	CV	Min. (Cu%)	Max. (Cu%)
100	Cu	3075	0.09	0.07	0.15	1.57	0.00	9.00
	Cu Cap	3075	0.09	0.07	0.09	1.04	0.00	1.50
200	Cu	4498	0.40	0.30	0.37	0.94	0.00	10.95
	Cu Cap	4498	0.40	0.30	0.37	0.94	0.00	10.95
All	Cu	7573	0.27	0.17	0.34	1.23	0.00	10.95
	Cu Cap	7573	0.27	0.17	0.34	1.21	0.00	10.95

The process of determining TCu capping levels (Table 14-7) included the evaluation of population distribution plots of the coded analyses by domain to identify potential high-grade outliers. Descriptive statistics of the coded assays by domain and visual reviews of the spatial relationships of the possible outliers and their potential impacts during grade interpolation were also considered. ASCu/TCu and CNCu/TCu ratios were capped at 1.00.

Table 14-7: Total – Copper Assay Caps by Mineral Domain

Domain	TCu%	Number Capped (% of Samples)
100	1.5	7 (<1%)
200	-	-

The capped TCu analyses and corresponding ASCu/TCu and CNCu ratios in the database were composited at 20-foot down-hole intervals that respect the mineral domains; composites less than 10 feet in length were eliminated. The 20-foot composite length was chosen because it is a multiple of the dominant 10-foot sample length.

Descriptive statistics of TCu, ASCu/TCu, and CNCu-ratio composites are shown in Table 14-8, Table 14-9, and Table 14-10, respectively.

Table 14-8: Descriptive Statistics of Total – Copper Composites

Domain	Count	Mean (Cu%)	Median (Cu%)	Std. Dev.	CV	Min. (Cu%)	Max. (Cu%)
100	1,352	0.09	0.08	0.06	0.71	0	0.81
200	1,915	0.4	0.33	0.29	0.72	0.01	2.9
All	3,267	0.27	0.19	0.27	1	0	2.9

Table 14-9: Descriptive Statistics of Acid – Soluble to Total – Copper Composites

Domain	Count	Mean	Median	Std. Dev.	CV	Min.	Max.
100	139	0.44	0.43	0.17	0.37	0.1	0.81
210	1,758	0.75	0.77	0.13	0.17	0.03	1
220	701	0.31	0.3	0.22	0.69	0.01	1
230	428	0.09	0.07	0.09	1	0.01	0.74
All	3,026	0.54	0.65	0.3	0.56	0.01	1

Table 14-10: Descriptive Statistics of Cyanide – Soluble to Total – Copper Composites

Domain	Count	Mean	Median	Std. Dev.	CV	Min.	Max.
210	1,328	0.049	0.03	0.06	1.14	0.002	0.94
220	487	0.207	0.17	0.15	0.72	0.004	0.65
230	271	0.113	0.1	0.05	0.46	0.03	0.40
240	77	0.228	0.2	0.16	0.71	0.005	0.68
all	2,163	0.099	0.06	0.11	1.15	0.002	0.94

14.2.7.3 Block Model Coding

The percentage of each block that lies below the topographic surface was coded into the block model, as well as the lithologic, structural, fracture intensity, oxidation, and density coding discussed in previous subsections of this Technical Report. The TCu domains were coded using the 100-foot spaced mineral-domain polygons, and the low-ASCu/TCu ratio domain was similarly coded. All of this coding was done on a block-in-block-out basis (i.e., each block received only one lithologic code, one oxidation code, one TCu domain code, etc.).

The model was also coded by land, including the unpatented claims on BLM lands, State of Arizona lands, and Connie Johnson mineral rights, all controlled by GCC, as well as “Other” lands (not controlled by GCC).

14.2.7.4 Variography

Using all TCu composites, variogram ranges of 1,200 feet along the strike of the sedimentary units (340°) and 700 feet in the dip direction (-35° at 070°) were obtained. Due to the inclusion of composites in this analysis from the structure domains and the Texas Canyon Quartz Monzonite, which have a variety of orientations and whose strikes and especially dips are quite different than the orientation of the sedimentary units, these ranges are considered to be minimums.

14.2.7.5 Acid-Soluble Copper Modeling

There are two methods for estimating ASCu: directly, using composites of the ASCu analyses in the database; or indirectly, by estimating ASCu/TCu ratios. In the latter case, the ratios are determined for each drill interval that has both ASCu and TCu analyses, and these ratios are then coded, composited, and used to estimate the ratios into the model blocks. The estimated ASCu model values are then derived by multiplying the estimated ASCu/TCu ratio by the estimated TCu value in each block.

There is no evidence of significant leaching and remobilization of the supergene copper at the Gunnison deposit, which is probably due to remnant carbonate minerals in the host units that would have restricted the movement of acidic solutions during oxidation. In a scenario of limited to no remobilization of oxidized copper species, ASCu/TCu ratios reflect the degree of oxidation of the hypogene copper mineralization. At the Gunnison deposit, the ASCu/TCu ratios are relatively uniform within each of the oxidation zones, with some indication of decreasing ratios (decreasing oxidation) with depth.

The use of ASCu/TCu ratios in the estimation of ASCu values can negate possible biases created by sample intervals that were selectively analyzed for TCu but not ASCu. There are 259 sample intervals coded to the TCu domains that have no ASCu analyses, which represents approximately 3.5% of the coded intervals.

RESPEC decided to use estimated ASCu/TCu ratios to calculate the Gunnison ASCu block values. The ASCu/TCu ratio estimation was confined to blocks with estimated TCu values. The ratios of blocks coded to the oxide, transitional, and sulfide zones, as well as the low-ratio zone discussed above, were all estimated independently.

14.2.8 Cyanide-Soluble Copper Modeling

RESPEC also estimated cyanide-soluble copper ratios (CNCu/TCu) and then calculating the CNCu grade by the same methods as ASCu. The CNCu/TCu ratio estimation was confined to blocks with estimated TCu values in the sulfide and transition zones of the model, as well as isolated pods perched in the oxide zone. The ratios of blocks coded to the various oxidation zones were all estimated independently.

14.2.8.1 Estimation

The search ellipses used for the TCu, ASCu/TCu, and CNCu/TCu ratio interpolations are shown in Table 14-11 and other estimation parameters are summarized in Table 14-12.

Table 14-11: Search Ellipse Orientations

Total Copper and Fracture Intensity	Major Bearing	Plunge	Tilt
Inside Structural Domains: All Rock Types	005°	0°	-85°
	025°	0°	-80°
	045°	0°	-65°
	090°	0°	-90°
	145°	0°	-50°
	165°	0°	-35°
	340°	0°	-25°
	345°	0°	-70°
Outside Structural Domains: Paleozoic + Precambrian Units	340°	0°	-35°
Outside Structural Domains: Texas Canyon Quartz Monzonite	0°	0°	0°
Acid-Soluble to Total-Copper Ratio	Major Bearing	Plunge	Tilt
All Domains	0°	0°	0°

Table 14-12: Estimation Parameters

Total Copper – All Units Except Quartz Monzonite						
	Search Ranges (ft)			Composite Constraints		
Estimation Pass	Major	S-Major	Minor	Min	Max	Max/hole
1	300	300	100	3	12	3
2	700	700	233	3	12	3
3	2000	2000	667	1	12	3
Total Copper – Quartz Monzonite						
1	300	300	100	3	12	3
2	700	700	233	1	12	3
Acid-Soluble to Total-Copper Ratio						
1	700	700	233	3	12	3
2	2000	2000	667	1	12	3

The estimation passes were performed independently for each of the TCu mineral domains, so only composites coded to a particular domain were used to estimate grade into blocks coded by that domain.

Inverse-distance to the third power (ID3) and ordinary kriging estimations were run for both total copper and the ASCu/TCu ratios; nearest-neighbor estimations were also completed for evaluation purposes. Ultimately, the ID3 results were selected for reporting of the Project mineral resources.

The copper sulfide (CuS) grade was calculated by taking the total copper grade and subtracting the estimated acid-soluble copper grade and estimated cyanide-soluble copper grade. The remaining value is considered the residual sulfide copper grade. However, residual copper in the oxide zone, especially near-surface, can occasionally exist in non-sulfide minerals. Because of this possibility, a factor was applied within the modeled oxide and mixed groups for elevations between 4500 and 5000 feet. To apply the factor, the residual copper grade was multiplied by 0 at 4950 to 5000 feet. For each 50 feet descending from 5000 feet, 10% was added to the multiplication factor. Table 14-13 below shows how the factor was applied. The author considers this a conservative approach to copper that is hosted in insoluble minerals near surface.

Table 14-13: Residual Sulfide Calculation

Elevation (feet)	Residual Sulfide Formula
> 4,475	Residual Sulfide =–(TCu —ASCu - CNCu)*0
4,375 to 4,475	Residual Sulfide =–(TCu —ASCu - CNCu)*10%
4,275 to 4,375	Residual Sulfide =–(TCu —ASCu - CNCu)*20%
4,175 to 4,275	Residual Sulfide =–(TCu —ASCu - CNCu)*30%
4,075 to 4,175	Residual Sulfide =–(TCu —ASCu - CNCu)*40%
3,975 to 4,075	Residual Sulfide =–(TCu —ASCu - CNCu)*50%
3,875 to 3,975	Residual Sulfide =–(TCu —ASCu - CNCu)*60%
3,775 to 3,875	Residual Sulfide =–(TCu —ASCu - CNCu)*70%
3,675 to 3,775	Residual Sulfide =–(TCu —ASCu - CNCu)*80%
3,575 to 3,675	Residual Sulfide =–(TCu —ASCu - CNCu)*90%

14.3 GUNNISON DEPOSIT MINERAL RESOURCES

The Gunnison deposit mineral resources are reported within an optimized pit. The inputs for the pit constraint are provided in Table 14-14.

Table 14-14: Pit Constraint Inputs

Input Parameters	Units	Value
Sustaining Capital Cost (Owner Case)	$/ton	0.20
Overburden Mining Cost	$/ton	1.25
Hard Rock Waste Mining Cost	$/ton	1.80
Mineralized Material Mining Cost	$/ton	1.80
Incremental Cost	$/ton/bench	0.01
Bench Discounting	%	0
Overall Pit Slope Angle for Overburden	Degrees	42
Overall Pit Slope Angle for Hardrock	Degrees	47
Overall Pit Slope Angle for Hardrock	Degrees	36
Cu Recovery Conventional Leach		
Acid Soluble Cu	%	90
Cn Soluble	%	90
Sulfide Cu	%	0
Cu Recovery Sulfide Leach		
Acid Soluble Cu	%	90
Cn Soluble	%	90
Sulfide Cu	%	60
SX-EW	$/lb	0.25
Heap Management Cost	$/t mineralized material	0.25
Crushing Cost	$/t mineralized material	0.26
Additional Sulfide Leaching Cost	$/t mineralized material	2.00
G&A Cost	$/lb	0.07
Acid Cost	$/ton	52.00
Acid Consumption		
Escabrosa (and stratigraphically above)	lb/ton	70
Martin	lb/ton	70
Upper Abrigo	lb/ton	48
Middle Abrigo	lb/ton	48
Lower Abrigo	lb/ton	24
Bolsa/TQM (and stratigraphically below)	lb/ton	24

Input Parameters	Units	Value
Royalty ASCu	%	6.25
Royalty CNCu/CuS	%	4.50

Processing costs were calculated using a "net of process" for each type of leaching. The following equations were used for each leaching type to calculate the net of process:

*Net of Process Conventional Leach = ASCu% *20lb/ton * 90% recovery * ($4.25/lb * (1-0.0675 royal) – $0.32lb GA + SXEW) + CNCu% *20lb/ton * 90% recovery * ($4.25/lb * (1-0.045 royal) – $0.32lb GA + SXEW) – Acid Consumption @ $52/ton (Varies between $0.62 to $ $1.82/ton mineralized material)*

*Net of Process Sulfide Leach= ASCu% * 20 lbs/%/ton * 90% Recovery * ($/lb Cu * (1-.0675 royal) - $0.32/lb GA+SXEW)+CNCu% * 20 lbs/%/ton * 90% Recovery * ($/lb Cu * (1-.045 royal) - $0.32/lb GA+SXEW)+CuS% * 20 lbs/%/ton * 60% Recovery * ($4/lb Cu * (1-.045 royal) - $0.32/lb GA+SXEW)-Acid Consumption @ $52/ton acid (Varies between $0.62 -$1.82/ton mineralized material)- $0.25/ton mineralized material heap management - $0.26/ton Crushing and Conveying Cost-$2.00/ton Sulfide Leach Costs*

The pit-constrained mineral resources are tabulated using an internal cut-off grade of 0.05% TCu.

No mineral resources were estimated within overburden (Tertiary/Quaternary alluvium), and the reported mineral resources are restricted to lands controlled by GCC.

The Gunnison deposit TCu resources are listed in Table 14-15.

Table 14-15: Gunnison Deposit Total – Copper Resources

Pit-Constrained Oxide Resources			
Resource Class	Short Tons (millions)	Total Cu (%)	Cu Pounds (millions)
Measured	155.5	0.39	1,200
Indicated	470.5	0.29	2,709
Measured + Indicated	625.7	0.31	3,909
Inferred	71.3	0.20	0,283
Pit-Constrained Transitional Resources			
Resource Class	Short Tons (millions)	Total Cu (%)	Cu Pounds (millions)
Measured	31.9	0.32	202
Indicated	112.5	0.28	638
Measured + Indicated	144.4	0.29	840
Inferred	5.7	0.21	24
Pit-Constrained Sulfide Resources			
Resource Class	Short Tons (millions)	Total Cu (%)	Cu Pounds (millions)
Measured	3.9	0.25	19
Indicated	57.3	0.29	337
Measured + Indicated	61.2	0.29	356
Inferred	2.5	0.37	18

Notes:
1. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
2. Mineral Resources are reported at a 0.05% total copper cut-off within an optimized pit.
3. Rounding may result in apparent discrepancies between tons, grade, and metal content.
4. The Effective Date of the Mineral Resource estimate is September 4, 2024.

The Gunnison deposit resources are classified on the basis of a combination of: (i) a minimum number of composites used to interpolate TCu grades into a block; (ii) the number of holes from which the composites are derived; and (iii) the distance of the composites to the block (Table 14-16).

Table 14-16: Gunnison Deposit Classification Parameters

Class	Min. Number of Composites	Additional Constraints
Measured	2	Minimum of 2 holes within an average distance of 200 feet from the block
Indicated	2	Minimum of 2 holes within an average distance of 400 feet from the block
Inferred	all other estimated blocks	

When evaluating the results produced by the classification criteria, it became apparent that a small, isolated zone of blocks classified as Inferred occurred within a mass of Indicated blocks near the southern limit of the well-drilled portion of the deposit. This Inferred material created a classification discontinuity in the deposit, where confidence in the modeling is high, and the classification was therefore changed to Indicated. This change resulted in an increase of one percent of the mineral resource tonnes classified as Indicated.

The average ASCu/TCu ratios estimated for the oxide, transition, and sulfide resources reported in Table 14-15 are 0.75, 0.27, and 0.07, respectively.

The average CNCu/TCu ratios estimated for the oxide, transition, and sulfide resources reported in Table 14-15 are 0.003, 0.22, and 0.11, respectively.

Total Project mineral resources, obtained by adding the oxide, transitional, and sulfide resources in Table 14-15, are tabulated in Table 14-17.

Table 14-17: Combined Oxide, Transitional, and Sulfide Resources

Total Resources (Oxide + Transitional + Sulfide)			
Resource Class	Short Tons (millions)	Total Cu (%)	Cu Pounds (millions)
Measured	191.3	0.37	1,420
Indicated	640.2	0.29	3,684
Measured + Indicated	831.6	0.31	5,104
Inferred	79.6	0.20	325

Notes:
1. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
2. Mineral Resources are reported at a 0.05% total copper cut-off within an optimized pit.
3. Rounding may result in apparent discrepancies between tons, grade, and contained metal content.
4. The Effective Date of the Mineral Resource estimate is September 4, 2024.

The average ASCu/TCu ratio of the combined mineral resources is 0.62. The average CNCu/TCu ratio of the combined mineral resources is 0.04.

Although Mr. Bickel is not an expert with respect to any of the following topics, as of the date of this Technical Report he is not aware of any unusual environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that may materially affect the Gunnison Deposit Mineral Resources that are not discussed in this Technical Report.

The modeled Gunnison deposit mineralization is tabulated at additional cut-offs in Table 14-18. This table is presented to provide grade-distribution information, which allows for detailed assessments of the project mineral resources. The materials tabulated meet the requirement of reasonable prospects of economic extraction, as they represent subsets of the current mineral resources.

Table 14-18: Modeled Mineralization at Various Cut-offs

Total Resources 0.10% TCu Cut-off			
Resource Class	**Short Tons (millions)**	**Total Cu (%)**	**Cu Pounds (millions)**
Measured	164.6	0.42	1,381
Indicated	512.1	0.34	3,491
Measured + Indicated	676.7	0.36	4,872
Inferred	47.5	0.29	276
Total Resources 0.20% TCu Cut-off			
Resource Class	**Short Tons (millions)**	**Total Cu (%)**	**Cu Pounds (millions)**
Measured	143.9	0.46	1,323
Indicated	415.3	0.39	3,210
Measured + Indicated	559.2	0.41	4,533
Inferred	32.4	0.37	236
Total Resources 0.30% TCu Cut-off			
Resource Class	**Short Tons (millions)**	**Total Cu (%)**	**Cu Pounds (millions)**
Measured	114.6	0.51	1,173
Indicated	286.0	0.45	2,555
Measured + Indicated	400.6	0.47	3,728
Inferred	20.2	0.44	177
Total Resources 0.50% TCu Cut-off			
Resource Class	**Short tons (millions**	**Total Cu (%)**	**Cu Pounds (millions)**
Measured	42.6	0.72	616
Indicated	71.2	0.63	899
Measured + indicated	113.8	0.67	1,514
Inferred	5.2	0.59	61

Figure 14-7 and Figure 14-8 show cross section of the block model that correspond to the mineral-domain cross sections presented above.

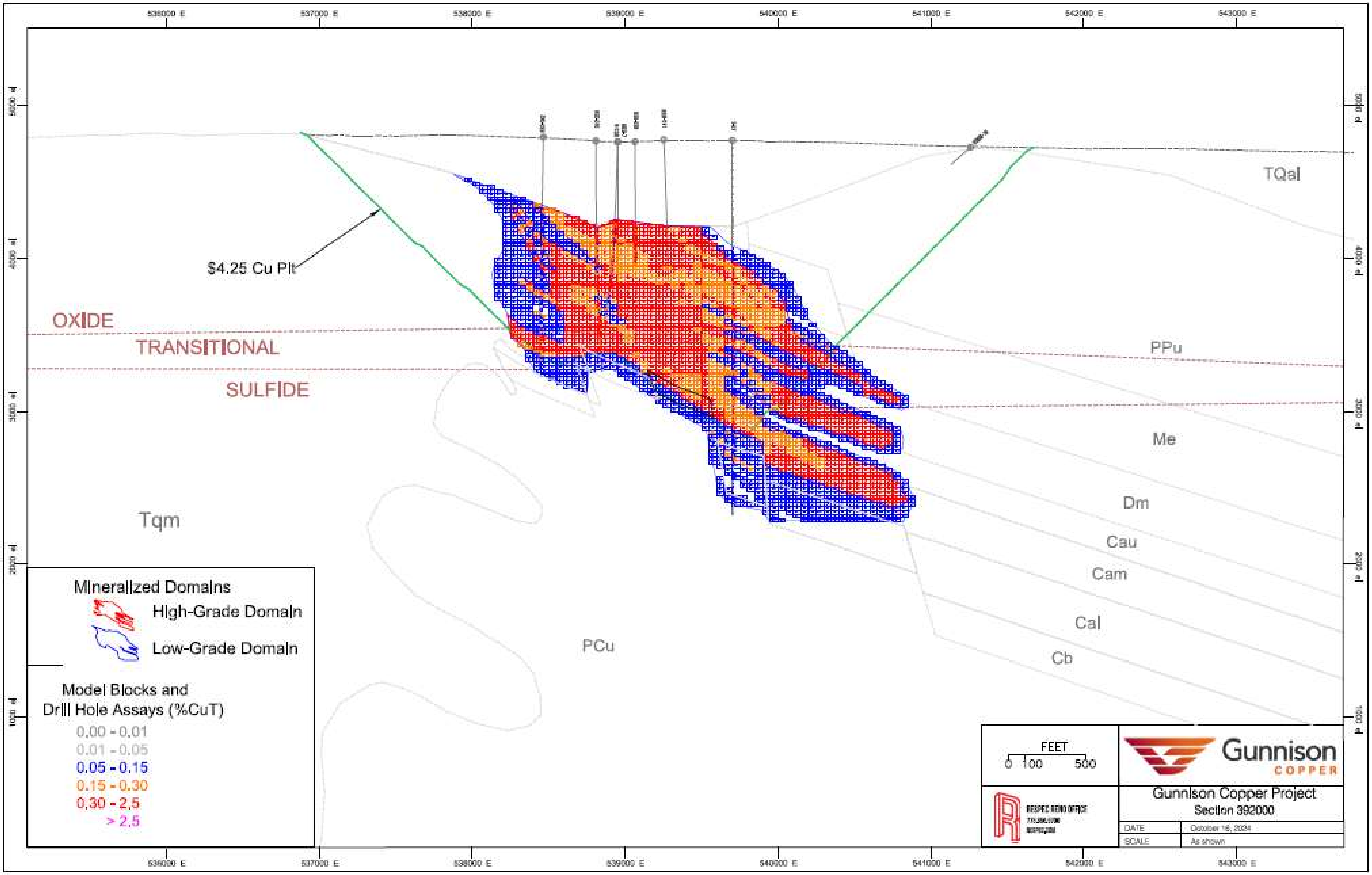


Figure 14-7: Gunnison Cross Section 392000 Showing Block Model Copper Grades

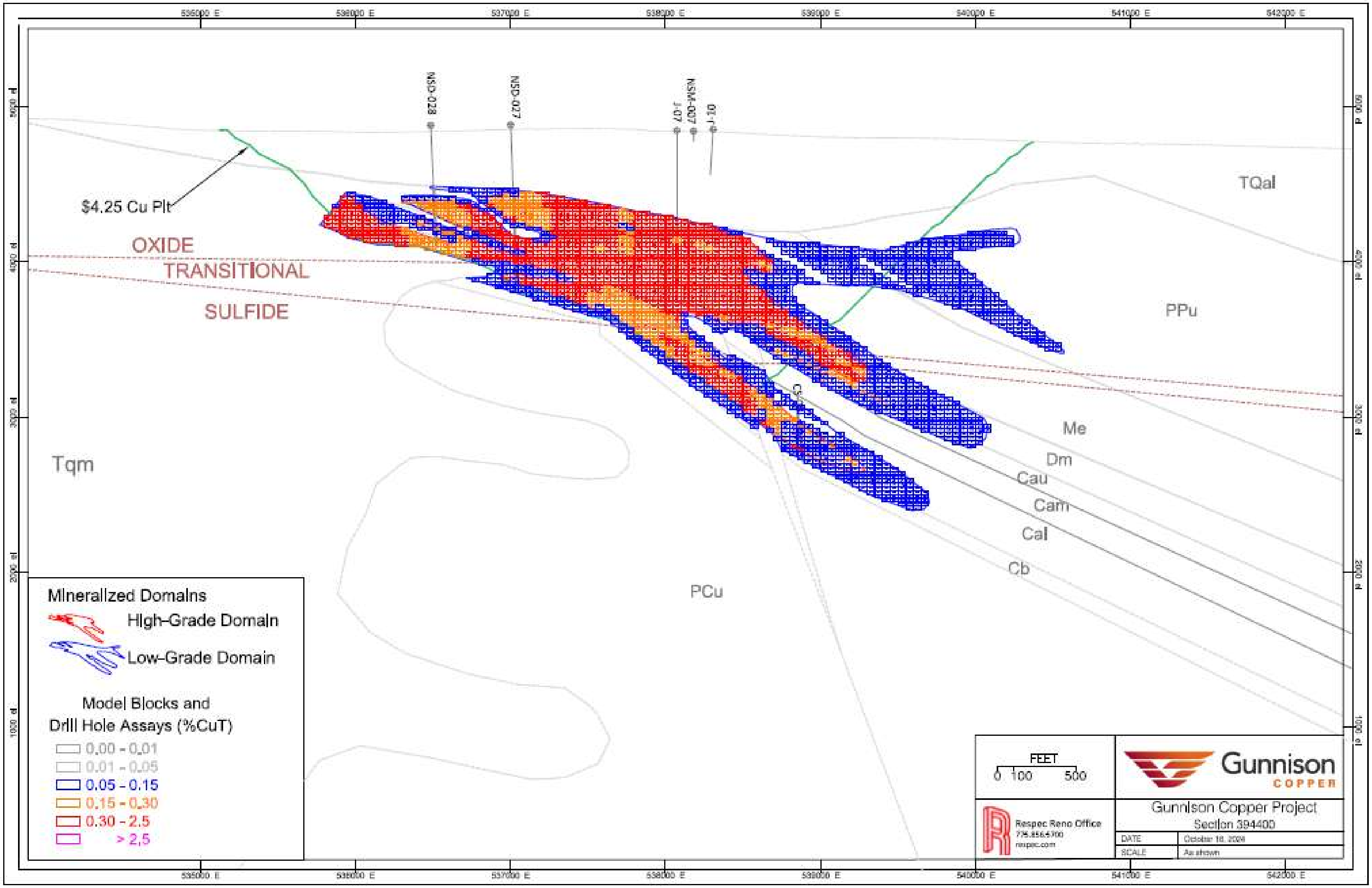


Figure 14-8: Gunnison Cross Section 394400N Showing Block Model Copper Grades

14.3.1 Copper Block Model Checks

Volumes derived from the sectional mineral-domain modeling were compared to the coded block-model volumes to assure close agreement, and all block-model coding described herein was checked visually. The inverse-distance results, from which the reported Project mineral resources are tabulated, were compared to those from: (i) a polygonal estimate based on the cross-sectional interpretations; and (ii) the nearest-neighbor and ordinary kriging estimates of the modeled mineral resources, all at 0 cut-off grade. The ID3, ordinary kriging, and nearest-neighbor grades are identical, and the polygonal tons and grade are as expected. Various grade-distribution plots of assays, composites, and nearest-neighbor, ordinary kriging, and ID3 block grades were evaluated as a check on both the global and local estimation results, with no anomalous relationships. Finally, the ID3 grades were visually compared to the drillhole assay data to assure that reasonable results were obtained.

14.3.2 Comments on the Resource Block Model Estimates

Inferred mineral resources totaling 79.6 million tons at a grade of 0.20% TCu within the current constrained pit could be converted into M&I categories with additional drilling. RESPEC notes that mineralization is generally open in most directions from the deposit, except for the western margin where the largely barren Texas Canyon quartz monzonite is located.

A subsequent estimate of the Project mineral resources could be improved with the incorporation of additional geologic input into the modeling. Specifically, the modeling of the western extremities of the deposit could be improved where the large mass of mineralization that typifies the central-core portion of the deposit breaks up into lenses that follow favorable stratigraphic horizons. The correlations of some of these 'arms' of mineralization with specific stratigraphic units might be improved with additional drill data and further review and consideration. Also, drilling to accomplish tighter spatial control on geologic structures would refine the current understanding of structural controls on favorable geologic hosts, mineralization, and oxidation.

Re-blocking of the 50 x 100 x 25 ft model blocks to a larger size could easily be accomplished, if this was deemed appropriate to properly represent a bulk-tonnage mining operation.

GCC reported net in-situ copper production in 2021 of 385,238 pounds of copper. This production represents less than 1% of the total pounds of copper in the measured and indicated mineral resources of the Project, and therefore it was not removed from the current Project's mineral resources.

The Mineral Resources presented herein are inclusive of the Economic Analysis presented in Section 22 which therefore represents a subset of the Mineral Resources under slightly different economic inputs, most notably lower copper price. However, all Mineral Resources presented in this section have a reasonable prospect of economic extraction based on the Qualified Persons assessment of the long term copper price and economic conditions.

15 MINERAL RESERVE ESTIMATES

The Gunnison Project does not currently have any mineral reserves.

16 MINING METHODS

Mining of the Gunnison deposit is planned to be accomplished using conventional open pit hard rock mining methods. The mine plan was developed to produce 175 million pounds of recoverable copper per year with mining being completed by an owner operated fleet. Mining of the deposit is expected to be accomplished primarily with hydraulic front shovels and 320-ton trucks. Mining is planned on 50-ft bench heights.

An annual schedule was developed for the mine plan. Leach material will be dumped into near pit gyratory crushers to be conveyed to the leach pad. All leach material produced through Year 7 is planned to be treated in a conventional leach operation. Beginning in Year 8, a portion of the leach material is planned to be treated in a sulfide leach operation with the rest of the material treated in a conventional leach operation. The heap tonnage production varies by year as it is based on the requirement of 175 million pounds of recoverable copper being placed on the heap annually.

The annual mine schedule is provided on the following page in Table 16-1. A graphical representation of the schedule is provided in Figure 16-1 below.

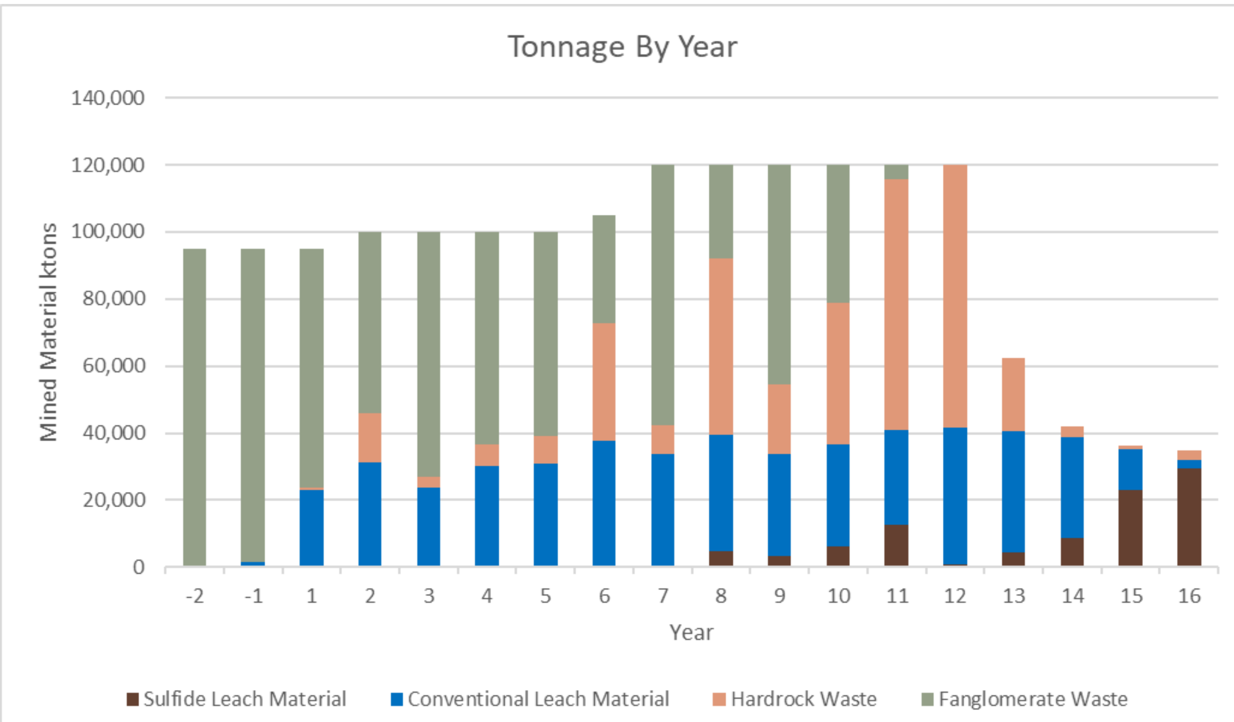


Figure 16-1: Graphical Representation of Gunnison Mine Schedule

Table 16-1: Gunnison PEA Annual Mine Schedule

		Conventional Leach Material						Sulfide Leach Material									
Year	NetofProc Cut-off $/t	Leach Material kt	NetofProc. $/t	ASCu %	CNCu %	CuS %	TCu %	Leach Material kt	NetofProc. $/t	ASCu %	CNCu %	CuS %	TCu %	Fanglomerate Waste kt	Hardrock Waste kt	Total Waste kt	Total kt
-2														95,000	0	95,000	95,000
-1	0.60	1,516	14.83	0.282	0	0	0.37							93,364	120	93,484	95,000
1	0.60	22,903	22.14	0.401	0	0	0.501							71,211	886	72,097	95,000
2	0.60	31,070	17.05	0.314	0	0.001	0.406							54,048	14,882	68,930	100,000
3	0.60	23,892	22.82	0.405	0.001	0.007	0.524							73,147	2,961	76,108	100,000
4	0.60	30,084	17.74	0.321	0.002	0.012	0.428							63,450	6,466	69,916	100,000
5	0.60	30,995	16.80	0.314	0	0.002	0.385							60,908	8,097	69,005	100,000
6	0.60	37,734	13.60	0.256	0.002	0.004	0.337							32,119	35,147	67,266	105,000
7	0.60	33,713	15.59	0.287	0.001	0.01	0.372							77,543	8,744	86,287	120,000
8	0.60	34,880	11.69	0.222	0.005	0.001	0.288	4,720	19.63	0.266	0.037	0.119	0.447	27,970	52,430	80,400	120,000
9	0.60	30,471	14.26	0.272	0	0.002	0.349	3,353	21.28	0.322	0.017	0.106	0.532	65,339	20,837	86,176	120,000
10	0.60	30,392	13.35	0.251	0	0.001	0.333	6,327	16.45	0.17	0.049	0.166	0.403	41,135	42,146	83,281	120,000
11	0.60	28,309	10.32	0.198	0.001	0.001	0.275	12,643	15.19	0.074	0.093	0.204	0.371	4,136	74,912	79,048	120,000
12	1.10	40,886	9.40	0.186	0	0.001	0.257	691	19.10	0.276	0.033	0.091	0.557		78,423	78,423	120,000
13	2.10	35,854	11.89	0.226	0	0.002	0.312	4,546	17.60	0.258	0.017	0.103	0.428		21,805	21,805	62,205
14	0.60	29,927	12.41	0.232	0.001	0.001	0.316	8,803	15.56	0.192	0.03	0.132	0.358		3,318	3,318	42,048
15	0.60	11,996	11.31	0.211	0.003	0.003	0.295	23,004	15.82	0.09	0.083	0.205	0.378		1,200	1,200	36,200
16	0.60	2,312	4.87	0.078	0.026	0.027	0.141	29,595	11.23	0.045	0.048	0.213	0.306		2,856	2,856	34,763
	Total	**456,934**	**14.37**	**0.268**	**0.001**	**0.003**	**0.352**	**93,682**	**14.80**	**0.115**	**0.058**	**0.184**	**0.367**	**759,370**	**375,230**	**1,134,600**	**1,685,216**

*ASCu-Acid Soluble Copper
*CNCu-Cyanide Soluble Copper
*CuS-Copper Sulfide
*TCu-Total Copper Grade
*Net of Process Calculated at $4.00/lb Cu

16.1 MINE PHASE DESIGN

The mine plan presented in this section is achieved by mining 6 phase expansions to achieve the ultimate pit limit in the Gunnison deposit. The phases are practical expansions of the Gunnison pit incorporating haul road designs, operating room for equipment and all practical mining requirements.

Lerchs Grossman (LG) pit shells were run at copper prices between $2.00/lb and $4.20/lb. The change in geometry of the LG pit shells as the copper price increases was used to guide phase expansion generally in the direction of increasing cost per pound of copper starting with the lowest cost of copper first. The comparison of the phase progression to the LG's at increasing copper price (at the 4200 ft bench) can be seen in Figure 16-2.

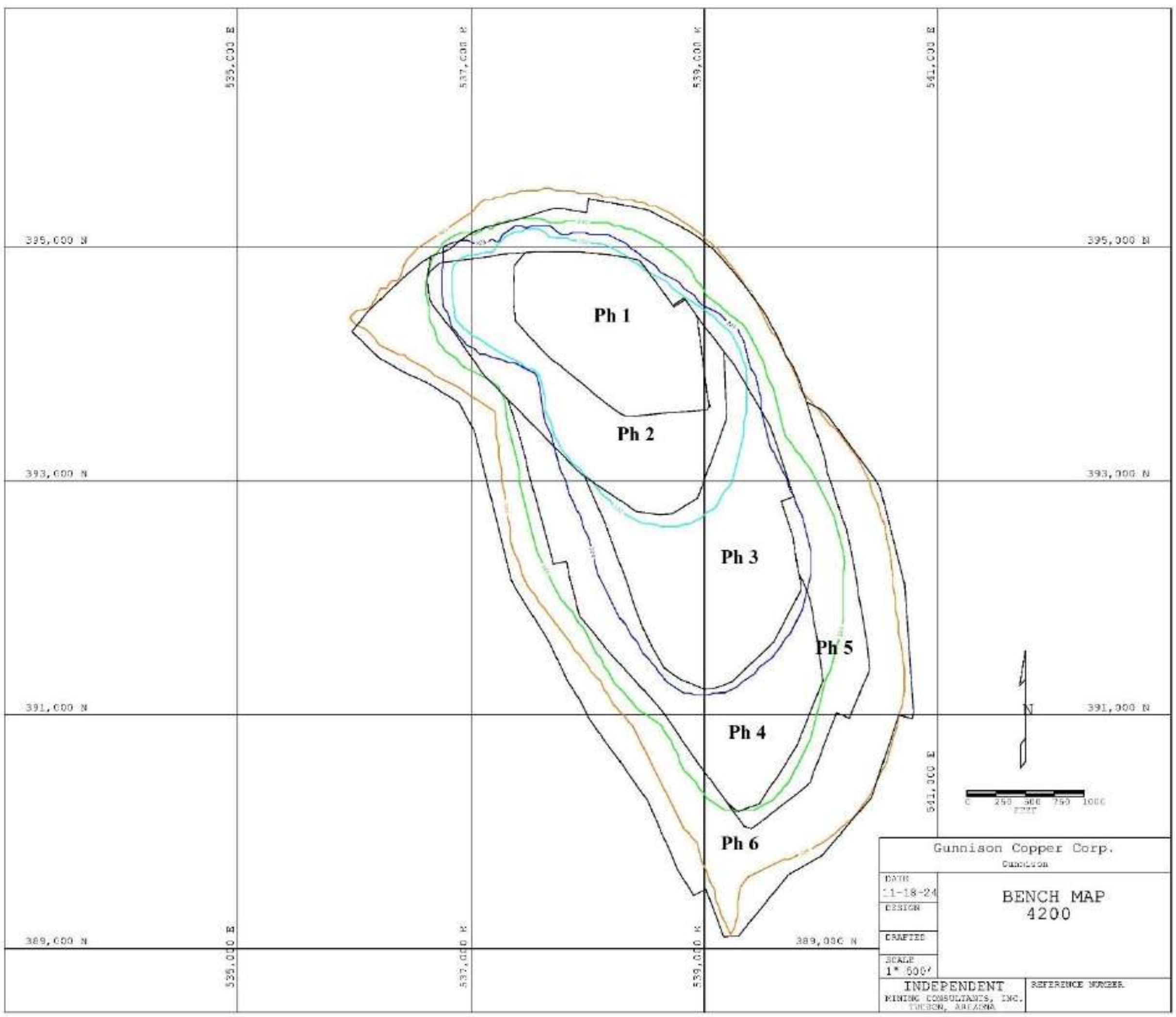


Figure 16-2: Phase Progression of Gunnison Phases (Black) vs LG Pit Shells ($2.00/lb LG-Light Blue, $2.20/lb LG-Dark Blue, $2.60/lb LG-Green, $3.80/lb LG-Orange)

The pit shells between $2.00/lb and $4.20/lb were all evaluated at $4.00/lb along with the cost inputs shown in Table 16-2. The $3.80/lb pit shell was chosen to guide the design of the ultimate pit limit as only marginal additional value was gained by mining beyond the $3.80/lb pit shell geometry. Figure 16-3 provides a comparison of the tons of heap material, waste, and the value of the pits between $2.00/lb - $4.20/lb when all of the pit shells are evaluated at $4.00/lb and the inputs shown in Table 16-2.

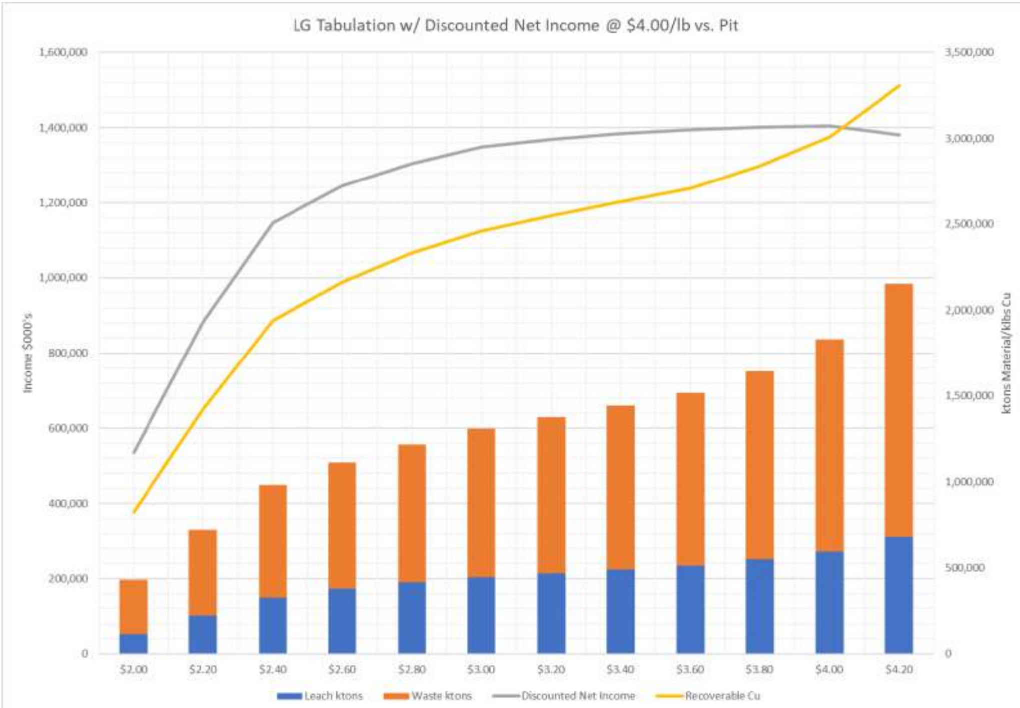


Figure 16-3: Tonnages of Heap Material and Waste along with Discounted Pit Value when all LG pit shells are evaluated at $4.00/lb Cu

The inputs used to generate the pit shells that guided phase design are provided in Table 16-2. Pit shells were generated at the beginning of work and the estimated input parameters shown in Table 16-2 differ from the final cost estimates of the PEA work.

Table 16-2: Inputs to Computer Generated Pit Shell Used to Guide Phase Design

Input Parameters	Units	Value
Base Cu Price	$/lb.	$4.00
Sustaining Capital Cost (Owner Case)	$/ton	$0.20
Overburden Mining Cost	$/ton	$1.37
Hard Rock Waste Mining Cost	$/ton	$1.80
Mineralized Material Mining Cost	$/ton	$2.00
Incremental Cost	$/ton/bench	$0.01
Bench Discounting	%	0.50%
Overall Pit Slope Angle for Overburden	Degrees	42
Overall Pit Slope Angle for Hardrock	Degrees	47
Overall Pit Slope Angle for Hardrock	Degrees	36
Cu Recovery:		
Acid Soluble Cu	%	90%
Cn Soluble	%	80%
Sulfide Cu	%	60%
SX-EW	$/lb.	$0.25

Input Parameters	Units	Value
Heap Management Cost	$/t mineralized material	$0.25
Crushing Cost	$/t mineralized material	$1.40
Cost to Construct Leach pad	$/t mineralized material	$0.60
G&A Cost	$/lb.	$0.07
Acid Cost	$/ton	$52
Acid Consumption:		
Escabrosa (and stratigraphically above)	lb./ton	70
Martin	lb./ton	70
Upper Abrigo	lb./ton	48
Middle Abrigo	lb./ton	48
Lower Abrigo	lb./ton	24
Bolsa/TQM (and stratigraphically below)	lb./ton	24
Royalty ASCu	%	6.25
Royalty CNCu/CuS	%	4.5

The tonnages tabulated at a $0.60/t net of process cut-off (calculated with net of process equations in Table 16-5) within each pushback are provided in Table 16-3.

Table 16-3: Tabulation of Tonnages by Phase

	Mat to Heap kt	ASCu %	CNCu %	CuS %	TCu %	Fanglmt waste kt	Hardrock waste kt	Total kt	Rec. Cu mlbs	S.R. W:O	Production Cost $/lb Cu
Ph1	27,876	0.423	0.000	0.001	0.522	190,921	1,054	219,851	269	6.9	2.68
Ph2	66,388	0.346	0.001	0.008	0.455	100,597	19,035	186,020	385	1.8	1.83
Ph3	57,234	0.307	0.001	0.003	0.386	153,281	7,972	218,487	312	2.8	2.30
Ph4	78,131	0.265	0.005	0.012	0.356	81,670	43,473	203,274	252	1.6	2.14
Ph5	98,490	0.227	0.016	0.042	0.345	116,469	73,025	287,984	455	1.9	2.36
Ph6	232,031	0.165	0.017	0.056	0.291	116,432	221,139	569,602	374	1.5	2.53
Total	560,150	0.239	0.011	0.034	0.350	759,370	365,698	1,685,218	2,045	2.0	2.35

16.2 DESIGN PARAMETERS

Pit slope angles are based on recommendations provided by Call and Nicholas Inc.(CNI) in an October 2024 memo. CNI's overall slope recommendations are provided in Table 16-4. Overall pit slope angles were provided along with the recommendation that interramp slopes could be up to 3-degrees steeper. The shallow east dipping beds of the Paleozoic rock formations is the controlling factor for the 36-degree overall slopes in these rocks on the west pit wall.

Table 16-4: Pit Slope Angles Used in Gunnison Pit Design

Rock Formation	Overall Slope (deg)	Interramp Slope (deg)
Fanglomerate	42	45
Texas Canyon Quartz Monzanite	47	50
Paleozoic Rocks West Wall	36	39
Paleozoic Rocks North-West Wall	48	50
Precambrian Rocks	46	49

In portions of the pit wall without ramps, step-outs were included in the phase design to achieve the overall slope angles.

The other parameters used for the phase designs were:

Bench Height:	50 ft
Haul Road Width:	116 ft
Haul Road Gradient:	10%

16.3 MINE PRODUCTION SCHEDULE

The mine production schedule that is presented in Table 16-1 was developed using the phase designs, and the required leach pad feed rate to produce ~175 million pounds of recoverable copper per year. Sufficient waste is moved during the mine life to assure continued release of the required heap material. The cut-off grade of the mineralized material is $0.60 net of process. The cut-off grade of $0.60 was chosen to approximate the capital cost per ton of capacity of the leach pad and ensure the value of material sent to the leach pad covered the cost of leach pad construction.

The calculation of net of process is provided in Table 16-5 below.

Table 16-5: Calculation of Net of Process Value used as Cut-off Grade

Net of Process Conventional Leach = ASCu% * 20 lbs/%/ton * 90% Recovery * ($4/lb Cu * (1-.0675 royal) - $0.32/lb GA+SXEW) +CNCu% * 20 lbs/%/ton * 90% Recovery * ($4/lb Cu * (1-.045 royal) - $0.32/lb GA+SXEW) -Acid Consumption @ $52/ton acid (Varies between $0.62 -$1.82/ton mineralized material) -$0.25/ton mineralized material heap management - $0.50/t Crushing and Conveying Cost
Net of Process Sulfide Leach = ASCu% * 20 lbs/%/ton * 90% Recovery * ($4/lb Cu * (1-.0675 royal) - $0.32/lb GA+SXEW) +CNCu% * 20 lbs/%/ton * 90% Recovery * ($4/lb Cu * (1-.045 royal) - $0.32/lb GA+SXEW) +CuS% * 20 lbs/%/ton * 60% Recovery * ($4/lb Cu * (1-.045 royal) - $0.32/lb GA+SXEW) -Acid Consumption @ $52/ton acid (Varies between $0.62 -$1.82/ton mineralized material) -$0.25/ton mineralized material heap management - $0.50/t Crushing and Conveying Cost-$2.00/t Sulfide Leach Costs
Leach type was assigned based on which process produced the greater net of process value.

The updates between the pit shell definition in Table 16-2 and the inputs used for mine planning in Table 16-5 are the following:

- Increase in CNCu recovery 80% to 90%

- Reduction in crushing/conveying costs from $1.40/t to $0.50/t
- Addition of sulfide leach cost of $2.00/t

The estimated acid consumption costs by lithology are provided in Table 16-6.

Table 16-6: Estimate of Acid Consumption Costs by Lithology

Formation	Lb/t Mineralized Material Acid Acid Consumption	$/t Process Cost @$52/t Acid Cost
Escabrosa/Ppu	70	1.82
Martin	70	1.82
Upper/Middle Abrigo	48	1.25
Lower Abrigo/TQM/Bolsa/Pcu	24	0.62

16.4 CRUSHER

The crusher is southeast of the mine pit. It will crush the leach material to minus 6-inch to be conveyed to the leach pad which is planned to be located south of the crusher. The location of the crusher and leach pad can be seen on the mine progression drawings in Figure 16-4 through Figure 16-11.

16.5 WASTE STORAGE

The waste storage areas are east and west of the pit. The waste dumps are planned to be constructed in 50 ft lifts at an angle of 2.5:1. The geometry of the waste dump at the end of the mine plan can be seen in Figure 16-11.

16.6 MINE FLEET

The requirements for the owner operated mine fleet to execute the schedule presented in Table 16-1 are presented in this section. Mining is planned to be executed using a conventional open pit mining fleet. The reference to specific equipment manufacturers is to illustrate equipment size and is not to be considered a recommendation by Independent Mining Consultants.

Production drilling is expected to be accomplished with 125,000lb pull-down force class drills with mast lengths capable of single pass drilling 50 ft benches. Holes will be loaded with ANFO when dry and an emulsion slurry when wet.

Based on discussions with the GCC staff on the characteristics of the rock types, drilling productivities were assumed to be ~2.6x greater in the fanglomerate waste than in the sedimentary rocks. Drill penetration rates in the fanglomerate are estimated to be twice, and the powder factor is estimated to be half that of the sedimentary rocks. For estimation purposes, all fanglomerate was assumed to be above the water table; holes in hard rock sedimentary units were assumed to be 80% dry and 20% wet.

Hydraulic front shovels with 46 to 50-yard buckets are planned to load a majority of the material with a 43-yard front-end loader available to provide loading flexibility. The front-end loader is also assumed to re-handle 5% of material at the crusher as necessary. Haul trucks are planned to be 320-ton class trucks with 3,500 hp engines. Haul truck productivities are based on haulage time simulations for annual waste and leach material haul profiles.

A fleet of auxiliary equipment to support the main operating equipment will be required. This will be comprised of 500 hp rubber-tired dozers, 600 hp track dozers, motor graders with 24-ft mold boards, 100-ton haul trucks fitted with 20,000-gallon water tanks and other support equipment. An estimate of the total number of mine major pieces of equipment that will be required to execute the mine plan is provided in Table 16-7. The equipment estimate is based on two 12-hour shifts per day, 360 days per year.

Table 16-7: Expected Major Mining Equipment

	Time Period																	
Equipment Type	**-2**	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
PV351 Blast Hole Drill	2	2	3	4	3	3	4	5	4	5	4	5	6	6	3	2	2	2
50 yd Front Shovel	2	2	2	3	3	3	3	3	3	3	3	3	3	3	2	1	1	1
43 cu.yd. Loader	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
320 ton Haul Truck	11	16	17	21	21	24	24	24	26	34	33	33	33	33	22	15	13	15
Cat D10 Track Dozer	2	2	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1
Cat 834 RT Dozer	2	2	2	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2
24' Motor Grader	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
100 ton Water Truck 20kgal	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
40 ton Auxiliary Truck	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Track Drill	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cat 349 Excavator	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cat 988 Loader	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL	**28**	**34**	**37**	**44**	**43**	**46**	**46**	**47**	**48**	**57**	**55**	**55**	**56**	**56**	**40**	**30**	**28**	**30**

16.7 STAFF REQUIREMENTS

The requirements for mine supervision, operations, and maintenance personnel were calculated using the equipment list and mine schedule. Hourly staff requirements are provided in Table 16-8 and salary staff requirements are provided in Table 16-9.

Mine operations and maintenance labor increases to 382 persons at the end of Year 8 and stays above 350 persons until labor requirements begin to decline in Year 13. The "service crew" personnel are the operators responsible for operating the auxiliary mining equipment e.g. water truck, auxiliary loader, auxiliary haul trucks, track drill and excavator. Maintenance personnel requirements are set to be around 60% of required operations personnel.

There are expected to be 48 salaried staff for supervision, engineering, and geology.

Table 16-8: Gunnison PEA Hourly Staff Requirements

Job Title	Time Period																	
	-2	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
MINE OPERATIONS:																		
Drill Operator	7	7	10	12	10	11	12	16	13	19	15	17	21	22	11	8	7	6
Shovel Operator	8	8	8	10	10	10	10	10	11	11	11	12	11	11	6	4	4	4
Loader Operator	4	4	4	3	3	3	3	3	4	4	4	4	4	4	2	2	1	1
Haul Truck Driver	42	60	64	80	78	91	91	91	99	127	125	125	125	125	82	55	50	55
Track Dozer Operator	4	5	7	7	7	7	5	6	5	6	5	5	5	5	5	4	4	4
Wheel Dozer Operator	4	4	4	8	8	8	8	8	8	8	8	8	8	8	4	4	4	4
Grader Operator	5	5	6	7	7	7	6	6	6	6	6	6	6	6	5	5	5	5
Service Crew	14	18	18	19	19	19	19	21	19	21	19	15	15	15	14	10	10	10
Blasting Helper	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Dispatch Operator	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Laborer	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Operations Total	106	129	139	164	160	174	172	179	183	220	211	210	213	214	147	110	103	107
MINE MAINTENANCE:																		
Senior Maintenance Mechanics	25	30	36	42	41	44	48	47	48	57	55	55	56	56	35	26	30	32
Maintenance Technician	13	15	18	22	21	23	25	24	25	29	28	28	29	29	18	14	15	16
Welder / Mechanic	9	11	13	16	15	16	18	17	18	21	20	20	21	21	13	10	11	12
Fuel & Lube Man	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Tire Man	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Laborer	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Maintenance Total	67	76	87	100	97	103	111	108	111	127	123	123	126	126	86	70	76	80
VS&A at 10.0%	17	21	23	26	26	28	28	29	29	35	33	33	34	34	23	18	18	19
Total Labor Requirement	**190**	**226**	**249**	**290**	**283**	**305**	**311**	**316**	**323**	**382**	**367**	**366**	**373**	**374**	**256**	**198**	**197**	**206**
Maint/Operations Ratio	0.63	0.59	0.63	0.61	0.61	0.59	0.65	0.60	0.61	0.58	0.58	0.59	0.59	0.59	0.59	0.64	0.74	0.75

Table 16-9: Gunnison PEA Salary Staff Requirements

Job Title	Time Period																	
	-2	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Mine Manager	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Secretary	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
MINE OPERATIONS:																		
Superintendent, Mine Operations	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
General Foreman, Mine Operations	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Supervisor, Mine Ops	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Supervisor, Drill & Blast	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Supervisor, Mine Support Services	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mine Training Supervisor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mine Operations Total	10	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
MINE MAINTENANCE:																		
Superintendent, Mine Maintenance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
General Foreman, Mine Maintenance	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Sr Planner, Mine Maintenance	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Supervisor, Mine Maintenance - Mechanical	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Planner, Mine Maintenance	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Maintenance Clerk	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mine Maintenance Total	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
MINE ENGINEERING:																		
Chief Mine Engineer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chief Surveyor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sr. Engineer, Mine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dispatch Engineer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mine Engineer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Engineer III, Mine	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Technician 3, Survey	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Technician 1, Survey	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mine Engineering Total	10	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
MINE GEOLOGY:																		
Chief Mine Geologist	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sr Geologist	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Geologist III		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Geologist II		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Technician, Mineralized Material Control		0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mine Geology Total	2	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Total Personnel	**39**	**42**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**

16.8 MINE PLAN DRAWINGS

Figure 16-4 through Figure 16-11 illustrate the pit and waste dump configurations at time periods of mine progression.

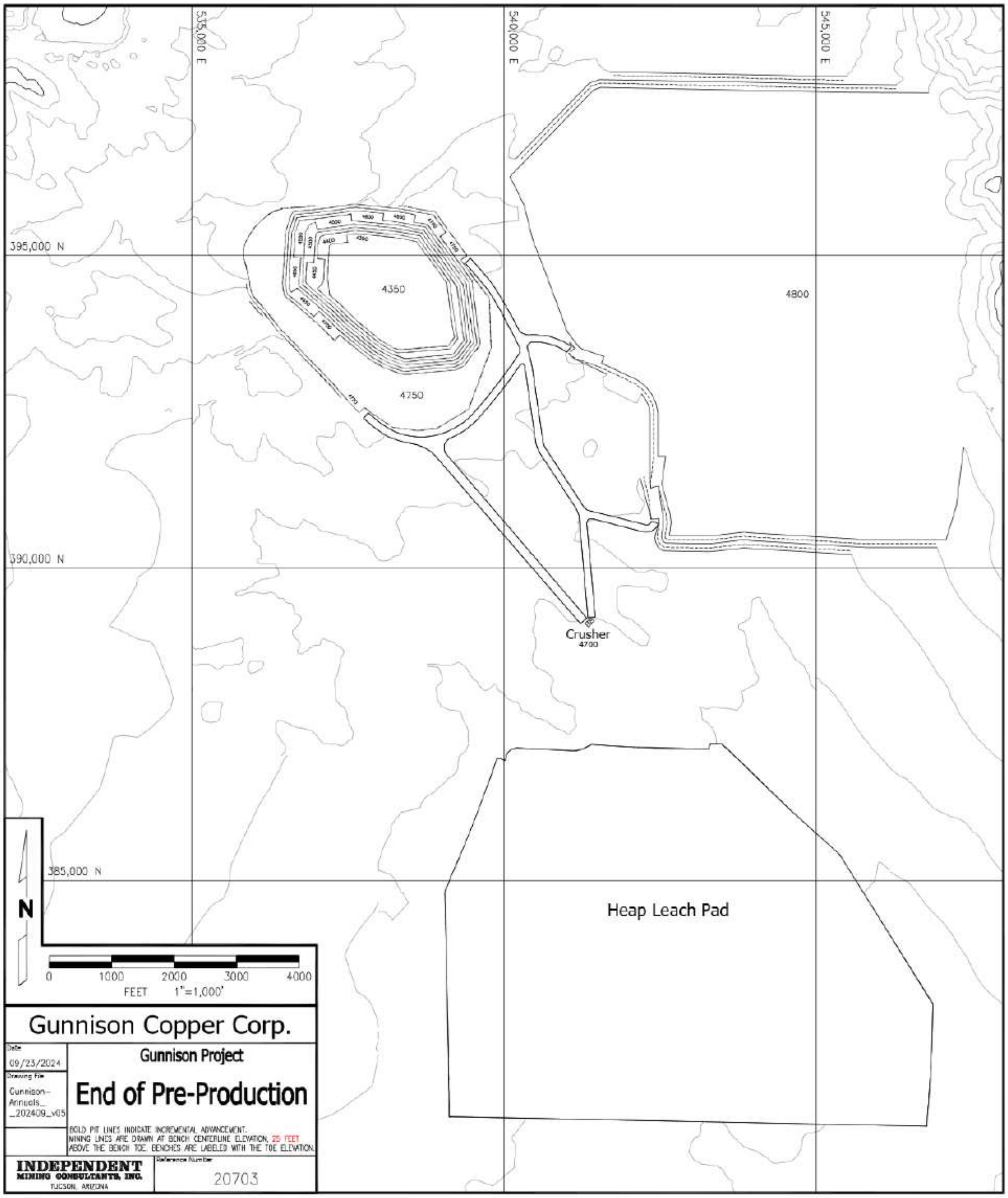


Figure 16-4: Pit and Dump Configuration at the end of Pre-Production Mining

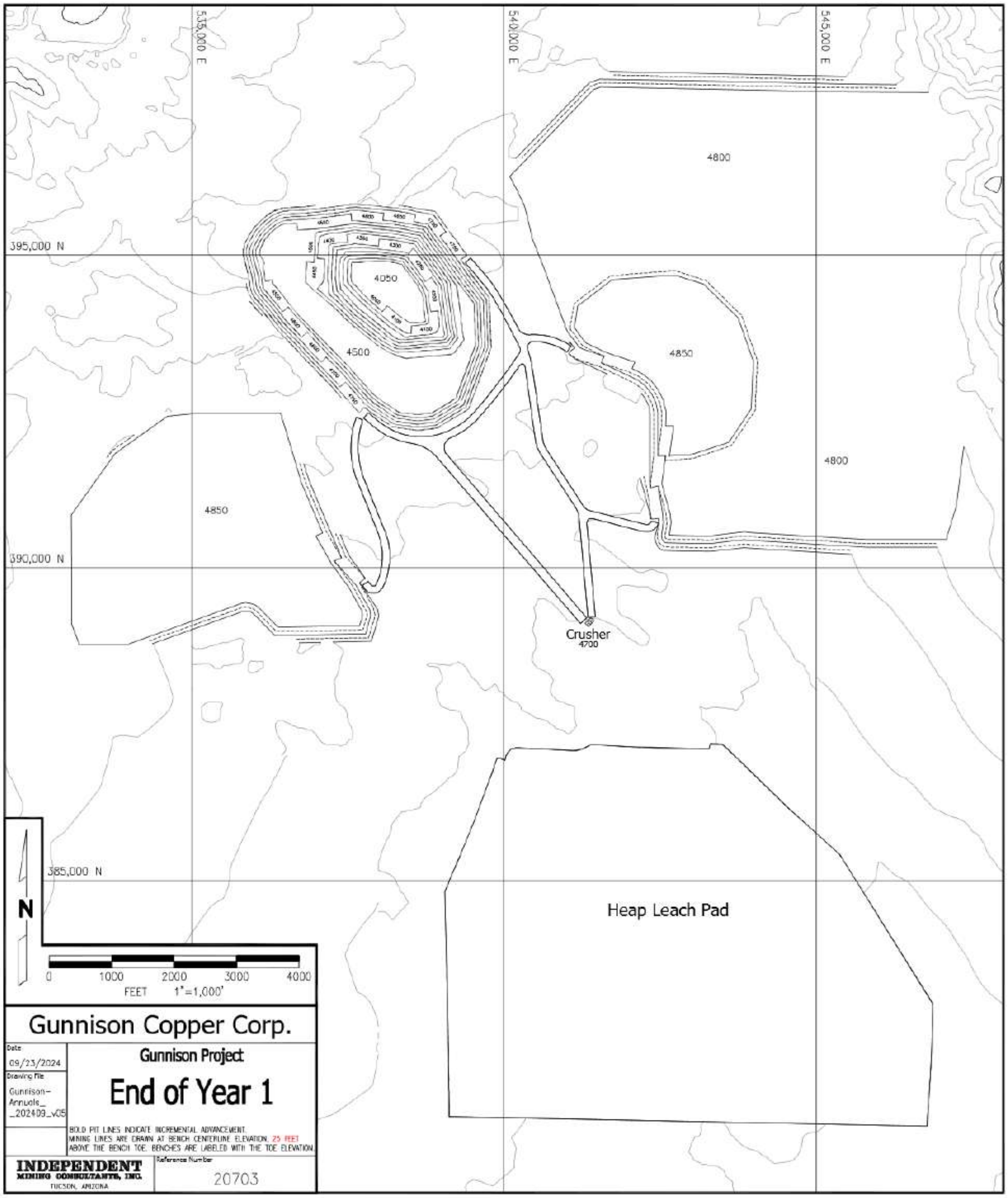


Figure 16-5: Pit and Dump Configuration at the end of Year 1 of Mining

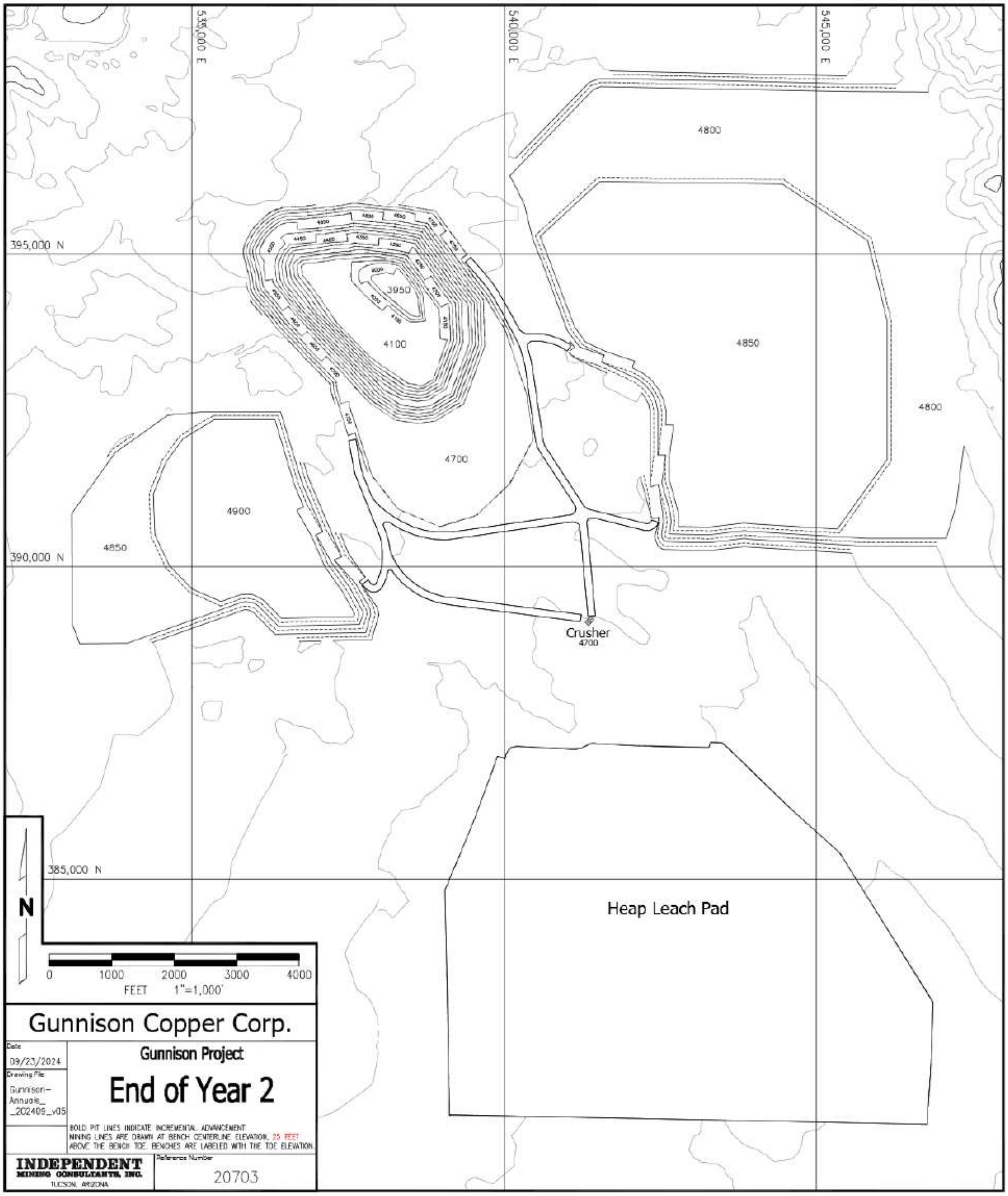


Figure 16-6: Pit and Dump Configuration at the end of Year 2 of Mining

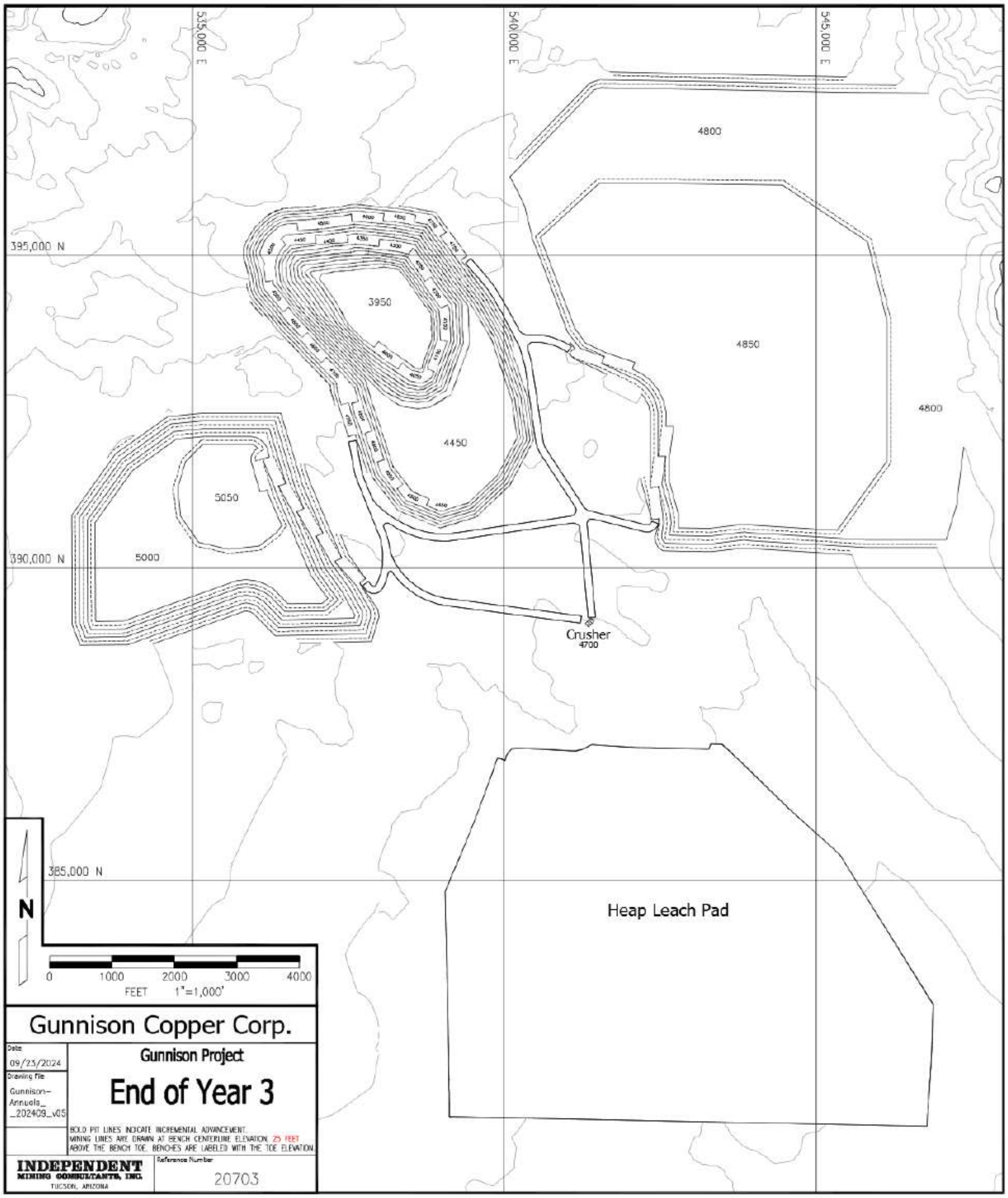


Figure 16-7: Pit and Dump Configuration at the end of Year 3 of Mining

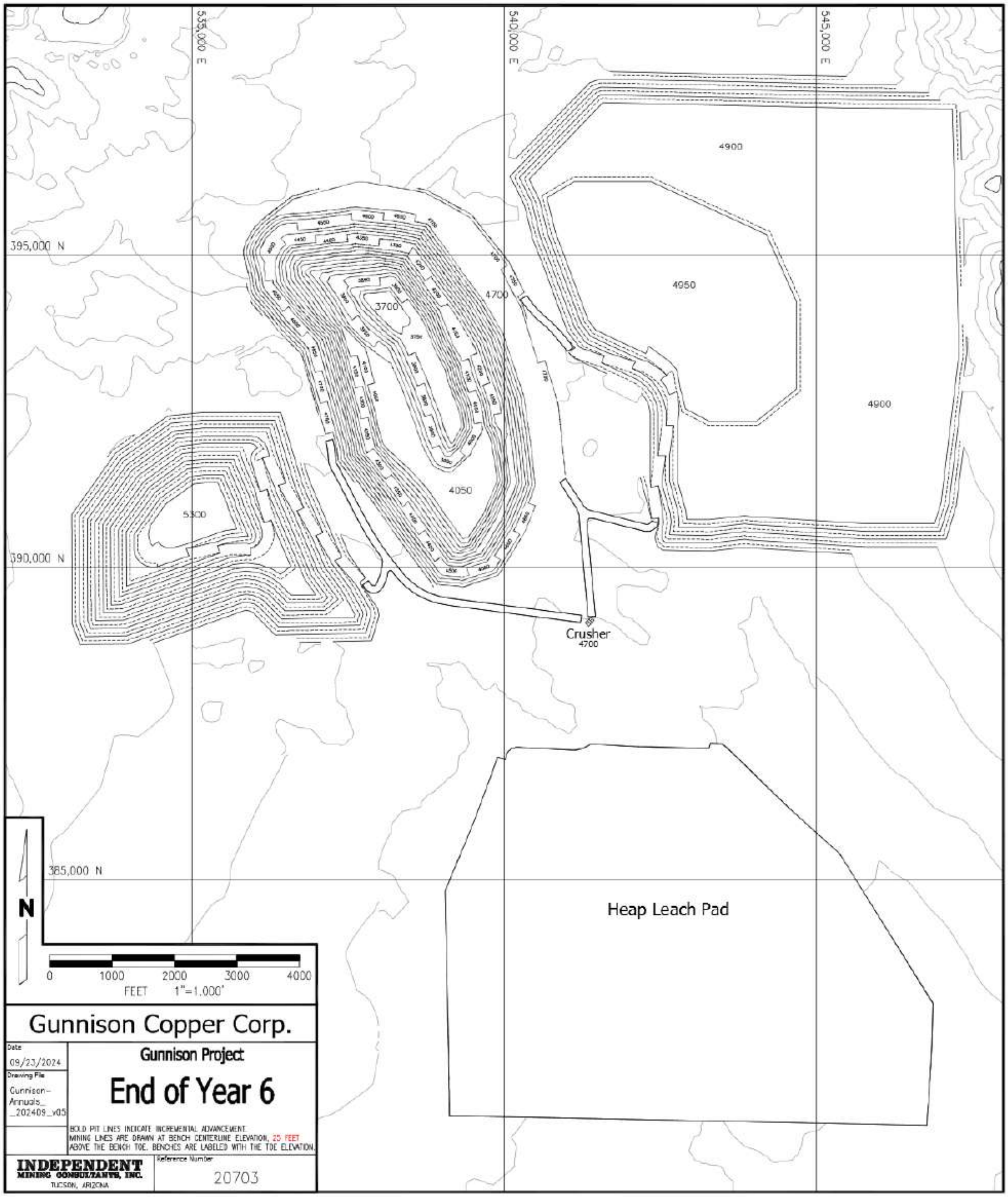


Figure 16-8: Pit and Dump Configuration at the end of Year 6 of Mining

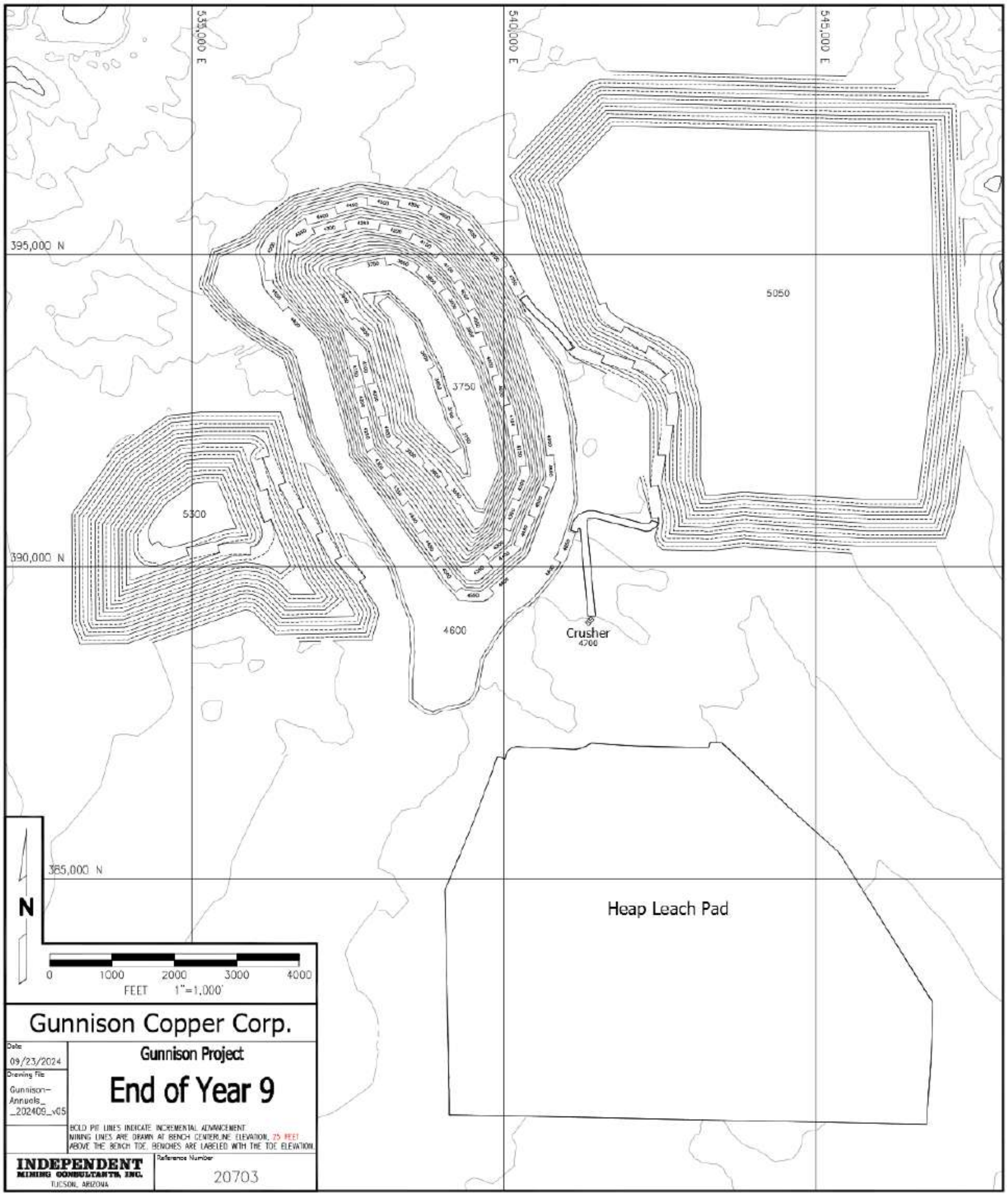


Figure 16-9: Pit and Dump Configuration at the end of Year 9 of Mining

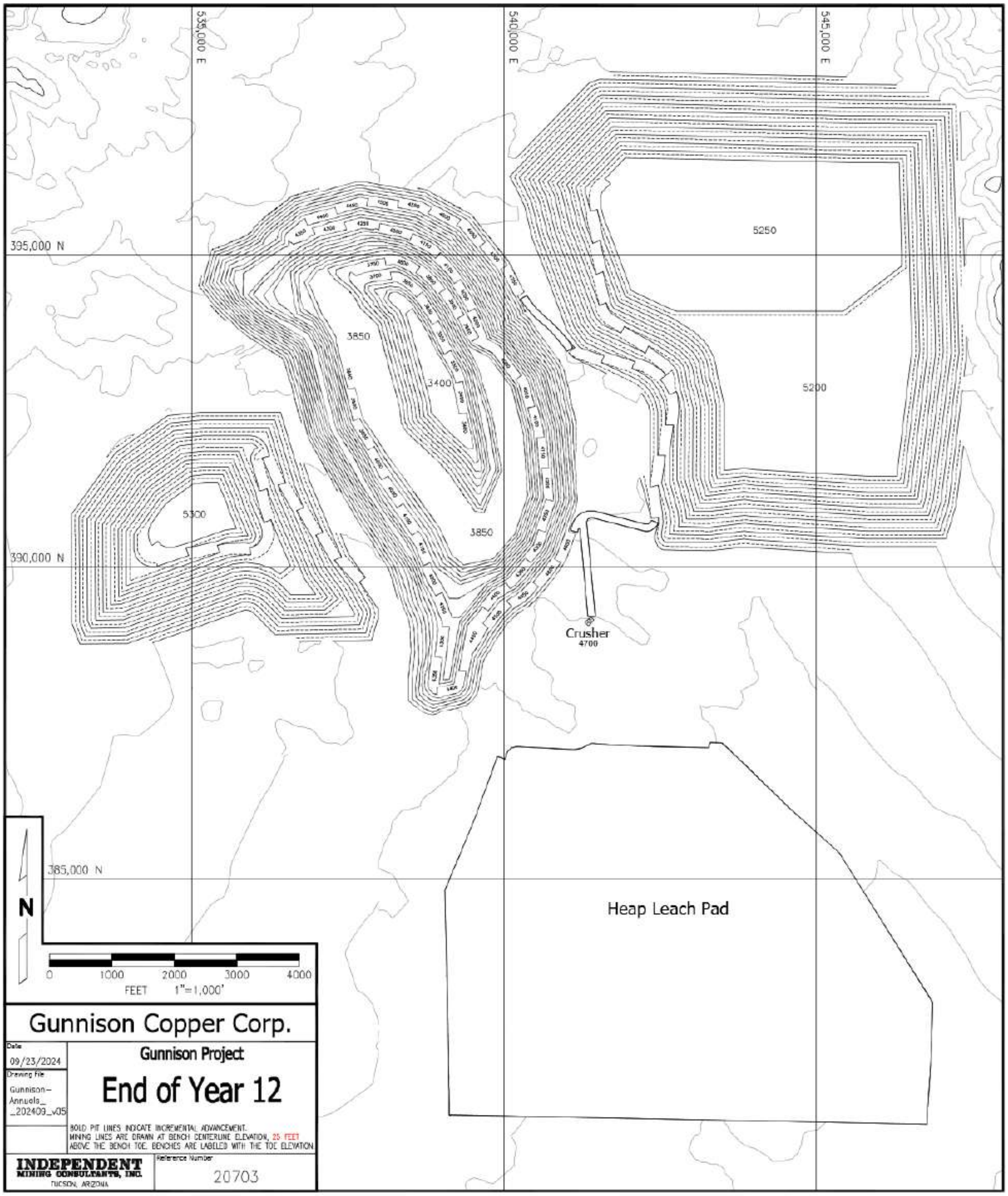


Figure 16-10: Pit and Dump Configuration at the end of Year 12 of Mining

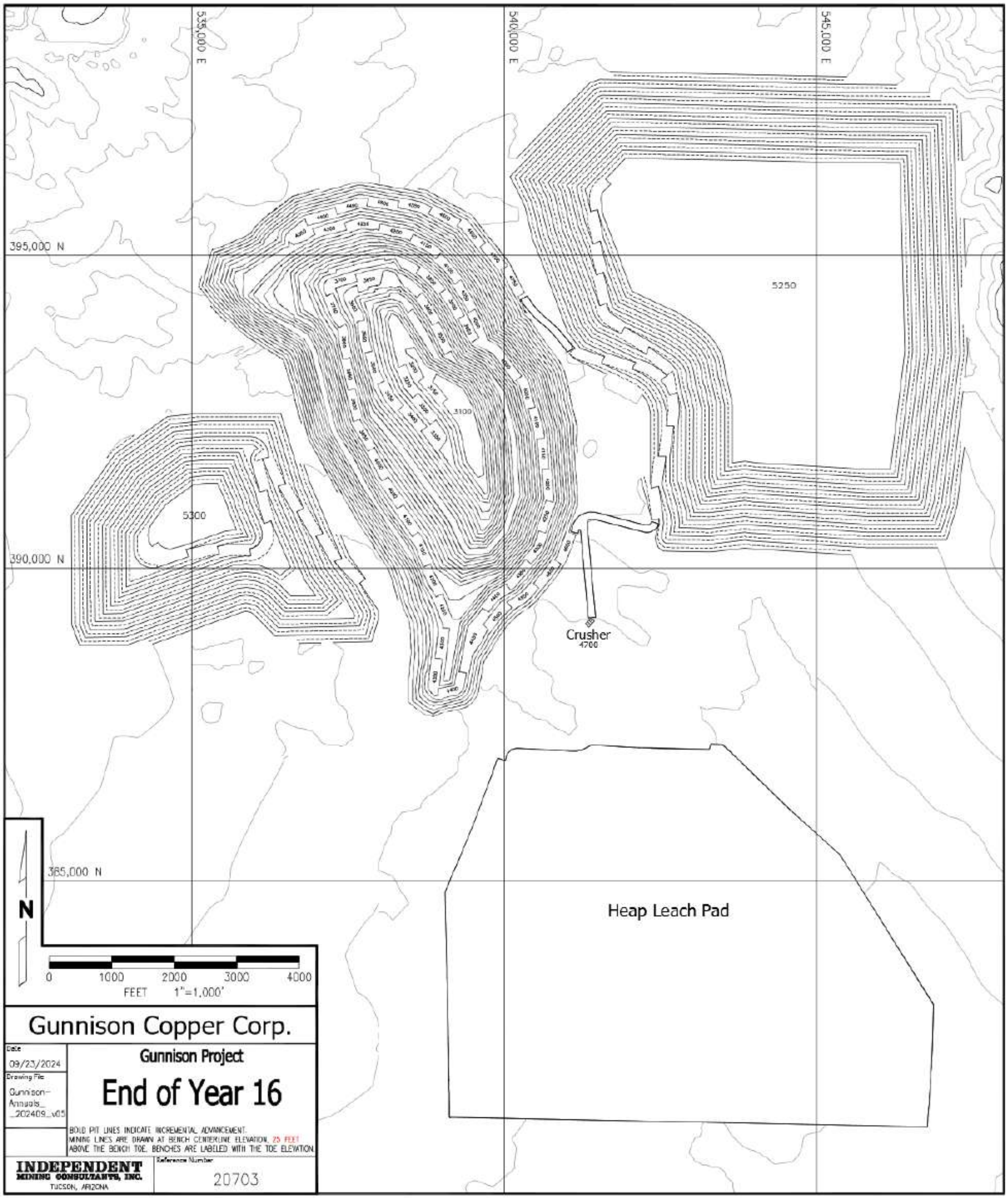


Figure 16-11: Pit and Dump Configuration at the end of Year 16 (End of Mine Life) of Mining

16.9 PIT DEWATERING

16.9.1 Groundwater Flow Model

A groundwater flow model for the Gunnison ISR project was completed as part of the 2016 Aquifer Protection Permit (APP) application reviewed and approved by the Arizona Department of Environmental Quality (ADEQ) and the 2016 Underground Injection Control (UIC) Permit application reviewed and approved by the U.S. Environmental Protection Agency (EPA). The groundwater flow model grid for the project is shown in Figure 16-12.

In 2020, the model was updated by incorporating information from the first year of ISR mining operations to improve the model calibration (Clear Creek, 2021). The 2020 updated model was used to complete the simulations discussed in this document. The stress period setup used in the modeling is presented in Table 16-10. Pre-mining conditions for the Gunnison ISR project were simulated using a steady-state model calibrated to water levels in the basin measured up to 2016. The model simulates ISR operations using reported pumping and monthly stress periods for December 2019 through December 2020. For 2021 and 2022, annual stress periods were used continuing ISR pumping from December 2020. For the purposes of this PEA, open pit mining was assumed to start in 2025. The pit reaches the water table by the end of 2025, allowing for a single stress period for 2025. During the second year of open pit mining (2028), the bottom of the pit continues to deepen below the groundwater table; therefore, monthly stress periods are used. It was found that monthly stress periods result in a smoother simulation of dewatering rates because the advancement of the pit bottom is more uniform resulting in smaller sudden jumps in dewatering rates at the beginning of stress periods. Smoothing the simulated deepening using monthly periods minimized but did not eliminate this issue.

Operation of the ISR containment system was maintained during the open pit simulation until the open pit footprint intersected operating containment wells.

Table 16-10: Stress Period Setup

Mine Year	Stress Periods	End Date	Year	Comments
SS	1	12/5/2019	NA	Pre-Mining Period
ISR Yr 1	2-14	12/31/2020	2020	Actual ISR Pumping
-2	15	12/31/2022	2022	Stripping Overburden
-1	16	12/31/2024	2024	Stripping Overburden
1	17	12/31/2025	2025	Mining Overburden
2	18-29	12/31/2026	2026	Mining below water table
3	30-41	12/31/2027	2027	Mining below water table
4	42-53	12/31/2028	2028	Mining below water table
5	54-65	12/31/2029	2029	Mining below water table
6	66-77	12/31/2030	2030	Mining below water table
7	78-89	12/31/2031	2031	Mining below water table
8	90-101	12/31/2032	2032	Mining below water table
9	102-113	12/31/2033	2033	Mining below water table
10	114-125	12/31/2034	2034	Mining below water table
11	126-137	12/31/2035	2035	Mining below water table
12	138-149	12/31/2036	2036	Mining below water table
13	150-161	12/31/2037	2037	Mining below water table
14	162-173	02/01/2038	2038	Mining below water table
15	174-185	02/01/2039	2039	Open pit reaches total depth

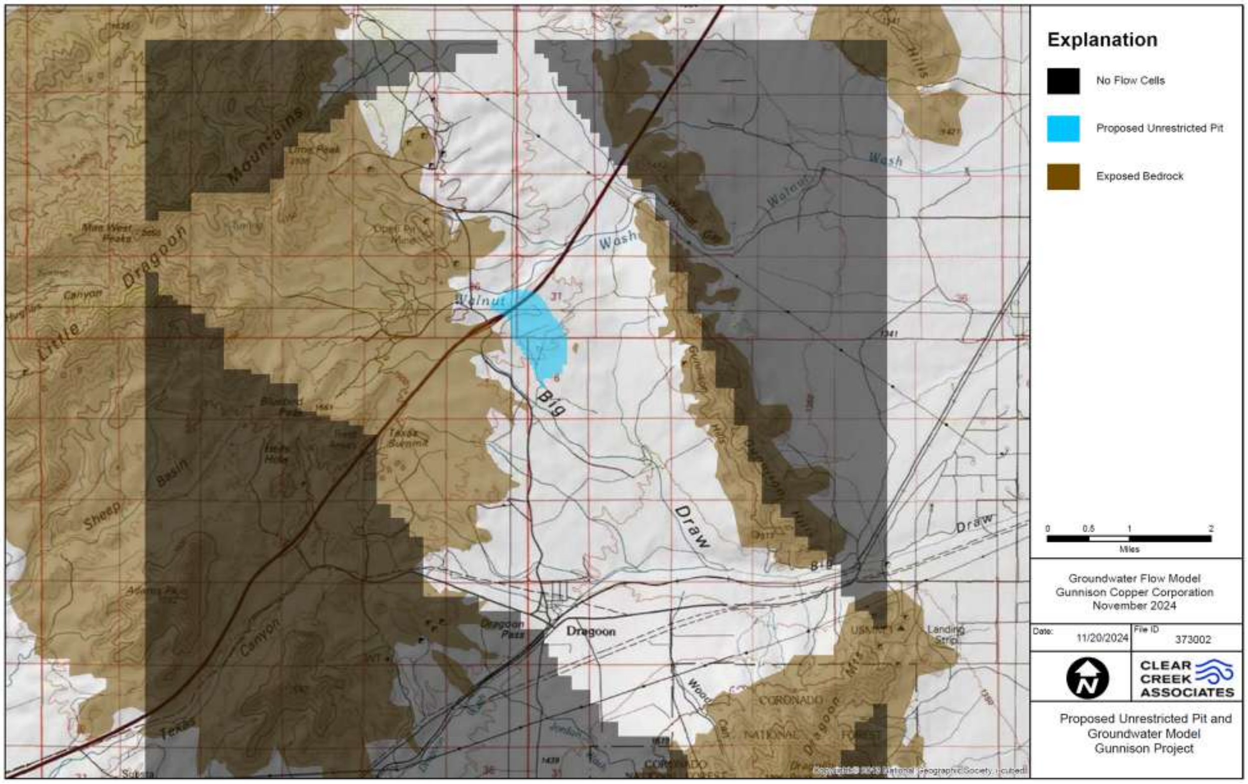


Figure 16-12: Groundwater Flow Model

16.9.1.1 Pit Simulation

During the first year, the overburden is removed, encountering groundwater at the very end of the first year. The simulated drains begin to receive groundwater flow during Year 2 of operations. Figure 16-13 shows the ultimate pit elevation contours and the steady-state starting water levels. Flow to drain cells can only occur in model cells with a pit bottom elevation lower than the steady-state water level. Based on the ultimate pit elevations, Figure 16-13 shows the model cells with drain cells, which include elevations less than 4,500 feet AMSL. These model cells comprise the drains simulated in the model with elevations lowered over time. Pit elevation contours were used for each year to set the drain cell elevations, based on the mine plan.

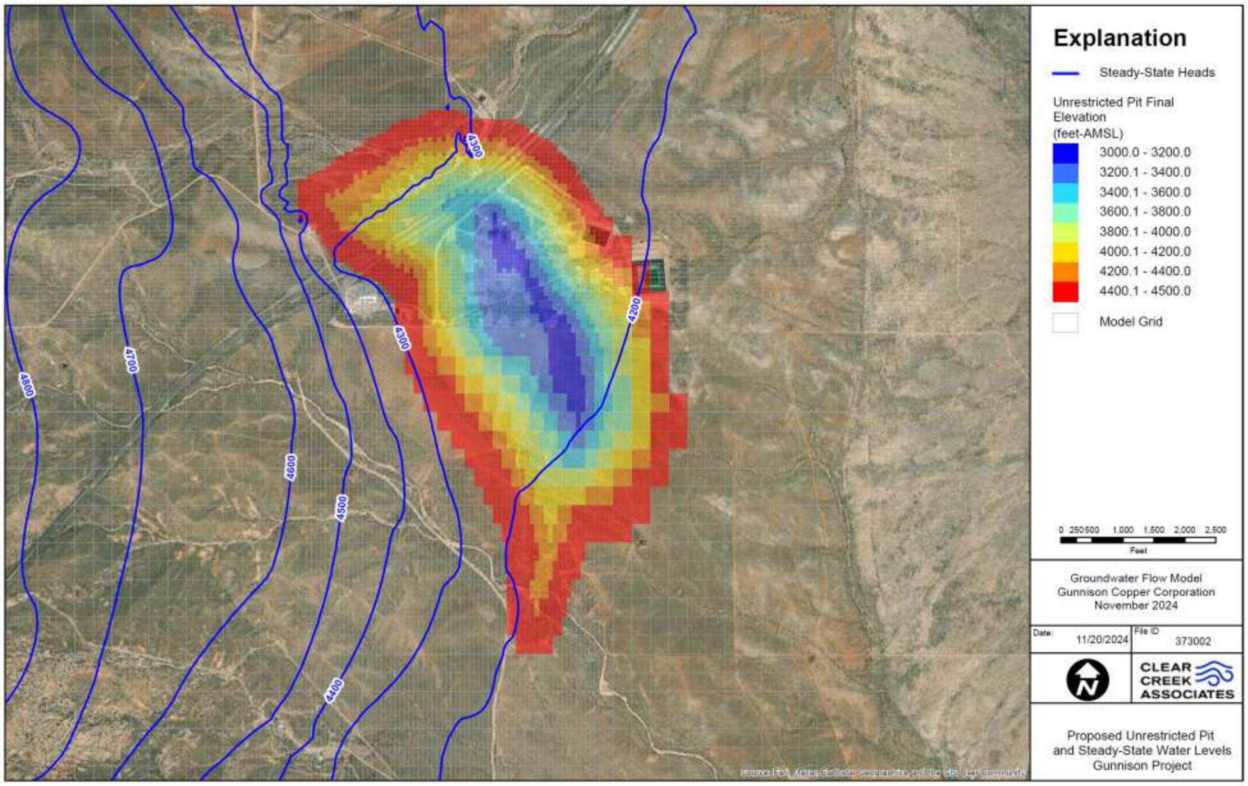


Figure 16-13: Model Cells Below SS WL

16.9.1.2 Drain Cells

MODFLOW simulates the advancement of the pit with drain cells, which allow flow if water levels exceed the defined elevation of the drain or pit bottom at specified times during the simulation. Drains flow at whatever rate is calculated based on the drain conductance values and the difference in water levels between the model and the drain. Flow will decline as water levels drop, and will cease if water levels drop below the drain elevation. Drain cell layer assignments are based on the lowest elevation at the end of the simulation. In general, model layers 2 through 6 are both saturated and include the pit surface. Drain cells are set based on the pit contours for each year, and ultimately at the lowest elevation that is reached in the ultimate pit.

Figure 16-14 shows the ultimate elevation of the drain cells, based on the final pit configuration.

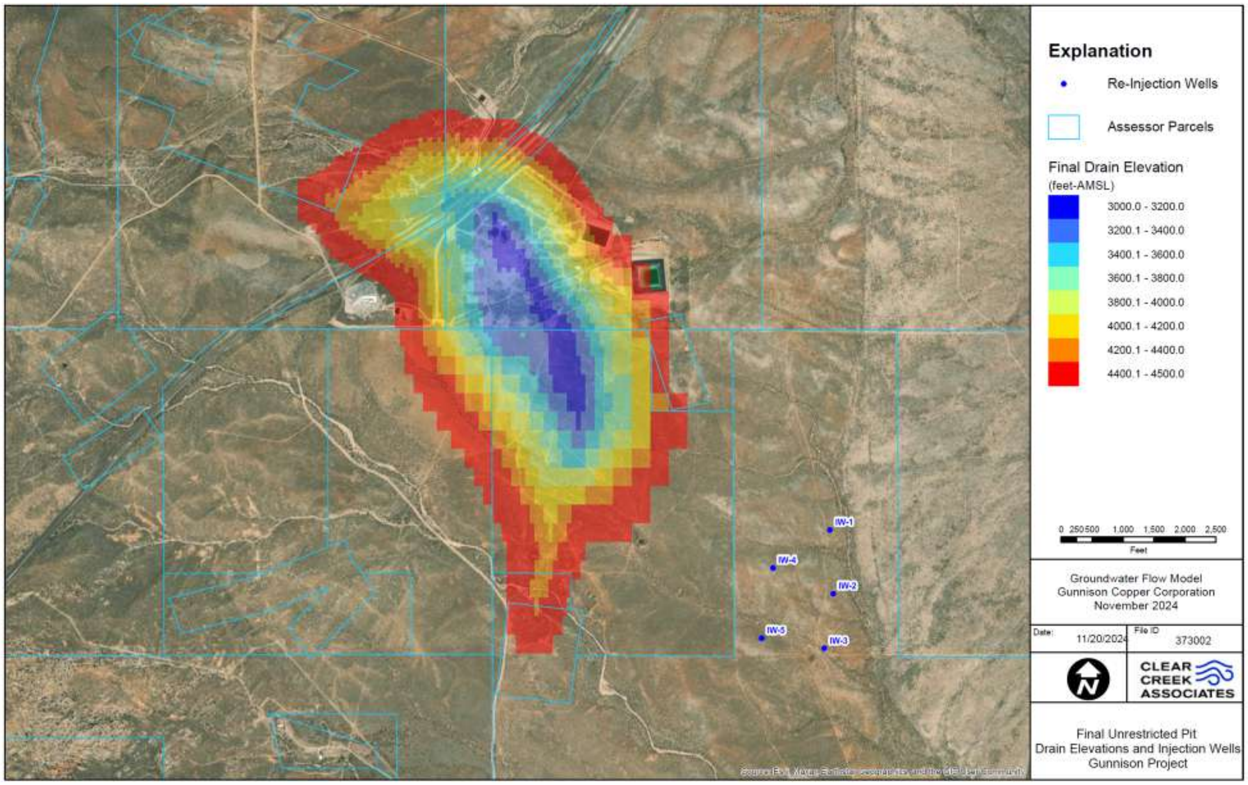


Figure 16-14: Final Unrestricted Pit Drain Elevations and Injection Wells

16.9.1.3 Re-Injection Wells

Pit dewatering discharge will be piped to injection wells located near the pit to the east as shown on Figure 16-14. The injection wells will be constructed into the basin fill alluvial aquifer and the upper part of the bedrock. The model includes five (5) injection wells that will be operated such that excess pit water not used in other mine facilities will be injected into the local aquifer. This will offset impacts from open pit dewatering on the alluvial aquifer system. Re-injection rates are based on a project water balance, which assumes reuse of water first, with excess water reinjected. Table 16-11 presents the project water balance, which shows that injection does not start until Year 9. Injection rates reach a maximum of 2,718 gpm in Year 16. Injection rates are averaged over each Mine Year.

Table 16-11: Pit Water Balance and Reinjection

	Units	Totals	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18
Total Resource Mined	Mton	551	1.5	22.9	31.1	23.9	30.1	31.0	37.7	33.7	39.6	33.8	36.7	41.0	41.6	40.4	38.7	35.0	31.9	0.0	0.0
Acid Consumption (lb/ton)	kton		45	696	836	649	867	993	1086	931	1111	1077	937	890	1002	935	834	622	497	53	24
In																					
Crushed Ore Moisture	GPM		12.3	185.8	252.0	193.8	244.0	251.4	306.1	273.5	321.2	274.4	297.9	332.2	337.3	327.7	314.2	283.9	258.8	0	0
Pit Dewatering	GPM		0	1145	1998	2299	2247	2488	2815	3399	3465	3420	3320	3717	3874	4040	3059	3617	5076	0	0
Pad Precipitation	GPM		650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650
Contact Water/Pond Precipitatio	GPM		14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Sulfuric Acid Net Gain	GPM		11.2	173.0	208.0	161.5	215.6	247.0	270.1	231.5	276.3	268.0	233.1	221.3	249.3	232.5	207.4	154.8	123.5	13.3	5.9
Freshwater Makeup	GPM		1484.3	871.5	248.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1433.1	1440.5
Total	GPM		2172	3040	3371	3319	3371	3651	4056	4569	4727	4627	4516	4935	5125	5265	4245	4720	6123	2111	2111
Out	GPM																				
Heap Evaporation	GPM		1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125
Pond evaporation	GPM		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Heap Retention	GPM		61.5	928.9	1260.2	969.0	1220.1	1257.2	1530.5	1367.3	1606.2	1371.9	1489.3	1661.1	1686.3	1638.6	1570.9	1419.6	1294.1	0.0	0.0
Dust Suppression	GPM		235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6	235.6
Acid Plant	GPM		725	725	725	725	725	725	725	725	725	725	725	725	725	725	725	725	725	725	725
Water reinjection	GPM		0	0	0	239	40	283	414	1090	1010	1144	916	1163	1328	1515	563	1190	2718	0	0
Total	**GPM**		**2172**	**3040**	**3371**	**3319**	**3371**	**3651**	**4056**	**4569**	**4727**	**4627**	**4516**	**4935**	**5125**	**5265**	**4245**	**4720**	**6123**	**2111**	**2111**

The injection rate is based upon the water balance presented in Table 16-11, but the injection of water causes the drainage rates to the pit to increase. To simulate the increased drainage from re-injection, the model was run iteratively, with drainage rates simulated, the water balance updated and new injection rates estimated. After three rounds of simu**Error! Reference source not found.**.

16.9.1.4 Boundary Conditions

The updated model simulation included constant head boundaries representing flow out of the basin to the east along the Gunnison Hills near Walnut Wash gap (Figure 16-12). Because the head in this boundary condition is fixed and will not adjust to changes in heads elsewhere in the model, it can cause an over-estimation of dewatering from an open pit. To alleviate this possibility, the constant head boundary to the east of the open pit was changed to a constant flux boundary which allows the head at the boundary to adjust to changes in head within the model domain (Figure 16-15). The result is a more realistic simulation of pit dewatering rates.

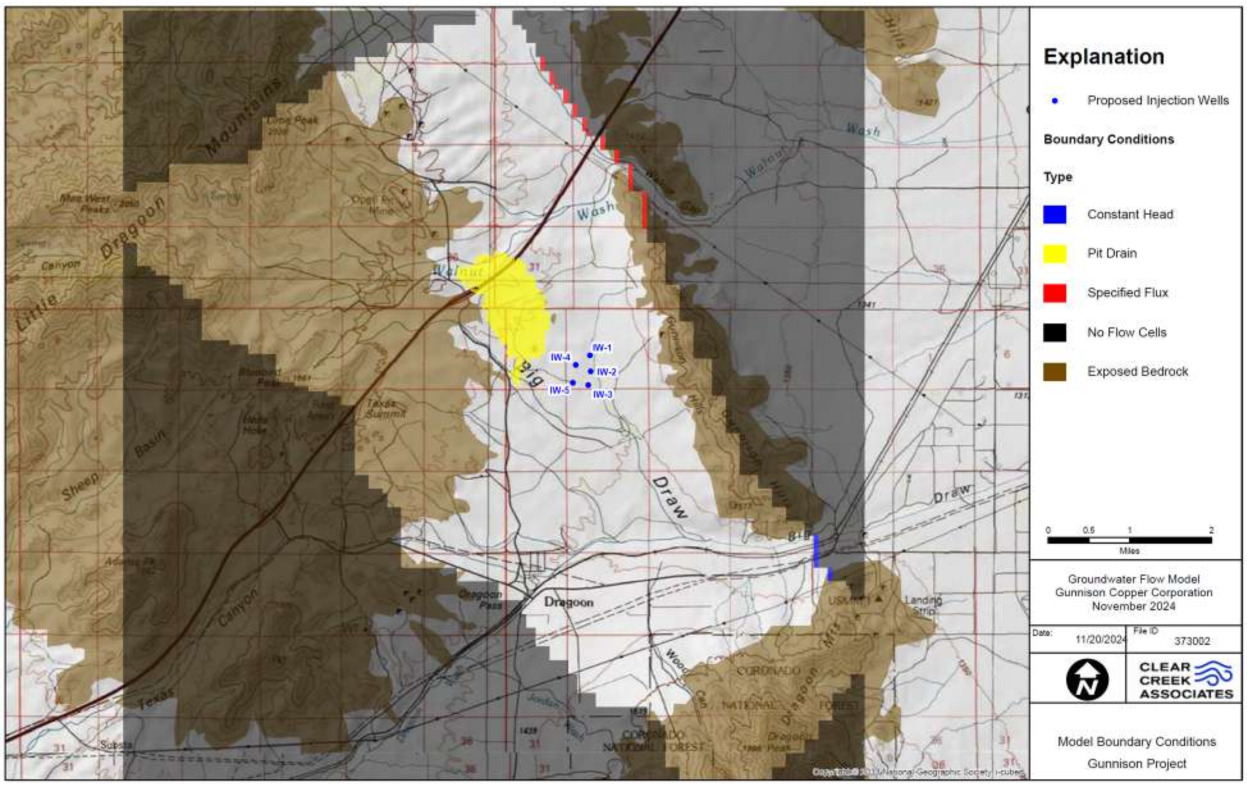


Figure 16-15: Groundwater Flow Model

16.9.1.5 Model Results

The model simulates 16 years of open pit mining. Figure 16-16 illustrates the predicted groundwater elevation contours at the end of open pit mining. A large cone-of-depression forms around the pit causing an inward gradient. A large groundwater mound forms near the injection wells.

Figure 16-17 shows the aggregate flow rate of the drains representing the advancement of the open pit, with re-injection. A faint pink line is also shown that represents the raw, unsmoothed dewatering rate. Smoothing, using a running average, was necessary to eliminate the variability caused by 1) the dimensions of the model grid coupled with 2) the length of stress periods. The model-simulated pit advances based upon the yearly mine plan contours. Because the groundwater table is reached quickly, drainage starts by the end of the first stress period. For reference, the flow rate is also shown without re-injection. It is clear that reinjection does not cause significant increases in drainage flows.

The overall pit dewatering discharge rises steadily starting in Year 2 to a maximum of about 4,000 gallons per minute (gpm) after 14 years. For the purposes of mine planning, it is suggested to use an average pit dewatering rate of 2,000 gpm starting in about Year 2 of open pit mining.

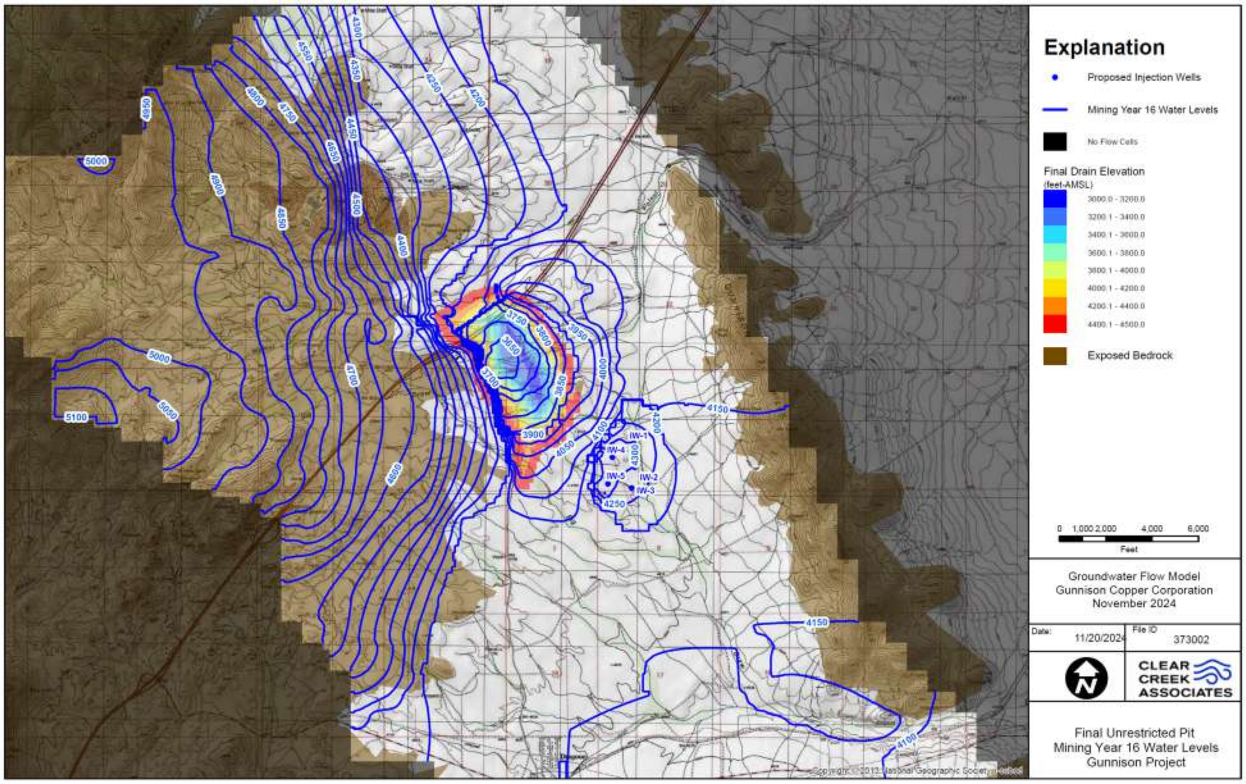


Figure 16-16: Water Level Elevation Ultimate Pit Configuration

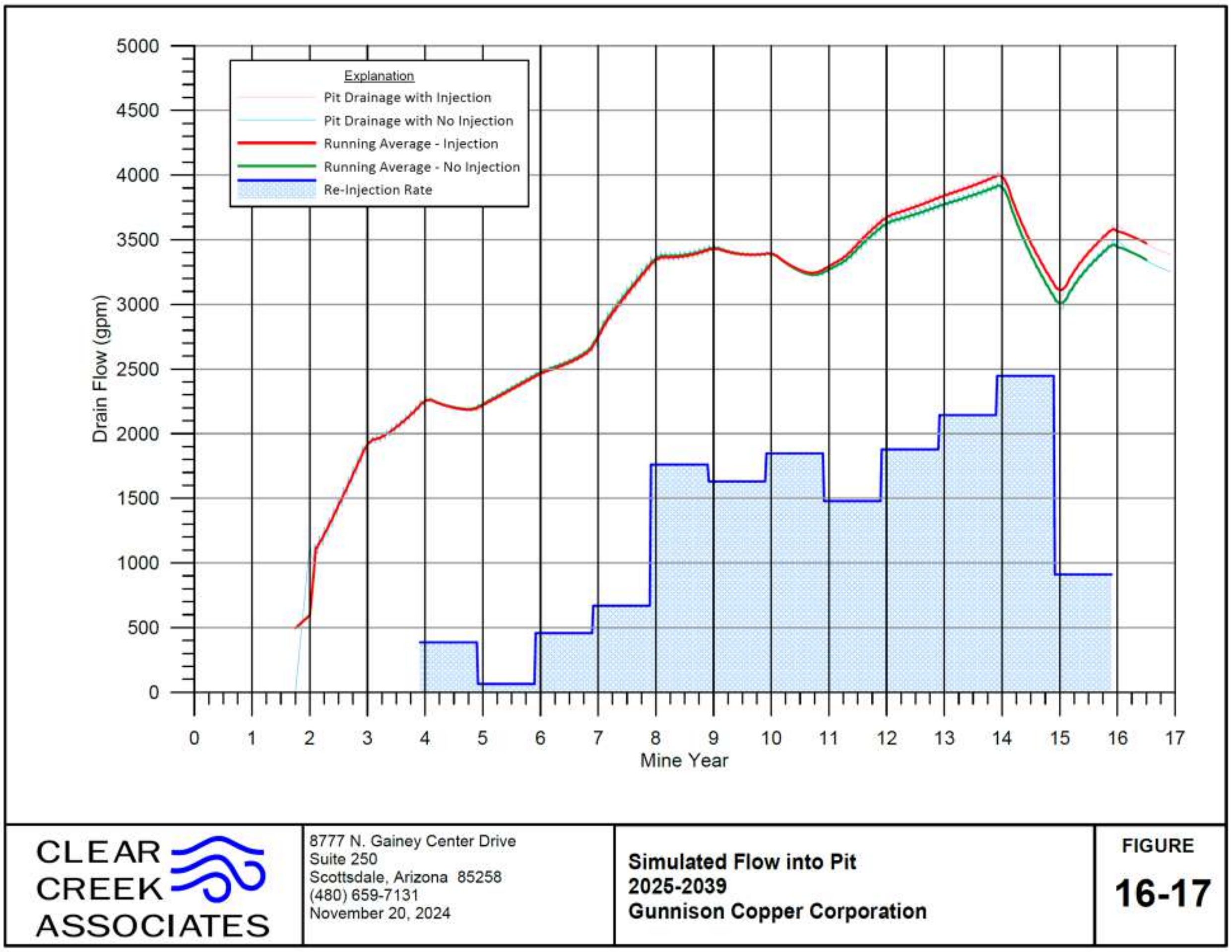


Figure 16-17: Simulated Flow into Pit

16.9.1.6 Limitations of the Simulation

The model simulation assumes that drainage flows into the pit and is pumped out. Once mining is terminated, the pit will fill and a pit lake will likely form. This simulation does not evaluate the formation of a pit lake; the ultimate fate of the pit is not considered. Additionally, the original ISR model was constructed to simulate flows in the mineralized material, which is dominated by a fracture flow environment. This may result in an over-estimate of hydraulic conductivity, as the lower hydraulic conductivity of the unfractured rock may impact the overall flows during large-scale dewatering during the pit construction. The same issue would also apply for the hydraulic storage values, which were calibrated to reflect the flow in the mineralized material, dominated by fractures. These storage values may also be too high for a large-scale dewatering of the open pit. These factors may result in an over-estimate of dewatering rates.

Pit deepening is presumed to decline based on the pit contours presented in the mine plan to maximum depth over the 16-year course of mining. It is likely that the decline rate would vary and focus on the mineralized material distributions encountered. This analysis also assumes that the water table is reached at the end of the first year.

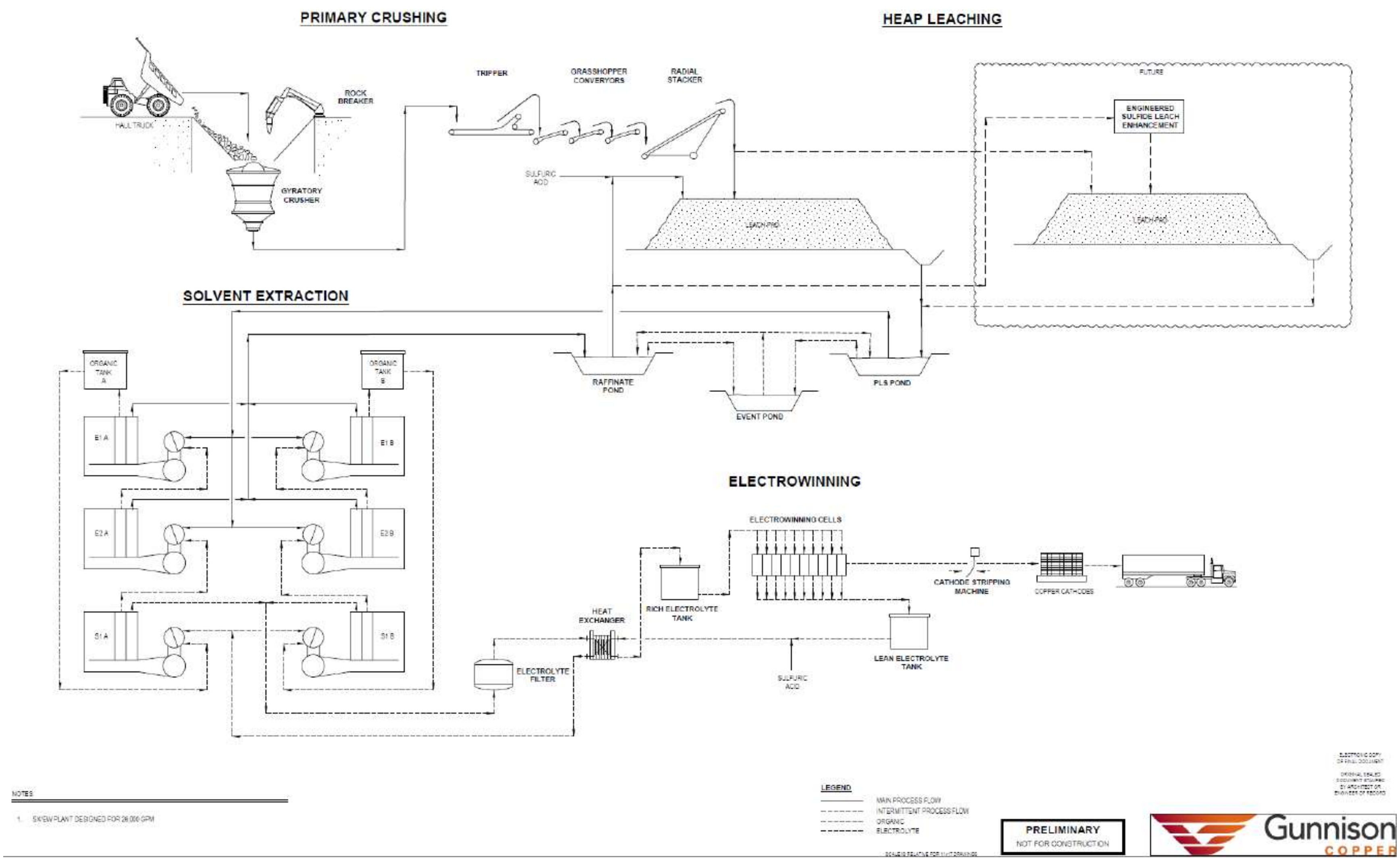
16.9.1.7 Conclusion

In summary, the drainage into a pit at the Gunnison Project site is likely to result in significant flows into the pit, up to about 4,000 gpm during the pit construction. This dewatering rate may be a high estimate due to limitations of model construction. An average dewatering rate of 2,000 gpm is more likely. This rate of dewatering is recognized to be high relative to other open pit mines in Arizona, however, the mineralized material at Gunnison is quite fractured and broken relative to other mineralized material; therefore, a high rate of dewatering is expected.

17 RECOVERY METHODS

The Gunnison SX-EW plant design capacity is to produce 175 mppa of copper cathodes. The Gunnison open pit-heap leach operation will place mineralized oxide, supergene, and sulfide material from the open pit on to the leach pad as primary crushed material, described in Section 16. The oxide and supergene copper-bearing material will be irrigated with acidified raffinate pumped from the Gunnison Raffinate Pond. Starting in Year 8 of the mine schedule, sulfide-dominant material is scheduled to be mined and treated with an engineered sulfide enhancement treatment process ahead of heap leaching to improve the kinetics and copper recovery from primary sulfide materials.

Copper-bearing PLS solutions will be collected by an overliner collection system and discharged to the PLS Pond. PLS is pumped from the PLS Pond to the Gunnison SX Feed Tank. From this tank, the PLS solution will be treated in conventional solvent extraction and electrowinning facilities to produce copper cathode. Figure 17-1 provides a conceptual overview of the process.



Source: M3, 2024

Figure 17-1: Overall Process Flow Diagram

17.1 GUNNISON LEACH PAD

The location of the leach pad is southeast of the Gunnison pit in an area where the natural drainage is toward the southeast, as shown on Figure 17-2. The full leach pad will be approximately 893 acres in area and oriented to match existing topography so that the overliner collection system drains by gravity to the southeastern toe of the leach pad for collection. Solutions will be conveyed via gravity pipeline to the Gunnison PLS pond and pumped to the SX Feed Tank with a set of 316SS vertical turbine pumps. The leach pad will be constructed on prepared subgrade that has been cut and filled with borrow materials within the pad area or sourced from other suitable materials on the mine site. The conceptual overall site plan is shown in Figure 18-1.

The total cut to fill volume will be approximately 4.6 million cubic yards (yd^3) with an additional 195,100 yd^3 of miscellaneous cut materials. Approximately 1.4 million yd^3 of low hydraulic conductivity soil liner ($1x10^{-6}$ cm/s maximum saturated hydraulic conductivity) will be sourced from within the pad perimeter or from other suitable materials on the mine site. The low hydraulic conductivity soil liner will be screened (3/8" minus) and compacted in two 6-inch lifts to construct a 12-inch-thick layer beneath the HDPE liner. After installation of the HDPE liner over each phased pad area, a system of perforated leachate solution collection pipes will be installed atop the HDPE liner (and in some cases upon a pipe bedding material).

The solution collection pipe network will be covered in an overliner aggregate consisting of minus ¾" material (also referred to as liner protection material). This material will be placed to form a 1½ ft thick layer above the HDPE liner. It is anticipated that this material, totaling approximately 2.0 million yd^3, will be obtained from screened alluvial overburden removed from the leach pad area supplemented with suitable materials from pre-stripping operations from the mine.

The Gunnison leach pad will be constructed in three phases. Phase 1 consists of approximately 313 acres (35% of the total 893 acre leach pad) and will be prepared and constructed during the initial construction period for the mine and processing plant (Years -2 and -1). Phase 2 adds an additional 223 acres (25% of the total leach pad) to be constructed at the beginning of Year 4. Phase 3 completes the build-out of the pad with 40% of the total leach pad beginning in Year 7 to provide the capacity for the life of mine.

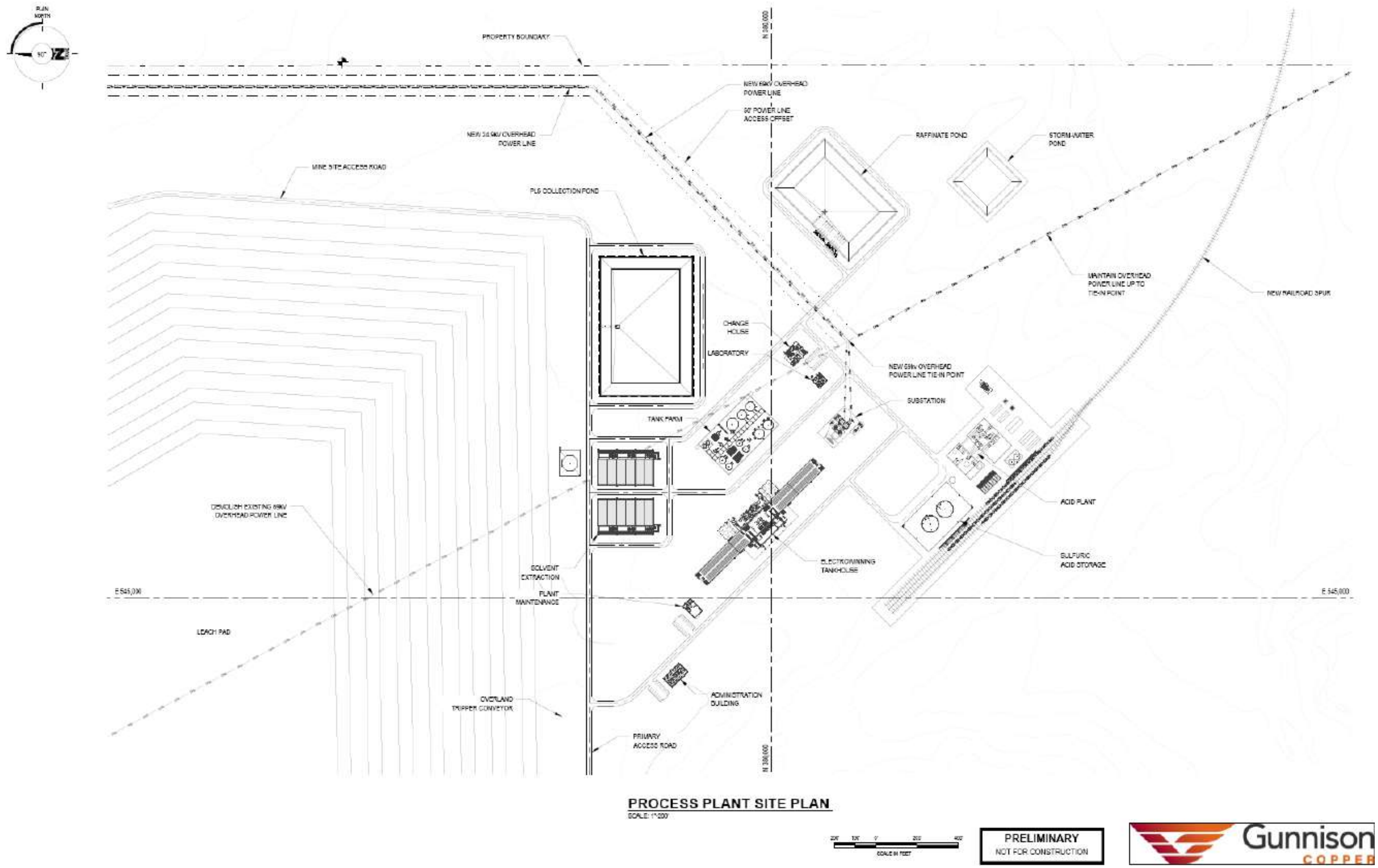
Phase 3 of the Gunnison leach pad will have new technology to enhance heap leaching recovery and kinetics of copper sulfide bearing material that underlies the oxide and transition resources in the Gunnison open pit. The sulfide material will not be mined in significant amounts until Year 8. The technology for enhanced or engineered sulfide heap leaching has not been defined yet. The process parameters for enhanced heap leaching could include a finer crush size, chemical additives and aeration to promote oxidation of sulfides. Future testwork will confirm the viability of these options.

Leaching is conducted on minus 6" material that is stacked by a mechanical system of overland conveyors, grasshopper conveyors and a mobile radial stacker. The heap leach material will be leveled and ripped with a dozer. Drilling and blasting parameters will be adjusted as necessary to minimize the production of excessive amounts of fines that could impair percolation of the leach solution that could leach slowly and clog the overliner material.

Lifts of primary crushed mineralized material are planned to be placed in lifts 30 ft high. There currently is no plan to install impermeable inter-lift liners between lifts. The inter-lift liners could prevent high-grade PLS percolating from the fresh lift down into leached-out (spent) material. Spent material continues to consume acid, weakening the strength of the solution and its copper-carrying capacity. This could cause re-deposition of copper and a reduction in PLS grade. Leach pad height is limited to 320 ft to mitigate this possibility. Evaluation of lift height and the potential use of inter-lift liners will be conducted using empirical operational data.

Sulfuric acid consumption for leach material ranges from 24 lbs/ton for the Lower Abrigo, Bolsa, and Quartz Monzonite to 70 lbs/ton for the Martin, Escabrosa, and Horquilla formations, based on column testwork reports described in

Section 13. The average acid consumption for the mineral resources in the conceptual mine plan is approximately 53 lb/ton of material. The application rate of acidified leach solution is planned to start at 0.002 gpm/ft^2.



Source: M3, 2024

Figure 17-2: Gunnison Leach Pad and Plant Configuration

17.2 PROCESS DESCRIPTION

The Gunnison open pit SX-EW plant has a design capacity of 175 mppa of copper cathode production. The PLS from the leach pad provides the feed for the SX-EW process. Copper is extracted from PLS and transferred to a high-acid electrolyte in the SX process. The copper-bearing electrolyte is pumped to EW where the copper is electrowon (plated) on stainless steel cathodes. Sheets of plated copper are stripped from the cathodes with a mechanical robotic stripping machine, bundled, tested, and weighed prior to being shipped to market. The following sections provide details of the copper recovery process.

17.2.1 Solvent Extraction

PLS drains from the Leach Pad to the PLS pond. A set of PLS pumps is used to pump PLS to the Gunnison SX Feed tank for delivery to the Gunnison mixer-settlers for copper extraction. The SX circuits for the Gunnison Project consist of two trains of mixer-settlers that extract copper from the PLS and transfer it to the organic phase. Each train has two extraction settlers and one strip settler. The extraction settlers use an extractant contained in a petroleum-based liquid ("organic") to extract copper from the aqueous phase. The strip settlers (one in each train) use a high-acid aqueous phase (electrolyte) to strip copper from the organic phase. The electrolyte is then pumped to EW for recovery.

The SX trains for the Gunnison Project are designed to operate in parallel, which means that half the PLS flows to each extraction settler in the train. In this case, one quarter of the total PLS flow is sent to each extraction settler in the SX circuit. The organic phase passes through both extraction settlers, extracting copper from the PLS and becoming "loaded organic". The copper-bearing loaded organic is mixed with lean electrolyte in the stripper pumper mixers to transfer copper from the organic phase to aqueous electrolyte solution. The stripper settler allows the immiscible liquids to separate in laminar flow. The rich electrolyte then flows to the Electrolyte Filter Feed Tank.

Stripped organic is sent to the extraction pumper mixers where agitated contact between the organic phase and PLS solutions promotes adsorption of copper by the extractant in the organic phase. The extraction settlers allow the immiscible liquids to separate in laminar flow so that the aqueous solution (raffinate) and organic solution can be collected in separate launders at the end of the settler. Raffinate is re-acidified in the aqueous launder of the second extraction settler and flows by gravity to the Raffinate Pond. The partially loaded organic from the second extraction settler flows to the pumper mixers of the first extraction settler and adsorbs copper from the other half of the PLS stream. Fully loaded organic from the first extraction settler flows to the Loaded Organic Tank. The SX process is designed to extract 92% of the copper contained within the PLS at an incoming copper grade of 1.63 grams per liter (g/L). The remainder of the copper in solution is recycled to the Leach Pad with the acidified raffinate.

17.2.2 Electrowinning

Copper recovery from the Rich Electrolyte solution is accomplished by electrowinning. This action takes place in the Electrowinning Building or "Tankhouse" in electrowinning cells that are powered by DC current. Rich electrolyte solution from the Solvent Extraction area flows by gravity to the Electrolyte Filter Feed Tank. Electrolyte is pumped from this tank through two multimedia electrolyte filters to remove entrained organic emulsion and particulates from electrolyte prior to advancing the filtered electrolyte to the electrowinning cells. The filters are backwashed periodically with water (or lean electrolyte solution) and air from an air scour blower. The filters are backwashed with lean electrolyte and the backwash solution is pumped to the PLS Pond.

Filtered electrolyte solution is pumped to an electrolyte recirculation tank through the electrolyte heat exchangers. The filtered rich electrolyte flows through one heat exchanger and is warmed by lean electrolyte returning to solvent extraction from electrowinning. Rich electrolyte is heated to the final temperature (approximately 40 to 45 degrees C) for electrowinning in the trim heater, when required, with supplemental heat from a hot water heating system. When supplemental heat is not required, lean electrolyte flows through the trim heater, countercurrent to the flow of rich electrolyte being heated.

Heated electrolyte solution enters an electrolyte recirculation tank and is mixed with electrolyte solution flowing in from the Lean Electrolyte Tank. The heated electrolyte in the Gunnison plant comes from the lean electrolyte portion of the Electrolyte Recirculation Tank. The electrolyte solution exits the EW cells and flows by gravity to the lean side of the Electrolyte Recirculation Tank (Gunnison), which is equipped with pumps for sending electrolyte to the SX stripping circuits. Excess lean electrolyte is mixed with rich electrolyte for feeding the electrowinning cells.

Copper is electrowon onto stainless steel 1-m x 1-m cathode blanks in the EW cells. The copper cathodes are harvested on a weekly basis. The EW tankhouse has an overhead Class E bridge crane for transporting cathodes (and anodes) to and from the cells using a cathode (anode) lifting strongback. Harvested cathodes are washed in the Cathode Wash Tanks using circulation pumps. Washed cathodes are removed from the stainless-steel blanks, sampled, weighed, and banded using a semi-automatic stripping machine. Copper produced by this process is LME Grade A for sale on the world market in 2- to 3-ton packages.

17.2.3 Tank Farm

The Tank Farm for the plant contains tanks, pumps, and filters for handling solutions needed for the SX-EW process. The primary process function of the Tank Farm is storage and transfer of solutions. There are two process unit operations that take place in the Tank Farm: Electrolyte Filtration and Crud Treatment.

Electrolyte filters in the tank farm remove impurities from the rich electrolyte returning from SX to prevent contamination of the tankhouse and electrolyte system. Rich electrolyte flows by gravity to the Electrolyte Filter Feed Tank and is pumped through one or more anthracite-garnet filters to remove entrained organic and particulates that could interfere with the electrowinning process. Filtered rich electrolyte flows to the Electrolyte Recirculation Tank. The filters are periodically backwashed to remove impurities and maintain design flow rates through the filter media.

Crud is a mixture of solids, and an emulsion organic liquid and aqueous solution that accumulates at the organic/aqueous interface in the settlers or any mixture of aqueous and organic liquids that requires separation. Crud is removed by suction from the settlers and needs to be treated to separate the three phases for reuse in the process or, in the case of the solids, for disposal. Crud also comes from the mixture of aqueous, organic, and solids that accumulates in the electrolyte filters. The crud treatment system consists of the following major equipment:

- Crud Holding Tank
- Crud Treatment Tank
- Crud Centrifuge (Tricanter)
- Recovered Organic Tank

Crud from the Crud Holding Tank will be pumped to the Crud Treatment Tank, an agitated, cone-bottom tank. Amendments including clay and diatomaceous earth can be added to the Crud Treatment Tank to assist in separation of the phases. The Crud centrifuge is a horizontal-axis centrifuge that separates the crud into its three component phases, allowing aqueous and organic liquids to be returned to the process. Solids are collected in a container for offsite disposal.

17.2.4 Reagents

There are several reagents required for the SX-EW process.

- Sulfuric Acid
- Diluent
- Extractant
- Cobalt sulfate

- Guar
- Mist suppressor

Sulfuric acid storage tanks are provided to store approximately 7 days of the acid supply required for leaching and making the electrolyte for the EW process. A molten sulfur burning sulfuric acid plant is planned for construction to provide the acid necessary for leaching and SX-EW process make-up.

Diluent provides a petroleum liquid base for the extractant used as the organic phase of SX. The Diluent Tank stores make-up liquid to compensate for evaporative and process loss of organic. Other reagents include extractant, the active ingredient in the organic phase that transfers copper from PLS to electrolyte; cobalt sulfate, an additive to the electrolyte to improve plating; guar, a cathode smoothing agent; and mist suppressor, a chemical added to the electrolyte to inhibit the formation of acid mist in the tank house.

17.3 SUPPORTING SYSTEMS

There are several systems that are necessary to support the SX-EW operation. These include systems to contain solutions, convey solutions, provide water, control the process, suppress fires, and ensure that mine-influenced solutions in the subsurface do not migrate offsite.

17.3.1 Process Control and Monitoring

The operational data from instrumentation is transmitted via fiber-optic cables to the control room in the EW building where it is monitored by a computerized plant control system (PCS). Communication between the PCS and the main control enclosures is by fiber-optic cable. The operator in the control room uses the PCS to monitor conditions and communicates any abnormal conditions to the operators. The control room operator can turn off pumps, adjust flow conditions, and monitoring line pressures from the control room, but restarting pumps is reserved for the operators.

The PCS is also equipped with data loggers to record information from plant instrumentation to enable the operator to examine trends, calculate local and cumulative flows, set alarm conditions, and maintain production records. The PCS provides trending, historical and alarm data for level sensors, flow meters, and any other instrumentation required in this system. Alarms are triggered when monitored parameters are out of limits set by the operator. Alarms will also be generated when there is a communications fault, equipment or instrument failure, or a process that is out of control limits.

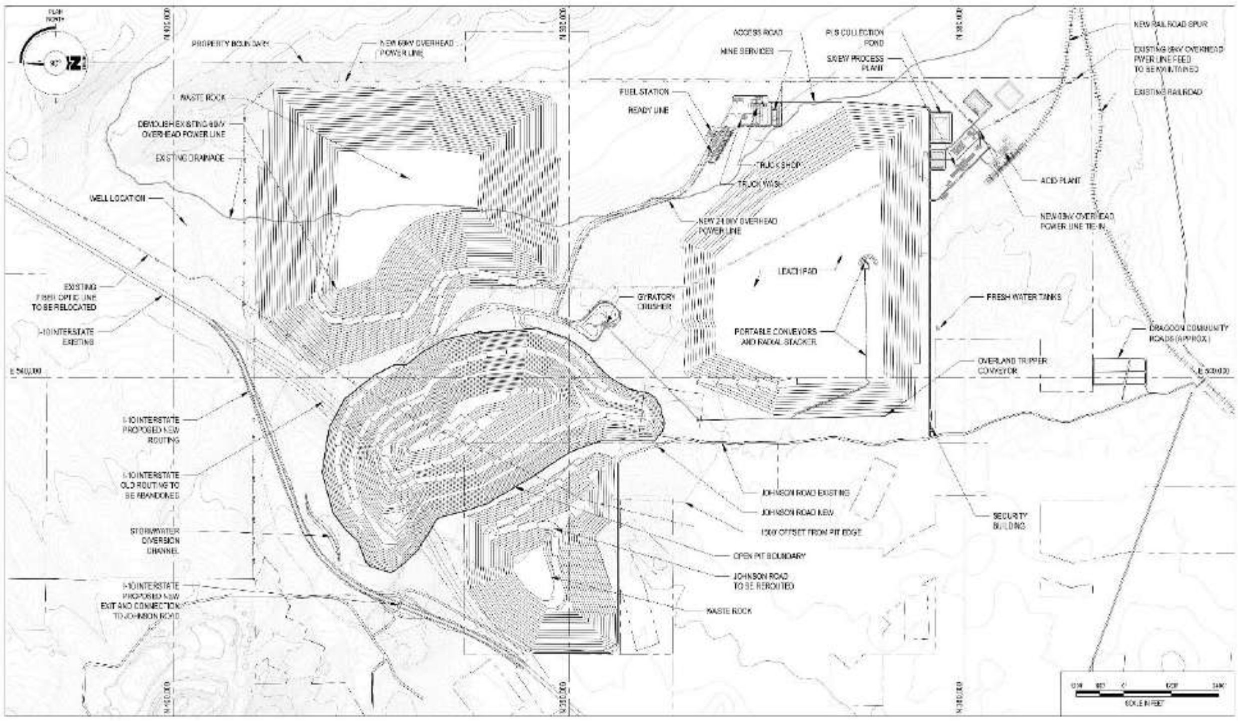
17.3.2 Process Ponds

Process ponds are used to store and handle the various liquids and liquid-solid mixtures that are involved in the SX-EW process. PLS ponds collect copper-bearing solutions from the leach pad, allow particulates to settle, and provide a source for feeding the SX plant. Raffinate ponds collect the solution from which copper has been removed (raffinate) and provide a source of acidified solution for leaching to the leach pad. These ponds are managed so that they have a reserve of solutions to maintain SX-EW operations if they are interrupted and surge capacity to contain the solutions. Both sets of ponds are equipped with pumps and piping to remove the stored solutions and deliver them to the necessary destination at the variable flows and adequate pressures. These ponds are double-lined with HDPE geomembrane, and have leak detection instrumentation and pumps installed between the liners.

Other ponds for the Gunnison Project include the Event Pond and the Contact Water Pond. The Contact Water Pond collects "impacted" stormwater runoff from the plant areas with potential to have process impacts. It is downstream from the Tank Farm and is designed to contain overflows from the Tank Farm secondary containment. The Event Pond is designed to contain excess draindown and runoff from the leach pad caused by stormwater. Excess draindown caused by precipitation on the leach pad may overwhelm the capacity of the PLS pumps. Overflow from the PLS Pond will be controlled and directed to the Event Pond. Precipitation that falls directly on portions of the liner prior to receiving mineralized material may be diverted directly to the Event Pond. These ponds are single-lined with HDPE geomembrane materials.

18 PROJECT INFRASTRUCTURE

The Gunnison Project is dominated by the presence of the mine pit, waste dumps, and leach pad that are required for the mine-for-leach operation. The Gunnison SX-EW Facilities are located to the southeast end of the property, east of the village of Dragoon. Besides the mine, waste dumps and leach pad, there are four primary areas where facilities are located: the Plant Area, the Sulfuric Acid Plant and Railyard, the Mine Services Area, and the Crusher installation. Power lines connect to the project along the edges of the Gunnison mine property and access to the mine comes in from the west. Figure 18-1 shows the current site plan for the Gunnison Project with the distribution of areas.



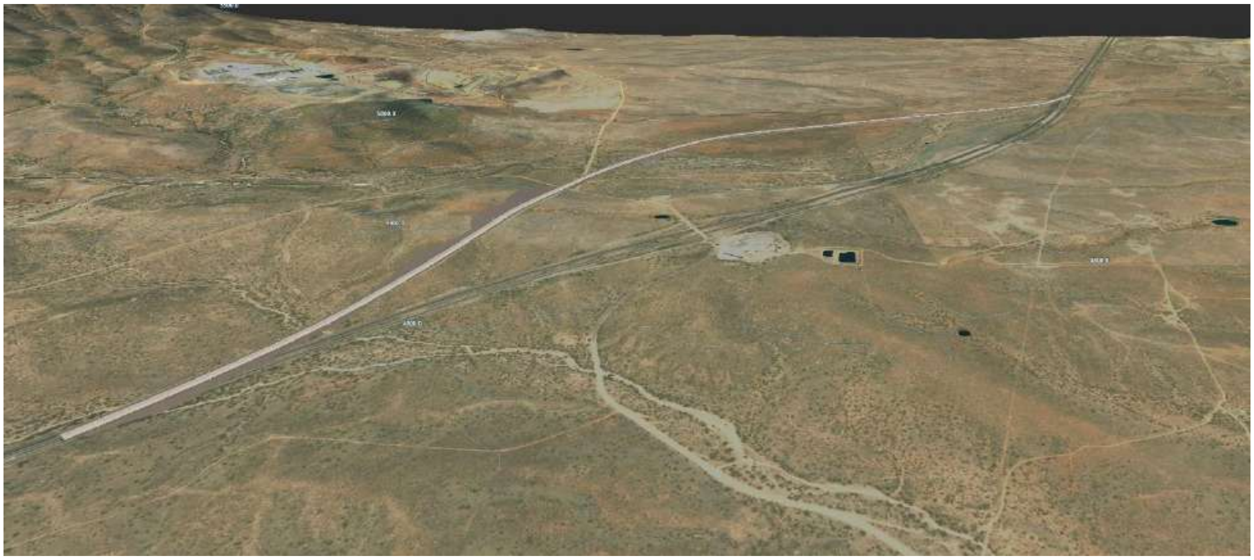
Source: M3, 2024

Figure 18-1: Gunnison Open Pit Site Plan

18.1 ACCESS ROADS

The primary access to the Gunnison site is via Interstate 10 (I-10) from either Benson or Willcox, Arizona and North Johnson Road exit between Benson and Willcox, Arizona (Figure 18-1). North Johnson Road is re-routed to pass between the mine pit and the West Waste Storage Stockpile. The access to the Gunnison SX-EW Plant is from Johnson Road along the southern boundary of the proposed Gunnison Leach Pad (Figure 18-1).

Because the Gunnison open pit underlies I-10, approximately 2.7 miles, as shown on Figure 18-2. The relocated freeway will require a new freeway interchange to access North Johnson Road. The preferred location of that interchange will be determined during roadway design in consultation with the Arizona Department of Transportation (ADOT), which has control of the I-10 and is the coordinating agency for the relocation design and construction.



Source: M3, 2024

Figure 18-2: Proposed Interstate10 Highway Relocation

Access to the property can also be gained via the railyard.

18.2 LEACH PAD & WASTE DUMPS

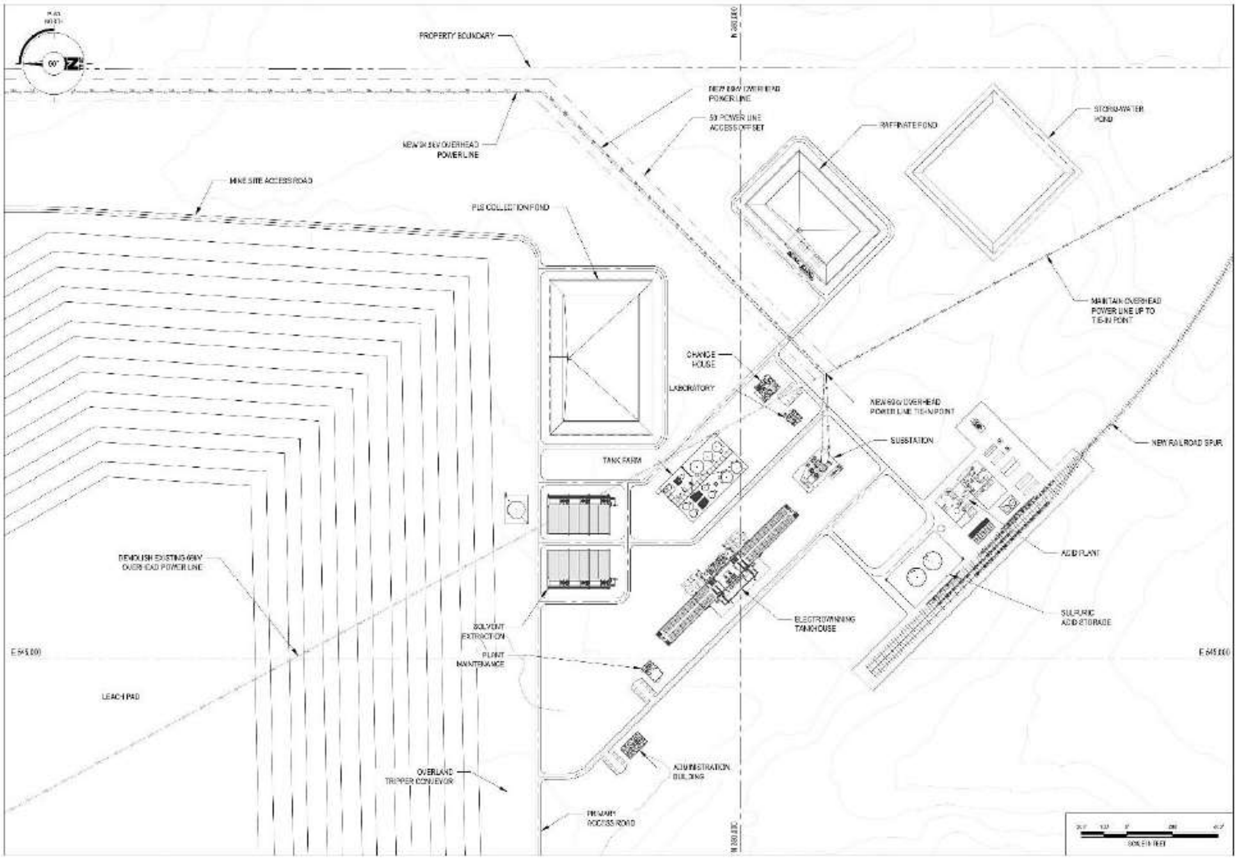
The location of the leach pad is southeast of the Gunnison pit in an area where the natural surface water drainage is towards the southeast, as shown on Figure 18-1. The full leach pad will be approximately 893 acres in area and oriented to the existing topography so that the overliner collection system gravity drains solutions down to the southeastern toe of the pad for collection. The leach pad is planned to have six lifts for an ultimate height of 180 feet. The leach pad will consist of two HDPE liners and a leak detection system.

The PLS pond will capture copper-bearing solutions that collect beneath the leach pad. A stormwater event pond will capture runoff from the leach pad in the event that the PLS pond capacity is not sufficient to capture the runoff from storm events. The 100-year storm event for 24 hours for the Johnson Camp area is 3.91 inches. There is a contact water runoff pond that has been sized for runoff for the SX-EW plant. This pond will need to be enlarged to capture stormwater from the leach pad.

The primary waste dump is the East Waste Dump. It is approximately 1,031 acres in area and extends to the eastern edge of the Gunnison property. The West Waste Dump covers 313 acres and extends from the ultimate pit on its eastern side to Johnson Road on the west side. The waste dumps will mostly contain gravels and overburden from the material that overlies the Gunnison mineralization. Once the mineralization is exposed, the waste dumps will include the primary lithologies present in the pit: Mississippian Horquilla and Escabrosa Limestone on the east side and Paleocene Texas Canyon Granite on the west side of the pit. There is no plan to line the two waste dumps with geomembrane liners.

18.3 PROCESS BUILDINGS

The Gunnison SX-EW processing facility will be constructed in a single stage and relocated south of the leach pad (Figure 18-3). The solvent extraction settlers consist of two sets of three covered mixer-settler tanks. The Electrowinning Tankhouse consists of a steel building with metal roofing and siding. The production capacity to meet 175 mppa will require 224 EW cells in double rows of 112 cells on each side of a central corridor. Two bridge cranes, one per building side, will serve to harvest the cathodes. The automatic cathode stripping machines and the cathode handling equipment will be located in the center of the building between the two double rows of EW cells.



Source: M3, 2024

Figure 18-3: Gunnison Process Plant Site

An electrical equipment room and a control room are located above near the cathode stripping area so that personnel in the control room can observe the entire operation. Cathode handling, weighing, and banding is performed at the cathode handling section. The paved storage yard outside the cathode handling area will allow cathode storage and loading of cathodes onto flatbed trailers or rail cars for shipment to market.

The building will be designed with ventilation fans along one side to circulate air in the cell area and expel acid mist from the EW area. Two sets of transformer-rectifiers will provide DC electrical current for electrowinning. These electrical equipment are located outside and upwind of the building to minimize impacts from mist and vapors evolved during electrowinning.

The Gunnison Tank Farm is uncovered and located downhill from the SX circuit and the Electrowinning Tankhouse to facilitate gravity drainage of solutions to the Tank Farm. The Tank Farm contains tanks, pumps, filters, and heat exchangers involved in the handling of aqueous and organic solutions used in the process. The Tank Farm includes a containment area that drains to a sump with an oil-water separator to return spilled liquid to the proper location for recycling. A drain line is also provided to drain the tank farm sump to the Raffinate Pond in case of a process upset during power outage.

18.4 ANCILLARY FACILITIES

Ancillary buildings will be constructed at the Gunnison site which include a guard house and truck scale, the Administration Building, Plant Change House, and Plant Maintenance Building. In addition, there is a Mine Services Area that includes the Truck Shop, Truck Wash, Mine Office Building, and Mine Change House.

18.4.1 Security Building and Truck Scale

The guard house is located at the main gate along the access road that connects to Johnson Road along the west side of the property. The guard house will be a modular metal building that includes a security office, a restroom, check-in area, and storage. The truck scale will be located beside the guard house to weigh trucks entering and leaving the property.

18.4.2 Administration Building and Plant Non-Process Buildings

The Administration Building is located on the west side of the access road, west of the SX area. The change house and plant maintenance building are located east of the EW Tankhouse (Figure 18-3). The Administration Building is a single-story pre-engineered steel or modular building that will include offices for the general administrative staff and supervisory personnel for the Gunnison operation.

The Plant Change House is a single-story, pre-engineered steel building for workers coming and going at shift change. It is located next to the PLS Collection Pond. The Change House includes showers and locker rooms for men and women; meeting room; offices for safety and training personnel; exam, first aid, and nurse's room; supply rooms; and records room.

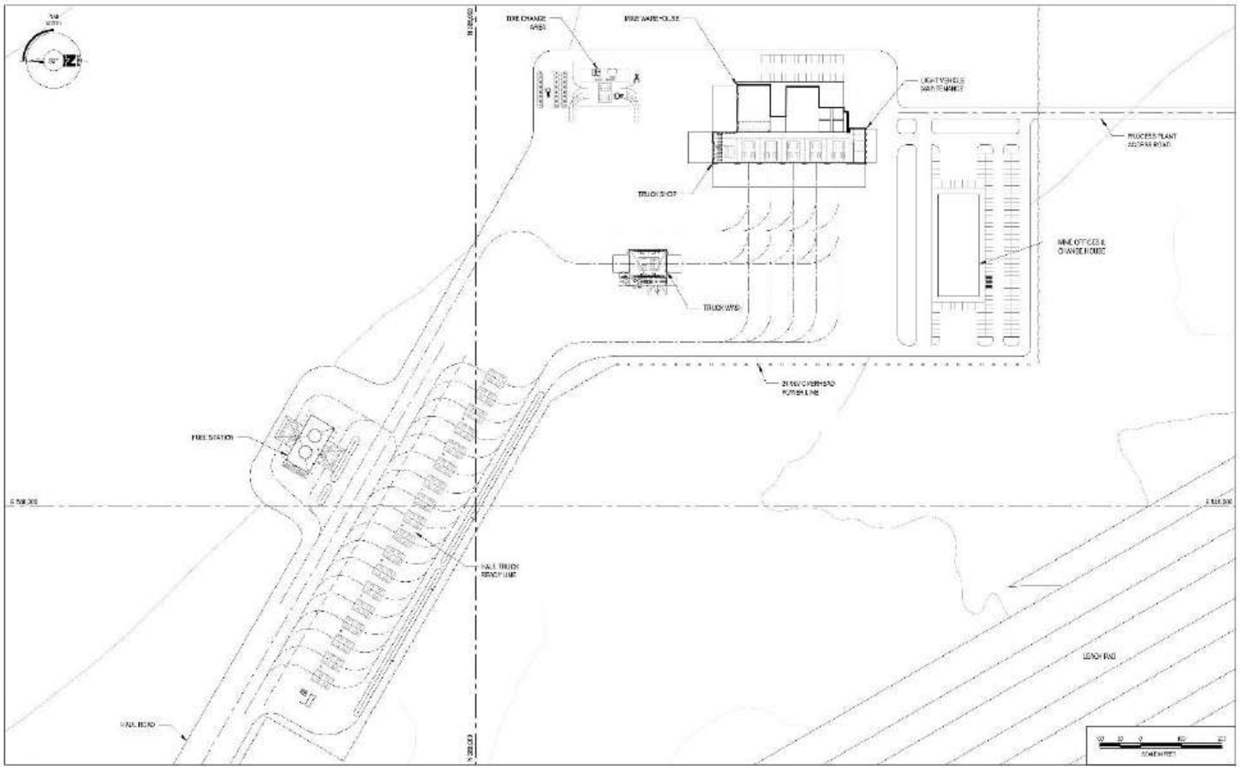
Adjacent to the Change House is the Mine Site Assay Laboratory. It will be equipped to process production samples from the mine as well as performing chemical analyses on process solutions, and analyses on the purity of copper cathodes. The lab building will include an area for sample drying and preparation, ICP and AA analysis, mass spectroscopy for cathodes, and a wet chemical lab for other analyses.

The Plant Maintenance Building is a two-story, pre-engineered steel building for maintenance of equipment used in the SX-EW process. The first floor of the maintenance building includes working areas, tool cribs, instrument room, overhead crane, offices, and restrooms. The second story along one end of this building includes offices and meeting rooms for planning and supervisory personnel. The Plant Warehouse, another metal pre-engineered building will be located next to the Plant Maintenance Building.

18.4.3 Mine Services Area

The Mine Services Area will be located south of the East Waste Dump and near the northeast corner of the Leach Pad (Figure 18-1). It will be accessed by a road along the east side of the Process Plant Area.

The Mine Services Area will include the Ready Line, Truck Shop, the Truck Wash, Tire Change the Mine Warehouse, a shed to store oil, grease, and waste products from truck maintenance, the fuel station, the Mine Change House, and the Light Vehicle Maintenance Shop (Figure 18-4).



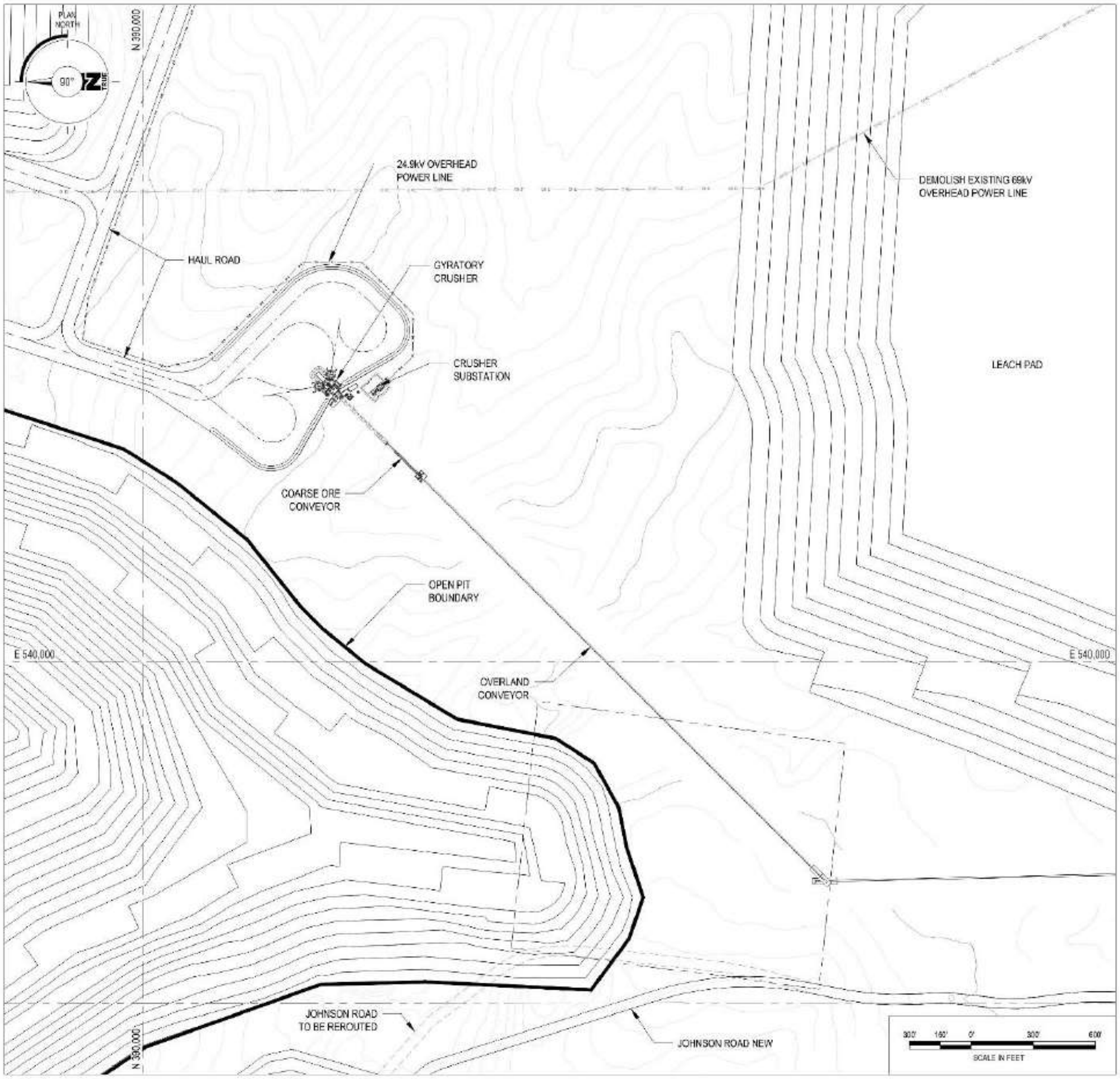
Source: M3, 2024

Figure 18-4: Gunnison Mine Services Area

18.4.4 Primary Crusher Pad

The primary crusher is located at the southeast corner of the Gunnison open pit and the southwest corner of the East Waste Dump (Figure 18-1). The crusher pad will accommodate the 60-89 primary gyratory crusher with traffic patterns that accommodate the Cat 785 haul trucks (Figure 18-5). A small substation will supply power to the crushing equipment and overland conveyor that supplies crushed material to the Leach Pad. Access to the crusher pad for light vehicles will be from the Mine Services Area.

The primary crusher pad will require 60 feet of elevation above the surface and 20 feet excavation beneath the surface to be able to accommodate the gyratory crusher and reclaim tunnel the crusher pad will be constructed from fill screened from the overburden mined from the Gunnison pre-stripping operation.

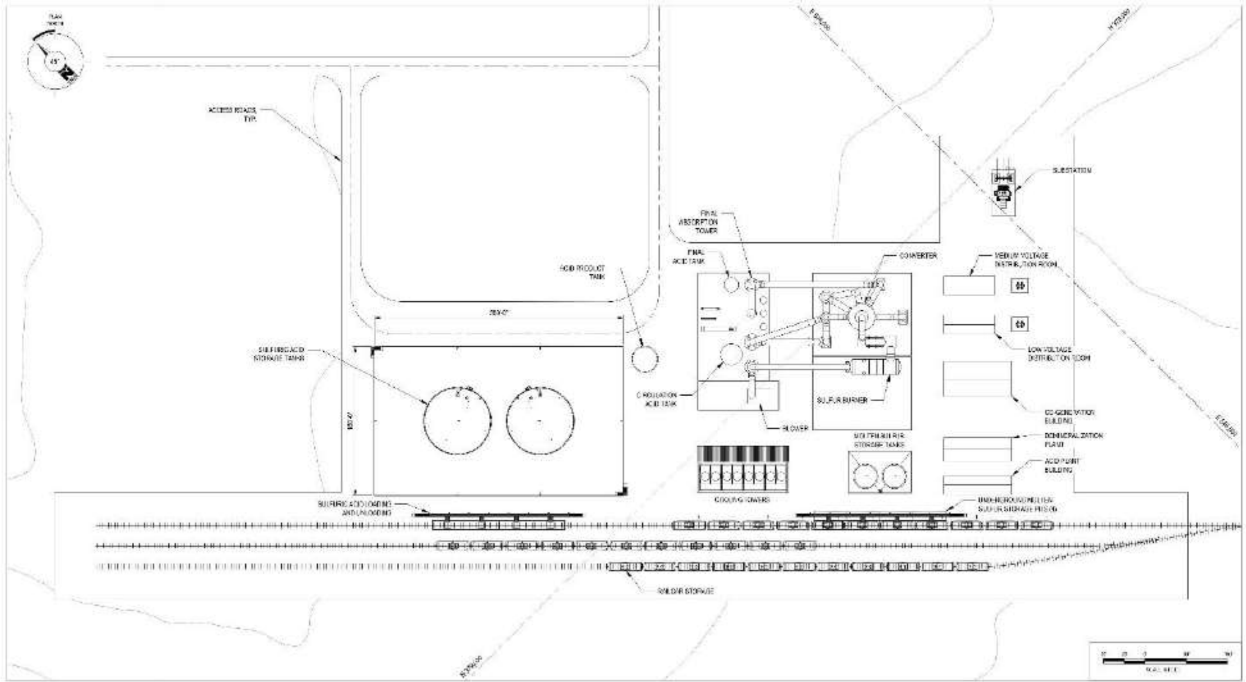


Source: M3, 2024

Figure 18-5: Primary Crusher Pad

18.5 SULFURIC ACID PLANT

The sulfuric acid plant is constructed as part of the Gunnison SX-EW Plant. The sulfuric acid plant is located southwest of the Electrowinning Building along the railroad spur that runs south of the Project area for this option (Figure 18-1). The design for the sulfuric acid plant is based on a study for the Gunnison Project by NORAM Engineering in 2022 (Figure 18-6).



Source: M3, 2024

Figure 18-6: Sulfuric Acid Plant and Railyard

The design capacity in the NORAM study was for 1,650 stpd. The current Acid Plant required for the Gunnison Project is 3,000 stpd, an increase of 82%.

The power generated by the steam turbine generator has a maximum power generating capacity of 44 MW of which 41.8 MW is left after operation of the sulfuric acid plant. The amount of power generated is proportional to the amount of acid produced by the plant. The power requirement for the SX-EW is 14 MW which leaves 27.8 MW available to sell back to the grid.

Ancillary facilities for the sulfuric acid plant include an operations building for sulfuric acid operations, a section of cooling towers, and boiler water treatment equipment to produce demineralized water.

The sulfuric acid plant is fed from two molten sulfur storage tanks. The cogeneration equipment feeds a substation that then distributes power back into the local grid operated by Sulphur Springs Valley Electric Cooperative.

Two 10,000 gallon sulfuric acid storage tanks in concrete containment are located next to the sulfuric acid plant. These storage tanks can hold approximately one week's worth of sulfuric acid.

18.6 RAILROAD FACILITIES

The Union Pacific main line railroad passes through the town of Dragoon, Arizona. A new rail siding will connect to the main line about 1 mile northeast of the town of Dragoon. A new rail spur will generally follow an existing power line alignment northwest to the Gunnison plant site. The rail spur is about 2.2 miles long and terminates alongside the sulfuric acid plant (Figure 18-6).

Molten sulfur shipments will be received in 80-ton railcars and unloaded with steam equipment into the sulfur storage tanks. The rail loading facility near the plant consists of three sidings in addition to the spur line to accommodate up to 25 cars each: one for unloading, one for empties, and one for switching. The new siding (drop-pull track) will consist of three tracks and will be of sufficient length to accommodate an 80-car unit train. It is assumed that the Union Pacific will service the property from Dragoon.

18.7 POWER SUPPLY & DISTRIBUTION

The Gunnison Substation will receive power from Sulfur Springs Valley Electric Cooperative Inc. (SSVEC) located in Willcox, Arizona. SSVEC has a 69 kV transmission line that passes close to where the Gunnison Substation is located. This 69 kV transmission line will feed the Gunnison Substation. A section of the 69 kV transmission line will need to be re-routed as it currently passes on top of the future leach pad. The Gunnison Substation will have two (2) 50 MVA power transformers that will step-down the voltage from 69 kV to 24.9 kV. The distribution line throughout the plant will be at 24.9 kV. At major process areas there will be distribution transformers to step-down the voltage from 24.9 kV to either medium voltage (4,160 V) or low voltage (480 V) depending on the requirements. These distribution transformers will feed power distribution centers which will be used to distribute utilization voltage to the process loads.

The existing transmission line is used as the power source for the Gunnison open pit SX-EW facilities, as shown in Figure 18-1 above.

18.8 WATER SUPPLY & DISTRIBUTION

The primary water supply source for the Gunnison open pit is from pit dewatering, as described in Section 16.9. The water supply is pumped to a process/fire water storage tank. The lower portion of the storage tank is reserved for fire water. Potable water will be used for offices, labs, restrooms, and eye wash stations.

Excess water from pit dewatering will be pumped to injection wells that will be located north of the East Waste Dump (Figure 18-1).

18.9 SANITARY WASTE DISPOSAL

Sanitary wastes from sinks, lavatories, toilets, and showers will be handled by septic systems. The septic systems will be typically dedicated to an individual building, but it is possible that adjacent buildings might share a septic tank or leach field. The septic systems will be designed and permitted in accordance with Cochise County regulations.

Sinks and drains where chemical handling operations are taking place will either drain to the tank farm sump and ultimately report to the Raffinate Pond or be contained in dedicated piping to a chemical containment tank. Any containment tanks will be serviced by licensed hazardous materials handling contractors in accordance with federal, state, and local regulations.

18.10 WASTE MANAGEMENT

Solid wastes will be collected in approved containers, removed from site by a solid waste contractor, and disposed in accordance with federal, state, and local regulations. Excess construction materials and construction debris will be removed from site by the generating contractor.

Recyclable materials that are non-hazardous, such as scrap metal, paper, used oil, batteries, wood products, etc., will be collected in suitable containers and recycled with appropriate vendors.

Hazardous materials, such as contaminated greases, chemicals, paint, and reagents, will be collected and recycled, whenever possible, or shipped off-site for destruction, treatment, or disposal.

18.11 SURFACE WATER CONTROL

The natural gradient of the land generally slopes from the northwest to the southeast. From the southwest, there are four major watersheds that will impact the proposed rerouted Interstate 10 (I-10), contributing an estimated stormwater runoff between 14,058 cfs and 17,189 cfs for a 50-year, 24-hour, and 100-year, 24-hour storm events. This runoff will be channeled under the proposed rerouted I-10 by culverts, which were estimated using the 50-year, 24-hour storm event per the "Federal Highway Administration Project Development and Design Manual". Most of that runoff will be captured in a large channel that will run parallel to the proposed rerouted I-10, discharging into the natural drainage way. The remaining runoff not captured by the large channel will be diverted around the pit, stockpiles, leach pad, and plant facilities as much as possible. These diversions will be evaluated and designed during detailed engineering. Stormwater, process water, or fresh water falling on or running onto potentially impacted areas of the site is considered potentially contaminated "contact" water and will be directed to containment ponds and sumps to prevent contamination of the natural drainage ways. Collected contact water will be pumped into the Raffinate Pond as makeup water for the leaching process.

18.12 TRANSPORTATION & SHIPPING

Materials, equipment, and supplies for the Gunnison plant are either brought in by truck or by rail using the rail spur described in Section 18.6. Sulfuric acid and molten sulfur are brought in by rail and unloaded into their respective storage tanks at the Railyard.

The primary product leaving the plant is cathode copper, which is shipped by tractor trailers or by rail depending on the contracts with buyers. Excess sulfuric acid from the Acid Plant that is not needed for the copper operation may be sold and transported to the buyer by truck or rail. Recycled materials leaving the plant will also be by truck. Scales to weigh full and empty trucks coming into and leaving the site are provided at the main gate for highway trucks and at the rail spur for the rail cars of sulfuric acid and sulfur.

18.13 COMMUNICATIONS

The connection to telephone and internet service has not been confirmed at this time. The telecommunication system will be integrated with the onsite data network system utilizing a voice over internet protocol (VoIP) phone system. A dedicated server will be provided for setup and maintenance of the VoIP system. Handsets will plug into any network connection in the system for telecommunications. The office network will support accounting, payroll, maintenance, and other servers as well as individual user computers. High bandwidth routers and switches will be used to logically segment the system and provide the ability to monitor and control traffic over the network.

A process control system network will support the screen, historian and alarm servers connected to the control room computers as well as Programmable Logic Controllers (PLC). This system will incorporate redundancy and a gateway between the office system and control system to allow business accounting systems to retrieve production data from the control system. No phone or user computer will be connected to this system.

The internal communications within the plant will utilize the same VoIP phone system, which will provide direct dial to other phones throughout the plant site. Mobile radios will also be used by operating and maintenance personnel for daily communications while outside the office and will be enhanced for use by the mine fleet and dispatch.

19 MARKET STUDIES AND CONTRACTS

19.1 MARKET STUDIES

19.1.1 Copper Price

The long-term fundamentals for copper remain strong, with demand projected to increase significantly in the coming decades. Various industry reports, including those from Wood Mackenzie and S&P Global, forecast a 75% increase in copper demand by 2050, driven by urbanization, population growth, increased living standards, and the global energy transition. The anticipated near-term demand for copper cathode is not easily determined but for the purpose of this Technical Report, it has been assumed that markets for this product will remain steady.

To date, no market study has been conducted for the Gunnison Project. The Company has previously engaged with an Offtaker to purchase the copper cathode produced at the average monthly HG Copper COMEX settlement price. The copper market historically has been robust as to consumption requirements.

The use of consensus prices obtained by collating the prices used by peers or as provided by industry observers, such as analysts for example, can be used for reports of this nature. This methodology is recognized by the Canadian Institute of Mining and Metallurgy (CIM) and has the advantage of providing prices that are acceptable to a wide body of industry professionals (peers). These prices are generally acceptable for most common commodities, major industrial minerals, and some minor minerals. Table 19-1 shows some copper fundamentals based on reporting from the Royal Bank of Canada (RBC). The table shows both actual refined copper production and total consumption through 2023 as well as forecasts for copper from 2024 through 2028. The trend shows continued slow growth through the end of the decade.

Table 19-1: Copper Prices based on RBC

	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Total Refined Production (Kt)	**24,973**	**25,350**	**25,766**	**26,583**	**27,543**	**28,160**	**28,980**	**29,392**
Y/Y %	*3.9%*	*1.5%*	*1.6%*	*3.2%*	*3.6%*	*2.2%*	*2.9%*	*1.4%*
Total Consumption (Kt)	**24,928**	**25,164**	**25,855**	**26,501**	**27,429**	**28,251**	**29,099**	**29,924**
Y/Y %	*4.1%*	*0.9%*	*2.7%*	*2.5%*	*3.5%*	*3.0%*	*3.0%*	*2.8%*
Surplus (Deficit)	**45**	**186**	**(89)**	**82**	**115**	**(91)**	**(119)**	**(532)**
Prior Surplus (Deficit) Estimate				*(273)*	*261*	*(236)*	*(351)*	*(770)*
Global Stocks	1,114	1,232	1,140	1,222	1,337	1,246	1,126	594
Weeks of Consumption	2.3	2.5	2.3	2.4	2.5	2.3	2.0	1.0
RBC Estimated Price	**$4.22**	**$4.00**	**$3.85**	**$4.17**	**$4.50**	**$5.00**	**$5.00**	**$5.00**
Prior Estimate				*$4.37*	*$4.50*	*$4.50*	*$4.50*	*$4.50*
Long Term Price (>2029)								**$4.00**

Source: RBC Capital Markets estimates, Wood Mackenzie, Bloomberg

4 RBC Capital Markets

GCC reviewed the available copper price forecasts including individual bank, industry peers, and analyst consensus. It determined the appropriate weighting of each source, calculate weighted average, and round to nearest 5 cents to ensure the selected copper price assumption is reasonable versus the market (i.e. not too aggressive or conservative).

Table 19-2 shows the consensus pricing as of mid-September 2024. This table has copper price estimates from Bloomberg, Hudbay, Capstone, BMO, RBC, and Scotiabank. For the financial analysis for this technical report, the copper prices by year have been selected using a smoothed version of the most recent consensus copper pricing for $4.10/lb. While there is a range of copper prices among the forecasters, GCC lies in the middle of the long-term forecast and considerably lower than the near-term prices from all forecasters.

Table 19-2: Copper Forward Curve as of September 15, 2024

Source	Date		2024	2025	2026	2027	2028	2029	LT
Bloomberg Median	9/12/2024	$/lb	4.64	4.92	4.94	4.92	5.28		
Hudbay	9/12/2024	$/lb	4.25	4.40	4.50	4.42	4.31	4.25	4.08
Capstone	7/31/2024	$/lb							4.10
BMO	9/12/2024	$/lb	4.52	4.36	4.33	4.31	4.31		
RBC	9/10/2024	$/lb	4.17	4.50	5.00	5.00	5.00	4.00	4.00
Scotiabank	9/13/2024	$/lb	4.50	5.00	5.00	5.00	5.50	5.50	4.25
Excelsior	**9/15/2024**	**$/lb**	**4.40**	**4.60**	**4.75**	**4.75**	**4.90**	**4.60**	**4.10**

19.1.2 Sulfuric Acid Price

Sulfuric acid is the largest single consumable in the Gunnison Project. While the bulk of sulfuric acid will come from the 3,000 short-ton-per-day, onsite sulfur burning sulfuric acid plant. From time to time and year to year, the Gunnison operation will need to purchase sulfuric acid on the open market.

19.1.2.1 Long Term Sulfuric Acid Price - Purchases

There are several peer comparable projects in southern Arizona that have recently published technical reports containing long term price projections for sulfuric acid purchases, including Hudbay's Copper World, Arizona Sonoran Copper's Cactus Project, and Florence Copper's in-situ copper leach project which is in construction. The average of these price data points is $146.56 per short ton of acid delivered. The average long-term price of sulfuric acid was rounded up to $150.00 per short ton from the comparable average for conservatism.

19.1.2.2 Long Term Sulfuric Acid Price from Sales to Other Operations

During certain years, the Gunnison sulfuric acid plant will produce surplus acid that must be sold. Three mines/projects current and future consumers of acid located in Southern Arizona were identified, whose purchase requirements would be sufficient to account for any acid sales projected by the Gunnison Project: Florence Copper, Pinto Valley Mine, and the Cactus Project. Additionally, there is the potential for acid sales to Hudbay's Copper World Project in Pima County, Arizona. Based on an analysis of the average distance to the customers and the prevailing cost per mile and tons per truck, the average cost of shipping was determined to be $21.53/short ton (Table 19-3). Trucking was chosen as the mode of transport for conservatism (most expensive method) as it is unclear if a direct rail link will be available at these sites.

Table 19-3: Estimated Shipping Cost for Sulfuric Acid from Gunnison Copper Mine to Other Projects

Acid Freight	miles	Cost per mile	Cost per truck trip	tons per truck	Cost of shipping
Florence	142	$ 3.20	$ 454.40	22	$ 20.65
Pinto	155	$ 3.20	$ 496.00	22	$ 22.55
Cactus	147	$ 3.20	$ 470.40	22	$ 21.38
Average	**148**	**$ 3.20**	**$ 473.60**	**22**	**$ 21.53**

Using this shipping cost, the rounded long-term price assumption for the sale of excess sulfuric acid was determined to be $130.00/short ton (Table 19-4).

Table 19-4: Estimated Price to Sell Excess Acid to Neighboring Operations

Sulfuric Acid Sales (Delivered)	Date		LT
Acid Purchase Price	Oct 2024	$/ton	150.00
Freight Out		$/ton	21.53
Excelsior	**Oct 2024**	**$/ton**	**130.00**

19.1.2.3 Long Term Molten Sulfur Price

The Gunnison sulfuric acid plant has been sized to produce 3,000 short tons of sulfuric acid per day. This plant will require 1,000 tons per day of sulfur. A benchmark historical price was obtained for molten sulfur CFR Tampa. This benchmark is used to price sulfur sales and does not mean the sulfur is sourced from Tampa. An analysis of the suppliers of sulfur indicates it could be sourced from the three existing Mexican smelters and/or the Kennecott smelter in the US or from Gulf Coast oil refineries.

Sulfur prices for projects in Arizona have a historical price range of $40 to $100 per short ton over the last ten to fifteen years, not including the years between 2021 and early 2023. There was a spike associated with sulfur prices related to supply chain effects of the Covid-19 pandemic that is not expected to be sustained. Table 19-5 shows the quarterly pricing for molten sulfur from 2015 through 2021.

Table 19-5: Quarterly Sulfur Prices from 2015 to 2021

Year	2015	2016	2017	2018	2019	2020	2021	Average
Q1	147	95	75	116	109	36	96	96.3
Q2	132	70	70	116	88	54	192	103
Q3	137	65	74	121	75	57.5	195	104
Q4	110	69.55	110	140	46	69	183	104
Ave.	131.50	74.89	82.25	123.25	79.50	54.13	166.50	102

Figure 19-1 shows another survey of pricing for molten sulfur prices as delivered to Tampa, Florida, where there is a high consumption of sulfuric acid in the local phosphate industry. These prices are Incoterm CFR to Tampa which refers to Cost and Freight included. The average sulfur price benchmark is determined to be $73/short ton of sulfur based on analysis of the past ten years excluding the COVID years of 2020 and 2021 as these outliers are not good predictors of the future. The variability around the average price can be seen in the chart below and follows a typical cyclical commodity pattern.

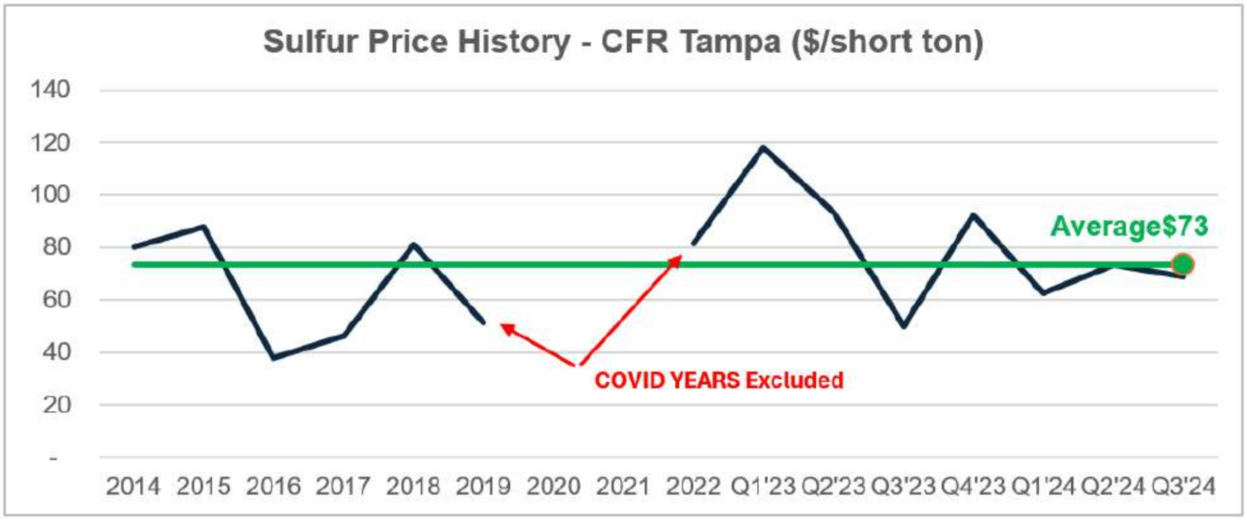


Figure 19-1: Tampa CFR Sulfur Price History 2014 to 2024

Freight is assumed to be via rail only given the smelters are all serviced directly by rail and so is the Gunnison Project. The average cost per ton mile of $0.051/short ton mile was obtained from RSI Logistics with a valuation date of February 2024. Based on the average smelter distance of 722 miles, the cost per ton for freight was determined to be $36.81/short ton delivered (Table 19-6).

Table 19-6: Freight Costs from Mexican and US Smelters

Sulfur Freight	Country	miles	Cost per mile ton	Cost per ton
Caridad smelter	mexico	263	$ 0.051	$ 13.41
Kemet de Mexico	mexico	999	$ 0.051	$ 50.95
Met Mex Penoles	mexico	785	$ 0.051	$ 40.04
Kennecott	USA	840	$ 0.051	$ 42.84
Average		**722**	**$ 0.051**	**$ 36.81**

Based on the LT CFR Tampa price of $73.20/short ton and the freight calculated from smelters of $36.81/short ton, the rounded LT molten sulfur price delivered was calculated to be $110.00/short ton.

19.1.3 Diesel

The Gunnison open pit operation will use a mining contractor, and red dyed off-road diesel ("diesel") will be the primary fuel used by the Gunnison mining heavy fleet and ancillary equipment. Given the localized nature of pricing for diesel, with pricing variations depending on region of the country and delivery costs, there is no widely accepted consensus price forecast that can be used directly.

19.1.3.1 Methodology

The price of diesel in all localities is highly correlated to the West Texas Intermediate crude (WTI) benchmark as WTI is the primary type of crude oil refined in the United States. WTI is forecast by a range of reputable banks and oil analysts resulting in a widely accepted consensus price forecast that is available on the Bloomberg terminal.

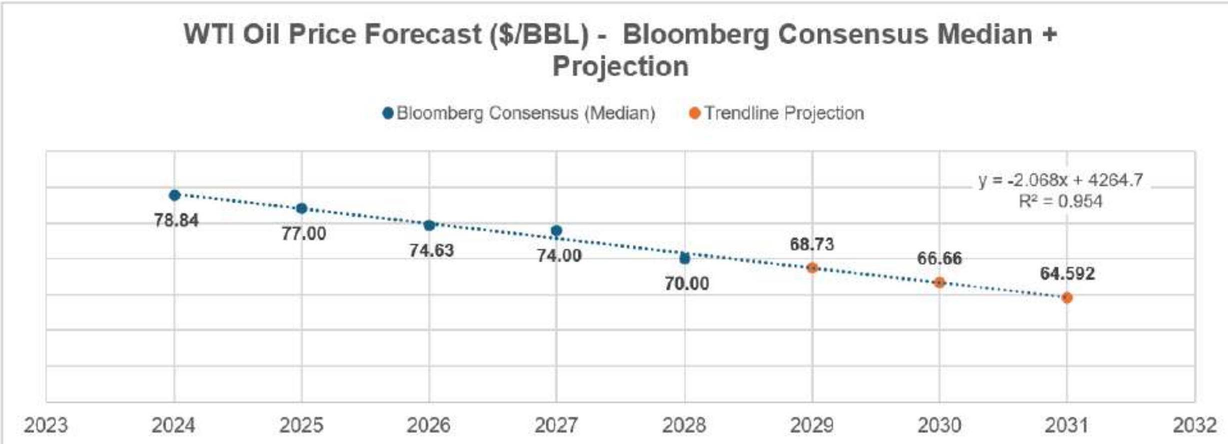


Figure 19-2: West Texas Intermediate (WTI) Crude Benchmark Prices

To determine the relationship between actual realized local diesel prices at the Gunnison mine site and the WTI index a linear regression analysis of these variables will be performed. The resulting regression equation has been applied to the LT WTI forecast to determine the appropriate LT diesel price assumption for the Gunnison open pit model.

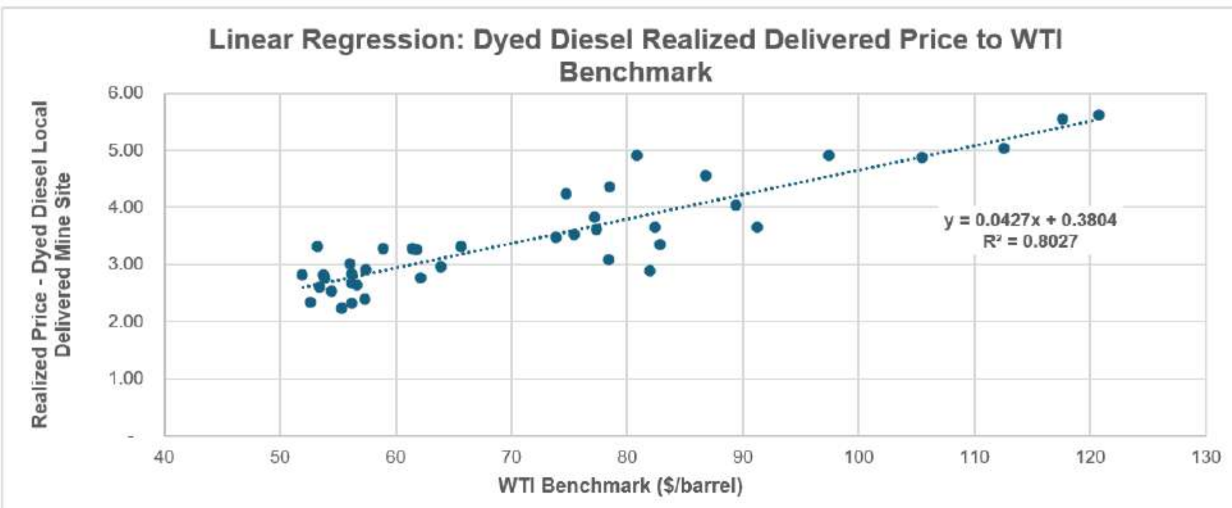


Figure 19-3: Regression Analysis of Red Diesel Prices vs WTI Benchmark Prices

19.1.3.2 Results

The LT WTI forecast consensus as per Bloomberg has a maximum projection of 2028. Given the expected start date of Gunnison of 2031, the forecast was projected forward from 2028 to 2031 using a trendline equation with an R2 of 0.954 resulting in a LT price in 2031 of $64.59 per barrel (2024 dollars). To calculate the regression equation, 53 samples of actual realized prices delivered to site over four years were regressed to the actual WTI price resulting in the equation y = 0.0427x + 0.3804 with an R2 of 0.8027. Applying this equation to the price forecast results in a LT diesel price assumption of $3.14/gallon.

19.2 CONTRACTS

Principal activities for GCC are project financing, community relations and permitting, and related engineering activities that support the development of the Gunnison Project. During this period, contracting activities will continue to be driven by the need to acquire specialists and professional services firms to assist GCC with these various activities.

A number of contracts will need to be put into place in order to complete the proposed studies. Some are already in place and others are still proposed. These include:

- Project financing,
- Community relations,
- Land use,
- Environmental studies and permitting,
- Hydrology and hydrogeology,
- Metallurgical and process engineering support,
- Detailed engineering and procurement,
- Site safety and health services,
- Professional Services,
- Drilling services contractors, and
- Sulfuric acid contract.

Contractors will be pre-qualified by GCC on the basis of their:

- Safety record,
- Previous experience on similar projects,
- Quality of workmanship on previous projects,
- Quality/experience of on-site management,
- Local availability in region,
- Previous schedule performance,
- Financial stability, and
- Cost competitiveness.

Areas with clearly defined scopes of work will be required as unit price or lump sum contracts.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

20.1 ENVIRONMENTAL STUDIES AND PERMITTING

This section identifies applicable key environmental permits associated with an open pit mine at Gunnison. Federal, state, and local government existing environmental permits are listed in Table 20-1.

Table 20-1: Open Pit Environmental Permits

Agency	Permit/ Notification	Description	Citation	When Required/ Permit No.
Federal				
Bureau of Land Management	Mining	All operations on public lands that disturb more than 5 acres on the surface require a Plan of Operations, which will require an environmental assessment or environmental impact statement and posting of a reclamation bond.	43 CFR §3809	Applicable only when BLM land is disturbed
US Fish & Wildlife Service (USFW)	Incidental Take Permit	Operations that may affect species listed as endangered or threatened must conduct studies to identify any targeted species and apply for a permit to conduct the activities. Any threatened or endangered species identified in pre-mining surveys must be mitigated before mining proceeds.	50 CFR Sections 7 and 10	No endangered/ threatened species previously identified at Gunnison. Additional studies may be required prior to disturbing new ground
Environmental Protection Agency (USEPA)	Underground Injection Control	EMI has a UIC permit for Gunnison ISR operations. Closure requirements, including well abandonments outside of the pit may apply. Hydraulic control must be maintained until closure under the UIC.	40 CFR §§124, 144, 146, 147 and 148	R9UIC-AZ3-FY16-1
National Historic Preservation Act	Cultural Resources Permit - Consultation and Mitigation	Requires Federal agencies to take into account the effects of their undertakings, such as construction projects, on properties covered by the NHPA. Compliance with Section 106 of the NHPA is necessary before the BLM/USFS approves a mining plan on public lands.	16 USC §470 et seq 42 CFR §137.288	None previously identified. New studies will be required prior to disturbing new ground.
Alcohol Tobacco and Firearms (ATF), Mine Safety and Health Administration (MSHA), ASMI, Occupational Health and Safety Administration (OSHA)	Federal Explosives Permit	All persons who wish to transport, ship, cause to be transported, or receive explosive materials must first obtain a Federal explosives license or permit. Includes vehicular requirements for transportation of explosives and requirements for construction of explosives magazine. Refer to ATF publication 5400.7	[18 U.S.C. 842(b); 18 U.S.C. 845; 27 CFR 555.26(a), 27 CFR 555.141]	Required to transport, ship, cause to be transported, or receive explosive materials.
State of Arizona				
Arizona Department of Environmental Quality (ADEQ) Air Quality Division	Air Quality Control Permit	Ensures air pollutants from any source does not exceed the National Ambient Air Quality Standards. Acid Plant, boilers, generators, fuel storage tanks, SX-EW plant, use of ANFO etc. will require permits or permit amendments.	ARS §49-421	AQP-71633 covers the Gunnison Project and JCM. Will require amendment for new facilities.

Agency	Permit/ Notification	Description	Citation	When Required/ Permit No.
ADEQ Groundwater Section	Aquifer Protection Permit	APPs are required for regulated facilities where discharges may reach an aquifer. Categorical facilities include solution impoundments, non-stormwater impoundments, tailing facilities, leach pads, waste rock stockpiles, or any discharges that may infiltrate to aquifer. Closure cost estimates and bonding for APP-regulated facilities required.	AAC R18-9 Articles 1 – 4	Existing Gunnison APP P-511633 will require amendment to cover new discharging facilities. Amendment must include updated closure cost estimates and updated bonding.
ADEQ Waste Management Division	EPA ID Number	Generators of hazardous waste must have an EPA ID prior to offering the waste for shipment.	ARS §49-922	Covers JCM and Gunnison
	Pollution Prevention Plan	Plan identifying opportunities to reduce waste.	ARS §49-961 thru 973	Report to be submitted annually
	Toxic Release Inventory	Submit Form R for quantity of copper in waste rock.	40 CFR 372	Report to be submitted annually
Arizona Department of Agriculture	Notice of Intent to Clear Land	Ensures enforcement of Arizona Native Plant Laws	ARS §3-904	Notify 60 days prior to new disturbance on private land
Arizona Game and Fish Department	Consultation	Consultation re: whether the mining operation will endanger fish and game habitat, etc.	AAC Title 12	No threatened/endangered species previously identified. Additional survey may be required depending on extent of open pit operations.
Arizona State Museum	Cultural resources—private land	No prior notification required, but if certain objects are discovered on private land, Arizona State Museum director must be notified immediately. This can shut down work.	ARS 41-865	Notify AZ State Museum Director if cultural objects are found on private land.
Arizona State Museum, State Historic Preservation Officer, Arizona State Land Dept	Arizona Antiquities Act Permit	When applicant files State exploration permit, State Land Dept consults with State Historic Preservation officer to ensure that significant resources are avoided or adequately studied before they are impacted. ASLD will determine if a cultural survey is needed.	ARS §41-861 et seq and ARS §41-841 et seq	Applies to State Trust land. Additional survey may be required for new project area.
Arizona State Mine Inspector (ASMI)	Mined Land Reclamation Plan and Bond	Bonding for reclamation of mined land. Reclamation bond does not include facilities covered by the Aquifer Protection Permit closure bond.	AAC R11-2-101 thru 822	Exploration and mining activities on private land with greater than 5 acres disturbance. Current Gunnison bond for ISR will require update to accommodate open pit
ASMI	Above-Ground Storage Tanks	There is no specific permit for ASTs. Inspections at mines are by ASMI. Construction is expected to be designed according to Uniform Fire Code, NFPA and Federal regulations. ASMI Requirements vary depending on tank capacity.	ARS Title 27 NFPA, 29 CFR 1910, 30 CFR 56.44	Above ground fuel storage tanks storing more than 60 gallons for more than 7 consecutive days.
ASMI	Notice of Start-up	When mining operations are scheduled to begin at any mine, the operator, owner, agent or other	A.R.S. § 27-303(A)	Give written notice to the inspector prior to

Agency	Permit/ Notification	Description	Citation	When Required/ Permit No.
		authorized representative shall give written notice to the inspector prior to commencement of mining. The mine inspector's office must have information on file pertaining to each mining or milling operation in order to comply with its mandated inspection requirements.	A.R.S. § 27-124	commencement of mining.
Arizona Department of Transportation (ADOT)	ADOT Encroachment permit	Permitting through ADOT will be required to move interstate around project area. Encroachment permits allow for activity in the ADOT right of way. Some work that may be required by the permit includes cultural, biological, native plant surveys, traffic analyses, traffic control plans, and construction drawings.	AAC R17-3-501 et seq	Required before any activity is allowed in ADOT right-of-way.

The permits that are anticipated to require longer permitting timeframes and permit application preparation times are discussed below:

- **Arizona Department of Transportation (ADOT):** The project includes re-routing a portion of Interstate 10. A permit from ADOT will be required before any work can be conducted. The permit may require additional environmental studies, including cultural, biological, and native plant surveys, depending on where I-10 is routed. Detailed design drawings must be submitted and approved prior to permit issuance.
- **Aquifer Protection Permit (APP):** Aquifer Protection permits are required for discharging facilities that have the possibility of impacting an aquifer. Mining facilities that generally require APPs are surface impoundments, mine tailings piles and ponds, waste rock piles, concentrate storage facilities and other stockpiles, wastewater treatment facilities, injection wells, and point source discharges to navigable waters. Open pits are not regulated facilities if passive containment (due to evaporation) can be demonstrated.

Facilities that may be constructed at Gunnison that may require an APP include:

- Leach pad
- Waste rock stockpile(s)
- Non-stormwater ponds
- Process solution ponds (for PLS or Raffinate)
- Acid Plant
- Injection wells for mine pit dewatering

An APP already exists for ISR facilities. Much of the data in the initial APP application can be used toward the permit for new facilities.

The licensing timeframe for significant amendment is 221-329 business days, depending on the complexity and whether a public notice is required. GCC should assume that a public hearing will be required in estimating the APP licensing timeframe for the project.

Arizona Mined Land Reclamation Plan: This is required for surface disturbances greater than 5 acres on private land. Financial assurance must be provided for reclamation of surface disturbances/facilities that are not covered by the APP. The processing time is approximately 6 months.

Air Quality: Air quality permits will be required for the boilers, generators, fuel storage tanks, use of ANFO, trucks, a new SX-EW plant etc. The acid plant will likely require a Class 1 Permit, which has a 365-calendar day processing timeframe. Permits are good for 5 years.

Underground Injection Control Modification: EMI is the permittee for a UIC for the in-situ wellfield. Modifications may be required to accommodate the open pit and for re-injection of pit dewatering into the local alluvial aquifer. Hydraulic control must be maintained and demonstrated according to the UIC. All requirements of the current UIC are in effect until EMI files a modification request and it is granted.

20.2 WATER AND WASTE MANAGEMENT

Water management associated with the open pit mine will include dewatering of the pit and run-on and run-off controls. As discussed in Section 16.9, dewatering is expected to generate up to 4,000 gpm during pit development. This water can be used for a variety of uses including dust control, makeup water for leaching of mineralized material or reinjected into other areas of the aquifer.

Because the Willcox Basin is a closed basin, drainages are not classified as “Waters of the U.S.” and there are no Clean Water Act requirements. However, for optimal operation and stability of the mine facilities, erosion controls and management of stormwater run-on and runoff will be included in the designs of the facilities. For APP-regulated facilities, run-on and runoff controls such as containment berms and diversion structures are key elements of Best Available Demonstrated Control Technologies (BADCT) and integrated in the designs of the facilities. Limiting run-on reduces the amount of water that may contact mining materials. APP-regulated facilities will include the heap leach pad, any process solution and non-stormwater ponds, and possibly the waste rock stockpile (unless it can be determined as exempt). Ponds will be sufficiently sized to contain the solutions they are designed to hold, plus storm events with a minimum of 2 feet of freeboard. The minimum design storm requirement for APP facilities is the 100-year 24-hour storm event.

Surface water will be diverted around the pit, leach pad, process plant, and other non-APP facilities. Water will be managed using engineered features such as diversions or retention structures.

Approximately 1135 million tons of waste material is planned to be removed in the mining process. Waste material includes overlying basin fill material and uneconomic bedrock that must be removed in the process of mining mineralized material for the heap leaching operation. Waste rock will be placed in two or more waste rock stockpiles. The basin fill materials are alluvial and typically alkaline in nature. Subeconomic bedrock material is typically calcareous in nature and not expected to contain significant sulfides or be acid generating. The stockpiles are not considered to be APP-regulated facilities and are not planned to be lined.

The stockpiles are designed for stability and efficiency of construction. Surface water diversions are designed to direct stormwater runoff from impacting the stockpiles, allowing it to be discharged into the natural drainage system at the site. Stockpile construction is also designed to facilitate reclamation efforts at the end of mine life.

20.3 CLOSURE AND RECLAMATION

All APP-regulated facilities must be closed in accordance with the stipulations of the APP permit at the end of operations. Non-APP facilities, such as buildings and infrastructure, will be reclaimed in accordance with the approved Mined Land Reclamation Program overseen by the Arizona State Mine Inspector’s Office. This reclamation plan ensures safe and stable post-mining land use. Re-grading and resurfacing needs, if any, will be completed with good engineering practices minimizing unwanted surface disturbances. The closure and reclamation plans include cost estimates and financial assurance for implementing the plans. GCC maintains a surety bond, posted with Arizona State Mine Inspector (ASMI). Both the reclamation plan and surety bond must be updated to reflect changes in the surface processing facilities.

Reclamation of the pit (which is not expected to be an APP-regulated facility) will consist of erosion control. At closure stable pit walls will be left in place, and unstable pit walls will be stabilized. Reclamation cover material will be placed on the benches above the projected water level and seeded. Pit roads and safety benches will be ripped and water bars will be employed to control surface water erosion. Where practical, disturbed areas around and adjacent to the pit will be covered with topdressing material and revegetated. The pit area and highwalls will be appropriately barricaded or fenced and posted according to MSHA and Arizona State Mine Inspector's regulations. Access to the pit will be limited by some combination of gates, road blocks, and physical barricades.

At closure, the heap leach pad (an APP-regulated facility) and the waste rock stockpiles (which may be regulated under APP) will be managed to prevent, contain, or control discharges. In the case of the heap leach pad, it is anticipated that closure will include neutralizing or rinsing of all spent mineralized material, elimination of free liquids, stabilization of heap materials, and recontouring of the heap to eliminate ponding. The waste rock stockpile will be recontoured in a similar manner to eliminate ponding and minimize infiltration.

Process solution and non-stormwater ponds will be closed in accordance with the approved APP closure plan. The solution ponds containing liquids (PLS, raffinate, etc.) will be emptied and cleaned. Liners will be inspected for signs of leakage. The soils beneath prospective defects will be investigated and remediated as necessary. After clearance, the liner materials will be folded into the bottom of the pond for burial in place. Perimeter berms above the natural land surface will be pushed into the pond to cover the liner, contoured, and revegetated to shed surface runoff and minimize infiltration.

Other facilities such as the plant and buildings will be removed and the land surface will be contoured and graded.

20.4 COMMUNITY RELATIONS

GCC consistently seeks to build sustainable partnerships and bring value to the communities where it operates. GCC's approach to community relations reinforces its core values and provides guidelines for making decisions on a variety of issues, ranging from charitable giving to resource development. To that end, GCC maintains a broad-based community relations and stakeholder outreach program in support of the Gunnison Project. Various levels of activity and outreach occur as a function of the development of the Project from pre-feasibility and feasibility studies, through Project construction and operations, to closure and rehabilitation. Elements of this program include:

- Targeted stakeholder outreach to government, community, business, non-profit and special interest groups, and leaders at the local, county and state level.
- Development of community relation and communication tools and resources (e.g., Project website, Project e-newsletter, and presentation materials).
- Public open houses and technical briefings when appropriate.

Crucial elements of GCC's community relations efforts will involve ensuring consistent and ongoing communication with all stakeholders and providing opportunities for meaningful two-way dialogue and active public involvement. GCC will focus on ensuring the public benefits related to the Gunnison Project, such as employment opportunities, supplier services, infrastructure development and community investment are optimized for the local community. To date, GCC's community relations efforts have been related to the in-situ operation but it will now include the open pit operation discussed in this Technical Report.

GCC's social and environmental license to operate is further confirmed by a settlement agreement that was reached with a number of environmental activist groups that resulted in the withdrawal of a permit appeal related to the in-situ operation.

20.5 ECONOMIC BENEFITS

Prior to commencement of permitting and mining for the ISR operation at the Project, GCC commissioned an Economic Impact Study through Arizona State University's W. P. Carey School of Business which forecasted the increase in economic activity within Arizona during the construction phase and life of the mine. The study utilized an Arizona-specific version of the Regional Economic Models Inc. (REMI) regional forecasting model[1] to make projections about the direct benefit and multiplier effect of the Gunnison Project. The economic impact of mine development to surrounding communities and the State in General are outlined below.

- On average, during the lifetime of the Project, annualized Arizona jobs added is 819[2]. This employment creation includes 108 direct jobs created and 711 indirect "secondary" jobs, with employment increasing by 283 individuals within Cochise County.
- Employment benefits are distributed through many sectors. The largest impacts are in mining, construction, professional/technical services, and government sectors. Additional significant impacts are in real estate, retail trade, health care, and accommodation/food services among others.
- The annual average value added to Arizona's Gross State Product (GSP) during the entire Project life – pre-production, production, and closure – is approximately $109 million with approximately $28 million added within Cochise County. The total addition to the GSP is $2.9 billion, with $757 million locally within Cochise County.

Economic modeling predicts the Project will have an average annual impact on state revenues of $10.9 million for a total impact of $295 million. Activity for Cochise County has been forecasted to average $3.6 million with a total impact for county revenues of $98 million. The Economic Impact Study was completed with respect to the in-situ operation and has not been updated for the open pit operation.

[1] This study was based on a projected 20-year production phase. The current measured and indicated mineral resource is planned for a 16-year production phase with similar pre- and post-production time periods.
[2] The values reported here reflect the "acid plant scenario" in which GCC constructs and manages an internal sulfuric acid production facility.

21 CAPITAL AND OPERATING COSTS

21.1 CAPITAL COSTS

Capital and operating costs for the Gunnison Project were developed at a AACE Level 5 level of accuracy suitable for a Preliminary Economic Analysis (PEA) technical report. The level of accuracy is +35% / -25% and the contingency used is 20% across the board.

The Gunnison open pit capital costs include the open pit mine development (mainly pre-stripping), civil preparation for waste dumps and the heap leach pad, crushing, conveying, and stacking facilities, the SX-EW plant, electrical infrastructure that taps the local transmission lines, fresh water make-up and excess water injection wells, a 3,000-ton per day sulfuric acid plant, the railyard that connects to the UPSP railroad, and the Interstate 10 highway relocation.

The Gunnison mine will be a standalone operation with new mine services facilities including a Truck Maintenance Shop, Truck Wash, Tire Shop, Mine Ops Building, the Mine Change House and the Fuel Station, which have been added to accommodate open pit mining operations. Other ancillary buildings that are located near the SX-EW facility include the Administration Building, Security Control and Truck Scale, Laboratory, Change House, and Plant Maintenance Building. The project main substation is also located next to the SX-EW.

Infrastructure changes include realignment of Interstate 10 in the vicinity of the Gunnison open pit, rerouting the pipeline corridor between the Gunnison PLS Pond and the Johnson Camp ponds, relocating a fiberoptic telephone cable that crosses over the deposit, relocating the powerlines and substations for the new Gunnison SX-EW and sulfuric plant, and shortening the rail spur into the property.

The 3,000 stpd sulfuric acid plant area is located adjacent to the SX-EW facility. It includes the acid plant proper, molten sulfur storage tanks, two large sulfuric acid storage tanks, a cogeneration facility, cooling towers, and a boiler water treatment facility. The Railyard lies adjacent to the Sulfuric Acid Plant and connects directly to the UPSP main line via a rail spur.

Table 21-1: Initial Capital Requirement

#	Item	Initial Capital ($M)
1	Mine (including Pre-stripping)	$211.7
2	Mine (Initial Owner's Fleet Leasing Costs)	$94.4
3	Mine Services Area	$18.2
4	Crushing Plant- Conveying-Leach Pad-Solution Ponds	$161.2
5	SX-EW Plant (includes SX, Tank Farm, EW Tankhouse, and Reagents)	$166.7
6	Plant Ancillary Buildings	11.4
7	Acid Plant and Railyard	$243.1
88	Utilities – Power Transmission & Distribution, Water Systems	$21.7
9	Freight	$37.8
10	Indirects	$145.9
11	Owner's Cost	$23.7
10	Highway Realignment	$45.6
11	Contingency	$161.2
	Total Initial Capital	**$1,342.60**

21.1.1 Basis of Capital Cost

A Basis of Capital Cost Estimate specification (210313-1027) was prepared by M3 to provide information regarding the sources of capital cost information, assumptions that were used in the estimation, exclusions, and project-specific conditions.

The capital cost estimate for the Project was prepared from a level of engineering commensurate with a +35%/-25% level of accuracy. The Gunnison SX-EW plant and the sulfuric acid plant were both scaled up for larger plant capacities than the previous versions of these facilities.

The Gunnison Open Pit SX-EW was factored from 100 mppa to 175 mppa. SX-EW facilities are considered to be scalable because the unit building block is the electrowinning cell. In the case of this PEA, the tankhouse has increased from 160 EW cells to 224 EW cells. Factoring the SX-EW plant to a 40% larger capacity lowers the accuracy by approximately 5%.

Capital cost estimates for the acid plant and rail facilities were modified to account for the increased capacity required for the larger heap leach pad.

Piping, electrical, and instrumentation commodities for the sulfuric acid plant were factored leading to a lower estimate accuracy. However, civil, concrete and steel costs were estimated by MTO before being factored to a larger capacity plant so both capital cost estimates are better than fully factored or scoping level estimates.

21.1.2 Mine Capital Cost

The mine capital generally includes three components: capital to lease/purchase the mining fleet, capital for mine support equipment, and the cost of pre-stripping. Mine capital costs for mobile equipment were developed from the mine equipment list presented in Section 16.

Mine capital costs including equipment and pre-production development are presented in Table 21-2.

Table 21-2: Summary of Mine Capital Costs ($000's)

Category	Initial Capital			Sustaining Capital	Total Capital
	Year -2	Year -1	Total		
Preproduction Development	96,897	114,795	211,692		211,692
Mining Equipment - Leased	57,136	37,279	94,415	334,850	429,265
TOTAL	**154,033**	**152,075**	**306,107**	**334,850**	**640,957**

Mine capital costs include the following:

1. Cost of mine mobile equipment required to drill, blast, load, and haul material. Major equipment purchase costs were from first half 2022 and first half of 2023 budgetary quotes received by IMC on other projects. The costs were scaled to a 2024 basis to reflect inflation. Equipment acquired during pre-production is assumed to be leased. Equipment acquired after pre-production is assumed to be purchased.
2. Auxiliary equipment to maintain the mine and material storage areas in good working order. Major equipment purchase costs were from first half 2022 and first half of 2023 budgetary quotes received by IMC on other projects. The costs were scaled to a 2024 basis to reflect inflation. Equipment acquired during pre-production is assumed to be leased. Equipment acquired after pre-production is assumed to be purchased.

3. Equipment to maintain the mine fleet such as mechanic trucks, lube trucks, tire handlers and forklifts. Support equipment purchase costs are sourced from the IMC project library. Equipment acquired during pre-production is assumed to be leased. Equipment acquired after pre-production is assumed to be purchased.
4. Light vehicles for mine operations and staff personnel. Equipment acquired during pre-production is assumed to be leased. Equipment acquired after pre-production is assumed to be purchased.
5. An allowance (3% of mine major equipment capital) is included for initial shop tools.
6. An allowance (5% of mine major equipment capital) is included for initial spare parts inventory.
7. Equipment replacements are included as required based on the useful life of the equipment.

Table 21-3 summarizes the mine capital costs by year. Pre-production stripping is part of the mine capital cost but is shown separately to differentiate it from the cost of purchasing mine equipment. An additional $346.2 million of waste stripping costs is also applied to sustaining capital beyond what is shown in Table 21-3. These costs are included in Table 21-7 below.

Table 21-3: Summary of Annual Mine Capital Costs ($000's)

Year	Mine Equipment			Mine Preproduction Development	Total Mine Capital Cost
	Initial Down Payment	Lease Payments	Sustaining Capital Cost		
-2	$28,818	$28,318		$96,897	$154,033
-1	$4,520	$32,760		$114,795	$152,075
1			$17,975		$17,975
2			$53,482		$53,482
3			$813		$813
4			$21,163		$21,163
5			$6,489		$6,489
6			$14,293		$14,293
7			$14,763		$14,763
8			$61,156		$61,156
9			$13,171		$13,171
10			$80,491		$80,491
11			$44,679		$44,679
12			$0		$0
13			$6,007		$6,007
14			$368		$368
TOTAL	**$33,338**	**$61,078**	**$334,850**	**$211,692**	**$640,957**

IMC provided the equipment purchase cost estimate to Gunnison Copper, and Gunnison Copper calculated the equipment lease costs shown in these tables for equipment acquired during pre-production assuming the following lease terms: 15% down payment with a 7 year duration at a 7% interest rate. As a check, IMC prepared an estimate of the cost to lease the equipment acquired during pre-production and was within 4% of the equipment lease costs estimated by GCC which is within the error of estimate for a PEA.

21.1.3 Plant Capital Cost

The initial capital cost estimate for the Gunnison exclusive of open pit development is shown in Table 21-4. The estimated initial capital cost to build the project is $1,036.5 million. This figure includes $806.0 million to construct the plant, infrastructure, acid plant and rail access facilities, $161.2 in contingency, $45.6 million for highway relocation costs, and $23.7 million in Owners costs.

Initial mining costs for pre-stripping and mine mobile equipment costs are accounted for separately.

Table 21-4: Initial Capex for Gunnison Plant & Acid Plant Development

Description of Capital Cost Item	Estimated Cost ($000)
Gunnison Heap Leach and Ponds	$163,670
Gunnison SX-EW Plant	$144,980
Infrastructure/Utilities	$42,275
Ancillary Facilities	$12,083
Mine Services	$19,217
Sulfuric Acid Plant	$243,118
Other (Freight)	$37,805
Total Direct Field Cost	**$663,148**
Total Direct Field Cost w/o Mobile Equipment	**$660,097**
Mobilization (2)	**$9,372**
Temporary Construction Facilities (4)	$3,301
Temporary Construction Power (4)	$660
Fee - Contractor (5)	In Direct Cost
Total Constructed Cost	**$673,430**
Total EPCM (6)	**$106,065**
EPCM Temp. Fac. & Utility Setup (7)	$3,367
Commissioning (8)	$3,351
Vendor Supervision of Specialty Const. (9)	$5,027
Vendor Pre-commissioning (10)	$1,676
Vendor's Commissioning (10)	$1,676
Capital Spares (11)	$6,703
Commissioning Spares (12)	$1,676
Mobile Equipment	$3,051
Total Contracted Cost	**$806,021**
Contingency (13)	$161,204
Bonds & Insurance	In Owner's Cost
Highway Relocation	$45,605
Added Owner's Cost (14)	$23,657
Total Contracted Cost with Contingency	**$1,036,487**

Escalation (15)	$0
Total Evaluated Project Cost (12)	**$1,036,487**

Notes:
1. Specific Indirect Field Costs have been added to the direct labor rates listed for each Area Indirects added to direct labor include: field payroll burden, overtime adjustment, small tools and expendables allowance, field supervisory labor & burden, contractor operating overheads & profit.
2. Mobilization is included at 5% for civil direct costs and 1% for all other direct costs without Mobile Equipment.
3. Transportation & Busing and Camp costs will be carried in the Owner's Costs.
4. Temporary Construction Facilities is included at 0.5% of Total Direct Cost without Mobile Equipment. Temporary Construction Power is included at 0.1% of Total Direct Cost without Mobile Equipment.
5. Contractors' fee included in Labor rates and Subcontract unit cost.
6. The EPCM cost has been calculated at 16.8% of the Total Constructed Costs w/o costs from Kinley.
7. EPCM Temporary Facilities and Utility Setup is included at 0.5% of Total Constructed Costs.
8. Commissioning is included at 1% of Plant Equipment w/o Mobile Equipment.
9. Supervision of Specialty Construction included at 1.5% of Plant Equipment Costs w/o Mobile Equipment.
10. Vendor Pre-commissioning included at 0.5% of Plant Equipment Costs w/o Mobile Equipment. Vendor Commissioning included at 0.5% of Plant Equipment Costs w/o Mobile Equipment.
11. Capital Spare Parts included at 2% of Plant Equipment Costs w/o Mobile Equipment.
12. Commissioning Spare parts are included at 0.5% of Plant Equipment Costs w/o Mobile Equipment.
13. Contingency is based on Total Contracted Cost is calculated as 20%.
14. Added Owners Cost - To be provided by Owner. (Initial fills are included in Owner's Costs)
15. All costs are in 3rd quarter 2024 U.S. dollars with no escalation. Total Evaluated Project Cost is projected to be in the range of -35% to +25%.

21.1.4 Gunnison Heap Leach Pad

The new Gunnison heap leach pad covers approximately 893 acres of surface (38.9 million ft^2). A Bill of Quantities (material take-off) was developed for the full leach pad as listed in Table 21-5. The Bill of Quantities includes both the leach pad and three solution ponds: the PLS pond, the Raffinate pond, and the Event pond.

Unit prices were determined from recently constructed projects and from published sources.

The leach pad footprint was staged into three phases: initial construction (35%), an expansion in Year 4 (25%) and an expansion in Years 6 and 7 (40%) of the total leach pad footprint. The ponds are all constructed as initial capital in the first phase. The initial (Phase 1) direct capital cost for the heap leach pad is $63.6 million. The cost for the Phase 2 leach pad expansion in Year 4 is estimated to be $32.5 million, while the Phase 3 expansion in Years 6 and 7 is estimated to be $52.0 million.

Table 21-5: Total Quantities for Heap Leach Pad by Phase

Area 250	Leach Pad			Total	Initial	Sustaining	Sustaining
Scope	**Description**	**Total Qty**	**UOM**	**Cost**	**Year -1**	**Year 4**	**Year 6 & 7**
1.0	**Grading**				35%	25%	40%
1.01	Site Clearing and Grubbing	893.4	acre	$2,635,402	$922,391	$658,850	$1,054,161
2.0	**Subgrade Preparation**						
2.1	**Leach Pad**				35%	25%	40%
2.10	Subgrade Preparation	4,096,558	yd^2	$1,451,981	$508,193	$362,995	$580,793
2.2	**Ponds**						
2.20	Subgrade Preparation	150,358	yd^2	$53,293	$18,652	$13,323	$21,317
3.0	**Earthworks**						
3.1	**Leach Pad**						

Area 250	Leach Pad			Total	Initial	Sustaining	Sustaining
Scope	Description	Total Qty	UOM	Cost	Year -1	Year 4	Year 6 & 7
3.11	General Excavation Cut to Structural Fill	4,554,027	yd^3	$25,957,957	$9,085,285	$6,489,489	$10,383,183
3.12	Additional Structural Fill to be placed	232,839	yd^3	$1,327,183	$464,514	$331,796	$530,873
3.13	Anchor Trench Excavation	24,240	LF	$242,395	$84,838	$60,599	$96,958
3.15	Prescriptive BADCT Low Hydraulic Conductivity Soil Layer	1,365,519	yd^3	$7,513,138	$2,629,598	$1,878,285	$3,005,255
3.16	Prescriptive BADCT Overliner Volume	2,048,279	yd^3	$11,269,708	$3,944,398	$2,817,427	$4,507,883
3.2	**Ponds**						
3.20	Ponds Drill and Blast (Optional)	0	yd^3	$0	100%	0%	0%
3.21	General Excavation Cut To Structural Fill (Notes 1)	881,793	yd^3	$5,028,372	100%	0%	0%
3.22	Structural Fill To Be Removed	0	yd^3	$0	100%	0%	0%
3.23	Anchor Trench Excavation	6,560	LF	$65,567	100%	0%	0%
3.24	Prescriptive BADCT Low Hydraulic Conductivity Soil Layer	12,368	yd^3	$68,050	100%	0%	0%
3.25	Prescriptive BADCT 3/8 MINUS SUBGRADE Soil Layer	4,696	yd^3	$64,342	100%	0%	0%
4.0	**Geosynthetics**						
4.1	**Leach Pad**						
4.10	Supply 80-mil HDPE Liner	40,700,569	ft^2	$31,062,675	$10,871,936	$7,765,669	$12,425,070
4.11	Installation of 80-mil HDPE Liner	37,000,518	ft^2	$11,100,974	$3,885,341	$2,775,244	$4,440,390
5.0	**Supply and Installation of Solution Collection System**						
5.1	**Leach Pad**						
5.10	4-Inch Diameter Corrugated HDPE Perforated Collection Lateral Pipe	1,634,535	LF	$2,470,365	35%	25%	40%
5.11	18-inch Corrugated HDPE Perforated Collection Header Pipe	197,112	LF	$2,634,115	35%	25%	40%
5.2	**Ponds**						
5.20	18-Inch Diameter HDPE LEAK DETECTION PIPE	300	LF	$12,600	100%	0%	0%
6.0	**Stormwater Diversion**						
6.01	North Channel (rip-rap lined -2' thk)	4619	LF	$5,293,237	100%	0%	0%
6.02	West Channel (rip-rap lined -2' thk)	5,292	LF	$6,064,021	100%	0%	0%
7.0	**Piping**						
7.1	Piping Allowance for Leach Pad Piping	1	lot	$10,750,000	100%	0%	0%
7.2	Piping Allowance to Feed Leach Pad (36" HDPE)	7500	LF	$384,582	100%	0%	0%

21.1.5 Gunnison SX-EW Plant

The entire Gunnison SX-EW facilities will be constructed in a single phase at the beginning of the project.

The crushing area was priced from budgetary quotes for similar equipment from other recent projects or from new budgetary quotes specific for the Gunnison Project. The conveying system was scaled from a similar material handling leach pad project and escalated for Q3 2024 dollars.

The Gunnison Project focuses on building the Gunnison SX-EW plant as a single plant sized for a capacity of 175 mppa. The number of electrowinning cells has been projected to increase from 160 to 224 of cells containing 63 anodes and 61 cathodes per cell.

The capital cost was built by updating the equipment costs for the main components of the SX-EW plant at the correct quantities needed. Equipment was resized to meet the requirements of the larger plant. A second production bridge crane was added as was a second robotic stripping machine. Prices for the transformer-rectifier packages were updated for this PEA.

For minor equipment, higher prices were achieved by factoring for escalation from the year that equipment was last quoted or from the last published report for the Gunnison SX-EW.

Civil excavation for the new Gunnison SX-EW plant site has been designed and re-estimated in its new location to the south of the Leach Pad. Concrete and steel were re-estimated for the new buildings. The piping from the plant to the heap leach has also been re-estimated as were the sizes and numbers for the PLS and Raffinate pumps. Prices for the large pumps were based on Q3 2024 budgetary pricing.

The electrical distribution equipment within the plant areas tabulated and factored within the four main process areas.

21.1.6 Ancillary Facilities

Ancillary facilities are located in two general areas: the SX-EW plant area and the Mine Services Area. The ancillaries located close to the SX-EW plant include the Security Control building and truck scale, Administration building, Laboratory, plant change house, plant maintenance building, and plant warehouse. These buildings were estimated based on preliminary designs and estimated on the basis of their footprint, height, and service as modular and pre-engineered metal buildings.

The Mine Services Area includes the Mine Office, Mine Change House, Truck Maintenance Shop, Light Vehicle Maintenance Shop, Fuel Station, Lube & Oil storage, and Truck Wash. Costing for the truck shop and related facilities was derived from a constructed cost for a major six-bay truck shop complex that M3 designed in 2015 in southern Arizona. That cost was then escalated to Q3 2024 dollars.

21.1.7 Sulfuric Acid Plant

In 2021, NORAM Engineering of Vancouver provided a conceptual design for sulfuric acid plant with a capacity of 1,650 short tons per day. For this PEA, the sulfuric acid plant capacity estimate is 3,000 tons per day.

The main equipment within the current scope of work includes:

- Main blower and steam generator
- Drying Tower
- Sulfur Furnace
- Waste Heat Boiler
- Converter
- Superheater
- Hot and Cold Pass Heat Exchangers
- Economizers
- Intermediate and Final Absorption Towers
- Circulation Acid Tank w/ Acid Cooler and pump
- Product and Final Acid Coolers and pumps

- Sulfuric Acid Storage Tanks (3)
- Deaerator
- Continuous Blowdown Tank
- Dump and Surface Condensers
- Caustic Feed Tank, Pump, and Cooler

Civil, concrete and steel quantities were developed by MTO.

Equipment outside NORAM's scope of supply includes:

- Sulfur unloading pumps
- Railcar steaming equipment
- Sulfur storage pit
- Sulfur day tanks and steam jacketing system
- Demineralized water plant
- Cooling tower
- Turbo generator
- Emergency boiler

Interconnect piping, electrical equipment and distribution, and plant instrumentation were built up by using standard M3 factors based on capital equipment costs. M3 also included a dedicated substation to provide power to the sulfuric acid plant. These prices were estimated by M3.

M3 scaled the 1,650 stpd acid plant from the previous study to the 3,000 stpd plant required for this PEA. The scaling factor to compensate for the higher acid demand uses the formula: (R_2/R_1)^0.725 * $Capex_{R1}$, where R1 is the original estimated capacity of the acid plant and R2 is the new capacity. The power factor of 0.725 was used instead of the standard power factor of 0.60 because at this larger capacity, many of the large vessels in the acid plant will have to be constructed on site instead of shop fabricated and transported to site, resulting in higher costs.

21.1.8 Railroad Spur and Railyard

The railroad spur, siding and railyard is located adjacent to the Sulfuric Acid plant has been relocated but is still integral to the project. MHF Consulting (MHF), an independent railroad engineering consultant previously prepared a design and costing for the railroad siding and rail unloading yard, reporting an estimate accuracy +30%/-15%. For this PEA, the material take-off of the rail siding was adjusted for a shorter length because the railyard is now closer to the UPSP main line by 1.4 miles. The material take-offs for rail in the railyard were revised for the current configuration and re-costed with Q3 2024 steel costs. The railcar mover cost was escalated to Q3 2024 prices.

21.1.9 Interstate 10 Highway Relocation

The development of the Gunnison open pit requires the relocation/realignment of a segment of Interstate 10, which is located over the top of the Gunnison copper oxide deposit. The relocation of the highway also involves relocating the interchange and exit to Johnson Road that provides access to a privately owned gift shop and gasoline station and to the Johnson Camp Mine on the north side of the highway.

A preliminary itemized cost estimate was prepared by Kimley Horn, an engineering company that specializes in transportation infrastructure. Their estimate is based on a four-mile length of four-lane concrete paved interstate. The estimate includes excavation and grading, aggregate base course (ABC), asphaltic concrete, binders, admixtures, and concrete catch basins. The estimate also includes a new interchange for the Johnson Road relocation and an underpass for mine vehicles. Other costs include contractor mobilization, quality control, and construction surveying. With 20% contingency, the direct cost of the Interstate 10 relocation is $37.4 million. Another $6.7 million has been added for drainage, traffic signage, traffic control during construction, dust suppression, erosion control, and incentives for smoothness and quality. The total cost of the highway realignment is $44.0 million. This cost was escalated to $45.6 million in Q3 2024 dollars.

M3 designed an alignment for the Interstate 10 to indicate where it crossed two major drainages. For those crossings, M3 added $6.4 million in direct costs for the installation of concrete box culverts along the entire width of the two drainages, which is included in the direct infrastructure cost. This brings the total cost of the highway relocation to $52.0 million.

21.1.10 Power Infrastructure

There is a cost of $5.9 million to increase the Gunnison primary substation from 69 kV to 230 kV or 115 kV to handle the higher current required for the 175 mppa Gunnison SX-EW plant. Another $10.9 million is needed for new distribution powerlines and cabling to the various plant and ancillary facilities.

21.1.11 Indirect Costs

Indirect capital costs were generally factored from the direct field cost. Below is a list of indirect items in the capital cost estimate:

- Indirect field mobilization is 1.5% of the direct field cost without mobile equipment.
- Temporary construction facilities is 0.5% of direct cost less mobile equipment.
- Construction power is 0.1% of direct cost less mobile equipment.
- Engineering Procurement and Construction management is 16.8% for Stages 2 and 3 of the direct cost plus the indirect cost listed above. Stage 1 EPCM was estimated to be 13.5% since GCC will self-perform much of the construction management.
- EPCM temporary facilities and utility setup were estimated as 0.5% of total constructed cost.
- Commissioning was estimated to cost 1% of plant equipment less mobile equipment.
- Vendor supervision is estimated as 1.5% of plant equipment costs during construction and 0.5% of plant equipment costs, each, for pre-commissioning and commissioning.
- Capital spare parts are estimated as 2.0% of plant equipment and commissioning spares are 0.5% of plant equipment.
- Contingency for the leach pad, SX-EW plant, utilities, and ancillary has been included at 20% of the total direct and indirect costs.

21.1.12 Owner's Costs

The Gunnison Project Owner's costs include: Owner's staffing during development of the open pit, communications, Owner's team facilities and office costs, plant prep-production warehouse first fills, reagent first fills, and vehicles and mobile equipment. There are also some permitting, compliance and closure bond costs, construction insurance, training, medical/security costs, and community development costs.

The Owner's costs for the Gunnison Project total $23.7 million.

21.1.13 Sustaining Capital Cost

Sustaining capital costs for the Project include two categories: mine mobile equipment replacements and heap leach pad expansions. Mine mobile equipment is replaced on a schedule based on hours of operation.

As mentioned above in Section 21.1.4, there are two planned expansions of the leach pad: the first one in Year 4 is estimated to cost $47.3 million in total direct and indirect costs and second one in Years 6 & 7 is estimated to cost $75.7 million.

No sustaining capital costs are anticipated for the SX-EW plant or the sulfuric acid plant since plant improvements are anticipated to be captured in the annual maintenance budget.

21.2 OPERATING COST

The basic components of the Project are the mine, the heap leach pad, the SX-EW plant, the sulfuric acid plant including the railyard and G&A costs. Table 21-6 summarizes the total operating costs for the Gunnison Project.

Table 21-6: Gunnison Project Operating Costs

Area	LOM ($000)	$/st Mineralized Material Processed	$/lb Copper Recovered
Mine Operating Cost	**$42,369,821**	**$4.30**	**$0.87**
Heap Leach Operating Cost	$648,989	$1.18	$0.24
SX-EW Operating Cost	$503,570	$0.91	$0.19
Incremental Sulfide Material Cost	$187,368	$0.34	$0.07
G & A	$150,292	$0.27	$0.06
Plant Operating Costs (subtotal)	**$1,490,219**	**$2.71**	**$0.55**
Royalties	$526,238	$0.96	$0.19
Property & Severance Tax	$141,384	$0.26	$0.05
Closure & Salvage Value	$61,950	$0.11	$0.02
Other Production Costs	**$729,572**	**$1.32**	**$0.27**
Total Operating Costs	**$4,589,612**	**$8.34**	**$1.69**

21.2.1 Mine Operating Cost

Mine operating costs were developed based on first principles for the mine plan and the equipment list presented in Section 16. Sufficient release of leachable material is not achieved until after two years of pre-production waste stripping. The mine operating costs for the first two years of preproduction mining ($211.7 million Years -2 and -1) and also the deferred stripping costs ($346.2 million in Years 1 – 12) are discussed in this section but are accounted for in the mining capital costs section. The mine operating costs, excluding equipment lease payments (an additional $163.8 million in Years 1-5, equivalent to $0.10 per ton), are estimated at $2.55 billion for mining Years 1 through 16, averaging $1.51 per total ton mined.

Annualized operating costs by cost center are provided in Table 21-7.

Table 21-7: Mine Operating Costs by Cost Center

Mining Year	Total Material (kt)	Drilling $/t	Blasting $/t	Loading $/t	Hauling $/t	Auxiliary $/t	General Mine $/t	General Maint. $/t	G&A $/t	TOTAL $/t	Total Operating Cost ($000)
-2	95,000	0.07	0.11	0.18	0.40	0.09	0.04	0.05	0.08	1.02	96,897
-1	95,000	0.07	0.11	0.18	0.56	0.11	0.04	0.05	0.08	1.21	114,795
1	95,000	0.10	0.14	0.18	0.60	0.12	0.04	0.06	0.09	1.34	126,952
2	100,000	0.12	0.16	0.19	0.71	0.14	0.04	0.06	0.09	1.52	151,550
3	100,000	0.10	0.14	0.19	0.70	0.13	0.04	0.06	0.09	1.45	145,228
4	100,000	0.11	0.15	0.19	0.81	0.13	0.04	0.06	0.09	1.59	158,986
5	100,000	0.11	0.15	0.19	0.82	0.13	0.04	0.06	0.09	1.60	159,742
6	105,000	0.14	0.19	0.19	0.77	0.13	0.04	0.06	0.09	1.62	169,722
7	120,000	0.11	0.15	0.19	0.74	0.10	0.04	0.05	0.08	1.46	175,232
8	120,000	0.15	0.19	0.19	0.94	0.11	0.04	0.06	0.08	1.77	212,884
9	120,000	0.12	0.16	0.19	0.93	0.10	0.04	0.06	0.08	1.68	201,361
10	120,000	0.14	0.18	0.19	0.93	0.09	0.04	0.06	0.08	1.71	205,732
11	120,000	0.17	0.22	0.19	0.93	0.09	0.04	0.06	0.08	1.78	214,012
12	120,000	0.18	0.22	0.19	0.93	0.09	0.04	0.06	0.08	1.79	214,994
13	62,205	0.17	0.22	0.20	1.18	0.14	0.06	0.08	0.14	2.19	136,457
14	42,048	0.18	0.23	0.20	1.17	0.18	0.06	0.09	0.20	2.30	96,621
15	36,200	0.18	0.23	0.20	1.25	0.22	0.06	0.11	0.23	2.47	89,563
16	34,763	0.18	0.23	0.20	1.43	0.23	0.06	0.12	0.24	2.68	93,150
TOTAL	**1,685,216**	**0.13**	**0.17**	**0.19**	**0.83**	**0.12**	**0.04**	**0.06**	**0.10**	**1.64**	**2,763,877**
	PERCENT	7.9%	10.4%	11.6%	50.6%	7.2%	2.7%	3.6%	5.9%	100.0%	

* Costs in Years -2 and -1 of Pre-production have been included in the Mine Capital Costs
* Includes deferred stripping costs but not the equipment leasing costs

Mine operating costs include blast hole drilling, loading of blast holes, hauling, and auxiliary operations to support production mining. Those cost centers include, operating labor, maintenance labor, consumables costs, and equipment maintenance costs.

"General Mining" costs include the costs for: general mine laborers, software licenses, assaying costs and miscellaneous operations consumables. "General Maintenance" costs include the costs for: general maintenance laborers and miscellaneous maintenance consumables. "G&A" costs include mine supervision staff, maintenance supervision staff, technical services staff and also a 10% allowance for vacation and sick leave of the hourly labor.

A diesel fuel price of $3.14/gallon was used as input for developing the operating costs. This equates to diesel accounting for $0.47/t of the $1.64/t mine operating cost.

21.2.2 Heap Leach Operating Cost

OPEX components of heap leaching include labor, sulfuric acid, fuel, miscellaneous supplies, and operating spares for mobile leach pad equipment. Sulfuric acid costs represent over 95% of the cost of heap leaching. Table 21-8 summarizes the annual operating costs for the heap leach area.

Table 21-8: Heap Leach Operating Cost

Operating & Maintenance	Average Annual Cost ($000)	$/st Mineralized Material Processed	$/lb Copper Recovered	LOM Operating Cost ($000)	%
Labor	$2,315	$0.08	$0.015	$41,671	6.4%
Electrical Power	$1,858	$0.06	$0.012	$33,452	5.2%
Reagents	$29,931	$0.98	$0.199	$538,754	83.0%
Maintenance Parts	$1,890	$0.06	$0.013	$34,027	5.2%
Supplies and Services	$60	$0.00	$0.000	$1,085	0.2%
Total	**$36,055**	**$1.18**	**$0.24**	**$648,989**	**100.0%**

21.2.3 Solvent Extraction-Electrowinning Cost

The operating cost for the combined SX-EW facilities are summarized in Table 21-9. The SX-EW facility includes the process ponds, the solvent extraction facility, the tank farm, the electrowinning tankhouse, supervision, and support facilities for the plant operating cost by operating labor, reagents, power, maintenance labor and spare parts, and operating supplies.

Table 21-9: Summary SX-EW Operating Cost

Operating & Maintenance	Average Annual Cost ($000)	$/st Mineralized Material Processed	$/lb Copper Recovered	LOM Operating Cost ($000)	%
Labor	$7,571	$0.25	$0.05	$136,284	27.1%
Electrical Power	$13,441	$0.44	$0.09	$241,957	48.0%
Reagents	$4,078	$0.13	$0.03	$74,403	14.6%
Maintenance Parts	$2,156	$0.07	$0.01	$38,806	7.7%
Supplies and Services	$729	$0.02	$0.00	$13,120	2.6%
Total	**$27,975**	**$0.91**	**$0.19**	**$503,570**	**100.0%**

The labor cost for the SX-EW area is based on an average wage rate of $93,834 which includes 35% fringe benefits. The heap leach area is based on an average wage rate of $102,928 which includes 35% fringe benefits. The SX-EW facility requires 78 personnel with the annual labor cost amounting to $6.9 million. The heap leach facility requires 26 personnel with the annual labor cost amounting to $2.5 million. At full staffing, the project will consist of 13 Operations administration personnel, 20 heap leach operators, 42 SX-EW operators, and 42 plant maintenance personnel. Table 21-10 lists the quantity, salary and LOM cost of personnel at full production.

Table 21-10: Heap Leach & SX-EW Operating Labor Cost Summary

Department	Staff	Average Annual Salary	LOM Cost ($M)
Administration	13	$110,682	$25.9
Heap Leach Operations	20	$84,763	$30.5
SX-EW Operations	42	$67,169	$50.8
Plant Maintenance	42	$93,600	$70.8
Total	**117**	**$84,499**	**$178.0**

The annual cost of reagents for the project is approximately $41.7 million in an average production year (sulfuric acid exclusive of leach pad) and includes extractant, diluent, cobalt sulfate, guar, mist suppressor (FC-1100), and sulfuric acid for electrolyte makeup. The annual consumption of reagents and cost for a typical year at full production is shown in Table 21-11 below.

Table 21-11: Total Reagent Consumption and Costs

Copper Cathode Produced (Average Year)	167,300,000 lbs / year			
Reagent / Wear Part	**Quantity/Year (000s lbs)**	**Annual Cost ($000)**	**LOM Cost ($000)**	**$/lb Copper**
Extractant	151	$615	$11,070	$0.004
Diluent	2,410	$2,145	$38,615	$0.014
Sulfuric Acid – plant only	1,573,754	$28,690	$516,419	$0.19
Sulfuric Acid - purchased	123,165	$9,237	$27,712	$40.01
Cobalt Sulfate	15	$73	$1,307	$0.000
Guar	90	$565	$10,169	$0.004
Mist Suppressor (FC 1100)	5	$76	$1,365	$0.001
Crushing Liners (Sets /Year)	2	$344	$5,499	$0.002
Total Reagents		**$41,745**	**$612,157**	**$0.226**

The annual power cost is $15.6 million at full 175 mppa plant capacity as shown in Table 21-12 and is based on a power consumption of 1.29 kWh per lb of cathode copper produced and at a cost of power of $0.079/ kWh.

Table 21-12: Annual Power Cost

Area	Average Annual kWh	Average Annual Cost ($000)	LOM Cost ($000)
Solution Ponds	20,894,524	$1,651	$24,760
Solvent Extraction	4,557,762	$360	$5,401
Tank Farm	1,572,815	$124	$2,237
Electrowinning	95,471,797	$7,542	$135,761
Fresh Water System	1,096,835	$87	$1,560
Fire Water System	16,114	$1.3	$23
Reagents	10,868	$0.9	$15
Sulfuric Acid Storage	13,249	$1.0	$19
Primary Crusher	49,675,039	$3,924	$70,638
Leach Pad	23,524,400	$1,858	$33,452
Ancillaries	1,085,395	$86	$1,543
Total	**197,918,798**	**$15,636**	**$275,408**

The average annual cost for maintenance parts and services is $4.0 million and is based on 3.0% of the projects equipment cost.

Annual cost of operating supplies and services at peak production is $0.9 million.

21.2.4 General and Administrative Cost

Total annual General & Administrative (G&A) cost for the facility is $8.3 million, or $0.06 per pound of copper produced. The G&A labor is the largest component at $5.0 million per year, based on a staffing plan of 53 people total, inclusive of 13 people staffing the laboratory. Allowances were made for non-labor components of general and administrative expenses, which include such items as office supplies, communications, small vehicle maintenance, claims assessments, legal and auditing, insurances, travel, meals and expenses, community relations, recruiting and relocation expenses, and janitorial services. The breakdown of G&A cost and labor detail is shown in Table 21-13 and Table 21-14.

Table 21-13: General and Administrative Cost Breakdown

Copper Cathode Produced (Average Year)	**150,000,000 lbs**	
Cost Element	**Annual Cost ($000)**	**$/lb Copper**
Labor & Fringes	$4,360	$0.030
Accounting (excluding labor)	$69	$0.000
Safety & Environmental (excluding labor)	$60	$0.000
Human Resources (excluding labor)	$46	$0.000
Security (excluding labor)	$69	$0.000
Assay Lab (excluding labor)	$275	$0.002
Office Operating Supplies and Postage	$46	$0.000
Maintenance Supplies	$138	$0.001
Propane Power	$69	$0.000
Communications	$92	$0.001
Small Vehicles	$138	$0.001
Claims Assessment	$23	$0.000
Legal & Audit	$321	$0.002
Consultants	$229	$0.002
Janitorial Services	$69	$0.000
Insurances	$1,834	$0.012
Subs, Dues, PR, and Donations	$55	$0.000
Travel, Lodging, and Meals	$183	$0.001
Recruiting/Relocation	$183	$0.001
Community Relations	$92	$0.001
Total General & Administrative Cost	**$8,350**	**$0.055**

Table 21-14: General and Administrative Labor Cost Summary (Average Year)

Position	Number of Personnel	Annual Salary		Extended Annual Labor Costs		
		Annual Salary	Benefits (45%)	Annual Labor	Annual Benefits	Total Annual Labor Cost
General Manager	1	$192,000	$86,400	$192,000	$86,400	$278,400
Administrative Assistant 1	2	$52,000	$23,400	$104,000	$46,800	$150,800
Admin Manager	1	$120,000	$54,000	$120,000	$54,000	$174,000
Security Guard	8	$41,600	$18,720	$332,800	$149,760	$482,560
EHS Manager	1	$95,040	$42,768	$95,040	$42,768	$137,808
Safety Admin Assistant	1	$45,760	$20,592	$45,760	$20,592	$66,352
HR Manager	1	$120,000	$54,000	$120,000	$54,000	$174,000
IT Technician	2	$79,040	$35,568	$158,080	$71,136	$229,216
Staff Accountant	1	$72,000	$32,400	$72,000	$32,400	$104,400
Purchasing/Warehouse Manager	1	$120,000	$54,000	$120,000	$54,000	$174,000
Purchasing Agent	4	$80,004	$36,002	$320,016	$144,007	$464,023
Warehouse	8	$52,000	$23,400	$416,000	$187,200	$603,200
Technical Manager	0	$120,000	$54,000	$0	$0	$0
Administrative Assistant 2	1	$58,240	$26,208	$58,240	$26,208	$84,448
Process Engineer	1	$93,600	$42,120	$93,600	$42,120	$135,720
Surveyor/Technician	1	$72,800	$32,760	$72,800	$32,760	$105,560
Environmental Manager	0	$129,996	$58,498	$0	$0	$0
Environmental Engineer	1	$70,000	$31,500	$70,000	$31,500	$101,500
Senior Geologist	0	$105,000	$47,250	$0	$0	$0
Metallurgist	2	$75,000	$33,750	$150,000	$67,500	$217,500
Chief Chemist	1	$94,500	$42,525	$94,500	$42,525	$137,025
Lab Technician	12	$54,000	$24,300	$648,000	$291,600	$939,600
Sr. Hydrologist	1	$65,000	$29,250	$65,000	$29,250	$94,250
Core/Hydro Techs	2	$54,996	$24,748	$109,992	$49,496	$159,488
Total G&A Labor	**53**			**$3,457,828**	**$1,556,023**	**$5,013,851**

21.2.5 Sulfuric Acid Plant

The largest impact to the cost of sulfuric acid production is the cost of molten sulfur which is estimated to be $110/short ton. The plant labor is essentially the same for the two plants requiring 28 operations and 28 maintenance staff per shift and an overall acid plant supervisor. The annual operating costs for the sulfuric acid plant, power plant, and associated facilities is $38.3 million or $36.46 per ton sulfuric acid and $0.26 per pound of copper produced. The acid plant operating costs are summarized in Table 21-15 below.

Table 21-15: Sulfuric Acid Plant Operating Costs

Annual Sulfuric Acid Production	**866,250 short tons / year**		
Annual Average Copper Production	**175,000,000 lbs / year (Design)**		
Cost Element	**Annual Cost ($000)**	**$ / Short ton Acid**	**$ / lb Copper**
Labor	$4,708	$4.48	$0.031
Reagents	$37,744	$35.95	$0.252
Fuel (Propane)	$946	$0.90	$0.006
Power (Credit)	($18,448)	($17.57)	($0.123)
Maintenance	$7,047	$6.71	$0.047
Operating Supplies	$6,287	$5.99	$0.042
Total Sulfuric Acid Plant Operating Costs	**$38,284**	**$36.46**	**$0.26**

21.2.5.1 Labor

Labor cost is based on a staffing plan of 28 operators and 28 maintenance personnel. The operating crew consists of a general foreman and 4 technicians on day shift, five days per week, and a control room operator and field operator each shift seven days per week. The average annual wage rate is $73,342 plus 28% for fringe benefits.

21.2.5.2 Reagents

Reagents needed for the sulfuric acid plant includes the sulfur required for acid production and water treatment chemicals for the cooling tower and boiler feed water systems. One ton of sulfur will produce a little over 3 tons of sulfuric acid. Based on a requirement of 1,050,000 tons of sulfuric acid annually, approximately 342,857 tons of sulfur will be required. The cost of sulfur used is $110.00 per ton delivered to site and is based on the average published cost for U.S. west coast sulfur and Houston sulfur over the last eleven years with freight allowed to the project site. An allowance of $30,000 per year was used for the water treatment chemicals.

21.2.5.3 Fuels (Propane)

Propane usage to fire the steam boiler at the sulfur unloading area is based on a boiler sized for 5 million BTU/hr. and a heat value for Propane of 92,500 BTU/gallon. It is assumed that the boiler would operate 16 hours per day. The cost for propane was set at $2.00 per gallon, the average of current wholesale and residential cost.

21.2.5.4 Power Credit

The turbine generator is expected to produce approximately 44.0 MW of power. The power requirements to produce sulfuric acid is estimated to be 14 MW, which leaves an excess of 30.0 MW of power generated from the acid plant. A factor of 95% has been used to discount the power sold back to the utility, which amounts to approximately 27.8 MW, which is equal to a net power credit of $18.4 million annually.

21.2.5.5 Maintenance

Annual maintenance cost for the sulfuric acid plant was estimated to be 3% of the installed cost of the acid plant or $4.6 million. The annual maintenance for the power plant was estimated to be $0.01/kWh or $2.4 million. Total maintenance cost is $7.0 million annually equal to $6.71/ton of acid. The maintenance cost includes an accrual for major repairs that will occur at intervals of 1.5 to 2 years.

21.2.5.6 Acid Plant Operating Supplies and Services

Operating supplies and services were estimated at 2.5% of the total installed cost of the acid plant and power plant or $3.8 million annually which equals $3.66/ton of acid.

Railroad services for unloading sulfur and operating the railcar unloading and storage facility is estimated to be $2.4 million annually which equals $2.33/ton of acid.

General and administrative costs are included in the process plant costs. No additional G&A costs are required for the acid plant.

The total operating supplies and services estimate comes to $5.99/ton of acid produced (acid plant plus rail facility).

21.2.6 Reclamation and Closure Cost

The Project will require the reclamation and closure of several elements:

Three main components comprise the reclamation costs:

- Gunnison Mine Leach Pad, Solution Ponds, & Waste Dumps
- Gunnison Plant, Ponds, Ancillary Facilities & Infrastructure
- Bond Fees

These costs are accounted for in the financial model as sustaining capital costs. The reclamation and closure costs used in the financial model are estimated to be $93.0 million. These costs are summarized in Table 21-16 below.

Table 21-16: Summary Reclamation and Closure Cost

Area	Reclamation & Closure Cost ($M)
Solution Management	$1.9
Civil Contouring	$41.9
Plant Demolition	$41.2
Indirect Costs	$4.2
Contract Administration	$3.4
Total Reclamation & Closure	**$92.6**
Estimated Bond Fees	$0.4
Total Reclamation, Bonding, & Closure	**$93.0**

M3 used its own labor hours and costs to develop the reclamation and closure cost for the Gunnison site.

The Gunnison Heap Leach Pad reclamation estimate was based on estimates provided to the Arizona Department of Environmental Quality (ADEQ) for the reclamation of Leach Pad No. 5 at the Johnson Camp Mine across the highway. The footprint of the Gunnison leach pad is approximately 4.6 times larger so the cost estimate has been factored up accordingly.

Reclamation costs for the Gunnison Pit and Waste Dumps and Pond calculations were based on similar-sized projects in the arid southwestern US.

The Gunnison area reclamation and closure cost estimate includes closure estimates for each process and water treatment pond as well as an aggregate cost for demolition and reclamation of the Gunnison plant site. The reclamation cost includes dismantling all buildings and equipment and removing from the site. Above ground concrete will be demolished and removed from site or buried on site. Below ground concrete will remain and be covered.

Solution ponds will be drained, and the top lining removed to inspect the bottom lining for leaks. If there is evidence of leaks, the bottom lining must be removed, the soil at the leak tested for contamination, and any required remediation performed before the pond can be covered. If no evidence of leaks is found, the top lining can be folded over in place and the pond covered. The ponds must be filled to form a mound to prevent storm water from collecting over the pond and migrating into the pond. The plant site will be graded to existing contours. Roads will be left in place; however, asphalt will be removed. The plant site and solution and evaporation ponds will be hydro-seeded for plant growth.

The bond fees are non-refundable expenses for covering the cost of project bonding. The estimated amount is based on 1.0% annually of the amount bonded.

In the current study, the reclamation costs for the acid plant were not included in the financial model because the intention is for the acid plant to be operated as a separate business entity. The timing of reclamation of the acid plant is not likely to occur simultaneously with the reclamation and closure of the Gunnison Project.

22 ECONOMIC ANALYSIS

The Project's capital cost estimate includes the open pit mine (mobile mining fleet), waste dumps, and heap leach pad, SX-EW process plant, sulfuric acid plant, mine services, utilities and services, and ancillary facilities.

Infrastructure changes will require the realignment of Interstate 10 around the north side of the proposed Gunnison open pit. The present Gunnison PLS Pond will be relocated to the south end of the proposed leach pad. The power transmission lines and substations for the new Gunnison SX-EW and sulfuric acid plant will be rerouted, and the rail spur from the Union Pacific Southern Pacific Railroad will be shortened coming into the property.

The sulfuric acid plant has been upsized from 1,650 stpd from the last published study to 3,000 stpd to meet the new acid demand for heap leaching. The annual production figures were obtained from the mining plan as presented earlier in this Technical Report.

22.1 PLANT PRODUCTION STATISTICS

The design basis for the process plant production is 175 mppa of copper cathode in a single large SX-EW facility. To achieve that production, approximately 28,000 gpm of PLS will be pumped from the PLS pond to the Gunnison plant.

Average annual production is projected to be approximately 167 million pounds of copper cathode over the 16 year life of mine. Total production for the life of the operation is projected at approximately 2,712 million pounds of copper.

22.1.1 Copper Sales

The copper cathodes are assumed to be shipped to buyers in the US market, with sales terms negotiated with each buyer. The financial model assumptions are based on experience with copper sales from similar operations in the US. The forecast copper price used for this PEA is $4.10 per lb of copper sold. A $0.02 per lb premium has been added to each pound of copper so the effective price for cathode sales is $4.12 per lb.

22.1.2 Initial Capital

The initial capital cost estimate for the Gunnison Project, exclusive of open pit development is shown in Table 22-1 below. The estimated initial capital cost for the project is $1,342.6 million. This total includes: the mine mobile fleet by leasing, pre-stripping costs, the crushing and conveying area, construction of the first phase of the heap leach pad, the SX-EW plant, the sulfuric acid plant, the utility upgrades, the infrastructure improvements, ancillary facilities, and the I-10 highway relocation. The financial indicators have been calculated assuming 100% equity financing of the initial capital. Any acquisition cost or expenditures, such as property acquisition, permitting, and study costs, prior to project authorization have been treated as "sunk" cost and have not been included in the analysis.

Table 22-1: Initial Capital Requirement

#	Item	Initial Capital ($M)
1	Mine (including Pre-stripping)	$211.7
2	Mine (Initial Owner's Fleet Leasing Costs)	$94.4
3	Mine Services Area	$18.2
4	Crushing Plant- Conveying-Leach Pad-Solution Ponds	$161.2
5	SX-EW Plant (includes SX, Tank Farm, EW Tankhouse, and Reagents)	$166.7
6	Plant Ancillary Buildings	11.4
7	Acid Plant and Railyard	$243.1
88	Utilities – Power Transmission & Distribution, Water Systems	$21.7
9	Freight	$37.8
10	Indirects	$145.9
11	Owner's Cost	$23.7
10	Highway Realignment	$45.6
11	Contingency	$161.2
	Total Initial Capital	**$1,342.60**

22.1.3 Sustaining Capital

Sustaining capital is primarily required for expansion of the leach pad in Year 4 ($30.9 million) and Years 6 and 7 ($49.5 million). Freight costs for liner and piping add another $3.1 million for total direct sustaining costs of $83.5 million. Indirects with a total of $19.0 million and contingency of $20.5 million increase the total leach pad sustaining capital costs to $123.0 million.

The mine will require fleet replacement costs of $334.9 million in Years 1 through 16.

The sulfuric acid plant is estimated to require $72.0 million in plant upgrade costs spread in Years 6 and 7.

Deferred stripping costs are estimated to total $346.2 million.

Total sustaining capital costs for the Gunnison Project amount to $876.1 million.

22.1.4 Working Capital

A 15-day delay of receipt of revenue from sales is assumed for accounts receivables. A delay of payment for accounts payable of 30 days is also incorporated into the financial model. An allowance for initial replacement parts inventory for the plant is also included. All the working capital is recaptured at the end of the mine life, and the final value of these accounts is zero.

22.2 REVENUE

Annual revenue is determined by applying estimated metal prices to the annual payable metal estimated for each operating year. Sales prices have been applied to all life of operation production without escalation or hedging. The revenue is the gross value of payable metals sold before treatment charges and transportation charges. The average copper price used in the evaluation is $4.12/lb for the life of the mine.

22.3 TOTAL OPERATING COST

The average Cash Operating Cost over the life of the operation is estimated to be $7.01 per short ton of mineralized material processed exclusive of royalties and taxes. On a per pound basis, the cash operating cost is $1.42 per pound of copper produced, excluding the cost of the capitalized pre-production leaching. Cash Operating Cost includes mining, crushing, heap leaching, SX-EW plant operations, sulfuric acid plant, and General Administrative (G&A) costs. Table 22-2 below shows the estimated operating cost and other production costs by area per pound of copper produced.

Table 22-2: Life of Operation Operating + Production Costs

Operating Cost	$/lb Copper
Mining (including Fleet Leasing Costs)	$0.87
Heap Leach	$0.24
Sulfide Material Incremental Cost	$0.07
SX-EW	$0.19
General and Administrative	$0.06
Sub-Total: Operating Cash Cost	**$1.42**
Royalties, Taxes (excludes Income Tax), Reclamation & Salvage	$0.27
Total Cash Cost	**$1.69**

22.4 TOTAL CASH COST

Total Cash Cost is the Total Operating Cost plus royalties, property tax, severance tax, salvage value, and reclamation and closure costs. The average Total Cash Cost over the life of the operation is estimated to be $1.69 per pound of copper produced.

22.4.1 Royalties

There are three entities that are entitled to royalties: the State of Arizona, Greenstone and Altius. The State has a flat royalty of 5.5%.

The Greenstone royalty is paid at the rate of 3.0% of the value of copper produced, up 1% from 2015, while the Altius royalty is paid at a flat rate of 1.50%.

The Bowlin royalty has an estimated LOM cost of $500,000, which equates to an incremental cost of $0.002/lb Cu. This royalty has not been included in the LOM discounted cash flow.

Royalties for the life of the operation are estimated at $526.2 million and average $0.19 per pound of copper recovered.

22.4.2 Property and Severance Taxes

Property and severance taxes are estimated to be $141.4 million and average $0.05 per pound of copper recovered. Property taxes were estimated to be approximately $3.5 million per year during production, totaling $54.2 million for the life of the operation. Severance taxes are calculated as 2.5% of net proceeds before taxes from mining. Severance taxes are estimated to be approximately $87.2 million for the life of the operation.

22.4.3 Reclamation and Closure

An allowance for reclamation and closure costs is estimated to be $93.0 million ($0.034/lb copper cathode). Reclamation and closure activities are assumed to occur for 3 years beginning the year after mining has ceased.

A credit of $31.0 million has been included for the salvage value of the plant equipment. The acid plant has not been included in the reclamation or closure cost estimate or the salvage value credit because it is assumed that the sulfuric acid plant will survive as a going concern after the closure of the mine.

22.4.4 Income Taxes

Taxable income for income tax purposes is defined as metal revenues minus operating expenses, royalty, property and severance taxes, reclamation and closure expense, depreciation, and depletion. The combined federal and state corporate income tax rate in Arizona is 25.9 percent and is applied to 'taxable income' derived from the Gunnison Project.

Income taxes are estimated by applying state and federal tax rates to taxable income. The primary adjustments to taxable income are tax depreciation and the depletion deduction. Income taxes estimated in this manner total $700.7 million for the life of the Project.

22.4.5 Net Present Value (NPV) and Internal Rate of Return (IRR)

The economic results before taxes for the Project, as shown in Table 22-3, indicate an Internal Rate of Return (IRR) of 22.8% and a payback period of 3.8 years. The Net Present Value ("NPV") before taxes is $1.54 billion at an 8% discount rate using the mid-year convention. The economic results after taxes indicate that the Project has an IRR of 20.9% with a payback period of 4.1 years. The NPV after taxes is $1.26 billion at an 8% discount rate using the mid-year convention. The analysis assumes 100% equity financing.

Table 22-3: Economic Results

Item	Base Case
Years of Commercial Production	18
Total Copper Produced (million lbs)	2,712
LOM Copper Price (avg $/lb) includes $0.02/lb cathode premium	$4.12
Initial Capital Cost ($M)	$1,342.6
Sustaining Capital Cost ($M)	$876.1
Payback of Capital (pre-tax / after-tax)	3.8 / 4.1
Internal Rate of Return (pre-tax / after-tax)	22.8% / 20.9%
LOM Direct Operating Cost ($/lb Copper recovered)	$1.42
LOM Total Production Cost ($/lb Copper recovered)	$1.69
Pre-Tax NPV at 8% discount rate ($M) – mid-year	$1,545.0
After-Tax NPV at 8% discount rate ($M) – mid-year	$1,259.6

The preliminary economic assessment is preliminary in nature and it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the preliminary economic assessment will be realized.

The project 's after-tax economic results shows greatest sensitivity to copper price fluctuations, followed by initial capital expenditures and operating cost changes. Table 22-4, Figure 22-1 and Figure 22-2 below illustrate these sensitivities.

Table 22-4: Sensitivity Analysis

Copper Price			
	NPV @ 8.0%, after-tax ($M)	**IRR%**	**Payback**
Base Case	$1,260	20.9%	4.1
20%	$2,054	27.6%	3.1
10%	$1,660	24.4%	3.5
-10%	$848	17.1%	4.7
-20%	$431	12.8%	6.0
Operating Cost			
	NPV @ 8.0%, after-tax ($M)	**IRR%**	**Payback**
Base Case	$1,260	20.9%	4.1
20%	$979	18.4%	4.4
10%	$1,120	19.7%	4.2
-10%	$1,396	22.1%	3.9
-20%	$1,530	23.2%	3.7
Initial Capital			
	NPV @ 8.0%, after-tax ($M)	**IRR%**	**Payback**
Base Case	$1,260	20.9%	4.1
20%	$1,031	17.3%	4.8
10%	$1,145	19.0%	4.4
-10%	$1,374	23.2%	3.7
-20%	$1,488	25.9%	3.3

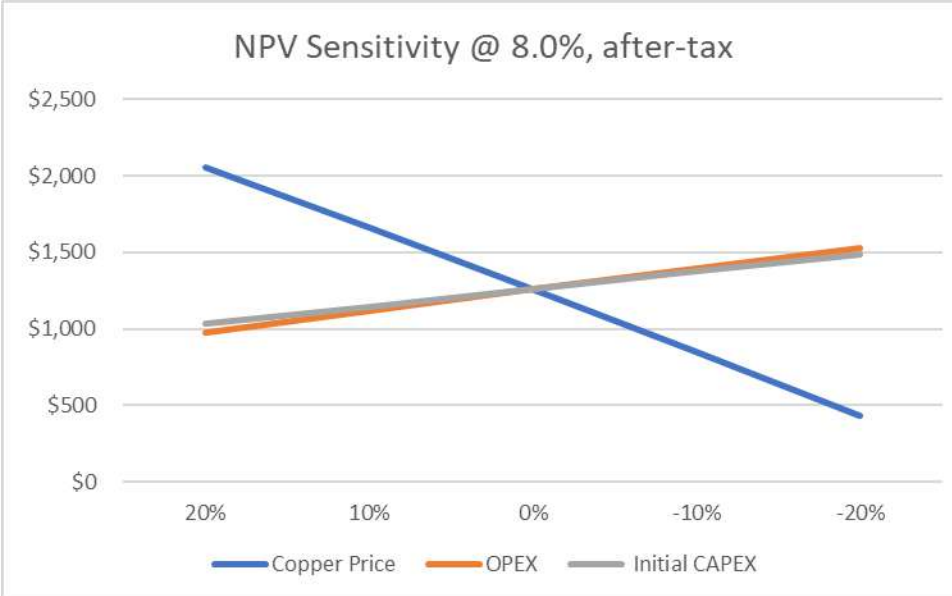


Figure 22-1: NPV Sensitivity – After Tax

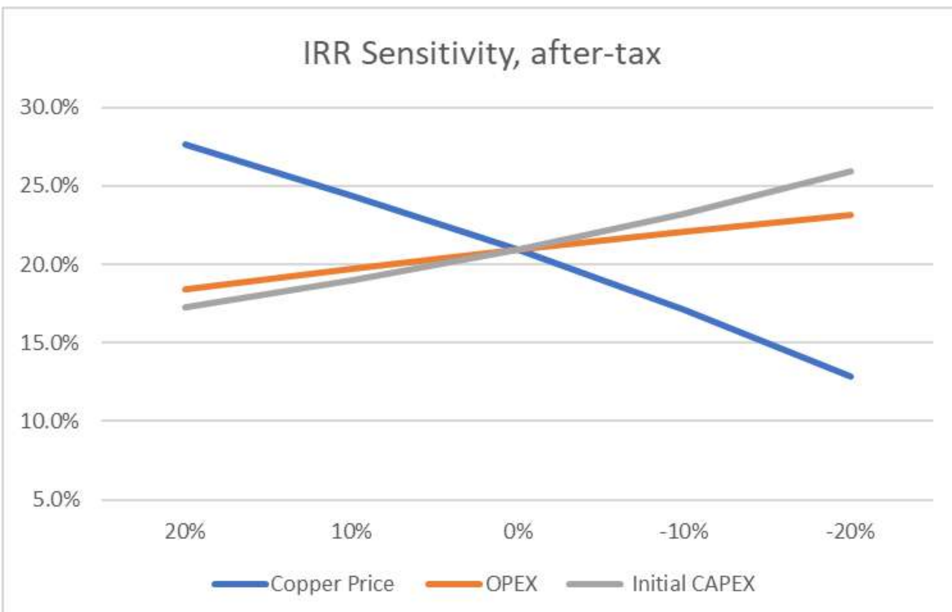


Figure 22-2: IRR Sensitivity – After Tax

23 ADJACENT PROPERTIES

The Gunnison Project lies within the porphyry copper metallogenic province of the southwestern United States. It is located in the Cochise Mining District, which is dominated by Cu-Zn skarns. GCC controls a majority of historical producing properties in the district. Tungsten and minor lead-silver-gold have been produced in small adjacent properties in the district (Cooper and Silver, 1964). In particular, tungsten has been historically produced in the area west of the Gunnison Project in the northern half of the Texas Canyon quartz monzonite stock before and during World War I. Lead-silver was also historically produced from Paleozoic limestones in the Gunnison Hills east of the Gunnison Project in the early 1900s (Cooper and Silver, 1964). Mineralization on adjacent properties is not necessarily indicative of the mineralization on the Gunnison Project. The author has relied on reports by others (as referenced) for the information presented in this section and has been unable to verify the information.

24 OTHER RELEVANT DATA AND INFORMATION

24.1 MINERALIZED MATERIAL SORTING OPPORTUNITY

The copper resource tonnage in the Gunnison open pit consists of over 80% oxide copper mineralization. This mineralization is visually distinct, forming blue-green and red-brown veinlets and coatings on fracture surfaces or thick rubblized zones. This style of oxide mineralization is ideally suited to optical mineralized material sorting and differentiates itself from the usual disseminated copper oxide deposits.

Sulfides can also be potentially targeted by mineralized material sorting. The brassy yellow colors of copper and iron sulfide mineralization would also be readily detected just like the oxides described above.

Sorting technology is relatively common across many industries, including mining, metal and waste recycling and food preparation, and is done at scales consistent with Gunnison's production rates. The process involves several techniques including using color, reflectance, chemical analysis, and mineral properties. It has the potential to greatly impact the economics of deposits by pre-concentrating mineralization while rejecting waste ahead of processing.

Gunnison drill core has been geologically evaluated by RESPEC who concluded that optically separating the mineralization based on color (blue-green-red-brown) could be highly successful.

Redwave Solutions, an Austrian sorting company, conducted optical mineralized material sorting trials on Gunnison drill core using single pass drop tests. These tests, selecting blue-green and red-brown colors for oxide mineralization showed great success at separating copper-mineralized material from waste.

These studies indicate that, for certain rock types, there is potential to remove up to 50% of the mineralized material stream as internal waste. This would have the effect of reducing leached tons by an equivalent 50%, nearly doubling the processed copper grade, and reducing acid consumption by more than 50%. This is because internal waste has a higher carbonate content and consumes significantly more acid per ton than the mineralized rock.

At a commercial scale, the design would include a series of conveyors, screens, and sorters that would select the copper oxide mineralization and reject the higher acid consuming, un-mineralized, or low grade waste rock. The initial capital costs for a Gunnison sized operation are up to $93 million with operating costs around 39 cents per ton. The value of mineralized material sorting to the Gunnison open pit is most important should acid consumption prove to be higher than expected during PFS metallurgical testing.

Several factors are important in evaluating mineralized material sorting at Gunnison. These include:

- Percentage of material rejected. The more subgrade material that is removed means smaller infrastructure and smaller heap leaching CAPEX and OPEX.
- The ratio of acid consumption in the rejected material vs. the selected mineralized material. The higher the ratio, the better. At present, the waste material removed appears to have at least 5 to 10 times higher acid consumption compared to the mineralized material selected, indicative of the potential economic advantage of sorting.
- The copper grade of the waste material removed; obviously, it is essential to minimize losses of copper into the rejected waste.

A plan and budget have been created to evaluate the effectiveness and economics of mineralized material sorting. This will be completed during the Gunnison PFS.

24.1.1 Introduction

Mineralized material sorting is becoming more and more economically relevant to the mining industry with the ability to further concentrate mineralization before final processing and treatment.

During the last decade, and especially since 2020, there have been important developments in sensing technologies that allow rapid simultaneous on-stream analysis of multiple mineral characteristics according to color, reflectance, and specific mineral content. Concurrent with these sensing advances have been dramatic increases in the capacities of sensing machines and strategies for expelling off-specification mineralized fragments from a moving conveyor belt.

Sorting of mineralized material has been done manually for millennia, but radiometric separation of waste has been practiced in the uranium industry since the 1950s. It is, of course, broadly used in the food industry and in segregating municipal waste and recycling of metallic scrap.

A preliminary survey has revealed some projects globally that are sorting daily tonnages around or above the planned 74,000 ton per day production rate for the Gunnison open pit (Martin/Upper Abrigo/Lower Abrigo). A few hard rock metal-mining examples include Ferbasa's iron mines in Brazil's State of Bahía, the dump reclamation project at the Michilla copper mine in Chile, and the Mahd adh Dhahab ("Cradle of Gold") gold mine in Saudi Arabia. There are numerous examples of high tonnage sorting in the coal industry.

Mineralized material sorting is potentially a significant value-add opportunity for the Gunnison open pit. It also serves as an excellent risk mitigation strategy should higher than expected acid consumptions be encountered during the pre-feasibility study ("PFS") metallurgical test work. As such, Gunnison Copper Corp. (GCC) is proposing comprehensive mineralized material sorting studies during the PFS. The strategy would be to discard material that is high in acid consumption with little to no recoverable copper mineralization in the rock. This would potentially significantly lower acid costs and reduce the capital costs of the leach pad and the acid plant.

The mineralization at Gunnison occurs on fracture surfaces and will be present on rock surfaces even after crushing. This is unique to this style of mineralization whereas disseminated mineralization may be hard to detect on a broken surface.

Figure 24-1: Typical Oxide Copper Mineralization

Figure 24-1 above shows typical oxide copper mineralization on fracture surfaces and in veinlets from diamond drill hole NSD-024. These are highlighted by the green boxes drawn on the image. This interval of NQ drill core from 1060 feet to 1080 feet represents 20 feet at an average assayed grade of 0.42% total soluble copper. However, the only copper oxide mineralized portions are shown by the green boxes, representing approximately 2.5 feet at approximately 3.3 % total soluble copper. These mineralized intersections of blue-green and red-brown color are visually distinct from the intervening marble waste. The barren marble waste also typically consumes 5 to 10 times more acid than oxide mineralization. Selecting just the copper oxide mineralized portion of this interval would reduce processed heap leach tons by ~87%, whilst increasing the head grade by a similar ratio. (In this case head grade would go from 0.42% to 3.3% soluble copper). At the same time, it would massively reduce acid consumption by removing a significant volume of high acid consuming, yet barren, internal waste rock.

Some background work has been done on the mineralized material sorting technology. M3 has evaluated the capital and operating costs for running a mineralized material sorter. Redwave (an Austrian sorting group) has conducted initial test work of the Gunnison mineralized material and RESPEC has evaluated the geological/physical properties of the Gunnison mineralized material; this work is described below. In addition, discussions have been held with numerous sorting groups.

24.1.2 Work to Date (RESPEC)

Jeffrey Bickel of RESPEC conducted a study of the Martin Formation at Gunnison, looking at visual and other physical properties of the rock with particular attention to copper deportment.

A Niton instrument was used for Cu grades and 6-inch intervals of core were assessed. The composited Niton copper grades compared well with the copper assays. The 580 samples from the Martin formation were evaluated from 4 holes spaced throughout the deposit shown in Figure 24-2.

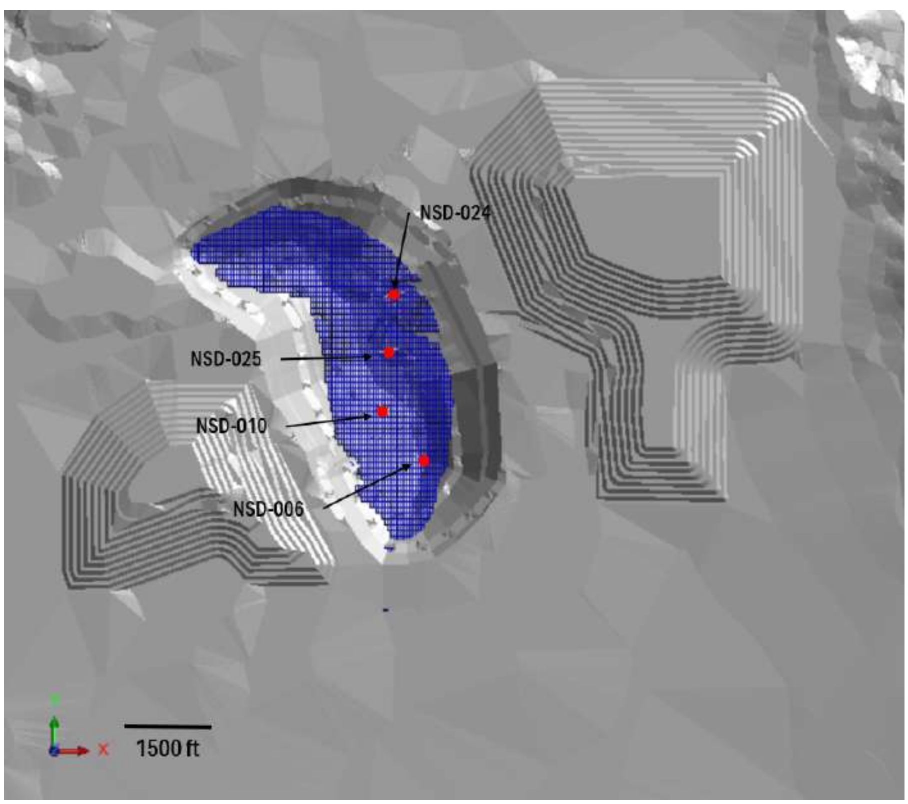


Figure 24-2: Drillhole Locations

Of those 580, 6" long, samples tested, 38% (223 samples) were visually light in color and had no visible copper oxide mineralization. These samples had an average total copper grade of 0.07% (acid soluble grade estimated at 0.05%, near the current cut-off grade). The visual identification and rejection of this unmineralized marble waste seems highly possible and does not result in a significant copper loss. On this basis, RESPEC concluded that mineralized material sorting would be successful if oxide mineral colors could be successfully segregated (blue-green-red-brown). The blue-green colored minerals are predominately chrysocolla whereas the rusty to brown material contains other recoverable copper oxides including tenorite. It should be noted that the dominant waste color is a white to off-white marble, contains very little copper, and is very high in acid consumption. This material would be rejected from the mineralized material stream.

24.1.3 Work to Date (Redwave)

Several discussions have been held with Redwave Solutions, an Austrian based sorting/recycling group that also specializes in mineralized material sorting. Their mineralized material sorting machines are 2 meters wide and the optical cameras have a width of 4000 pixels or, in other words, can see color detail down to 0.5 mm (see image below). Throughput and capacity are achieved by adding more mineralized material sorting machines in parallel, some of which can be used for different size fractions to improve performance. Also, it was confirmed that sizes up to 1 foot across could be rejected on the belt feed using their air blowers.

Figure 24-3: Redwave Visual Mineralized Material Sorting

The small black square on Figure 24-3 above represents the resolution of the Redwave visual mineralized material sorting equipment compared to a mineralized sample from Gunnison (the sample is approximately 2" across).

Redwave analyzed 86 samples from the Martin formation and subdivided them into high-grade copper, mid-grade copper, low-grade copper, red oxide copper, and waste. The samples ranged from 1 to 3 inches in size. They were selected from split HQ core from a subset of the samples evaluated by RESPEC. These samples were sent to Redwave in Austria for further analysis. Mineralized material sorting tests were conducted on these samples and showed great success in the ability to select samples with the blue-green and red-brown colors that indicate copper oxide mineralization. A single pass drop test was conducted on a sample containing approximately 50% mineralized pieces versus 50% unmineralized (or trace mineralized) pieces. This test effectively achieved 100% separation of mineralized material from the waste, meaning all unmineralized material was rejected and all oxide-mineralized material was accepted (see Figure 24-4 below).

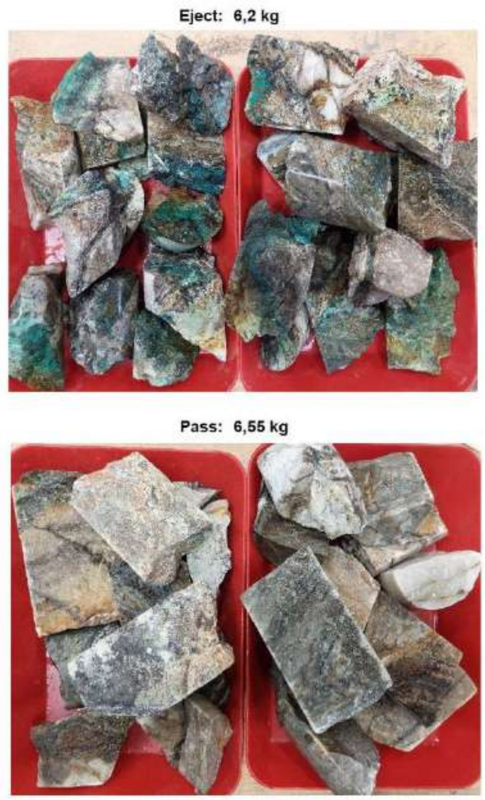


Figure 24-4: Detection and + MQ Particles from Mixed Material with LQ + Waste

Redwave's conclusion was that they had very good separation and that crushed samples would expose copper on the fracture surfaces, making the mineralized material sorting process very efficient.

Redwave also indicated that many steps could occur in the process, for example (1) sizing the material before sorting on different belts, and (2) tuning the instruments as the natural variations in the mineralization occur from bench to bench and formation to formation. Colored oxide mineralization or white marble could be selected/deselected from the belt. Redwave are confident that their equipment will be able to sort the materials appropriately. Their equipment is currently being used on a carbonate mine in Finland.

24.1.4 Equipment and Suppliers

Interviews with representatives of some of the prominent developers and suppliers of sensing and sorting equipment were conducted during October 2024 including Tomra, Thermo Fisher Scientific, Steinert US Inc., Scantech and Metso/Outotec.

It is important to note that these firms have different capabilities. For instance, Tomra and Steinert offer a full spectrum of products from sensors to sorters and will design and install a complete system, while often relying on another engineering or design/construct firm. ThermoFisher and Scantech, on the other hand, are developers and suppliers of packaged sensor/control/particle diverter systems, while partnering with a sorter supplier. Metso, is a conglomerate and manufactures a spectrum of crushers, grinding mills, screens, conveyors, etc. Through the Metso affiliate, Outotec, Metso supplies and installs complete sensing and sorting packages. Also, because of their dominance in crushing, screening, and conveying, Metso can deliver completely integrated particle separation plants.

The purchase prices for sensors are minimal, compared with the prices of screens, conveyors, and sorters. Diverting rejects downstream of the sorter is generally triggered by electronic signals that integrate belt speed and time with a programmable logic controller. The diverting mechanism can be belt flexing, compressed air pulses, activation of a cross-belt “sweeper,” or simply swinging of a sampler-type cutter across the discharge stream from a conveyor head pulley. Although individual pieces of material are commonly diverted in waste recycling plants, single particle rejection at high tonnages requires a lot of sorters and ancillary equipment and incurs high maintenance and operating costs. The most practical and economical solution can be devised based on vendor testing, which sometimes is free.

24.1.5 Initial Design and Costs

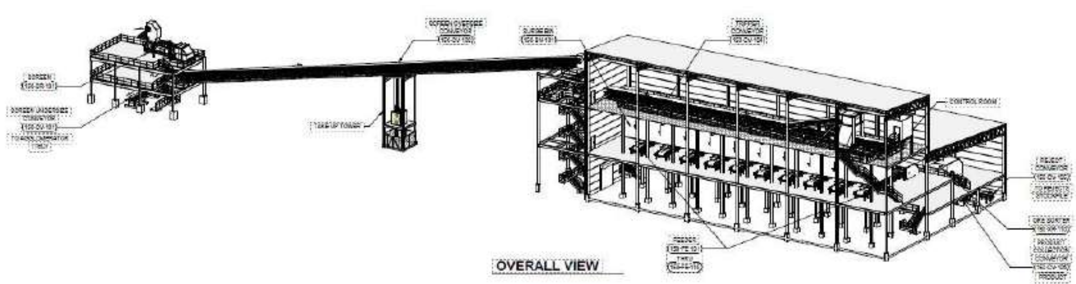
Based on the analysis to date, the proposed mineralized material sorting path is to select (optically identify) all samples that do not have the blue-green or red-brown colors exposed on the surface and eject them from the belt, leaving the remaining material and fines to be processed.

GCC envisions feeding ROM material through a gyratory crusher in closed-circuit with vibrating screens to a final product that will be in the range 100% minus 4 to 6 inches (100-150 mm), depending on future testwork. This product will then be screened; triple-deck screens may be used. The screen oversize fraction (to be established during future testing) will be split and conveyed over multiple conveyors through mineralized material sorting machines. Rock fragments containing copper below a setpoint will be diverted from the belts to reject conveyors and a reclaim pile.

The remaining upgraded material will be combined with the primary screen undersize and agglomerated with acidified SX raffinate. It is likely that the agglomerating solution will be sprayed at a transfer point onto a conveyor feeding “grasshopper” conveyors and a radial stacker. Typically, an agglomerating solution contains about half of the total acid required by the heap, but this dosage will be confirmed during future metallurgical laboratory tests.

Important variables that could impact costs are (1) the size screen that establishes minimum particle size through the sensors, and (2) the fraction of primary crusher discharge that must be sorted. Testing will be needed to confirm this relationship and to learn if acid consuming gangue and copper minerals are preferentially concentrated in any size fraction.

M3 Engineering evaluated a basic design, as well as capital and operating costs, for a mineralized material sorting facility. A mineralized material sorting plant’s capacity is easily increased by simply adding more sorters. It is anticipated that Gunnison may use up to 40 sorters of the Redwave type. They would be installed in a sorting building. Each individual sorter could be tuned to handle distinct material. For instance, Martin formation with significant red oxide, but little blue green copper would be tuned differently than Upper Abrigo with significant blue-green copper.



Source: M3, 2024

Figure 24-5: Example of a Mineralized Material Sorting System

Capital Costs:

The capital cost for a mineralized material sorting system for this tonnage will require up to 40 mineralized material sorters at $1 million per sorter. The other primary costs are for apron feeders, belt conveyors, vibrating screens, mechanical steel bins, structural steel, concrete, and electrical equipment. The estimated total cost for the mineralized material sorting plant is estimated to $93 million.

Operating Costs:

Mineralized Material Sorting, $0.39/ton

24.1.6 Economic Evaluation

Several factors will influence the practical viability and economic success of the mineralized material sorting process. These include but are not limited to:

- Grade of waste material removed
- Escalation of either the acid price or the acid consumption of the bulk rock
- Ratio of acid consumption in the separated waste to the remaining mineralized material
- Percentage of waste removed

For the mineralized material sorter to be cost effective, the rejected waste must have a smaller dollar value of recoverable copper (adjusted for operating costs), compared to the cost savings in acid consumption. Tuning the equipment too finely by trying to reject the maximum amount of waste may end up accidentally rejecting too much contained copper, which becomes counterproductive. Alternatively, rejecting too little waste does not generate enough process cost saving to justify the capital and operating costs of the mineralized material sorter.

GCC completed some economic scenarios using the 2024 Gunnison Open Pit 43-101 PEA cash flow model. The model baseline is the non-mineralized material sorting after-tax NPV from the PEA at an 8% discount rate ($1.230 billion, 20.6% IRR). By simply adding the mineralized material sorting option, the after-tax NPV at an 8% discount rate is $1.285 billion and the IRR increases to 22%. This option assumes 40% rejection of the Martin, Upper and Middle Abrigo's and 30% rejection of the Lower Abrigo with a ratio of acid consumption of waste to mineralized material of 7. The grade of the waste material was assumed to be 0.05% soluble copper (acid soluble + cyanide soluble copper). Clearly the mineralized material sorting option has merit and requires further investigation.

The PEA is preliminary in nature and it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the preliminary economic assessment will be realized.

Removing barren internal waste and low-grade material from the process stream reduces overall acid consumption and annual acid demand, thus requiring a smaller acid plant, and thereby reducing the initial capital of the acid plant.

Removing this waste also means less material is placed on the leach pad annually and throughout the life of mine. This means the leach pad can be smaller, thus reducing initial and sustaining capital.

The capital savings mentioned above are offset by the increased capital required for the mineralized material sorter.

Operating costs of the mineralized material sorter are variably offset by the cost saving on acid consumption, whilst revenue and total/annual copper production are adjusted downward by the lost copper contained in the rejected waste material.

An analysis was completed using the base case parameters described above:

- 40% rejection of Martin, Upper Abrigo and Middle Abrigo
- 30% rejection of Lower Abrigo and Bolsa
- Acid consumption ratio of waste to mineralized material of 7
- Grade of waste 0.05% acid soluble + cyanide soluble copper

The acid consumption of the rock was doubled and tripled to show sensitivities to acid consumption and acid price. The outcome is substantially better in every case for the mineralized material sorter option.

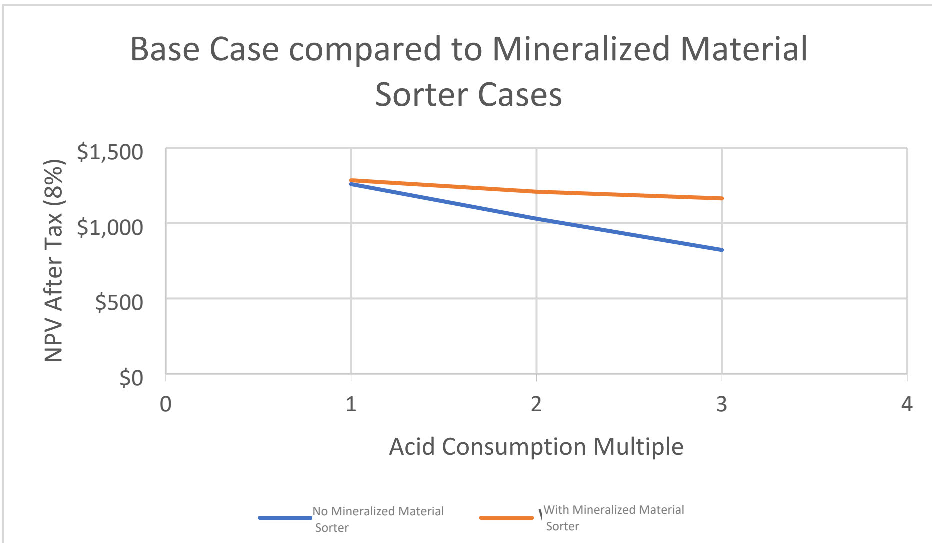


Figure 24-6: Base Case Compared to Mineralized Material Sorter Cases - NPV

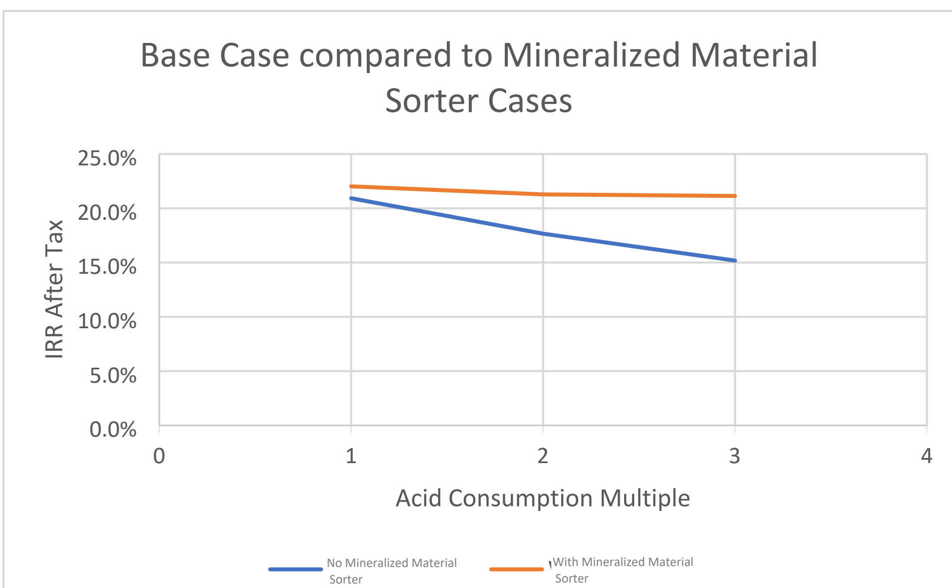


Figure 24-7: Base Case Compared to Mineralized Material Sorter Cases - IRR

24.1.7 Next Steps/Work Plan

This PEA is being completed for the Gunnison open pit with mineralized material sorting documented as an opportunity for future studies. Mineralized material sorting will be a significant component of a future PFS on Gunnison. This will include significant drilling, assaying, and mineralogy, followed by mineralized material sorting tests and optimization.

A detailed plan for the mineralized material sorting tests will be completed by GCC in conjunction with the selected mineralized material sorting group or groups. 6-inch core holes will be drilled for the testing. Detailed logging, photography, mineralogy, and assaying will be performed on the core before the samples are selected and processed. The mineralogical studies should consist of XRD, QEMSCAN, and possibly the new laser-induced bulk spectroscopy ("LIBS") technique. LIBS directly tests intact core giving similar results to QEMSCAN. Testing will occur by crushing to different sizes, for instance 6-inch, 3-inch and 1-inch. This will be done for each lithology. Mineralized material sorting tests will then be conducted and optimized for the various size types. Once the mineralized material sorting tests are complete, the separated samples will be returned and loaded into columns for met testing. Assays will be collected for both the mineralized material and the reject. The fine materials will also be sub-sampled to determine if these materials can be further separated using other techniques like gravity or magnetics.

Approximately 9000 feet of 6-inch core drilling is planned as well as up to 72 samples created for mineralized material sorting tests. Mineralized material sorting costs are outlined in Table 24-1 below.

Table 24-1: Mineralized Material Sorting Estimated Costs

Cost Item	Cost
Drill 6-inch core (Mineralized Material Sorting Test)	$2,700,000
Mineralogy	$200,000
Crush and Split Core Samples	$180,000
Mineralized Material Sorting Test 1-,3-,6-inch	$300,000
Met Test Mineralized Material Sorter 6-Inch (18-inch Column)	$120,000
Met Test Mineralized Material Sorter 3-Inch (9-inch Column)	$84,000
Met Test Mineralized Material Sorter 1-Inch (6-inch Column)	$48,000
Total	**$3,632,000**

25 INTERPRETATION AND CONCLUSIONS

The Gunnison Deposit is amenable to open pit and heap leaching technology for the extraction of copper from oxidized mineralization and conventional solvent SX-EW technology for making a saleable copper product.

25.1 CONCLUSIONS

The PEA suggests that the Gunnison Deposit can be economically exploited using open pit mining methods with heap leaching to extract oxidized copper in the mineralized material. A mine plan was developed to produce 175 mppa (averages 167 million pounds of recoverable copper per year over LOM) with mining conducted by an owner-operated fleet. Mining of the deposit is expected to be accomplished with hydraulic front shovels and 320-ton trucks. Mining is planned on 50-ft bench heights.

An annual schedule was developed for the mine plan. Primary crushed heap leach material will be processed by placement on a conveyor transported, leach pad following approximately two years of pre-production waste stripping. The heap tonnage production varies by year as it is based on the requirement of 175 million pounds of recoverable copper being placed on the leach pad annually.

M3 completed an economic analysis for this PEA using industry standard criteria for studies at this level. The results of this PEA indicate that open pit heap leach development of the Gunnison Project offers the potential for positive economics based upon the information available at this time. Project economics are based on constructing a 175 mppa SX-EW plant that includes construction of a 3,000 short tons per day sulfur-burning acid plant, cogeneration facilities, and rail spur for the delivery of molten sulfur to supply acid for the leaching operation.

25.2 PROJECT RISKS

Certain risks and opportunities are associated with the Project, as is typical for mine development projects. These risks may include and are not limited to environmental permitting, title issues, taxation, public/political opposition, or legal impediments to operating this type of mining/processing operation at this location. The following project-specific risks have been identified along with the measures that GCC envisages to mitigate the risk.

1. **Slope Stability.** Slope recommendations received from Call & Nicholas, Inc. ("CNI") were based on rock quality designation (RQD) data from core holes and experience at other Arizona mines in similar rock formations. Actual slope angles may have to be decreased, increasing the amount of waste handling required.
   Mitigation. Geotechnical drilling, along with in-depth slope stability analysis, could result in achievable pit slope angles that are more shallow or steeper than the angles used in the analysis that will be presented in the report.

2. **Blasting Costs.** Drilling and blasting in the weakly cemented alluvium overburden is assumed to be approximately 2.6 times more productive than in the bedrock. Overestimation of blasting productivity in the overburden would result in increased costs.
   Mitigation. Additional investigation of the weakly cemented alluvium could remove uncertainties for this productivity differential.

3. **Mine Design Uncertainty.** The tonnage expected to be placed on the leach pad could change as more drilling and engineering are completed. Metal prices, changes in metal recovery, or increases in operating costs could change the potential tonnage of heap leachable material.
   Mitigation. Additional investigation as the Project moves toward implementation should reduce the uncertainty.

4. **Copper Recovery.** The heap leaching process for recovering copper from oxidized mineralization can be unpredictable. Metallurgical testing has established that coarse crushed mineralization is amenable to copper heap leaching and recovery. Metallurgical testwork results have been used to approximate results of leaching, although they may not reflect the LOM actual leach recovery performance. There is risk that additional testwork or actual performance could indicate the possibility of lower copper recoveries at the current crush size, acid application rate, or leach cycle estimates.
   Mitigation. Operational strategies will involve adjusting crush sizes, flowrates and acid strengths based on operational experience to maximize infiltration rates and increase PLS grades.

5. **Leach Pad Flow Attenuation.** Production of excess fines, compaction of lift surfaces on the leach pad, decrepitation of host rock mineralized material, and precipitation of minerals due to acid depletion could cause the formation of zones of low permeability. As with all leach pads, there is risk of poor vertical solution flow and leach pad hydrodynamics.
   Mitigation. Placement and distribution of the leach material will be monitored to prevent compaction and enhance uniform distribution of leach solutions. Boreholes drilled through zones identified with low permeability can enhance vertical migration of solutions. Segregation or special treatment of materials that are identified as decrepitation (breaking down) and/or releasing fines may be necessary to mitigate this type of flow attenuation.

6. **Acid Consumption/Cost.** This Project relies on large volumes of sulfuric acid to liberate and dissolve copper from the leach pad materials to produce a saleable product. Acid consumption is estimated to range from 24 to 70 pounds of acid per ton of leach material based on the various rock types and carbonate content. The actual acid consumption could potentially be higher.
   Mitigation. Controlling excess sulfuric acid consumption may require careful management and segregation of the materials as they are placed on the leach pad. The height of each lift could be increased to reduce the time that the lower portion is subjected to leach solutions consuming acid. Placing geomembranes or low permeability layers between lifts could isolate depleted, acid-consuming materials at the bottom of the pad. Studies into mineralized material sorting to reject high carbonate-low copper mineralization will be conducted to determine the applicability and economics of this technique. Mineralized material sorting has the potential to reduce acid consumption in practice.

7. **Permitting Difficulties.** Permitting mining projects in the western US and Arizona has often been an arduous and unpredictable task in the recent past. Regulations and social attitudes can change. Although the Company has previously been able to obtain all operating permits in a reasonable time frame, there is no certainty this track record will continue.
   Mitigation. Permitting difficulties for changing the mining method for the deposit can be mitigated by developing support within the local community, identifying, and fixing potential areas of contention before they arise, getting support from community leaders in advance of applying for permits. Another measure is developing realistic permitting schedules that incorporate time to deal with challenges which also helps minimize deleterious consequences.

25.3 OPPORTUNITIES

Several opportunities have been identified which could enhance the viability and economic attractiveness of the Gunnison open pit. Many of these opportunities may be realized by removal of risk and uncertainty that are present at the PEA level.

1. **Acid Consumption.** Mineralized material sorting is a significant value-add opportunity for the Gunnison open pit. Greater than 80% of the mined copper is oxide mineralization, forming visually distinct blue-green and red-brown zones that are ideally suited to pre-concentration by optical mineralized material sorting. Preliminary data suggest sorting of this material has the potential to greatly reduce acid consumption and

volume of material leached by removing 40 to 50 percent of the process stream as unmineralized, higher acid consuming, waste. This would result in significant savings on operating costs.

2. **Pit Slope Angles.** The pit wall angles for the Gunnison open pit are considered reasonable based on the data available, however it is conceivable that pre-feasibility geotechnical data can steepen the pit walls in the gravel-alluvium, thus reducing pre-strip capital costs and life of mine waste mining costs.
3. **Copper Recoveries.** The anticipated copper recovery is an estimate based on the best interpretation of existing test work. This copper recovery could be exceeded in practice. Recovery increases could improve the rate of recovery, as well as increase total copper recovered. Improvements in the rate of recovery would mean lower flows from the leach pad for the same level of copper production, lowering operational costs., or the increased grade could result in higher copper production (revenue) for the same operating cost. Improvements in total copper recovered have the obvious benefit of increasing total revenue during the life of the mine.
4. **Increased Copper Price.** The current financial analysis is based on an average, long-term copper price of $4.10 per pound based on current consensus pricing plus a $0.02 per pound cathode premium. Current spot markets are currently 5% to 10% higher than long-term pricing estimates. Global demand increases for copper have the potential to drive copper prices higher, thereby increasing the economic (revenue) outlook for the Project.
5. **Strong and Harris Copper-Zinc-Silver Project.** The Company filed a separate technical report dated October 20, 2021, on the Strong and Harris Copper-Zinc-Silver Project titled “Estimated Mineral Resources and Preliminary Economic Analysis, Strong and Harris Copper-Zinc-Silver Project, Cochise County, Arizona” (the “S&H PEA”). At present, the S&H PEA contemplates development of the Project on a standalone basis with its own infrastructure. JCM is also now being developed on a standalone basis in collaboration with Nuton, LLC, without sharing infrastructure with Gunnison. However, with the potential development of an open pit at Gunnison, the opportunity for shared infrastructure, capital, and operating costs with the Strong and Harris open pit is significant and may form the basis for future technical reports integrating all deposits: Gunnison, Strong and Harris and Johnson Camp Mine.
6. **Gravel Revenue.** 759 million tons of alluvial gravel is expected to be mine during the mine life. Gravel as an aggregate or rock product is a potential source of revenue. The planned rail spur and railyard provides the Company with access to larger markets for the sale of construction aggregates. Presently, the sale of construction aggregates, is not included in the financial analysis presented in this Technical Report. However, if just 10% of this material could be sold for a net cost of $5/ton, it could potentially add $380M in revenue to the Project. This does not include the costs of making this material marketable, and there is no guarantee it can be made marketable.
7. **Limestone Revenue.** Similar to construction aggregates, 85 million tons of clean limestone waste will be produced from the mining operations at Gunnison. Crushed limestone is highly valuable commodity in cement, aggregate, chemical and agricultural industries, selling for between $10/ton and over $60/ton in the region. Previously, the Johnson Camp-Gunnison area has been investigated as a source of limestone. With the rail spur and railyard, this material could be transported by rail to several regional markets. If 50% of this limestone waste could be sold at $20/ton, it could generate approximately $850M in additional gross revenue. This does not include the costs of making this material marketable, and there is no guarantee it can be made marketable.
8. **Alluvium Mining.** 67% of the waste mined in the pit is weakly cemented gravel (alluvium). The current design includes 40% drill and blast for this gravel; however, it is possible much of this material will not need any drill and blast. This will be investigated during the planned pre-feasibility study (PFS).
9. **Alternative Mining of Alluvium.** The current removal of alluvium envisions the use of blast-haul operations. There are potential cost savings by developing other means of removal such as use of conveyors, dozers, or earth movers instead of blast-load-dump equipment. These will be investigated during the PFS.

10. **In-Pit Leaching.** In-pit leaching provides an opportunity to reduce operating costs and improve leach recovery over the life of mined mineralized material. The nature of the Gunnison deposit and aquifer would allow control of leach solutions. Permitting in-pit leaching would be required through Arizona Department of Environmental Quality, though it is currently being employed at other properties in Arizona. Production sequencing will utilize in-pit leaching as a trade-off to the construction and maintenance of a heap leach pad during PFS work on the Gunnison open pit.

11. **Exploration Potential.** The mining district that GCC has consolidated in recent years exhibits significant exploration potential. Modern exploration activity has not occurred in the district. District-wide data consolidation and integration should be conducted to evaluate its overall mineral potential and identify exploration targets. Exploration for the source of the porphyry copper sulfide mineralization at Gunnison has never been conclusively conducted and copper skarn deposits such as Gunnison are often associated with large nearby porphyry copper deposits. Several historic carbonate replacement deposits including the Republic and Moore deposits merit additional exploration attention. Significant areas of Earp Formation, Colina Limestone and Horquilla Limestone are under cover and have not been explored. These same formations host the mineralization in the Hermosa-Taylor deposits being developed by South 32 in southern Arizona.

26 RECOMMENDATIONS

Based on the results of this PEA, it is recommended that GCC consider proceeding with a pre-feasibility study (PFS) of the Project. Additional drilling for resource verification and geotechnical coverage is recommended to support mine planning. Updating the acid plant design for the selected capacity is also recommended. Additional planning and costing work are required to establish the schedule and costs for the relocation of Interstate 10 and the addition of the rail spur to the Union Pacific Railroad.

Resource drilling should focus on converting inferred mineral resource into M&I categories, especially on newly acquired lands. Approximately 30,000 feet of drilling is recommended, of which 20,000 feet will be core drilling through bedrock, and 10,000 feet will be rotary drilling through overburden. RESPEC estimates the cost of this drilling, assaying, and consumable supplies to be $4,091,448.

The current Gunnison resource model was developed to support an in situ leaching operation. The block dimensions are 50 ft (x) x 100 ft (y) x 25 ft (y) which results in the same SMU as a block with the dimensions 50 ft (x) x 50 ft (y) x 50 ft (z). Future block models should have a block height that corresponds with the expected mining bench height of 50 ft. Changing the block dimensions could have a negative or positive impact on the expected tons and grade.

Pilot metallurgical heap leach testing is recommended to investigate the recovery kinetics and flow characteristics for the heap leach design. A mine plan and heap leach design are necessary to complete the PFS.

GCC has proposed a list and budget for additional work that will support the pre-feasibility study. Table 26-1 defines the cost of the technical activities.

Table 26-1: Pre-feasibility Budget for the Gunnison Project

Detail	Cost $US
Resource Upgrade	$4,091,448
Metallurgy	$7,856,000
Geotechnical	$210,000
Pit design	$300,000
Infrastructure design/PFS study	$1,385,000
Total	**$13,842,448**

27 REFERENCES

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APPENDIX A: PRELIMINARY ECONOMIC ASSESSMENT CONTRIBUTORS AND PROFESSIONAL QUALIFICATIONS

CERTIFICATE OF QUALIFIED PERSON

John Woodson

I, John Woodson, P.E., SME-RM do hereby certify that:

1. I am employed as Chief Financial Officer, Senior Vice President, Project Manager and Project Sponsor of:

   M3 Engineering & Technology Corporation
   2051 W. Sunset Road, Ste. 101
   Tucson, Arizona. 85704

2. I graduated with a Bachelor of Science in Civil Engineering from the University of Arizona in 2003 and a Master of Science in Civil Engineering from the University of Arizona in 2008.

3. I am a registered professional engineer in good standing in the State of Arizona in the area of Structural Engineering (No. 47714). I am also registered as a professional engineer in the states of California (No. 73405), Nevada (No. 029163) and Michigan (No. 6201057625).

4. I have worked as an engineer for a total of 21 years. My experience includes 19 years at M3 Engineering and Technology Corporation working on all aspects of mine plant development for base and precious metals projects with a specific focus on plant layout, infrastructure, estimating and scheduling. As Project Manager and Sponsor, I have been involved with studies as well as full engineering, procurement, and construction management (EPCM) projects.

5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

6. I am a contributing author for the preparation of the technical report titled "Gunnison Project NI 43-101 Technical Report Preliminary Economic Assessment" ("Technical Report") dated effective November 1, 2024, prepared for Gunnison Copper Corporation; and am responsible for Sections 1.1, 1.16, 1.17, 1.19 (except 1.19.1.1 and 1.19.2.1), 1.20, 1.22, 1.23, 18, 19, 21 (except 21.1.2 and 21.2.1), 22, 25, 26, and 27. I have not visited the project site.

7. I have not had prior involvement with the property that is the subject of the Technical Report.

8. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

9. I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Signed and dated this 17th day of December 2024.

(Signed and Sealed) "*John W. Woodson*"
Signature of Qualified Person

John W. Woodson
Print Name of Qualified Person

RESPEC

CERTIFICATE OF QUALIFIED PERSON

I, Jeffrey Bickel, C.P.G. (AIPG) and Registered Geologist (Arizona), do hereby certify that:

1. I am currently employed as a Senior Geologist at RESPEC Company LLC (formerly Mine Development Associates, Inc.) (“RESPEC”), at 210 South Rock Blvd, Reno, Nevada, 89502.
2. This certificate applies to the technical report titled “Gunnison Project NI 43-101 Technical Report Preliminary Economic Assessment”, with the effective date of November 1, 2024 (the “Technical Report”).
3. I graduated with a Bachelor of Science degree in Geological Sciences from Arizona State University in 2010. I am a Certified Professional Geologist (#12050) with the American Institute of Professional Geologists. I am also a Registered Geologist in the state of Arizona (#60863).
4. I have worked as a geologist continuously for over 14 years since graduation from university. During that time, I have previously explored, drilled, evaluated, and modelled oxide copper deposits similar to Gunnison in Arizona and elsewhere and have estimated the mineral resources for such deposits.
5. I have read the definition of “qualified person” set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
6. I have visited the Gunnison Project site on multiple occasions, most recently on April 3, 2024.
7. I worked as a geologist for the issuer from 2010-2020. I also co-authored three prior technical reports for the issuer, most recently the technical report dated effective February 1, 2023 and titled “NI 43-101 Technical Report Gunnison Copper Project Prefeasibility Study Update and JCM Heap Leach Preliminary Economic Assessment.”
8. I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.
9. I am responsible for sections 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.12, 1.21, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, and 23 of the Technical Report.
10. I have read National Instrument 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance with that instrument and form.
11. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 17th day of December 2024.

(Signed and Sealed) *“Jeffrey Bickel”*
Jeffrey Bickel, C.P.G. (#12050)

210 SOUTH ROCK BOULEVARD
RENO, NV 89502
775.856.5700

CERTIFICATE OF QUALIFIED PERSON

Abyl Sydykov, PhD, PE

I, Abyl Sydykov, PhD, PE, do hereby certify that:

1. I am employed as Process Engineer and Project Manager of:

   M3 Engineering & Technology Corporation
   2051 W. Sunset Road, Ste. 101
   Tucson, Arizona 85704

2. I graduated with a degree in Non-Ferrous Metallurgy from the National University of Science and Technology "MISIS" (Moscow, Russia) in 1992, and a PhD in Metallurgy from the RWTH Aachen University (Germany) in 2004.

3. I am a registered professional engineer in good standing in the State of Arizona in the area of Mining and Mineral Processing (No. 80378).

4. I have worked in metallurgical and mineral processing operations, research, consulting, and engineering for a total of 29 years. My experience includes 3 years at M3 Engineering and Technology Corporation working on process engineering and project management. As Process Engineer, I have been involved in studies and engineering processing plants for copper, lead, zinc, gold and silver mining projects.

5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

6. I am a contributing author for the preparation of the technical report titled "Gunnison Project NI 43-101 Technical Report Preliminary Economic Assessment" ("Technical Report") dated effective November 1, 2024, prepared for Gunnison Copper Corp.; and am responsible for Sections 1.15 and 17. I visited the project site on December 17, 2024.

7. I have not had prior involvement with the property that is the subject of the Technical Report.

8. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

9. I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Signed and dated this 17th day of December 2024.

(Signed and Sealed) "*Abyl Sydykov*"
Signature of Qualified Person

Abyl Sydykov, PhD, PE
Print Name of Qualified Person

CERTIFICATE OF QUALIFIED PERSON

Dr. Terence P. McNulty, PE, DSc

I, Dr. Terence P. McNulty, PE, DSc, do hereby certify that:

1. I am President of:

   T, P, McNulty and Associates, Inc,
   4321 North Camino de Carrillo, Tucson, AZ 85750

2. I graduated with a BS in Chemical Engineering from Stanford University in 1960 and earned an MS in Metallurgical Engineering from Montana School of Mines in 1963 and a doctorate (DSc) from Colorado School of Mines in 1966.

3. I am a Registered Professional Engineer in Colorado with reciprocity in most states. My registration is current (No. 24789) and I am in good standing.

4. I have worked as a metallurgical engineer for a total of over 55 years since completion of post-graduate studies. My experience includes serving as a Research Engineer, Mill Superintendent, Supervisor of Process Engineering, and Director of Corporate R&D for The Anaconda Company, VP-Technical Operations for Kerr-McGee Chemical Corp., President of Hazen Research, Inc., and President of T. P. McNulty and Associates, Inc. for the last 33 years.

5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.

6. I am responsible for Sections 1.11, 13 and 24 of the Technical Report “Gunnison Project NI 43-101 Technical Report Preliminary Economic Assessment” (“Technical Report”) dated effective November 1, 2024, prepared for Gunnison Copper Corp.

7. I have not visited the Gunnison Property but have visited the adjacent Johnson Camp Site in the 1990s when it was owned by Cyprus Minerals.

8. I had prior involvement with the property that is the subject of the Technical Report. I was responsible for the Sections 13 (except 13.2.3.1), 24.13 of the technical report titled “Gunnison Copper Project, NI 43-101 Technical Report, Gunnison Copper Project Prefeasibility Study Update and JCM Heap Leach Preliminary Economic Assessment” (the "Technical Report") dated effective February 1, 2023.

9. Except as disclosed in paragraph 8. of this certificate, I have not provided consulting services to, or otherwise been involved with, the project owner prior to the current assignment.

10. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

11. I am independent of the issuer by applying all of the tests in Section 1.5 of National Instrument 43-101.

12. I have read National Instrument 43-101 and Form 43-101F, and the Technical Report has been prepared in compliance with that instrument and form.

13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Signed and dated this 17th day of December 2024.

(Signed and Sealed) “Dr. *Terence P. McNulty”*
Dr. Terence P. McNulty, PE, DSc

CERTIFICATE of QUALIFIED PERSON

R. Douglas Bartlett, C.P.G.

I, R. Douglas Bartlett, do hereby certify that:

1. I am currently employed as a Hydrogeologist by:

   Clear Creek Associates
   6155 E. Indian School Rd., Suite 200
   Scottsdale, Arizona, 85251

2. I am a graduate of Colorado State University

3. I am a:

   - Registered Geologist in the States of Arizona, California, Oregon, Washington, Alaska, and Pennsylvania

4. I have practiced geology and hydrogeology since 1977 at: Dames & Moore in Denver and Phoenix; Anaconda Minerals in Denver, Colorado; and Clear Creek Associates in Scottsdale, Arizona. My expertise includes mining-related hydrogeologic investigations and groundwater modeling.

5. I have read the definition of “qualified person” set out in National instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.

6. I am responsible for Sections 1.18, 16.9, and 20 of the technical report titled “Gunnison Project NI 43-101 Technical Report Preliminary Economic Assessment” (“Technical Report”) dated effective November 1, 2024 prepared for Gunnison Copper Corp.

7. I had prior involvement with the property that is the subject of the Technical Report. I was responsible for the Sections 16, and 20 of the technical reports titled “Gunnison Copper Project, NI 43-101 Technical Report, Prefeasibility Study Update” (the "Technical Report") dated effective January 28, 2016, and “Gunnison Copper Project, NI 43-101 Technical Report Feasibility Study” (“Technical Report”) dated effective December 17, 2016 prepared for Gunnison Copper Corp. I was also responsible for Sections 16, 20, and 24.20 of the technical report titled “Gunnison Copper Project Prefeasibility Study Update and JCM Heap Leach Preliminary Economic Assessment” (“Technical Report”) dated effective March 11, 2022. I was also responsible for Sections 16, 20, 24.16.5, and 24.20 of the technical report titled “Gunnison Copper Project Prefeasibility Study Update and JCM Heap Leach Preliminary Economic Assesment” dated effective February 1, 2023.

8. I visited the Gunnison Site on May 15, 2019.

9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.

10. I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.

11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Signed and dated this 17th day of December 2024

(Signed and Sealed) “*R. Douglas Bartlett*”
R. Douglas Bartlett, C.P.G.

CERTIFICATE OF QUALIFIED PERSON

I, Jacob W. Richey, P.E. do hereby certify that:

1. I am currently employed as a Senior Mining Engineer by:

   Independent Mining Consultants, Inc.
   3560 E. Gas Road
   Tucson, Arizona, USA 85714

2. I graduated with the following degrees from the Colorado School of Mines.
   Bachelors of Science, Mining Engineering – 2009

3. I am a Registered Professional Mining Engineer in the State of Arizona USA.
   Registration # 64139

4. I have worked as a mining engineer for more than 14 years. I have been involved with the preparation of mineral resources, mineral reserves, and mine plans for multiple hard rock metal projects over that time.

5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI43-101.

6. I am responsible for sections 1.14, 1.19.1.1, 1.19.2.1, 16 (except 16.2 and 16.9), 21.1.2, and 21.2.1 of the Technical Report titled "Gunnison Project NI 43-101 Technical Report Preliminary Economic Assessment", with the effective date of November 1, 2024 prepared for Gunnison Copper Corp.

7. I last visited the Gunnison Copper property on 5 December 2024.

8. I have previously been involved with engineering work on the Gunnison Project since 2022.

9. As of the date hereof, to the best of my knowledge, information, and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

10. I am independent of the issuer applying the definition in Section 1.5 of NI 43-101.

11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated: 17 December 2024

<u>(Signed and Sealed) "*Jacob W. Richey*"</u>

Jacob W. Richey
Professional Mining Engineer AZ #64139

I, Thomas M. Ryan, P.E., do hereby certify that:

1. I am a Principal Engineer, Vice President, and Director of:

   Call & Nicholas, Inc.
   2475 N. Coyote Drive Tucson AZ 85718

2. I am a graduate of the University of Arizona having received a Bachelor of Science in Geological Engineering in 1986 and Master of Science in 1987.

3. I am a registered Professional Engineer in good standing in Arizona (27693), New Mexico (14166) and Utah (11106129).

4. I have worked as an Engineer for a total of 38 years. My experience includes 30 years in Geotechnical Engineering as it applies to rock slope and underground stability for mine design.

5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

6. I am a contributing author for the preparation of the technical report titled "Gunnison Project NI 43-101 Technical Report Preliminary Economic Assessment" ("Technical Report") dated effective November 1, 2024, prepared for Gunnison Copper Corp.; and am responsible for Section 16.2. I visited the project site on October 18, 2023.

7. I have prior involvement with the property that is the subject of the Technical Report as a technical advisor for the PEA pit slope design in 2022 and 2023.

8. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

9. I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

    Signed and dated this 17th day of December 2024.

    (Signed and Sealed) "*Thomas M. Ryan*"
    Signature of Qualified Person

    Thomas M. Ryan, P.E.
    Print Name of Qualified Person

APPENDIX B: MINERAL CLAIM DETAIL

BLM Claims

Claim Name and Number	BLM Serial # (AMC #)	Township, Range, Section*	Maintenance Costs	Area
		Mr Twn Rng Sec		
ALPHA #1	21945	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #2	21946	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #3	21947	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #4	21948	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #5A	351064	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #6	21950	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #7	21951	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #8	21952	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #9	21953	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #10	21954	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #11	21955	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #12	21956	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #13	21957	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #15	21959	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #16	21960	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #17	21961	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #18	21962	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #19	21963	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #20	21964	14 0160S 0220E 024	$200.00	Gunnison
ALPHA #22	21966	14 0160S 0220E 026	$200.00	Gunnison
ALPHA #23	21967	14 0160S 0220E 026	$200.00	Gunnison
ALPHA #24	21968	14 0160S 0220E 023	$200.00	Gunnison
ALPHA #25	21969	14 0160S 0220E 023	$200.00	Gunnison
ALPHA #26	21970	14 0160S 0220E 023	$200.00	Gunnison
ALPHA #31	21975	14 0160S 0220E 023	$200.00	Gunnison
ALPHA #32	21976	14 0160S 0220E 023	$200.00	Gunnison
ALPHA #33	21977	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 34 A	324360	14 0160S 0220E 023	$200.00	Gunnison
ALPHA #36	21980	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #37	21981	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #38	21982	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #39	21983	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #40	21984	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #45	21989	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #46	21990	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #49	21991	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #50	21992	14 0160S 0220E 025	$200.00	Gunnison
ALPHA #51	21993	14 0160S 0220E 025	$200.00	Gunnison
ALPHA 52 A	324361	14 0160S 0220E 026	$200.00	Gunnison
ALPHA 118	326439	14 0160S 0220E 001	$200.00	Gunnison
ALPHA 119	326440	14 0160S 0220E 001	$200.00	Gunnison
ALPHA 120	326441	14 0160S 0220E 001	$200.00	Gunnison
ALPHA 121	326442	14 0160S 0220E 001	$200.00	Gunnison
ALPHA 122	326443	14 0160S 0220E 001	$200.00	Gunnison
ALPHA 123	326444	14 0160S 0220E 001	$200.00	Gunnison

Claim Name and Number	BLM Serial # (AMC #)	Township, Range, Section*	Maintenance Costs	Area
ALPHA 124	326445	14 0160S 0220E 001	$200.00	Gunnison
ALPHA 125	326446	14 0160S 0220E 011	$200.00	Gunnison
ALPHA 126	326447	14 0160S 0220E 011	$200.00	Gunnison
ALPHA 127	326448	14 0160S 0220E 011	$200.00	Gunnison
ALPHA 128	326449	14 0160S 0220E 013	$200.00	Gunnison
ALPHA 129	326450	14 0160S 0220E 013	$200.00	Gunnison
ALPHA 130	326451	14 0160S 0220E 013	$200.00	Gunnison
ALPHA 131	326452	14 0160S 0220E 013	$200.00	Gunnison
ALPHA 27	340653	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 28	340654	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 29	340655	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 30	340656	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 35	340657	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 41	340658	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 42	340659	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 43	340660	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 44	340661	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 56	340662	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 57	340663	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 58	340664	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 59	340665	14 0160S 0220E 023	$200.00	Gunnison
ALPHA 60	340666	14 0160S 0220E 023	$200.00	Gunnison
TALLSHIP 5-A	341334	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP 7-A	341335	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP 8-A	341336	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP 9-A	341337	14 0160S 0220E 012	$200.00	Gunnison
TALLSHIP 10-A	341338	14 0160S 0220E 012	$200.00	Gunnison
TALLSHIP B-1	341339	14 0160S 0220E 012	$200.00	Gunnison
TALLSHIP B-2	341340	14 0160S 0220E 012	$200.00	Gunnison
TALLSHIP B-3	341341	14 0160S 0220E 012	$200.00	Gunnison
TALLSHIP B-4	341342	14 0160S 0220E 012	$200.00	Gunnison
TALLSHIP B-5	341343	14 0160S 0220E 012	$200.00	Gunnison
TALLSHIP B-6	341344	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP B-7	341345	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP B-8	351062	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP B-9	351063	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP B10	341968	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP #C-1	73414	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP #C-2	73415	14 0160S 0220E 024	$200.00	Gunnison
TALLSHIP #C-3	73416	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP #C-4	73417	14 0160S 0220E 024	$200.00	Gunnison
TALLSHIP #C-5	73418	14 0160S 0220E 013	$200.00	Gunnison
TALLSHIP #C-6	73419	14 0160S 0220E 024	$200.00	Gunnison
TALLSHIP #C-7	73420	14 0160S 0220E 013	$200.00	Gunnison
PROSPECT 1	341969	14 0150S 0220E 035	$200.00	Gunnison
PROSPECT 2	341970	14 0150S 0220E 035	$200.00	Gunnison
PROSPECT 3	341971	14 0150S 0220E 035	$200.00	Gunnison
PROSPECT 4	341972	14 0150S 0220E 035	$200.00	Gunnison
PROSPECT 5	341973	14 0150S 0220E 035	$200.00	Gunnison
PROSPECT 6	341974	14 0150S 0220E 035	$200.00	Gunnison

Claim Name and Number	BLM Serial # (AMC #)	Township, Range, Section*	Maintenance Costs	Area
PROSPECT 7A	341975	14 0150S 0220E 035	$200.00	Gunnison
PROSPECT 8A	341976	14 0150S 0220E 035	$200.00	Gunnison
PROSPECT 9	341977	14 0150S 0220E 035	$200.00	Gunnison
TEX 1	341978	14 0150S 0230E 031	$200.00	Gunnison
TEX 2	341979	14 0160S 0220E 001	$200.00	Gunnison
TEX 3	341980	14 0150S 0230E 031	$200.00	Gunnison
TEX 4	341981	14 0160S 0230E 006	$200.00	Gunnison
TEX 5	341982	14 0150S 0230E 031	$200.00	Gunnison
TEX 6	341983	14 0160S 0230E 006	$200.00	Gunnison
TEX 7	341984	14 0150S 0230E 031	$200.00	Gunnison
TEX 8	341985	14 0160S 0230E 006	$200.00	Gunnison
TEX 9	341986	14 0150S 0230E 031	$200.00	Gunnison
TEX 10	341987	14 0160S 0230E 006	$200.00	Gunnison
TEX 11	341346	14 0150S 0230E 031	$200.00	Gunnison
TEX 12	341988	14 0160S 0230E 006	$200.00	Gunnison
TEX 13	341347	14 0160S 0230E 006	$200.00	Gunnison
TEX 14	341989	14 0160S 0230E 005	$200.00	Gunnison
TEX 15	341990	14 0160S 0220E 001	$200.00	Gunnison
TEX 16	341348	14 0160S 0220E 001	$200.00	Gunnison
TEX 17	341991	14 0160S 0230E 006	$200.00	Gunnison
TEX 18	341349	14 0160S 0230E 006	$200.00	Gunnison
TEX 19	341992	14 0160S 0230E 006	$200.00	Gunnison
TEX 20	341993	14 0160S 0230E 006	$200.00	Gunnison
TEX 21	341994	14 0160S 0230E 006	$200.00	Gunnison
TEX 22	341995	14 0160S 0230E 006	$200.00	Gunnison
TEX 23	341996	14 0160S 0230E 006	$200.00	Gunnison
TEX 24	341997	14 0160S 0230E 006	$200.00	Gunnison
TEX 25	341998	14 0160S 0230E 006	$200.00	Gunnison
TEX 26	341999	14 0160S 0230E 006	$200.00	Gunnison
TEX 27	342000	14 0160S 0230E 005	$200.00	Gunnison
TEX 28	342001	14 0160S 0230E 005	$200.00	Gunnison
TEX 29	341350	14 0160S 0230E 006	$200.00	Gunnison
TEX 30	341351	14 0150S 0230E 031	$200.00	Gunnison
NANA-1	AZ105264914	14 0160S 0220E 026	$200.00	Gunnison
NANA-2	AZ105264915	14 0160S 0220E 026	$200.00	Gunnison
NANA-3	AZ105264916	14 0160S 0220E 026	$200.00	Gunnison
NANA-4	AZ105264917	14 0160S 0220E 026	$200.00	Gunnison
NANA-5	AZ105264918	14 0160S 0220E 026	$200.00	Gunnison
NANA-6	AZ105264919	14 0160S 0220E 026	$200.00	Gunnison
NANA-7	AZ105264920	14 0160S 0220E 026	$200.00	Gunnison
NANA-8	AZ105264921	14 0160S 0220E 026	$200.00	Gunnison
NANA-9	AZ105264922	14 0160S 0220E 026	$200.00	Gunnison
NANA-10	AZ105264923	14 0160S 0220E 026	$200.00	Gunnison
NANA-11	AZ105264924	14 0160S 0220E 026	$200.00	Gunnison
NANA-12	AZ105264925	14 0160S 0220E 026	$200.00	Gunnison
NANA-13	AZ105264926	14 0160S 0220E 026	$200.00	Gunnison
NANA-14	AZ105264927	14 0160S 0220E 026	$200.00	Gunnison
NANA-15	AZ105264928	14 0160S 0220E 026	$200.00	Gunnison
NANA-16	AZ105264929	14 0160S 0220E 026	$200.00	Gunnison
NANA-17	AZ105264930	14 0160S 0220E 026	$200.00	Gunnison

Claim Name and Number	BLM Serial # (AMC #)	Township, Range, Section*	Maintenance Costs	Area
NANA-18	AZ105264931	14 0160S 0220E 026	$200.00	Gunnison
NANA-19	AZ105264932	14 0160S 0220E 026	$200.00	Gunnison
NANA-20	AZ105264933	14 0160S 0220E 026	$200.00	Gunnison
Alpha Omega #64	AMC 429559	14 0160S 0230E 004	$200.00	Gunnison
Alpha Omega #65	AMC 429560	14 0160S 0230E 004	$200.00	Gunnison
Alpha Omega #76	AMC 429561	14 0160S 0230E 004	$200.00	Gunnison
Alpha Omega # 77	AMC 429562	14 0160S 0230E 004	$200.00	Gunnison
GUNNY 1	AZ105789226	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 2	AZ105789227	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 3	AZ105789228	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 4	AZ105789229	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 5	AZ105789230	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 6	AZ105789231	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 7	AZ105789232	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 8	AZ105789233	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 9	AZ105789234	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 10	AZ105789235	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 11	AZ105789236	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 12	AZ105789237	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 13	AZ105789238	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 14	AZ105789239	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 15	AZ105789240	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 16	AZ105789241	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 17	AZ105789242	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 18	AZ105789243	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 19	AZ105789244	14 0160S 0230E 005	$200.00	Gunnison
GUNNY 20	AZ105789244	14 0160S 0230E 005	$200.00	Gunnison
CHARLES	403687	14 0150S 0220E 036	$200.00	Gunnison
DORA	403691	14 0150S 0220E 036	$200.00	Gunnison
ELLA	403697	14 0150S 0220E 036	$200.00	Gunnison
ERNEST	403700	14 0150S 0220E 036	$200.00	Gunnison
GUSTAVE	403703	14 0150S 0220E 036	$200.00	Gunnison
INA	403706	14 0150S 0220E 036	$200.00	Gunnison
LOUIE	403717	14 0150S 0220E 036	$200.00	Gunnison
MARY	403718	14 0150S 0220E 036	$200.00	Gunnison
ULTIMO	403744	14 0150S 0220E 036	$200.00	Gunnison
WOLFRIME	403745	14 0150S 0220E 036	$200.00	Gunnison
J SULLY #6	408909	14 0150S 0220E 036	$200.00	Gunnison
J SULLY #8	408911	14 0150S 0220E 036	$200.00	Gunnison
J SULLY #11	408914	14 0150S 0220E 036	$200.00	Gunnison
J SULLY #12	408915	14 0150S 0220E 036	$200.00	Gunnison
J SULLY #13	408916	14 0150S 0220E 036	$200.00	Gunnison
J SULLY #16	408919	14 0150S 0220E 036	$200.00	Gunnison
*Some claims may extend into adjacent Townships, Ranges or Sections				
			ANNUAL COST	**TOTAL # OF CLAIMS**
TOAL GUNNISON CLAIMS			$37,600.00	188

State Permits

Permit No.	1st Year	2nd Year	3rd Year	4th Year	5th Year
08-121919 **Sec. 7**	Rent: 911.46 App Fee: $500 Exp: $4,557.30 Due: 2/22/2022	Rent: None App Fee: $500 Exp: $4,557.30 Due: 2/22/2023	Rent: $455.73 App Fee: $500 Exp: $9,114.60 Due: 2/22/2024	Rent: $455.73 App Fee: $500 Exp: $9,114.60 Due: 2/22/2025	Rent: $455.73 App Fee: $500 Exp: $9,114.60 Due: 2/22/2026
08-121961 **Sect. 18**	Rent: 558.02 App. Fee: $500 Exp: $2,790.10 Due: 4/4/2022	Rent: None App. Fee: $500 Exp: $2,790.10 Due: 4/4/2023	Rent: $279.01 App. Fee: $500 Exp: $5,580.20 Due: 4/4/2024	Rent: $279.01 App. Fee: $500 Exp: $5,580.20 Due: 4/4/2025	Rent: $279.01 App. Fee: $500 Exp: $5,580.20 Due: 4/4/2026
08-121966 **Sect. 5**	Rent: 638.78 App. Fee: $500 Exp: $3,193.90 Due: 4/4/2022	Rent: None App. Fee: $500 Exp: $3,193.90 Due: 4/4/2023	Rent: $319.39 App. Fee: $500 Exp: $6,387.80 Due: 4/4/2024	Rent: $319.39 App. Fee: $500 Exp: $6,387.80 Due: 4/4/2025	Rent: $319.39 App. Fee: $500 Exp: $6,387.80 Due: 4/4/2026
08-121965 **Sect. 25**	Rent: 80.00 App. Fee: $500 Exp: $400.00 Due: 4/4/2022	Rent: None App. Fee: $500 Exp: $400.00 Due: 4/4/2023	Rent: $40.00 App. Fee: $500 Exp: $800.00 Due: 4/4/2024	Rent: $40.00 App. Fee: $500 Exp: $800.00 Due: 4/4/2025	Rent: $40.00 App. Fee: $500 Exp: $800.00 Due: 4/4/2026
08-122663 **Sect. 29**	Rent: 1280.00 App. Fee: $500 Exp: $6,400.00 Due: 11/2/22	Rent: None App. Fee: $500 Exp: $6,400.00 Due: 11/3/23	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/24	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/25	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/26
08-122662 **Sect. 8**	Rent: 1280.00 App. Fee: $500 Exp: $6,400.00 Due: 11/2/22	Rent: None App. Fee: $500 Exp: $6,400.00 Due: 11/3/23	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/24	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/25	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/26
08-122661 **Sect. 17**	Rent: 1280.00 App. Fee: $500 Exp: $6,400.00 Due: 11/2/22	Rent: None App. Fee: $500 Exp: $6,400.00 Due: 11/3/23	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/24	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/25	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/26
08-122660 **Sect. 32**	Rent: 1280.00 App. Fee: $500 Exp: $6,400.00 Due: 11/2/22	Rent: None App. Fee: $500 Exp: $6,400.00 Due: 11/3/23	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/24	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/25	Rent: $640.00 App. Fee: $500 Exp: $12,800.00 Due: 11/3/26
08-121733 **Sec. 20**	Rent: 1080.00 App Fee: $500 Exp: $5,400.00 Due: 11-2-2021	Rent: None App Fee: $500 Exp: $5,400.00 Due: 11-2-2022	Rent: $540 App Fee: $500 Exp: $10,800.00 Due: 11-2-2023	Rent: $540 App Fee: $500 Exp: $10,800.00 Due: 11-2-2024	Rent: $540 App Fee: $500 Exp: $10,800.00 Due: 11-2-2025
08-122253 **Sec. 2**	Rent: 996.04 App Fee: $500 Exp: $4,980.20 Due: 6/27/2022	Rent: None App Fee: $500 Exp: $4,980.20 Due: 6/27/2023	Rent: $498.02 App Fee: $500 Exp: $9,960.40 Due: 6/27/2024	Rent: $498.02 App Fee: $500 Exp: $9,960.40 Due: 6/27/2025	Rent: $498.02 App Fee: $500 Exp: $9,960.40 Due: 6/27/2026
08-122443 **Sec. 26**	Rent: 560.00 App Fee: $500 Exp: $2,800 Due: 8/27/2022	Rent: None App Fee: $500 Exp: $2,800 Due: 8/27/2023	Rent: $280.00 App Fee: $500 Exp: $5,600 Due: 8/27/2024	Rent: $280.00 App Fee: $500 Exp: $5,600 Due: 8/28/25	Rent: $280.00 App Fee: $500 Exp: $5,600 Due: 8/28/26

State Mineral Lease

Permit Number 11-53946 Sec. 36 Rent: $11,964.75 Minimum Royalty: $6,381.20 Due: June

16 each year

Lease expires 6-15-2034

Connie Johnson Deed

All mines and minerals in and under Section 31, Township 15 South, Range 23 East, Gila and Salt River Base and Meridian, containing *615.52* acres, more or less; together with the power to take all usual, necessary or convenient means for working, getting, laying up, dressing, making merchantable, and taking away the said mines and minerals, and also for the above purposes, or for any other purposes whatsoever, to make and repair tunnels and sewers, and to lay and repair pipes for conveying water to and from any manufactory or other building as reserved in that certain Warranty Deed from Hetty Wilson Johnson (formerly Hetty G. Wilson) and Conner Johnson, her husband, to Tom Adams and Lizzie E, Adams, husband and wife, dated May 19, 1943, and recorded at Book 136 Deeds of Real Estate, pages 123, 124 in the Office of the Cochise County, Arizona Recorder.

Fee Simple Land

The mineral rights and other interests in the following parcels located in Cochise County, Arizona, as more specifically described in Exhibit A to the Option:

Parcel A: The mineral estate only in approximately 39.06 acres of land in Section 19, T. 16 S., R. 23 E. and Sections 24 and 25, T. 16 S., R 22 E.

Parcel D: The property in approximately 14.24 acres of land in Section 19, T. 16 S., R. 23

E. and Section 25, T. 16 S., R 22 E.

Parcel E: The property in approximately 4.28 acres of land in Section 19, T. 16 S., R. 23 E.

Parcel F: The property in approximately 15.29 acres of land in Section 25, T. 16 S., R. 22E. (save and excluding a 15-foot easement along the northern boundary of Parcels D and E)