Preliminary Economic Assessment Study for San Javier Property, Sonora, Mexico

NI 43-101 Technical Report

PRESENTED TO

Barksdale Resources
Vancouver, BC, Canada

EFFECTIVE DATE: JANUARY 02, 2024

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ACRONYMS & ABBREVIATIONS

Abbreviation	Definition
AACE	Association for the Advancement of Cost Engineering
AAS	Atomic Absorption Spectroscopy
ACS	Arseneau Consulting Services Inc.
ASCu	Acid-soluble Copper
Barksdale	Barksdale Resources
BLS	Barren Leach Solution
CCTV	Closed Circuit Television
CDN	Canadian
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CNA	Comisión Nacional del Agua
CNCu	Cyanide-soluble Copper
Corner Bay	Minera Corner Bay
CRM	Certified Reference Material
DA	Duplicate Assay
DCS	Distributed Control System
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
EPCM	Engineering, Procurement and Construction Management
ETJ	Estudio Técnico Justificativo
EV	Electric Vehicle
EW	Electrowinning
FCA	Free Carrier
FOB	Free on Board
G&A	General and Administration
GPS	Global Positioning System
Hazen	Hazen Research Inc.
HCCS	Hematite Chlorite Carbonate Sericite
HDPE	High-Density Polyethylene
ICP/MS	Inductively Coupled Plasma Mass Spectroscopy
IETU	Impuesto Empresarial a Tasa Unica
IMC	International Mining Consultants, Inc.
IMC	Independent Mining Consultants, Inc.
INAH	National Institute of Anthropology and History
INDAABIN	Instituto de Administración y Avalúos de Bienes Nacionales
IOCG	Iron Oxide Copper Gold
IPL	International Plasma Labs Ltd.
IRR	Internal Rate of Return

Abbreviation	Definition
ISO	International Organization for Standardization (for Modular Diesel Fuel Tanks)
JDS	JDS Energy and Mining Corp.
LAN	Ley de Aguas Nacionales
LAU	Licencia Ambiental Única
LCRS	Leak collection and recovery system
LG	Lerchs-Grossman
LGEEPA	Ley General del Equilibrio Ecológico y la Protección al Ambiente
LLDPE	Low Linear Density Polyethylene
LOM	Life-of-Mine
McClelland	McClelland Laboratories, Inc.
Metcon	METCON Research
MIA	Manifestación de Impacto Ambiental
MSDS	Material Safety Data Sheets
NI	National Instrument
NPV	Net Present Value
NPVS	Datamine's Studio NPVS Software
NSR	Net Smelter Return
OIS	Operator Interface Station
Orcana	Orcana Resources Ltd.
OREAS	OREAS Group (Laboratories) - now AnalytiChem
PCPE	Perforated Corrugated Polyethylene
PD	Phelps Dodge
PEA	Preliminary Economic Assessment
PLS	Pregnant Leach Solution
QP	Qualified Person
RecCu	Recoverable Copper
ResCu	Residual Insoluble Copper
RF	Revenue Factor
ROM	Run-of-Mine
SDS	Sustainable Development Scenario
SEA-CuSeq	Sequential Leach Copper
SEDENA	Ministry of Defense (Spanish)
SEI-SG	Specific Gravity (SG) Measurements by SEI-Tetra S.A. de C.V.
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales
SGM	Servicio Geológico Mexicano
SKY	Skyline Assayers & Laboratories
SRK	SRK Consulting Inc.
SSD	Silver Standard Durango, S.A. de C.V.

Abbreviation	Definition
STEPS	Stated Policies Scenario
SX	Solvent Extraction
TCu	Total Copper
Tetra Tech	Tetra Tech Canada Inc.
Tusk	Tusk Exploration Inc.
VAT	Value Added Tax
VHF	Very High Frequency
WHMIS	Workplace Hazardous Materials Information Systems
XRDF	X-ray Diffraction and Fluorescence
XRF	X-ray Fluorescence

UNITS OF MEASURE

acre	ac
ampere	A
annum (year)	a
bags	bgs
billion	B
billion tonnes	Bt
billion years	Ga
British thermal unit	BTU
centimetre	cm
cubic centimetre	cm^3
cubic feet per minute	cfm
cubic feet per second	ft^3/s
cubic foot	ft^3
cubic inch	in^3
cubic metre	m^3
cubic yard	yd^3
Coefficients of Variation	CVs
day	d
days per week	d/wk
days per year (annum)	d/a
dead weight tonnes	DWT
decibel adjusted	dBa
decibel	dB
degree	°
degrees Celsius	°C
diameter	ø
dollar (United States)	US$
dollar (Canadian)	C$
dry metric tonne	dmt
foot	ft
gallon	gal
gallons per minute (US)	gpm
gigajoule	GJ
gigapascal	GPa
gigawatt	GW
gram	g
grams per litre	g/L
grams per tonne	g/t
greater than	>
hectare (10,000 m^2)	ha
hertz	Hz
horsepower	hp
hour	h
hours per day	h/d
hours per week	h/wk
hours per year	h/a
inch	"
kilo (thousand)	k
kilogram	kg
kilograms per cubic metre	kg/m^3
kilograms per hour	kg/h
kilograms per square metre	kg/m^2
kilometre	km
kilometres per hour	km/h
kilopascal	kPa
kilotonne	kt
kilovolt	kV
kilovolt-ampere	kVA

kilovolts	kV
kilowatt	kW
kilowatt hour	kWh
kilowatt hours per tonne (metric ton)	kWh/t
kilowatt hours per year	kWh/a
less than	<
litre	L
litres per minute	L/m
megabytes per second	Mb/s
megapascal	MPa
megavolt-ampere	MVA
megawatt	MW
metre	m
metres above sea level	masl
metres per minute	m/min
metres per second	m/s
metric ton (tonne)	t
microns	µm
milligram	mg
milligrams per litre	mg/L
millilitre	mL
millimetre	mm
million	M
million bank cubic metres	Mbm^3
million bank cubic metres per annum	Mbm^3/a
million pounds	Mlb
million tonnes	Mt
minute (plane angle)	'
minute (time)	min
month	mo
ounce	oz
pascal	Pa
pico	p
centipoise	mPa·s
parts per million	ppm
parts per billion	ppb
percent	%
pound(s)	lb
pounds per square inch	psi
revolutions per minute	rpm
second (plane angle)	"
second (time)	s
specific gravity	SG
square centimetre	cm^2
square foot	ft^2
square inch	in^2
square kilometre	km^2
square metre	m^2
thousand tonnes	kt
tonne (1,000 kg)	t
tonnes per day	t/d
tonnes per hour	t/h
tonnes per year	t/a
tonnes seconds per hour metre cubed	ts/hm^3
volt	V
week	wk
weight/weight	w/w
wet metric tonne	wmt
year (annum)	a

1.0 SUMMARY

Barksdale Resources (Barksdale), TSXV: BRO, commissioned Tetra Tech Canada Inc. (Tetra Tech) to complete this Preliminary Economic Assessment (PEA) for the San Javier project located in Central Sonora, Mexico, following the National Instrument (NI) 43-101 Standards of Disclosure for Mineral Projects. In September 2020, Barksdale entered a definitive option agreement to acquire a 100% interest in the San Javier project. The consultants commissioned to complete the PEA are presented in Table 1-1.

Table 1-1: List of PEA Consultants

Consultants	Components
Tetra Tech Canada Inc.	Overall project management, mineral processing and metallurgical testing, mining methods, recovery methods, project infrastructure, marketing studies, capital and operating costs, economic analysis, and overall PEA Technical Report compilation
Independent Mining Consultants, Inc. (IMC)	Project description and location, accessibility, history, geological setting, deposit types, exploration, drilling, data verification, mineral resource estimate, adjacent properties

Unless otherwise noted, all currencies are expressed in US dollars (US$ or $) in this Technical Report.

1.1 Property Description and Ownership

The San Javier project is located in northwestern Mexico in the central part of Sonora, 140 km east-southeast of Hermosillo. From Hermosillo, take Federal Highway 16 towards Chihuahua until approximately km 141, where a junction to the north leads to San Javier village. Follow this winding paved road uphill for approximately 2.8 km before making a sharp turn southeast on an unmarked dirt road for approximately 1.6 km. Using a four-wheel drive vehicle is advisable on the dirt road and at the Project. Cerro Verde Mountain is due south of the town of San Javier, the capital of the municipality under the same name, with a population of 537 inhabitants in the 2020 census.

The Project is comprised of 12 mining concessions optioned from San Javier del Cobre S.A. de C.V. by Estrella de Cobre, S.A. de C.V., a Barksdale subsidiary. The mining claims cover 1,184.4345 ha, forming four clusters with spaces between them occupied by mining concessions owned by third parties.

1.2 History

The Project has been of interest to mining companies for a long time, as the green copper-stained cliffs of Cerro Verde are visible from a long distance. The earliest known modern exploration campaigns were completed by Servicios Industriales Peñoles S.A. De C.V. (Peñoles) from the late 1960s through the mid-1980s. Magma Copper Company (Magma) followed briefly in 1994. Also in 1994, the Finnish mining company Outukumpu Oyj (Outukumpu) participated in a brief joint venture with Orcana Resources Ltd (Orcana) and drilled nine holes at La Trinidad. Minera Corner Bay (Corner Bay) held the mineral concession rights from late 1994 to 1999 and formed a joint venture with Phelps Dodge (PD) between 1995 and 1998. Constellation Copper Corporation (Constellation) acquired the Project in 2004 and was active until 2008, when the company entered into bankruptcy protection. Tusk Exploration Inc. (Tusk), a private company, acquired the Project in a bankruptcy liquidation process in 2009. In 2014, Benz Capital Corp optioned the property from Tusk and completed a PEA, although no additional exploration work was completed on the property. Benz dropped its option within a year due to low copper prices. In 2019, Estrella del Cobre S.A. de C.V., a wholly-owned subsidiary of Barksdale, optioned the property from Tusk.

1.3 Geology

The oldest lithologic package in the region is composed of sedimentary rocks in an Ordovician through a Permian platform and a deep-water marine sequence comprised of limestone, shale, and sandstone. This sequence was affected by several tectonic events that resulted in low-angle overthrusting of basin sedimentary facies rocks over shallow water, platform sedimentary rocks. This deep-water carbonate rock package is referred to as the San Antonio Formation, outcropping less than 2 km north of the project area.

On top of these rocks was the deposition of the Barranca Group rocks during the Late Triassic, with mixed facies of marine and marshy environments depositing conglomerates, quartz sandstone, carbonaceous shale, and minor coal beds. The Barranca Group comprises the Late Triassic Arrayanes Formation (sandstone-siltstone), the Late Triassic Santa Clara Formation (carbonaceous shale, coal beds), and the indeterminate age Coyotes Formation (conglomerate).

San Javier exhibits many characteristics common to Iron Oxide Copper Gold (IOCG) deposits.

1.4 Exploration

Work on the property by Barksdale's Mexican subsidiary, Estrella de Cobre, commenced in February of 2021, setting up the infrastructure for the upcoming drilling campaign. In the months following, the advances in re-logging historic core and the delineation of major structural controls helped in the construction of a preliminary 3D model that was used to focus and target the initial part of the drill campaign trying to identify vertical feeder structures. Drilling started in August 2021 and was finished in November 2021.

The first four holes were designed to replicate (twin) results of historic holes with good control on the mineralization and geo-metallurgical zones in the central part of the Cerro Verde deposit to provide PQ (85 mm diameter) core samples for metallurgical column testing. The rest of the holes were planned to augment information on copper and gold mineralization in the oxides and transition to sulphides.

Exploration has identified that the San Javier deposit is open in all directions, away from the central area of the deposit. Section 9.3 discusses the opportunities for expansion.

1.5 Metallurgical Test Work

Historic test work in 2007 was performed by METCON Research (Metcon) and Hazen Research Inc (Hazen). Testing included sequential copper analysis, bottle roll tests, and column test work. Bottle roll tests were performed on both the bulk samples and core sample materials. Results from these bottle roll tests were consistent with column tests. A comparison of results with the drill core bottle roll tests on the core samples showed similar distributions of cyanide-soluble copper materials to those of the bulk samples. Column test results showed that the finer crush size of ⅜-inch resulted in the highest extraction and the highest acid consumption.

Metcon performed a series of column tests on six bulk composite samples. Duplicate columns showed extractions at a soluble copper recovery averaging 90%, correlating with the bottle roll extractions. In column tests on the bulk samples, acid consumption averaged 19.7 kg/t of material leached.

The most recent metallurgical test work completed in 2022 for Barksdale was under the direction of SND Consulting and performed at McClelland Laboratories, Inc. (McClelland), located in Sparks, Nevada. This work consisted of four column leach tests, and the results are the basis for estimating the copper recovery and acid consumption used for this report. The following observations are presented as results of the column leach tests:

- The leach cap and oxide material type should have an extraction of 85% of acid and cyanide-soluble copper. This is for the primary leach cycle. There should be additional copper extracted in the second leach cycle.
- The sulphide should have an extraction of 60% acid and cyanide-soluble copper. The mixed oxide-sulphide will have 75% extraction. This is for the primary leach cycle. There should be additional copper extracted in the second leach cycle.
- Net acid consumption for the oxide composites is 2.5 kg/t.
- Net acid consumption for the hypogene composite (4726-001) should be 10 kg/t.
- There is no additional acid consumed after the primary leach cycle.

In general, the mineralization in the leach and oxide zones responds well to the acid leach for copper extraction. The transition zone materials respond seasonally well to the sulphuric acid extraction; however, the supergene zone materials do not produce good metallurgical performances to the acid extraction.

1.6 Mineral Resource Estimate

The Mineral Resource Estimate for the San Javier project is tabulated within a pit shell based on a $4.00/lb copper price and is presented in Table 1-2. The Mineral Resource is the sum of tonnage and grades about a soluble copper (acid-soluble plus cyanide-soluble grades) cutoff grade, which varies depending on the oxidization type.

Table 1-2: San Javier Mineral Resource

(Effective Date October 31, 2022)

Class	Tonnage and Grades Above Cutoff[1]					Copper ('000 lb)[2]	
	Tonnage (kt)	TCu (%)	As+Cn Cu (%)	ASCu (%)	CNCu (%)	Total Contained	Soluble Contained
Measured	12,485	0.278	0.203	0.172	0.032	76,573	55,938
Indicated	57,664	0.270	0.184	0.148	0.037	342,669	233,504
Total M&I	**70,149**	**0.271**	**0.187**	**0.152**	**0.036**	**419,242**	**289,442**
Inferred	5,965	0.240	0.152	0.114	0.038	31,563	19,923

Notes:

1. CNCu: Cyanide-soluble Copper
2. ASCu+CNCu cutoff vary by oxidization type: leach cap & oxide = 0.04%, mixed = 0.07%, sulphide = 0.08%
3. Contained pounds = kt x TCu x 22.04, Soluble pounds = kt x ASCu+CNCu x 22.04
4. Mineral Resource tonnage and grades are restricted to the Cerro Verde Deposit.
5. Total pit shell tonnage = 95,175 kt; the ratio of kt below cutoff to above cutoff = 0.25
6. Total may not add due to rounding.

1.7 Mining Methods

The San Javier project will be mined using a truck and shovel operation and will operate at a mining rate of approximately 10,000 t/d for a 12-year mine life with one year of pre-production. Mined material will be crushed and then stockpiled before being transported to a heap leach pad. Mineralized material feed will average a total copper grade of 0.34% during the Life-of-Mine (LOM) production. During one year of pre-production, three months of mineralized material (approximately 925 kt) will be crushed and stacked at the leach site. The San Javier resource outcrops in many areas of the mountain requiring a small quantity of pre-stripping, which will be used as fill material for construction and developing haul roads.

1.8 Recovery Method

The processing plant has been designed to process leach feed at a nominal throughput of 10,000 t/d to produce market-grade copper cathodes. The average LOM leach feed grade will be 0.34% total copper, and the anticipated overall copper recovery will be 63.5%.

The mineralized material from the San Javier project will be crushed using a three-stage crushing and screening system to produce -12.5 mm material. The crushed material will be stockpiled, reclaimed using a front-end loader, and transported to a permanent heap leach pad. The pad will drip irrigate with a sulphuric acid solution to extract copper. The pregnant leach solution (PLS) will be stored in the PLS pond and then pumped to a solvent extraction (SX) circuit to purify and concentrate copper in a strong electrolyte solution. The barren raffinate will be stored in a raffinate pond for the heap leach pad irrigation. The electrolyte will be fed to a semi-automatic electrowinning (EW) circuit to produce copper cathodes with >99.99% purity.

1.9 Project Infrastructure

The San Javier project is accessible from Hermosillo by a well-maintained paved two-lane highway (Highway #16). On Highway 16 at approximately km 141, a junction to the north leads to San Javier property. The site is currently accessed by a gravel road, which would be upgraded to service the Project. The Project will require the development or upgradations of several infrastructure items. The project infrastructure will include the following major items:

- Access roads,
- Open pit mine and associated infrastructure,
- Heap leach facility,
- Processing facilities, including SX/EW plant,
- Maintenance complex and warehouse,
- Administration building,
- Reagent storage facility,
- Assay laboratory,
- Explosive magazines storage,
- Potable water well,
- Seepage ponds.

1.10 Capital and Operating Costs

The estimated initial capital cost for the project’s design, construction, installation, and commissioning is $116.8 million. This includes all direct costs, indirect costs, owner’s costs and contingency. The capital cost estimate is consistent with an Association for the Advancement of Cost Engineering (AACE) Class 5 estimate with an expected accuracy of ±35%. A summary breakdown of the capital cost is provided in Table 1-3.

Table 1-3: Capital Cost Summary

Capital Cost Area	Cost (Million $)
Overall Site	0.33
Mining (includes haul roads)	1.06
Processing Plant (includes leach pad & ponds)	49.38
On-site Infrastructure	9.91
Others	3.42
Pre-production cost	8.13
Direct Cost	**72.24**
Indirect Cost	26.35
Owner's Cost	1.78
Contingency	16.45
Total Initial Cost	**116.82**

Note: Total may not add due to rounding.

The sustaining capital costs are all required from Year 1 of operations to sustain the mining and processing operation for the LOM and are estimated to be $17.22 million for the project.

The Project operating cost estimate consists of mining, processing, and general and administration (G&A) costs, are summarized in Table 1-4. The average LOM operating cost is $10.17/t material processed, or $2.16/lb copper produced.

Table 1-4: Average LOM Operating Cost Summary

Description	LOM Cost (Millon $)	Unit Cost ($/t processed)	Unit Cost ($/lb Cu)
Mining	138.96	3.14	0.67
Processing	234.47	5.29	1.12
G&A and Site Services	44.29	1.00	0.21
Camp & Equipment Leasing	32.94	0.74	0.16
Total LOM Operating Cost	**450.67**	**10.17**	**2.16**

Note: Total may not add due to rounding.

1.11 Financial Analysis

The Project has been evaluated using a constant copper market price of US$4.00/lb Cu. The LOM base case project net cash flow before and after tax is presented in Table 1-5. Applying an annual discount rate of 7%, the Project base case post-tax cash flow evaluates a Net Present Value (NPV) of $61.6 million and an Internal Rate of Return (IRR) of 18.1% with a payback period of 5.3 years.

Table 1-5: Summary of Economic Analysis Results

Parameter	Unit	Pre-Tax	Post-Tax
Undiscounted Net Cash Clow	Million $	224.7	146.6
NPV @ 7% discount	Million $	111.8	61.6
IRR	%	26.3	18.1
Payback Period	year	3.8	5.3

1.12 Other Relevant Data

The San Javier project comprises four groups of properties: Cerro Verde, San Carlos, Cobre Nuevo Norte, and Cobre Nuevo Sur. Most of the historic drilling focused on the Cerro Verde area, but the San Carlos group of claims, which includes the La Trinidad and Mesa Grande areas, also had some drilling, with mineralized intercepts over mineable widths. The Cobre Nuevo Norte and Cobre Nuevo Sur groups of claims have not been explored yet.

La Trinidad and Mesa Grande areas are separated by a steep winding creek with a general south-southeast orientation. The Tarahumara Formation volcanic rocks are in the upper plate of a low-angle thrust fault, on top of the Barranca Group Triassic-Jurassic sedimentary rocks. Both the Santa Clara and Coyotes Formations are present below the fault. All holes at La Trinidad and Mesa Grande are collared in the Tarahumara volcanic rocks, and while none of those at Mesa Grande intercepted the underlying sedimentary rocks, 18 out of 24 holes at La Trinidad did.

In both areas, the lithologic, alteration, and mineralization assemblages are similar to those present at Cerro Verde and of IOCG style above a low-angle thrust fault. At Cerro Verde, the sedimentary unit below the fault are conglomerates of the Coyotes Formation, whereas at La Trinidad, below the volcanic rocks is the sequence of siltstone, shale, and sandstone with interbedded coal seams of the Santa Clara Formation. The andesitic volcanic rocks present varying intensities of silicification, sericitization, and chloritization, accompanied by specularite as disseminations and veinlets with minor siderite and barite, and are probably part of the same mineralizing system of the Cerro Verde deposit.

The San Javier mineral resource is defined by the heap leaching of copper mineralization. Gold is also present at San Javier and is not part of the mineral resource as no definitive work has been completed to evaluate the potential for economic extraction of the gold. Within the San Javier deposit, which was modelled for the copper mineral resource, there is gold mineralization in the range of 250 to 400 thousand oz, occurring primarily in the oxide zone. No evaluation has been done to determine how it relates geometrically to copper mineralization.

1.13 Conclusions and Recommendations

The San Javier project is considered to be technically and economically viable based on the PEA parameters and results. It is recommended that Barksdale advances the San Javier project to the Pre-feasibility Study (PFS).

2.0 INTRODUCTION

Barksdale commissioned Tetra Tech to complete this PEA for the San Javier project located in Central Sonora, Mexico, following the NI 43-101 Standards of Disclosure for Mineral Projects. The San Javier project is currently 100% owned by Barksdale. In September 2020, Barksdale entered a definitive option agreement to acquire a 100% interest in the Project. Section 4.0 of this Technical Report presents the Property description and location.

The Qualified Persons (QPs) that authored this Technical Report are independent of Barksdale and the Property. The list of consultants responsible for each report section is presented in Table 2-1.

Table 2-1: PEA Technical Report Sections, Consultants, and QPs

No.	Section	Company	QP
1.0	Summary	All	Sign-off by Section
2.0	Introduction	Tetra Tech	Hassan Ghaffari, P.Eng.
3.0	Reliance on Other Experts		
4.0	Property Description and Location	IMC	Herbert E. Welhener, SME-RM, MMSA
5.0	Accessibility, Climate, Local Resources, Infrastructure, and Physiography		
6.0	History		
7.0	Geological Setting and Mineralization		
8.0	Deposit Types		
9.0	Exploration		
10.0	Drilling		
11.0	Sample Preparation, Analyses, and Security		
12.0	Data Verification		
13.0	Mineral Processing and Metallurgical Testing	Tetra Tech	Jianhui (John) Huang, P.Eng.
14.0	Mineral Resource Estimates	IMC	Herbert E. Welhener, SME-RM, MMSA
15.0	Mineral Reserve Estimates	NA	NA
16.0	Mining Methods	Tetra Tech	Maureen (Maurie) E. Marks, P.Eng.
17.0	Recovery Methods		Jianhui (John) Huang, P.Eng.
18.0	Project Infrastructure		Hassan Ghaffari, P.Eng.
19.0	Market Studies and Contracts		Hassan Ghaffari, P.Eng.
20.0	Environmental Studies, Permitting, and Social or Community Impact		Hassan Ghaffari, P.Eng.
21.0	Capital and Operating Costs		Maureen (Maurie) E. Marks, P.Eng., Jianhui (John) Huang, P.Eng., Hassan Ghaffari, P.Eng.
22.0	Economic Analysis	Tetra Tech	Jianhui (John) Huang, P.Eng.
23.0	Adjacent Properties	IMC	Herbert E. Welhener, SME-RM, MMSA
24.0	Other Relevant Data and Information	Tetra Tech	Hassan Ghaffari, P.Eng.

No.	Section	Company	QP
25.0	Interpretation and Conclusions	All	Sign-off by Section
26.0	Recommendations	All	Sign-off by Section
27.0	References	All	Sign-off by Section

2.1 Sources of Information

The key information sources for this Technical Report were:

- Documents referenced in Section 3.0 (Reliance on Other Experts) of this Technical Report,
- Documents referenced in Section 27.0 (References) of this Technical Report,
- Additional information was provided by Barksdale personnel where required.

2.2 Effective Dates

This Technical Report has the following effective dates:

- The effective date of the Mineral Resource estimate: October 31, 2022,
- The effective date of this Technical Report: January 02, 2024.

2.3 Qualified Persons and Personal Inspections

The following QPs conducted personal inspections of the Property:

- Hassan Ghaffari, P.Eng., M.A.Sc., conducted a personal inspection of the site on March 30, 2023.
- Herbert E. Welhener, SME-RM, MMSA, conducted a personal inspection of the site on July 12, 2022.
- Maureen (Maurie) E. Marks, P.Eng., conducted a personal inspection of the site on March 30, 2023.
- Jianhui (John) Huang, P.Eng., Ph.D., conducted a personal inspection of the site on March 30, 2023.

3.0 RELIANCE ON OTHER EXPERTS

IMC has not researched the mineral claims and surface ownership of the San Javier holdings by Barksdale and its subsidiaries. IMC has relied on Barksdale to provide the information regarding the ownership presented in Section 4.0.

This report has been prepared by Tetra Tech and co-authored by IMC. The information, conclusions, opinions, and estimates contained herein are based on:

- The information available to the authors of this report up to and including the effective date of this report.
- Assumptions, conditions, and qualifications as set forth in this report.
- Data, reports, and other information supplied by Barksdale and other third-party sources.
- The drill hole database assembled by Claus Weise (I-Cube LLC), along with wireframes of the geologic zones.
- Data and reports available in the public domain.

Jianhui (John) Huang, Tetra Tech, has relied on inputs from tax consultants engaged by Barksdale for applicable taxes and tax calculations, royalties and other government levies or interests applicable to revenue or income from the Project. He also relies on Barksdale for royalties.

Reports received from other experts have been reviewed for factual errors by Barksdale, IMC and Tetra Tech. Any changes made as a result of these reviews did not involve any alteration to the conclusions made. Hence, the statements and opinions expressed in these documents are given in good faith and in the belief that such statements and opinions are not false or misleading at the date of these reports. Except for the purposes legislated under provincial securities laws, any use of this Technical Report by any third party is at that party's sole risk.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The San Javier project is located in northwestern Mexico in the central part of Sonora, 140 km east-southeast of Hermosillo (Figure 4-1). From Hermosillo, take Federal Highway 16 towards Chihuahua until approximately 141 km, where a junction to the north leads to San Javier village. Follow this winding paved road uphill for approximately 2.8 km before making a sharp turn southeast on an unmarked dirt road for approximately 1.6 km. The use of a four-wheel drive vehicle is advisable on the dirt road and at the project. Cerro Verde Mountain is due south of the town of San Javier, the capital of the municipality under the same name, with a population of 537 inhabitants in the 2020 census.

The summit of the Cerro Verde Mountain has latitude-longitude coordinates of 28.566° north, -109.74° east. Within UTM WGS-84 zone 12 N, the coordinates are 623,257 east and 3,160,610 north.

Figure 4-1: General Location Map of San Javier Property

The Property consists of several concessions described below in Section 4.2. The principal mineralized areas are Cerro Verde, Mesa Grande, and La Trinidad. Only Cerro Verde has a Mineral Resource discussed herein (Figure 4-2).

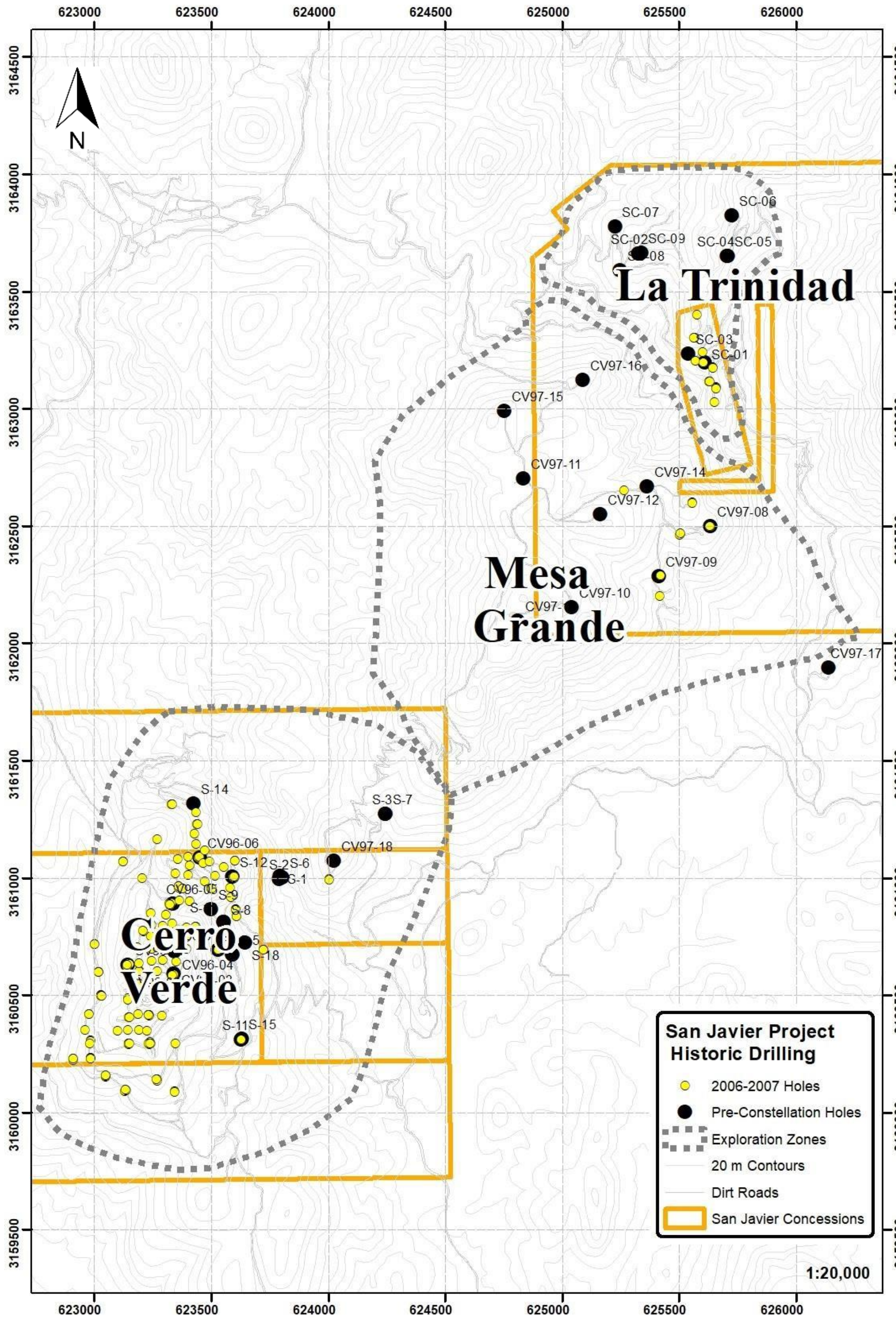


Figure 4-2: Plan Map Showing Location of Cerro Verde, Mesa Grande and La Trinidad

4.2 Property Ownership and Mineral Titles

The Project is comprised of 12 mining concessions optioned from San Javier del Cobre S.A. de C.V. by Estrella de Cobre, S.A. de C.V., a Barksdale subsidiary. The mining claims cover 1,184.4345 ha, forming four clusters with spaces between them occupied by mining concessions owned by third parties, as shown in Figure 4-3 below. Estrella de Cobre S.A. de C.V. acquired interest in these mining concessions through the signature of a contract with Tusk, the parent company of San Javier del Cobre S.A. de C.V., in August 2020.

Table 4-1: Mining Concessions for San Javier del Cobre S.A. de C.V.

Name	Title	Area (ha)
Uno	218264	95.0000
Dos	213905	98.8900
Tres	213906	113.9200
Ampl. Cerro Verde	185768	32.0000
Cerro Verde	186010	40.0000
San Carlos	205558	287.5789
Trinidad Fracc 1	197350	13.3806
Trinidad Fracc 2	197676	6.5000
Las Tunas	226168	118.8464
Cobre Nuevo Sur	223877	312.6232
Cobre Nuevo Sur Fracc I	223983	62.4998
Cobre Nuevo Sur Fracc 2	223984	3.1956
TOTAL		**1,184.4345**

Note: Total may not add due to rounding.

Three of the mining concessions optioned by Estrella de Cobre S.A. de C.V. were previously cancelled but have been recovered and are now in good standing. Those concessions are San Carlos, T. 205558; Trinidad Fracc 1, T. 197350, and Trinidad Fracc 2, T. 197676. Two more applications for mining concessions have been filed before the Dirección General de Minas by Estrella de Cobre S.A. de C.V. and are awaiting title issuance. These are the "Barranca" and "SJ" applications which are intended to cover 163.00 ha. When these applications are titled, the land controlled by the Company will amount to 1,347.4345 ha.

Table 4-2: San Javier Concession Applications

Name	File	Area (ha)
Barranca	82/40910	100.0000
SJ	82/40909	63.0000
TOTAL		**163.0000**

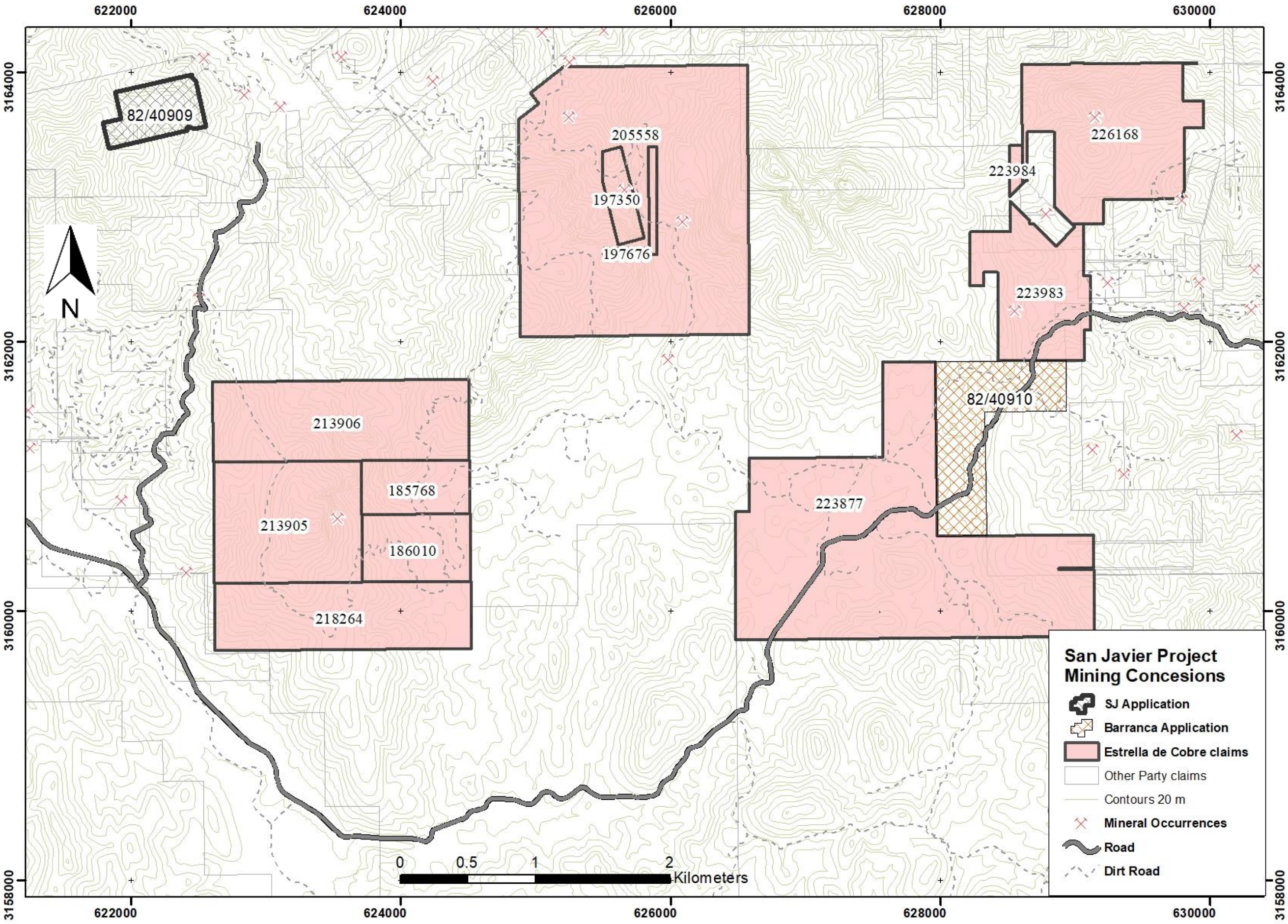


Figure 4-3: Plan Map Showing the San Javier Existing Mining Concessions

4.3 Land Access and Environmental Permit

Most of the land covered by the mining concessions and applications of Estrella de Cobre S.A. de C.V. is owned by the San Javier Ejido (local community government). Permission to work was sought in late 2020, and a written proposal was delivered to the Ejido in October of the same year, but the COVID-19 pandemic prevented the members from forming a valid assembly until the end of March 2021, when the Company was granted permission to work. The permit granted in that assembly permitted the Company to plan and accomplish the 2021 drilling campaign. In April 2022, the Company was given permission by the Ejido to complete exploration work for five years in exchange for the drilling of a water well for the San Javier community.

An environmental report (Informe Preventivo) was submitted to the federal environmental regulator, SEMARNAT (Secretaría de Medio Ambiente y Recursos Naturales), for the approval of the 2021 drilling program. The program was authorized on June 17, 2021, covering the drilling of up to 250 holes in a two-year period, with road rehabilitation and access to drill pads approved, but no new road construction allowed.

A second environmental report (Informe Preventivo) was submitted on May 17, 2022, with the aim of obtaining permission to drill at Cerro Verde, Mesa Grande, and La Trinidad areas, including the construction of over 13 km of roads. The program was authorized on August 15, 2022, covering the drilling of up to 113 holes with the construction approval for 13.1 km of new roads and new drill pads.

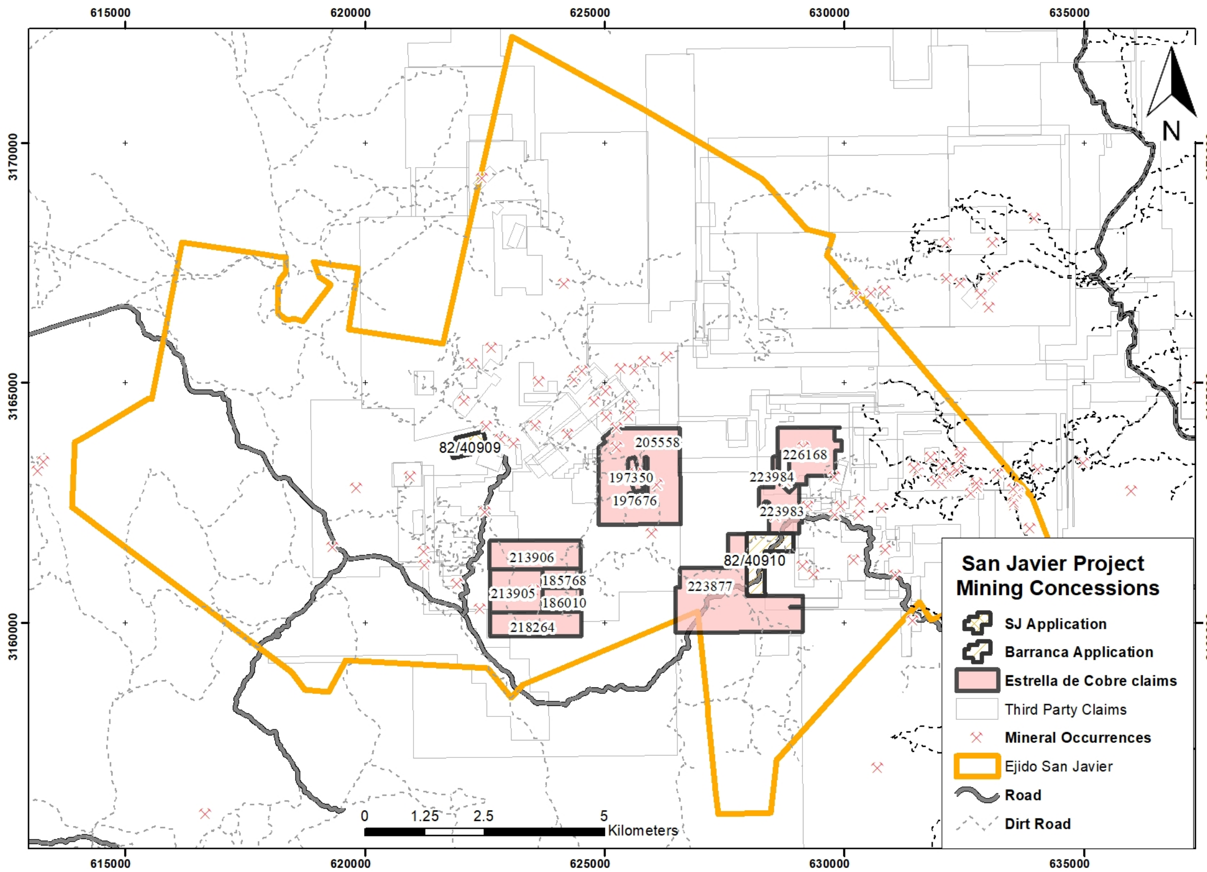


Figure 4-4: Topographic Map Showing the Outline of the Ejido in Relation to the Mining Concessions

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 Access to the Property

On Highway 16 at approximately km 141, there is a junction to the north that leads to San Javier. Follow this winding paved road uphill for approximately 2.8 km before making a sharp turn southeast on an unmarked dirt road for approximately 1.6 km. The use of a four-wheel drive vehicle is advisable. The Cerro Verde Mountain is approximately 3 km due south of San Javier, the capital of the municipality under the same name, with a total population of 550 inhabitants (Figure 4-1).

5.2 Climate

The climate is semi-arid with a pronounced monsoonal season from June through September and is extremely dry for the remainder of the year. Precipitation varies between 300 to 700 mm/yr. The annual temperature varies from +12°C to +35°C.

5.3 Physiography

The Property topography is extremely rugged with the three deposits located on steep to very steep hills rising as much as 300 m above the plain to the west. The elevation of the area around San Javier ranges from 400 masl to 1,300 masl.

5.4 Vegetation

Vegetation consists primarily of relatively thick scrub with small- to medium-sized trees lying along sheltered watercourses. The area is green during the three-month monsoon season and dry for the remainder of the year.

5.5 Local Resources and Infrastructure

The Property lies between 2 and 3 km from the town of San Javier. The San Javier workforce is small and almost fully employed by the many small coal-mining operations in the immediate vicinity and could be considered a resource for some of the probable workforce. The larger town of Tecoripa lies 25 km west of the project area and is a source of fuel, supplies, and labour. However, most major supplies, including labour, will come from the capital city of Hermosillo. Despite the steep topography, there are several areas of more moderate relief located on or near the mining concessions controlled by the Company. Potential sites for leach pads and process facilities will need to be identified in due course.

Electrical power is available from an existing line owned by the Federal Power Agency (Comisión Federal de Electricidad). The power line passes within 2 km of the Property and has the capacity to supply a small- to medium-sized operation. Approximately 2 km of unpaved road leading to the Project from the highway will need to be upgraded to accommodate mine traffic. Water will need to be supplied from wells that will be drilled and developed in the project area.

6.0 HISTORY

6.1 Property History

The Project has been of interest to mining companies for a long time, as the green copper-stained cliffs of Cerro Verde are visible from a long distance. The earliest known modern exploration campaigns were completed by Peñoles from the late 1960s through the mid-1980s. Magma followed briefly in 1994. Also in 1994, the Finnish mining company Outukumpu participated in a brief joint venture with Orcana and drilled nine holes at La Trinidad. Corner Bay, which held the mineral concession rights from late 1994 to 1999 and formed a joint venture with PD between 1995 and 1998. Constellation acquired the Project in 2004 and was active until 2008 when the company entered into bankruptcy protection. Tusk, a private company, acquired the Project in a bankruptcy liquidation process in 2009. In 2014, Benz Capital Corp. optioned the Property from Tusk and completed a PEA, although no additional exploration work was completed on the Property. Benz dropped its option within a year due to low copper prices. In 2019, Estrella del Cobre S.A. de C.V, a wholly owned subsidiary of Barksdale, optioned the Property from Tusk.

Historic drilling on the Property was quite limited until Constellation began a large campaign in 2006. A summary of all historic work is listed below.

Table 6-1: Summary of Recent Estrella de Cobre and Historic Drill Programs at San Javier

Company	Year	No. of Holes	m	Type
Estrella de Cobre	2021	3	290.00	Core (PQ)
Estrella de Cobre	2021	1	261.00	Core (60.5 m PQ / 200.5 m HQ)
Estrella de Cobre	2021	32	4,449.60	Core (HQ)
Subtotal Estrella de Cobre		**36**	**5,000.60**	
Constellation	2007	92	12,567.69	Core
Constellation	2007	31	4,491.00	RVC
Constellation	2007	2	302.40	Core (BQ)
Constellation	2006	57	10,929.78	Core
Constellation	2006	21	3,085.00	RVC
PD	1996–1997	18	4,952.30	Core
Orcana	1994?	9	1,260.20	Core
Peñoles	1960s–1970s	14	2,029.25	Core
Subtotal Historic Campaigns		**244**	**39,617.62**	
Grand Total			**44,618.22**	

Note: Total may not add due to rounding.

Peñoles is the first recorded company to have drilled in the area of Cerro Verde, working in the zone from the late 1960s to the mid-1980s, drilling 2,029 m in 14 holes. Reportedly, Peñoles drilled 18 holes, but data only exists for 14 of those holes. Orcana drilled nine holes (1,260 m) in the La Trinidad area in 1994. PD drilled 18 holes at Cerro Verde, Mesa Grande, and La Trinidad in 1996/1997, totalling 4,952 m. The largest drilling campaigns at San Javier were completed by Constellation, who drilled 31,376 m in 203 holes during 2006 and 2007. In 2021, Barksdale added approximately 5,000 m in 36 holes focused exclusively on the Cerro Verde zone.

Multiple NI 43-101 reports have been completed at San Javier over the years. In September 2006, Constellation published a technical report that did not include a Resource Estimate. A second NI 43-101 report was published in June 2007, completed by SRK Consulting Inc. (SRK) which included an Inferred Resource described further in Section 6.2. The 2007 SRK study was based on the 2006 drilling. Constellation also contracted with IMC of Tucson, AZ, to prepare a PEA that was published in December of 2007. The IMC report incorporated the Constellation drilling from both 2006 and 2007. In 2014, Benz engaged JDS Energy and Mining Corp. (JDS) to complete a PEA, which included an updated Mineral Resource Estimate.

6.2 Historic Resource and Reserve Estimates

According to the 2007 SRK report, PD prepared an internal Resource Estimate for Cerro Verde utilizing cross-sectional polygonal methodology which incorporated both Peñoles and PD drill hole results. This resulted in an estimate of 96 Mt at an average grade of 0.28% total copper. The basis for that Resource Estimate was not available for review by SRK. The PD estimate was not prepared according to NI 43-101 guidelines and the results could not be verified by SRK.

As mentioned above, Constellation contracted SRK of Denver, Colorado, to prepare a Resource Estimate. That estimate was based on all drilling completed through December 31, 2006. That Resource Estimate was pit constrained at US$2.40/lb copper and included only mineralization from the Cerro Verde zone. The resource was estimated using total copper; therefore, acid-soluble and recoverable copper resources were not independently calculated. The SRK resource is shown in Table 6-2.

Table 6-2: SRK Mineral Resource Statement for Cerro Verde, June 2007

Class	Tonnes (Mt)	Total Cu (%)	Cu (Mlb)
Inferred	81.0	0.35	629.0

In 2007, Constellation contracted IMC to prepare a PEA at San Javier that included updated Mineral Resource Estimates at both the Cerro Verde and La Trinidad zones. The PEA resources were based on a copper price of US$2.50 per pound using a 0.05% recovered copper cutoff grade. The Resource Estimate also assumes conventional open pit mining and mineralization processing by crushing, heap leaching and SX/EW to recover the copper. The Cerro Verde Mineral Resource is contained in the design pit used to define potential leach feed for this evaluation. The La Trinidad Mineral Resource is contained within a floating cone geometry that was used to define La Trinidad potential economical mineralization.

Table 6-3: San Javier Mineral Resources Using a 0.05% Recovered Copper Cutoff (IMC PEA, 2007)

Resource Class	Tonnage (kt)	Total Copper (%)	Contained Cu (Mlb)
Cerro Verde Indicated Mineral Resource	33,500	0.34	254
Cerro Verde Inferred Mineral Resource	52,500	0.32	376
La Trinidad Inferred Mineral Resource	3,700	0.54	43
Total Inferred Mineral Resource	**56,200**	**0.34**	**419**

Note: Total may not add due to rounding.

As previously noted, JDS was commissioned by Benz to prepare another PEA in 2014. The updated Resource Estimate, shown in Table 6-4, was completed by Arseneau Consulting Services Inc. (ACS) and published in May 2014. Some cost estimates were adapted from the PEA Technical report published by Constellation in December 2007.

Table 6-4: ACS Mineral Resource Statement for San Javier (Includes Cerro Verde Mineralization as well as from the La Trinidad Area) (JDS PEA, 2014)

Deposit	Class	Cutoff RecCu (%)	Tonnage (kt)	Total Cu (%)	CuOX (%)	CNCu (%)	Cu Rec (%)*
Cerro Verde	Indicated	0.05	47,700	0.32	0.16	0.05	0.21
Cerro Verde	Inferred	0.05	3,800	0.28	0.09	0.05	0.14
La Trinidad	Inferred	0.05	2,000	0.61	0.23	0.17	0.39

Note: * Cu Rec is recoverable soluble copper which is the sum of acid-soluble copper (CuOX) and cyanide-soluble copper (CNCu). Total may not add due to rounding.

6.3 Historic Mining

The Mexican government encouraged small-scale mining for silver, copper, and gold in the region. The only production within the San Javier concessions was from small surface glory holes and underground workings. Old workings are found at Cerro Verde, Mesa Grande, and at La Trinidad. No production data is available for any of these operations, and it is unknown when they were active.

6.4 Historic Metallurgical Test Work and Mineral Processing

Multiple evaluations of copper mineralization have occurred at San Javier by multiple entities. These evaluations have focused on sequential leach assaying, various column leach tests, as well as comminution test work. Most of this work has focused on the extraction of copper via leaching methods.

6.4.1 Historic Bottle Roll Test Programs

Metcon ran bottle roll tests on 33 drill core composites and 4 surface samples. Six bulk samples were later supplied by Constellation which were used for both bottle roll testing as well as column leach testing. Results of the bottle roll testing are summarized in Table 6-5 and Table 6-6.

Table 6-5: San Javier Bulk Samples – Bottle Roll Test Recoveries (JDS PEA, 2014)

Sample ID	Head Grade				Recovery	
	Total Cu%	Acid-Soluble Cu%	Cyanide-Soluble Cu%	Soluble Cu%	Soluble Cu	Total Cu
Average	1.65	1.35	0.24	1.59	88%	85%

Table 6-6: San Javier Drill Core – Bottle Roll Test Recoveries (JDS PEA, 2014)

Sample ID	Head Grade				Recovery	
	Total Cu%	Acid-soluble-Cu%	Cyanide-Soluble Cu%	Soluble Cu%	Soluble Cu	Total Cu
Average	0.44	0.23	0.06	0.29	95%	63%

6.4.2 Historic Column Leach Test Work

The primary objective of the column leach test program was to evaluate the leaching characteristics of six surface bulk samples. The samples were identified as S-5, PER-500-N, SJ-02, CV-02, CV-06, and CV-07. These samples consisted of several tonnes and were thought to represent the bulk of the mineralization of the deposit. The primary objective of this program was to generate copper extraction and sulphuric acid consumption data at three different crush sizes. The leach tests were conducted utilizing bottle roll and column leach techniques in open cycle. The leaching tests consisted of bottle roll, mini-column, and larger diameter column leach tests. Table 6-7 shows the test parameters for the bulk samples and Table 6-8 shows the results of the column tests.

Table 6-7: Test Parameters for the Bulk Samples

Test Objective	No. of Tests	Column Size Diam. X Height
Bottle Roll Leach Tests	6	NA
Acid Cure Dosage and Leach Solution Type Evaluations	36	3” x 1.5 m
80 Percent passing 2”	6	8” x 1.7 m
80 Percent passing 3/4”	6	6” x 1.7 m
80 Percent passing 3/8”	6	6” x 1.7 m

Table 6-8: Bulk Samples Column Tests Results

Composite Number	Cu Head Assay	Leach Time Days	P_{80} 2" Recovery	P_{80} 0.75" Recovery	P_{80} 0.375" Recovery	Average Recovery
S-5	0.81%	128	61%	66%	72%	66%
Per-500N	0.24%	51	72%	78%	79%	76%
SJ-2	1.39%	51	71%	91%	91%	84%
CV-2	0.54%	51	74%	86%	88%	83%
CV-6	0.69%	51	46%	63%	68%	59%
CV-7	0.55%	51	80%	88%	91%	86%

6.4.3 Hazen Test Work

Hazen of Golden, CO, completed Bond abrasion index, crusher impact, and ball mill work index on six surface bulk samples from San Javier. The average for the Bond abrasion index was 0.1244. The average crusher work index was 10.573, and the average value for the ball mill work index was 15. Hazen concluded that the samples submitted were not considered unusually hard or abrasive.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The oldest lithologic package in the region is composed of sedimentary rocks in an Ordovician through Permian platform and a deep-water marine sequence comprised of limestone, shale, and sandstone. This sequence was affected by several tectonic events that resulted in low-angle overthrusting of basin sedimentary facies rocks over shallow water, platform sedimentary rocks. This deep-water carbonate rock package is referred to as the San Antonio Formation, outcropping less than 2 km north of the project area (Figure 7-1). On top of these rocks was the deposition of the Barranca Group rocks during the Late Triassic, with mixed facies of marine and marshy environments depositing conglomerates, quartz sandstone, carbonaceous shale, and minor coal beds.

7.2 Local Geology

The Barranca Group comprises the Late Triassic Arrayanes Formation (sandstone-siltstone), the Late Triassic Santa Clara Formation (carbonaceous shale, coal beds), and the indeterminate age Coyotes Formation (conglomerate). The Coyotes Formation does not bear fossils and probably lies unconformably on the Santa Clara Formation, hence its lack of assigned age.

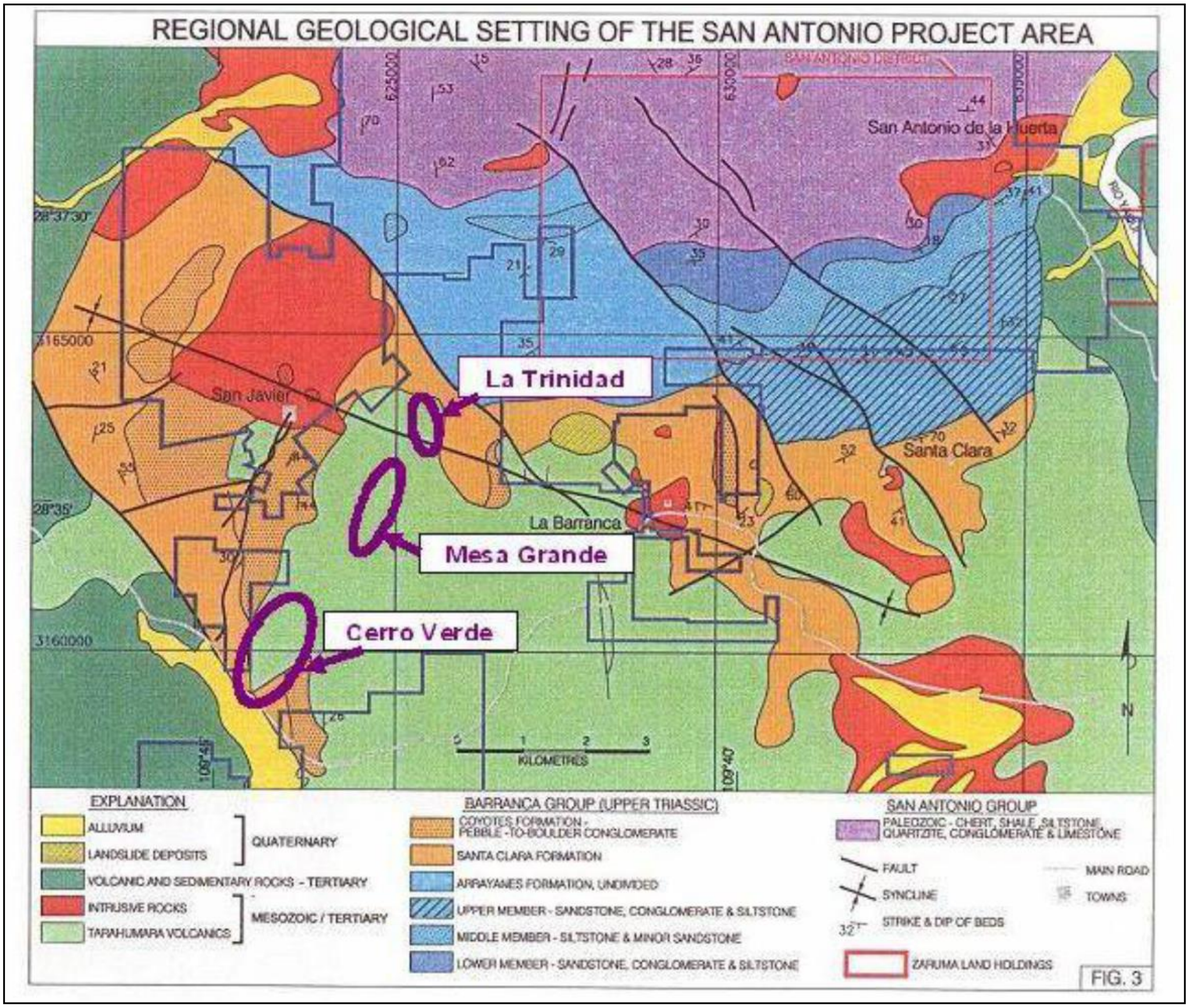


Figure 7-1: District Geology Map

(Based in Part on Wilson and Rocha (1949) and Avila Santiago (1960) (Modified by J.H. Stewart and J. Roldán-Quintana, 1991)

These lithologic sequences are overlain by late Cretaceous age units of the greater Tarahumara Formation, composed mainly of intermediate volcanic and volcano-sedimentary rocks with minor limestone beds. These volcanic rocks and the underlying sedimentary packages were affected by the later-stage intrusions of diorite stocks and a granodiorite batholith ranging in age between late Cretaceous and the Eocene, and by porphyritic rocks of likely Oligocene age of dioritic, rhyolitic, and quartz monzonitic composition. Most mineralization in the western margin of Mexico is related to this episode.

This region is a few tens of kilometres west from the Oligocene volcanic cover of the Sierra Madre Occidental, and as such, some felsic volcanic rocks in the region have been assigned to this age. During the Miocene at least two volcanic and one sedimentary sequence were deposited, and later affected by the basin and range tectonics during the late Miocene. Lastly, several sedimentary units have been deposited in the basin and range valleys during the Quaternary.

7.3 Property Geology

The following overview is a compilation of the work focused mainly within the Cerro Verde area and including minor inputs on the Mesa Grande and La Trinidad areas. There is information from reports by Dr. Murray W. Hitzman, Dr. William Rehrig, and Paula Hansley, technical reports by the companies Constellation on Cerro Verde and by Red Tiger on the adjacent San Antonio de La Huerta Property, and the Servicio Geológico Mexicano (SGM) reports for the H12-D64 and H12-D65 1:50 K sheets.

7.3.1 Sedimentary and Volcanic Units Barranca Group

The Barranca Group is comprised of three formations: Arrayanes, Santa Clara, and Coyotes.

7.3.1.1 Arrayanes Formation

This is the lowermost unit in the Group, comprised of fine- to medium-grained sandstone, which is often interbedded with conglomerate, siltstone, and shale that ranges in thickness up to approximately 1,150 m. This unit rests unconformably on Paleozoic sedimentary rocks. The depositional environment is regarded as fluvial to deltaic sedimentation. The Arrayanes Formation does not outcrop in the Cerro Verde, Mesa Grande, and Trinidad areas.

7.3.1.2 Santa Clara Formation

This sequence consists of late Triassic to Jurassic age fossil plant-bearing and marine fossil-bearing lithologies, ranging in thickness up to 1,400 m. The Santa Clara Formation is comprised of fine-grained sandstone, siltstone, shale, alternating coarse-grained sandstone, conglomerate, carbonaceous shale, and coal beds. The depositional environment may represent a progradational deltaic sequence. This unit has been identified in drill holes at the La Trinidad area, with sandstone and coal beds below the volcanic rocks.

7.3.1.3 Coyotes Formation

The uppermost unit assigned to the Barranca Group crops out to the west and south of the Cerro Verde area. The Coyotes Formation is made up of well-cemented, coarse pebble and boulder conglomerate consisting of rounded quartzite and chert clasts as well as sparse limestone fragments in a fine- to coarse-grained sand matrix ranging up to 600 m in thickness. Class sizes range from >1 cm up to 50 cm. This unit is interpreted to represent high-energy alluvial fan deposits. The contact with the underlying Santa Clara Formation is unconformable, and no fossils have been found, therefore the age is uncertain. Previous workers state that the upper contact with the volcanic rocks of the Tarahumara Formation is a major unconformity, but recent mapping and logging by Barksdale personnel has found several outcrops and one diamond drill hole where the contact appears to be gradational (Figure 7-2).

Figure 7-2: Coyotes Formation, Conglomerate with Oxidized Sulphides in Matrix

7.3.1.4 Tarahumara Formation

Like many volcanic sequences, the Tarahumara Formation displays rapid facies changes that at Cerro Verde and La Trinidad are obscured by alteration, mineralization, and extensive low-angle faulting. As a result, this environment makes the mapping of different lithologies difficult.

According to Tedeschi, in his 2009 thesis, at Cerro Verde, the volcanic rocks in the area display prominent potassium feldspar crystals and based on whole-rock X-ray Fluorescence (XRF) analysis (which in the QP's opinion, is not reliable due to extensive alteration) suggested a trachyandesitic to trachydacitic composition, and an overall decrease in silica, sodium, and calcium content and an increase in potassium, iron, and volatiles. Tedeschi recognized four units, from bottom to top: a fine-grained dacite breccia (Unit 4), a block and ash flow tuff (Unit 3), a lahar (Unit 2), and a porphyritic dacite flow (Unit 1). He also dated by U-Pb in zircons the uppermost dacite breccia at Cerro Verde, with an age of 95.9 +/- 0.5 Ma, and two intrusive rocks from the San Antonio de La Huerta district with very similar ages (within 2 Ma). These results are at odds with prior dating of a diorite by Damon et al. (1983), by K-Ar, in San Javier at 62.0 Ma and three intrusive rocks in the San Antonio de La Huerta district, in the 52 Ma to 59 Ma range.

Petrographic work by Paula Hansley in 2006–2007 supports a more andesitic composition (more plagioclase than K-feldspar) iron-potassium metasomatism, with accessory biotite, amphibole, and sparse fine-grained quartz grains.

The work to date by Barksdale has concentrated in the Cerro Verde area, where re-logging of historic core and logging of the 2021 drill campaign has identified two units that can be recognized when alteration is not too pervasive: a monomictic andesite breccia and a polymictic lahar below. Even with only those two units, it proved difficult to assign a rock type from the core of adjacent drill holes.

The volcanic package is complex and several other rock types are present on the eastern side of Cerro Verde, La Trinidad, Mesa Grande, and elsewhere, but the effort to define lithologies from outcrop exposures is deemed difficult in this volcanic package due to facies variations obscured by alteration and poor exposure in a complex structural setting. The contact with the underlying Coyotes Formation on the western side of Cerro Verde seems gradational at several points, although at some sites is clearly controlled by low-angle faults. Even when the contact is interpreted as a low-angle fault, quartzite fragments from the Coyotes Formation are commonly caught up in the base of the volcanic rocks and are relatively rare further up the volcanic column.

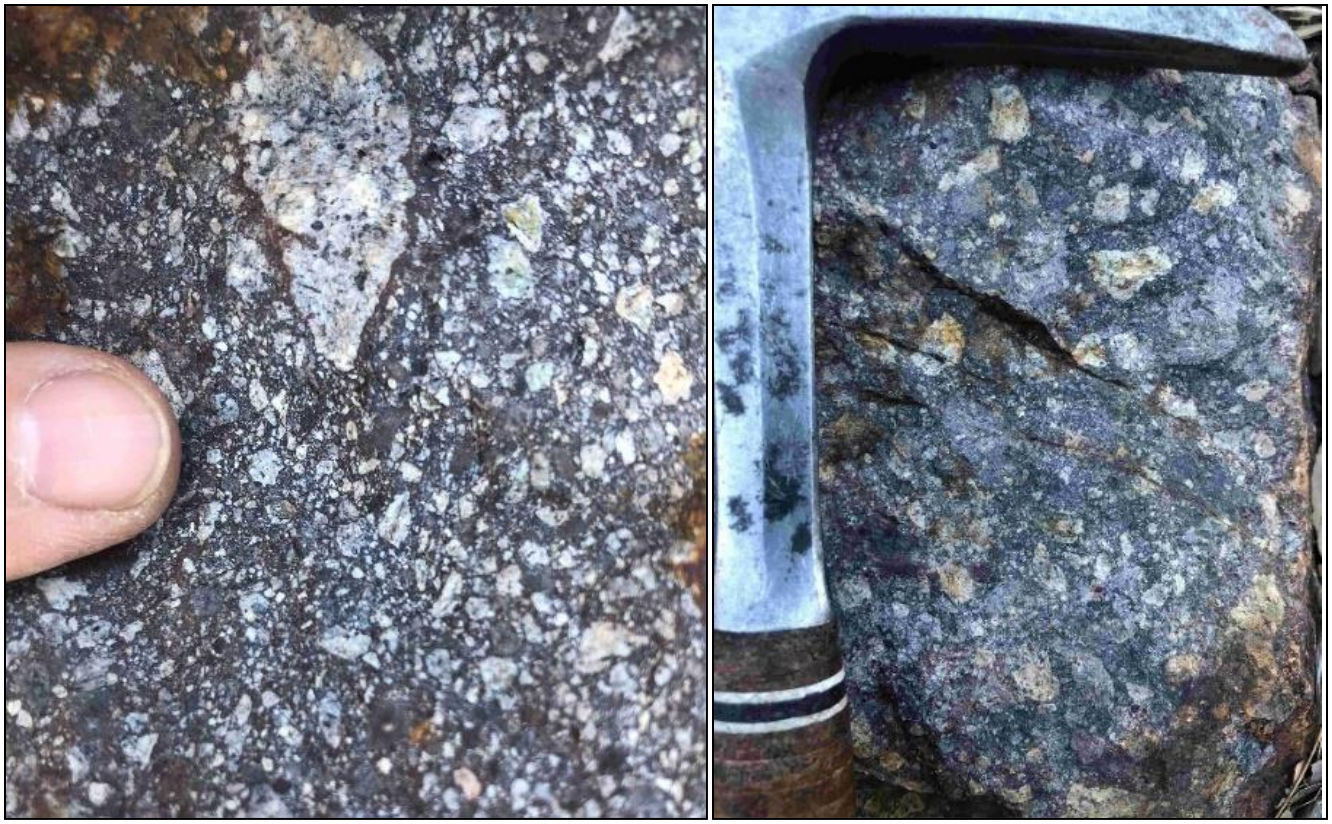


Figure 7-3: Pictures of Andesite Breccia

In Figure 7-3, the picture on the left is a typical andesite breccia composed of subangular monomictic fragments of mostly porphyritic texture. This is the uppermost unit at Cerro Verde. On the right is lower andesite lahar breccia consisting of subround to subangular polymictic fragments.

7.3.2 Intrusive Rocks

Other than a fine-grained intermediate dike exposed for a few metres along the flank of a road on the southern part of the Cerro Verde area, no intrusive rocks have been identified at Cerro Verde or in the Mesa Grande and La Trinidad areas, which are the only ones to have seen minor mapping by Estrella de Cobre to date. Previous reports of dikes in historic logging have not been confirmed in the re-logging. Intrusive rocks are present in the district, as described in a previous section, including a fine-grained diorite in San Javier, 3 km to the north, and porphyritic monzonitic dikes in the zone of coal mines in the Santa Clara Formation, 1 km to the west of the Cerro Verde deposit. An andesite porphyry was mapped by the SGM less than 1 km to the east of Cerro Verde, but it has not been reviewed yet.

Figure 7-4: Pictures of a Fine-grained Diorite and a Monzonite Porphyry

Figure 7-4 shows an example of the fine-grained diorite at the San Javier town site on the left. On the right is monzonite porphyry found to the east of Cerro Verde near some coal mines. The field of view in both photos is approximately 7 cm by 5 cm.

7.3.2.1 Andesite Dike(s)

This unit consists of a fine-grained intrusive rock with small white crystals (plagioclase?) in fine-grained greenish-gray matrix. The dike is not well exposed but is probably 1.5 m wide. The outcrop runs at an acute angle on the low bank of a dirt road for approximately 5 m, with an azimuth of 229° and a dip of 54°, located at approximately 623,330 E, 3,160,255 N. It is pre-mineral, with secondary chlorite, disseminated specularite, and minor thin quartz veinlets; it is locally brecciated, and the hanging wall presents shearing and strong development of hematite. It is interpreted as co-genetic with the volcanic pile.

Figure 7-5: Fine-grained Andesite Dike; Field of View is Approximately 3.5 x 3.5 cm

7.3.3 Structure

Dr. William A. Rehrig produced two reports on the Project, centered in the Cerro Verde area, a preliminary one in December 2006 and a final report on August 2007 (Rehrig, 2007).

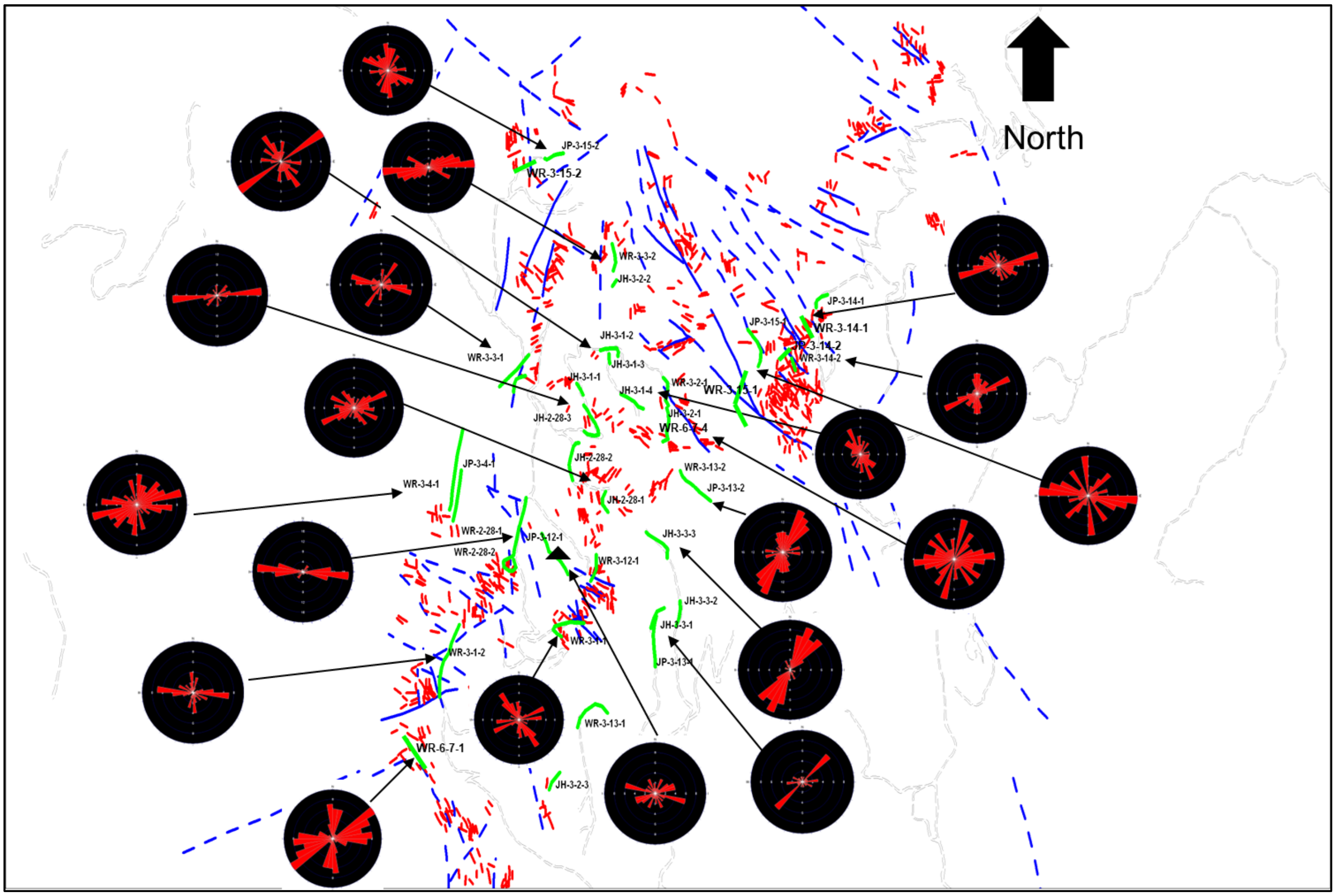


Figure 7-6: Cumulative Rose Diagram for All Structures >60°, from Rehrig Report Dated December 2006

Murray Hitzman's October 2006 site evaluation report mentions Gary Parkinson and David Brown's mapping work highlighting north-south and northwest-southeast mineralized structures and already points to the probable importance of low-angle structures, suggesting the Cerro Verde deposit could be allochthonous.

The review of Cerro Verde outcrops on drilling roads by Estrella de Cobre to gather a sense of the structural environment supports Hitzman's (2006) interpretation on the importance of low-angle faulting. No significant hypogene alteration and mineralization was observed to be related to low-angle structures, and only at one spot was possible a high-angle structure (north-south) cutting a low-angle structure. At least 10 low-angle structures are present from the bottom of the creek east of Cerro Verde to the top of the mountain. These can be seen as plain straight structures and as anastomosing where steep cliff walls permit the observation. The lower contact of the Tarahumara Formation with the underlying Coyotes conglomerate is interpreted as transitional, with a low-angle structure inferred and locally exposed, along the western and southern slopes of Cerro Verde. At La Trinidad core, re-logging has shown the contact between the volcanic rocks of the Tarahumara Formation and the sedimentary rocks of the Barranca Group (in this case, the coal-bearing carbonaceous shales of the Santa Elena Formation) to be a prominent low-angle fault zone dipping to the west. These observations support the view that low-angle structures play an important role in the area and might have displaced the orebody an unknown distance from its original location.

Figure 7-7: Photo Taken on the Northeast Side of Cerro Verde Showing Low-angle Fault; Looking West

Figure 7-8: Photo Taken at the Drill Site for SJ06-24, 25, and 26

Figure 7-8 shows a low-angle fault cut by a high-angle fault. To date, this is the only known location where a low-angle structure is cut by a high-angle fault. Note hammer for scale.

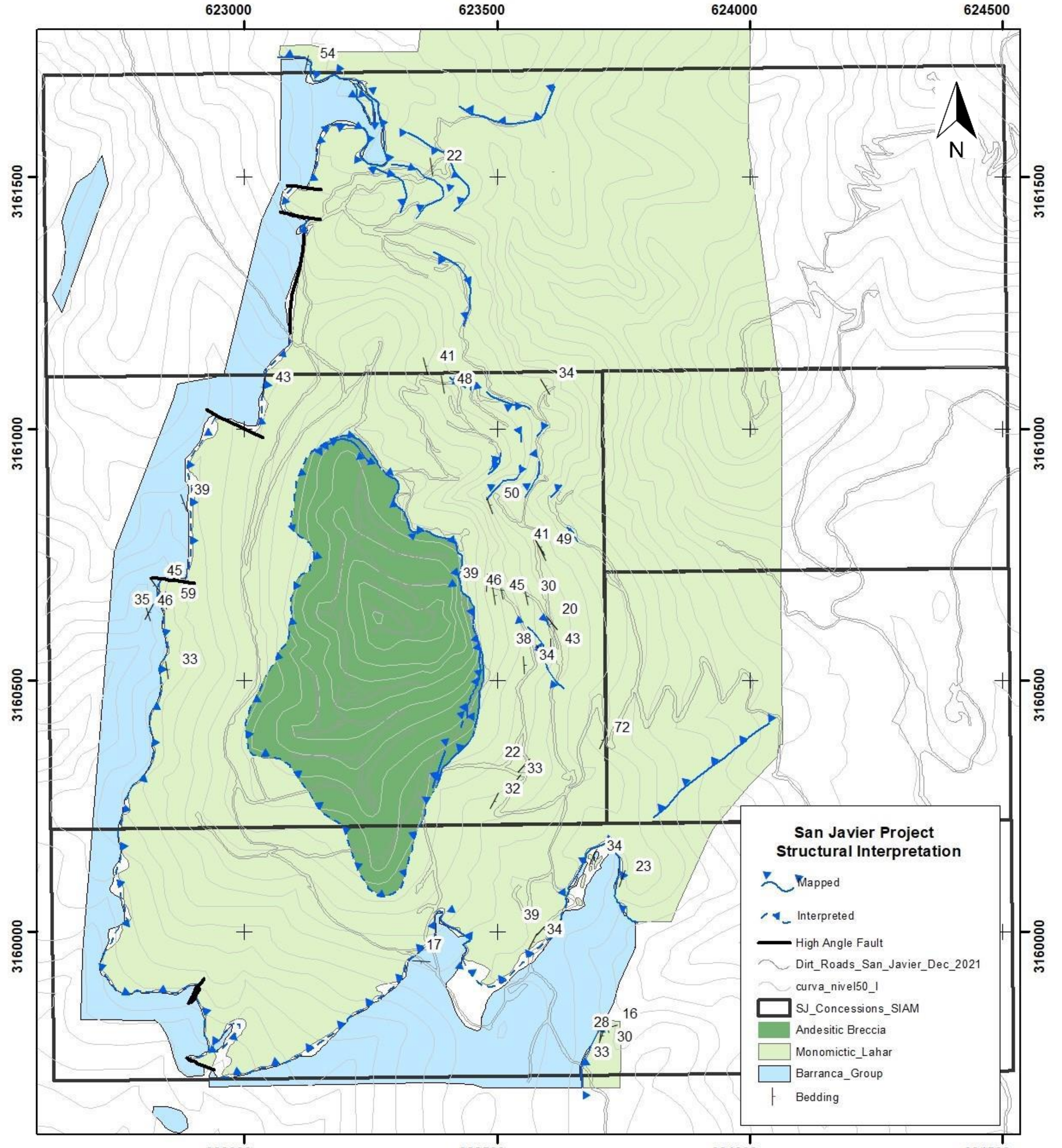


Figure 7-9: Structural Interpretation Map of Cerro Verde

Note that the principal difference compared to previous interpretations is the late setting of low-angle vs high-angle faulting.

7.4 Alteration and Mineralization

7.4.1 Alteration and Sulphide Mineralization

There are geological reports that address alteration and mineralization by companies that have worked in the area, but the master's thesis by Michael Tedeschi in 2010 is the most complete and thorough. The following is a summary of information included in the thesis, from petrography work by Paula Hansley (2006) and observations from the most recent drilling and re-logging also done in 2021.

The first alteration phase consists of extensive potassic alteration in the form of microcline replacing plagioclase. This event resulted in the replacement of the groundmass and plagioclase by microcline (or sanidine in X-ray Diffraction and Fluorescence, XRDF, tests) in the andesite breccia and the polymictic lahar and adularia veins identified by Hansley. This alteration phase was later overprinted by extensive sericite alteration, which tends to obliterate most hand-sample size visual evidence of the earlier phase. Paula Hansley was able to identify relicts of potassic feldspars in the majority of samples she reviewed. Tedeschi stained some core with sodium cobaltinitrite, obtaining a strong response with intense and thorough yellow staining of the samples. On the re-logging of the core, what appears to be secondary potassic feldspar is observable on SJ07-92, at 6.10 m of depth, near a sharp specularite flooding front.

While there is no doubt regarding the existence of an extensive phase of potassic alteration, the assays from drilling show a decrease in the potassium percentage present from the 6–10% range in the oxidation zone to a 3–6% range in the sulphide and non-mineralized zones at Cerro Verde. This geochemical behaviour is puzzling and difficult to resolve as potassic alteration at the Project is mostly visually unrecognizable. An explanation could be the change, either by structural juxtaposition or by alteration zonation into the chlorite-pyrite zone which did not undergo a potassic alteration phase. In Figure 7-10 below, please see the paragenetic hypogene mineral deposition according to Tedeschi. Recent re-logging and logging of new core points to a more complex scenario, with specularite, quartz, pyrite, and chalcopyrite deposition in several stages.

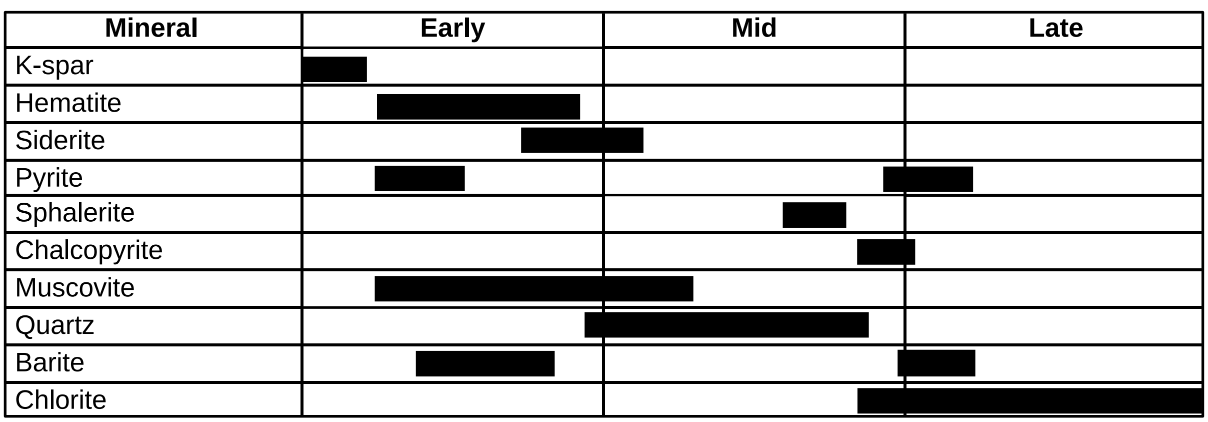


Figure 7-10: Paragenesis Diagram of Alteration and Mineralization at Cerro Verde (from Tedeschi, 2010)

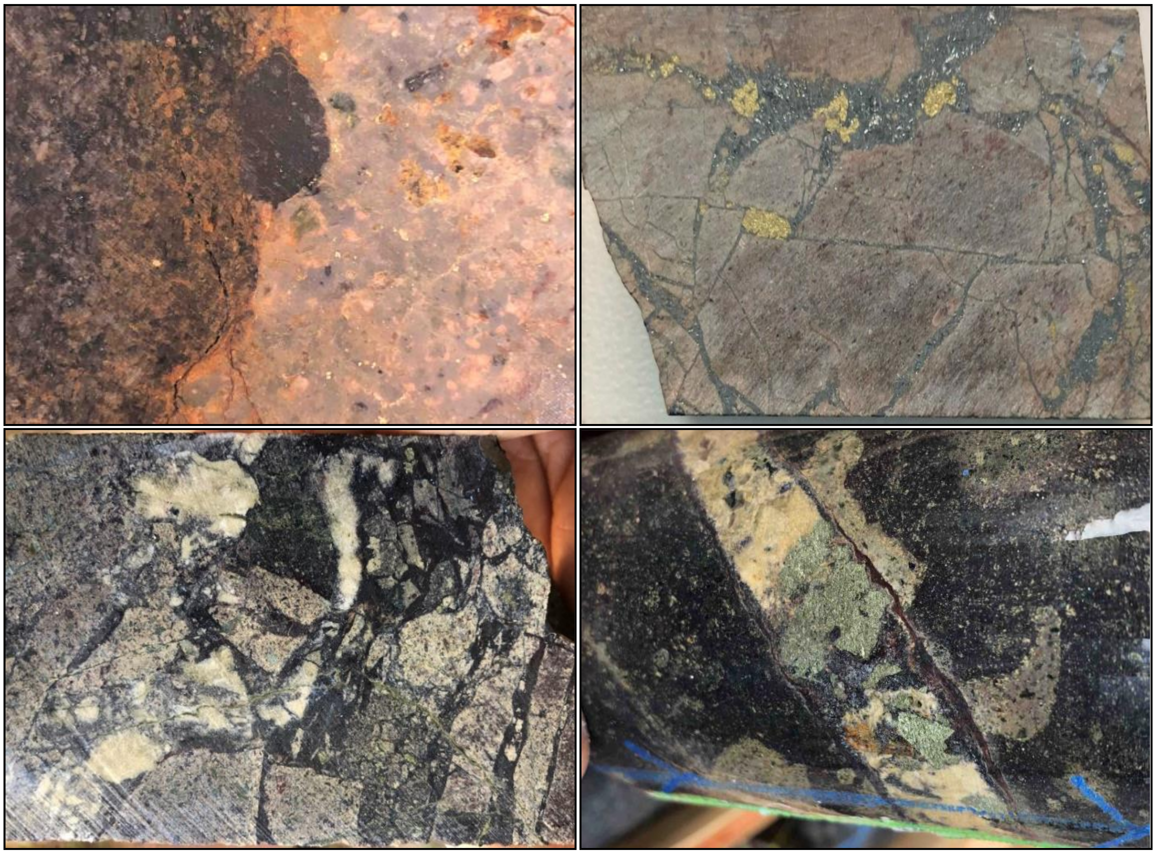


Figure 7-11: Photos of Alteration Types

In Figure 7-11, the photo at the upper left shows potassic alteration at 6.10 m in hole SJ07-92 with specularite flooding on the left side. The photo at the upper right shows specularite-chalcopyrite veins in brecciated siderite altered andesite in drill hole SJ06-10 at 223.50 m. The photo at the lower left shows brecciated volcanic clasts with pervasive siderite alteration in a specularite matrix with minor chalcopyrite and late siderite veins and aggregates. The photo at the lower right shows a siderite-chalcopyrite veinlet in a specularite flooded andesite in hole SJ21-07 at 151.70 m. All photos are of HQ 63.5 mm diameter core.

Chlorite alteration can be identified at any elevation within the deposit, but it is the predominant alteration phase in the lower elevation levels. Chlorite is clearly the latest alteration in the main zone of Cerro Verde, although it is suspected it also could have been present in the outer zones of the system during the main alteration-mineralization phase. Some of the drill core at Cerro Verde shows potassic feldspar alteration with superimposed sericite-specularite-siderite alteration being cut by late quartz-pyrite(-) veinlets with a clear chlorite halo several centimetres in width.

Figure 7-12: Chalcopyrite-Siderite Vein in Andesite with Pervasive Specularite Alteration (Drill Hole SJ21-07 at 152.50 m)

Below is a list of veinlet types identified and described during logging, ranging in order from more abundant (top) to less common (bottom):

- Specularite,
- Specularite-barite,
- Specularite-chalcopyrite-pyrite,
- Quartz,
- Quartz-chalcopyrite,
- Siderite,
- Siderite-chalcopyrite-pyrite,

- Barite,
- Quartz-chlorite-pyrite,
- Pyrite,
- Chalcopyrite,
- Chlorite,
- Calcite (rare).

7.4.2 Supergene Mineralization

Supergene alteration is pervasive within the Cerro Verde area. Importantly, the low primary sulphide concentration and overall low pyrite content impeded more thorough leaching and enrichment. On the southern part of Cerro Verde, surface oxidation averages approximately 150 m in thickness and ranges up to 200 m thick at the summit. North from the summit, oxidation is locally greater than 50 m in thickness. In several areas, oxidation has been intersected in drill holes along structures exceeding these depths.

In Figure 7-13, the top left photo shows andesite breccia in a matrix of specularite partially weathered to hematite, in hole SJ06-23 at 42.00 m. The top right photo shows quartz veining in andesite breccia with partially oxidized specularite in hole SJ06-23 at 146.60 m. The middle-left photo is andesite breccia with malachite in hole SJ06-26 at 72.00 m. The middle right photo is a polymictic andesite agglomerate with malachite in SJ06-24 at 48.50 m. The bottom left photo shows cuprite crystals on native copper deposited in a vug within the mixed (transition) zone.

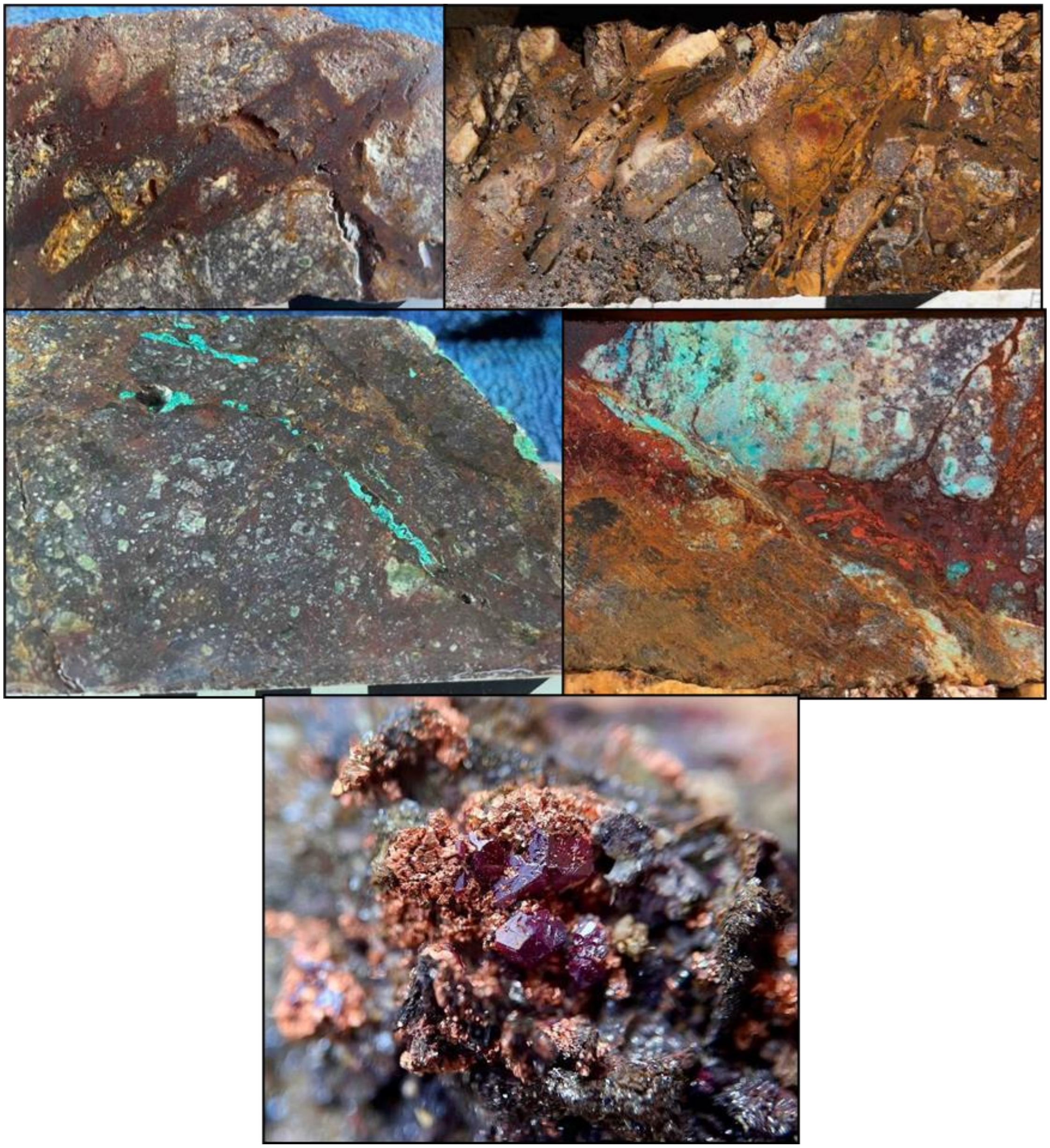


Figure 7-13: Photos of HQ Core (63.5 mm Diameter) Showing Secondary Oxide Mineralization

The main effect of oxidation is observed as the decomposition of specularite into goethite or bright-red fine-grained hematite. Secondary clays are scarce due to the original low sulphide content of the rocks involved. Chalcopyrite and pyrite have been oxidized, with copper redeposited as malachite and tenorite, and minor amounts of chrysocolla, brochantite, and tennantite. Commonly, there is a thin zone of mixing with some copper enrichment above the sulphide zone, where varying amounts of chalcocite, covellite, and native copper are deposited. These mixed zones are mostly discontinuous, generally 10 to 20 m in thickness, rarely up to 50 m thick, and non-existent in some areas.

By plotting elements on drill hole sections and comparing the different element abundances to the classified geo-metallurgical units defined from logging shows a clear depletion of manganese, calcium, magnesium, and zinc in the oxide zone. It is interpreted that the calcium depletion can be related to the leaching of siderite. Elements enriched in the oxide zone include barium, potassium, and strontium, although neither the mechanism nor the minerals involved are known.

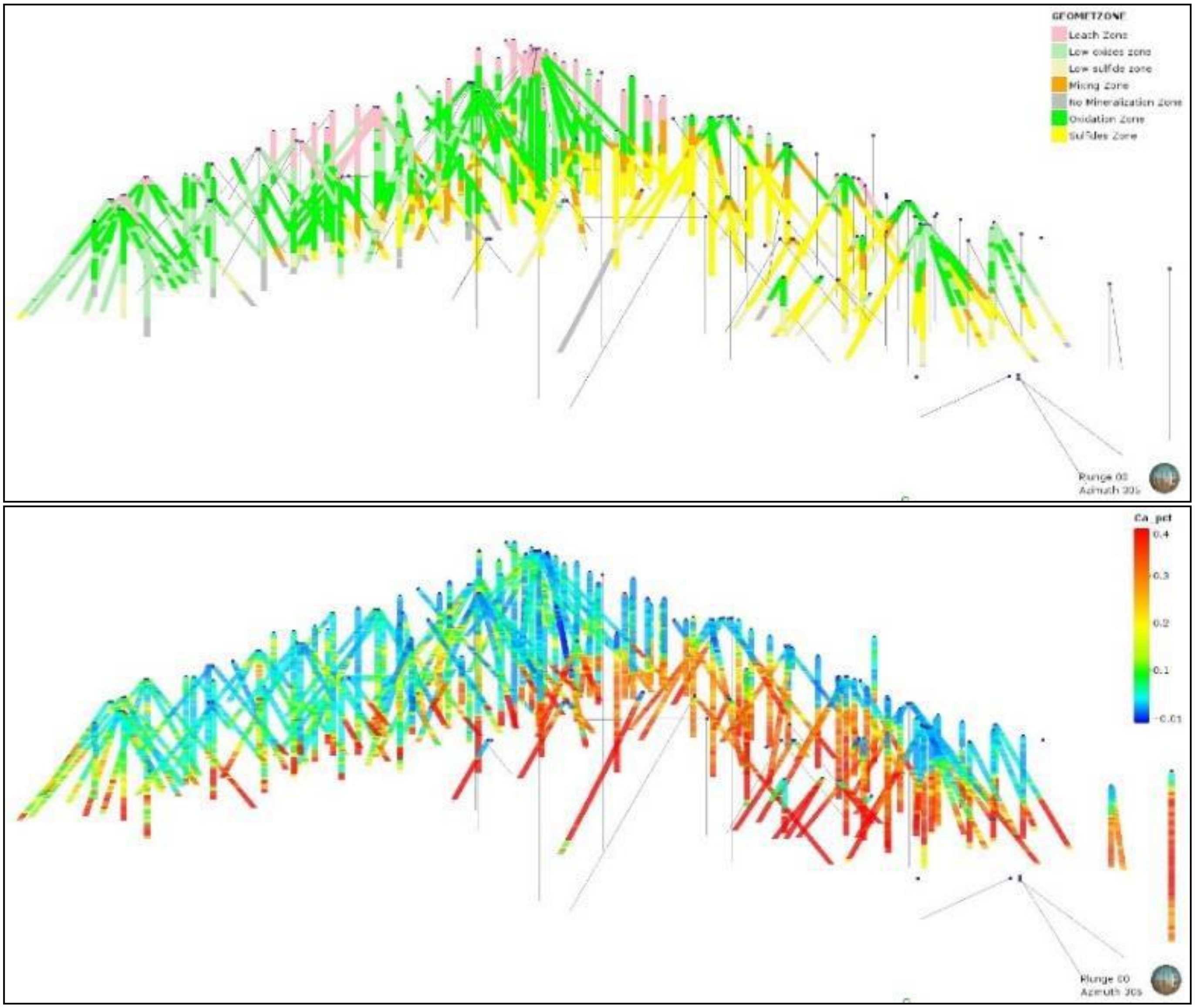


Figure 7-14: Typical Cross-Section View Looking North Showing Geometallurgical Units at Cerro Verde

In Figure 7-14, the top section shows the leached cap in pink, the secondary oxides in green, the mixed, or transitional, zone in orange, and the primary sulphides in yellow. The bottom section is the percent calcium plotted on drill hole traces, showing the depletion of calcium mimicking the leached cap and oxide zones.

8.0 DEPOSIT TYPES

San Javier exhibits many characteristics common to IOCG deposits.

In October of 2006, Dr. Murray Hitzman spent approximately two days on site at the San Javier project. Dr. Hitzman examined reports and drill core (Cerro Verde) and made site visits to La Trinidad, the edge of Cerro Colorado, Mesa Grande, and Cerro Verde (Hitzman, 2006). At that time, Dr. Hitzman was with the Colorado School of Mines and was the thesis advisor for Mr. M. Tedeschi who completed his master's thesis on San Javier in 2010. Dr. Hitzman was asked to examine the properties and compare them with other known IOCG deposits and to provide recommendations for further exploration. Dr. Hitzman's report, dated October 2006, is summarized below:

"*The Cerro Verde, La Trinidad, and Mesa Grade prospects do appear to be members of the IOCG (iron oxide-copper-gold) class of deposits. Brief review of available data suggests that the Cerro Verde area may be part of a larger IOCG district that extends to the Yaqui River to the northeast and includes copper and gold deposits and prospects of the San Antonio district including Luz del Cobre, though these have traditionally been thought of as porphyry related.*

Copper-gold mineralization occurs within hematitized intermediate to felsic extrusive, probably subaerial, volcanic rocks of the early Tertiary (?) Tarahumara Volcanic unit. These volcanic rocks overlie terrestrial to lacustrine (?) sediments of the Barranca Group. The sediments appear to consist of siltstones and sandstones with coal layers that grade upwards into coarse conglomerates immediately below the Tarahumara volcanic rocks. It is unclear from drill core and map patterns whether the Tarahumara volcanic rocks rest unconformably or conformably on the Barranca sedimentary rocks. In some instances, it appears the contact may be occupied by a low-angle structure (thrust or extensional normal fault). Mineralization appears to be both structurally and lithologically controlled. The Cerro Verde deposit, as currently understood, contains a major resource of low-grade (~0.35-0.4% Cu) copper oxide mineralization.

The prospects observed at San Javier (Cerro Verde, La Trinidad, and Mesa Grande) all appear to have similar characteristics. All display moderate to intense hydrolytic alteration (carbonate-sericite) with associated hematite mineralization. There is little evidence of earlier sodic or potassic alteration, though P. Henley notes the presence of "adularia" in a number of samples and whole rock analyses show enhanced K2O values suggesting that a precursor potassic alteration event may be present. Little to no evidence was seen of magnetite mineralization.

The alteration suite and the lack of magnetite suggest that these prospects represent very high levels of an IOCG system. The absence of discrete magnetic anomalies in the area of Constellation's properties suggests that these prospects may be structurally detached from the lower portions of the hydrothermal systems that would be expected to have large areas of sodic alteration.

Though the San Javier systems display abundant veining and faulting, it is unclear from the available data what the fundamental structural controls are for hypogene mineralization. The available geological mapping does not suggest the presence of a major (crustal scale) fault zone in the area, though such zones are associated with the majority of IOCG deposits. A fresh look at the regional geology may help understand the setting of the system."

"The overall grade of Cerro Verde is low relative to other mined IOCG deposits worldwide. The general lack of pyrite, combined with the relative abundance of carbonate in high-level systems, means that supergene blankets are generally not developed. Thus, a supergene deposit must rely on the existing in-situ copper grade. The average grade at Cerro Verde (approximately 0.35% Cu) is about what would be expected in many IOCG systems. This grade can only be raised through definition of higher-grade structural zones."

Michael Tedeschi, in his 2010 master's thesis, came to the same conclusion after a detailed review of the drill core and the alteration assemblages:

"*The San Javier prospect is located 150 km southeast of Hermosillo in the Mexican State of Sonora and contains an iron oxide-copper-gold (IOCG) type system. IOCG type deposits are typified by a dominance of iron oxide minerals such as hematite and magnetite with significant copper and gold. They are structurally controlled and usually associated with crustal-scale faulting."*

"The alteration assemblage at Cerro Verde is mineralogically similar to the hydrolytic (or HCCS - hematite-chlorite-carbonate-sericite) alteration associated with the giant IOCG deposits of the Gawler Craton, Australia (Olympic Dam, Prominent Hill)."

9.0 EXPLORATION

9.1 Discussion

Work on the Property by Barksdale's Mexican subsidiary, Estrella de Cobre, commenced in February of 2021, setting up the infrastructure for the upcoming drilling campaign. In the months following, the advances in re-logging historic core and the delineation of major structural controls helped in the construction of a preliminary 3D model that was used to focus and target the initial part of the drill campaign trying to identify vertical feeder structures. Drilling started in August 2021 and was finished in November 2021. As the new drilling progressed and more information was available, a re-interpretation of the influence of low-angle faults aided in the programming of further holes.

The logging and analytical results of the 2021 drilling campaign, along with the re-logging of the 2006 and 2007 campaigns, confirm the results from previous work that assign the alteration and mineralization style found in the Cerro Verde, Mesa Grande, and La Trinidad areas to the IOCG category of mineralization deposits.

Early-stage potassic alteration is overprinted by strong sericite-siderite with several stages of specularite-chalcopyrite-quartz-siderite-pyrite mineralization. Also, a logged peripheral (?) late quartz-chlorite alteration overprint supports previous observations.

Re-logging also permitted the interpretation of the extent of the oxide, mixed, and sulphide domains, which is to serve as the base for the resource estimation at the Cerro Verde deposit in the San Javier project.

Mapping of the low-angle structures along the contact between the Barranca Group sedimentary formations and the Tarahumara Formation volcanic rocks, along with the strong difference in alteration and mineralization domains between these, supports the interpretation that the Tarahumara volcanic package has been decoupled from the mineralization feeder, previously suggested by Hitzman (2006). This view is also supported by the lack of strong magnetic highs close to the areas of copper mineralization in the volcanic rocks; IOCG deposits are usually close to magnetic highs, pointing to a detachment surface measured in kilometres. As the nearby San Antonio de La Huerta gold deposit, 10 km to the east-northeast, contains magnetite and actinolite associated with mineralization, it possibly represents a deeper portion of the same system, which, coupled with the presence of strong magnetic highs, could denote a potential feeder zone for the copper mineralization in the San Javier project.

9.2 The 2021 Drilling Program

The first four holes were metallurgical holes designed to replicate (twin) results of historic holes and/or testing areas with good control on the mineralization and geo-metallurgical zones in the central part of the Cerro Verde deposit, near the summit of the Cerro. The next 10 holes or so were designed to try to define feeder zones to the primary gold and copper mineralization. As the core logging failed to identify these feeder zones, the rest of the holes were planned to augment information on copper and gold mineralization present in the zone of oxides and transition to sulphides.

Drilling commenced on August 3, 2021, and ended on November 23, 2021, totaling 5,000.60 m in 36 holes. The first hole, SJ21-01, was drilled with PQ3 sized tools; holes SJ21-02 to SJ21-04 at 60.0 m of depth, were drilled using PQ sized tools; hole SJ21-04 from 60.0 m depth and the rest of the holes all drilled with HQ sized tools. Rock quality is considered good to moderate at Cerro Verde. However, the large number of fractures, helpful to form a secondary mineralization deposit, meant that some open spaces were encountered, and one hole (SJ-21-27) had to be abandoned at 63.00 m, after 4.5 m of open space drilling environment left the tools in danger of loss.

Historically, the Project has presented good recoveries, in this campaign averaging 95%, with only a few intervals tens of metres long with moderate to poor recoveries. The rig had some downtime due to repairs and water supply issues, which were all dealt with in a timely fashion and with good support from their Hermosillo headquarters. Water supply issues can be reduced in the future by the use of high-pressure hoses which will make the use of a relay pumping station unnecessary.

Table 9-1: Drill Hole Collar Table of the 2021 Drilling at Cerro Verde

2021 Drill Campaign, San Javier Project

Hole	Northing	Easting	Elevation	Hole size	Depth	Azimuth	Dip	Start	Finish
SJ21-01	3,160,798.30	623,291.51	941.60	PQ3	100	0	-90	08/03/2021	08/13/2021
SJ21-02	3,160,631.16	623,138.48	967.34	PQ	100	0	-90	08/08/2021	08/11/2021
SJ21-03	3,160,622.07	623,139.75	966.54	PQ	90	180	-45	08/11/2021	08/15/2021
SJ21-04	3,160,587.95	623,341.50	1,007.23	PQ/HQ	261	0	-90	08/15/2021	08/21/2021
SJ21-05	3,160,601.89	623,341.22	1,005.70	HQ	260	90	-72	08/22/2021	08/27/2021
SJ21-06	3,160,597.64	623,258.20	1,018.80	HQ	250	45	-50	08/26/2021	09/01/2021
SJ21-07	3,160,790.75	623,432.44	921.63	HQ	200	90	-70	09/02/2021	09/04/2021
SJ21-08	3,160,598.69	623,554.41	828.94	HQ	285	270	-50	09/05/2021	09/09/2021
SJ21-09	3,160,563.09	623,462.40	892.81	HQ	150	270	-55	09/10/2021	09/13/2021
SJ21-10	3,160,482.07	623,229.15	959.53	HQ	231	45	-50	09/12/2021	09/18/2021
SJ21-11	3,160,641.06	623,439.75	903.16	HQ	175.5	0	-90	09/19/2021	09/21/2021
SJ21-12	3,160,343.95	623,015.69	869.09	HQ	180	90	-51	09/22/2021	09/26/2021
SJ21-13	3,160,400.69	623,331.77	895.85	HQ	120	0	-90	09/27/2021	09/29/2021
SJ21-14	3,160,400.62	623,331.33	895.88	HQ	140.1	270	-55	09/29/2021	09/30/2021
SJ21-15	3,160,530.01	623,125.53	930.73	HQ	155	90	-70	10/01/2021	10/05/2021
SJ21-16	3,160,746.68	623,532.33	820.45	HQ	52.5	270	-51	10/05/2021	10/06/2021
SJ21-17	3,160,748.25	623,533.70	819.84	HQ	55	0	-55	10/06/2021	10/07/2021
SJ21-18	3,160,407.47	623,432.86	872.55	HQ	60	0	-90	10/08/2021	10/08/2021
SJ21-19	3,160,407.35	623,432.56	872.61	HQ	80	245	-55	10/08/2021	10/09/2021
SJ21-20	3,160,848.40	623,530.31	768.46	HQ	170	270	-45	10/10/2021	10/15/2021
SJ21-21	3,160,849.44	623,532.01	768.25	HQ	30	0	-45	10/15/2021	10/16/2021
SJ21-22	3,160,880.75	623,653.26	697.82	HQ	30	225	-50	10/16/2021	10/17/2021
SJ21-23	3,160,912.36	623,583.39	770.76	HQ	30	260	-55	10/17/2021	10/18/2021
SJ21-24	3,161,003.35	623,412.40	848.89	HQ	120	90	-64	10/19/2021	10/20/2021
SJ21-25	3,161,007.36	623,599.98	785.48	HQ	195	90	-55	10/21/2021	10/25/2021
SJ21-26	3,160,756.61	623,192.05	959.47	HQ	120	270	-80	10/25/2021	10/27/2021
SJ21-27	3,160,550.19	623,200.33	969.48	HQ	63	0	-90	10/27/2021	10/28/2021
SJ21-28	3,160,556.80	623,255.90	1,008.81	HQ	185	0	-90	10/29/2021	11/02/2021
SJ21-29	3,160,552.70	623,305.91	996.26	HQ	140	0	-90	11/03/2021	11/05/2021
SJ21-30	3,160,559.74	623,354.13	1,002.70	HQ	185	0	-90	11/05/2021	11/08/2021
SJ21-31	3,160,437.99	623,314.30	920.07	HQ	147	0	-50	11/08/2021	11/10/2021
SJ21-32	3,160,594.06	623,136.19	950.60	HQ	166.5	0	-90	11/11/2021	11/14/2021
SJ21-33	3,160,496.82	623,025.77	846.48	HQ	165	270	-50	11/14/2021	11/17/2021
SJ21-34	3,160,597.62	623,016.58	849.99	HQ	130	270	-60	11/17/2021	11/19/2021
SJ21-35	3,160,642.01	623,006.49	848.76	HQ	84	270	-60	11/19/2021	11/20/2021
SJ21-36	3,160,011.01	623,200.01	789.29	HQ	95	0	-90	11/20/2021	11/22/2021

Coordinates in UTM, Datum WGS-84. Elevation in meters above sea-level

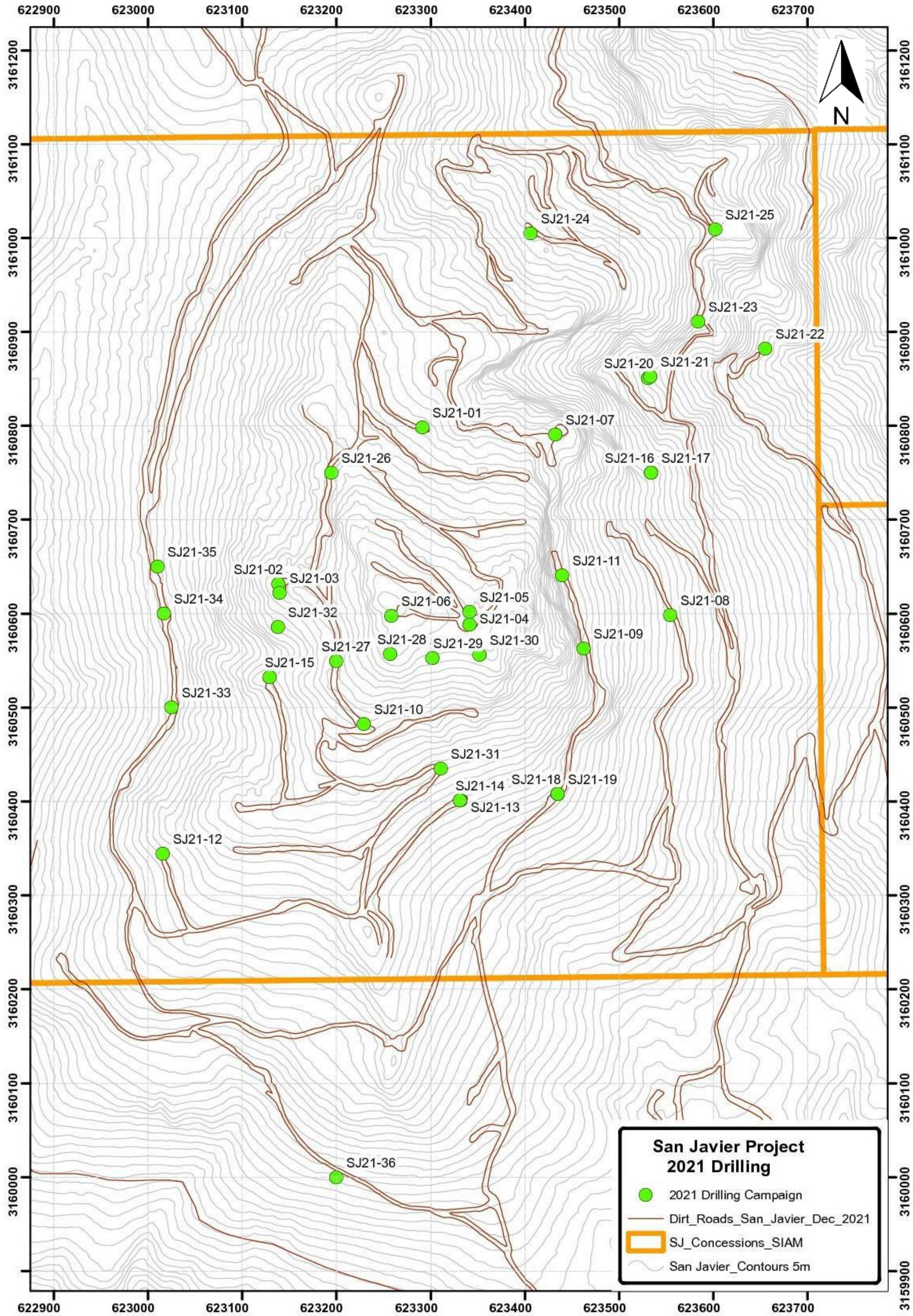


Figure 9-1: Plan Map Showing the Location of All the 2021 Drill Holes at Cerro Verde

The drilling by Estrella de Cobre confirmed the previous exploration results by Constellation, with a good correlation between close-by holes. Significant results are shown below in Table 9-2.

Table 9-2: Significant Drill Intercepts in the 2021 Drill Program

Significant drilling intervals, 0.2% cutoff									
Hole	From	To	m	% Cu	Hole	From	To	m	% Cu
SJ21-01	39	51	12	0.42	SJ21-16	27	42	15	0.28
SJ21-02	50	60	10	0.6	SJ21-17	0	27	27	0.29
SJ21-03	57	72	15	0.39	SJ21-18	30	42	12	0.45
SJ21-04	45	54	9	0.64	SJ21-19	24	33	9	0.63
SJ21-04	60.5	99	38.5	0.38	SJ21-21	3	18	15	0.32
including	75	93	18	0.49	SJ21-23	12	30	18	0.38
and	117	168	51	0.32	SJ21-24	21	60	39	0.61
SJ21-05	30	42	12	0.42	SJ21-25	24	51	27	0.26
and	66	171	105	0.63	including	24	36	12	0.34
including	90	162	72	0.72	and	72	90	18	0.38
and	231	255	24	0.25	and	129	153	24	0.32
SJ21-06	180	250	70	0.6	and	183	195	12	0.52
SJ21-07	0	15	15	1.47	SJ21-26	90	117	27	0.33
and	72	183	111	0.64	SJ21-27	45	58.5	13.5	0.35
including	156	183	27	1.68	SJ21-28	138	185	47	0.76
SJ21-08	6	45	39	0.5	including	141	156	15	0.95
and	57	66	9	0.26	SJ21-30	54	75	21	0.61
SJ21-09	0	57	57	0.78	SJ21-30	150	168	18	1.27
including	3	30	27	1.27	SJ21-31	90	138	48	0.54
and	135	150	15	0.27	SJ21-32	0	51	51	0.3
SJ21-10	171	213	42	0.53	and	75	88	13	0.74
SJ21-11	15	87	72	0.36	and	99	165	66	0.33
SJ21-13	75	87	12	0.32	including	99	120	21	0.54
SJ21-14	102	108	6	0.91	SJ21-33	0	29	29	0.34
SJ21-15	42	114	72	0.46	SJ21-35	45	60	15	0.35
Significant Intervals, 100 ppb Au cutoff									
Hole	From	To	m	Au ppb	Hole	From	To	m	Au ppb
SJ21-04	45	54	9	379	SJ21-26	105	108	3	504
SJ21-04	81	150	69	916	SJ21-27	9	18	9	371
including	93	120	27	1,974	SJ21-28	18	27	9	287
SJ21-05	18	138	120	467	SJ21-28	36	51	15	262
including	42	63	21	550	SJ21-29	3	87	84	353
including	117	135	18	1,768	including	21	69	48	532
SJ21-06	111	120	9	233	which includes	21	36	15	727
SJ21-09	6	12	6	495	and	51	60	9	841
and	144	150	6	292	SJ21-30	3	96	93	355
SJ21-10	0	18	18	147	including	36	57	21	473
and	186	198	12	194	and	105	126	21	551
SJ21-11	111	117	6	217	including	117	126	9	1,117
and	138	141	3	528	and	135	147	12	258
SJ21-16	9	12	3	736	and	168	180	12	318
SJ21-18	15	36	21	389	SJ21-31	12	90	78	584
including	24	36	12	550	including	27	60	33	1,192
SJ21-19	19.5	27	7.5	388	SJ21-33	51	75	24	172
SJ21-23	12	21	9	113	including	66	75	9	297
SJ21-25	24	63	39	271	SJ21-34	72	90	18	209
including	45	60	15	455					

9.3 Areas for Expansion at Cerro Verde

The Cerro Verde deposit has not yet been constrained in most directions; only at depth is the deposit limited by faulting. Proposed areas for expansion drilling are shown below in Figure 9-2. The Tarahumara volcanic rocks are limited by a low-angle fault contact in the north, west, and south, and the presence of bare exposed outcrops of rock signalling alteration is limited to the east. The northeast zone holds the potential to define larger-sized extensions of copper oxide mineralization.

North Zone: This area is 600 m long by 300–400 m in width. The two nearest drill holes south of this area intersected 9 m at 0.12% Cu (SJ06-39) and 21 m at 0.21% Cu (SJ06-40), respectively. In addition, the topographic relief points to a Tarahumara lithologic sequence of at least 100 m thick. An area near the San Javier Creek shows bare rock with specularite veining. Several low-angle faults are present in this area. On the downside, alteration seems to decrease to the north.

Northeast Zone: This target area consists of a 1,000 m long by 500 m wide zone that exhibits the most potential to increase copper oxide resources. The five historic holes by Peñoles, the one by PD, and the two by Constellation drilled in this area all returned mineralized intervals in copper, as can be seen in Table 9-3 below. There is also some gold endowment in the zone, as shown by CV97-18 with 13.3 m at 0.74 g/t Au, 6 m at 1.29 g/t Au, and 14 m at 0.10 g/t Au; S-2 with 21.65 m at 0.50 g/t Au; SJ06R-13 with 9 m at 0.47 g/t Au and 21 m at 0.18 g/t Au; and SJ06R-14 with 33 m at 0.25 g/t Au.

Table 9-3: Historic Copper Intercepts in the Northeast Zone of Cerro Verde

NE Zone.- Drilling intervals over 0.1% Cu				
Hole	From	To	m	Cu_%
CV97-18	2.7	18	15.3	0.28
CV97-18	54	60	6	0.51
S-1	0	98.62	98.62	0.10
S-2	0	16.7	16.7	0.22
S-2	16.7	39.65	22.95	1.27
S-2	39.65	47.5	7.85	0.23
S-2	47.5	120.2	72.7	0.1
S-2	141.85	152.95	11.1	0.19
S-3	0	23.18	23.18	0.3
S-3	23.18	73.94	50.76	0.11
S-3	88.58	105.33	16.75	0.47
S-3	251.84	297.67	45.83	0.12
S-4	0	28.85	28.85	0.35
S-4	28.85	87.5	58.65	0.1
S-5	0	14.15	14.15	0.17
S-5	14.15	36.85	22.7	0.71
S-5	36.85	118.4	81.55	0.21
S-5	130.75	164.7	33.95	0.16
S-5	173.7	194.85	21.15	0.3
S-5	194.85	268.1	73.25	0.1
S-6	30.32	86.26	55.94	0.11
S-6	109.94	130.07	20.13	0.3
S-7	0	24.38	24.38	0.33
S-7	66.14	92.66	26.52	0.1
SJ06R-13	3	39	36	0.45
SJ06R-13	96	138	42	0.37
SJ06R-14	0	12	12	0.30
SJ06R-14	30	42	12	0.14

West Zone: This area is 1,000 m long by 150–300 m in width, elongated in the north-south direction. It is limited to the west and at depth by the contact of the Tarahumara volcanic rocks with the Coyote Formation conglomerate. The favourable Tarahumara volcanic rocks attain a maximum of 50–100 m in this zone. Nearby holes have returned up 84 m of 0.19% Cu in SJ07-45, and 105 m at 0.30% Cu in SJ07-48, both in oxide material.

East Zone: Located on the eastern slopes of Cerro Verde Mountain, the potential of oxide material seems limited to near-surface. The nearest two holes display 42 m at 0.20% Cu and 36 m at 0.22% Cu from the surface in SJ07-31 and SJ07-32, respectively.

South Zone: This area is 500 m long by 250 m in width, limited to the west, southwest, and southeast by fault contact between the Tarahumara Formation volcanic rocks and the Coyotes Formation conglomerate. Volcanic rocks can be up to 100 m in thickness on its northeast limit, mostly in oxides, although some bordering holes have not intersected significant copper. Significant intercepts in nearby holes include 60 m at 0.38% Cu in SJ07-22, 60 m at 0.23% Cu in SJ07-21, 69 m at 0.28% Cu in SJ07-37, and two intervals of 27 m at 0.37% Cu and 24 m at 0.55% Cu in SJ07-40.

Southeast zone: Oval-shaped 400 m by 300 m area limited at the south by low-angle fault contact between Tarahumara Formation volcanic rocks and Coyotes Formation conglomerate. Nearby historic hole S-11 intercepted 9 m at 0.48% Cu. Constellation holes SJ07-35, SJ07-55, and SJ07-56 intercepted 6 m at 0.40% Cu, 12 m at 0.12%, and 12 m at 0.11% respectively.

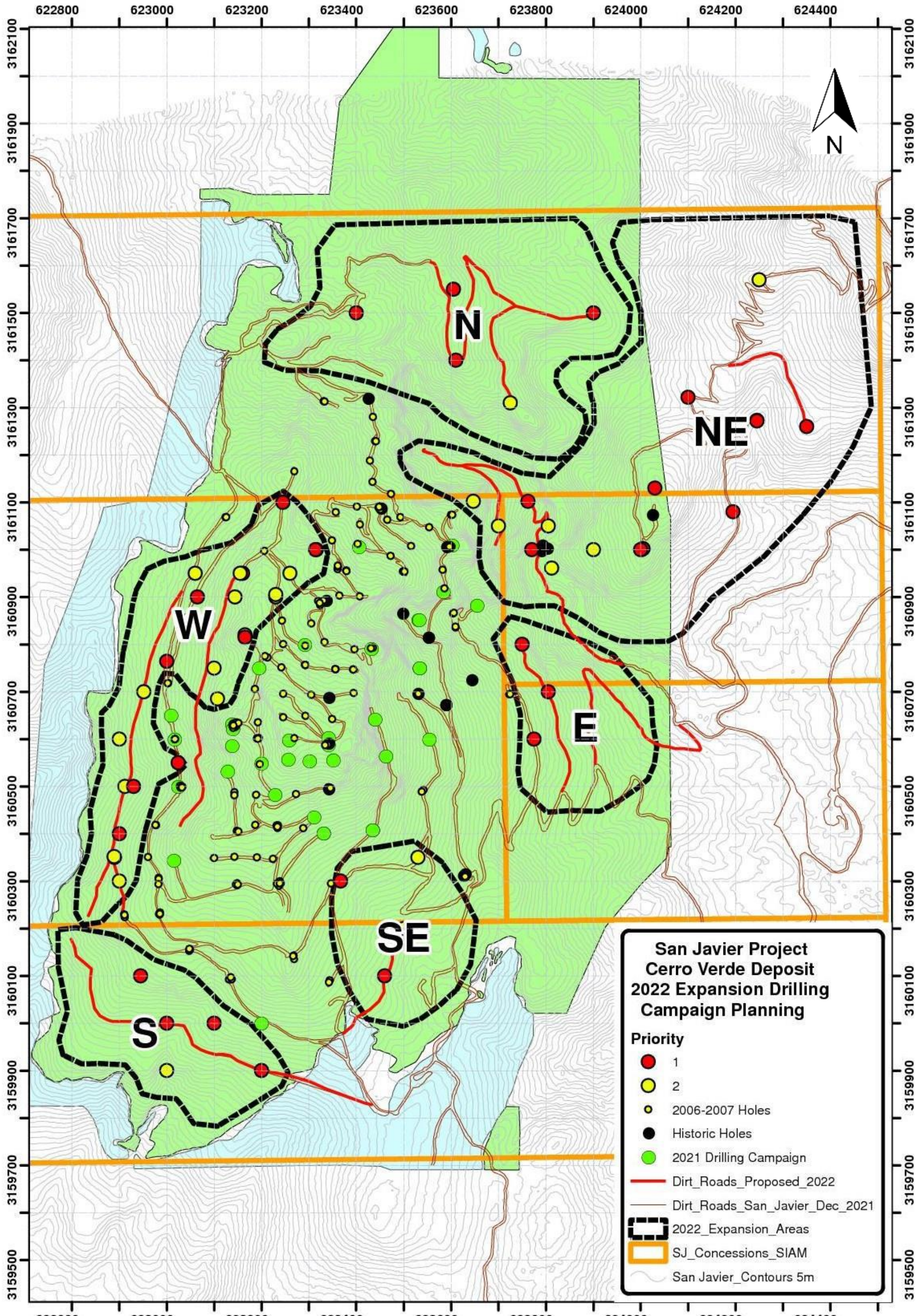


Figure 9-2: Plan Map Highlighting Areas for Expansion

10.0 DRILLING

10.1 Drill Contractor

Given the steep nature and tight turns of some of the roads in the project area, a small rig capable of drilling 400 m of HQ size core (track-mounted if possible) was recommended. Five drill companies were invited to tour the Property and bid on the Project. Based on the equipment needed and availability, Globe Explore of Hermosillo, Sonora, was selected as the drilling contractor.

The equipment used was a man-portable diamond core Discovery MP500 made by Multi Power Products Ltd. in Canada. The rig has the capacity to drill 200 m in PQ, 300 m in HQ, 500 m in NQ, and 800 m in BQ sizes.

Drilling started in August 2021 and was finished in November 2021. The first three holes and part of the fourth were drilled for metallurgical samples with PQ diameter core. Subsequently, from 60.5 m in the fourth hole (SJ21-04) to the end of the 2021 campaign, all holes were HQ diameter cores.

The man-portable rig was operated continuously by a three-man crew in two 12-hour shifts starting and ending at 7:00 am and 7:00 pm, respectively. The drill pad preparation and build up were handled by a one-shift five-person crew. The total size of the crew was 19, based in a field camp established at San Javier.

Figure 10-1: Man-Portable Drilling Rig at Site of SJ21-01

10.2 Water

Water for drilling was sourced from a historic drill hole that has flowing artesian water near the bottom of San Javier Creek. A small retention pond was built in the stream bed to collect the water, which was then pumped uphill near the summit of Cerro Verde Mountain. The difference in elevation is close to 500 m, and a relay pumping station was used to get the water to the upper temporary storage, from which it was then pumped to the different drill site locations.

10.3 Access and Drill Pads

The historic drill access roads from previous campaigns at Cerro Verde needed some rehabilitation after more than a decade without maintenance. A Caterpillar D6 bulldozer was contracted to repair and clean roads for Cerro Verde and the adjoining Mesa Grande and La Trinidad target areas. Approximately 19,750 m of roads were repaired/maintained at Cerro Verde, 2,900 m at Mesa Grande, 8,500 m at La Trinidad and 6,650 m of access roads between these areas, for a total of 37,800 m. In addition, 325 m of new access was built from roads to new drill pads. The portable rig installation required only 4.5 m by 4.5 m area drill platforms, which meant many of the holes could be drilled using existing roads. Only five holes required new access to be opened by the dozer, whereas ten more required the levelling by hand of the drill pads on which the man-portable core rig was to be transported.

10.4 Core Orientation and Handling

An orientated core was used in order to identify important structures. The drillers used a REFLEX ACT III. Drilling runs were generally 1.5 m long, after which the core was extracted and put on an iron rail by a driller’s helper. The Estrella de Cobre field assistant marked the orientation of the core at the end of the run, arranged the core, marked the orientation line along the core (if possible) and then transferred the core to a wooden core box. A wooden block with the run from to information was inserted and marked on the side of the box every time the core was extracted, not only at barrel lengths. The core box was labelled with hole number, from–to meterage, box number, and an aluminum tag attached with ticks to the front face. The wooden core box was sealed with a plywood lid held by screws for transport and temporarily held at the rig site until the morning shift change, when the boxes were transported to San Javier.

The core was then received by a geologist and a field assistant at the San Javier warehouse and placed on the tables for logging.

10.5 Core Logging

During the day, the depth markings and recoveries were checked by a geologist before the core was passed on to be logged. Structural measurements were recorded with a Reflex IQ-LOGGER made by Reflex, with Bluetooth data transfer capabilities. Logging was directly entered into Samsung Android tablets running MX Deposit Software. MX Deposit software was leased from Seequent of Vancouver, BC. After core logging, the samples were marked in the box with a sample tag pinned to the wall at the end of the samples. The core lid was placed back on place and the boxes were taken from the tables and temporarily stored in the warehouse.

10.6 Down Hole Surveying

To check for hole deviation, all holes were surveyed by the driller every 50 m of penetration depth, and the measurements were passed on to the geologists in Excel files. The equipment used was a Reflex EZ-SHOT, which features tri-axial solid-state accelerometers and tri-axial solid state fluxgate magnetometers.

10.7 Drill Collar Surveying

The 2021 campaign drill holes were surveyed by a contract landsman. The first 14 holes (SJ21-01 to SJ21-14) were surveyed during the drilling campaign and the remaining holes (SJ21-15 to SJ21-36) just after its completion. The equipment utilized was a three-band total station Global Positioning System (GPS) EMLID REACH RS2 base and rover.

The coordinates from a control point from the Mining Geodesic Subgrid were adjusted to those of INEGI's fixed station in Hermosillo, part of the National Passive Geodesic Grid. The obtained coordinates at each hole were adjusted post-process. The precision is between 0.001 m and 0.007 m for the Eastings and Northings and between 0.001 and 0.014 m in elevation.

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 Core Sampling

Samples of core were almost always 3 m in length. Occasionally, there were shorter or longer intervals at the beginning or the end of a hole to adjust for poor recovery at the start or to accommodate a short interval at the end of the hole.

All core was split using a diamond bladed core saw. A warehouse 10 m by 10.5 m and 5 m in height was rented in San Javier for use as the core sawing facility. A core saw powered by a 5 hp electric motor was purchased from a local provider in Hermosillo, transported, and installed at the San Javier core sawing facility.

Geologists made a list of samples per hole and the micropore bags were marked numerically without drill hole IDs or footages. Core boxes were put in a table by the side of the core saw, from where each piece of core was taken to be sawed in half at 90° from the orientation mark, starting from the bottom of the sample to the shallower part, to avoid mixing of intervals. One half returned to the box and the other to the sample bag. A water-resistant paper sample tag number was included with each sample and the bag was closed and temporarily stored in the warehouse.

A standard and/or control sample was inserted every 20 samples as described in Section 12.0 on Quality Assurance (QA) / Quality Control (QC).

Figure 11-1: Core Storage and Preparation

In Figure 11-1, shown at the top left is the core saw setup, and the photo at the top right shows temporary sample storage after being cut and waiting for transport to the preparation facility in Hermosillo. The bottom photo shows core cutting in progress.

11.2 Core Photography

Once the core of the complete hole was logged and the samples marked, it was transported to the core-sawing facility in San Javier. The lid was removed (to be used on the next holes) and the core was placed on an iron-made base to be photographed in groups of three boxes at a time. The boxes have markings on the side facing the camera with the hole number, box number, and depth to reduce mistakes. A digital camera was fixed on a mount to take pictures, and LED lights shone on a wall with a white tarp to have reflected light on the core and reduce the glare. The photographed core was placed next to the core saw for sampling and the digital pictures were downloaded to a computer, renamed, and trimmed if necessary.

Figure 11-2: Core Photography

The photo on the left in Figure 11-2 is the core photography setup. The image on the right is a photo of boxes 14, 15, and 16 from drill hole SJ21-07.

11.3 Chain of Custody

The samples remained in the San Javier warehouse, where the core-sawing facilities are located, and were under lock and key during non-working hours. Samples were delivered to the preparation facilities in Hermosillo either by Gambusino Prospector trucks and employees or picked up directly at San Javier by the sample preparation company.

Samples were prepared at Sonora Sample Preparations S.A. de C.V. facilities in Hermosillo by crushing 75% to minus 80 mesh, then split and pulverized 95% to minus 150 mesh. The pulps were sent for assay at Skyline Assayers & Laboratories (SKY) in Tucson, Arizona.

All samples were assayed by the methods shown in Table 11-1 below. The first couple of holes were also assayed by TE-3, which includes digestion by aqua regia, but the use of the technique was discontinued because Constellation samples were assayed by multi-acid dissolution and thus the results from the two methods could not be directly compared. All the previous samples analyzed using TE-3 methodology were re-analyzed with the TE-5 protocol.

Table 11-1: List of Analytical Methods Used at Skyline Laboratories

Code	Description
SP-1	Crush to plus 75% -10 mesh, split and pulverize with standard steel to plus 95% -150 mesh
SEA-Cu	Total Copper – Atomic Absorption Spectroscopy (AAS)
SEA-CuSeq	Sequential Leach Copper – AAS
FA-01	Au Fire Assay – AAS (Geochem) 5-5,000 ppb
CN-1	Au cyanide-soluble 0.03-100 ppm 2 hours (performed only on FA-1 results over 99 ppb)
TE-5	47 Elements – Multi Acid Digestion - Inductively Coupled Plasma Mass Spectroscopy (ICP/MS)

11.4 Core and Sample Storage

Estrella de Cobre has three warehouses: one in Hermosillo holding the rejects and pulps from drilling by Constellation and Estrella de Cobre, one in San Javier holding all historic Constellation copper core, and one more in San Javier holding all the core from the most recent Estrella de Cobre 2021 campaign. A larger warehouse (1,000 m^2) has been rented in Hermosillo, where all the core and rejects from previous and upcoming campaigns are to be stored, and only one of the San Javier warehouses is to be kept as the core-sawing and temporary core-holding facility. All core sample boxes are wooden, with two to four rails depending on the core size, BQ, HQ, and PQ.

12.0 DATA VERIFICATION

IMC has completed an independent analysis of the Barksdale-provided QA/QC data for the 2021 drilling and sampling program for San Javier. This process analyzes the Barksdale QA/QC data that was included in the 2021 drill program which will confirm there are no issues with the data added to the mineral resource database.

IMC completed a data verification study as part of the 2007 Technical Report published by IMC and K D Engineering (San Javier Copper Project, Sonora, Mexico, Technical Report dated December 20, 2007). This was a follow up to the data verification completed by SRK and described in its report (June 2007). The following are excerpts from the IMC 2007 report related to the QA/QC checks of the Constellation assay database.

12.1 Constellation Quality Assurance and Quality Control Program

In addition to International Plasma Labs Ltd.'s (IPL's) internal QA/QA program, Constellation also developed their own QA/QC program consisting of a regular program of duplicate pulp analyses, standards, and blanks.

12.1.1 Pulp Duplicates

The sample intervals chosen for the preparation of duplicate pulps were generally based on set intervals for each hole but also modified to ensure that the duplicate samples were taken in mineralized intervals in the hole. The samples for the core duplicates were prepared by sawing one-half the core into two separate samples, resulting in two samples of one-quarter core each. In the case of the RC samples, two samples were collected at the drill rig and submitted to the laboratory. It should be noted that for the core samples, the procedure of cutting the half core in two for duplicated samples is introducing a lower assay precision than would be expected for a normal sample based on a half core.

The pulp duplicate samples were generally collected at intervals of between every 10th and 20th sample down the hole. In the database supplied to IMC, there are 496 total copper pulp duplicates, 214 acid-soluble duplicate samples, and 213 cyanide-soluble copper duplicates. Figure 12-1, Figure 12-2, and Figure 12-3 are XY scatterplots of the original assay and Duplicate Assay (DA) for total copper, acid-soluble copper, and cyanide-soluble copper, respectively. Overall, the results are quite good, with the points plotting very close to the 45° line on the graphs. This indicates a high assay precision.

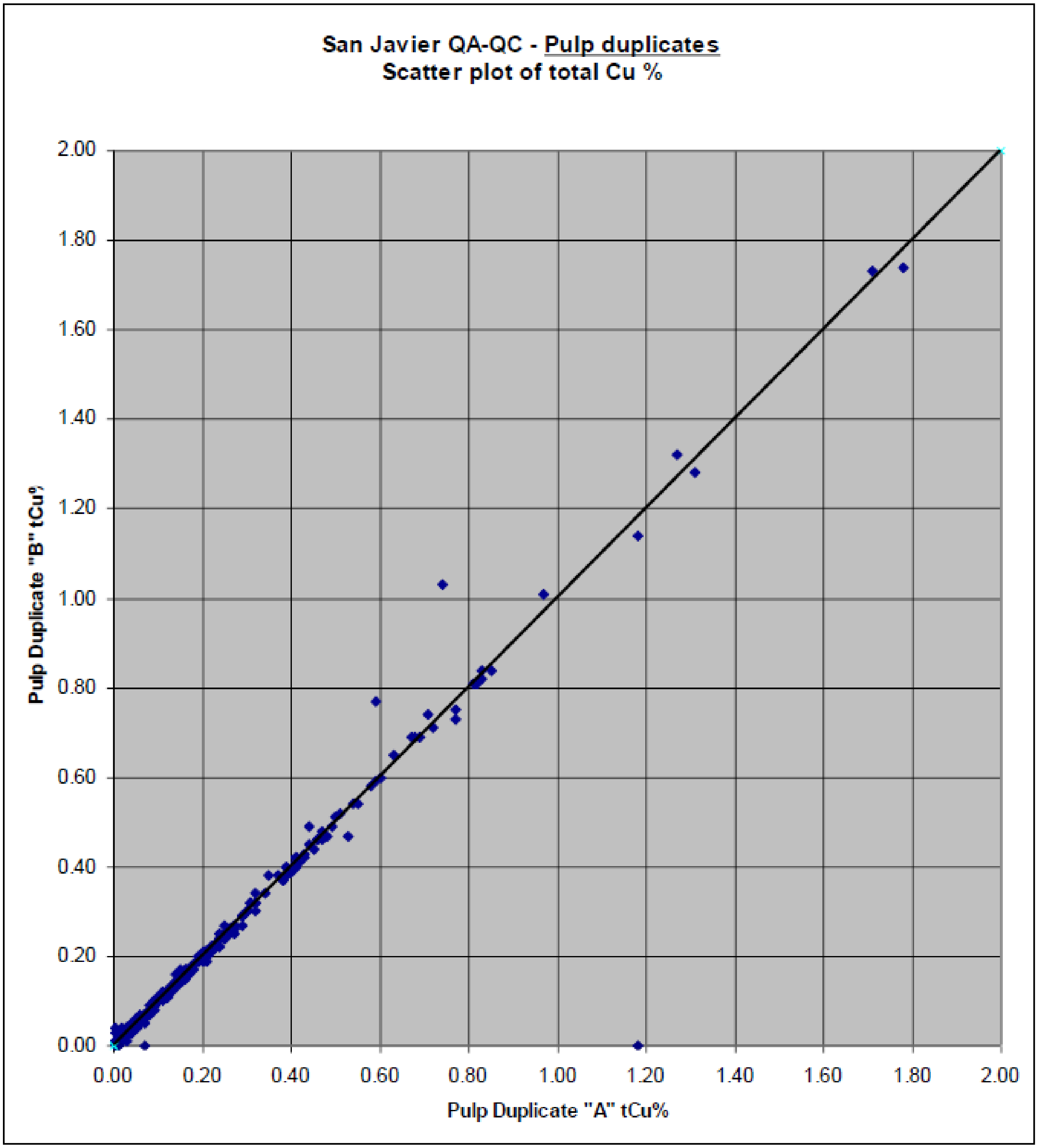


Figure 12-1: Total Copper – Pulp Duplicates

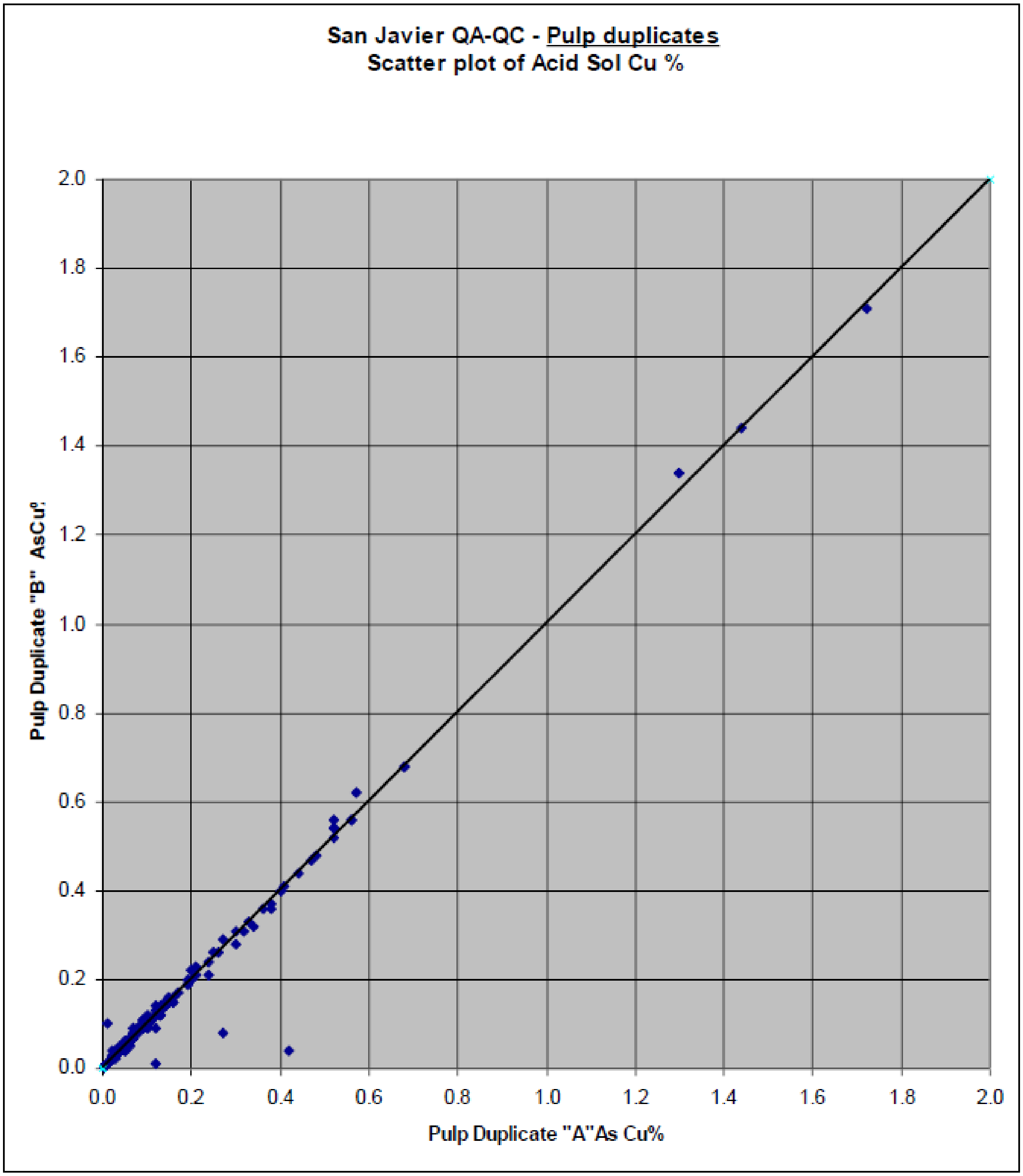


Figure 12-2: Acid-soluble Copper – Pulp Duplicates

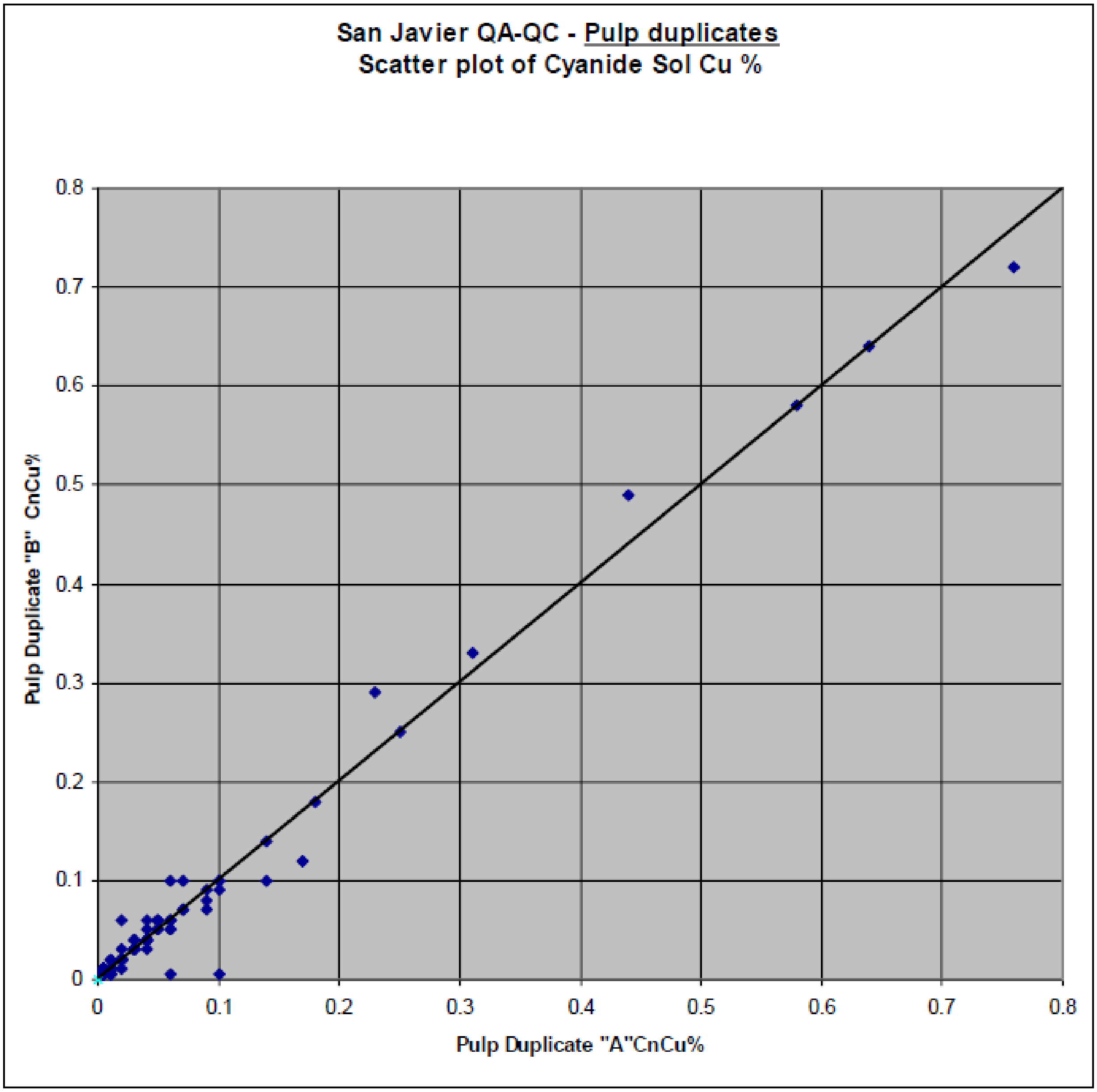


Figure 12-3: Cyanide-soluble Copper – Pulp Duplicates

12.1.2 Standards

There are five total copper and acid-soluble standards in use with Constellation's current drilling program. Figure 12-4 shows assay results for the total copper standards. The X axis is the certified value, and the Y axis is the various IPL assays of the standards. It can be seen that most assays are within a reasonable tolerance of the certified value. Some of the larger errors may represent large laboratory discrepancies though the fact that these assays are near the mid-range value of other standards indicates a strong possibility that Constellation sample prep personnel sent different standards than intended in a few cases.

Figure 12-5 shows the results for acid-soluble copper standard in this current drilling program. The plot below shows IPL laboratory results vs certified values. Again, there is a good chance the larger errors are actually related to sending a different standard than intended.

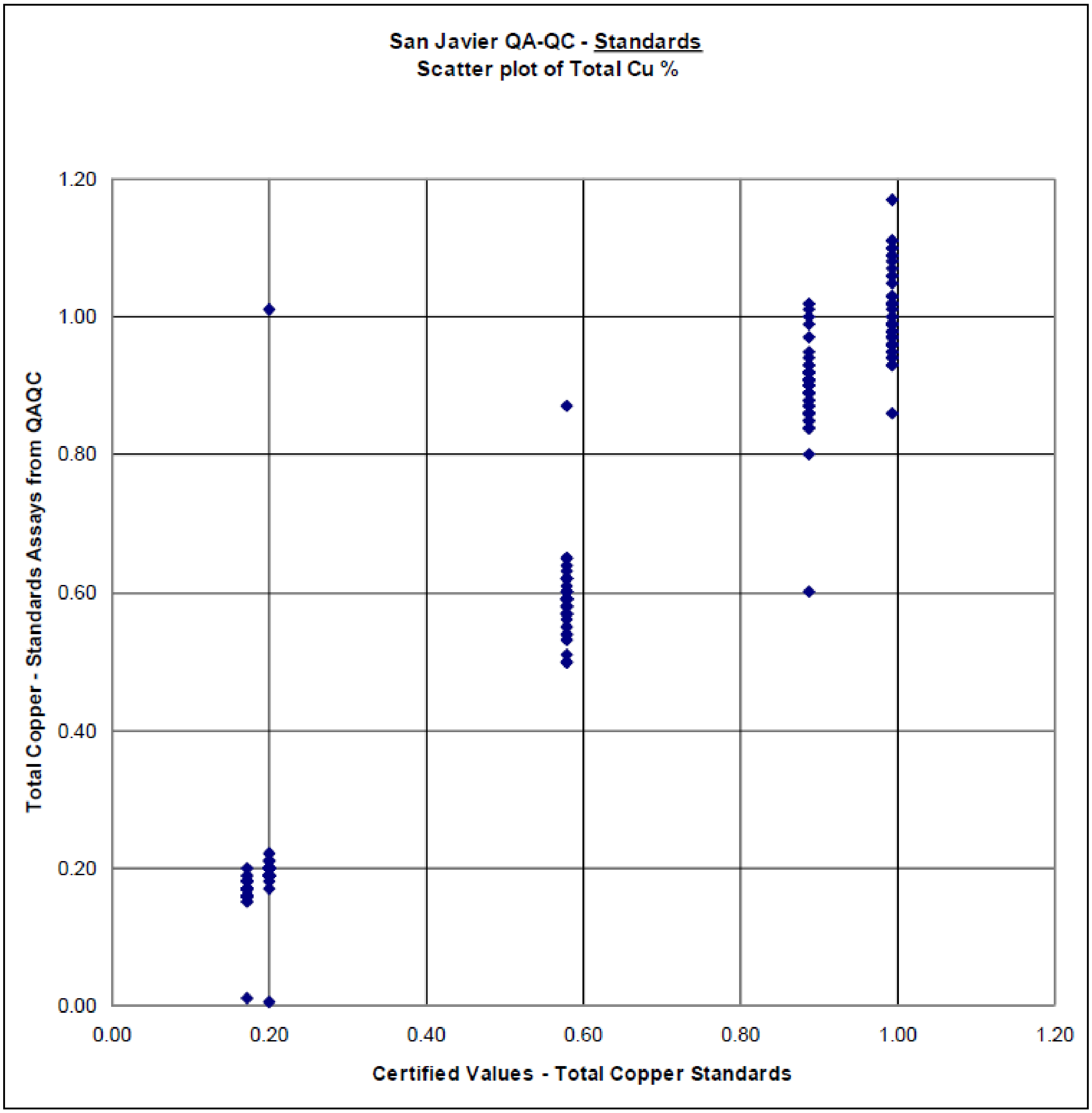


Figure 12-4: Total Copper Standards

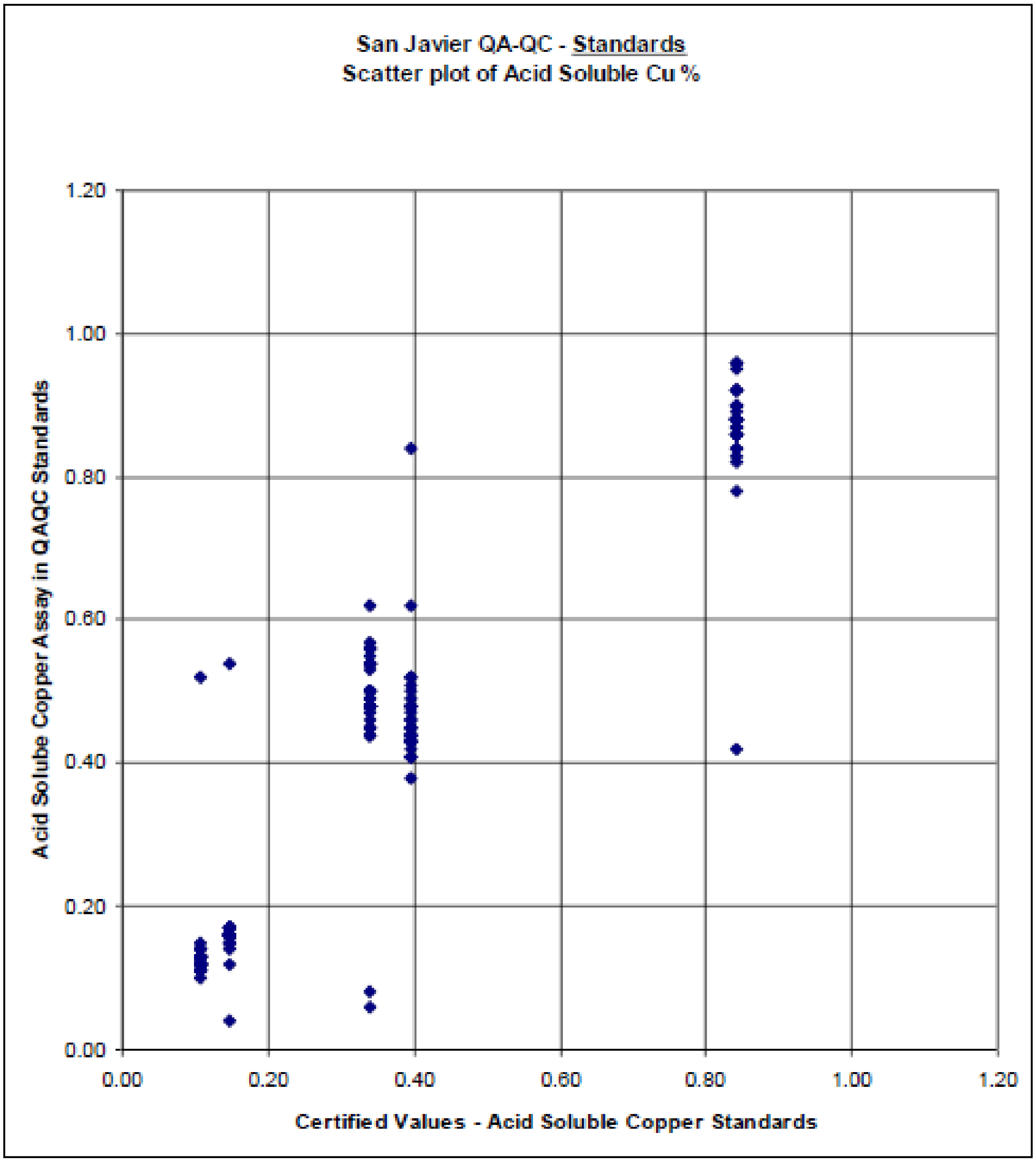


Figure 12-5: Acid-soluble Standards

12.2 Barksdale QA/QC Program

IMC has completed an independent analysis of the Barksdale-provided QA/QC data for the 2021 drilling and sampling program at San Javier. This process analyzed the Barksdale and SKY QA/QC data for the 2021 drill program and confirmed there are no issues with the data added to the mineral resource database.

The procedures used by Barksdale and SKY for quality control on diamond drill samples are:

- One type of control sample (Certified Reference Materials [CRM], duplicate, or blank) was inserted every 20th sample. If a sample batch sent for assay contained less than 20 samples, then one control sample was included.

- Blind standards are inserted by Barksdale on approximately 1 in 20 basis for assay by SKY.
- Duplicate samples were requested to be done in one of two ways. Figure 12-6 illustrates the simplified process of duplicate sample preparation.
- A DA is a split of the original pulp and is completed by SKY internally, as a precision or repeatability check on the assay results with duplicate prepared pulps.
- Duplicate rejects (DR) are completed by SKY. This was done as a check on the pulp preparation process when coarse duplicates were requested. Barksdale specified a coarse reject to be one every 20 controls.
- The Geology staff at San Javier submit blanks to SKY in the same manner that standards are inserted. The purpose of blank insertions is to confirm that there is no contamination between samples due to sample preparation errors at the laboratory.

The samples for special preparation are identified by adding an “A” to the sample number as shown below. When the laboratory received the samples, they know that if there is an “A” after the number, these sample will require extra preparation. A second pulp or “C” pulp will be the pulp duplicate. This is signified by adding a C to the sample number.

For the same pulp “A” a coarse duplicate will be generated from the coarse reject material, this is the “B” pulp. Figure 12-6 is an example of the Barksdale control sample insertions.

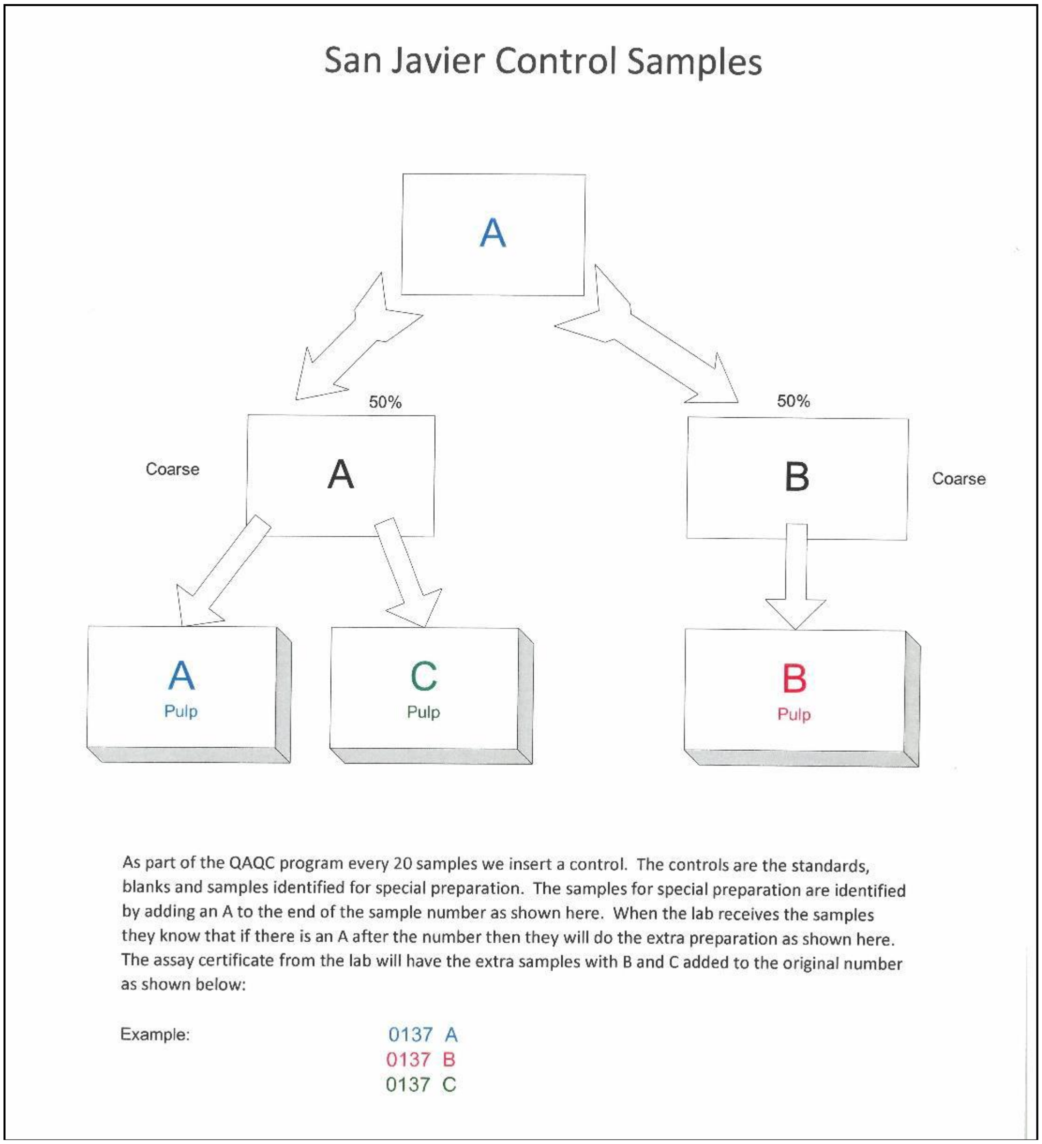


Figure 12-6: San Javier Control Samples

12.2.1 Pulp Duplicate Assays

Barksdale ran DAs or pulp duplicates (Pulp C) from the same pulp for total copper, sequential acid-soluble copper, and sequential cyanide-soluble copper intervals. This repeat analysis is used to measure the quality of the assay procedures and is conducted by the laboratory under the direction of Barksdale personnel as part of their internal quality control.

The DA information from Barksdale for total copper, acid-soluble, and cyanide-soluble copper are presented in Table 12-1. The tables show the DAs have very similar grades to the original copper assays.

Table 12-1: Pulp Duplicate Assay Statistics for Total Copper

San Javier Pulp Duplicates (Pulp C)			
Assay Method	**Number**	**Original Mean (% Cu)**	**Duplicate Mean (% Cu)**
Total Copper (% Cu)	8	0.275	0.266
Sequential Acid-Soluble Copper	8	0.132	0.128
Sequential Cyanide-Soluble Copper	8	0.059	0.058

A coarse DA is the analysis of a pulp prepared from an additional split of coarse reject material. The "Pulp B" assays are intended to be a measure on the precision of the SKY pulverizing, pulp splitting, and assay procedure in combination. As with the pulp DAs, only minor information can be obtained regarding sample bias from this work. However, the ability to replicate the pulp and pulp split processes are tested.

Table 12-2 illustrates the coarse duplicate results for total copper, acid-soluble copper, and cyanide-soluble copper. The acid-soluble copper and cyanide-soluble copper comparisons show a good correlation between the initial assay and the duplicate. The duplicate mean from total copper is slightly higher than the original total copper grade.

Table 12-2: Coarse Duplicate Assay Statistics for Total Copper

San Javier Coarse Duplicates (Pulp B)			
Assay Method	**Number**	**Original Mean (% Cu)**	**Duplicate Mean (% Cu)**
Total Copper (% Cu)	11	0.328	0.450
Sequential Acid-Soluble Copper	11	0.123	0.117
Sequential Cyanide-Soluble Copper	11	0.093	0.090

12.2.2 Certified Reference Materials - Standards

Standards or CRM samples were purchased by Barksdale from OREAS (now AnalytiChem). The value of a standard is established by a round robin analysis by multiple laboratories. Those certified values are compared against the results from SKY for the standard pulps inserted into the sample sets sent to the laboratory.

The two SKY standards are SKY5 and SKY6. There are 116 assays for SKY5 and 116 assays for SKY6 reviewed by IMC for ASCu and CNCu.

There was a total of 47 OREAS copper standard insertions by Barksdale that were checked for total copper. The standards are OREAS-905, OREAS-907, OREAS-59a, and OREAS-59d.

The instructions for the insertion of CRMs are issued to SKY by Barksdale personnel. SKY knows that the sample is a standard or blank, but SKY informed IMC that they do not know the certified values of the Barksdale submitted OREAS standards. The submission rate of these standards is roughly 1 in 20. The results are as expected with good repeatability. There are no indications of sample swapping within the CRM data set. Figure 12-7 shows the results for the 47 OREAS standards results vs the certified value for total copper. Figure 12-8 are the SKY assay results vs the certified value for acid-soluble copper and cyanide-soluble copper.

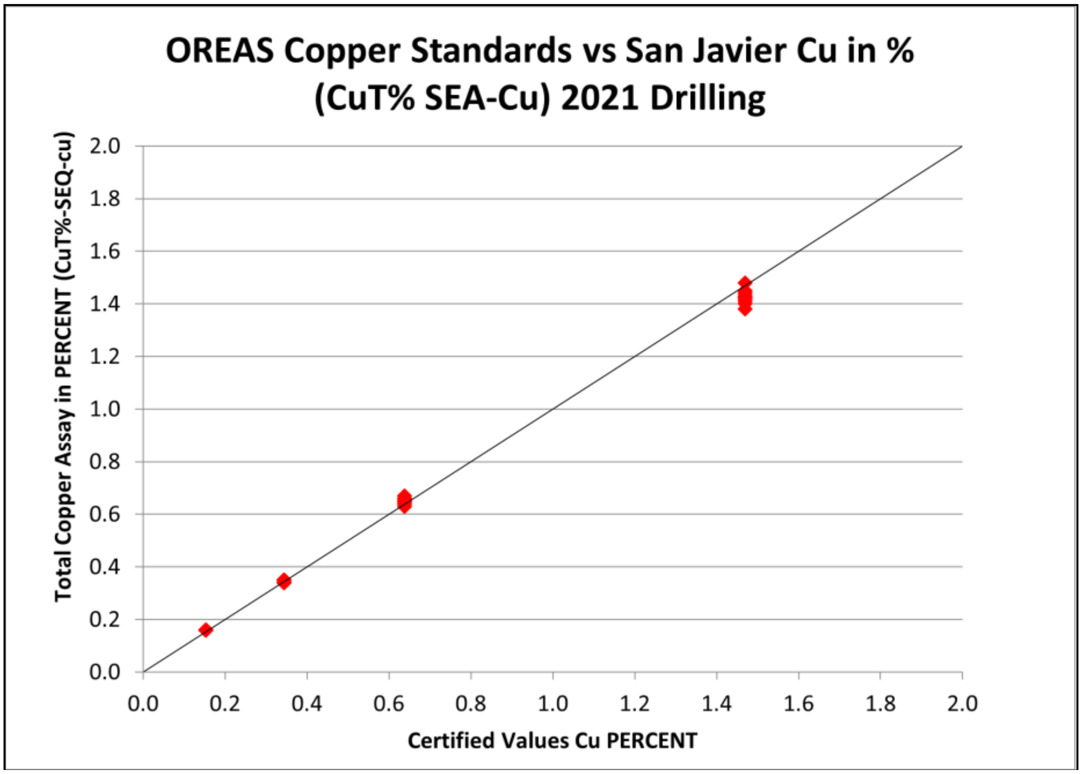
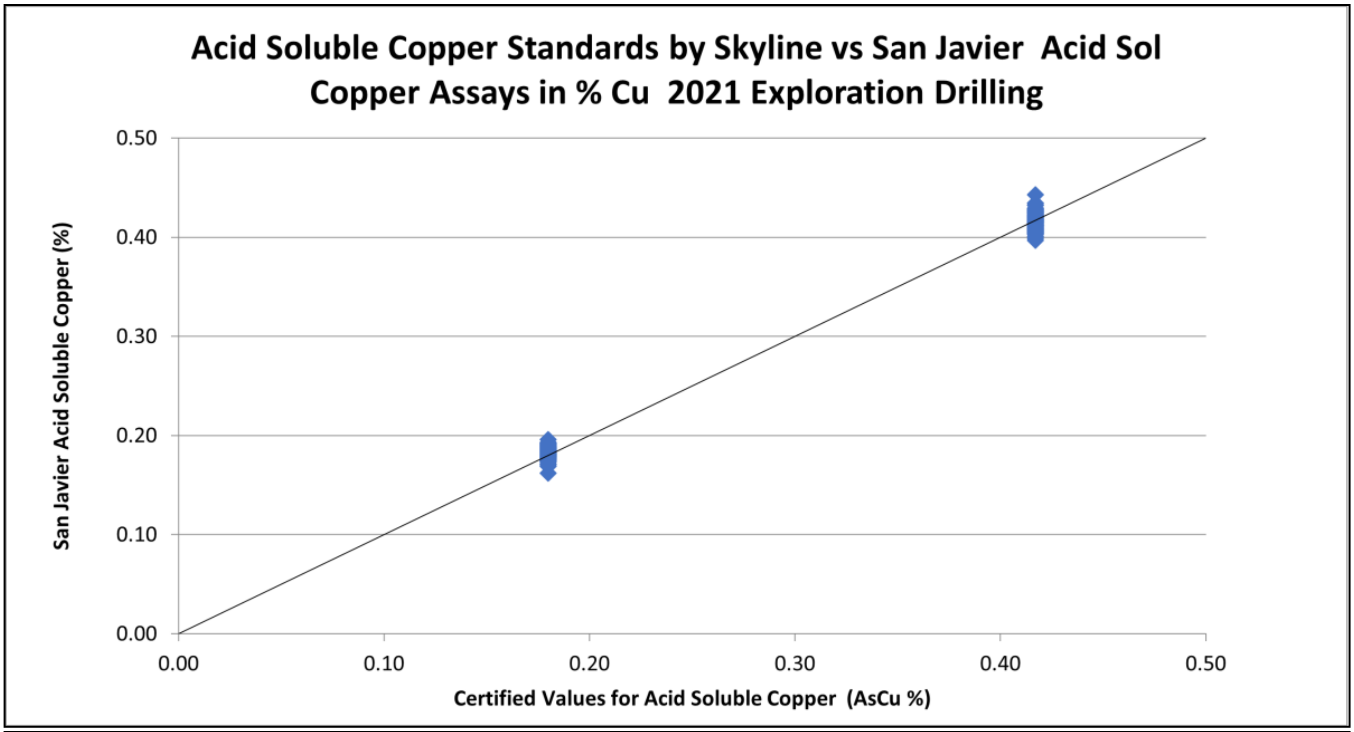


Figure 12-7: Results for the Canadian (CDN) Copper Standards



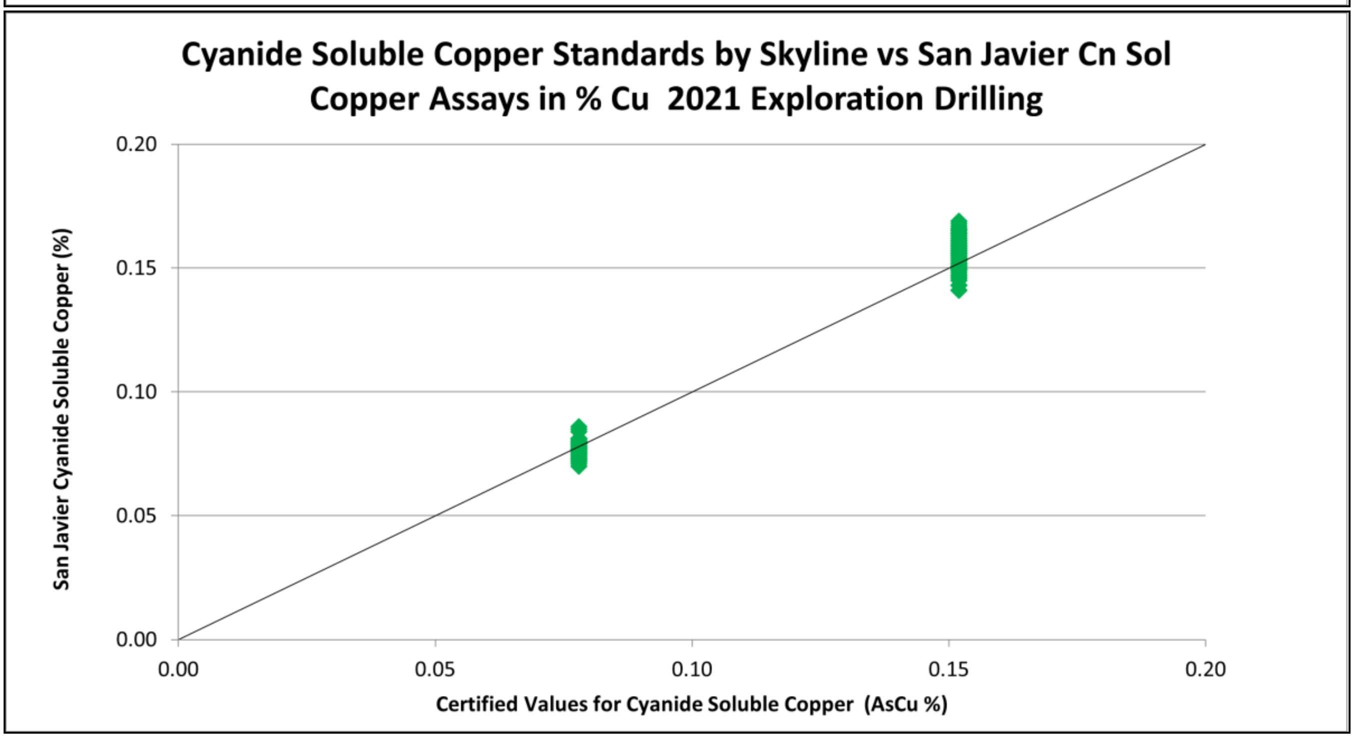


Figure 12-8: Results of Skyline Submitted Standards

12.2.3 Barksdale Blanks

Blanks (material with no or below detection limit values) were submitted as part of the Barksdale insertion of control samples. A total of 18 blanks were included in the samples from the 2021 drill program. All of the assays for total copper, acid-soluble copper, and cyanide-soluble copper were at or near the detection limits. Table 12-3 shows the results of the blanks analysis statistics.

Table 12-3: Blanks Statistics for Copper

Element	Assay Method	Number	Maximum
Acid-Soluble Copper	ASCu-SEQ % Cu-Seq	18	0.008
Cyanide-Soluble Copper	CNCu-SEQ % Cu-Seq	18	0.007
Total Copper	TCu % SEA-Cu	18	0.040

12.2.4 Assay Certificate Checks

IMC requested the original assay certificates from SKY for the 2021 drill program. These certificates were entered into a new database, and it was compared to the database provided by Barksdale. For total copper assays, 1,713 assays were checked covering all or parts of 33 drill holes. No significant errors were identified. When the certificates had acid-soluble copper or cyanide-soluble copper assays, these were checked and confirmed the values in the database.

12.3 Acceptance of the Drill Hole Database

The drill data, as provided by Barksdale, is accepted for use to develop a mineral resource. The checks of the Constellation and Barksdale drill hole data showed no significant errors in the development of the database. No checks were made on the Peñoles or PD drill hole data, but as mentioned in Section 14.0, this data was not used for the development of the mineral resource block model.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

This section summarizes the key metallurgical test work undertaken on composite drill core samples and surface samples extracted from the San Javier Property. There were two separate test work campaigns supporting process recovery and design, namely:

- Comminution tests conducted by Hazen and sequential copper analyses, bottle roll tests, and column leach tests conducted by Metcon in 2007,
- Column leach tests conducted by McClelland in 2022.

Results and interpretations of these metallurgical tests are discussed in the following sections.

13.1 2007 Test Program

13.1.1 Test Samples

In 2007, a total of 33 drill composites and four surface samples were submitted for testing. These composites were collected from the 2006 drilling program and were selected to include variations in depth, area, and amount of oxidation. Later, six surface bulk samples were also collected and submitted for testing. The head assay and the sequential copper analysis results for each submitted sample are presented in Table 13-1.

Table 13-1: Metallurgical Samples Head Assay Value for 2007 Test Samples (JDS, 2014)

Sample ID		Head Assay		Cu Sequential				RecCu[5] (%)
Hole ID	From – To	Cu (%)	Fe (%)	CuOX[1] (%)	CNCu[2] (%)	ResCu[3] (%)	TCu[4] (%)	
Drill Core Samples								
SJ06-01	(102-153)	0.45	14.25	0.05	0.07	0.33	0.45	26.7
SJ06-02	(66-102)	0.33	13.23	0.04	0.04	0.25	0.33	24.2
SJ06-03	(51-99)	0.34	15.18	0.03	0.03	0.28	0.34	17.6
SJ06-04	(30-66)	0.38	10.66	0.26	0.02	0.10	0.38	73.7
SJ06-04	(66-114)	0.36	14.61	0.31	<0.01	0.04	0.35	88.6
SJ06-04	(141-177)	0.30	12.5	0.15	0.02	0.12	0.29	58.6
SJ06-04	(30-177)	0.43	12.19	0.33	0.02	0.08	0.43	81.4
SJ06-05	(156-180)	0.32	11.84	0.11	0.13	0.08	0.32	75.0
SJ06-06	(69-120)	0.47	12.11	0.42	<0.01	0.04	0.46	91.3
SJ06-07	(177-207)	0.97	15.07	0.20	0.32	0.45	0.97	53.6
SJ06-08	(171-192)	0.44	12.92	0.12	0.12	0.19	0.43	55.8
SJ06-10	(78-114)	0.39	12.6	0.36	<0.01	0.03	0.39	92.3
SJ06-10	(147-174)	1.28	9.08	0.37	0.64	0.27	1.28	78.9
SJ06-12	(153-192)	0.66	9.81	0.32	0.21	0.13	0.66	80.3

Sample ID		Head Assay		Cu Sequential				RecCu[5] (%)
Hole ID	From – To	Cu (%)	Fe (%)	CuOX[1] (%)	CNCu[2] (%)	ResCu[3] (%)	TCu[4] (%)	
SJ06-13	(6-45)	0.53	8.60	0.52	<0.01	<0.01	0.52	100.0
SJ06-13	(87-117)	0.21	8.78	0.17	<0.01	0.03	0.20	85.0
SJ06-13	(6-117)	0.41	8.62	0.38	<0.01	0.02	0.40	95.0
SJ06-14	(3-48)	0.33	9.74	0.30	<0.01	0.02	0.32	93.8
SJ06-14	(153-183)	0.27	11.41	0.10	0.01	0.16	0.27	40.7
SJ06-15	(30-75)	0.44	8.42	0.42	<0.01	<0.01	0.42	100.0
SJ06-15	(159-198)	0.39	11.69	0.29	<0.01	0.10	0.39	74.4
SJ06-15	(30-198)	0.42	9.55	0.34	<0.01	0.07	0.41	82.9
SJ06-16	(36-69)	0.45	9.95	0.2	0.13	0.12	0.45	73.3
SJ06-16	(108-141)	0.28	12.81	0.02	0.01	0.25	0.28	10.7
SJ06-17	(57-99)	0.57	15.47	0.09	0.16	0.32	0.57	43.9
SJ06R-02	(135-168)	1.13	7.40	0.21	0.80	0.12	1.13	89.4
SJ06R-08	(90-117)	0.21	12.25	0.09	0.01	0.10	0.20	50.0
SJ06R-09	(93-132)	0.36	8.58	0.30	0.01	0.05	0.36	86.1
SJ06R-09	(132-186)	0.38	9.74	0.30	<0.01	0.08	0.38	78.9
SJ06R-09	(93-186)	0.34	8.65	0.29	<0.01	0.05	0.34	85.3
SJ06R-09	(93-120)	0.22	8.28	0.20	<0.01	0.01	0.21	95.2
SJ06R-011	(9-42)	0.13	10.55	0.06	<0.01	0.06	0.12	50.0
SJ06R-12	(84-129)	0.42	8.93	0.40	<0.01	0.01	0.41	97.6
Bulk Surface Samples								
SJ-MET-CV-96-02	-	2.81	18.63	1.72	0.92	0.17	2.81	94.0
SJ-MET-CV-96-07	-	0.41	8.36	0.38	<0.01	0.02	0.40	95.0
SJ-MET-SJ-06-02	-	1.77	10.95	1.76	0.01	<0.01	1.77	100.0
SJ-MET-S-12	-	1.61	14.00	1.52	0.03	0.06	1.61	96.3
S-5	-	0.71	18.34	0.40	0.12	0.20	0.72	72.2
PER-500-N	-	0.22	12.33	0.20	<0.01	0.02	0.22	90.9
SJ-02	-	1.20	9.85	1.18	0.02	<0.01	1.20	100.0
CV-02	-	0.45	14.50	0.44	<0.01	<0.01	0.44	100.0
CV-06	-	0.59	11.27	0.39	<0.01	0.19	0.58	67.2
CV-07	-	0.50	9.82	0.49	<0.01	<0.01	0.49	100.0

Notes:
[1]CuOX – Acid-soluble Copper
[2]CNCu – Cyanide-soluble Copper
[3]ResCu – Residual Insoluble Copper
[4]TCu – Total Copper (sum of acid-soluble, cyanide-soluble, and residual insoluble copper)
[5]RecCu – Recoverable copper (assuming that all acid-soluble and cyanide-soluble copper will be recoverable from leaching)

13.1.2 Comminution Test Program

Hazen completed the Bond abrasion index, crusher index, and ball mill work index on six surface bulk samples from San Javier. The results are summarized in Table 13-2. The test results indicate that the samples were not considered very hard or abrasive.

Table 13-2: Comminution Test Results

(JDS, 2014)

Sample ID	Abrasion Index (g)	Crusher Work Index (kWh/t)	Ball Mill Work Index (kWh/t)
S-05 M-661-04	0.063	10.1	16.0
PER500NM-661-04	0.188	9.5	14.3
SJ-02M-661-04	0.136	10.7	14.9
CV-02M-661-04	0.070	11.6	12.5
CV-06M-661-04	0.108	9.5	16.3
CV-07M-661-04	0.182	12.1	16.0
Average	**0.124**	**10.6**	**15.0**

13.1.3 Bottle Roll Tests

Bottle roll tests were performed on all the samples submitted for the 2007 test program by Metcon. The bottle roll test results are listed in Table 13-3. Figure 13-1 compares the recoverable copper estimate based on sequential copper analysis from Table 13-1 and the bottle roll copper recovery from Table 13-3. Results indicate that the sequential copper analysis used to determine the recoverable copper estimate could be a good predictor of the copper recovery for bottle roll test results.

A comparison of the diagnostic assay acid consumption and the total column test acid consumption indicates that the diagnostic acid consumption assay was not a good predictor of acid consumption for the San Javier mineralization. Further evaluation indicates that the high acid consumption in some materials is probably due to the presence of siderite (iron carbonate).

Table 13-3: Bottle Roll Test Results Summary for 2007 Test Samples

(JDS, 2014)

Sample ID		Head Assay		Extraction		Acid Consumption
Hole ID	From – To	Cu (%)	Fe (%)	Cu (%)	Fe (%)	Total (kg/t)
SJ06-01	(102-153)	0.45	14.25	16.74	57.2	198.12
SJ06-02	(66-102)	0.33	13.23	14.81	33.62	126.24
SJ06-03	(51-99)	0.34	15.18	13.15	39.25	117.14
SJ06-04	(30-66)	0.38	10.66	70.91	1.44	24.33
SJ06-04	(66-114)	0.36	14.61	84.65	0.47	17.42
SJ06-04	(141-177)	0.30	12.50	53.25	1.43	23.49
SJ06-04	(30-177)	0.43	12.19	74.25	0.88	19.06

Sample ID		Head Assay		Extraction		Acid Consumption
Hole ID	From – To	Cu (%)	Fe (%)	Cu (%)	Fe (%)	Total (kg/t)
SJ06-05	(156-180)	0.32	11.84	53.03	8.56	40.83
SJ06-06	(69-120)	0.47	12.11	90.44	2.9	30.45
SJ06-07	(177-207)	0.97	15.07	26.14	56.87	203.99
SJ06-08	(171-192)	0.44	12.92	41.25	23.52	89.27
SJ06-10	(78-114)	0.39	12.60	90.70	0.70	18.29
SJ06-10	(147-174)	1.28	9.08	39.86	3.86	34.83
SJ06-12	(153-192)	0.66	9.81	64.96	8.54	51.11
SJ06-13	(6-45)	0.53	8.60	91.31	0.81	18.12
SJ06-13	(87-117)	0.21	8.78	82.29	1.11	16.38
SJ06-13	(6-117)	0.41	8.69	88.89	0.90	18.66
SJ06-14	(3-48)	0.33	9.74	87.9	0.88	18.54
SJ06-14	(153-183)	0.27	11.41	40.55	1.46	22.64
SJ06-15	(30-75)	0.44	8.42	91.46	0.70	21.46
SJ06-15	(159-198)	0.39	11.69	69.79	0.94	19.69
SJ06-15	(30-198)	0.42	9.55	82.13	0.78	18.44
SJ06-16	(36-69)	0.45	9.95	48.37	4.12	29.53
SJ06-16	(108-141)	0.28	12.81	7.78	14.28	74.21
SJ06-17	(57-99)	0.57	15.47	24.14	33.87	141.27
SJ06R-02	(135-168)	1.13	7.40	49.77	8.70	38.66
SJ06R-08	(90-117)	0.21	12.25	55.42	3.20	33.76
SJ06R-09	(93-132)	0.36	8.58	83.4	2.42	21.47
SJ06R-09	(132-186)	0.38	9.77	76.8	1.68	24.35
SJ06R-09	(93-186)	0.34	8.65	81.14	1.80	19.91
SJ06R-09	(93-120)	0.22	8.28	87.57	2.09	17.14
SJ06R-011	(9-42)	0.13	10.55	50.9	2.76	28.16
SJ06R-12	(84-129)	0.42	8.93	86.25	3.67	30.01
SJ-MET-CV-96-02	-	2.81	18.63	66.84	0.97	43.82
SJ-MET-CV-96-07	-	0.41	8.36	86.93	0.78	21.51
SJ-MET-SJ-06-02	-	1.77	10.95	95.78	0.84	39.2
SJ-MET-S-12	-	1.61	14.00	89.77	0.73	36.14
S-5	-	0.81	18.34	58.65	6.01	52.96
PER-500-N	-	0.24	12.33	76.43	0.66	15.6
SJ-02	-	1.39	9.85	90.36	1.37	33.54
CV-02	-	0.54	14.54	84.65	1.14	21.22

Sample ID		Head Assay		Extraction		Acid Consumption
Hole ID	From – To	Cu (%)	Fe (%)	Cu (%)	Fe (%)	Total (kg/t)
CV-06	-	0.69	11.27	62.37	2.84	27.28
CV-07	-	0.55	9.82	87.29	1.3	21.31

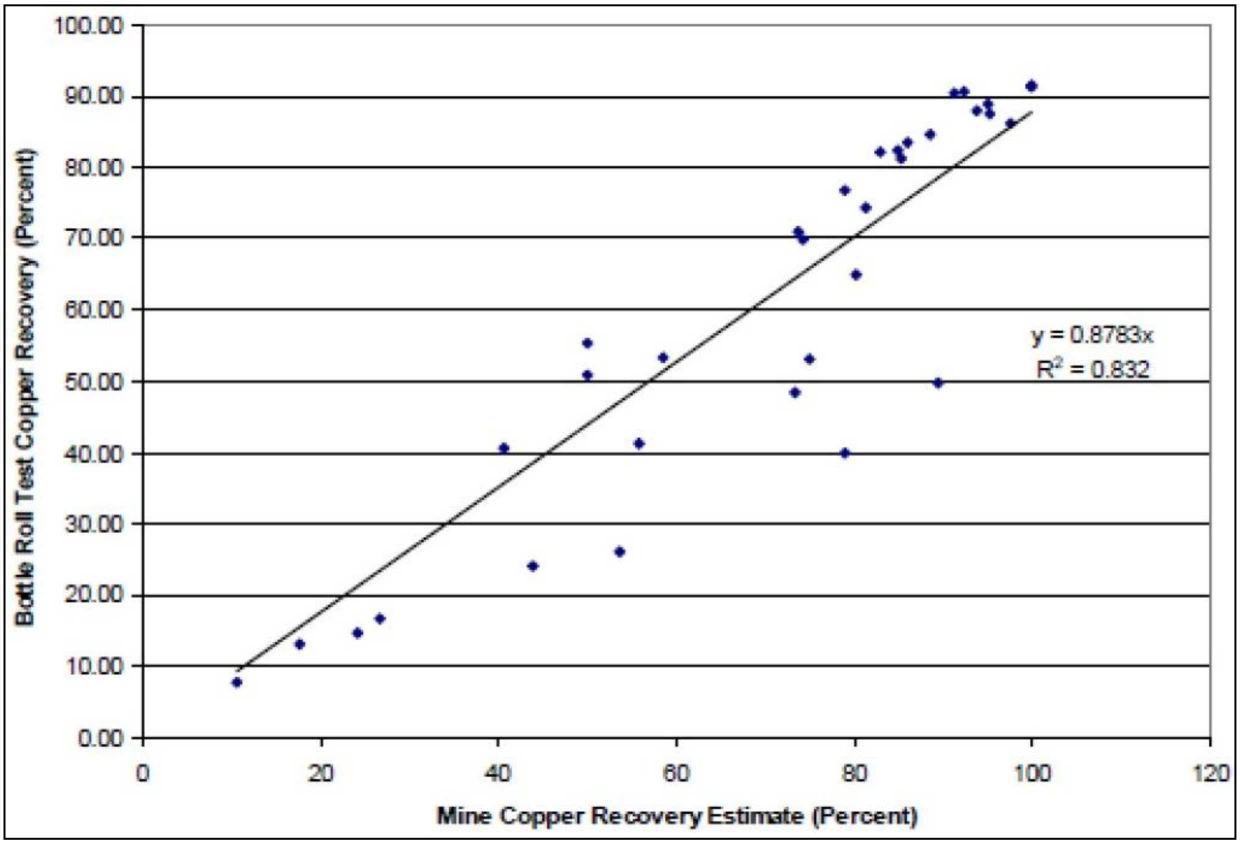


Figure 13-1: Comparison of Sequential Copper Recovery Estimate and Bottle Roll Results (JDS, 2014)

13.1.4 Column Tests

Metcon performed a series of open-cycle column leach tests in 3-inch diameter columns on six bulk composite samples. The column tests compared acid cure dosages at 25, 50, and 75% of the total acid consumption obtained in the bottle test program. Two sets of each cure were used to compare artificial and mature raffinate leach solutions. The material was crushed to a particle size of 80% passing ⅜-inch, agglomerated, and leached for 34 days. The results from the column testing are provided in Table 13-4.

The column extractions ranged from 67 to 96%, with similar results for both the artificial and mature raffinate solutions. Slightly higher extraction was observed for the high cure dosage, which also correlated to high acid consumption. The S-5 composite showed the highest acid consumed. A separate series of column tests was run on the bulk samples to determine copper recovery vs. particle size. The ⅜-inch minus size had the best performance; however, higher acid consumptions were observed for smaller particle sizes.

Table 13-4: Column Test Results Summary for 2007 Test Samples (JDS, 2014)

Sample ID	Crush Size P_{80} (inch)	Head Assay		Leach Cycle (days)	Extraction		Acid Consumption	
		Cu (%)	Fe (%)		Cu (%)	Fe (%)	Total (kg/t)	Gangue (kg/t)
S-5	2	0.79	20.42	128	61.05	4.46	38.04	30.01
S-5	3/4	0.85	20.67	128	66.25	3.85	45.23	37.24
S-5	3/8	0.82	19.87	128	71.73	4.15	49.88	41.04
PER-500-N	2	0.24	14.22	51	72.01	0.44	8.27	5.51
PER-500-N	3/4	0.24	14.01	51	77.58	-0.27	7.73	4.89
PEE-500-N	3/8	0.24	14.09	51	78.96	-0.29	8.31	5.37
SJ-02	2	1.43	11.43	51	71.22	-0.54	17.42	1.87
SJ-02	3/4	1.43	11.83	51	90.57	-0.74	21.02	1.8
SJ-02	3/8	1.41	11.95	51	91.48	-1.09	20.87	1.54
CV-02	2	0.51	15.99	51	73.98	-0.28	9.9	3.84
CV-02	3/4	0.55	17.3	51	85.52	-0.45	10.73	3.36
CV-02	3/8	0.52	17.07	51	88.14	-0.55	10.83	3.63
CV-06	2	0.75	11.51	51	45.97	0.49	14.28	9.48
CV-06	3/4	0.72	11.91	51	63.38	0.74	17.89	11.14
CV-06	3/8	0.73	12.15	51	68.25	0.98	17.83	10.38
CV-07	2	0.59	10.61	51	79.66	-0.64	9.81	2.78
CV-07	3/4	0.59	10.67	51	88.46	-0.69	10.72	3.04
CV-07	3/8	0.56	11.09	51	90.46	-0.85	10.72	3.34

Bottle roll tests were performed on the bulk sample material. Figure 13-5 summarizes both the soluble and total copper recoveries. Bottle tests conducted on the core samples show a similar distribution of copper to the cyanide-soluble recovery and should perform similarly to the bulk samples. Further test work is needed for confirmation.

Table 13-5: Average Bottle Roll Test Results Summary for 2007 Bulk Samples (JDS, 2014)

Sample ID	Head Grade				Recovery	
	Total Cu (%)	Acid-soluble Cu (%)	Cyanide-soluble Cu (%)	Soluble Cu (%)	Soluble Cu (%)	Total Cu (%)
Bulk Sample (average)	1.65	1.35	0.24	1.59	88	85
Drill Core (Average)	0.44	0.23	0.06	0.29	95	63

13.1.5 2007 Test Program Summary

The historic test work results showed that the bottle roll tests were consistent with column tests. The column test results showed that the finer crush size of ⅜-inch resulted in the highest extraction and the highest acid consumption. Based on the laboratory data, a recovery of 90% was expected from materials consistent with the composites tested. A scale-up factor of 3% should be applied to the heap leach facility resulting in an expected production recovery of 87% copper to cathode. Process costs are driven by sulphuric acid consumption. In column tests on the bulk samples, acid consumption averaged 19.7 kg per tonne of material leached.

13.2 2022 Test Program

13.2.1 Test Samples

A total of 16 barrels of PQ core intervals samples were received by McClelland in 2021. The PQ core samples included 46 m of core from four drill holes, weighing 13 to 48 kg. The head assay and the sequential copper analysis results for each submitted sample are presented in Table 13-6. Composites 4726-001 & 4726-004 have the highest percentage of insoluble copper. The insoluble fraction contains copper sulphides not soluble in acid or cyanide in the shake test procedure. Composite 4726-001 had 46.2% of copper that is not soluble in acid or cyanide solution. This indicates that the composite has copper sulphide that may not occur as chalcocite (Cu_2S) or covellite (CuS), instead probably as chalcopyrite. The copper in the other three composites is expected to be as oxide copper forms.

Table 13-6: Metallurgical Samples Head Assay Value for 2022 Test Samples (SND Consulting, 2022)

Sample ID			Cu Sequential				Acid + NaCN Recoverable (%)
Composite ID	Hole ID	From – To	Acid-Soluble Cu (%)	Cyanide-Soluble Cu (%)	Insoluble Cu (%)	Total Cu (%)	
Comp. 4726-001	SJ21-01	(39-51)	0.08	0.15	0.19	0.42	53.8
Comp. 4726-002	SJ21-02	(50-60)	0.53	0.05	0.02	0.60	96.8
Comp. 4726-003	SJ21-03	(57-72)	0.35	0.01	0.02	0.39	94.1
Comp. 4726-004	SJ21-04	(45-54)	0.52	0.01	0.11	0.64	83.0

13.2.2 Column Tests

Each composite was crushed to 80% passing 25 mm, and two column tests were conducted on each composite; one was acid agglomeration (5 kg/t) cure, and the other was without an acid agglomeration cure. The raffinate used for the tests contains 5 g/L sulphuric acid. The irrigation rate in the tests was 6 L/hr/m^2. The primary leach irrigation cycle was 120 days. The columns were washed and drained for 4-5 days after the irrigation was stopped. Table 13-7 presents the % total copper extracted, % acid-soluble copper, and % acid and cyanide-soluble copper extracted for each test after 120 days of irrigation. The calculated head grade for each test was used to determine the % extraction.

Table 13-7: Copper Extracted After 120 Days of Irrigation

(SND Consulting, 2022)

Test No.	Composite ID	Acid Cure	% of Total Cu	% of Acid-Soluble Cu	% of Acid & NaCN Soluble Cu	Net Acid Consumed (kg/t)
1	Comp. 4726-001	NA	27	170	58	22.5
2	Comp. 4726-001	5 kg/t	31	148	51	23.7
3	Comp. 4726-002	NA	79	84	76	2.4
4	Comp. 4726-002	5 kg/t	78	79	72	5.0
5	Comp. 4726-003	NA	82	93	89	2.0
6	Comp. 4726-003	5 kg/t	81	84	81	5.0
7	Comp. 4726-004	NA	68	84	82	2.7
8	Comp. 4726-004	5 kg/t	68	77	76	5.0

Figure 13-2 presents the extraction of total copper for each composite after 120 days of irrigation. The rate of copper extraction for all tests is positive after 120 days of irrigation. Results indicate that extracting copper using 5 g/L raffinate without an acid cure would be lower in capital and operating costs than using an acid cure. The extraction of copper will continue in the second cycle of irrigation once a new lift is placed on the material that had completed the first irrigation cycle. The difference in copper extraction of composite 4726-001 was due to the difference in the calculated head grade.

All tests indicate higher copper extraction with a cure in the initial leach stage. For Composite 4626-002 to Composite 4626-004, the extraction rate gaps reduce with irrigation retention time, and then after approximately 60 days of irrigation, the copper extraction rates are similar with acid cure and without acid cure treatments.

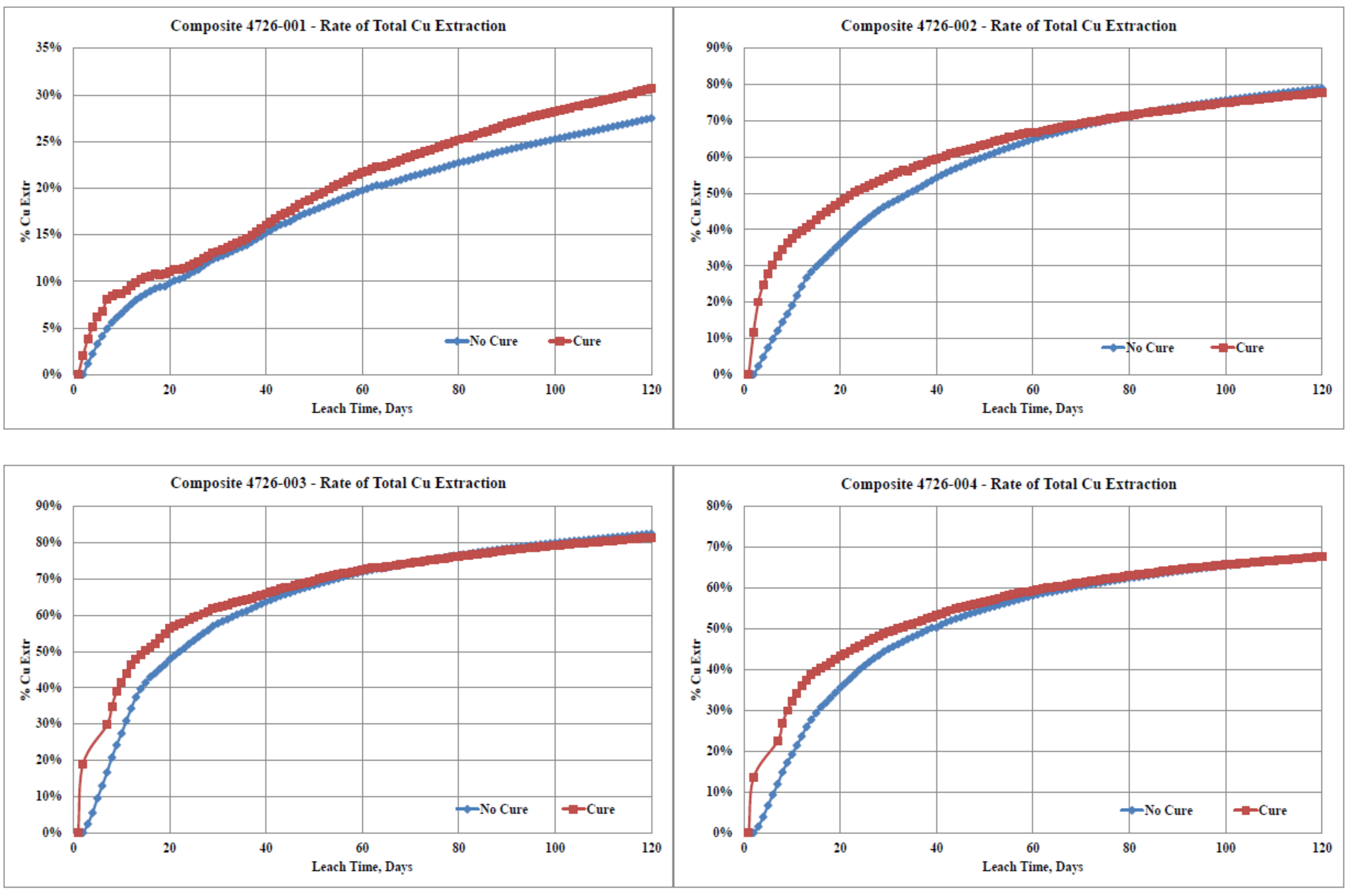


Figure 13-2: Extraction of Total Copper for Each Composite After 120 Days of Irrigation

(SND Consulting, 2022)

Figure 13-3 presents the extraction of acid-soluble copper from each composite after 120 days of irrigation. All tests have a positive slope on the rate of extraction. All tests indicate higher acid-soluble copper extraction using the raffinate than using a cure.

Composite 4726-001 had more than 100% of acid-soluble copper extracted. This is due to the amount of cyanide-soluble copper and the longer leach time in a column compared to the sequential leach test time. The rate of copper extraction in composite 4726-001 has not fallen off after 120 days of irrigation.

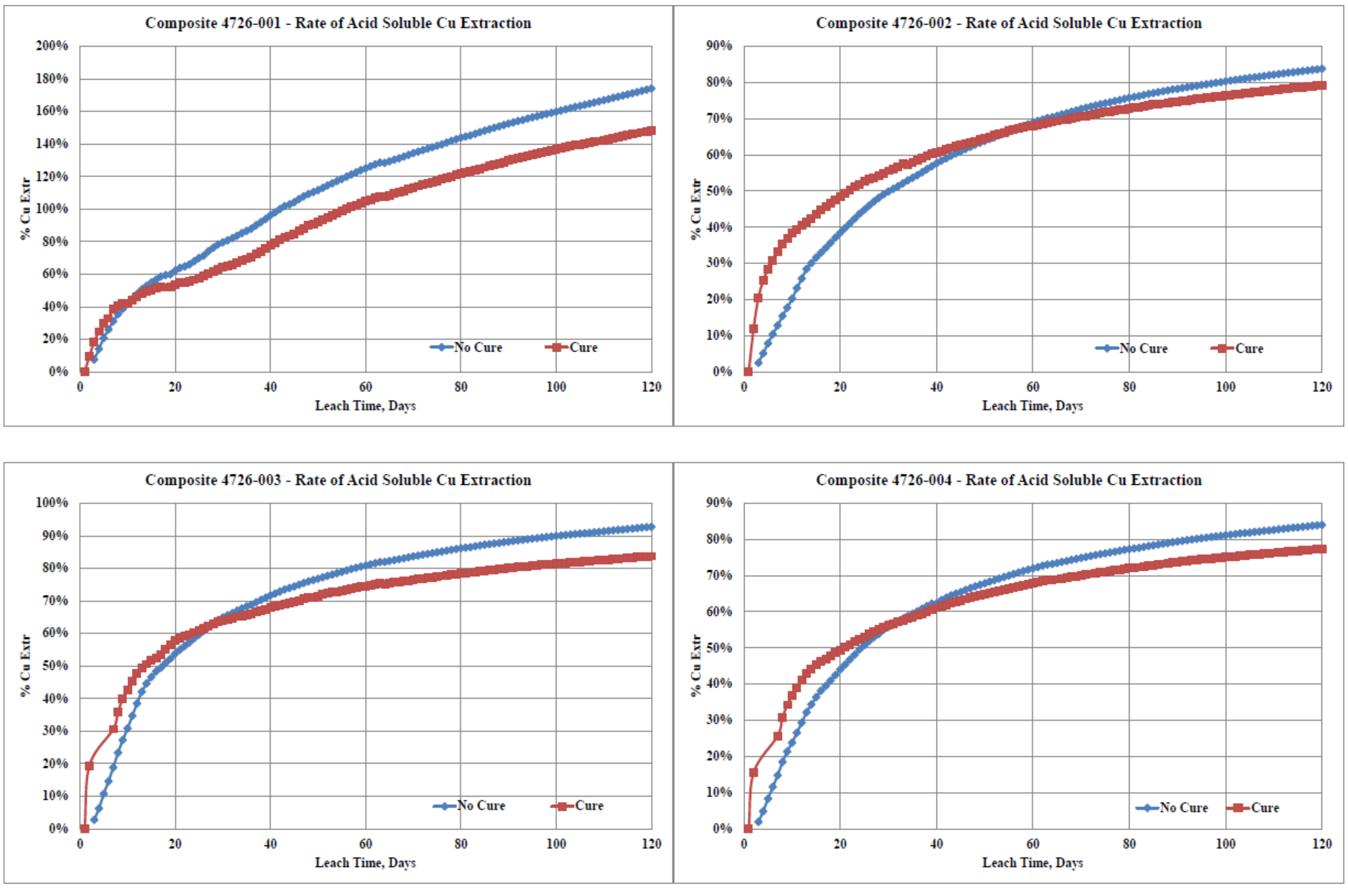


Figure 13-3: Acid-Soluble Copper Extraction for Each Composite After 120 Days of Irrigation (SND Consulting, 2022)

Figure 13-4 presents the extraction of combined acid and cyanide-soluble copper from each composite after 120 days of irrigation. Composite 4726-001 had a significant amount of cyanide-soluble copper. The other three composites have a significantly lower percentage of cyanide-soluble copper. This is why only composite 4726-001 presents a significant difference in copper extraction between total, acid-soluble, and combined acid & cyanide-soluble copper.

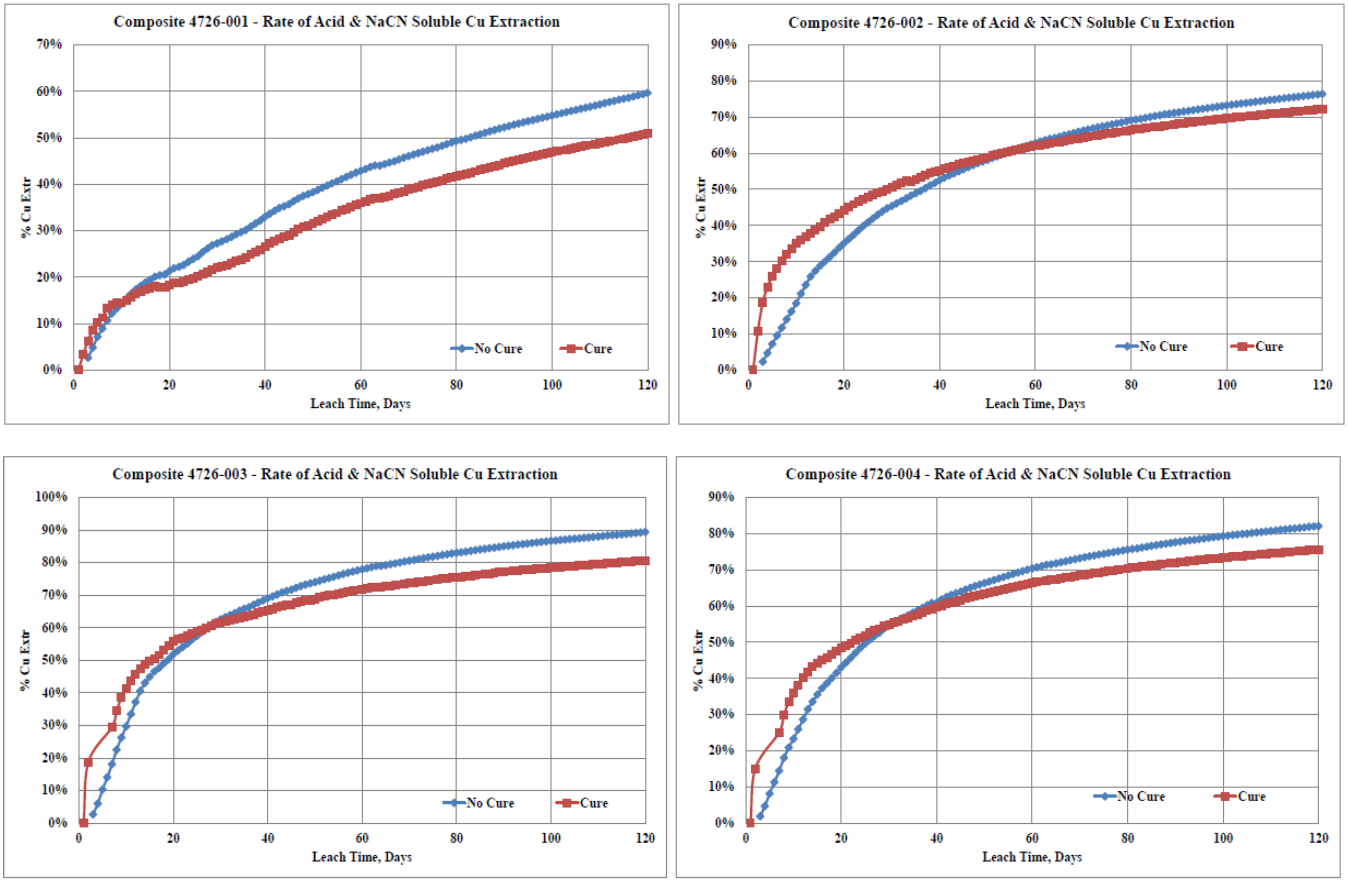


Figure 13-4: Acid & NaCN Soluble Copper Extraction for Each Composite After 120 days of Irrigation (SND Consulting, 2022)

Figure 13-5 presents the net acid consumption with and without an acid cure. The net acid consumption with an acid cure pre-treatment of 5 kg/t sulphuric acid is higher compared to without an acid cure. If based on net acid consumption to extracted copper, each kg of the copper recovered will require 1.54 kg of acid. The consumption of net acid is lower for using a raffinate of 5 g/L acid solution. This is a significant operating cost reduction compared to a 5 kg/t acid agglomerated cure.

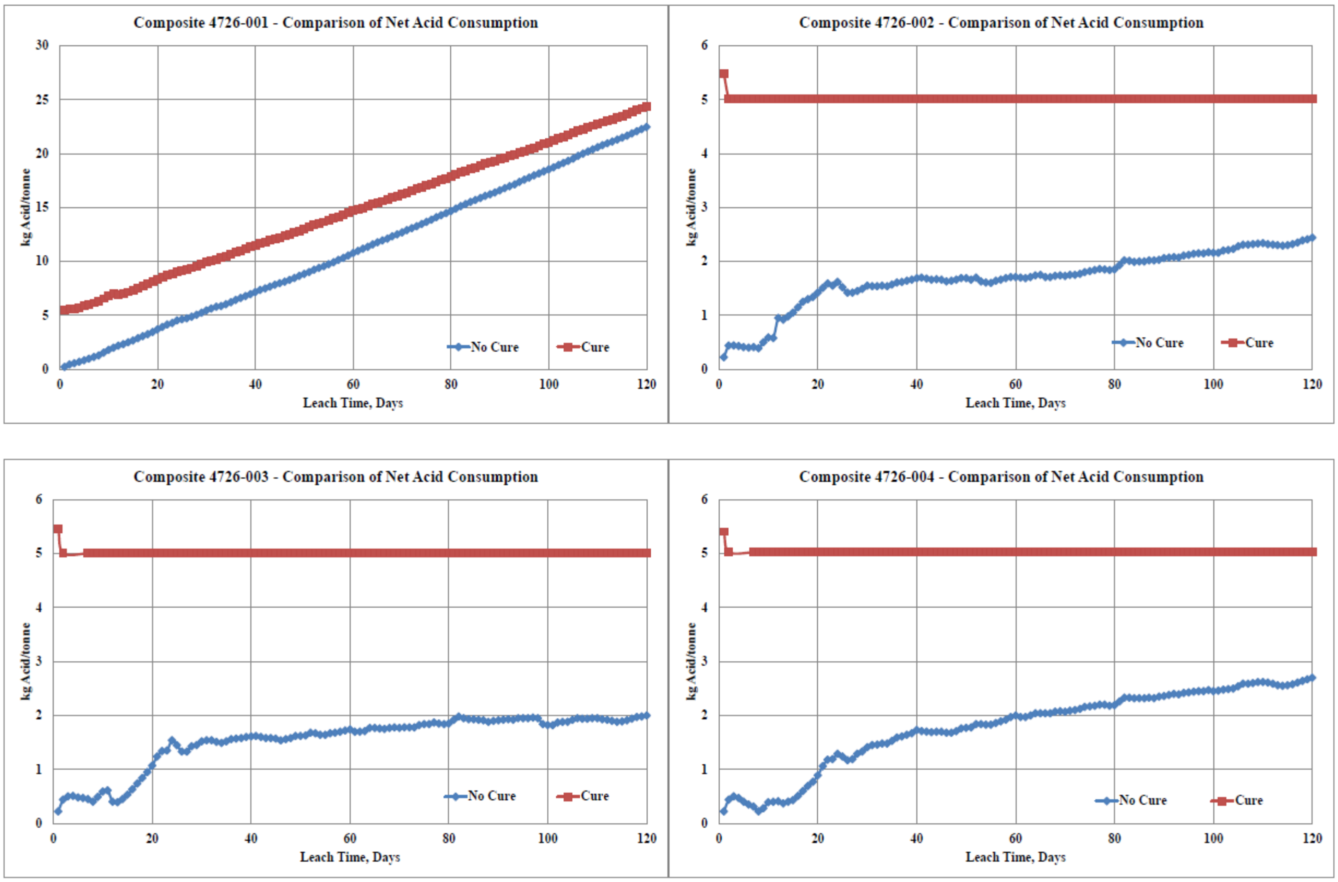


Figure 13-5: Net Acid Consumption for Each Composite After 120 Days of Irrigation

(SND Consulting, 2022)

The procedure used for the determination of acid in the PLS was developed by Newmont Mining. The Newmont free acid determination procedure concludes there is no free acid above a pH of 1.5. The relation of the pH of the leach solution over the leach cycle time shows that all columns had the leach solution with less than pH 2.0 after 20 days of irrigation. The result is higher than normal acid consumption. The 20 kg/t net acid consumption for the sulphide composite (4726-001) should be reduced to 10 kg/t.

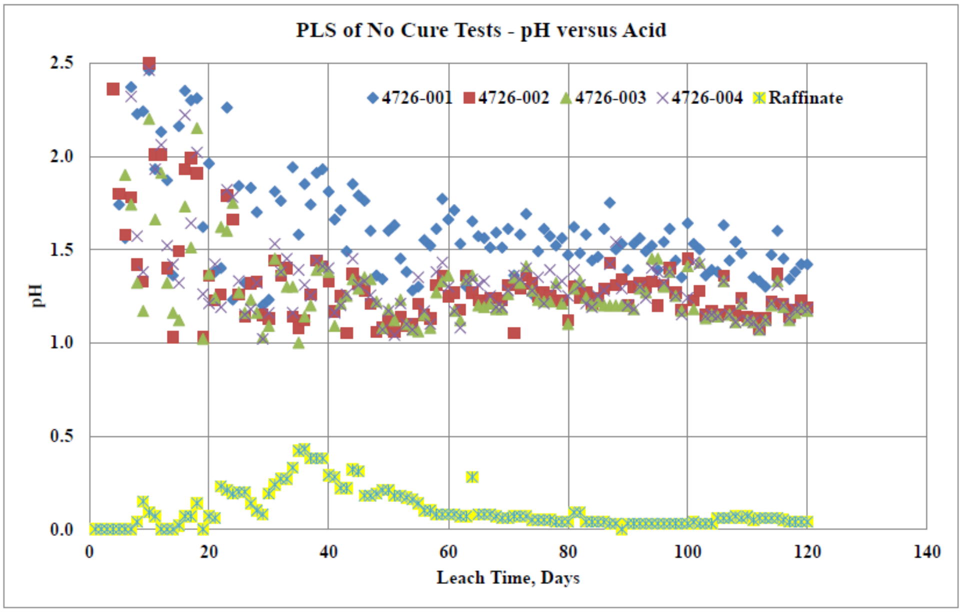


Figure 13-6: Change in pH of PLS over 120 days of Irrigation for No Cure Tests (SND Consulting, 2022)

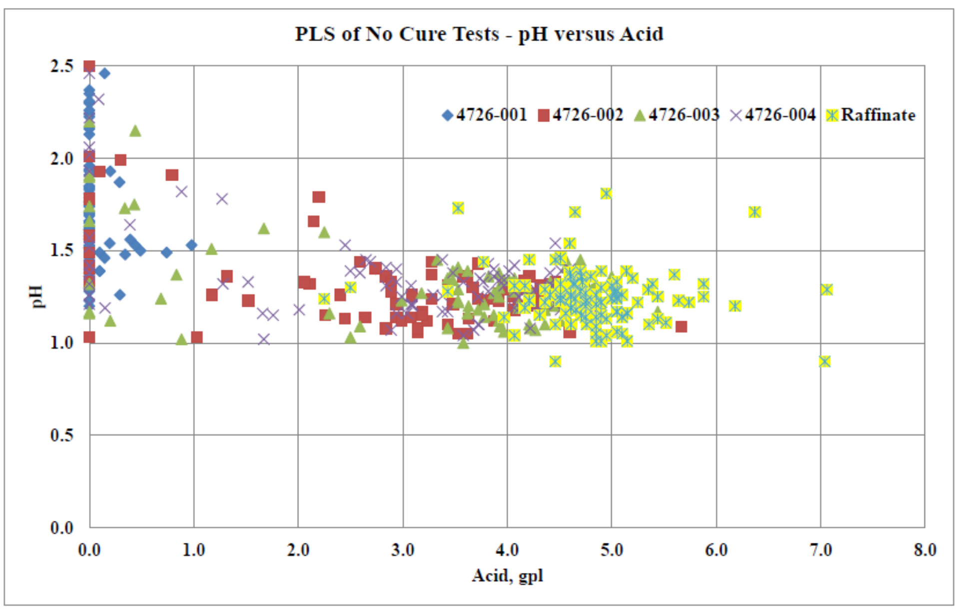


Figure 13-7: pH of PLS vs. Acid Concentration for No Cure Tests (SND Consulting, 2022)

The difference in iron concentration between the raffinate and PLS for each column test defines if the mineralization will generate or consume iron. Oxide materials will consume iron. The mineralization that contains iron sulphides will generate iron. Figure 13-8 presents the comparison for each composite of iron concentration in g/L in the raffinate and each PLS. Composite 4726-001 has higher iron in the PLS than in the raffinate. This is the oxidation of the iron sulphides. The three other composites are oxide copper. The acid cure always extracts iron in the cure process. There is no difference in iron consumption or generation after 10 days of irrigation. The use of raffinate only results in more iron being consumed in the first 10 days than occurred with an acid cure.

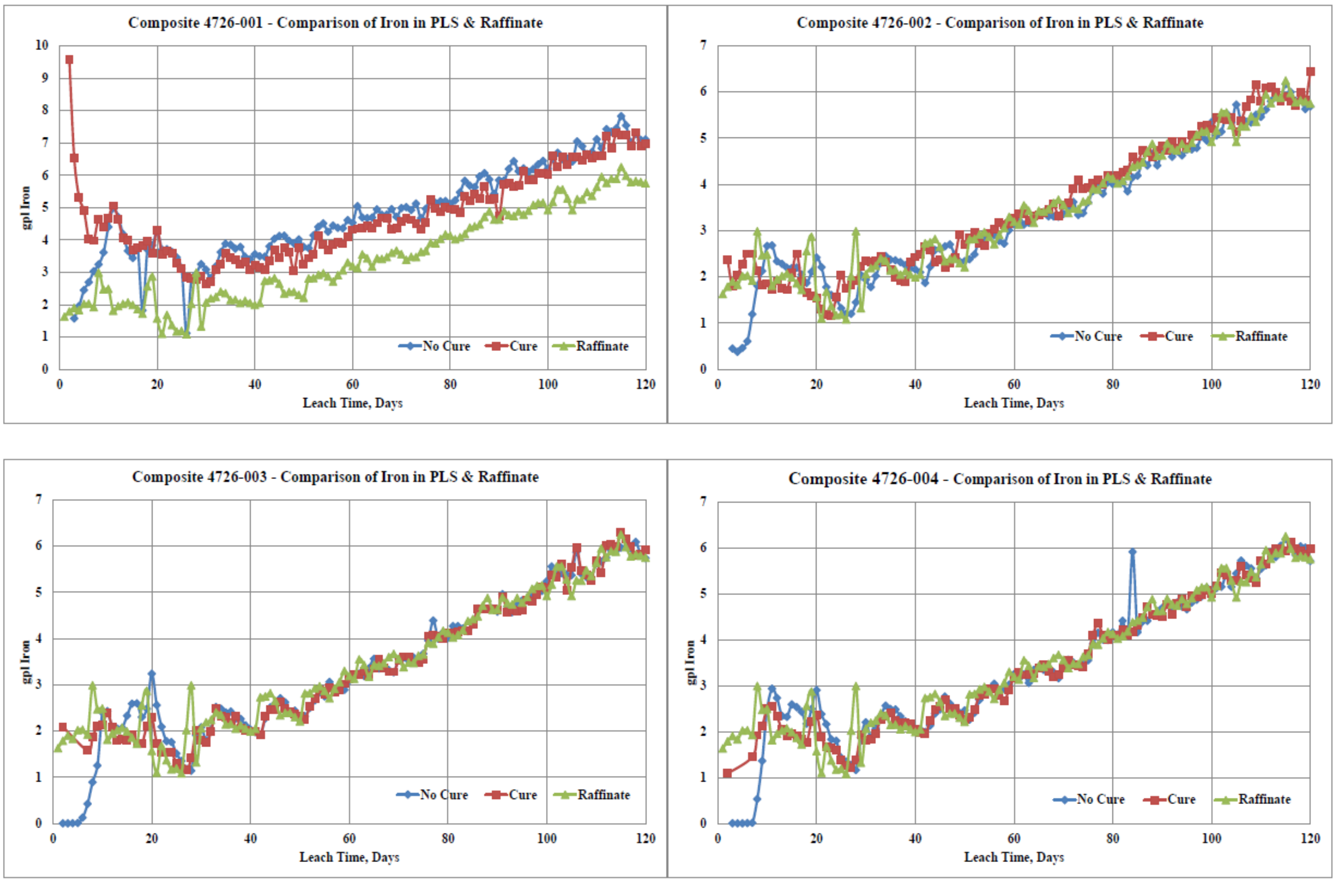


Figure 13-8: Iron in PLS and Raffinate for Each Column Test

(SND Consulting, 2022)

Figure 13-9 compares each composite for iron generated or consumed. Composite 4726-001 had 46% of the copper that is not soluble in acid or cyanide solution. This indicates that the composite has copper sulphide that is not chalcocite (Cu_2S) or covellite (CuS). The copper sulphide mineral is probably chalcopyrite. The composite 4726-001 is the only composite that generates iron, indicating the presence of pyrite in the mineralization. The oxidation of the copper sulphide in the mineralization depends on the presence of iron in the solution and bacterial activity to convert the ferrous to ferric. The other three composites are oxide copper. The consumption of iron was higher using raffinate than using an acid cure. The cumulative difference in the amount of iron consumed is constant after 40 days of irrigation.

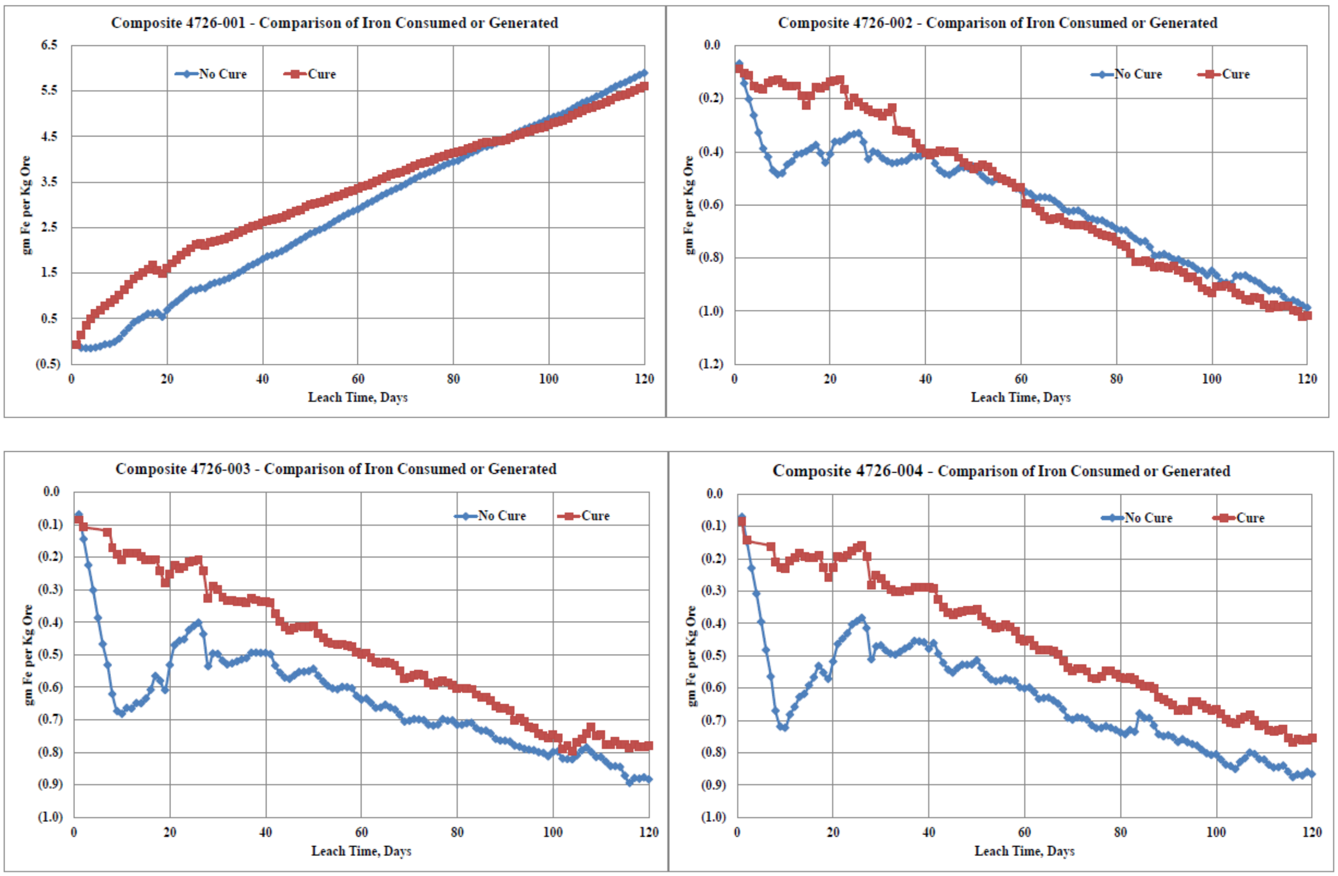


Figure 13-9: Comparison of Iron Consumed or Generated for Each Column Test

(SND Consulting, 2022)

The screen analyses of the feed and leach residue for each composite are presented in Figure 13-10. There was negligible change in the particle size distribution from feed to tail for each test.

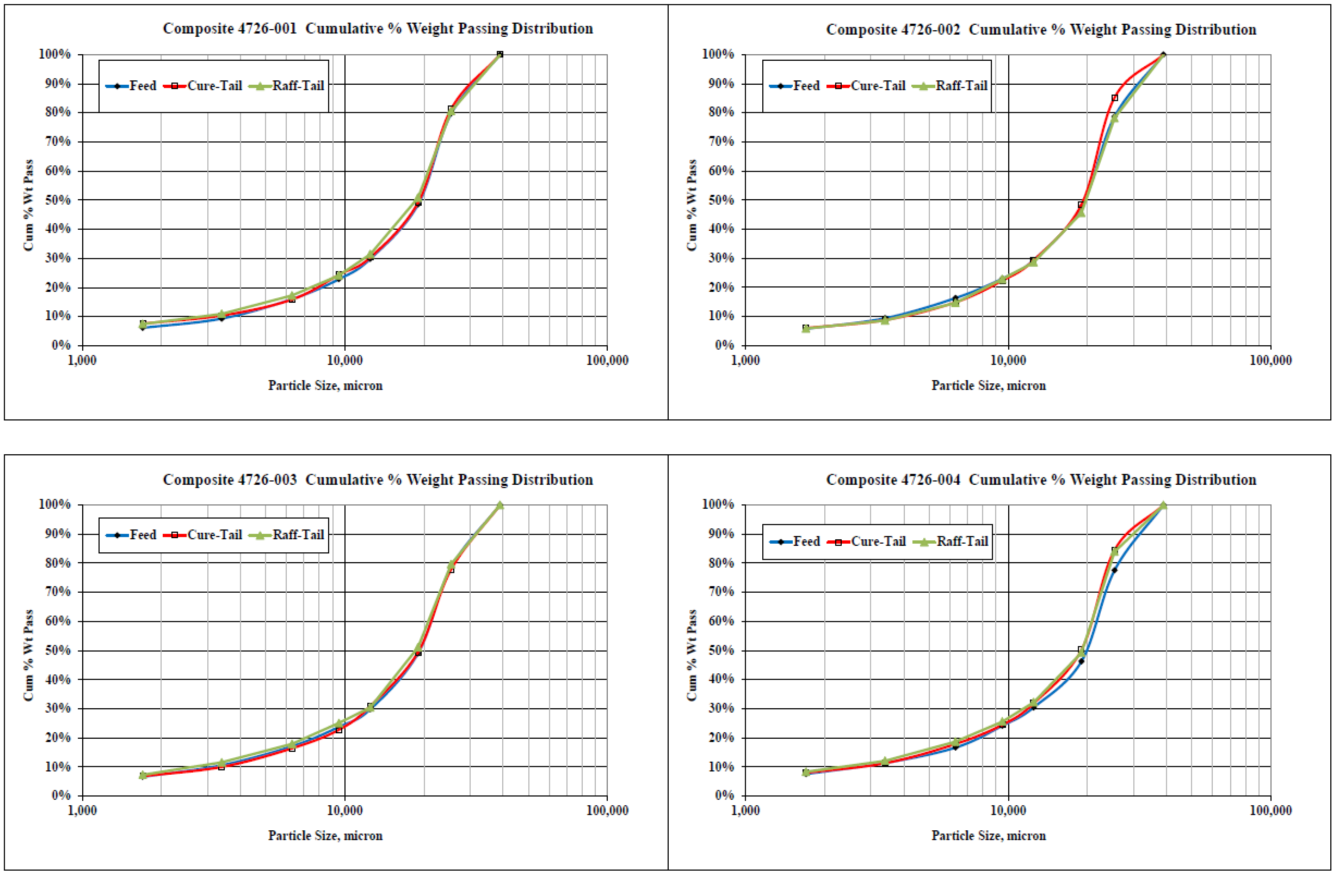


Figure 13-10: Particle Size Distribution for Feed and Tailings for Each Column Test

(SND Consulting, 2022)

Figure 13-11 presents the relationship between the total copper extracted and the passing size, indicating the relationship between crush size and extraction. The optimum crush size for the oxide sample is a P_{80} of 19 mm (0.75 inches). Composite 4726-001 had a high copper content that was not soluble in acid or NaCN. The other three composites had high acid-soluble content. The % extraction by particle size for this composite is influenced by the high copper content in the larger particles. The rate of copper extraction for composite 4726-001 was positive after 120 days of irrigation. An evaluation of crush P80 size should use an extended leach cycle of a minimum of 300 days.

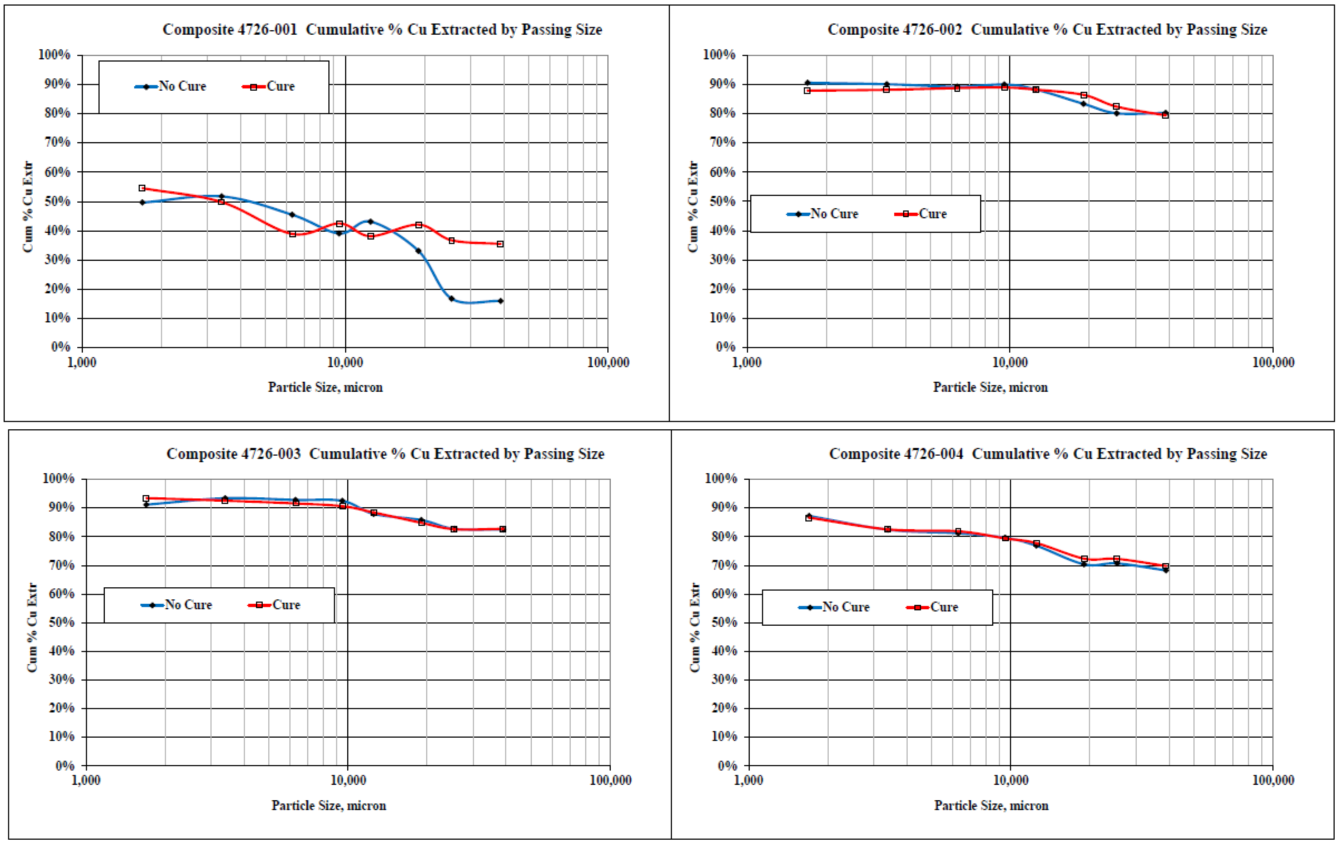


Figure 13-11: Copper Extraction vs Particle Size for Each Column Test

(SND Consulting, 2022)

The rates of copper extraction curves clearly show a continued extraction of copper beyond the primary leach cycle of 120 days. The second leach cycle was estimated using the rate cure of 90 to 120 days. The formula is % Extraction of Acid & NaCN = a * ln(Days) + b. Table 13-8 presents the rate parameters and the estimated copper extraction as a % of the acid & NaCN soluble of the sample for a secondary leach cycle. The estimation of additional copper extracted during the second leach cycle uses the rate from 90 to 120 days.

Table 13-8: Actual and Estimated Acid & NaCN Soluble Copper Extraction

(SND Consulting, 2022)

Composite ID	Rate Parameter (a)	Rate Parameter (b)	Actual Extraction after 120 days	Estimated Extraction after 240 days
Comp. 4726-001	0.2549	-0.6255	60%	77%
Comp. 4726-002	0.1767	-0.0816	76%	89%
Comp. 4726-003	0.1502	0.1745	89%	100%
Comp. 4726-004	0.1549	0.0794	82%	93%

The test results indicated that the material should be processed without an acid cure. The recommended copper extraction and acid consumption by material type are presented in Table 13-9.

Table 13-9: Recommended Copper Extraction and Net Acid Consumption After 120 days

(SND Consulting, 2022)

Material Type	Leach Cap	Oxide	Mixed	Sulphide
% Extraction of Acid and NaCN Soluble	85%	85%	75%	60%
Acid Consumption, kg/t	2.5	2.5	10.0	10.0

13.2.3 2022 Test Program Summary

The following observations are presented as results of the column leach tests:

- The leach cap and oxide material type should have an extraction of 85% of acid and NaCN soluble copper. This is for the primary leach cycle. There will be additional copper extracted in the second leach cycle.
- The sulphide should have an extraction of 60% of acid and NaCN-soluble copper. The mixed oxide-sulfide will have 75% extraction. This is for the primary leach cycle. There will be additional copper extracted in the second leach cycle.
- Net acid consumption for the oxide composites is 2.5 kg/t.
- Net acid consumption for the hypogene composite (4726-001) should be 10 kg/t.
- There is no additional acid consumed after the primary leach cycle.

13.3 Discussion and Interpretations

The preliminary tests were conducted in 2022 on various drill core samples to assess the copper leachability of the mineralization using the bottle roll acid leaching procedure and column acid leaching procedure. The results indicate that copper extraction is closely related to total soluble copper content, including acid-soluble and cyanide-soluble copper contents. In general, the oxide zone mineralization responds well to acid leaching. The sulphide mineralization, as expected, shows detrimental metallurgical performance to the acid leaching treatment. The test results also indicate that copper extraction improves with a reduction in particle size. It is expected the particle size for achieving a reasonable copper extraction rate should be 80% passing ¾ inch or finer. No acid cure pre-treatment is anticipated to be required for the mineralization.

Acid consumption is low for oxide mineralization. However, acid consumption increases significantly with a reduction in soluble copper content.

Further test work is required to determine optimized process conditions and improve copper extraction and recovery. The recommended test work is detailed in Section 26.0.

14.0 MINERAL RESOURCE ESTIMATES

The Mineral Resource Estimate for the San Javier project is tabulated within a pit shell based on $4.00/lb copper price and is presented in Table 14-1. The Mineral Resource is the sum of tonnage and grades about a soluble copper (acid-soluble plus cyanide-soluble grades) cutoff grade, which varies depending on the oxidization type. Additional information regarding the definition of the pit shell and the tabulation within it is included in Section 14.12.

Table 14-1: San Javier Mineral Resource

(Effective Date October 31, 2022)

Category	kt and Grades Above Cutoff (1)					Copper lb x 1,000 (2)	
	kt	TCu (%)	As+Cn Cu (%)	ASCu (%)	CNCu (%)	Total Contained	Soluble Contained
Measured	12,485	0.278	0.203	0.172	0.032	76,573	55,938
Indicated	57,664	0.270	0.184	0.148	0.037	342,669	233,504
Total M&I	**70,149**	**0.271**	**0.187**	**0.152**	**0.036**	**419,242**	**289,442**
Inferred	5,965	0.240	0.152	0.114	0.038	31,563	19,923

Notes:

1. ASCu+CNCu cutoff vary by oxidization type: leach cap & oxide = 0.04%, mixed = 0.07%, sulphide = 0.08%
2. Contained pounds = kt x TCu x 22.04; Soluble pounds = kt x ASCu+CNCu x 22.04
3. Mineral Resource tonnage and grades are restricted to the Cerro Verde Deposit
4. Total pit shell tonnage = 95,175 kt; ratio of kt below cutoff to above cutoff = 0.25
5. Total may not add due to rounding.

The San Javier project Mineral Resources meet the current Canadian Institute of Mining, Metallurgy and Petroleum (CIM) definitions for classified Mineral Resources. It should be noted that:

Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the inferred portion of the Estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from Estimates forming the basis of feasibility or other economic studies.

The QP for the Mineral Resource is Herbert E. Welhener of IMC. The geologic interpretation was updated in early 2022 by Barksdale and includes the 2021 Barksdale drilling.

14.1 Model Limits

The resource block model covers the area of the San Javier deposit with an east-west distance of 2,000 m, a north-south distance of 1,800 m for an ariel coverage of 360 ha. Table 14-2 shows the limits of the block model. The model coordinate system is UTM WGS-84 zone 12 N.

Table 14-2: Resource Model Limits

San Javier Resource Block Model Limits, May 2022				
	Southwest	Northwest	Northeast	Southeast
Easting	622,400	622,400	624,400	624,400
Northing	3,159,800	3,161,600	3,161,600	3,159,800
Elevation Range	--	197	1,037	--
Model Rotation, Primary Access			0.0°	
Model			200 Blocks in Easting (columns)	
Size			180 Blocks in Northing (rows)	
Block Size 10 x 10 m in plan, 7 m high			120 Levels	

The assembly of the drill hole database and geometry solids of mineral zones, lithology, and alteration zones was completed by Claus Wiese of I-Cubed LLC (Tucson, Arizona) between February and April 2022. IMC has reviewed this work and accepts it as inputs to the resource block model used for the Mineral Resource Estimation.

14.2 Drill Hole Database

The drill hole database provided to IMC includes 240 drill holes, representing 38,923 m of drilling. Table 14-3 shows the drill data by time period and company, and Figure 14-1 is a map of the drill hole locations. The drill holes are within the resource model limits and thus some historic drill holes are not included in the IMC database.

Table 14-3: San Javier Drill Holes

Year	Operator	Type	Number of	Total m
1970	Peñoles	Core	18	2,881.36
1996–1997	PD	Core	8	2,496.80
2006–2007	Constellation	Core	133	21,800.28
2006–2007	Constellation	RC	45	6,744.00
2021	Barksdale	Core	36	5,000.60
Total			**240**	**38,923.04**

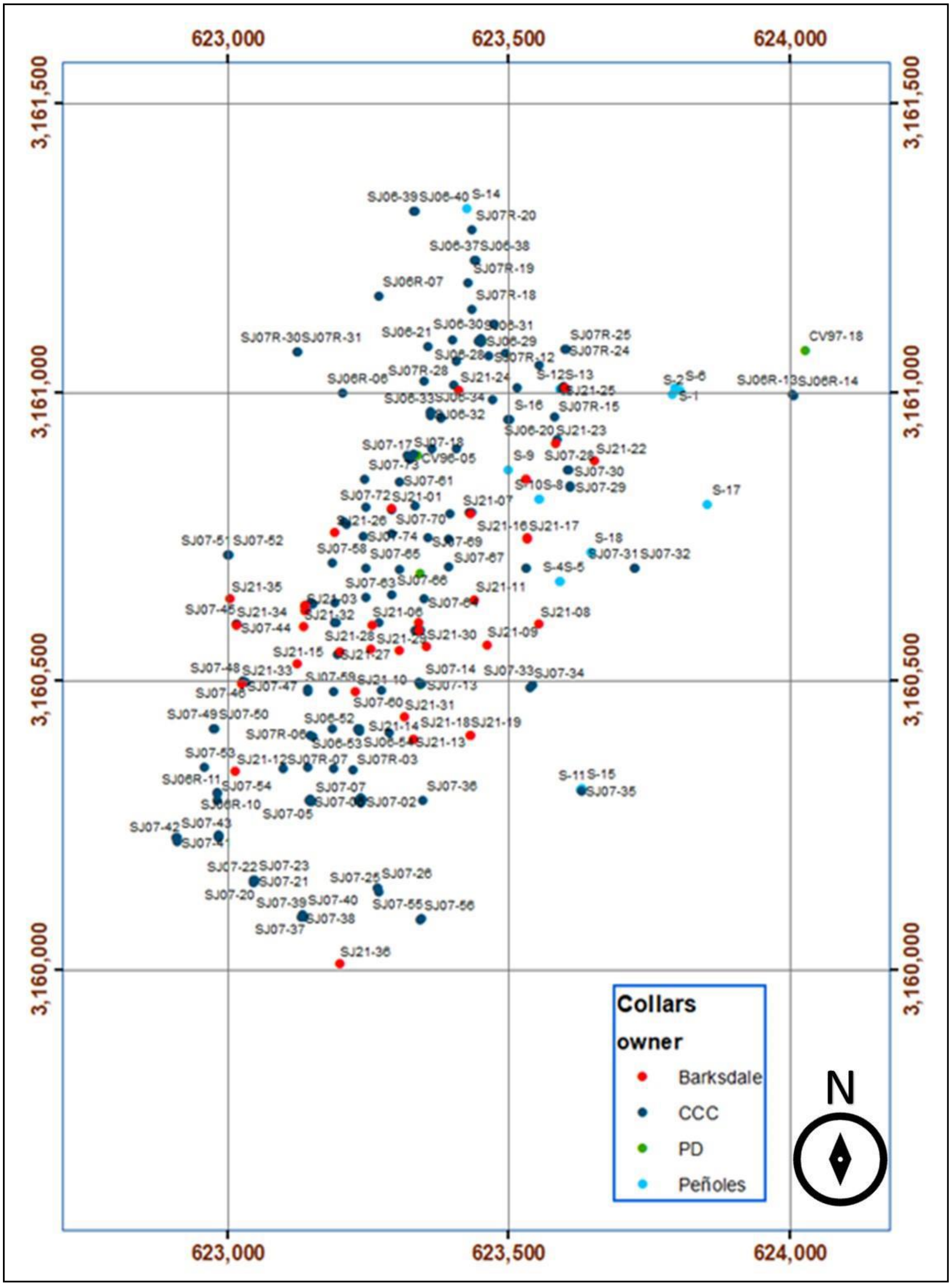


Figure 14-1: San Javier Drill Hole Location Map

(Barksdale, 2021)

14.2.1 Drill Hole Survey Data

The downhole survey information controls the paths of the drill hole in 3D space. The survey is more critical for angle holes vs vertical holes, as angle holes have a greater chance of deviation from their intended direction. Downhole surveys for the Barksdale drillholes have been recorded as 'gyro' type surveys (listed as EZ-TRAC) and the values were measured values at multiple intervals down each hole where azimuth and dip values vary, showing the actual path of these drillholes.

Downhole surveys for the Constellation drillholes generally have recorded readings for only one or two positions down the hole, thus creating a simplified downhole path of the drill hole. Two drillholes have downhole surveys that define the drillhole as having been drilled horizontal or sub-horizontal (SJ07B-01 and SJ07B-02). This was verified as being the case.

Downhole survey data for the Peñoles and PD holes are based on single azimuth and dip values taken at the collar location. This information will produce a perfectly straight path for the drillhole which in general may not be a true representation.

14.2.2 Drill Hole Geological Logging

Barksdale geologists logged and sampled all 36 drillholes from their 2021 campaign. In addition, at the time of this report, some 118 drillholes completed by Constellation were re-logged by Barksdale geologists. This re-logging comprised observations of lithology, mineral zones, and alteration for a total of 154 completely logged drillholes.

Therefore, 154 drillholes from a total of 240 were used in the subsequent modeling of the lithology, alteration, and mineralization zones. As the re-logging of as many of the remaining 86 old drillholes (if core still exists) continues, the creation of updated models could change the current interpretations and Mineral Resource distributions.

14.2.3 Drill Hole Assay Data

All assays were received from Barksdale in a variety of formats. Pre-Barksdale assays were collected from data originally organized by Constellation. The assays produced by Barksdale were acquired from a database that is maintained by the Company. The data format was standardized and validated using an assortment of independent data sources as received from the Company. Table 14-4 tabulates the drill hole data included in the San Javier database for copper.

Assay data for the Peñoles holes were in places composited over very long lengths and therefore assay support is, in these cases, not consistent with the other data. Individual assays for these holes were not available. As noted later, the Peñoles and PD drill data will not be used for the Mineral Resource Estimate.

Table 14-4: Drill Hole Assay Data

Operator	Number Holes	Assays				Maximum Values		
		Number Intervals	Total Length	Minimum Length	Maximum Length	TCu	ASCu	CNCu
Barksdale	33*	1,551	4,623.50	1.00	6.00	3.31	2.03	2.24
Constellation	178	9,493	28,393.51	0.64	6.50	9.18	6.32	3.20
PD	8	1,213	2,494.10	0.60	3.70	4.05	0.25	0.27
Peñoles	12	54	2,030.66	6.70	165.51	1.27	--	--
Total	**231**	**12,311**	**37,541.77**	--	---	--	--	--

*Barksdale holes SJ21-01,02,03 were drilled for metallurgical samples and are not included in the database provided.

14.3 Topography

Topography contours were created by Barksdale in June 2021 by means of flight path recovery acquired through an airborne drone flight. The contours were extracted at 2 m contour intervals. This contour data was used to fit and create the final 3D surface to cover the limits of the resource block model.

This topography surface was used to ‘adjust’ the collar elevations (Z values) as found in the original drill logs (Z_orig) to fit to the current topography so all the drill hole collar elevations (z) are registered exactly to the surface used for this study. This procedure found that a maximum difference between [orig_z] and [z] was 13.44 m and the minimum difference was -7.3 m. A wide range of elevation data discrepancies was seen from this analysis and hence justified this important step.

14.4 Geologic Modeling

3D solid models of lithology, mineral zones, and alteration at the San Javier project was created directly from the drillhole intercepts and using an ‘implicit modelling’ software package known as Leapfrog® Geo (Leapfrog).

The drillhole database consisting of collars, downhole surveys, lithology, mineral zones, and alteration were loaded into Leapfrog. Independent data validation occurs during input to the system. Some issues were found with the original data and those were identified and corrected using available resources. The current topography was also loaded into the modelling system.

14.4.1 Lithological Model

Building the lithology (geology) model using Leapfrog requires that contacts between units be initially created. The chronological order of these units needs to be defined at the outset to determine how these contacts (and what type of contacts) are made. This chronological order can be oldest to youngest or youngest to oldest, but consistency matters. The procedure also accurately clips the contacts to other objects, as in this case topography, where necessary.

The geologic chronology at San Javier was defined based on the interpreted grouping herein know as units. Table 14-5 shows the lithology units as related to the project. The drillholes with no lithologic data were ignored in the modelling processes. Cross section through the Leapfrog lithology model were compared to the geologists' hand drawn sections with good correlation.

Table 14-5: Modelled Lithology Units

Lithologic Unit	Interpreted Geology	Chronology
Unit1	Monomictic Andesite Breccia	1
Unit2	Laharic Ashy Blocky Polymictic Breccia	2
Unit3	Quartz Comglomerate	3

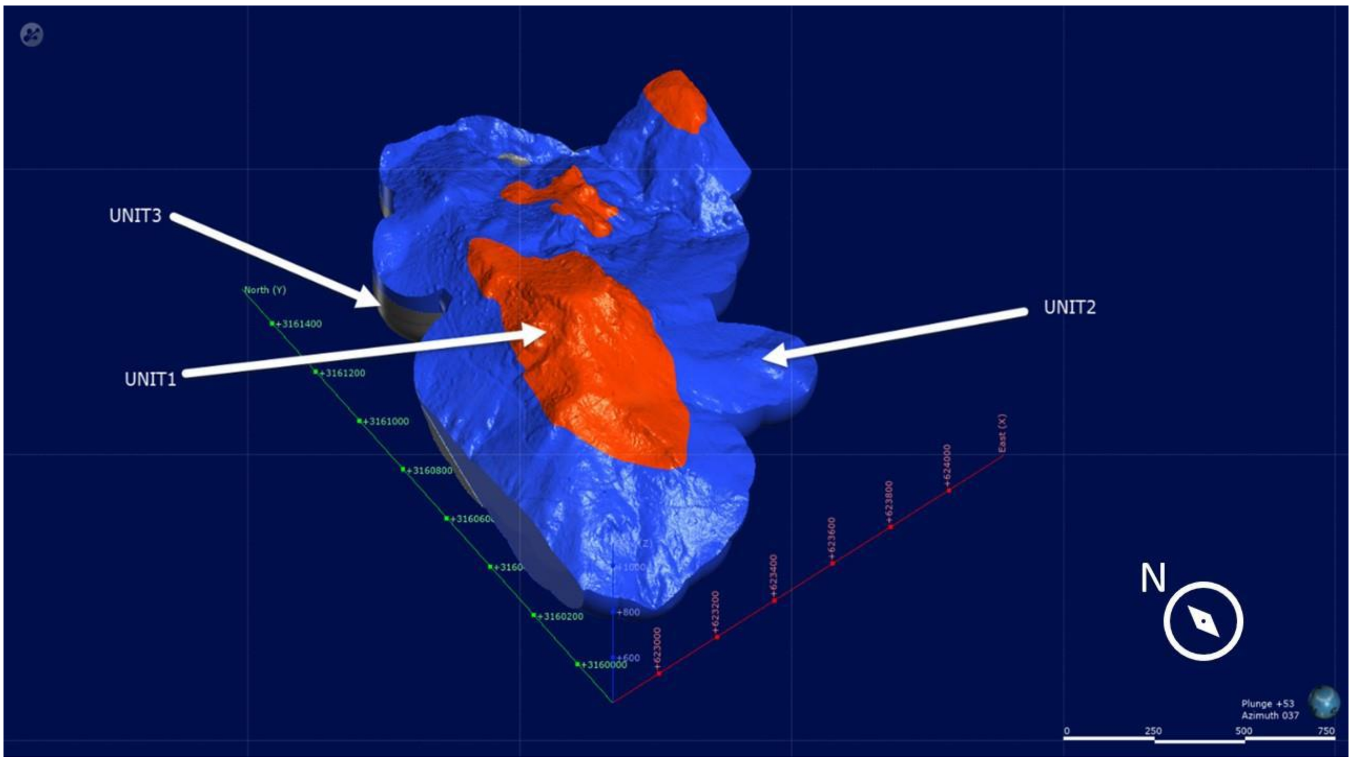


Figure 14-2: Lithologic Units in 3D View

(Barksdale, 2021)

14.4.2 Mineralization Model

The procedures used to create the mineral zone models follow the same concepts as for the lithological models described previously. An oblique 3D view of the resultant mineral zone model is shown in Figure 4-1 and is listed in Table 14-6. The colours in Table 14-6 correspond to the surface expression of the zones in Figure 14-2. Cross sections through the Leapfrog mineralization model were compared to the geologists' cross sections with good correlation.

Table 14-6: Mineralization Zones

Mineral Zone	Chronology
Leach	1
Oxidation	2
Mixed	3
Sulphide	4
none	5

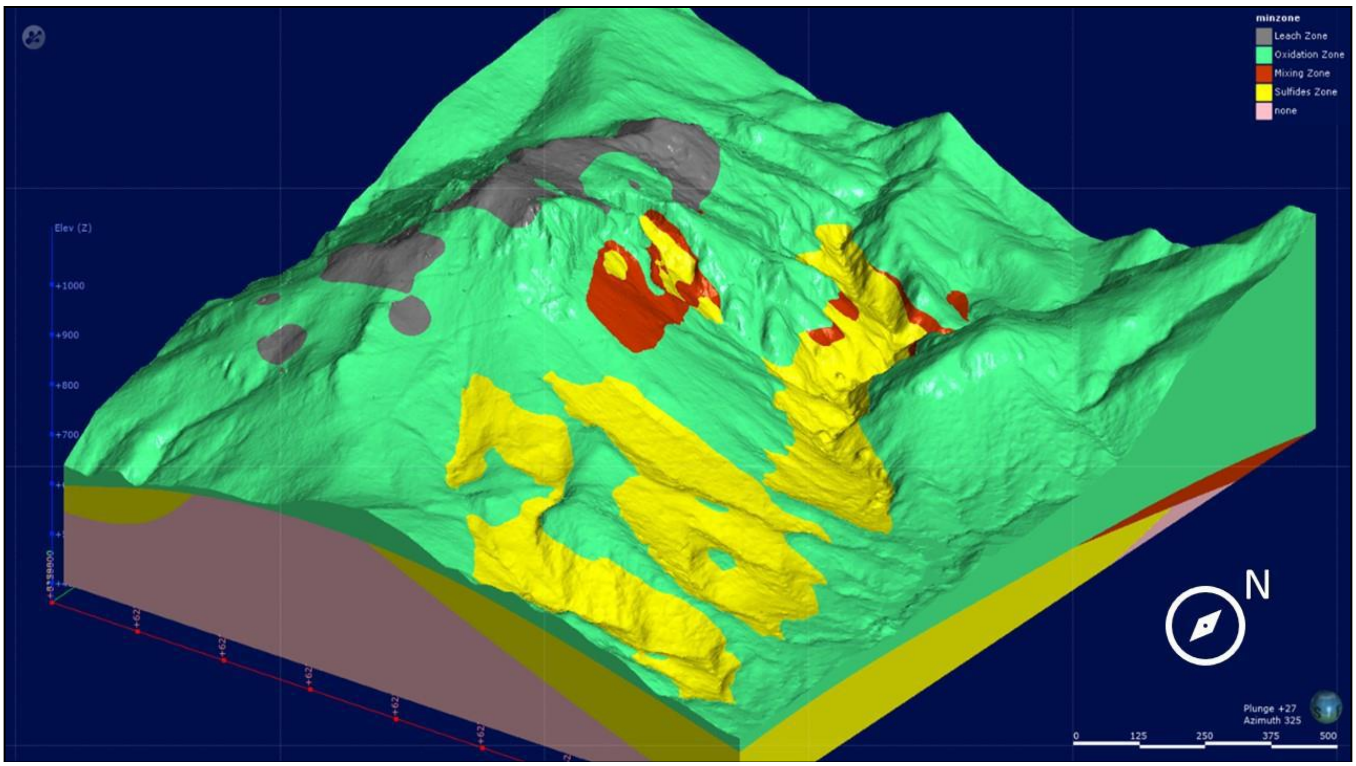


Figure 14-3: Mineralization Zones Surface Expression as a 3D View

(Barksdale, 2021)

14.4.3 Alteration Model

The procedures used to create the alteration zone models follow the same concepts as for the lithological and mineral zone models described previously. For the alteration model, the concept of paragenesis was used to order the chronology. Various logged observations were lumped together to fit into the interpreted paragenesis/chronology scheme. The logged alteration observations for the drill logs were compiled into more simplistic lumped units which are listed in Table 4-7. The colours of the units in Table 4-2 correspond to the units shown in Figure 14-4. No hand drawn cross sections of alteration were available for comparison.

Table 14-7: Alteration Units

Paragenesis/Chronology	Logged Alteration	Alteration Lumped
-1	Magnetite	None
-1	Calcite	None
2	Specularite	Specularite
2	Reddish Hematite	Specularite
2	Sericite	Specularite
3	Siderite/Ankerite	Carbonate
4	Silicification	Silicification
4	Quartz	Silicification
5	Yellow Clay	Clays
5	White-Greenish Clays	Clays
5	Chlorite	Clays
5	Barite	Clays

Alteration Lumped	Unit Number
None	-1
Specularite	2
Carbonate	3
Silicification	4
Clays	5

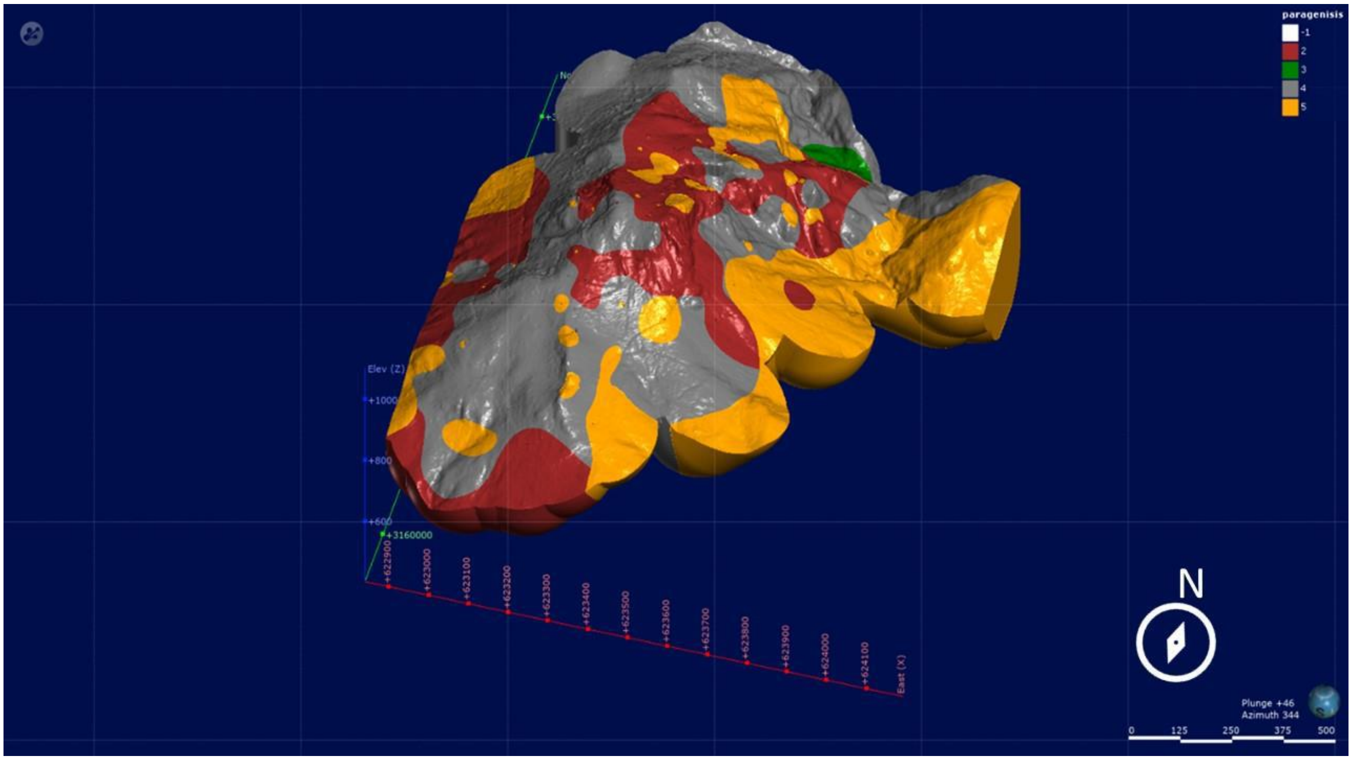


Figure 14-4: Surface Expression of Alteration Units

(Barksdale, 2021)

14.5 Block Model Mineralization Zones

The most important geologic control, particularly for copper mineralization, are the oxidation zones. Table 14-8 shows the zone names, codes used in the block model, and a description of the zones assigned to the block model. The leach cap (LC) is a highly oxidized domain where the copper mineralization has largely been dissolved in acids over time and transported to the underlying supergene zones. The supergene domain has been divided into oxide dominant oxide (OX) and mixed (Mix) and sulphide dominant supergene sulphide (Sulf). Copper from the LC has been deposited in those zones, elevating the copper grade in the OX and Mix domains, compared to the other domains. The sulphide (Sulf) zone underlies the LC, OX, and Mix zones. Mineralization here is sulphide in nature and the percent of oxidation is very low, typically less than 10%.

Barksdale personnel provided IMC with Leapfrog solids (as presented in Section 14.4 to represent the LC, OX, Mix, and Sulf domains. IMC used these solids to assign oxidation zone types to model blocks. A surface (code 10) was provided to denote the bottom of modelled mineralization (Undefined below). The solids of the oxidization zones were assigned to the block model on a whole block basis. The lithology solids were also assigned to the block model but have not been used for controls to the copper grade estimates in the block model.

Table 14-8: Mineralization (Oxidization) Zones in Block Model

Zone	Code	Description
LC	1	Leach Cap
Oxide	2	Supergene Oxide
Mixed	3	Mixed
Sulphide	4	Sulphide
WST	10	Undefined – Below Solids

The solids were used to back-assign the oxide domain codes to the assay database. It is noted that the assay database did include an oxide domain assignment from logging, but the back-assigned values from the model were used so assay intervals would be consistent with the model domains. A comparison of the logged domains and the block model domains showed a good correlation. Based on the model domains between 92% to 98% of the logged domain for the assay intervals being contained within the corresponding model domain.

Figure 14-5 and Figure 14-6 show the oxide zones assigned to the block model on east-west and north-south cross sections, respectively. The outlines of the solids are shown with respect to the block model assignments to the nearest whole block.

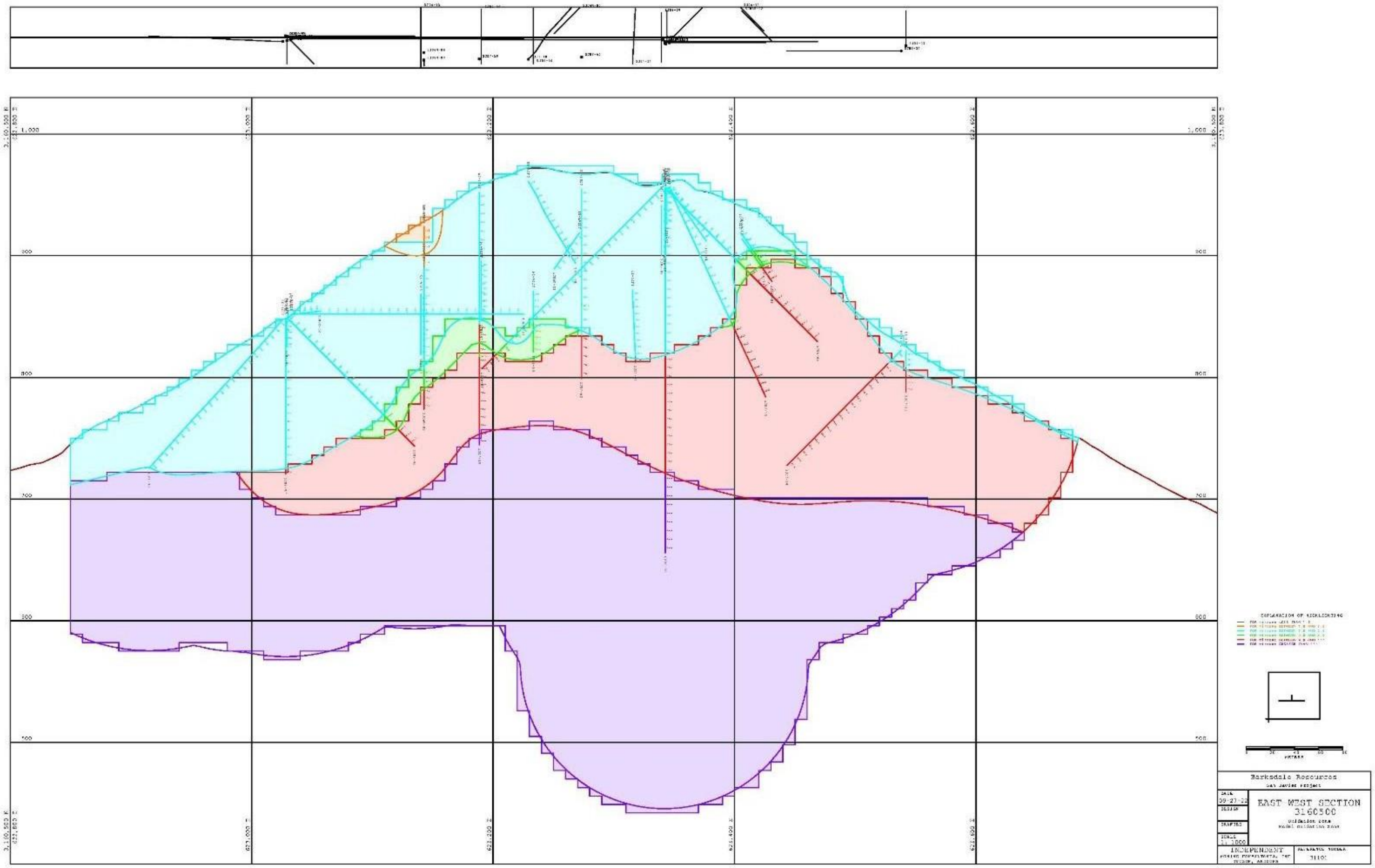


Figure 14-5: East-West Cross Section (at 3,160,500N) Showing Block Model Oxidization Zones

(Barksdale, 2021)

Colours: Leach Cap – orange, Oxide – blue, Mixed – green, Sulphide – red, Undefined – purple

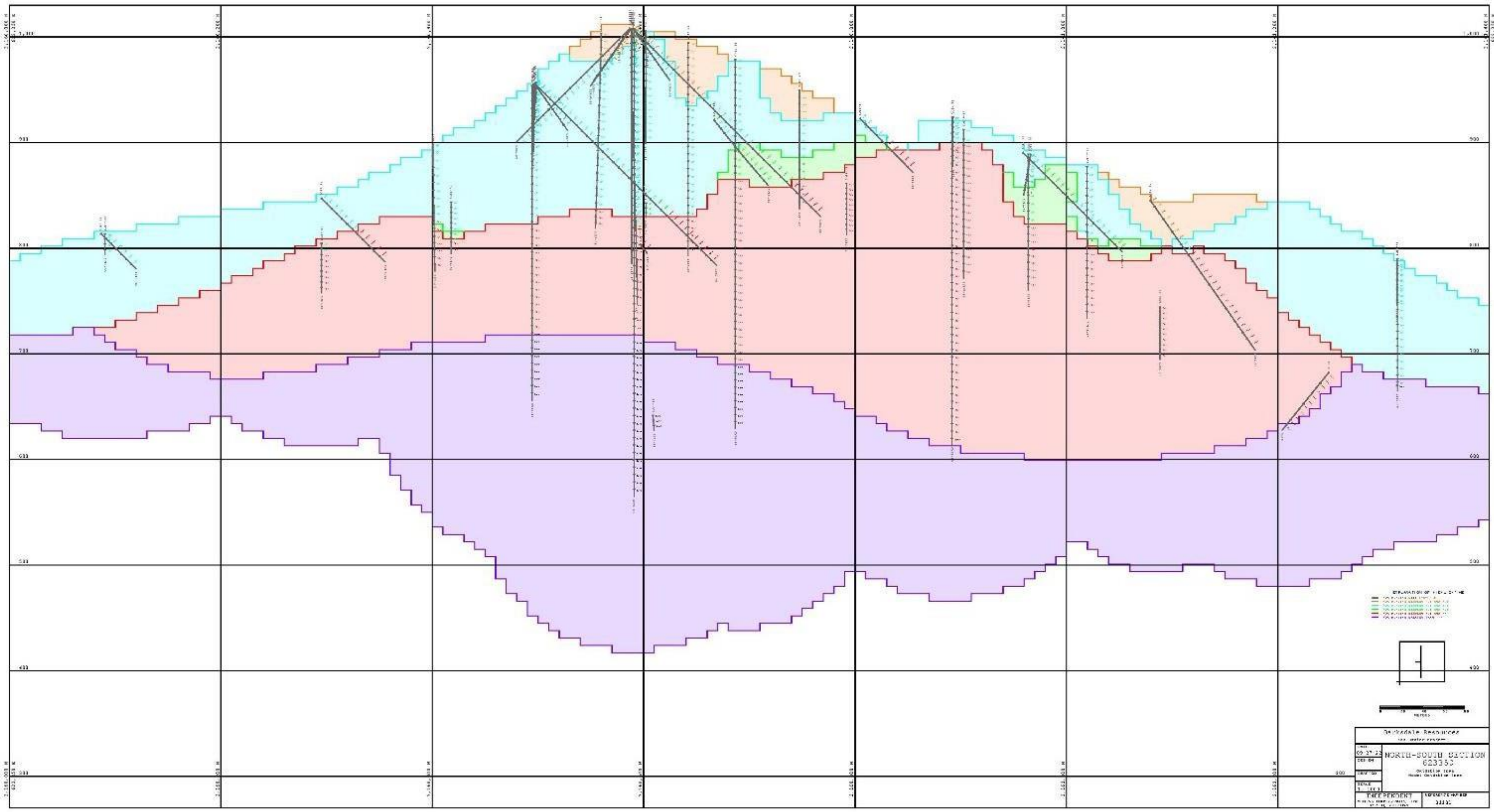


Figure 14-6: North-South Cross Section (at 623,350E) Showing Block Model Oxidization Zones (Barksdale, 2021)

Colours: Leach Cap – orange, Oxide – blue, Mixed – green, Sulphide – red, Undefined – purple

14.6 Assays, Grade Caps, and Composites

The drillhole database was reviewed with Barksdale personnel to determine if the drill data from all sources would be used for the grade estimation work. It was decided that the older Peñoles and PD drill data would not be used, as no core remains and there is an incomplete set of certificates of assay. Also, noted in Section 14.2, there are no down hole surveys for these holes. Thus, only the Barksdale and Constellation drill data is used for the grade estimation work and all tables and references to the drill data in this section and subsequent sections will only present data from these two data sets.

The assay database was reviewed to determine if cap grades for the TCu are required. The distribution of the length of sample intervals, when copper is assayed, is approximately as follows:

- About 2.4% are less than 3 m in length,
- About 94% are 3 m or 3.05 m (10 US ft.),
- About 3.3% are longer than 3.05 m.

Probability plots and sorted lists of the higher-grade assay intervals for TCu by oxidation zones were reviewed to determine cap grades. Figure 14-7 is a probability plot of the TCu assays by oxidation zones. Table 14-9 shows the cap grades in the upper portion of the table and number of assays capped in the lower portion of the table. Only a small number of assays were capped for each metal in each population. The cap grades generally correspond to the upper 99.8 to 99.9 percentile of the populations.

Table 14-10 shows the number of assay intervals in each mineralization zone (based on the zone solids) and the statistics of the uncapped and capped assays.

Table 14-9: Cap Grades for Total Copper

Assay	Units	Leach Cap	Oxide	Mixed	Sulphide
Cap Grades					
Copper	%	None	2.5	2.5	1.5
Number of Assays Capped					
Copper	%	0	17	6	13

Table 14-10: Total Copper Assay Data by Mineralization Zone

Mineralization Zone	Number of Assays	Uncapped Assays (TCu %)			Capped Assays (TCu %)		
		Mean	Minimum	Maximum	Mean	Minimum	Maximum
Leach Cap	845	0.037	0.001	0.910	0.037	0.001	0.910
Oxide	6,149	0.188	0.001	6.750	0.186	0.001	2.500
Mixed	601	0.418	0.001	9.180	0.393	0.001	2.500
Sulphide	3,245	0.182	0.001	2.520	0.180	0.001	1.500

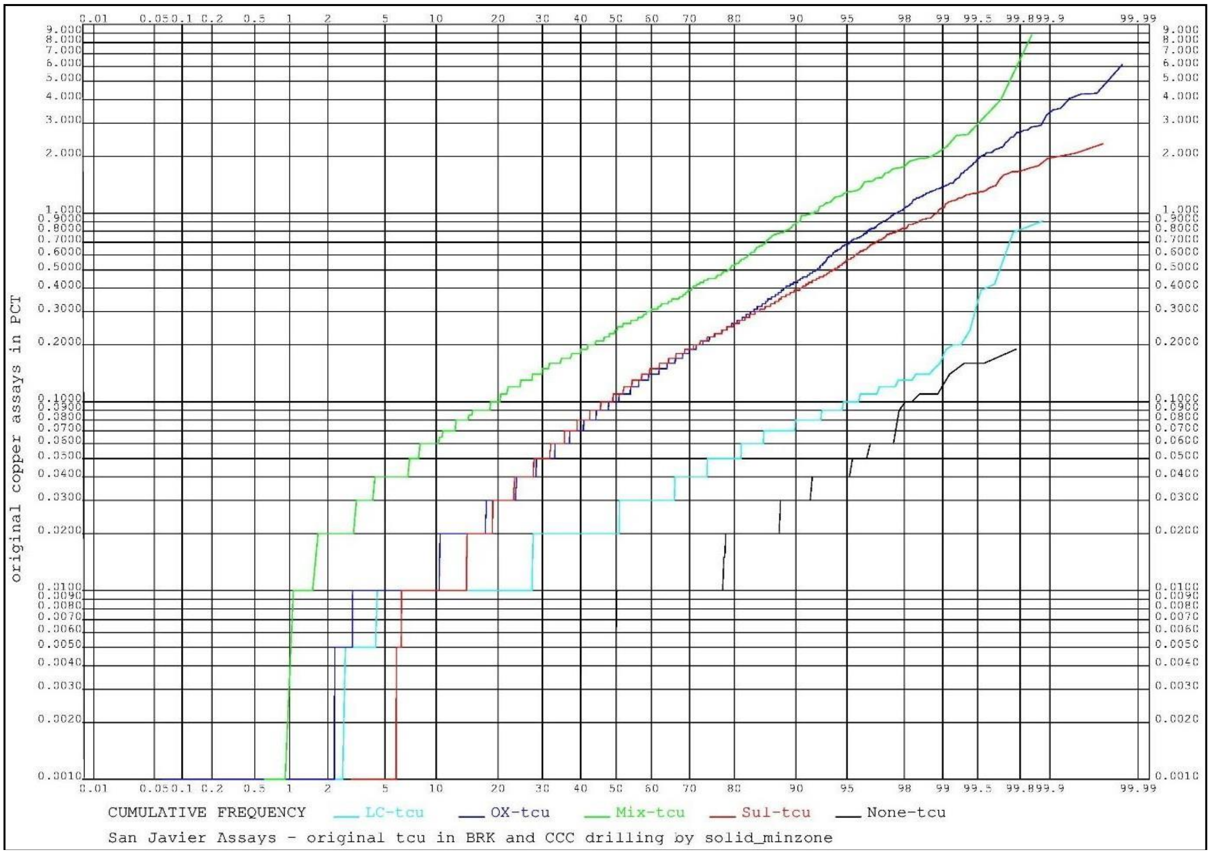


Figure 14-7: Probability Plot for TCu Assay Intervals (uncapped)

(Barksdale, 2021)

Colours by mineralization zone: Leach Cap – light blue, Oxide – dark blue, Mixed – green, Sulphide – red, Outside - black

14.6.1 Acid-soluble Copper and Cyanide-soluble Copper Ratios

In the San Javier assay database, there are unequal numbers of acid-soluble copper and cyanide-soluble copper values as compared with TCu assays. Constellation assays have been performed for TCu and 32 element analysis by ICP. Constellation assay intervals with TCu grades above 0.10% have been followed by sequential analysis for acid-soluble and cyanide-soluble copper to provide information on the spatial distribution of acid solubility for an SX/EW process.

Barksdale completed a sequential copper analysis for all samples using Skyline assay labs. The procedure used by Skyline was the TE-3 Trace Elements by Aqua Regia leach, ICP-OES/ICP-MS (49 elements). TCu procedures are SEQ-Cu (TCu – AAS). The procedures for sequential copper assays by Skyline are SEA-CuSeq.

Table 14-11 shows the number of assay intervals and uncapped copper grades by the mineralization (oxidization) zones. This table illustrates the lack of coverage of the acid-soluble and cyanide-soluble assays and the need to estimate ratios of acid-soluble to TCu and cyanide-soluble to TCu. If the raw assays for acid-soluble and cyanide-soluble were used for block grade estimation, there can be occurrences where these grades would be higher than TCu in a block due to the no assay values for acid-soluble and cyanide-soluble in drill hole intervals when TCu is less than 0.10% (Constellation drilling). Table 14-11 illustrates this situation as the mean grade of the acid-soluble copper is higher than the mean of TCu in the leach cap and oxide zones. The percent of acid-soluble and cyanide-soluble assays compared to TCu assays is lowest (13%) in the leach cap due to its lower mean grade and Constellation's approach of not doing the soluble assays for TCu less than 0.10%. The other zones have higher percentages of soluble assays: oxide 58%, mixed 85%, and sulphide 61%.

Table 14-11: Assay Intervals by Mineralization Zone

Mineralization Zone	TCu (uncapped)		Acid-soluble Copper		Cyanide-soluble Copper	
	# of Assays	Mean (%)	# of Assays	Mean (%)	# of Assays	Mean (%)
Leach Cap	845	0.037	110	0.047	110	0.007
Oxide	6,149	0.188	3,545	0.190	3,549	0.130
Mixed	601	0.418	511	0.176	512	0.156
Sulphide	3,245	0.182	1,967	0.032	1,971	0.043

In the assay database, variables were added to calculate the acid-soluble to TCu ratio and cyanide-soluble to TCu ratio. These ratios were used during the compositing of the assay database to create the drill hole composite file. The compositing methodology will be discussed in the next section. Table 14-12 is an excerpt from drill hole SJ06-15 in the oxide zone where there is missing soluble copper assays when the TCu is less than 0.10%.

Table 14-12: Drill Hole SJ06-15 – Assay Intervals 69 - 100

From	To	TCu (%)	ASCu (%)	CNCu (%)	ASCu/TCu	CNCu/TCu
69	72	0.38	0.37	0.001	0.974	0.003
72	75	0.59	0.58	0.001	0.983	0.002
75	78	0.07	--	--	--	--
78	81	0.09	--	--	--	--
81	84	0.07	--	--	--	--
84	87	0.25	0.24	0.001	0.960	0.004
87	91	0.16	0.15	0.001	0.938	0.006
91	94	0.94	0.20	0.200	0.213	0.213
94	97	1.59	1.50	0.020	0.943	0.013
97	100	2.09	2.08	0.001	0.995	0.000

14.6.2 Drill Hole Composites

The assay database was composited to nominal 7 m irregular composites, respecting the oxidation zones. It is noted this is the 7 m bench height used for the model which would be a reasonable match to mining equipment sizes anticipated for the next step in the project development. This composite length allows the capturing some of the narrower zones and tends to result in less grade smoothing during block grade estimation. Composited values included the TCu, ratio of acid-soluble copper weighted by TCu, ratio of cyanide-soluble copper weighted by TCu, and the oxidation zone codes matched to the oxidation zones in the block model.

The ratios of acid-soluble copper to TCu and cyanide-soluble copper to TCu were composited when both TCu and the soluble assays were present. For the compositing, ratios in the assay intervals were weighted by TCu grade, as well as the interval length. Table 14-13 is an example of the calculation of the ratio for a group of equal length assays with a missing ASCu assay.

Table 14-13: Example Calculation of ASCu/TCu Ratio During Compositing

Assay Interval	TCu, %	ASCu, %	Ratio	Both Assays Available	
				TCu, %	ASCu, %
1	1.00	0.50	0.500	1.00	0.50
2	0.50	0.20	0.400	0.50	0.20
3	0.25	0.10	0.400	0.25	0.10
4	0.10	--	--	--	--
Average	**0.463**	**0.267**	**0.433**	**0.583**	**0.267**
Equal length intervals				--	--
Assay Interval 4 is not used in the ratio calculation.				--	Ratio
Correct ratio = 0.267/0.583 (ASCu/TCu, when both present)				--	0.457
Arithmetic average ratio is too low				--	0.433
Average ASCu/average of TCu is too high (0.267/0.463)				--	0.577

The composites respect the oxidation zone boundaries, and the assay intervals are composited into nominal 7 m lengths. Composites within a zone are divided into equal length composites as close as possible to the 7 m target length. For example, a 28 m length in a single zone is composited into four 7 m composites. If the zone was 31 m of length, then the average length of the four composites would be 7.75 m. With this algorithm, 98% of the composites are between 6 and 8 m in length. IMC does not consider the slight difference in the lengths of the composite's material for grade estimation purposes.

Table 14-14 shows the number of composite intervals in the database used for the block model grade estimation. Figure 14-8 is probability plot of TCu composites by mineralization domain. Table 14-15 shows the composite intervals for the assay interval shown in Table 14-13 with the soluble copper ratios calculated for the composite intervals incorporating assay intervals with missing assays. The soluble copper ratios will be estimated into the block model.

Table 14-14: Drill Hole Composites by Mineralization Domain

Mineralization Zone	Number of Assays	Composite Grades, TCu %		
		Mean	Minimum	Maximum
Leach Cap	375	0.037	0.001	0.569
Oxide	2,654	0.185	0.001	2.267
Mixed	270	0.396	0.001	2.070
Sulphide	1,388	0.181	0.001	1.330

Table 14-15: Drill Hole SJ06-15 Composite Intervals 70 - 98

From	To	TCu, %	Ratios	
			ASCu/TCu	CNCu/TCu
70	77	0.381	0.980	0.002
77	84	0.079	--	--
84	91	0.199	0.947	0.006
91	98	1.384	0.742	0.068

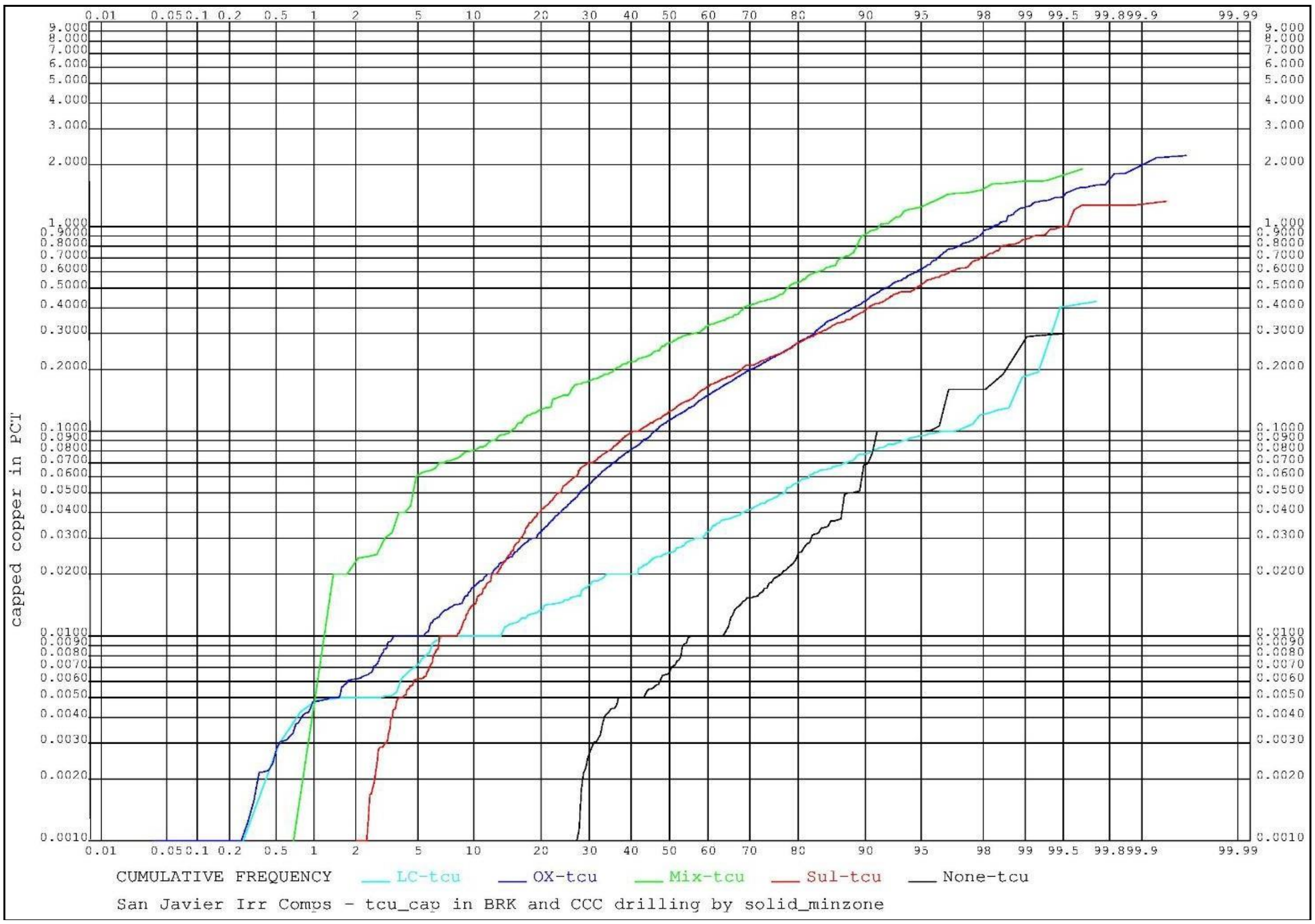


Figure 14-8: Probability Plot of TCu Composite Grades

(Barksdale, 2021)

Colours by mineralization zone: Leach Cap – light blue, Oxide – dark blue, Mixed – green, Sulphide – red, Outside – black

14.7 Variography

A variogram analysis of TCu by oxidation type domains was completed. The analysis was based on the 7 m irregular composites. The oxide, mixed, and sulphide domains are relatively flat lying and the distribution of copper mineralization appears to not vary much by orientation. Figure 14-9 and Figure 14-10 show variograms for oxide and mixed respectively. These variograms are calculated as the average of all horizontal directions which is consistent with the relatively flat lying mineralization in these domains. The ranges of the first variogram structures are 170 m for oxide and 263 m for mixed zone.

For the sulphide, variograms were run in many directions. The various directional variograms tended to be similar, indicating a somewhat isotropic distribution of copper mineralization. Figure 14-11 shows the variogram for sulphide copper calculated as the average in all directions. The variogram shows the range of the first structure is 163 m and the second structure range of 397 m. The variograms were calculated with the pairwise relative variogram method. The variogram values shown on the graphs would be multiplied by the mean squared to convert them to % TCu units.

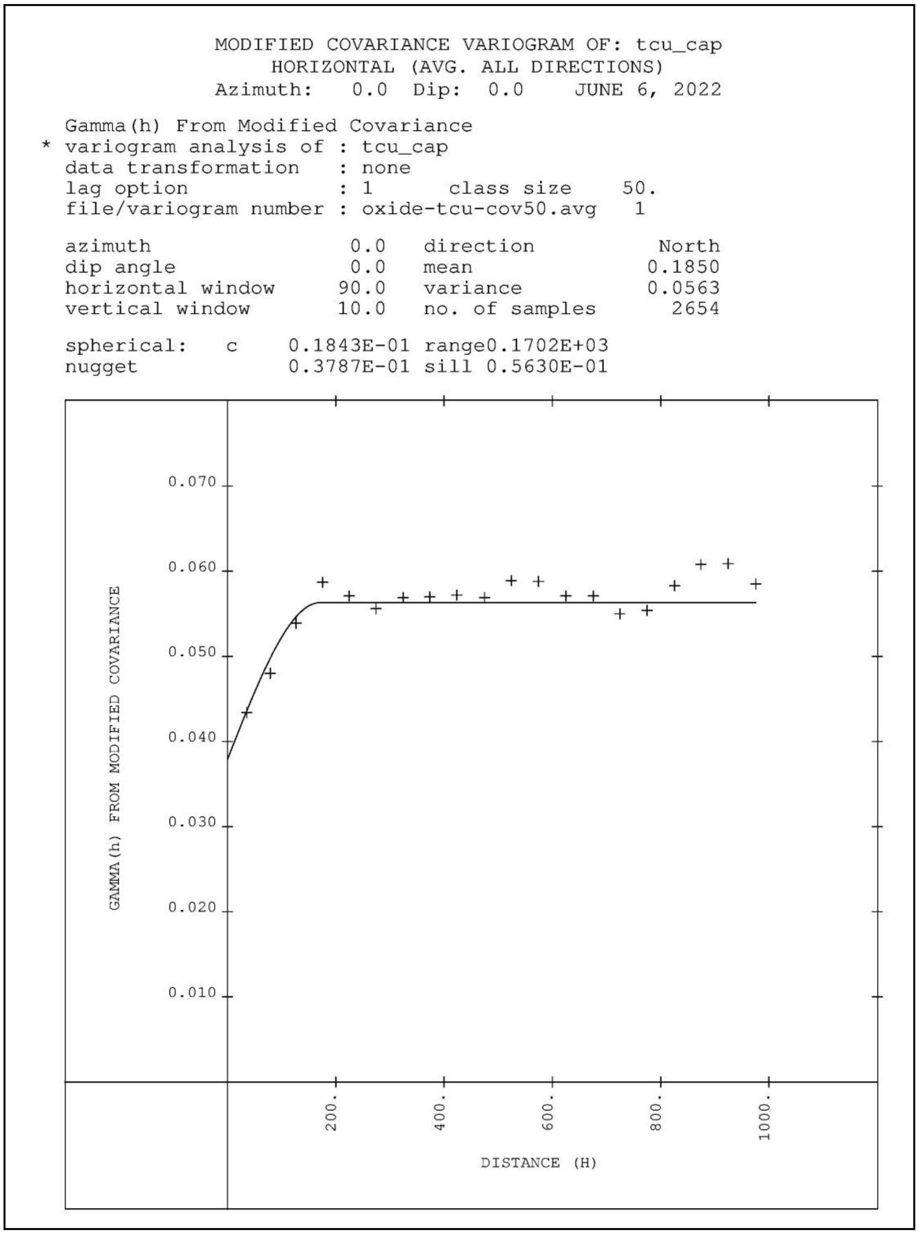


Figure 14-9: Oxide Domain Variogram

(Barksdale, 2021)

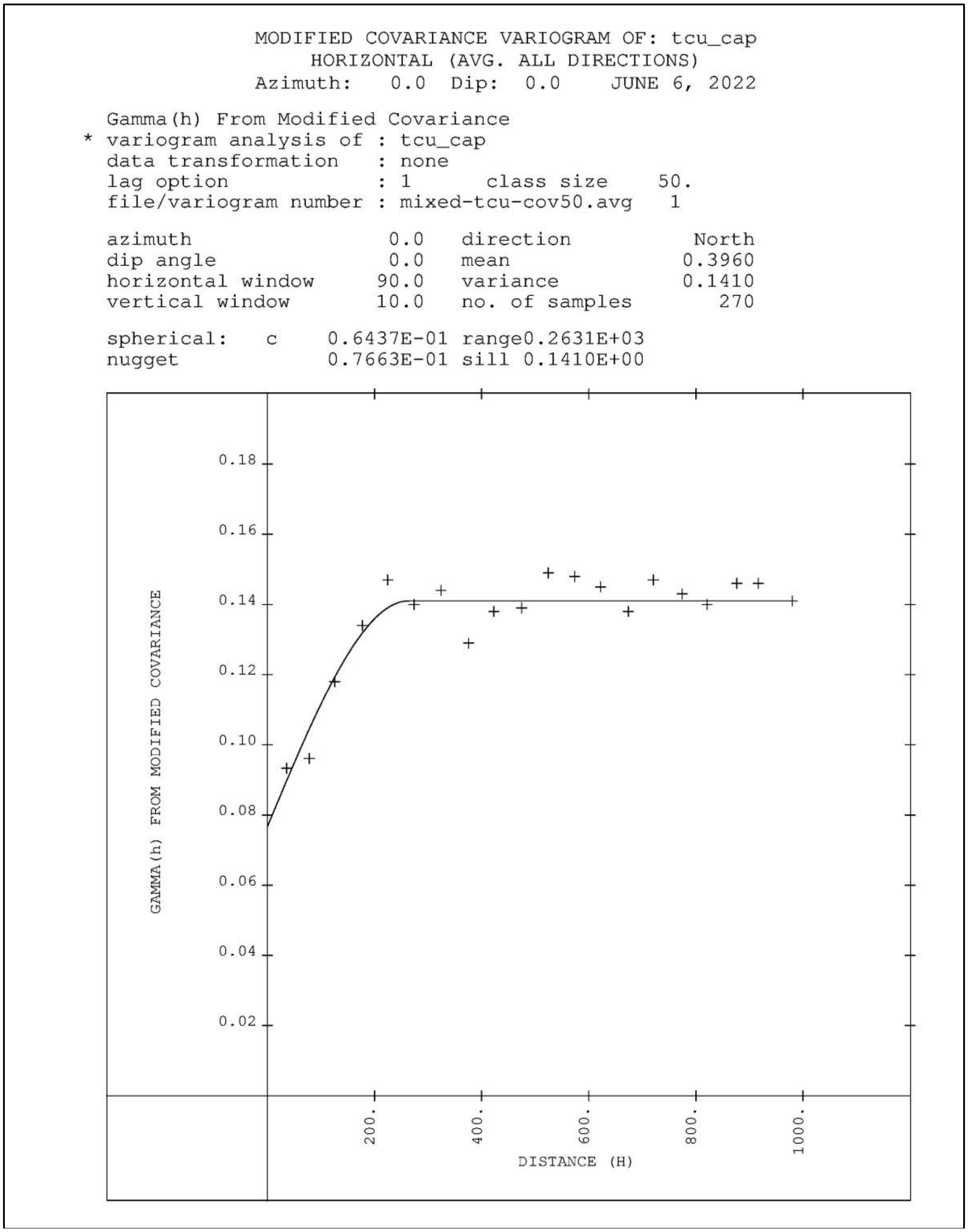


Figure 14-10: Mixed Domain Variogram

(Barksdale, 2021)

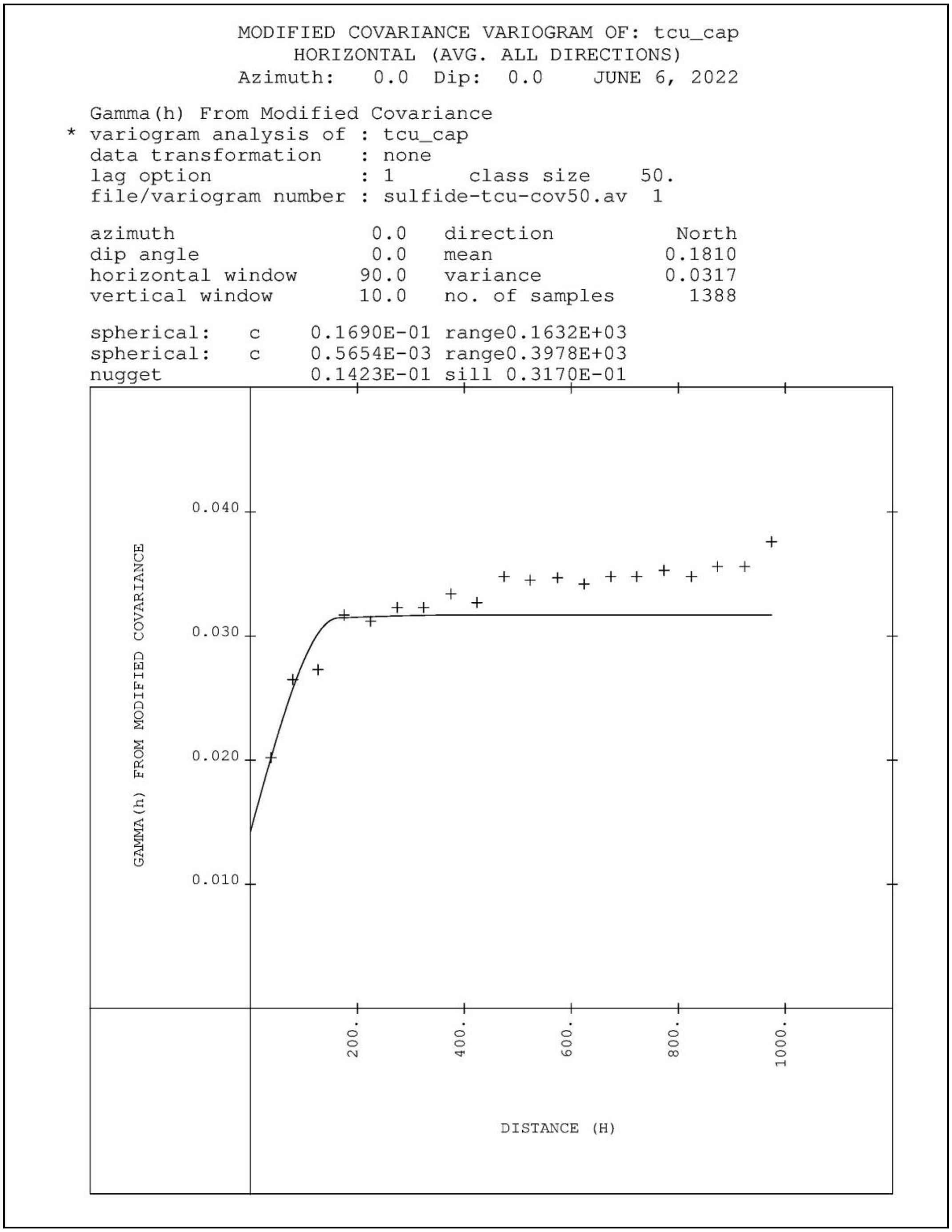


Figure 14-11: Sulphide Domain Variogram

(Barksdale, 2021)

14.8 Block Grade Estimation

Block grades for TCu, acid-soluble copper ratio, and cyanide-soluble copper ratio were estimated with inverse distance with a power weight of 2 (ID2). The ID2 method was chosen because it generally results in less grade smoothing (smearing). IMC also completed a nearest neighbour (NN) estimate for comparison purposes.

The leach cap and sulphide oxidation type boundaries were all considered hard boundaries for the estimation of TCu acid-soluble copper ratio and cyanide-soluble copper ratio. The boundary between the oxide and mixed zones was treated as a soft bound.

The acid-soluble copper and cyanide-soluble copper block grades were estimated indirectly from the soluble copper ratios. The sum of the two ratios were normalized to not exceed 100% and then multiplied by the TCu block grade estimates to obtain the final acid-soluble copper and cyanide-soluble copper block grades.

For leach cap, oxide, and mixed zones the search radii for the estimations were 150 m (circular) in the horizontal direction and 30 m in the vertical direction. These search radii are well within the variogram ranges and are adequate to fill in the block grades. A maximum of 12 composites, a minimum of 1 composite, and a maximum of 3 composites per hole were used.

For sulphide the search radii were 150 m in the east-west direction, 150 m in the north-south direction, and 50 m in the vertical direction. A maximum of 12 composites, a minimum of 1 composite, and a maximum of 3 composites per hole were used.

Figure 14-12 and Figure 14-13 show TCu grades on an east-west and north-south cross section respectively. Figure 14-14 through Figure 14-17 show the distribution of TCu grades on benches 890, 876, 855, and 841.

Table 14-16 shows the distribution of the block model grades compared to the capped assay database and the drill hole composite database. At a zero-cutoff grade, the TCu grades are similar, but at higher cutoff grades, the block model grades are lower than the assays and composites due to the combining of drill holes (including those below the cutoff grade) into larger representative volumes in the blocks. As the cutoff is raised, the percent above cutoff becomes higher for the model blocks than for the assays or composites. The results of multiplying the percent above cutoff times the average grade shows a close comparison between the assays, composites, and model blocks. The comparison is within the Mineral Resource pit shell for the oxide and mixed mineralization zones.

Table 14-16: Comparison of Assay Intervals, Composites and Block Model Grades

Cutoff Grade	Assays, number = 4,385			Composites, number = 1,859			Block Model			
	% above cutoff grade	Average TCu (%)	% above x Average TCu	% above cutoff grade	Average TCu (%)	% above x Average TCu	kt	% above cutoff grade	Average TCu (%)	% above x Average TCu
Oxide Zone										
0.001	99.25%	0.239	0.237	100.00%	0.236	0.236	69,623	100.00%	0.228	0.228
0.10	59.04%	0.368	0.217	64.28%	0.341	0.219	56,291	80.85%	0.267	0.216
0.20	35.55%	0.512	0.182	40.18%	0.457	0.183	33,487	48.10%	0.345	0.166
0.30	22.58%	0.663	0.150	24.15%	0.598	0.144	16,445	23.62%	0.452	0.107
Mixed Zone										
0.001	100.00%	0.442	0.442	100.00%	0.453	0.453	7,356	100.00%	0.398	0.398
0.10	85.71%	0.504	0.432	93.78%	0.479	0.449	7,248	98.53%	0.402	0.396
0.20	63.74%	0.624	0.397	72.02%	0.576	0.415	6,664	90.59%	0.424	0.384
0.30	47.69%	0.748	0.357	51.81%	0.702	0.364	4,786	65.06%	0.491	0.319

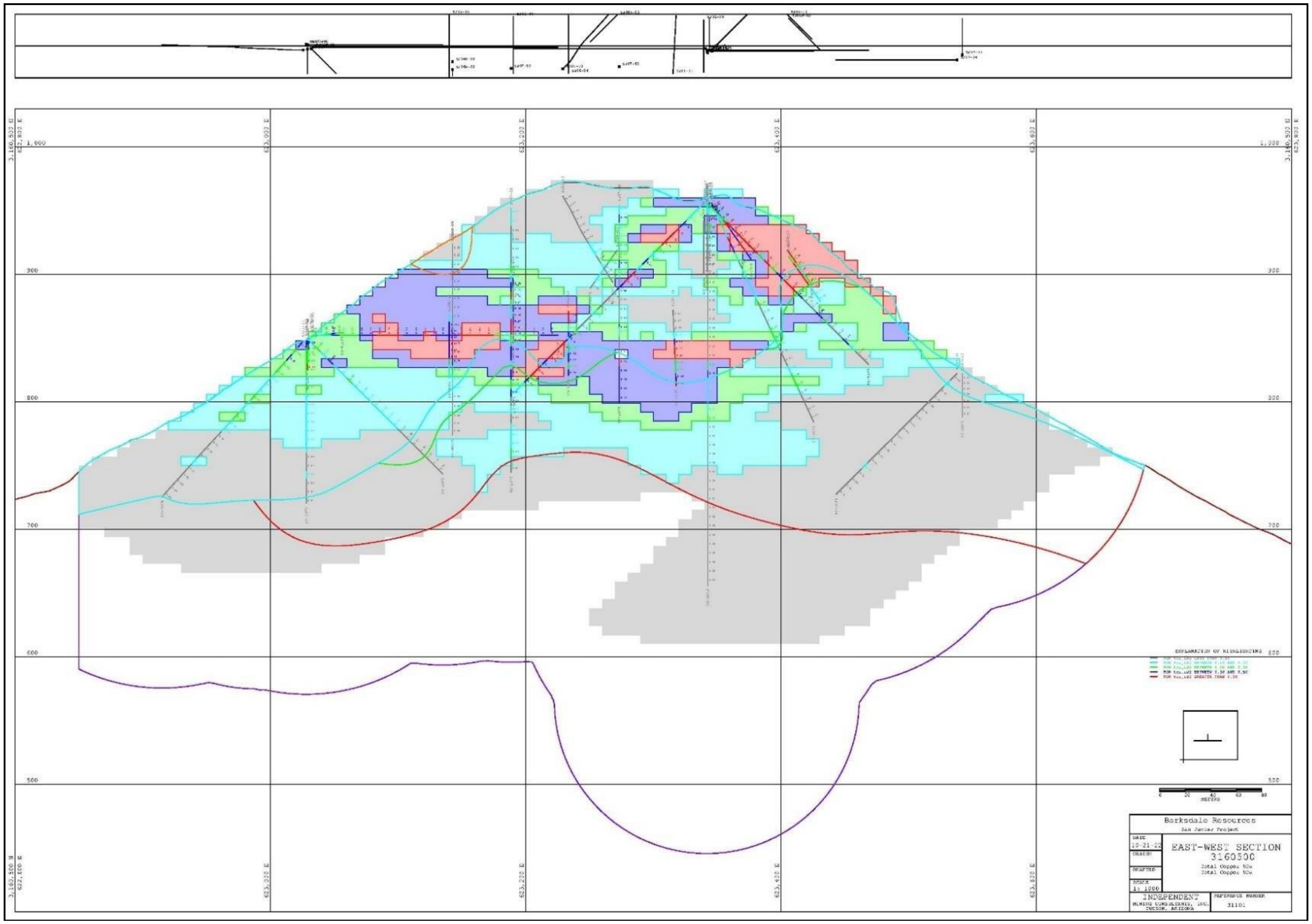


Figure 14-12: East-West Section 3,160,500N Showing TCu Grades

(Barksdale, 2021)

Colours: gray < 0.10, light blue 0.10-0.20, green 0.20-0.30, dark blue 0.30-0,50, red >= 0.50 TCu

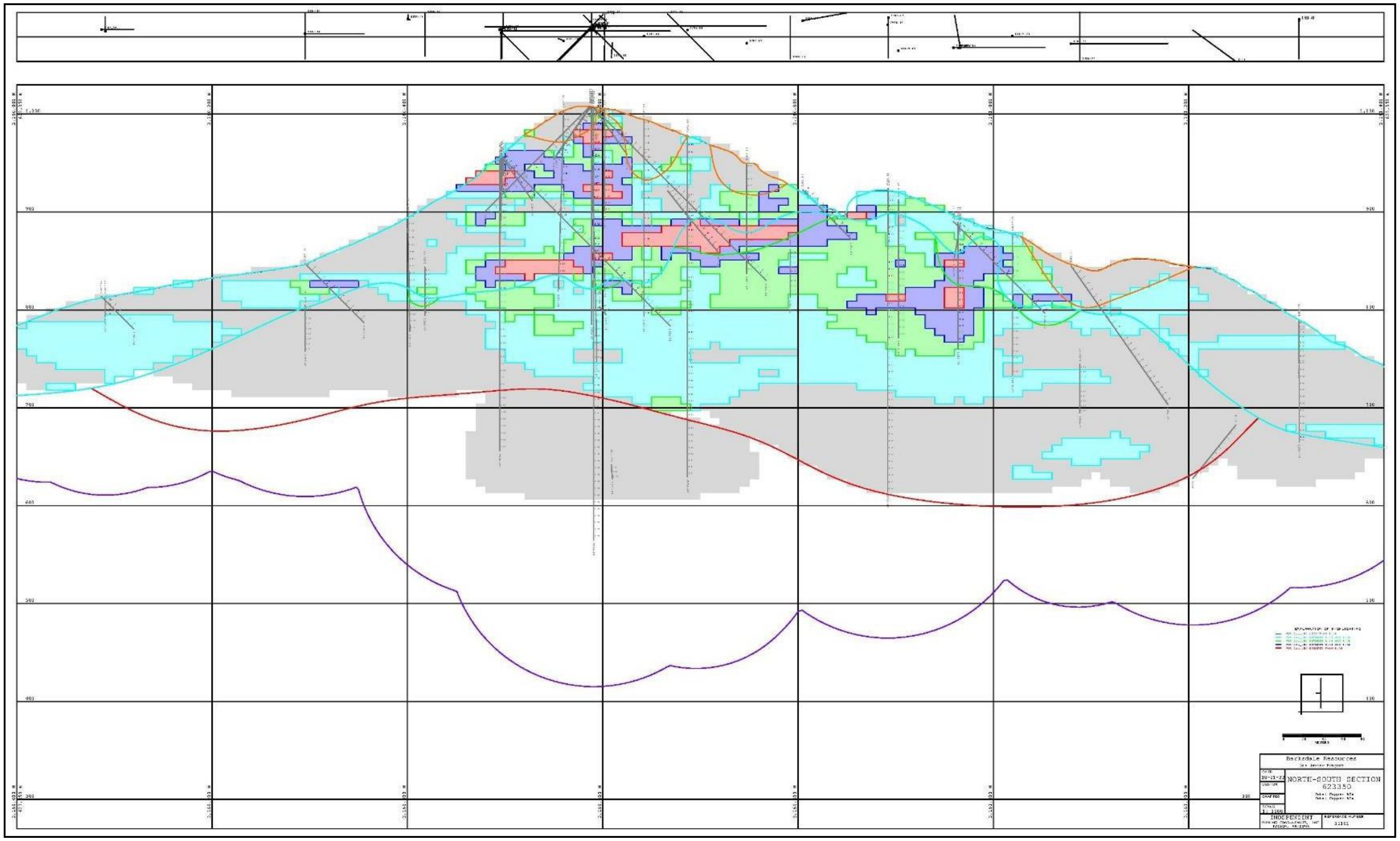


Figure 14-13: North-South Section 623,300E Showing TCu Grades

(Barksdale, 2021)

Colours: grey < 0.10, light blue 0.10-0.20, green 0.20-0.30, dark blue 0.30-0,50, red >= 0.50 TCu

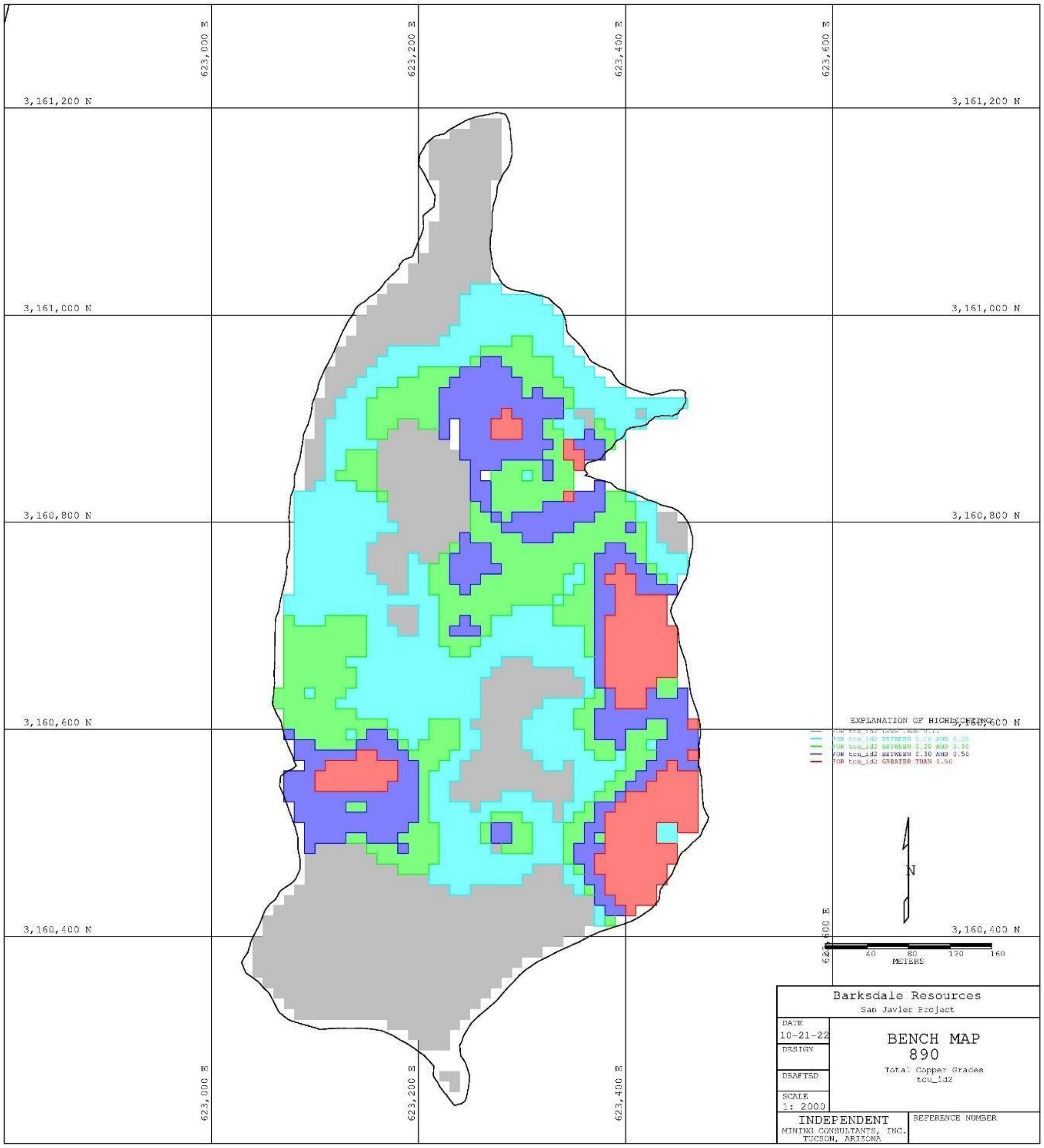


Figure 14-14: Bench Map at 890 Elevation Showing TCu Grades

(Barksdale, 2021)

Colours: grey < 0.10, light blue 0.10-0.20, green 0. 20-0.30, dark blue 0.30-0,50, red >= 0.50 TCu

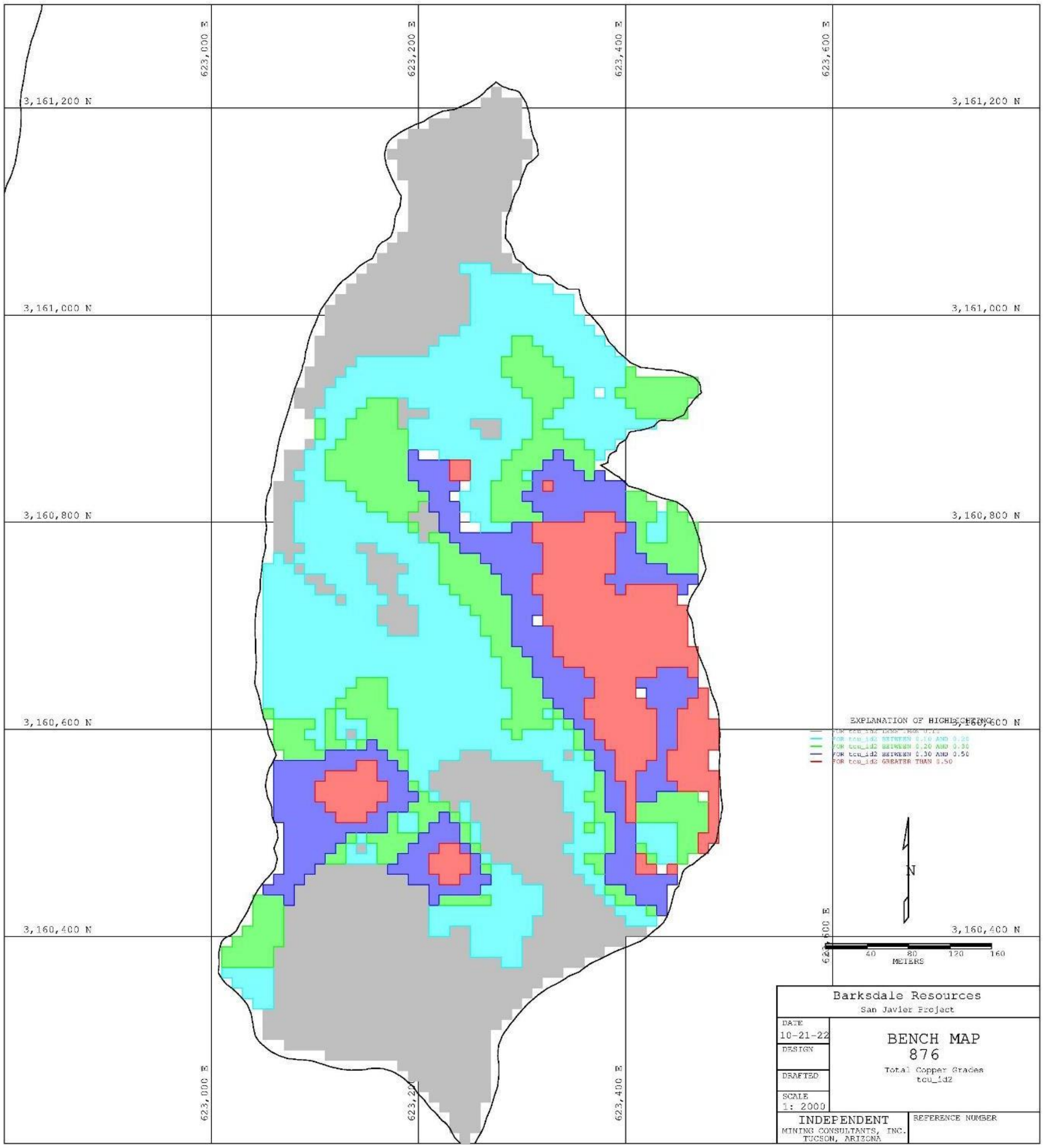


Figure 14-15: Bench Map at 876 Elevation Showing TCu Grades

(Barksdale, 2021)

Colours: grey < 0.10, light blue 0.10-0.20, green 0. 20-0.30, dark blue 0.30-0,50, red >= 0.50 TCu

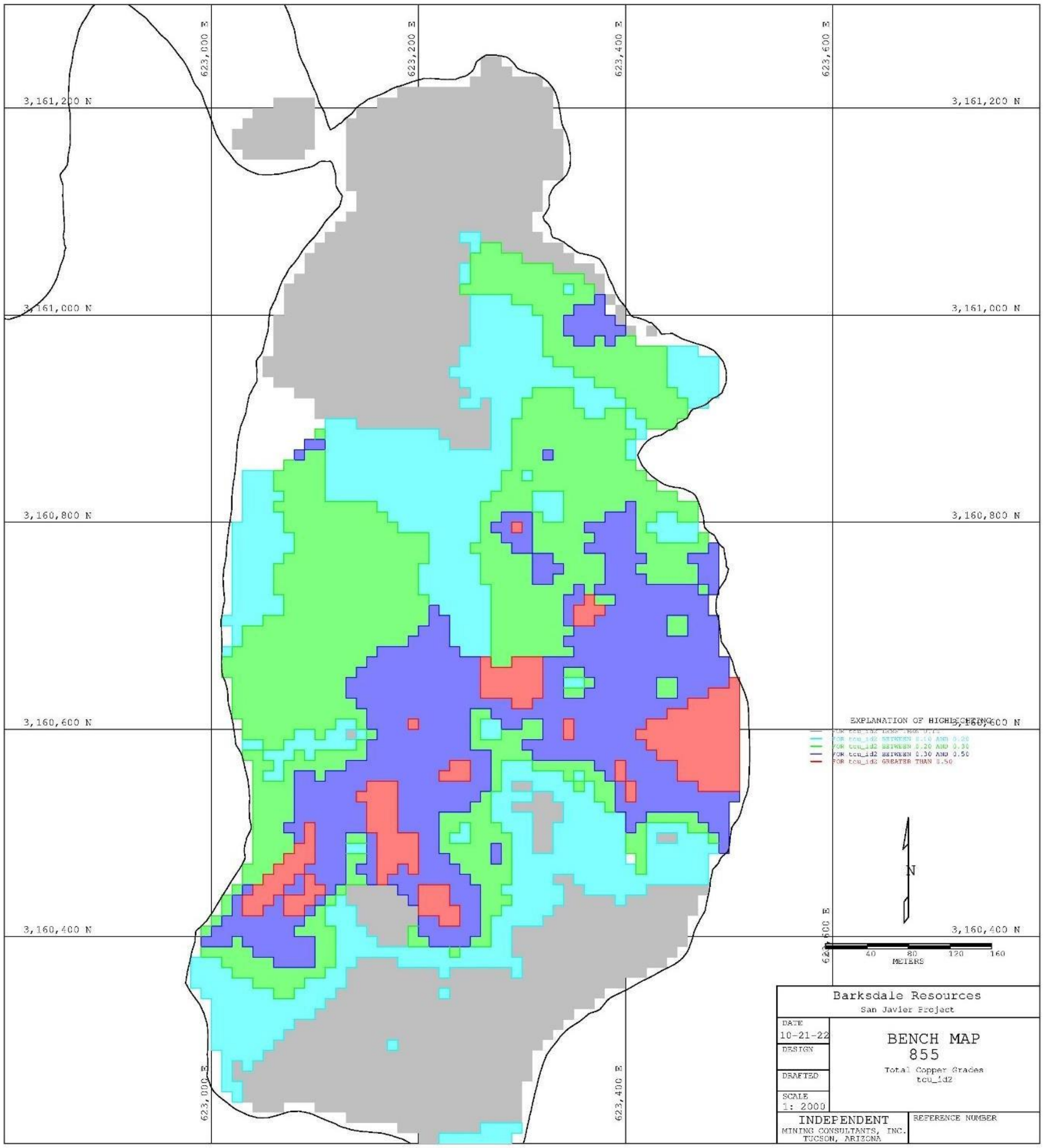


Figure 14-16: Bench Map at 855 Elevation Showing TCu Grades

(Barksdale, 2021)

Colours: grey < 0.10, light blue 0.10-0.20, green 0. 20-0.30, dark blue 0.30-0,50, red >= 0.50 TCu

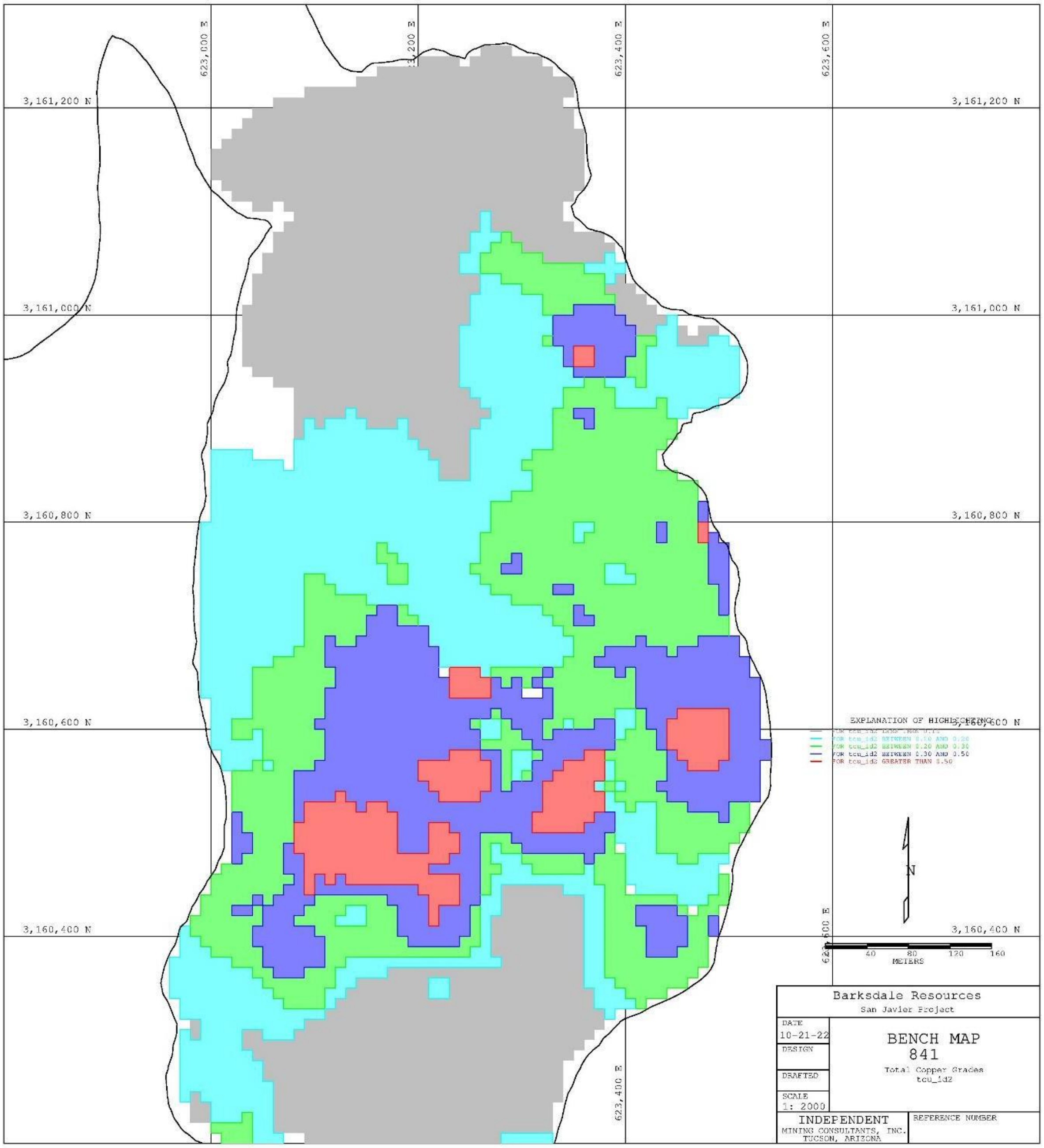


Figure 14-17: Bench Map at 841 Elevation Showing TCu Grades

(Barksdale, 2021)

Colours: grey < 0.10, light blue 0.10-0.20, green 0. 20-0.30, dark blue 0.30-0,50, red >= 0.50 TCu

14.9 Density Assignment

There are 100 specific gravity measurements on core samples that were included with the 2007 Constellation assay database. To date, no specific gravity measurements by Barksdale have been done. The estimation of density therefore is the same as IMC used for the 2007 technical report, which bases the specific gravity as related to the iron assays. The approach to assigning density and subsequently the tonnage per resource model block is as follows.

IMC constructed an assay database that included the 2006/2007 Constellation iron assays. This historic iron data was extracted from the 2007 assay database that was used by IMC during their 2007 review of the project (variable, Fe_2007) (IMC San Javier Technical Report 20 December 2007.pdf). The iron assay data by Barksdale was extracted from the Skyline assay certificates sent to IMC as Excel files. This data was merged with the assay database into the variable (Fe_TE_3). These iron assays done at Skyline had an upper detection limit of 10.0% Fe, while the historic iron assays exceeded 30.0% in some cases.

A combined 2007 and 2021 iron assay variable was constructed (IMC_Fe). The historic values from Constellation were added to the database (7,741 intervals), then the 2021 BRK values were added (1,473 iron assays). Since the historic iron data had almost 60% of the grades above 10.0%, IMC chose to set the upper detection limit for the combined 2021 data to 13.0%, (447 assays). This grade was selected as it was approximately the mean of the historic data. Figure 14-18 shows the probability plots of the iron assay grades in the Constellation 2006/2007 data and the BRK 2021 data.

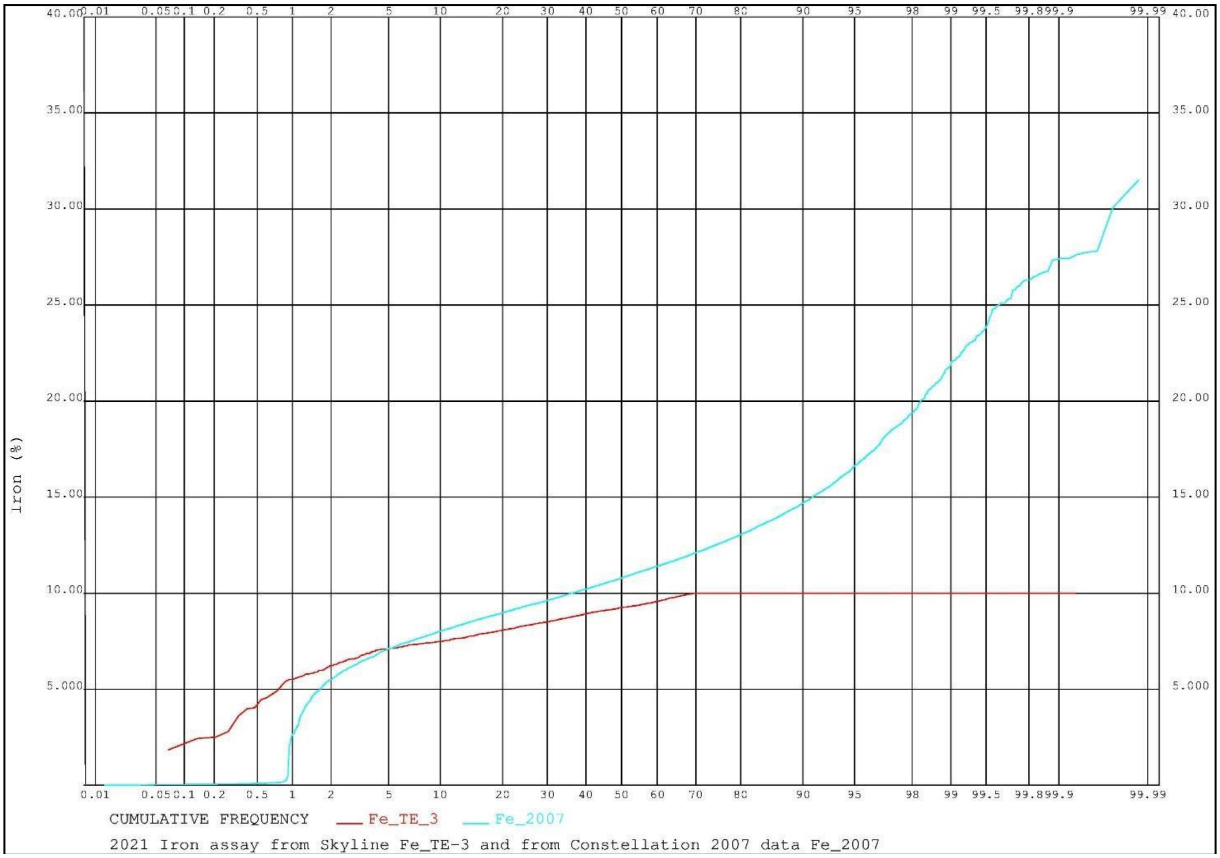


Figure 14-18: San Javier Iron Assay Data

(Barksdale, 2021)

Constellation Fe assays – blue; Barksdale Fe assays – red

For San Javier, iron grades were estimated for each block since there is a strong correlation between iron and specific gravity due to the abundance of specularite in the deposit. The ID2 estimation was done using a circular search of 150 m in plan and a 30 m vertical search. The mineralized zone was respected in the same manner as for copper. This estimate used the composited iron values from both the Constellation and Barksdale drilling.

Constellation assembled a database of 100 specific gravity samples with three different specific gravity determinations for each sample:

- An in-house measurement done by Constellation personnel based on the weight in water and weight in air of a core sample. The sample was not coated in wax.
- A measurement done by SEI-Tetra, also based on the weight in water and weight in air of a core sample, but with a wax coated sample. The weight of the wax as a tare was accounted for.
- A measurement by IPL based on the Le Chatelier method. The Le Chatelier specific gravity approach is done on pulps and consequently represents a maximum value without consideration of natural void space in the rock.

The original specific gravity from 2006/2007 was retrieved from an IMC archive tape. The data was in an Excel format. The SEI-Tetra measurements were extracted from the Excel file: (3-way-comparison-of-SG.xlsx) and a PDF version of the file titled: Corazones San Javier del Cobre.pdf. This information was added to the IMC database in the variable (SEI-SG).

Figure 14-19 shows the specific gravity determinations by SEI-Tetra method vs iron. A positive correlation between iron and specific gravity is evident. The data is from a regression analysis (polynomial method) from the combined iron assay and the SEI-SG data.

The regression equation determined above is: SG = 2.547718 + (0.019125 * IMC_Fe)

The above regression equation was assigned to the IMC block model after doing an ID2 estimate on the combined iron grades (IMC_Fe).

kt are SG * ((10 * 10 * 7) / 1,000)

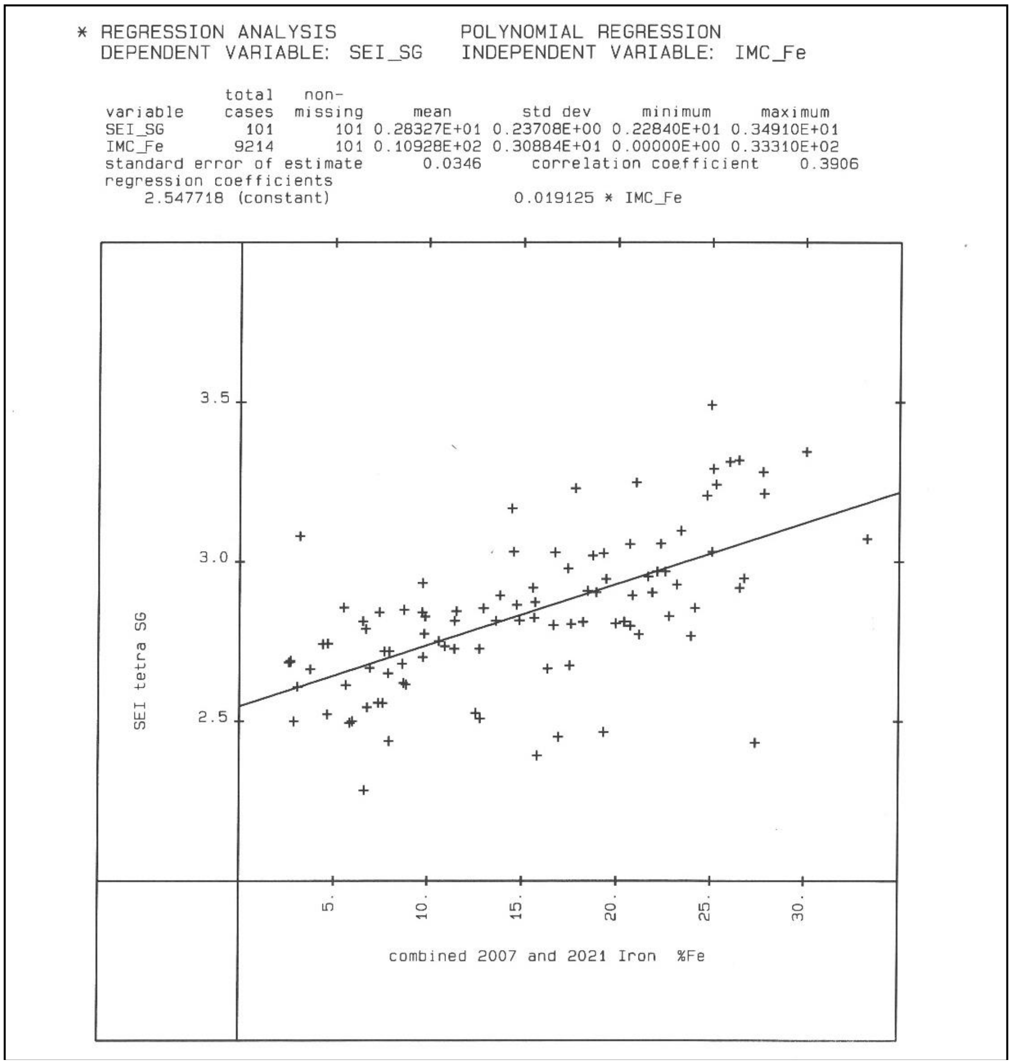


Figure 14-19: Specific Gravity Determinations by SEI-Tetra Method vs Iron

(Barksdale, 2021)

14.10 Resource Classification

For the purpose of classifying Measured and Indicated vs Inferred Mineral Resources, two additional block estimates were done. These were based on the same search orientations and search radii as the grade estimates. The first estimate was based on a maximum of three composites, a minimum of three, and a maximum of one composite per hole. The second estimate was based on a maximum of four composites, a minimum of four, and a maximum of one composite per hole. These estimates provide the average distance to the nearest three holes or four holes to each block and both were put into the block model. Note the grades from this estimate were not used.

Blocks with an average distance to the nearest three holes less than 75 m were assigned as Indicated Mineral Resources. Blocks with an average distance to four holes less than 30 m assigned Measured Mineral Resources. Any block with an estimated TCu grade greater than zero was assigned Inferred.

Generally (not specific to San Javier), an average distance to the nearest three holes of 75 m corresponds to an average drill spacing of about 100 m. These estimates are approximate. It is noted that the nominal spacing for much of the San Javier drilling is about 100 m.

Figure 14-20 and Figure 14-21 show the distribution of the resource classification on the same east-west and north-south sections which show the TCu grades (Figure 14-12 and Figure 14-13).

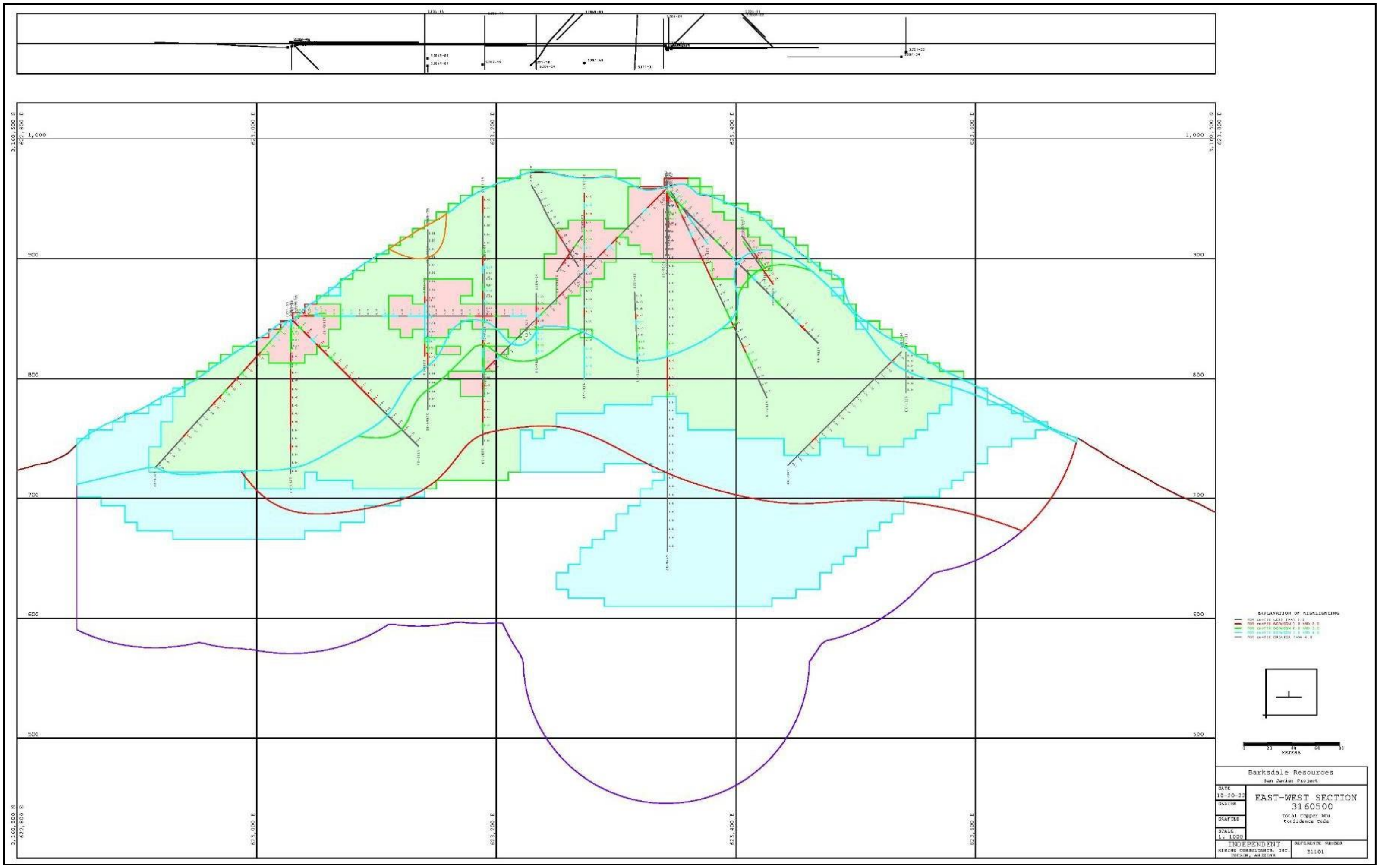


Figure 14-20: East West Cross Section at 3,160,500N Showing Block Model Confidence Codes

(Barksdale, 2021)

Colours: Measured – red, Indicated – green, Inferred – blue

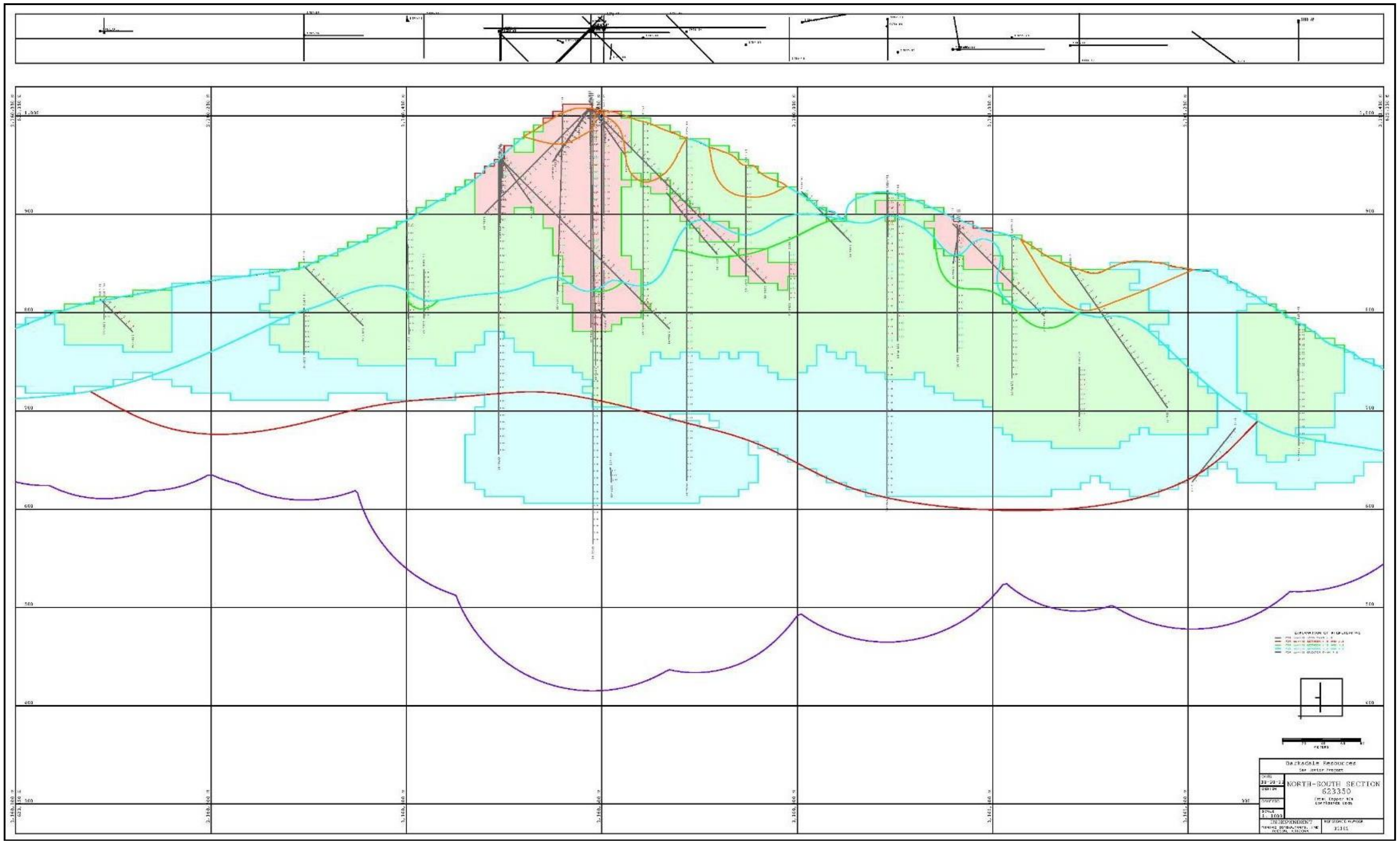


Figure 14-21: North South Cross Sections at 623,300E Showing Block Model Confidence Codes

(Barksdale, 2021)

Colours: Measured – red, Indicated – green, Inferred – blue

14.11 Model Validation

A series of checks of the estimation of copper grades within the block model were completed including swath plots, NN block grade estimates, composite to block grade comparisons, and a visual review of sections and levels of the block grade and the drill hole composite grades. These checks confirmed that the Mineral Resource block model can be used to generate a defendable Mineral Resource Estimate.

IMC completed bias checks where the mean grade of composites was compared against the mean grade of the estimated blocks within the same mineralized domain. In all cases, the model grade is properly less than the grade of the contained composites, because the model block grade estimation utilizes composite data that is located outside of the shape being tested. If the model grades were higher than the grade of the contained composites, there would be an indication of high bias within the model. Swath plots have been completed for the major grade-bearing mineralized zone. Figure 14-22 illustrates the average grades of copper composites vs model blocks within the Oxide Zone (minzone=2).

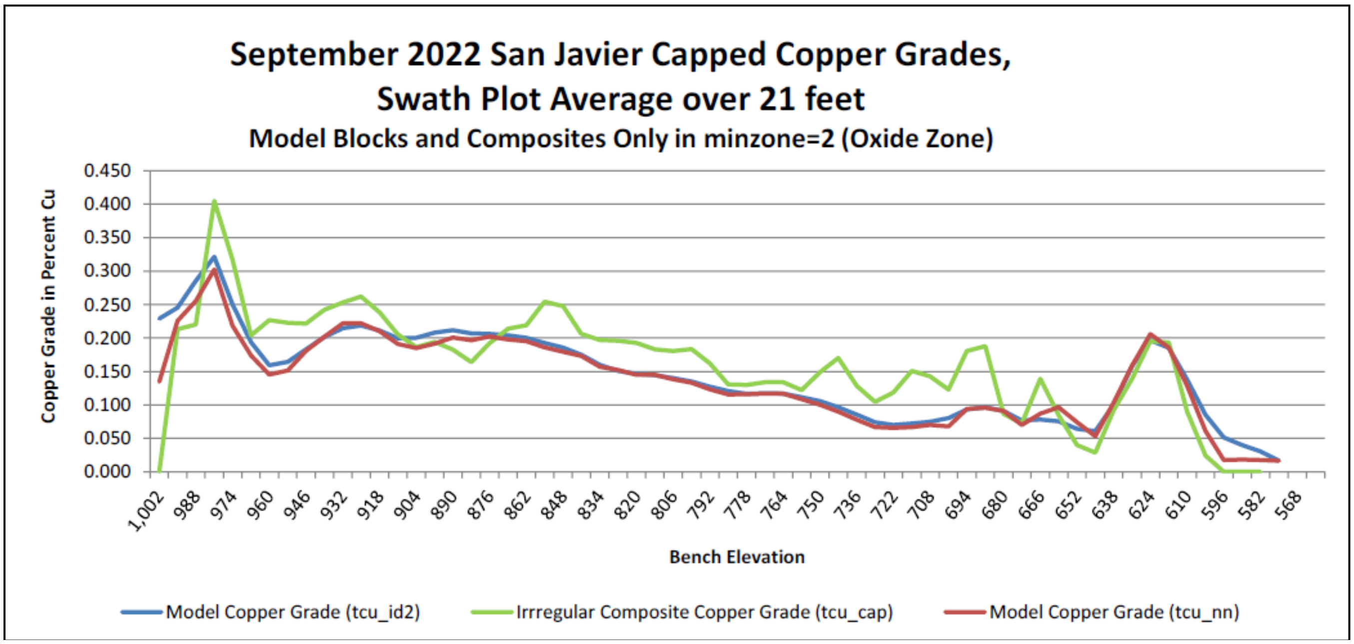


Figure 14-22: Swath Plot of Copper Grades

(Barksdale, 2021)

Composite Copper Grades – green; ID2 model grades – blue; NN model grades – red

A number of tests were performed to confirm that the model is a reasonable representation of the data for the determination of Mineral Resources. Substantial time was spent checking cross sections and plans against the supporting composite data during the model assembly process.

An NN estimate of copper was completed using the same domains and search radii that were applied to the inverse distance estimate. The comparison of the NN and the selected method at a zero cutoff grade is a check designed to determine if the selected method has incorporated bias. Table 14-17 summarizes the results of the bias check within the important mineralized zones of the San Javier deposit.

Table 14-17: Bias Check Comparison of ID2 and NN Estimates

Mineralization Zone	Number of Model Blocks	ID2 Average Grade (Cu%)	NN Average Grade (Cu%)
Leach Cap	7,773	0.036	0.035
Oxide Zone	102,226	0.132	0.128
Mixed Zone	5,857	0.320	0.340
Sulphide Zone	121,990	0.107	0.101

The above information was further subdivided by cutoff grade to understand how well the block model followed local grade changes as measured by the contained composites. A range of cutoff grades were tested. At each cutoff the blocks above cutoff within the model were selected. All composites within those block cutoff outlines were found and compared to the block grades. For example, at San Javier, all copper-bearing blocks above a cutoff were identified. All composites contained within that geometry were also selected. Table 14-18 illustrates the average grade of the contained composites vs the average grade of the blocks above several tested cutoffs within the Oxide Zone (minzone=2) at San Javier.

The column labelled "% Composites Less Than Cutoff" is a tabulation of the percentage of the composites within the selected blocks that are less than the selected cutoff. Values in the range of 25% or greater often indicate that the model would not provide a good local estimates of head grade vs cutoff. The low percentages for higher grade copper in the Oxide Zone indicate that the model has not oversmoothed the deposit distribution and that grade–tonnage estimates should be indicative of the mining response to the application of a cutoff grade.

In addition, the average block grade in Table 14-18 should always be less than the average grade of the contained composites. This is because the block grades relied on some composites that are outside of the grade envelope in the estimation process.

Table 14-18: Comparison of Copper Block Grades vs Contained Composites

Cutoff Grade (TCu%)	% Composites Less Than Cutoff	Number of Composites within Selected Model Blocks	Composite Grade (TCu%)	Number of Model Blocks	Average TCu Grade of Model Blocks
0.010	2.23	2,692	0.190	99,623	0.136
0.10	14.65	1,672	0.278	49,138	0.225
0.20	20.20	921	0.396	20,991	0.334
0.30	21.08	503	0.536	9,477	0.444
0.40	22.44	312	0.646	4,840	0.540
0.50	18.48	184	0.797	2,306	0.647
0.60	18.25	126	0.903	1,166	0.749
0.70	15.28	72	1.047	587	0.853
0.80	11.90	42	1.276	295	0.960

14.12 Mineral Resource

The San Javier Mineral Resource is tabulated within a $4.00/lb copper pit shell based on the input parameters in Table 14-19. Gold grades have been estimated in the block model, but at this time no economics have been established for the recovery of the gold present in the deposit, thus the Mineral Resource is only a copper resource. See Section 24.0 for additional comments on the gold mineralization.

The heap recovery and acid consumption are based on information provided in Section 13.0. A long-term acid price of $200/t is assumed. The process costs for SX/EW, general and administration, and cathode transport are in a cost per recovered pound of copper. The heap management costs for liner, crushing, and conveying material to the heap, dozing, and piping are in a cost per tonne placed on the heap. The costs are based on recent projects in Mexico and the southwest US. The mining costs assumes a mining contractor without maintaining a camp for staff. The related projects' costs are for 2021 and early 2022. The royalty cost was provided by Barksdale and is a percentage of the copper price. The cutoff grades used for the tabulations vary depending on the mineralization type and the copper price. At the $4.00/lb copper price the soluble copper cutoff grades are: leach cap = 0.04%, oxide = 0.04, mixed = 0.07%, sulphide = 0.08%.

The Mineral Resource is summarized in Table 14-20 and tabulated by mineralization zone in Table 14-21. Pit shells were run on sensitivity to copper price ranging from $2.50/lb to $4.50/lb and Table 14-22 shows the response of a pit shell to different copper prices.

Figure 14-23 shows the limits of the $4.00/lb copper pit shell contours in plan view and Figure 14-24 is an isometric view looking to the northwest. Figure 14-25 illustrates the impact of different copper prices to the pit shell on the 855 bench. The pit shells do not encompass the sulphide zone even though it has similar copper grades because of the lower metallurgical recovery in the sulphide zone.

Table 14-19: Mineral Resource Pit Definition Inputs

Description	Leach Cap	Oxide	Mixed	Sulphide
Heap Recovery of Soluble Copper	85%	85%	75%	60%
Acid Consumption: kg/t	2.50	2.50	10.00	10.00
Acid Cost per heap t ($200/t)	$0.50	$0.50	$2.00	$2.00
Process cost per lb recovered Cu	$0.52	$0.52	$0.52	$0.52
Process cost per t	$1.74	$1.74	$1.74	$1.74
Mining cost per t moved	$2.25	$2.25	$2.25	$2.25
Overall pit slope angle	45°			
Royalty (based on copper price)	1% up to $3.50/lb Cu; 2% over $3.50/lb Cu			

Table 14-20: Mineral Resource Within $4.00/lb Copper Pit Shell

Category	Kt and Grades Above Cutoff (1)					Copper Pounds x 1,000 (2)	
	kt	TCu (%)	As+Cn Cu (%)	ASCu (%)	CNCu (%)	Total Contained	Soluble Contained
Measured	12,485	0.278	0.203	0.172	0.032	76,573	55,938
Indicated	57,664	0.270	0.184	0.148	0.037	342,669	233,504
Total M&I	70,149	0.271	0187	0.152	0.036	419,242	289,442
Inferred	5,965	0.240	0.152	0.114	0.038	31,563	19,923

Notes:

1. ASCu+CNCu cutoff vary by oxidization type: leach cap and oxide = 0.04%, mixed = 0.07%, sulphide = 0.08%
2. Contained pounds = kt x TCu x 22.04
   Soluble pounds = kt x ASCu+CNCu x 22.04
3. Mineral Resource tonnage and grades are restricted to the Cerro Verde Deposit
4. Total pit shell tonnage = 95,175 kt; ratio of kt below cutoff to above cutoff = 0.25
5. Total may not add due to rounding..

The San Javier project Mineral Resources meets the current CIM definitions for classified Mineral Resources. It should be noted that:

Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the inferred portion of the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

The QP for the Mineral Resource is Herbert E. Welhener of IMC.

Table 14-21: Mineral Resource by Mineralization Zone

Mineralization Zone	ASCu+CNCu Cutoff	kt	ASCu+ CNCu (%)	TCu (%)	ASCu (%)	CNCu (%)
Measured						
Leach Cap	0.04	112	0.046	0.070	0.043	0.003
Oxide	0.04	11,154	0.198	0.265	0.173	0.025
Mixed	0.07	941	0.293	0.420	0.194	0.099
Sulphide	0.08	278	0.175	0.415	0.096	0.079
Total		**12,485**	**0.203**	**0.278**	**0.172**	**0.032**
Indicated						
Leach Cap	0.04	551	0.056	0.094	0.045	0.011
Oxide	0.04	47,067	0.174	0.243	0.151	0.024
Mixed	0.07	5,757	0.282	0.401	0.179	0.103
Sulphide	0.08	4,289	0.175	0.408	0.080	0.095
Total		**57,664**	**0.184**	**0.270**	**0.148**	**0.037**
Sum of Measured + Indicated						
Leach Cap	0.04	663	0.054	0.090	0.045	0.010
Oxide	0.04	58,221	0.179	0.247	0.155	0.024
Mixed	0.07	6,698	0.284	0.404	0.181	0.102
Sulphide	0.08	4,567	0.175	0.408	0.081	0.094
Total		**70,149**	**0.187**	**0.271**	**0.152**	**0.036**
Inferred						
Leach Cap	0.04	58	0.056	0.079	0.034	0.022
Oxide	0.04	5,403	0.140	0.224	0.111	0.029
Mixed	0.07	467	0.298	0.437	0.156	0.143
Sulphide	0.08	37	0.139	0.356	0.069	0.070
Total		**5,965**	**0.152**	**0.240**	**0.114**	**0.038**

Notes: Total may not add due to rounding.

Table 14-22: Sensitivity to Copper Price

Copper Price	Cutoff Range	Measured			Indicated			Sum Measured + Indicated			Inferred			Total kt
	Soluble Cu (%)	kt	Soluble Cu (%)	TCu (%)	kt	Soluble Cu (%)	TCu (%)	kt	Soluble Cu (%)	TCu (%)	kt	Soluble Cu (%)	TCu (%)	
4.50	.03-.07	13,581	0.185	0.265	69,228	0.166	0.252	82,809	0.169	0.254	7,393	0.139	0.227	109,341
4.25	.03-.08	13,425	0.193	0.265	66,032	0.170	0.254	79,457	0.174	0.256	6,548	0.146	0.234	103,911
4.00	.04-.08	12,485	0.203	0.278	57,664	0.184	0.270	70,149	0.187	0.271	5,965	0.152	0.240	95,175
3.75	.04-.09	12,315	0.205	0.279	55,155	0.187	0.272	67,470	0.190	0.274	5,537	0.154	0.243	91,068
3.50	.04-.10	12,093	0.206	0.280	52,149	0.192	0.276	64,242	0.195	0.276	5,291	0.158	0.247	86,753
3.25	.04-.11	11,782	0.209	0.281	48,805	0.198	0.280	60,587	0.200	0.280	4,211	0.169	0.265	80,859
3.00	.05-.12	10,772	0.222	0.295	41,968	0.214	0.297	52,740	0.215	0.296	3,335	0.190	0.298	73,295
2.50	.06-.14	9,218	0.238	0.312	32,598	0.238	0.317	41,816	0.238	0.316	2,593	0.207	0.324	61,228

Notes:
Soluble Cu = ASCu + CNCu
TCu = total copper grade
Total may not add due to rounding .

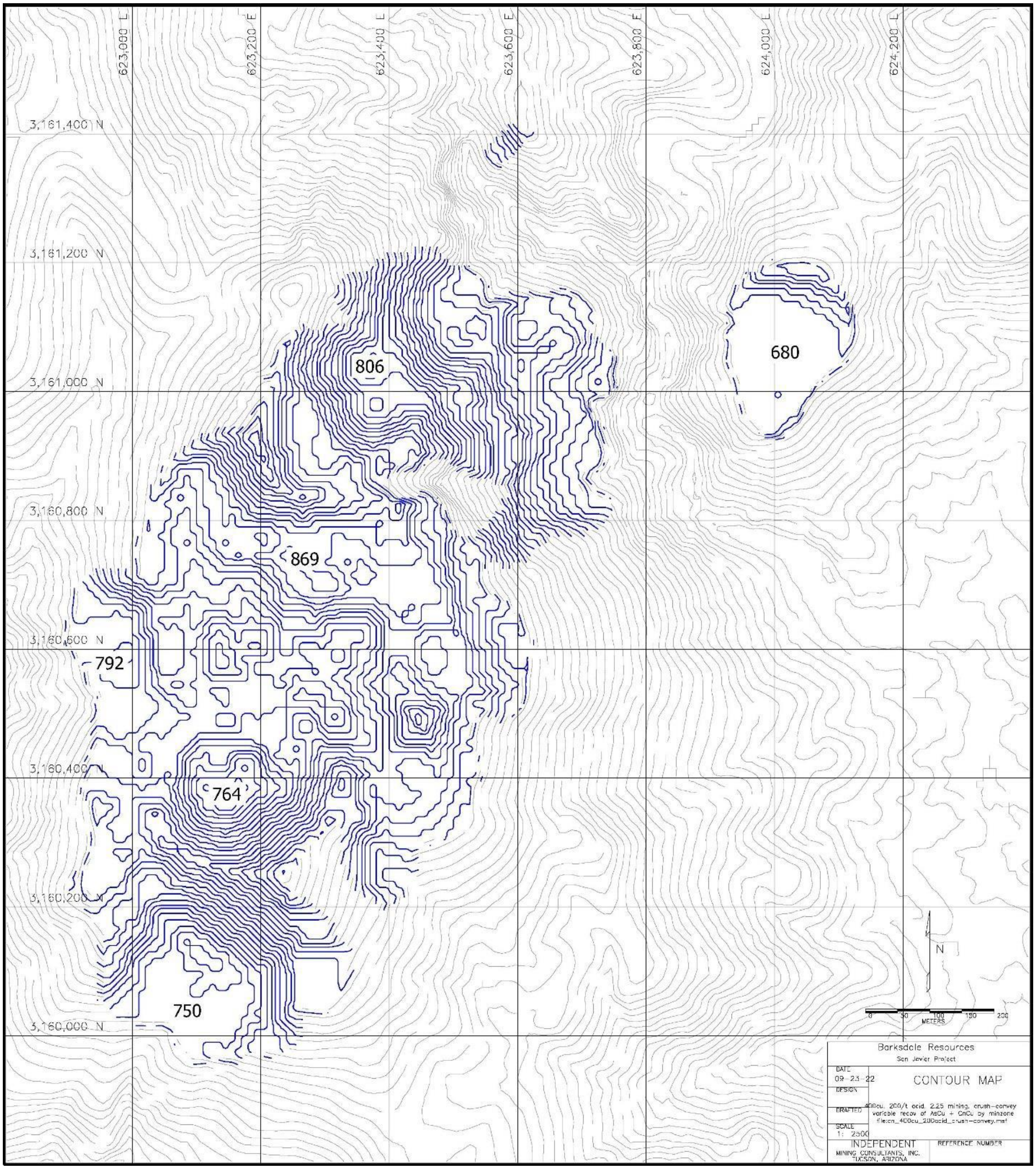


Figure 14-23: $4.00/lb Copper Pit Shell

(Barksdale, 2021)

Grey contours are the 7 m block model topography
Blue contours are the limits of the $4.00/lb Cu pit shell

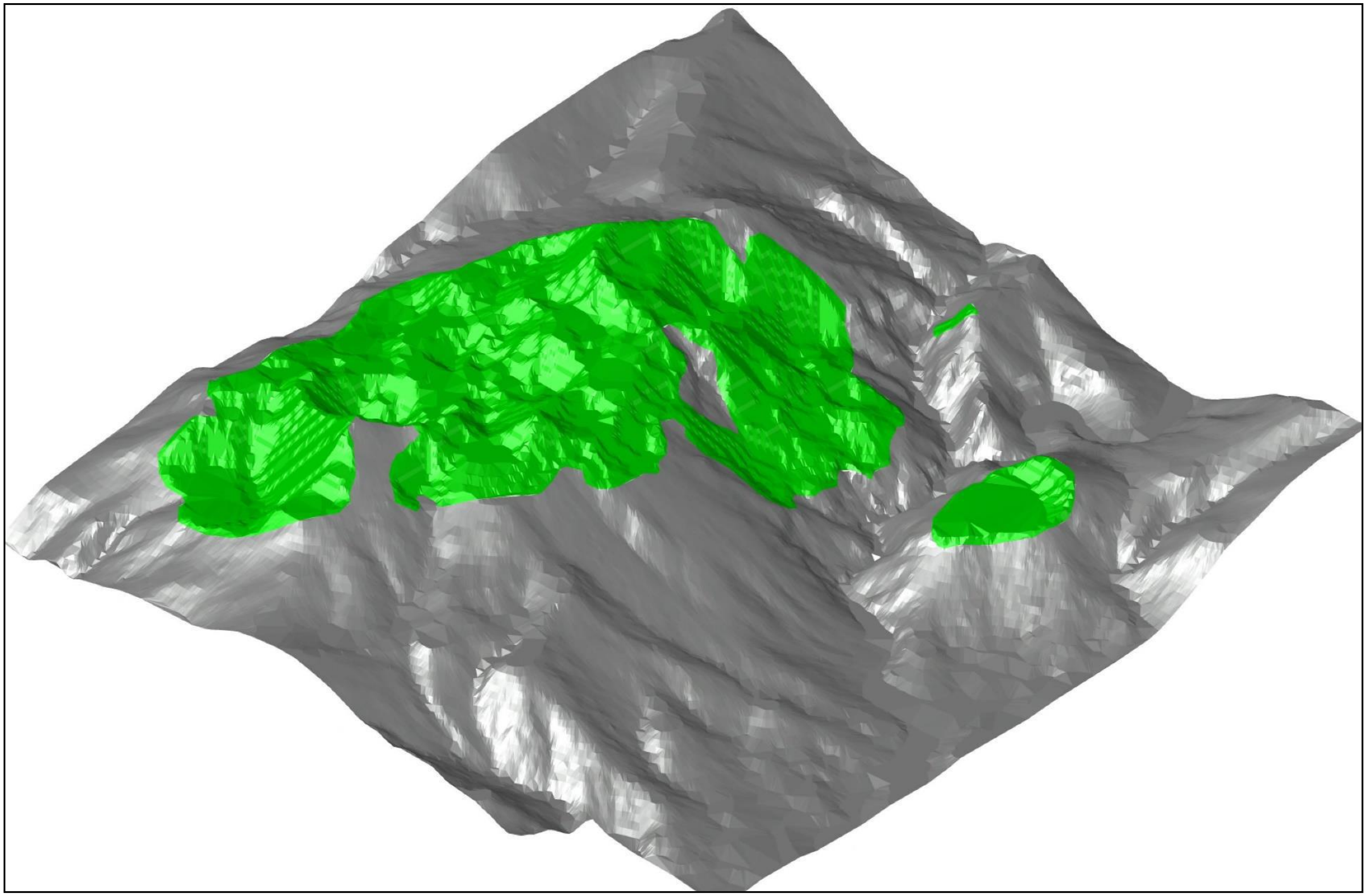


Figure 14-24: $4.00/lb Pit Shell – Isometric View Looking Northwest

(Barksdale, 2021)

Colours: grey = natural topography, green = $4.00/lb copper pit shell

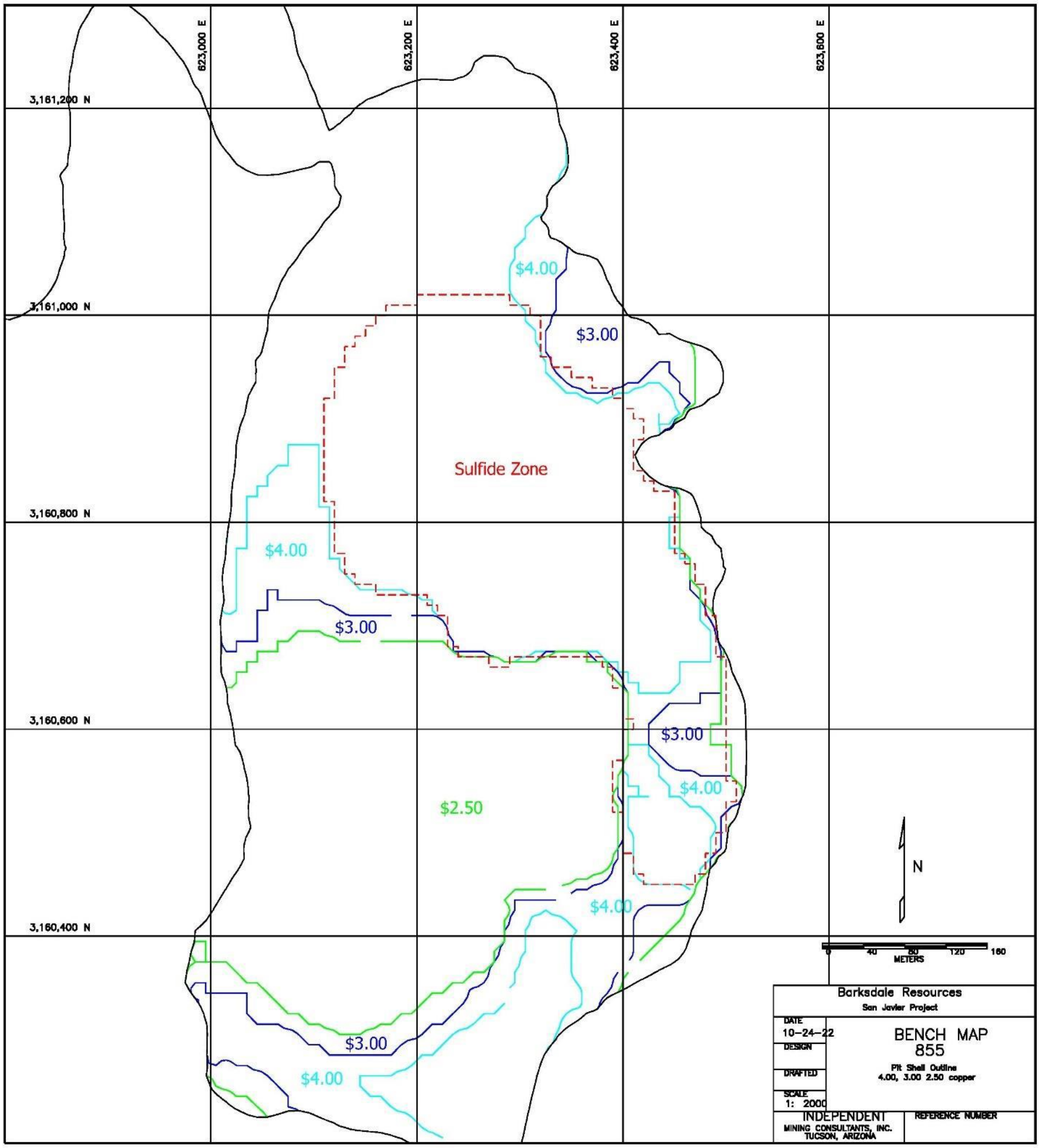


Figure 14-25: Selected Pit Shell Outlines on the 855 Bench

(Barksdale, 2021)

14.13 Factors Which Might Affect the Mineral Resource Estimate

Areas of uncertainty that may materially impact the Mineral Resource Estimates include:

- Changes to long-term metal price assumptions,
- Changes in geological interpretations including the size, shape, and distribution of interpreted mineralization and lithology domains,
- Changes to metallurgical recovery assumptions,
- Changes to the input assumptions used to derive the conceptual open pit outlines used to constrain the estimate,
- Variations in geotechnical, hydrogeological, and mining assumptions,
- Changes to environmental, permitting, and social license assumptions.

15.0 MINERAL RESERVE ESTIMATES

Currently, the San Javier project does not have any CIM definable Mineral Reserves.

16.0 MINING METHODS

16.1 Overview

The San Javier project will be mined using conventional open pit mining methods. The mine design and planning are based on the estimated grade of the resource and the pit shell analysis. Open pit mining was selected based on the size of the resource, grade concentration and distribution, and the proximity of the resource to the surface of the topography. An open pit mine design, mine production schedule, and capital and operating costs have been developed for the San Javier deposit at a scoping level of engineering.

The San Javier project will be mined using a truck and shovel operation and will operate at a mining rate of approximately 10,000 t/d for a 12-year mine life with one year of pre-production. Mined material will be crushed and then stockpiled before being transported to a heap leach pad. Mineralized material feed will average a total copper grade of 0.34% during the LOM production. During one year of pre-production, three months of mineralized material (approximately 925 kt) will be crushed and stacked at the leach site prior to the SX/EW site becoming operational. The San Javier resource outcrops in many areas of the mountain requiring a small quantity of pre-stripping, which will be used as fill material for construction and developing haul roads.

The overall PEA mine plan production summary is summarized in Table 16-1. The strip ratio is inclusive of material mined in the pre-production period. Measured, Indicated, and Inferred Resources are included within the mine plan. There is no certainty that the PEA based on the Inferred Mineral Resources will be realized. Figure 16-1 below shows a cross section through a representative portion of the deposit along with copper grade zones and ultimate pit limit.

Table 16-1: Mine Production Summary LOM

Description	Value	Units
Total Tonnes Processed	44,293,133	t
Average Total Copper Grade	0.34	%
Average Soluble Copper Grade	0.249	%
Mined Waste (including uneconomic mineralization)	29,181,095	t
Strip Ratio	0.56	--
Mine Life	12	years

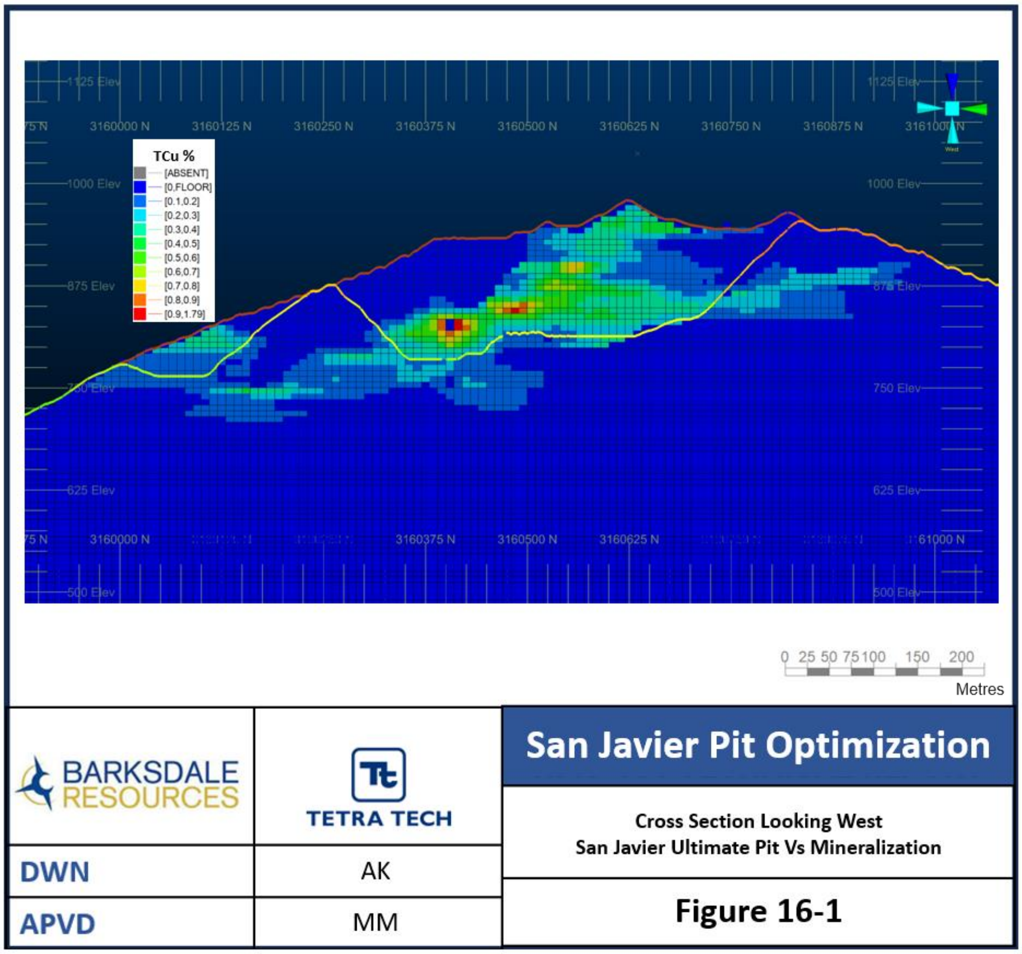


Figure 16-1: Cross Section Looking West, Through San Javier Mineralization with Ultimate Pit (Yellow)

16.2 Resource Model

The mineral resource model completed by IMC with an effective date of October 31, 2022, was used as the basis for the pit optimization. Framework details of the block model are provided in Table 16-2. The resource model was not re-blocked. Fields within the Resource Model are described in Table 16-3.

Copper recovery is closely related to soluble copper content in the mineralization. Two additional fields were added to the block model to calculate the variable costs of acid and electric consumption for copper recovery, as shown in Table 16-4.

Table 16-2: Resource Model Framework Details

Framework Description	IMC Provided Model (Value)
X Origin (m)	622,400
Y Origin (m)	3,159,800
Z Origin (m)	197
Rotation (degrees clockwise)	0
Number of blocks in X Direction	200
Number of blocks in Y Direction	180
Number of blocks in Z Direction	120
X block size (m)	10
Y block size (m)	10
Z block size (m)	7

Table 16-3: Resource Model Field Descriptions

Field Name	Units	Description
SG	t/m^3	Specific Gravity. When not assigned, calculated by *SG = 2.5478 + (fe_id2 * 0.019125)*
MINZONE	--	Oxide Zone Rock Type (1=Leach Zone, 2=Oxide Zone, 3=Mixed Zone, 4=Sulfide Zone, 10=None, 0=undefined)
VTOPO	%	Topography Percent
TCU_ID2	%	Capped Total Copper
FE_ID2	%	Fe(%) from Assay Data
AS_CN_CU	--	Total Soluble Copper Grade - Sum of ASCu_id2 and CNCu_id2 (%)
AU_ID2	%	Capped Gold
ASCU_ID2	%	Acid-soluble Copper Grade
CNCU_ID2	%	Cyanide-soluble Copper Grade
CONF30	--	Resource Category (1=Measured, 2=Indicated, 3=Inferred, 0=Undefined)

Table 16-4: Resource Model Field Additions

Field Name	Units	Description
RA	%	Ratio of Soluble Copper to Total Copper, (ASCu+CNCu)/TCu
REC1	%	Recovery of copper formulated as if RA ≥ 80%, then *REC1 = (0.9426 x (RA), %) - 0.0694 + 3%) x 98%* if RA < 80%, then *REC1 = (0.9426 x ((RA), %) - 0.0694) x 98%*
ELEC	$/t milled	Electricity Consumption Cost formulated as if RA ≥ 80%, then ELEC= *0.095 x 2204.6 x (((0.9426 x (RA), %) - 0.0694 + 3%) x 98%) x TCu (%))* if RA < 80%, then *ELEC = 0.095 x 2204.6 x (((0.9426 x (RA), %) - 0.0694) x 98%) x TCu (%))*
AC	$/t milled	Acid Consumption Cost *AC = 0.20 x (-23.98 x logn(RA)-0.1419) ; if <1 kg/t, using 1 kg/t*

16.3 Geotechnical Considerations

Overall slope wall recommendations of 45° from the 2007 PEA authored by Golder were used for this Project. The pit is fairly shallow, and these slope angles are considered conservative and may be increased after additional geotechnical investigation.

16.4 Pit Limits and Ultimate Pit Design

16.4.1 Pit Optimization and Ultimate Pit Design

An optimal strategic plan for an open pit mine maximizes NPV while meeting a wide range of engineering and economic constraints. The ultimate pit and pushbacks were developed with the use of Datamine NPVS™ pit optimization software. NPVS used the IMC geological block model and mining costs, commodity pricing, and pit slope parameters to create Lerchs-Grossman (LG) nested phases and an Optimal Extraction Sequence to maximize NPV for the San Javier project.

Table 16-5 shows the prices, unit costs, and recovery parameters used for the pit optimization analysis. Mining and G&A costs were calculated based on similar sized projects in the area. Contract mining was selected due to the availability of local mining contractors. Processing costs specific to the deposit and throughput rate were specifically evaluated for the San Javier project. Different mill throughput values were evaluated to maximize project value. Several cases with different production capacities were analyzed, and each case had different capital requirements, revenue streams, and ultimate value. The production rate of 10,000 t/d was selected as it supported the capital costs to develop the project and provided an achievable mine schedule. Soluble copper recovery inputs are discussed in Section 17.0.

Table 16-5: Pit Optimization Parameters

Parameter	Value	Unit
Copper Price	4	US$/lb
Royalties	2%	--
Mining Cost	1.95	US$/t
Mining Dilution	0	%
Mining Recovery	100	%
Process Operating Cost	3.40	US$/t
G&A	1.00	US$/t
Process Recovery	Variable	%
Discount Rate	8	%
Pit Slope Angles	45	°
Mill Feed Rate	10,000	t/d

A bench height of 7 m was selected as it was suitable to meet the production target and minimize waste. A vertical advance limit of eight benches a year was applied to the pit optimization to account for all stages of the mining cycle (drilling, blasting, loading, hauling, and auxiliary activities), and the production cash flow scenario was discounted at a rate of 8%. Nested LG pit shells were generated, and the NPV was varied by applying incremental profit revenue factors (RF) ranging from 0% to 100% in 1% increments. Revenue factors scale the base selling price to produce different pit shells that are optimal for different prices. The LG shells do not account for a practical minimum mining width and their walls contain irregularities that could not easily be mined in practice. Once the ultimate pit is selected, NPVS smooths the nested pit shell to honour the minimum bench working width (50 m for the San Javier deposit) and provides a designed pit shell.

The mill throughput, waste tonnes mined, and the cumulative NPV are plotted against the revenue factors in Figure 16-2 at 5% increments. Figure 16-6 and Table 16-6 displays the results of the pit optimization at 5% factor increments. Since the best-case scenario pit shell (RF 100%) honours the minimum mining width, provides mineable bench designs that meet the geotechnical constraints, and maximizes the contained resource, it was selected as the ultimate pit shell to be scheduled for the LOM.

Table 16-6: Pit Optimization Cumulative Results

Pit		Mined Material			Processed Material		Grade Total Copper (TCu)	Grade Soluble Copper (ASCu + CNCu)
Phase	Factor	Cumulative NPV	Total Mined Material	Total Mineralized Material	Total Waste	Strip Ratio		
		$	t	t	t		%	%
Pit 1	15%	$313,014	6,930	5,753	1,177	0.2	1.02%	0.84%
Pit 2	20%	$977,519	26,193	21,359	4,834	0.23	0.88%	0.72%
Pit 3	25%	$8,911,037	360,933	315,767	45,167	0.14	0.60%	0.49%
Pit 4	30%	$59,764,574	3,385,359	2,860,009	525,350	0.18	0.50%	0.40%
Pit 5	35%	$72,303,009	4,367,862	3,674,476	693,386	0.19	0.48%	0.39%
Pit 6	40%	$119,846,195	10,353,747	7,346,928	3,006,819	0.41	0.44%	0.35%
Pit 7	45%	$190,887,205	23,784,757	14,877,929	8,906,829	0.6	0.39%	0.32%
Pit 8	50%	$257,336,342	42,949,864	27,880,182	15,069,681	0.54	0.35%	0.28%
Pit 9	55%	$266,369,460	46,245,070	30,165,353	16,079,717	0.53	0.35%	0.27%
Pit 10	60%	$273,134,777	49,549,176	32,239,634	17,309,542	0.54	0.35%	0.27%
Pit 11	65%	$277,957,371	52,234,855	34,186,870	18,047,986	0.53	0.34%	0.27%
Pit 12	70%	$282,090,078	55,234,145	36,199,596	19,034,549	0.53	0.34%	0.26%
Pit 13	75%	$286,849,059	60,083,959	39,115,493	20,968,467	0.54	0.34%	0.26%
Pit 14	80%	$288,416,190	62,205,376	40,482,139	21,723,237	0.54	0.34%	0.26%
Pit 15	85%	$289,665,694	64,408,788	42,001,028	22,407,760	0.53	0.33%	0.25%
Pit 16	90%	$290,388,073	66,405,206	43,306,603	23,098,603	0.53	0.33%	0.25%
Pit 17	95%	$290,777,560	68,149,090	44,500,198	23,648,892	0.53	0.33%	0.25%
Pit 18	100%	$291,017,381	71,601,875	46,342,425	25,259,450	0.55	0.33%	0.24%
Total	**Smoothed Ultimate Pit**	**$290,189,945**	**73,837,055**	**47,392,191**	**26,444,864**	**0.56**	**0.33%**	**0.24%**

Notes: Total may not add due to rounding.

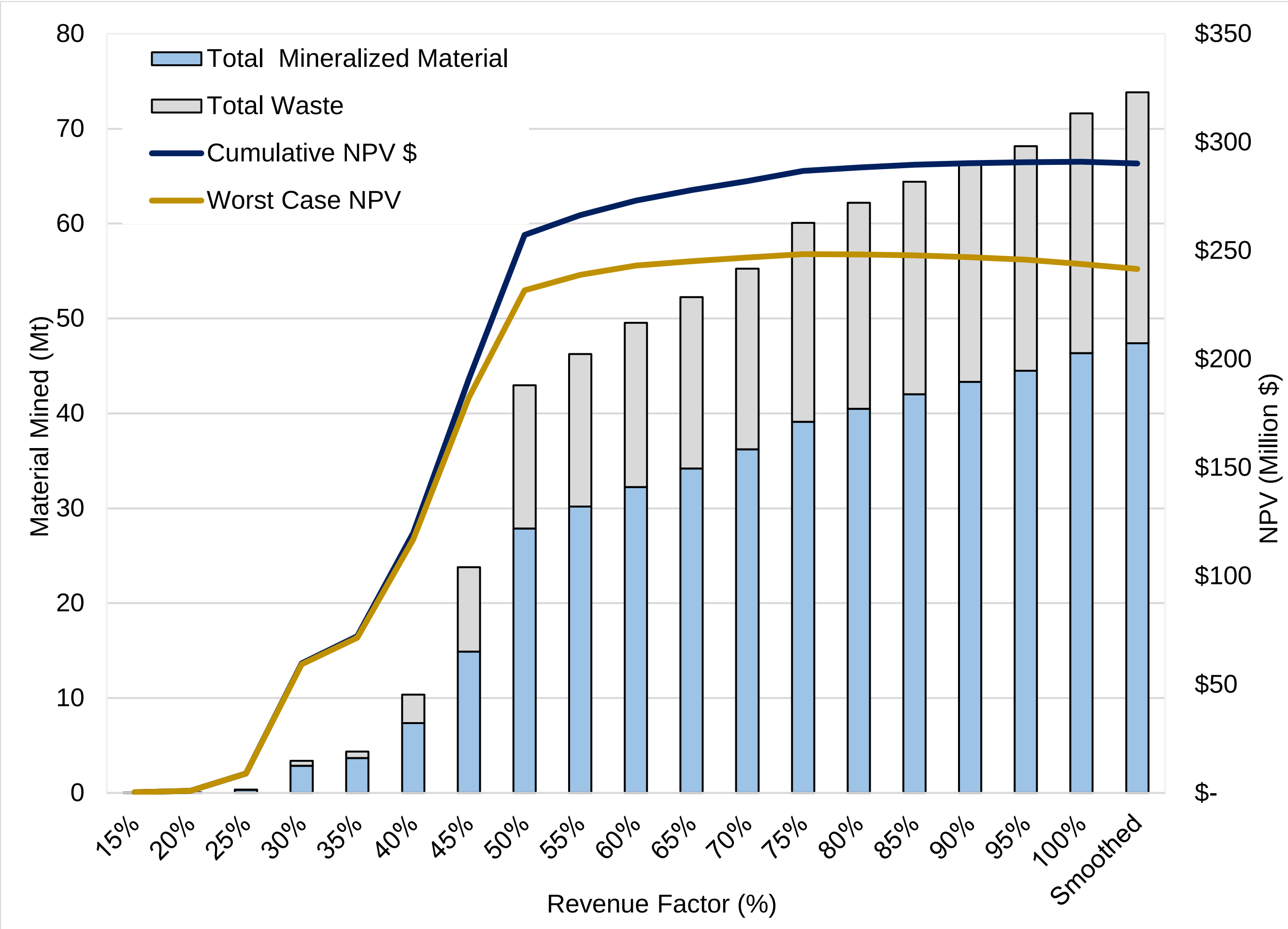


Figure 16-2: Ultimate Pit Optimization Results

16.4.2 Mining Phases

The pit optimization algorithm was used to develop incremental pit shells and shell values. The Datamine software provided guidance for the selection of the optimal mining phases. Pit pushbacks are determined to strategically develop the open pit mine to generate maximum cash flow in the initial years with the lowest strip ratio and balance with delayed waste mining in pushbacks thereafter. Table 16-7 lists the results of the optimal mining phases selected. Figure 16-3 and Figure 16-4 provide the mapped locations of optimal mining phases generated.

Table 16-7: Pushback Design Results

Pushback	Mineralized Material Tonnes	Waste Tonnes	Strip Ratio	TCu Grade
	t	t		%
1	7,028,022	2,738,051	0.4	0.44
2	4,498,423	3,826,552	0.9	0.37
3	10,217,053	8,366,467	0.8	0.31
4	10,805,649	3,612,928	0.3	0.31
5	10,993,502	5,290,392	0.5	0.29
6	3,520,173	2,577,022	0.7	0.26
Total	**47,062,822**	**26,411,412**	**0.6**	**0.33**

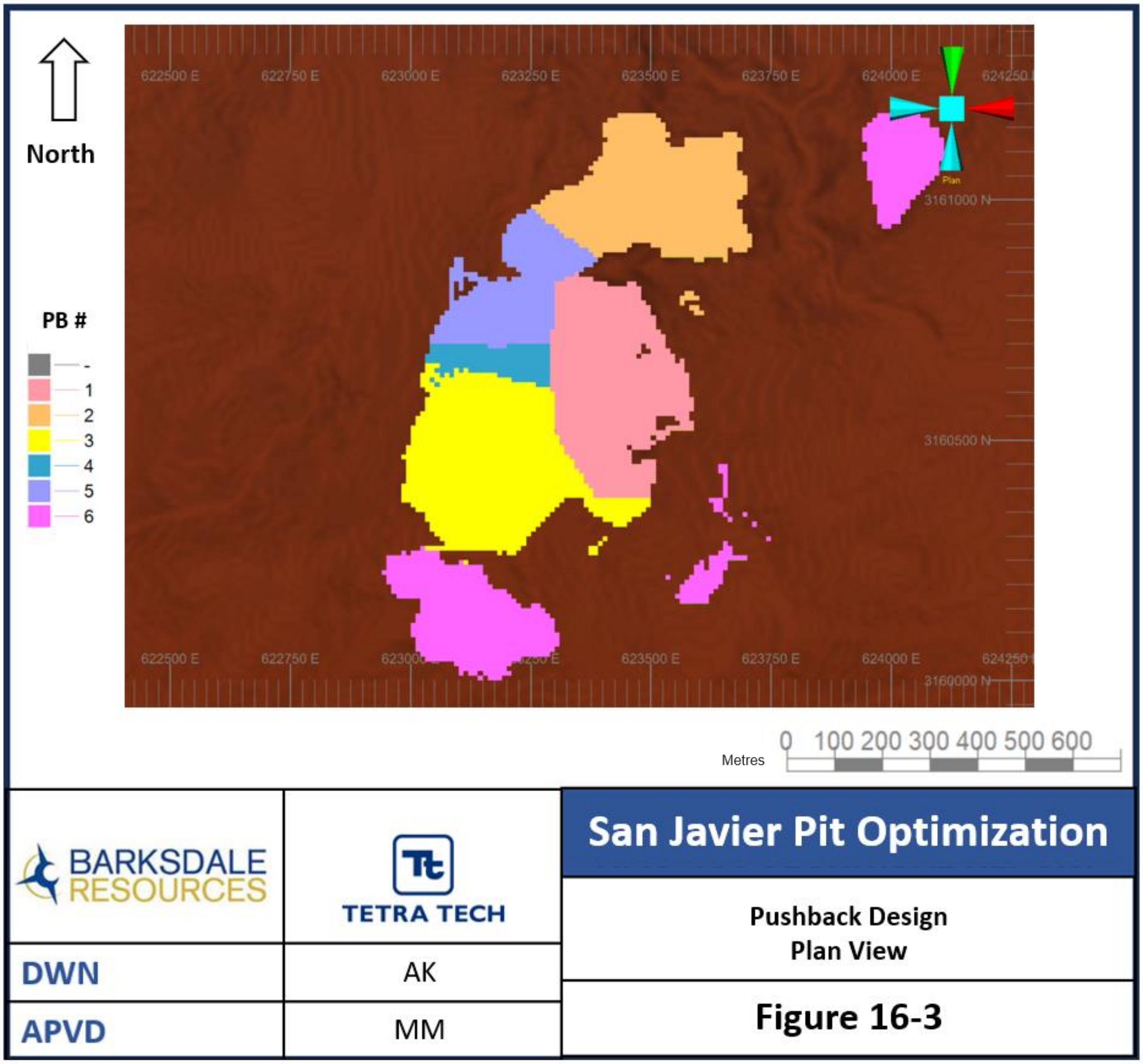


Figure 16-3: Pushback Design (Plan View)

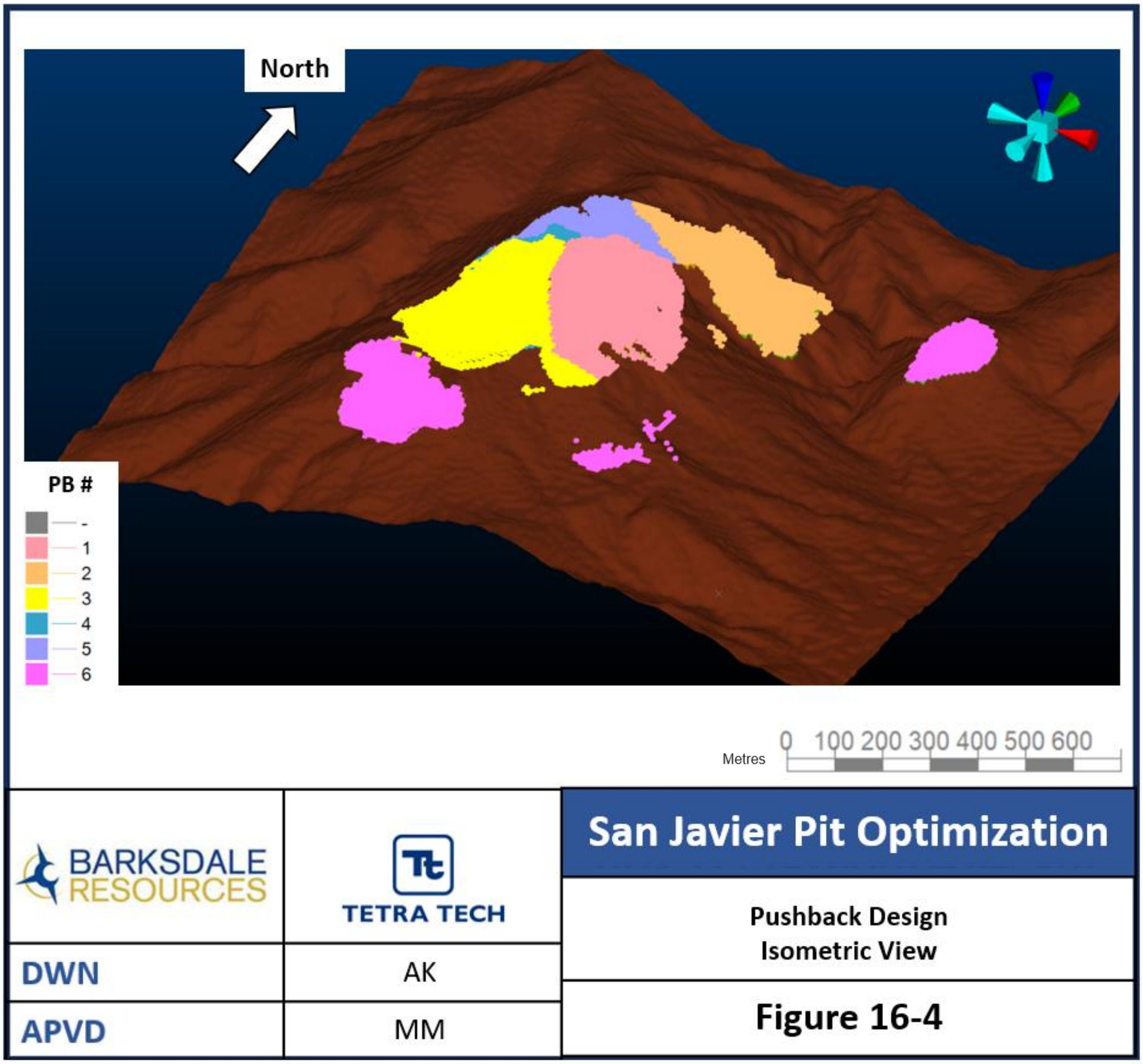
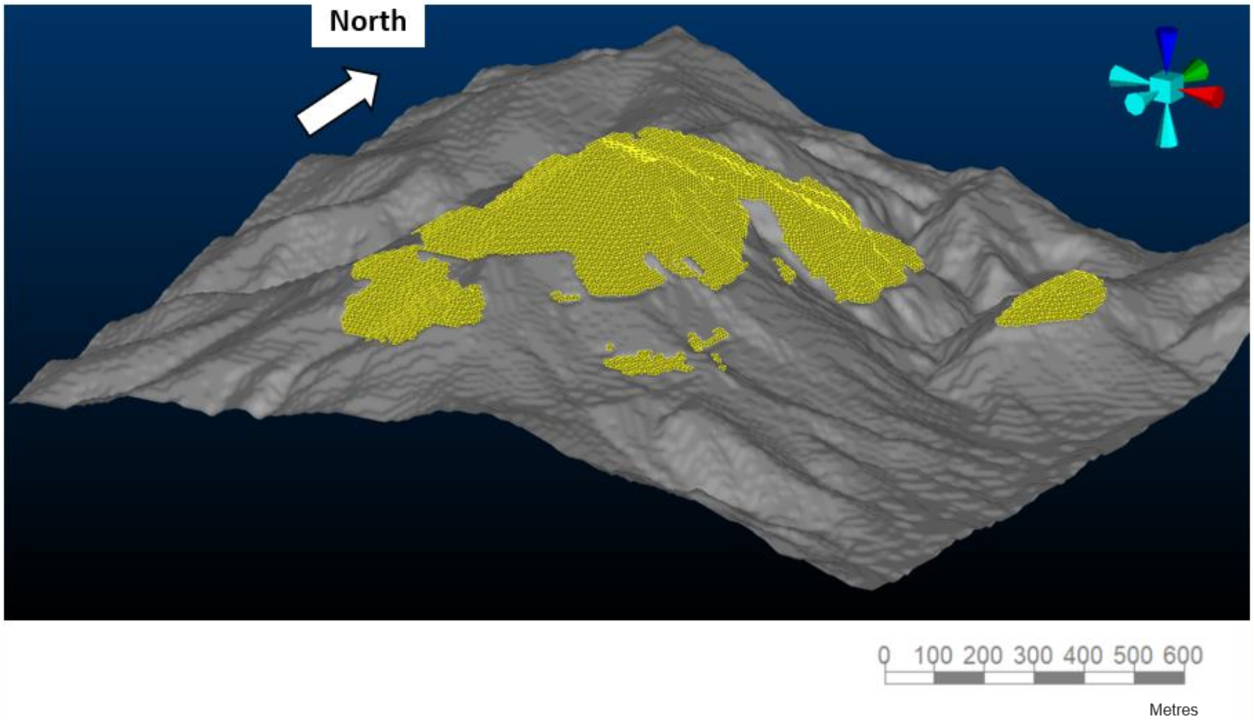


Figure 16-4: Pushback Design (Isometric View Looking North-West)



BARKSDALE RESOURCES	TETRA TECH	San Javier Pit Optimization
		Ultimate Pit Design – With Mineralized Material Isometric View
DWN	AK	
APVD	MM	Figure 16-5

Figure 16-5: Isometric View of San Javier Ultimate Pit with Mineralized Material Highlighted

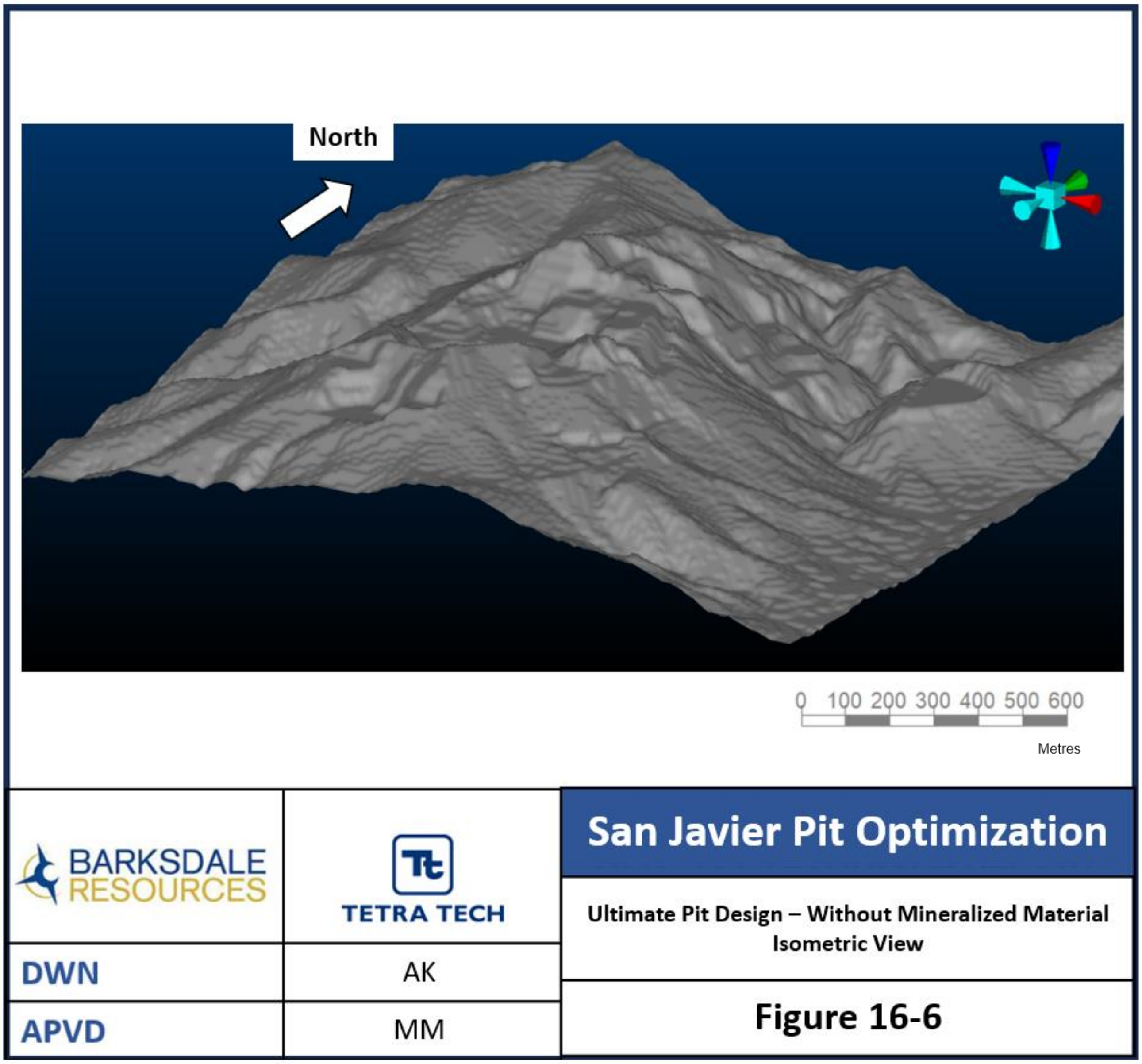


Figure 16-6: Isometric View of San Javier Open Pit on Original Topography, Looking North-West

16.5 Mining Production Schedule

The ultimate pit generated is scheduled for production with the assumption of 365 days of mining operation at a throughput rate of 10,000 t/d. The first year will focus on stripping overburden and generating three months of mineralized material, approximately 925 kt, to build the leach pad.

To increase the grade of mineralized material fed to the mill, a stockpile strategy is implemented to delay delivering lower grade material to the mill until a later period in the mine life. In this strategy, a 0.60 $/t cost is associated to all material rehandled at the stockpile. The additional cost of rehandling yields some of the marginal mineralized materials delivered to the stockpile as uneconomic. This material was added to the waste dump at the end of the mine life. Table 16-8 outlines the material movement and head grade in the 12-year mine life.

Table 16-8: Mining Production Schedule of Material Movement

Year	Total Mined Material	Total Mineralized Material	Total Waste	Strip Ratio	Total lb TCu	Avg Grade
Units	t	t	t		lb	TCu%
-1	2,688,450	924,560	1,288,014	1.4	8,597,184	0.42%
1	4,917,181	3,655,000	916,227	0.3	39,238,925	0.49%
2	7,675,555	3,654,999	3,896,093	1.1	28,565,221	0.35%
3	8,884,310	3,655,000	5,051,714	1.4	26,784,937	0.33%
4	5,760,070	3,655,145	1,759,730	0.5	28,743,592	0.36%
5	5,387,894	3,655,200	1,702,343	0.5	19,535,947	0.24%
6	4,715,240	3,655,000	1,282,399	0.4	27,985,224	0.35%
7	8,248,247	3,655,000	4,707,060	1.3	28,057,724	0.35%
8	5,068,676	3,655,549	1,076,707	0.3	20,343,496	0.25%
9	4,689,836	3,654,999	1,250,940	0.3	28,194,662	0.35%
10	6,792,938	3,654,586	2,921,196	0.8	30,728,709	0.38%
11	5,770,896	3,655,770	2,115,125	0.6	26,307,140	0.33%
12	2,874,942	3,162,320	1,213,547	0.4	15,633,157	0.22%
Total	**73,474,234**	**44,293,128**	**29,181,095**	**0.7**	**328,693,493**	**0.34%**

Note: Total may not add due to rounding.

Figure 16-7 through Figure 16-11 display the scheduled progression of the ultimate pit with plots at the end of years 1, 4, 7, 10, and 12 (LOM).

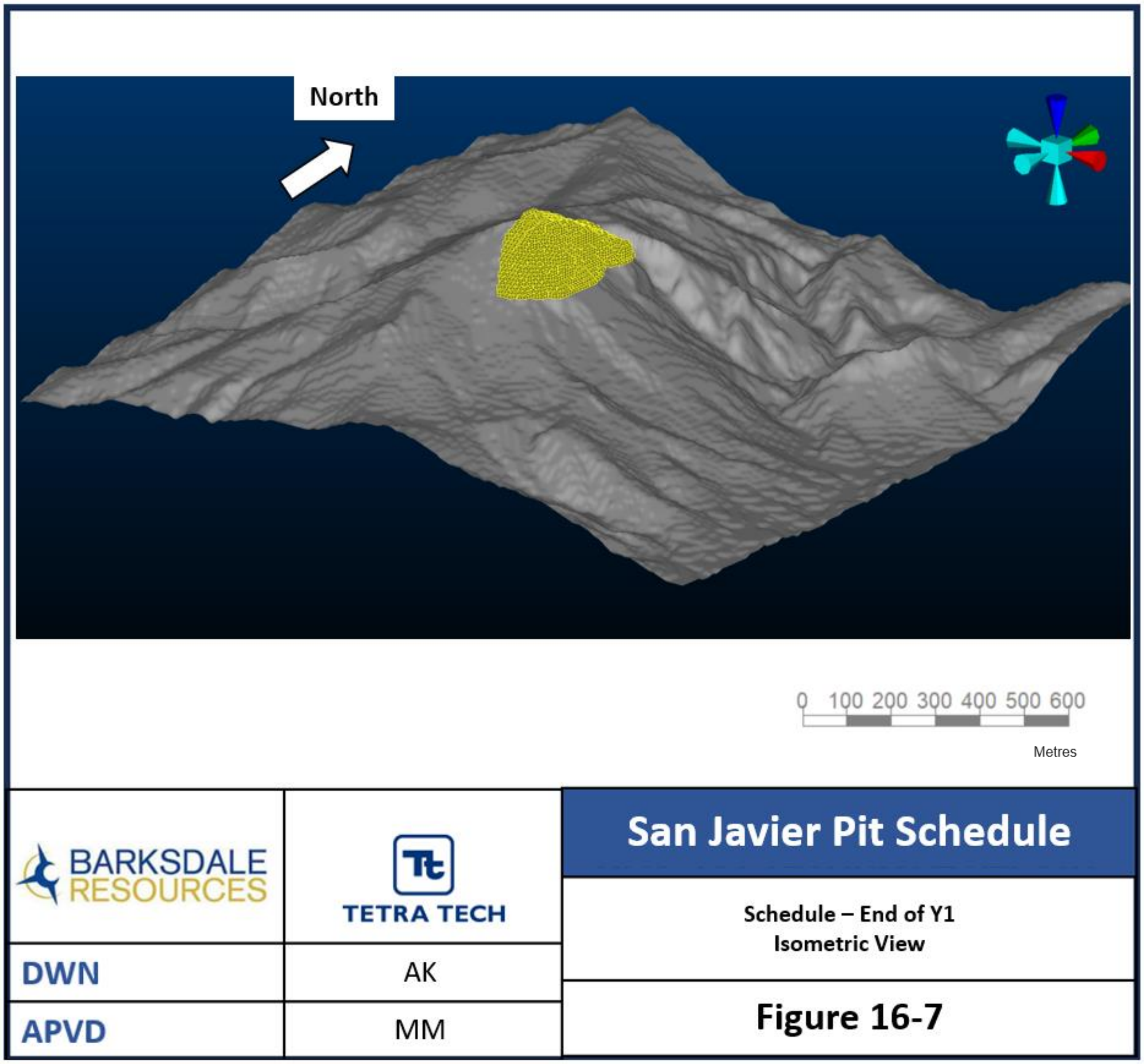


Figure 16-7: Pit Progression End of Year 1 (Isometric View Looking North-West)

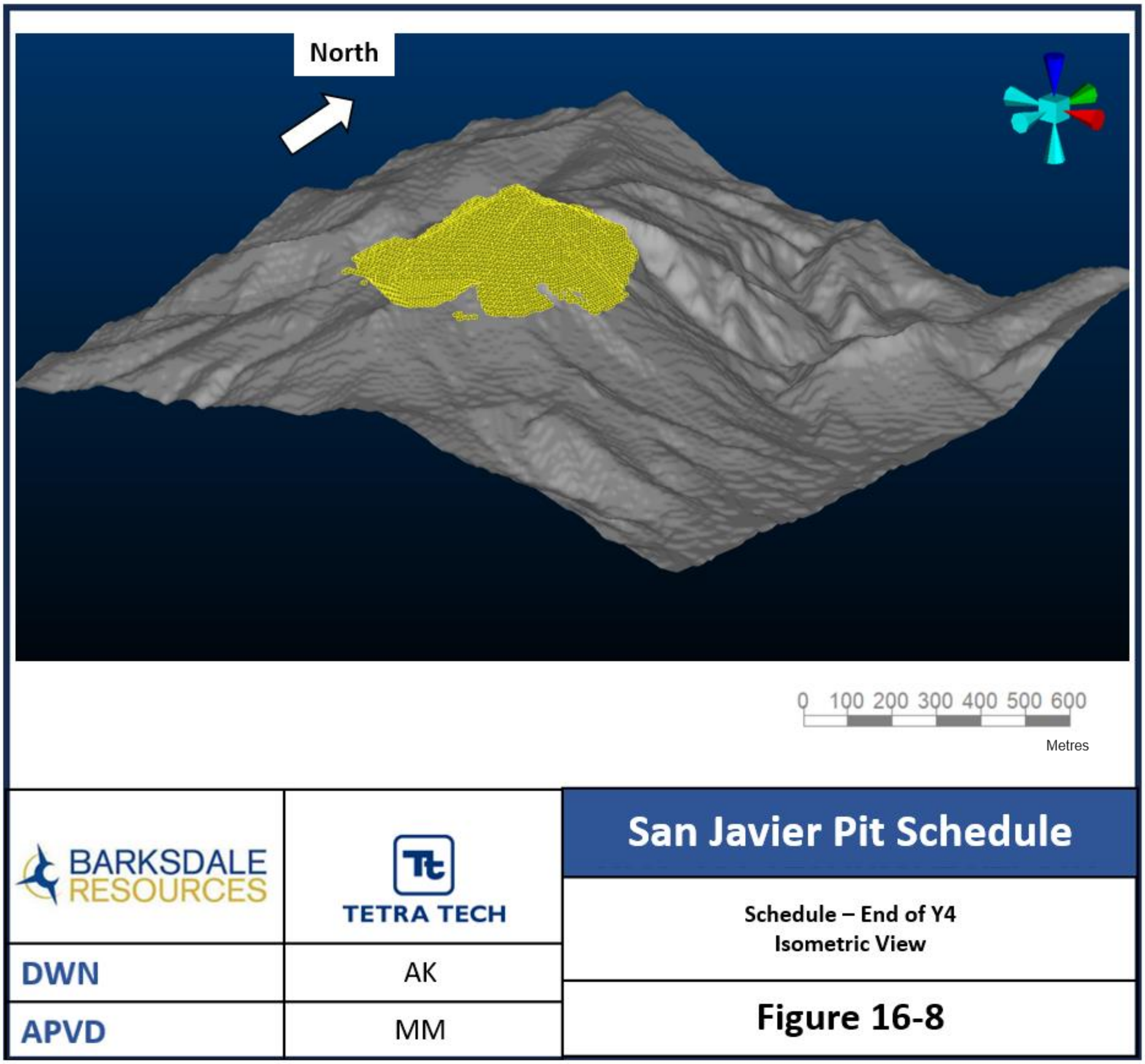
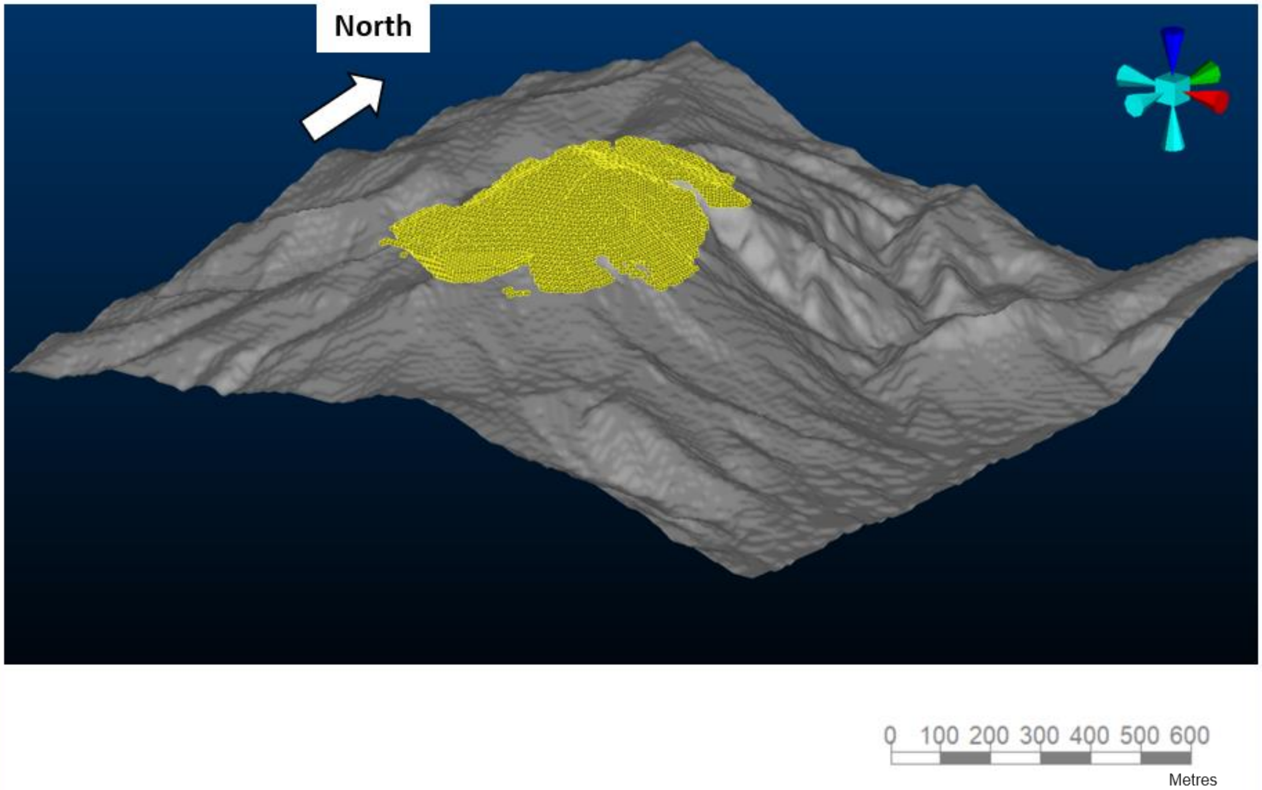


Figure 16-8: Pit Progression End of Year 4 (Isometric View Looking North-West)



BARKSDALE RESOURCES	TETRA TECH	San Javier Pit Schedule
		Schedule – End of Y7 Isometric View
DWN	AK	Figure 16-9
APVD	MM	

Figure 16-9: Pit Progression End of Year 7 (Isometric View Looking North-West)

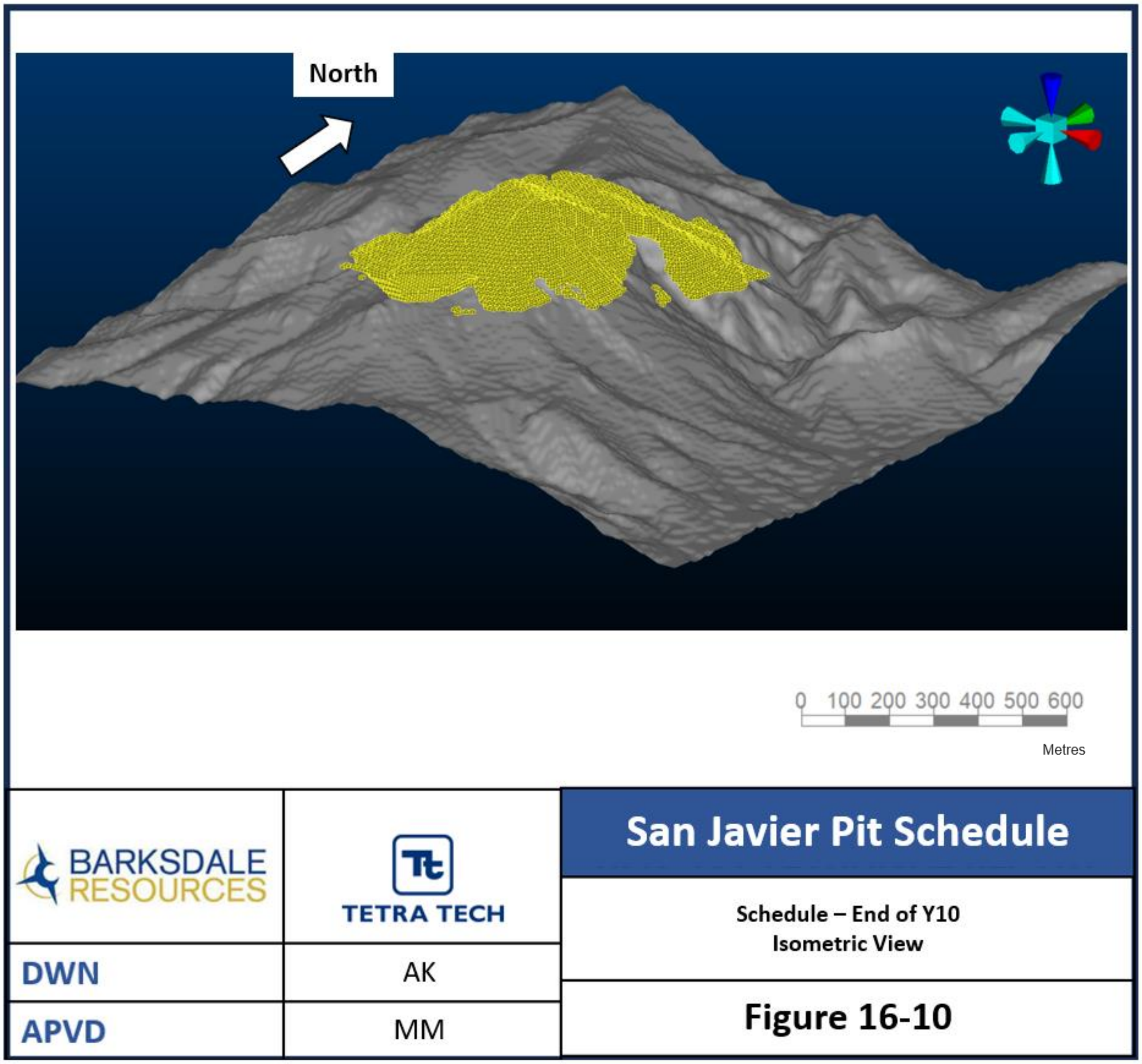


Figure 16-10: Pit Progression End of Year 10 (Isometric View Looking North-West)

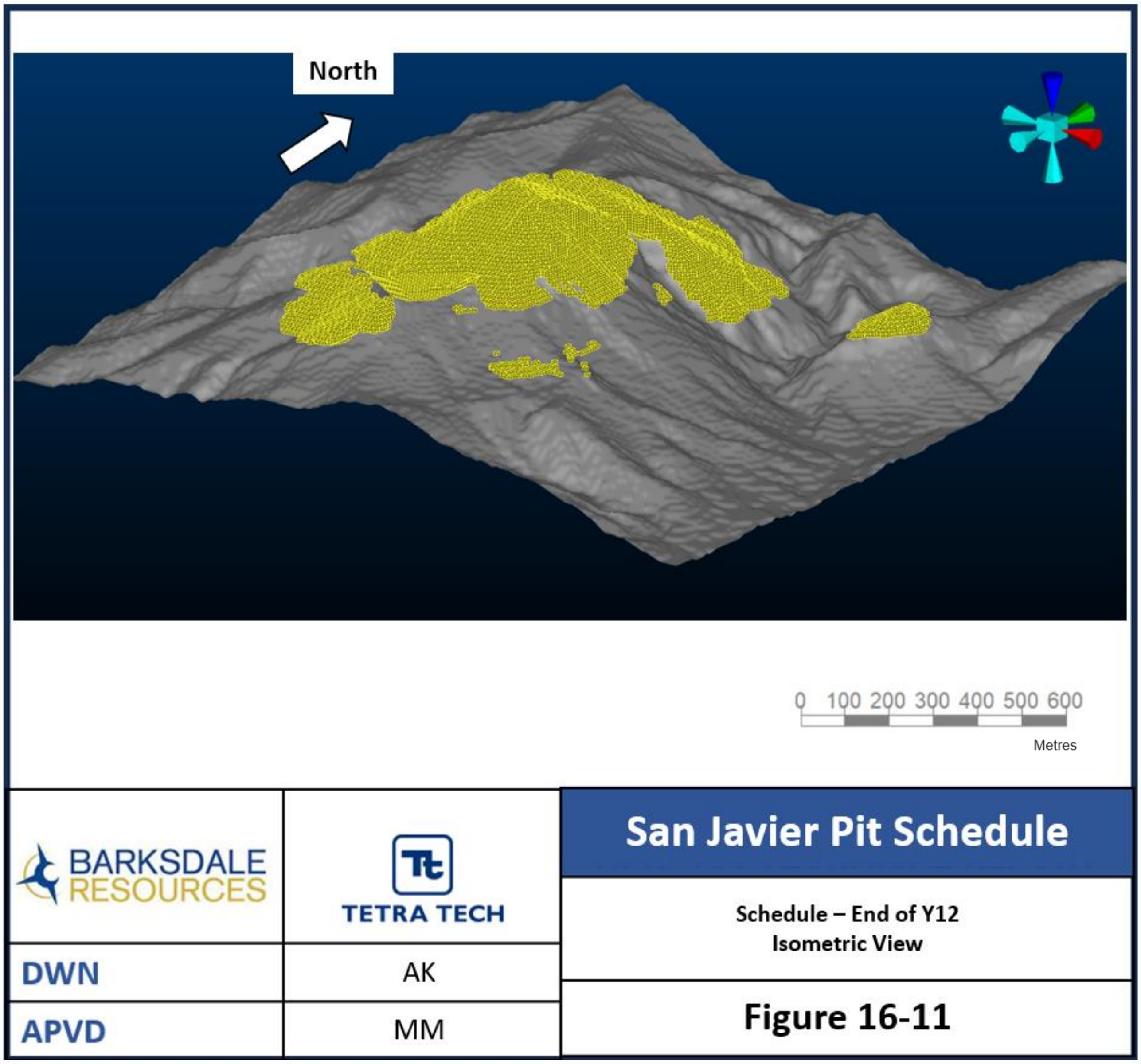
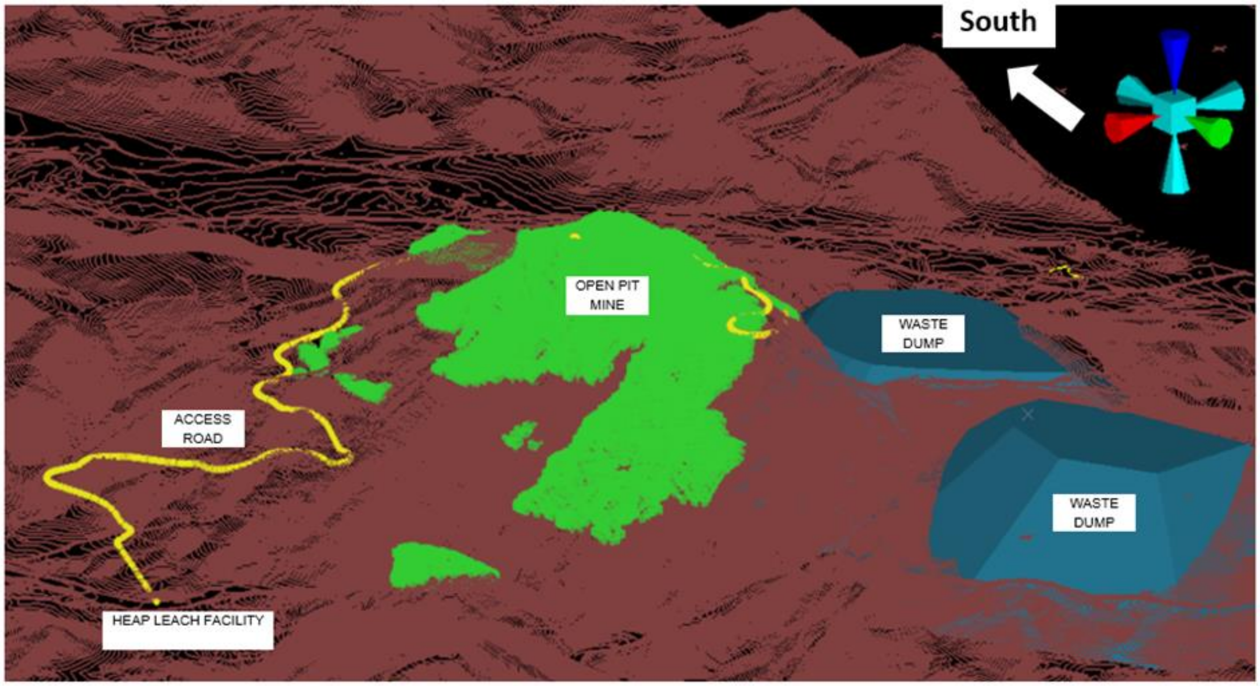


Figure 16-11: Pit Progression End of Year 12 LOM (Isometric View Looking North-West)

16.5.1 Waste Rock Storage

An approximate 25.7 Mt of waste rock will be excavated during the LOM production schedule. Two waste storage areas have been designed at an overall waste dump design angle of 37° to contain this rock. Both waste locations, as seen in Figure 16-12 and the map in Figure 16-13 below, have been designed near the open-pit mine, and waste will be trucked to the storage areas by an access road.



BARKSDALE RESOURCES	TETRA TECH	**San Javier Infrastructure** Isometric View of Waste Dumps, Open Pit, & Access Road to Leach Facility Isometric View
DWN	AK	
APVD	MM	**Figure 16-12**

Figure 16-12: Isometric View of Waste Dumps, Open Pit Mine, and Access Road to Leach Facility

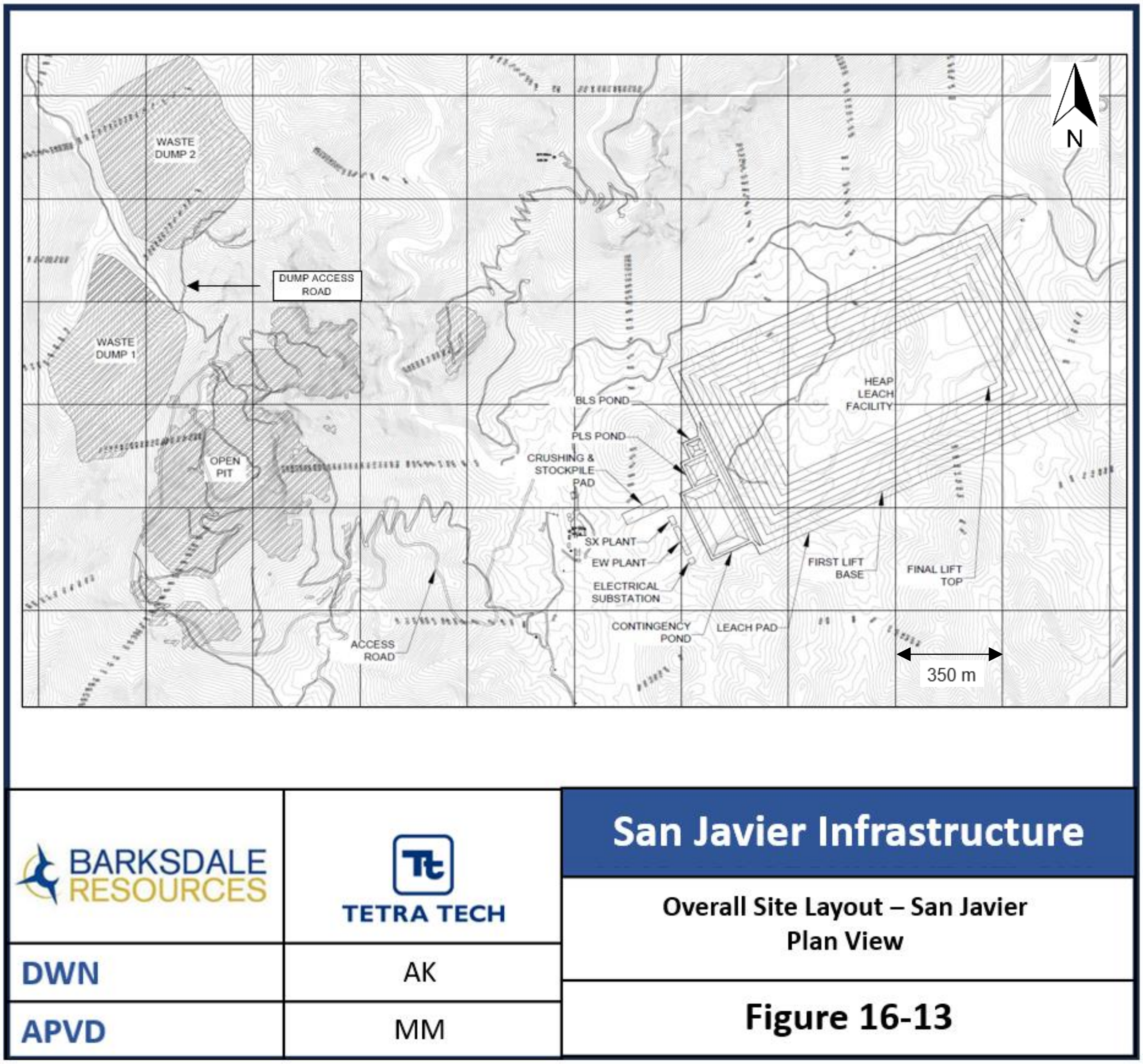


Figure 16-13: Overall Site Layout for the San Javier Project

16.5.2 Equipment Selection

The San Javier project will produce approximately 3.6 Mt of mineralized material annually through 365 days of operation. Mining this deposit, including the operation of all primary mining equipment, will be done by a local contractor. Conventional drilling and blasting methods will be used along with trucks and loaders to mine the deposit.

Table 16-9 lists the primary mining equipment required to achieve the annual production. Major mine equipment requirements were sized and estimated using first principles and based on the mine production schedule and estimated equipment productivity rates. The mine equipment will be used to develop the access roads from the mine to the leach pad and waste storage areas, mine and transport mineralized material to the leach pad, and mine and transport waste to the waste storage areas.

Table 16-9: Primary Mining Equipment

Primary Equipment Type	Units Required
Rotary Surface Drill – 150-250mm diameter	1
Wheel Loader – Komatsu WA800-8, 11.5m^3	2
Haul Truck – Komatsu HD785-8, 92.2t	5
Track Dozer & Ripper – CAT D10 (or similar)	1
Grader – CAT 18 (or similar)	1

The secondary mining equipment to support the operations includes:

- Trucks (Mechanics, Service & Lube, Fuel, Welding, Explosives transportation, Pickups),
- Small Mining Excavator,
- Explosives Truck (Shot loading truck),
- Crew Shuttle Bus,
- Zoom Boom,
- Tire Manipulator,
- Skid Steer,
- Dewatering pumps,
- First Aid Ambulance.

16.5.3 Maintenance Shops and Pit Infrastructure

The equipment fleet for this project is operated and maintained by contractor. Maintenance facilities will be set up by contractors for their fleets. Figure 16-13 outlines the site layout for the San Javier project. Owner equipment maintenance bays will be located close to the heap leach facility, as well as the crusher.

16.5.4 Access Road

An access road will connect the leach facility to the open pit, including access to the waste dumps. Road costs are dependent on the terrain, ground conditions, water crossings, and vehicles that will use this road. For this project, a 4 m-wide single lane access road will be built.

The access road has been designed at a gradient no steeper than 12% from the top of the mountain to the leach facility and waste dumps for a total length of approximately 4,300 m. A plan view of the access road is shown in Figure 16-14 with an isometric view following in Figure 16-15.

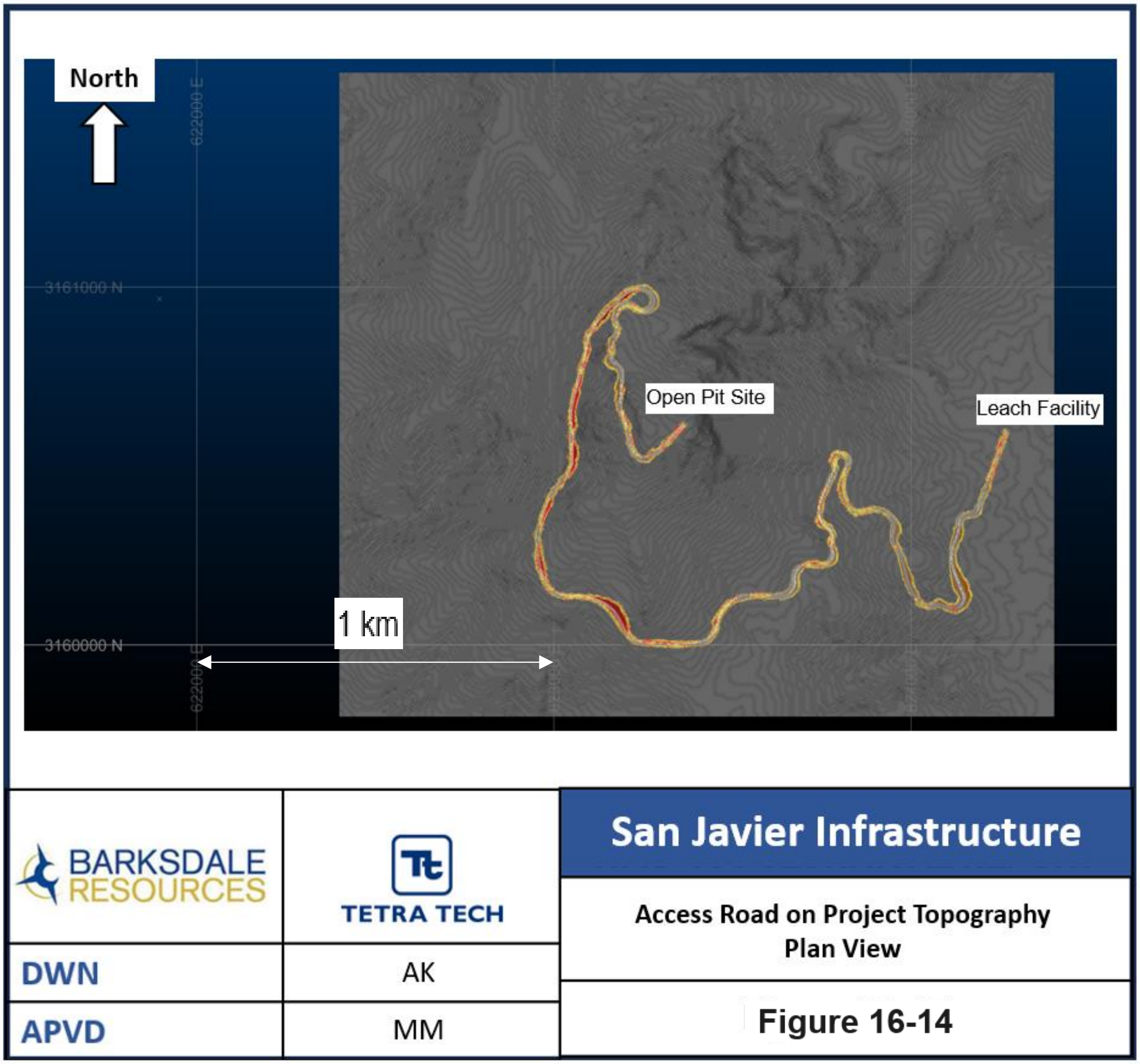


Figure 16-14: Plan View Showing Access Road on Topography

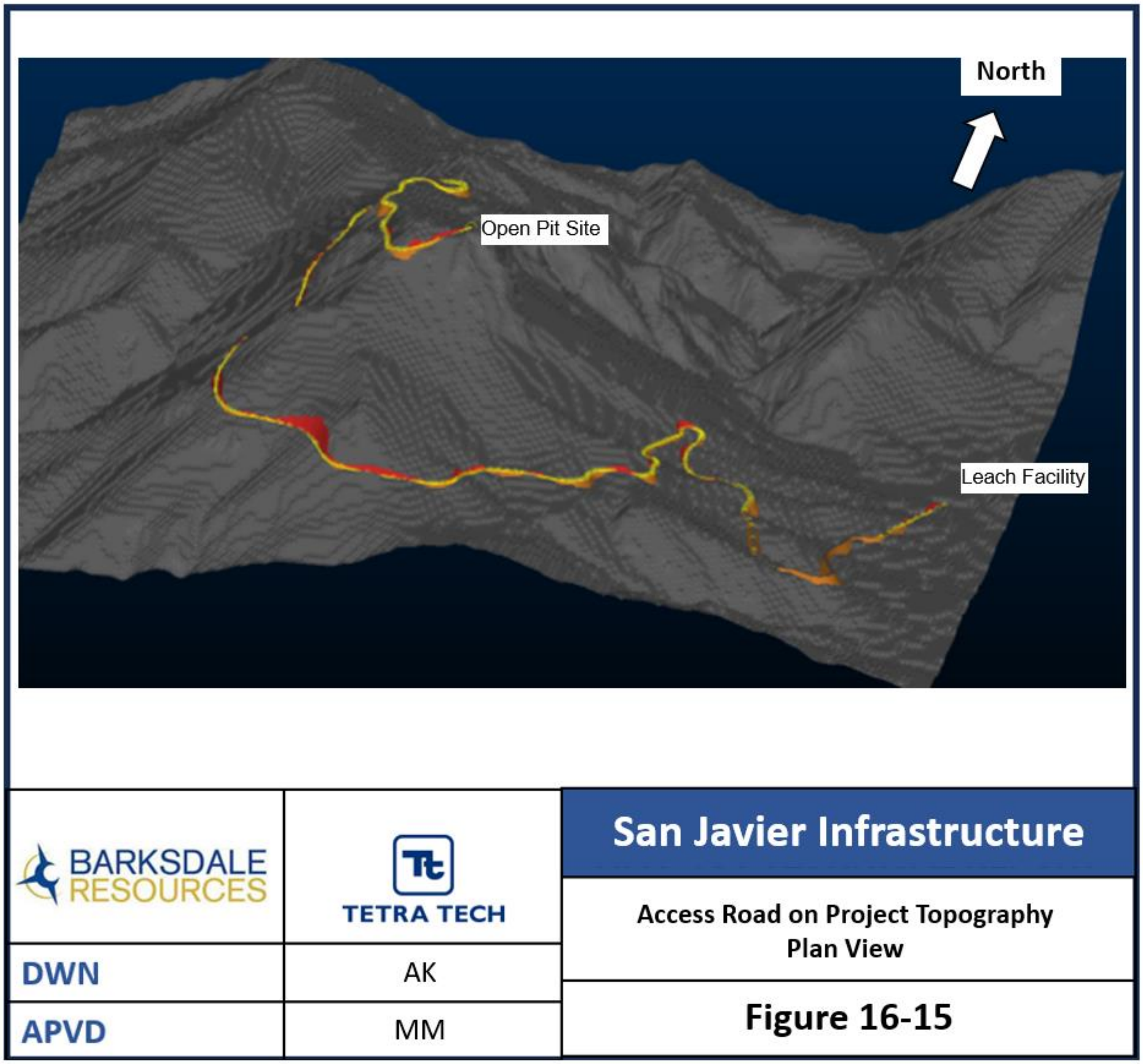


Figure 16-15: Isometric View Showing Access Road on Topography (Looking North-West)

17.0 RECOVERY METHODS

17.1 Introduction

Based on the metallurgical testing results discussed in Section 13.0, Tetra Tech's industrial experience and experience with local operations with similar mineralized material, a conventional heap leach followed by a SX/EW process, is proposed to recover copper from the mineralization at San Javier. The process plant will also consist of a conventional three-stage crushing system to prepare heap leach feed material. The combined process will produce salable copper cathode plates.

17.2 Flowsheet Development

The processing plant has been designed to process mineralized materials from the San Javier deposit at a nominal throughput of 10,000 t/d. The LOM average feed grade will be 0.34% total copper, including 0.20% of acid-soluble copper and 0.05% of cyanide-soluble copper. The anticipated average copper recovery will be 63.5%. The LOM average annual copper production will be approximately 7,730 t/y (excluding the recovered copper in the last year). The processing flowsheet design has been based on the test results discussed in Section 13.0.

The simplified process flowsheet is shown in Figure 17-1 and detailed in the following sections.

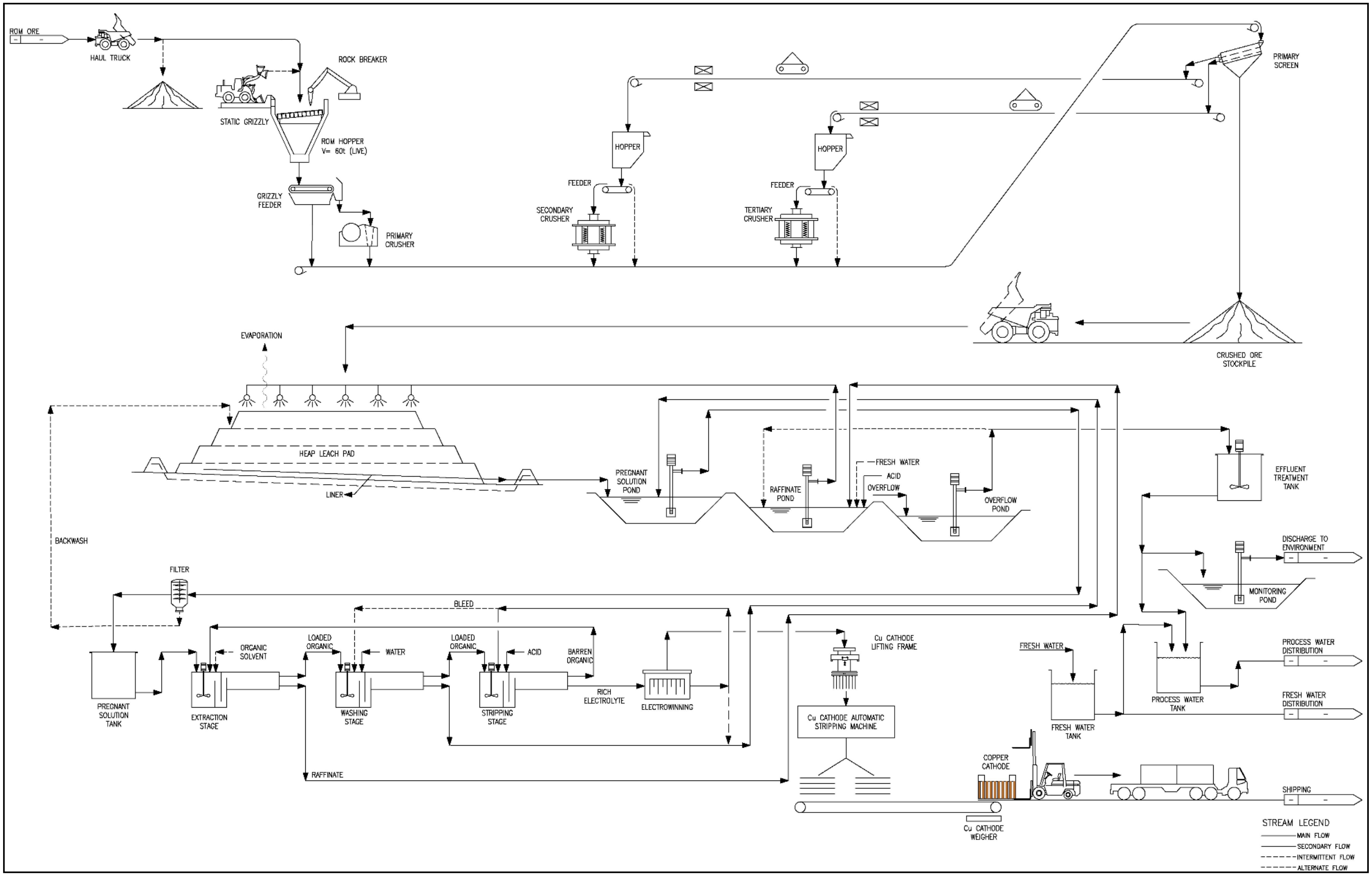


Figure 17-1: Simplified Process Flowsheet

17.3 Process Design Criteria

The processing plant is designed at a nominal throughput of 10,000 t/d for an average annual throughput of 3.65 Mt. The major design criteria used for the design of the processing plant are listed in Table 17-1.

Table 17-1: Major Plant Design Criteria

Description	Unit	Value	Source
Leach Feed Characteristics			
Specific Gravity	g/cm^3	2.8	Resource Estimate
Bulk Density	t/m^3	1.6	Industry Experience
Run-of-Mine (ROM) Moisture	% (by wt.)	2.0 - 3.0	Industry Experience
Bond Crusher Work Index (Average)	kWh/t	10.6	Testwork
Bond Ball Mill Work Index (Average)	kWh/t	15.0	Testwork
Abrasion Index (Average)	g	0.124	Testwork
Operating Schedule			
Shift/Day	--	2	Client
Plant Hours/Shift	h	12	Client
Plant Hours/Day	h	24	Client
Days/Year	days	365	Client
Crushing Circuit			
Shift/Day	--	1	Client
Plant Hours/Shift	h	12	Client
Availability	%	70	Industry Experience
Feed Rate	t/h	595	Calculation
Crushing Circuit Product Particle Size, K_{80}	mm	12.5	Testwork
Heap Leach Pad			
Heap Loading and Spreading Method	-	Truck & Dozer	Industry Experience
Grades and Productions Estimates			
Average LOM Feed Grade (Total)	% Cu	0.34	Mine Plan
Average LOM Feed Grade (Acid-soluble)	% Cu	0.20	Mine Plan
Average LOM Feed Grade (Cyanide-soluble)	% Cu	0.05	Mine Plan
Average LOM Recovery (Total Copper)	%	63.5	Testwork
Average LOM Production*	t/y	7,730	Calculation

** excluding partial operation in Year 13*

17.4 Process Description

17.4.1 Crushing Circuit

A conventional three-stage closed-circuit crushing system was selected to reduce the feed material particle size to 100% passing approximately 19 mm or 80% passing approximately 12.5 mm. The nominal feed throughput of the crushing circuit will be approximately 595 t/h, based on one 12-hour shift per day operating at an availability of 70%.

The main equipment installed at the crushing circuit will be:

- Stationary grizzly,
- Pan feeder,
- One skid-mounted jaw crusher with 250 kW installed power for primary crushing,
- One standard head cone crusher with 355 kW installed power for secondary crushing,
- One short head cone crusher with 355 kW installed power for tertiary crushing,
- One 3.0 m wide x 8.5 m long trailer-mounted double deck vibrating screen with 55 kW installed power for particle size control,
- Associated material handling and storage systems (surge bins, feeders, conveyors, magnets and metal detectors, compressors, air receivers, and dust control systems).

ROM heap leach feed will be hauled by 92-t trucks from the open pit mine to the primary jaw crusher. The ROM will be screened through a static grizzly screen with a 600 mm aperture, and the grizzly oversize will be broken using a hydraulic rock breaker. The grizzly undersize will be stored in a 200-t live capacity dump pocket.

Material from the dump pocket will be reclaimed using a pan feeder and fed to the primary jaw crusher. The jaw crusher will crush the ROM material to 80% passing approximately 130 mm. The primary crusher product, combined with the secondary and tertiary crusher discharges, will be conveyed to a double deck vibrating screen with a 50 mm aperture size for the top deck and a 19 mm size for the bottom deck. The material is dry-screened. The oversize from the top deck will be conveyed to the secondary cone crusher, whereas the oversize from the bottom deck will be conveyed to the tertiary cone crusher. The crushed materials from the cone crushers will discharge onto the screen feed conveyor. The undersize from the bottom deck of the sizing screen will be the final crushed product, with a particle size of 80% passing 12.5 mm or finer. The crushed material will be conveyed to a stockpile.

Dust collectors/spray water systems will be installed at the crushing facility to control fugitive dust generated during crushing and conveying. The belt conveyors will be equipped with a belt scale and magnet/metal separators to protect the cone crushers against damage caused by metal pieces.

17.4.2 Crushed Heap Leach Feed Stockpile

At a particle size of 80% passing 12.5 mm or finer, the crushing circuit product will be reclaimed using a front-end loader and transported to the heap leach pad by a fleet of 92-t haul trucks. The haul trucks will be the same type as those used for the mining operation and fully integrated into the mining operation to optimize operating efficiencies.

17.4.3 Heap Leach Facility

There will be only one leach pad. The leach heap pad dimensions are estimated to be 700 m wide and 1,150 m long. Each lift will be 10 m high, giving the heap an overall height of 70 m. The layout for the heap leach pad is shown in Figure 17-2.

The material lifts will be placed in an up-gradient direction at the angle of repose with set-back benches to form overall heap leach pad side slopes of 2.5H:1V. The heap leach pad will have a liner system consisting of a 0.6-m thick protective overliner layer consisting of crushed rocks or gravels, Low Linear Density Polyethylene (LLDPE) primary geomembrane, and compacted 0.30 m thick soil liner or compacted subgrade.

The overliner layer is required to protect the geomembrane and solution collection pipes from damage during the crushed material placement activities, wildlife, and other elements (i.e., ultraviolet radiation, storm flows, etc.). The overliner layer also contains the solution collection piping network. This Perforated Corrugated Polyethylene (PCPE) pipe network will enhance solution recovery to the PLS pond. The overliner comprises competent mineralized material or waste rock that has been crushed. The overliner material should be produced with a minimum of fines. The LLDPE primary geomembrane is provided as the primary containment liner. The LLDPE combined with compacted subgrade materials or low permeability soil liner provides a robust composite liner system to contain process solutions. The lining system will be equipped with a leaking detection system to monitor any potential leaking occurrences.

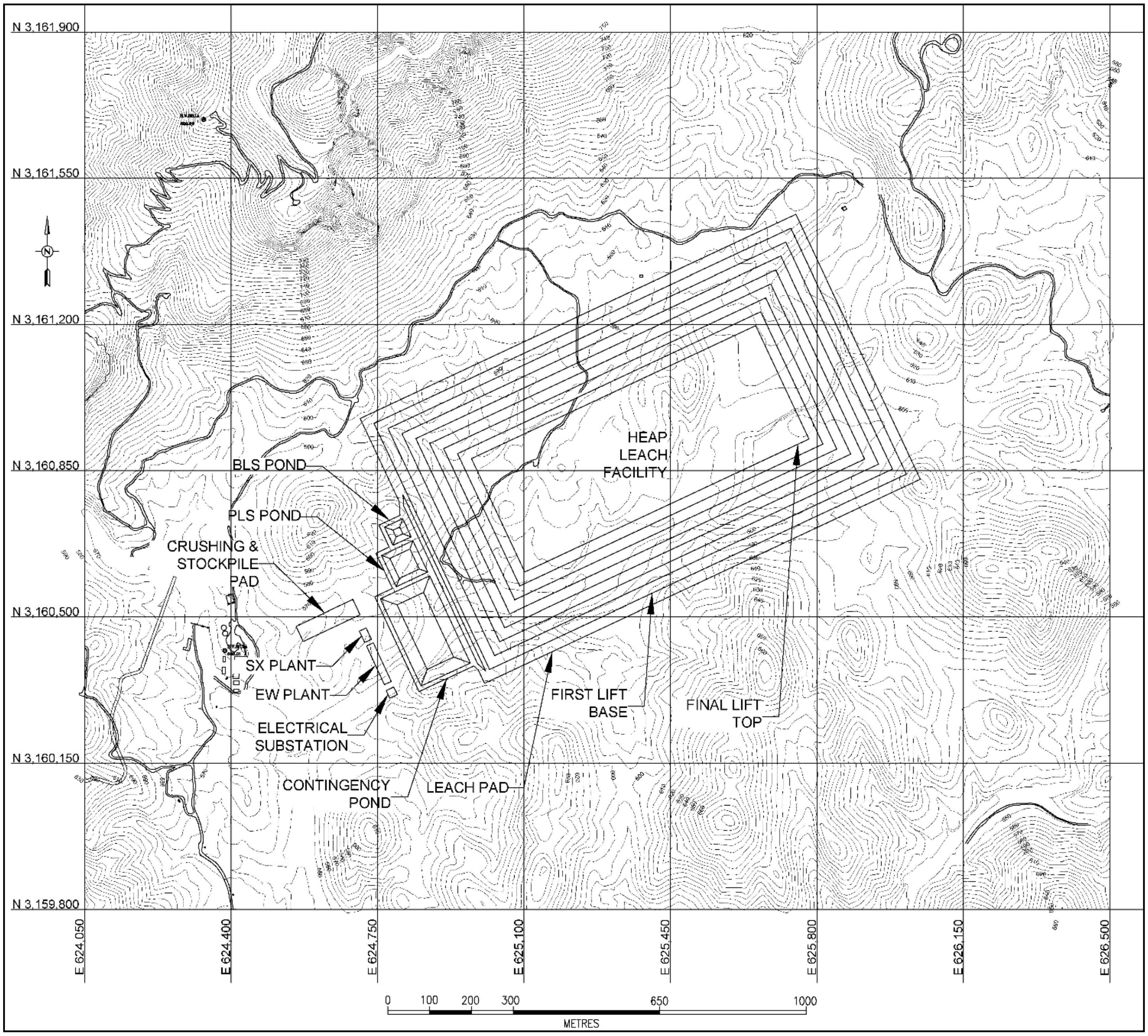


Figure 17-2: Heap Leach Facility Layout

The heap leach process will operate with three solution ponds:

- A Barren Leach Solution (BLS) pond,
- A PLS pond,
- A storm event or overflow pond (contingency pond).

The solution from the barren solution pond will be pumped to the heap leach pad. Concentrated acid will be added to the barren solution pond, which will be mixed to give a controlled acid concentration of approximately 5 to 10 g H_2SO_4/L. The acid solution will be distributed over the leach pad using irrigation pipes and drips for an overall solution feeding rate of approximately 12 L/h/m^2. A total leaching duration of 150 d will be allowed, followed by a wash/rinse cycle of 15 days resulting in a total loading, leaching, and rinsing cycle of 165 d.

The pregnant solution collected from the leach pad will be directed to the pregnant solution pond. The solution from the pregnant solution pond will be pumped to the SX plant for copper recovery. The barren solution will then be returned to the barren solution pond. The solution from the pregnant solution pond can overflow into the barren solution pond should this be required. The solution from the barren solution pond can also overflow into the contingency solution pond. This contingency solution pond will also collect excess water and drainage from the heaps and the plant environs during wet seasons. The overflow solution pond will also supply make-up water to the process by pumping the water back to the barren solution pond. Alternatively, the excess solution from this pond will be treated with lime in an agitated treatment tank to reduce the free acid levels and heavy metal levels to acceptable limits before being discharged to the environment or reused as process water.

The PLS pond will be sized to contain the flows resulting from 24 hours of pump shutdown plus the average rainfall falling over the PLS pond area with 1.0 m of freeboard. The barren solution pond will be sized to contain the flows from the average rainfall plus 8 hours of pump shutdown under average heap loading conditions with 1.0 m of freeboard. Both the ponds will include double-composite High-Density Polyethylene (HDPE) primary geomembrane, Leak Collection and Recovery System (LCRS) layer, compacted 0.30 m thick soil, and HDPE secondary geomembrane liner.

The contingency pond will be sized to contain flows from the 100-year, 24-hour design storm event falling over the ultimate leach pad and pond-lined areas with 1.0 m of freeboard. The contingency pond will include a compacted 0.30 m thick soil liner and an HDPE primary geomembrane.

17.4.4 Solvent Extraction

The SX circuit purifies and concentrates copper in the pregnant solution for EW. The SX process is continuous, with an availability of 92%. The SX has been designed to process up to 650 m^3/h of PLS at a copper grade ranging from 2.0 g/L to 3.0 g/L Cu. SX copper recovery will be higher than 95%. A small amount of copper is lost to the raffinate bleed stream.

Extraction Stage

Two mixer settlers (MS) will extract copper from the PLS using an organic solvent known as an extractant. The organic solvent used for this process will be LIX 984 or Equivalent. Mixing of organic and aqueous solutions will occur in the mechanically stirred mixer box compartment of each MS. The mixed emulsion will overflow into the settler box for phase separation. The aqueous exiting MS is depleted of copper and is now referred to as raffinate. The raffinate will be pumped back into the barren solution pond to be reused for leaching.

Washing Stage

One mixer settler will be used to wash the loaded organic exiting the extraction section with water. The washing stage is to remove entrained aqueous droplets from the loaded organic, thereby minimizing the possibility for harmful elements to report to the EW stage. The spent aqueous will be reused in the extraction stage.

Stripping Stage

The stripping stage transfers the copper from the organic phase back to the aqueous phase of copper. The barren organic solvent from the stripping stage will be pumped back to the extraction stage. The pregnant strip solution (rich electrolyte), with a copper concentration higher than 45 g/L, will be sent for EW.

As a fire control measure, all equipment in the SX plant area will be well-ventilated and have organic drains that dump organic into an external emergency organic dump tank.

17.4.5 Electrowinning Circuit

The EW circuit will recover copper from the rich electrolyte solution. There will be two EW lines. The circuit will be located in a secure enclosed area with Closed Circuit Television (CCTV) cameras and restricted access.

The rich electrolyte solution will be pumped from the SX circuit to the first stage of the EW system, where the solution will be heated and filtered to remove any residual organic and particulates before entering the tank house. The tank house structure holds the EW cells.

The filtered electrolyte will be pumped to an EW cell feed head tank, reclaimed at a controlled rate, and fed to the EW cell. Copper metal will be electro-deposited from the electrolyte on the stainless-steel cathode blanks (cathode) over a nominal 7-day cycle. An overhead crane will lift out sets of cathodes from the EW cells based on 1/3 cell live load harvest. The cathodes will be washed and fed to the cathode plate stripping system. The copper cathode will be stripped from the stainless-steel blanks, sampled, weighed, and packaged. The spent electrolyte solution containing approximately 30 to 35 g/L Cu from the EW system will be sent to the stripping circuit of the SX system.

Cathode plates will be 316 stainless steel with an active plating area of 1 m by 1.1 m. The anodes will be solid rolled lead/calcium/tin alloy sheets. Two separate rectifier systems will provide direct current for the two electrolytic lines. Cell voltage is 2 V for the nominal operation or 2.2 V for the design. The current density is 280 A/m2 for the nominal operation or 300 A/m2 for the design. The strong electrolyte feeding to the EW system is expected to be 25°C, and the spent electrolyte leaving the system at approximately 45°C.

Cobalt will be added to improve EW efficiency. Typical SX/EW circuits can produce copper cathode at 99.99% or better purities. Cathode with 99.999% purity can be expected to provide a premium in the marketplace.

17.5 Reagent Handling and Storage

The main type of reagents for the process plant includes sulphuric acid, organic solvent, solvent dilute, cobalt sulphate, guar and lime.

The covered and curbed reagent storage and preparation area will be located adjacent to the leaching area. A forklift with a drum handler will be used for reagent handling. Electric hoists servicing in the reagent area will lift the reagents to the respective reagent mixing area located above the mixed reagent storage area. The reagent handling system includes unloading and storage facilities, mixing, stock, transfer pumps, and feeding equipment.

The storage tanks will have level indicators and instrumentation to ensure that spills do not occur during normal preparation operations. Appropriate ventilation, fire, and safety protection will be provided at the facility. Material Safety Data Sheets (MSDS) will be provided to the operating staff as a training and reference source. Each tank, reagent line, and addition point will be labelled following the Workplace Hazardous Materials Information Systems (WHMIS) standards. All operational personnel will receive WHMIS and additional training for safely handling and using the reagents.

Sulphuric Acid

Concentrated sulphuric acid will be received in liquid form in bulk tankers and stored in carbon steel tanks. The acid will be added without dilution by metering pumps to the barren solution pond and SX circuit. The containment area will have sumps and pumps to recycle any spillage.

Organic Solvent and Diluent

The organic solvent will be received in liquid form in an intermediate bulk container and stored in FRP tanks separately. They will be added separately by metering pumps to the barren organic tank without dilution.

Cobalt Sulphate

Cobalt sulphate will be shipped to the site in solid form, mixed with water into a solution, and then stored in a holding tank before being added to the EW cells at a controlled rate.

Other Reagents

Antiscalants, as required, will be added to minimize scale build-up in water lines. This reagent will be delivered in liquid form and metered directly into the intake of the water pumps. Lime will be used for effluent treatment if any excessive effluents are needed to be discharged.

17.6 Plant Services

17.6.1 Water Supply and Distribution

Fresh water and process water will be required to operate the process plant. Fresh water from a local well will be provided to a freshwater storage tank and further pumped for various application points, including reagent preparation. Process water will be made up of reclaimed water from the overflow pond and make-up fresh water. Process water will be stored in a tank and pumped to various application points.

Freshwater will be used primarily for the following:

- Firewater for emergency use,
- Reagent preparation,
- Dust suppression,
- Potable water supply.

The barren solution from the SX circuit will be mainly reused for leaching.

17.6.2 Air Supply and Distribution

Air service systems will be provided at the plant site for the following applications:

- Crushing: high-pressure air will be provided for the crushing facility.
- Plant air: high-pressure air will be provided for the process plant for various maintenance.
- Instrumentation: dried and oil-free instrument air will come from the plant air compressors and be stored in a dedicated air receiver.

17.6.3 Instrumentation and Process Control

A distributed control system (DCS) will be designed and installed in the process plant. The process control system will consist of individual locally mounted control panels located near the equipment and a PC-based operator interface station (OIS) located in a centralized control room. The local control panels will be a point for monitoring and controlling the nearby equipment and instrumentation. Alarm annunciation will be local to the major equipment or located on the local control panel. The DCS and OIS will perform process control and data management through equipment and processing interlocking, control, alarming, trending, event logging, and report generation. In this manner, the process plant will be monitored and operated automatically from operator workstations in conjunction with control systems.

17.6.4 Quality Control

A metallurgical and assay laboratory will be provided to conduct daily assays for quality control and to optimize process performance. The assay laboratory will be equipped with the necessary analytical instruments to provide all the routine assays for mine samples, geological samples, process plant samples, and samples taken for environmental monitoring. The metallurgical laboratory will undertake all basic test work to monitor metallurgical performance and to improve the process flowsheet and efficiencies.

17.7 Annual Production Estimate

The processing plant will generate copper cathode during the proposed 13-year LOM. The annual metal production rate has been projected based on the mine plan, leaching plan and metallurgical performance projections. The process plant is estimated to produce 94,737 t of copper. Table 17-2 provides the overall cathode production projections.

Table 17-2: Projected Metal Production

Year	Leach Feed Processed (kt)	Head Grade (% TCu)	Head Grade (% ASCu)	Head Grade (% CNCu)	Recovery (%)	Copper Production (t)
Year 1	2,752	0.47	0.29	0.07	66.5	8,515
Year 2	3,655	0.42	0.22	0.09	63.7	9,805
Year 3	3,655	0.34	0.21	0.05	66.3	8,324
Year 4	3,655	0.34	0.26	0.02	70.4	8,873
Year 5	3,655	0.30	0.22	0.02	71.3	7,804
Year 6	3,655	0.29	0.20	0.04	70.9	7,647
Year 7	3,655	0.35	0.20	0.06	64.6	8,212
Year 8	3,655	0.30	0.16	0.05	62.4	6,854
Year 9	3,655	0.30	0.17	0.05	63.8	7,025
Year 10	3,655	0.37	0.18	0.07	56.6	7,560
Year 11	3,655	0.35	0.17	0.06	53.4	6,909
Year 12	3,409	0.28	0.15	0.04	54.9	5,228
Year 13	1,581	0.22	0.13	0.03	55.9	1,982
Total LOM	**44,293**	**0.34**	**0.20**	**0.05**	**63.5**	**94,737**

Note:
ASCu = Acid-soluble Copper, CNCu = Cyanide-soluble Copper
Mill feed tonnage and copper production are rounded to the nearest integers.
Total may not add due to rounding .

17.8 Staffing

Personnel requirements are developed based on operational requirements, including shift, equipment attendance, safety, training, and maintenance requirements. Average annual process plant staffing requirements are summarized in Table 17-3. The staffing is based on two 12-hour shifts per day.

Table 17-3: Plant Staffing Requirements

Area	Personnel Required
Management	10
Operations	70
Metallurgical and Assay Laboratory	9
Process Plant Maintenance	28
Total	**117**

18.0 PROJECT INFRASTRUCTURE

18.1 Site Access

The San Javier project is located in Sonora, Mexico, approximately 140 km southeast of Hermosillo. The Project is accessible from Hermosillo by a well-maintained paved two-lane highway (Highway #16). On Highway 16 at approximately Km 141, a junction to the north leads to San Javier Property. Following the winding paved road uphill for approximately 2.8 km and making a sharp turn southeast on an unmarked dirt road for approximately 1.6 km would lead to the mine site. The site is currently accessed by a gravel road which would be upgraded to service the Project. Hermosillo is the nearest major city and is serviced by direct airline flights from several major Mexican and US cities.

Additions and upgrades to existing access roads will be required to access mine infrastructure, processing facilities, explosive magazines, potable water well, seepage ponds, and all other ancillary infrastructure.

The leach pad will be located in the same general area, covering approximately 86 ha. The large elevation difference between the mine and pad will require road design attention and present the opportunity for possible power re-generation systems.

The principal buildings at the plant site will include the SX and EW plant, a maintenance complex, an administration building, a warehouse, a reagent storage facility, and an assay laboratory. Where practicable, the building will be modular-type construction to reduce construction costs. Figure 18-1 illustrates the overall site layout.

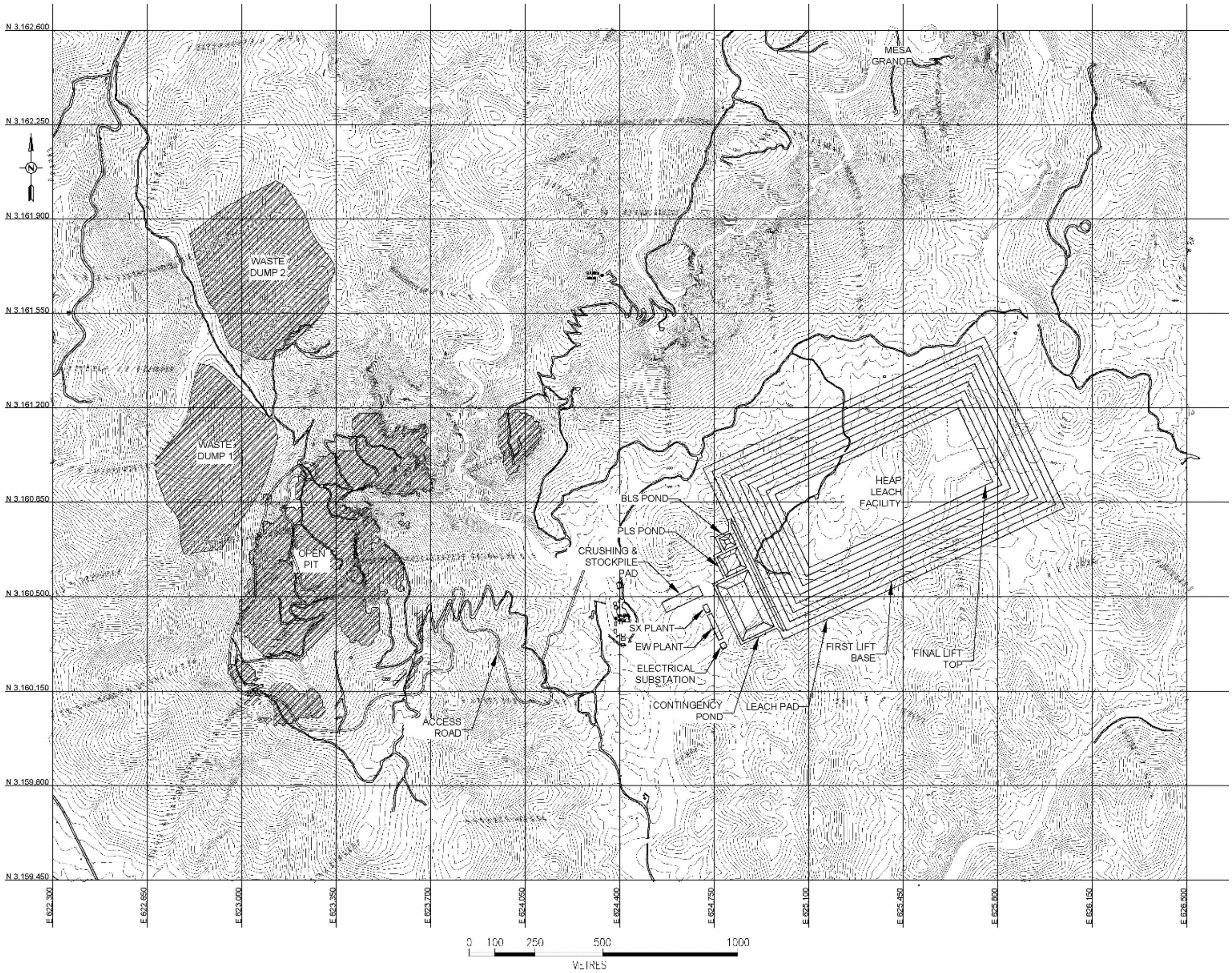


Figure 18-1: Overall Project Site Layout

18.2 Mineral Processing Facilities

The mineral processing facilities comprise the crushing circuit, heap leach pad, PLS, BLS and contingency ponds, SX and EW plants, storage tanks, reagent storage, and cathode storage and loading facility. Please refer to Section 17.0 for detailed descriptions of the mineral processing facilities.

18.3 Site Ancillary Infrastructure

18.3.1 Maintenance Complex

The maintenance complex will be a pre-engineered building designed to accommodate facilities for repairing, maintaining, and rebuilding mining equipment, haul trucks, light vehicles, and mobile equipment. The facility will house a wash bay with repair bays, a welding area, a machine shop, an electrical room, a mechanical room, an air compressor, and lube storage. The facility is designed to service and maintain the mining and process plant/site services fleet. The facility will also provide warehousing space for spare parts and consumables, offices, lunchrooms, washrooms and dry for personnel, first aid, emergency response station, and necessary equipment storage.

18.3.2 Cold Storage

Cold storage is required for the short- and long-term storage of consumables requiring protection from environmental elements. The storage will be an insulated, unheated, single storey sprung structure with light vehicle truck access doors at each end and accompanying main access doors adjacent to the vehicle doors.

18.3.3 Fuel Storage

Diesel will be used for general site equipment, surface and mine mobile equipment, backup generators, and other ancillary services. Modular diesel fuel tanks (known as " International Organization for Standardization (ISO) tanks") will be used for fuel storage and transported to the site. The ISO tanks are double-walled. The ISO tanks will be placed in a designated fuel farm area adjacent to the maintenance complex, providing approximately five days of fuel storage capacity. A modular fuel dispensing station will provide a means for fuelling mobile equipment. The ISO tanks will be transported to and removed from the site by the fuel supply vendor for refuelling.

18.3.4 Administration Building and Mine Dry

The administration building will be a single-story, air-conditioned modular building near other ancillary buildings. This facility will house mine dry, lockers, shower facilities, first aid, and office areas for the administrative, engineering, and geology staff. The building will have a lunchroom, offices, workstations, and conference rooms for mine personnel.

18.3.5 Assay Laboratory

The assay laboratory will be a single-storey modular building. The facility will house the assay and metallurgical laboratory equipment required for grade control assays and metallurgical tests. It will be equipped with all appropriate HVAC and chemical disposal equipment as needed.

18.3.6 Gatehouse

Access to the Project site will be monitored and controlled by the security on site. The security gatehouse will be a single-storey modular building with a waiting area for visitors, a reception counter, and a washroom and will be stationed by the site security 24/7.

18.3.7 Laydown Area

Open area storage areas will be provided for construction laydown, operations, and maintenance storage for equipment and materials.

18.3.8 Air Conditioning and Ventilation

All offices and enclosed working spaces will be air-conditioned to provide comfortable working conditions. Smaller electric air conditioning units will be installed where required. Mechanical rooms, electrical rooms, and storage will be ventilated using filtered outdoor air. Washrooms, change rooms, and janitorial rooms will be mechanically exhausted to the atmosphere. Make-up air will either be transferred from adjacent areas or supplied as filtered outdoor air.

18.3.9 Fire Protection

A complete fire water/chemical storage, distribution, and dispensing system will be constructed and installed as per applicable regulations. Fire detectors, alarms, and extinguishers will be installed where required. Sprinkler systems will be provided in lube rooms, air compressor rooms, blower rooms, the warehouse, the laboratory, and the administration building.

The SX plant will be provided with a specially designed fire suppression system. The SX plant will utilize a carbon dioxide (CO2)-based fire suppression system. Spare CO_2 cylinders will be stored in a connected backup configuration. If a fire is detected in one mixer settler unit, all units will be simultaneously injected with CO_2 as a precaution. The complete fire suppression system will be integrated with the DCS for auto-operation. In an emergency, the fire system takes control of the process for an orderly shutdown.

18.3.10 Sewage Treatment

Sewage collected from the site will be pumped to the sewage treatment module for proper treatment before discharge. The sewage treatment module will be of the rotating-biological-contactor type. Treated effluent will be pumped to the designated discharge point for release.

18.3.11 Waste

All the hazardous waste will be segregated and placed into designated containers at the point of generation. All the collected waste will be temporarily stored in a lined laydown area near the site fuel storage facility and shipped offsite to a recycling or disposal facility.

Non-hazardous waste will be separated into putrescible and non-putrescible waste. The putrescible waste, such as food, will be segregated and incinerated at an onsite facility. Non-putrescible, recyclable waste will be collected and stored in an onsite landfill or shipped to an offsite recycling facility.

18.4 Power Supply and Distribution

Grid power is available and supplied to the site via a 32 kV line adjacent to Highway 16. A modern 2 km power line currently exists along the access road from the highway to the historic mill site. The line will need some maintenance; however, it is serviceable. Power usage is estimated to be approximately 6 MW. The main substation will step down from 32 kV to 4.16 kV for site power distribution.

A 4.16 kV overhead distribution will supply power to all areas, including the truck shop, water treatment plant, mineral processing facilities, permanent camp, and other ancillary buildings. Local substations will step down the voltage from 4.16 kV to the local distribution voltage as required. Motor control centers and power distribution centers at each facility will manage and control power requirements.

18.5 Communication

Onsite communication systems will include a voice-over-internet protocol (VoIP) telephone system, a local area network (LAN) with wired and wireless access points, and hand-held Very High Frequency (VHF) radios. Offsite communications will utilize a satellite-based, cellular-based, or landline-based system. The economics between these options depends on the proximity of the nearest available fibre-optic or cellular network in the region.

18.6 Fresh and Fire Water

Surface water supplies are restricted so that the Project water supply will be obtained from available groundwater sources. Freshwater requirements for the site will be supplied from the groundwater wells. Freshwater will be used primarily for potable water supply and firewater for emergencies. Potable water for the site will be pumped to the water treatment units (chlorination and ultra-violet disinfection), stored in a potable water tank, and distributed to the various facilities.

Fresh/firewater for the plant and other facilities on the site will be stored in a fresh/fire water tank with a fire water reserve at the process plant. A firewater loop will be installed throughout the site with a backup diesel pump and jockey pump to supply water to the fire hydrants. Fire extinguishers and automatic sprinkler systems will also be installed throughout the facilities. Emergency showers and eye wash stations will be established at predetermined locations.

18.7 Water Management

The key facilities for the water management plan are:

- Mine dewatering,
- Mineral processing facilities (including fresh and process water tanks),
- Surface water diversion and water management structures,
- Fresh water supply system, including pumps and piping,
- Sediment and erosion control measures for the facilities.

The water management strategy utilizes water within the project area to the maximum practical extent. The plan involves collecting and managing site runoff from disturbed areas and maximizing process water recycling. The water supply sources for the Project are as follows:

- Precipitation runoff from the mine site facilities,
- Water withdrawn from the groundwater wells for freshwater supply,
- Treated grey water, in small quantities, from the buildings.

Stormwater runoff will be diverted around the leach pad and process facilities via engineered diversion conveyances. The major diversion will re-route around the leach pad to a point where it can re-connect with the existing channels. A detailed site water balance assessment will be carried out to determine the water management strategy and process make-up water requirements during the next phase of the Project.

19.0 MARKET STUDIES AND CONTRACTS

It is assumed that the copper cathode produced at San Javier can be readily sold in the open market. Table 19-1 outlines the recoveries, transportation costs and third-party charges used in the analysis. These terms were used for all metal pricing scenarios evaluated in Section 22.0 of this Report.

Table 19-1: Parameters Used in Economic Analysis

Assumptions	Unit	Value
Cu – Recovery (LOM Average)	%	65.7
Cu Payable	%	99.5
Cu Price	$US/lb	$4.00
Cathode Transportation Cost	$/t	80.00
Cathode Third Party Charge	$/t	10.00

19.1 Contracts

No contractual arrangements for product trucking, port usage, shipping, or refining exist at this time. Furthermore, no contractual arrangements have been made for the sale of the copper cathode to be produced at the San Javier mine.

19.2 Royalties

The mining concession is subject to royalty payments amounting to 1% to 2% of the mine's NSR for the LOM, as per the following:

- If the price of copper is equal to or less than US$3.49/lb, the Royalty will be 1%,
- If the price of copper is equal to or greater than US$3.50/lb, the Royalty will be 2%,

These royalties have been included in the economic analysis of the Project.

19.3 Metal Prices

The base and precious metal markets benefit from terminal markets worldwide (London, New York, Tokyo, Hong Kong) and fluctuate almost continuously. Historical copper price from 2010 to 2023 is presented in Figure 19-1.

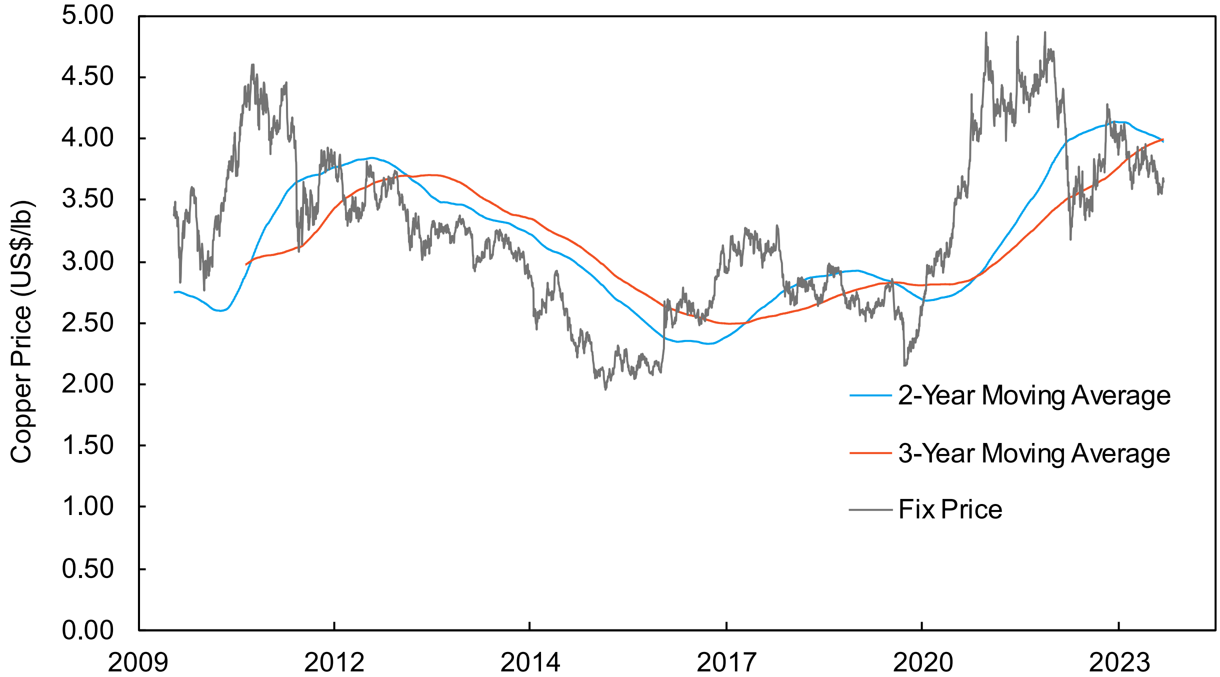


Figure 19-1: Historic Copper Cash Price from 2010 to 2023

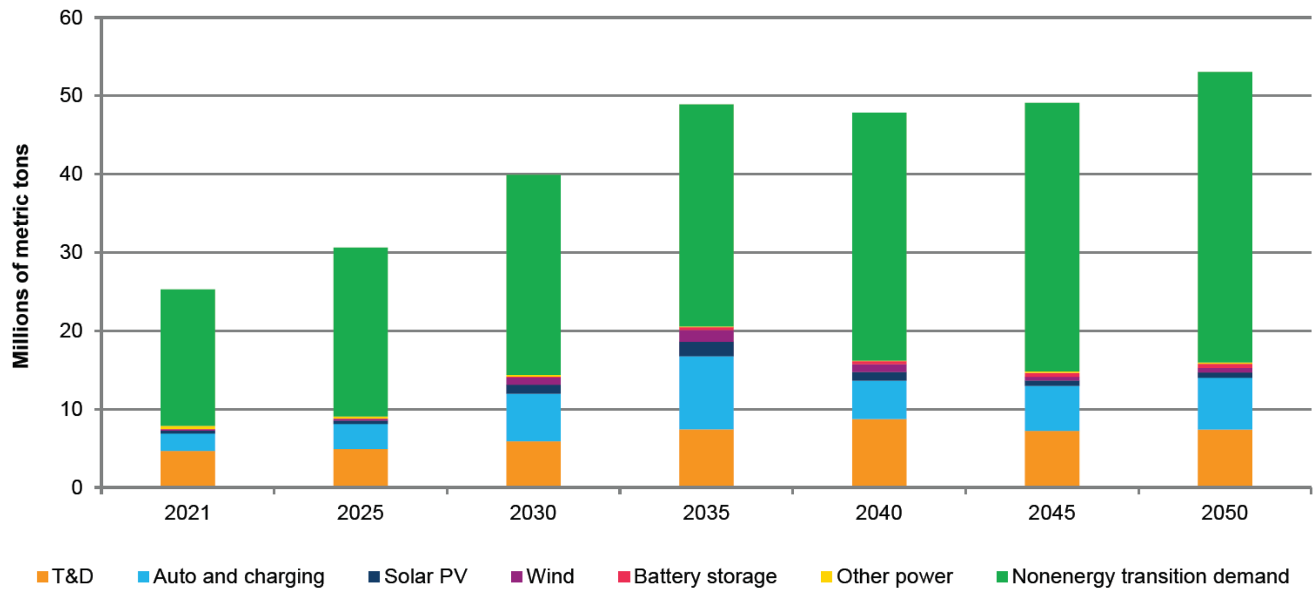
(Drawn from Westmetall, 2023)

For the economic analysis, a base case target copper price of US$4.00/lb was used, and sensitivity analysis was performed with the copper price variation of ±35%.

The target price was based on consideration of spot pricing, simple moving average pricing, and trends in the spot price. The target price of US$4.00/lb is considered a reasonable value, which acknowledges a 2-year trailing average (October 2021 to October 2023) stands at $3.99/lb. The sensitivity analysis performed with the varying copper price provides the economic impact on the Project.

19.4 Copper Global Supply and Demand

Extensive deployment of low-carbon power sources and automotive applications is necessary to achieve Net-Zero Emissions. Electric vehicles (EVs), charging infrastructure, and renewable energy technologies such as solar photovoltaic cells and wind turbines require more copper than conventional fossil-based alternatives. The primary drivers behind this surge are the necessary shift towards clean vehicles and the electrification of the economy. As a result, double-digit growth in global copper demand is forecasted in these sectors. Figure 19-2 shows the forecasted copper demand by sector from 2021 to 2050.



Note: Based on S&P Global's Multitech Mitigation scenario; US values are adjusted to align with Biden administration's net-zero ambitions. T&D = transmission and distribution; PV = photovoltaics; other power includes conventional generation (coal, gas, oil, and nuclear), geothermal, biomass, waste, concentrated solar power, and tidal.

Figure 19-2: Global Refined Copper Demand by Sector

(Source: S&P Global, 2022)

The global refined copper demand is projected to nearly double to 49 Mt by 2035 compared to approximately 25 Mt in 2021. The energy transition sectors would account for approximately 50% of this demand growth. The copper demand from traditional markets (construction, electrical and electronic appliances, the brass industry, and communications technologies) will steadily grow at an average annual rate of 2.4% between 2020 and 2050. The total demand for refined copper is expected to reach around 53 Mt in 2050 and would require doubling the global copper supply by 2035. While the growth rate of copper demand from energy transition sectors is expected to outpace non-energy transition sectors until 2050, the non-energy transition market remains larger, accounting for 58% of the market in 2035, when the copper demand for energy transition peaks.

Figure 19-3 shows the committed mine production against the demand until 2030. The demand projections are based on two scenarios:

- Sustainable Development Scenario (SDS) indicates the demand required to meet the Paris Agreement target,
- Stated Policies Scenario (STEPS) indicating demand required based on today's policies and policy announcements.

It can be observed that based on the estimated demand for different scenarios, the copper market will be short of 4 to 5 Mt by 2030, indicating the strong need for new copper sources, which can be easily observed by the market.

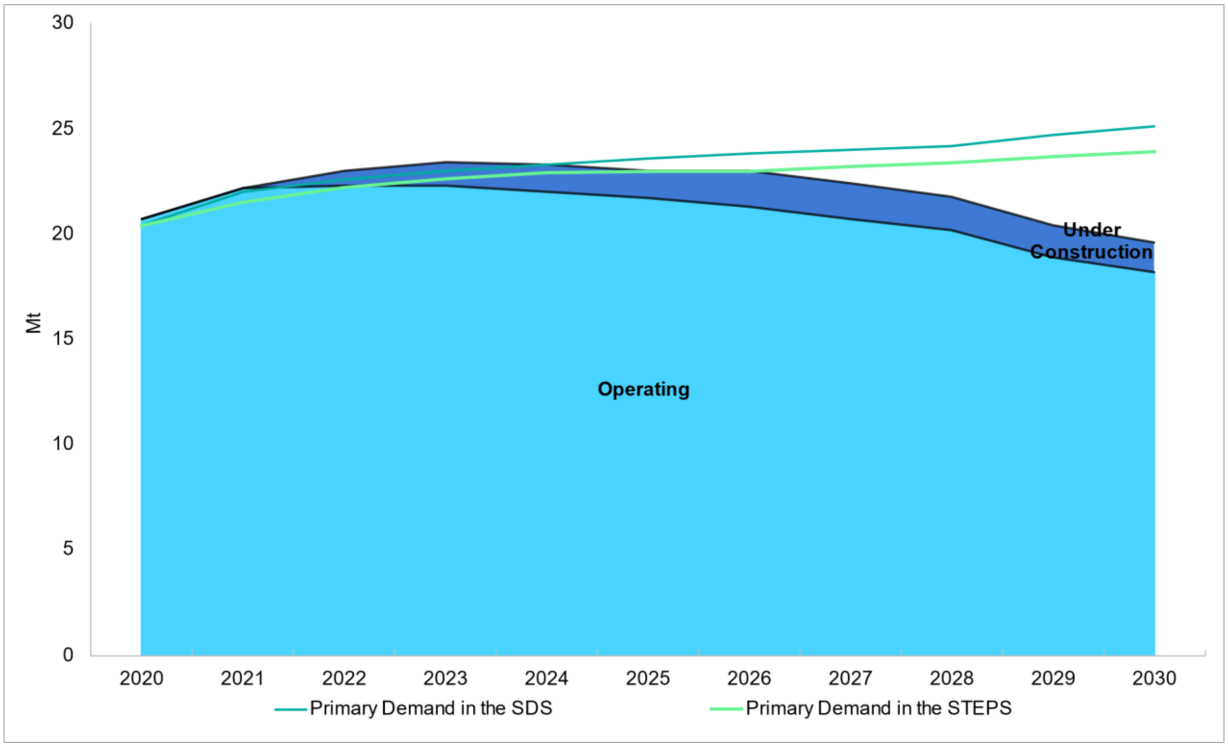


Figure 19-3: Committed Mine Production and Primary Demand for Copper between 2020 and 2030 (Adapted from International Energy Agency, 2022)

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

Most of the land covered by the mining concessions and applications of Estrella de Cobre S.A. de C.V. is owned by the San Javier Ejido (local community government). Permission to work was sought in late 2020 and a written proposal delivered to the Ejido in October of the same year, but the COVID-19 pandemic prevented the members from forming a valid assembly until the end of March 2021, when the company was granted permission to work. The permit granted in that assembly permitted the company to plan and accomplish the 2021 drilling campaign. In April 2022, the company was given permission by the Ejido to complete exploration work for five years, in exchange for the drilling of a water well for the San Javier community.

An environmental report (Informe Preventivo) was submitted to the federal environmental regulator, SEMARNAT, for the approval of the 2021 drilling program. The program was authorized on June 17, 2021, covering the drilling of up to 250 holes in a two-year period, with road rehabilitation and access to drill pads approved, but no new road construction allowed.

A second environmental report (Informe Preventivo) was submitted on May 17, 2022, with the aim of obtaining permission to drill at Cerro Verde, Mesa Grande, and La Trinidad areas, including the construction of over 13 km of roads. The program was authorized on August 15, 2022, covering the drilling of up to 113 holes with the construction approval for 13.1 km of new roads and new drill pads.

This section describes the regulatory framework in Mexico related to mining projects' land tenure and permitting. Mexico has separate laws governing mining activities and the protection of the environment, which are described below.

20.1 Mining Concessions

The exploration and exploitation of minerals in Mexico may be carried out by means of obtaining mining concessions, which are granted by the Mexican federal government through the General Bureau of Mining pursuant to the Mining Law (the "Mexican Mining Law"), a federal statute governing the grant, use, cancellation, and expiration of mining concessions. Mining concessions have a term of 50 years from the date of their recording in the Public Registry of Mining. The term of mining concessions previously issued by the Mexican federal government (for exploration and/or exploitation) was automatically extended by the enactment of the 2006 amendments to the Mexican Mining Law. Due to such amendments, the holders of mining concessions for exploration were automatically authorized to carry out not only exploration work, but also exploitation works.

Holders of concessions may, within the five years prior to the expiration of such concessions, apply for their renewal for the same period of time. Failure to apply prior to the expiration of the term of the concession will result in the termination of the concession. Concessions are subject to annual work requirements and payment of mining duties, which are assessed and levied on a semi-annual basis. Such concessions may be transferred or assigned by their holders, but such transfers or assignments must comply with the requirements established by the Mexican Mining Law and be registered before the Public Registry of Mining in order to be valid against third parties.

Although the Law of Foreign Investment provides that foreign companies and foreign individuals may hold mineral concessions, in practice, based on the provisions set forth in the Mexican Mining Law, mineral concessions are only granted to Mexican citizens or companies, ejidos, and agrarian and Indigenous communities. Foreign citizens or corporations may only obtain mineral concessions through the establishment of a subsidiary in Mexico. Foreign investment of up to 100% in Mexican mining companies is freely permitted, provided that such Mexican companies comply with certain requirements set forth in the Law of Foreign Investment.

The Mexican Constitution and federal laws state that mineral activities are of public interest to Mexico and accordingly, provide the owner of a mineral concession with the legally preferred right to the overlying surface rights. If the holder of the mineral concession is unable to acquire the surface rights required for operations through negotiation, the concession holder may request the federal government to commence an administrative process to acquire for the mineral concession holder long-term access to the required surface rights through a process known as “temporary occupation”. Concession-holders are also entitled to request the forced expropriation or easement on the relevant surface land, although these two procedures are less used in practice.

The temporary occupation is commenced with the concession-holder applying to the government agency, Administration and Appraisals Institute of National Goods (Instituto de Administración y Avalúos de Bienes Nacionales [INDAABIN]), to conduct an appraisal of the value of the surface lands. The wholly owned Mexican subsidiary, Silver Standard Durango, S.A. de C.V. (SSD), completed this application in respect of the Las Flores property in November 2012. INDAABIN conducted the appraisal of the Las Flores property in 2013 and SSD obtained a 30-year temporary occupation for this parcel. Such occupation could still, however, be subject to legal appeal.

20.2 Ejido Land

An ejido is a communal ownership of land declared as such by Presidential Decree, regulated, among other statutes, by the Mexican Agrarian Law, and administered by a representative board (Comisariado Ejidal) formed by members of the ejido. Although ejido land is owned by the ejido community at large, the Mexican Agrarian Law permits the ejido community to compartmentalize the land and allocate specific parcels to individual members of the ejido for their exclusive use and usufruct. When plots of ejido land are compartmentalized, the beneficiary ejido members are permitted to enter into lease agreements over the parcels with third parties, but they may only transfer their use and usufruct rights to the parcels to other members of the ejido community.

The Mexican Agrarian Law also permits the ejido community to authorize the privatization of the parcels and adoption by the corresponding ejido member of full title over such pieces of land. When the parcel is privatized, the ejido owner may sell the land to third parties, subject to certain rights of first refusal provided by the Mexican Agrarian Law in favour of the ejido member’s family and other members of the ejido community, including the ejido itself, in that order.

20.3 Mining Royalties and Taxes

In October 2013, the Mexican government enacted the Mexico Tax Reforms applicable to the holders of mining permits, which includes, among others: (i) a new 7.5% special annual mining duty calculated on the excess of the total income arising from the sale of minerals over the total deductions for corporate income tax; (ii) an additional extraordinary annual mining fee of 0.5% calculated on the income arising from the sale of gold, silver, and platinum; and (iii) a penalty equal to 50% of the current maximum mining fee for undeveloped mining areas for failure to carry out works in concessions during a two-year period. The Mexico Tax Reforms came into effect on January 1, 2014.

Corporations with their tax residence in Mexico are taxed on their worldwide income, which include all profits from operations, income from investments not relating to the regular business of the corporation, and capital gains. The current corporate income tax rate in Mexico is 30%.

The benefits for companies engaged in mining activities to deduct pre-operating expenses incurred annually will be repealed and should be deducted as capital expenditures amortizable at a 10% yearly rate, as is the case for any other company in Mexico.

The IETU Flat Tax (Impuesto Empresarial a Tasa Unica), which was structured as an alternative minimum tax, was repealed as of January 2014.

Value added tax (VAT) is an indirect tax levied on the value added to goods and services and is imposed on corporations that carry out activities within Mexican territory, including: (i) the sale or other disposition of property; (ii) the rendering of independent services; (iii) the granting of temporary use of property; or (iv) the importation of goods and services. The standard VAT rate is 16%.

20.4 Financial Guarantee Agreements

Currently, there is no practice of obtaining financial guarantee agreements with the Mexican government. It should be noted that no financial bond for closure costs is required.

20.5 Environmental Permitting Framework

Environmental permitting in the mining industry in Mexico is mainly administered by the federal government body SEMARNAT, the federal regulatory agency that establishes the minimum standards for environmental compliance. Guidance for the federal environmental requirements, including conservation of soils, water quality, flora and fauna, noise emissions, air quality, and hazardous waste management, derives primarily from the Ley General del Equilibrio Ecológico y la Protección al Ambiente (LGEEPA), the Ley General para la Prevención y Gestión Integral de los Residuos and the Ley de Aguas Nacionales (LAN). Article 28 of the LGEEPA specifies that SEMARNAT must issue prior approval to parties intending to develop a mine and mineral processing plant.

An Environmental Impact Statement (by Mexican regulations called a Manifestación de Impacto Ambiental [MIA]) is the document that must be filed with SEMARNAT for its evaluation and, if applicable, further approval by SEMARNAT through the issuance of an Environmental Impact Authorization, whereby approval conditions are specified where works or activities have the potential to cause ecological imbalance or have adverse effects on the environment. The LAN provides authority to the Comisión Nacional del Agua (CNA), an agency within SEMARNAT, to issue water extraction and discharge concessions, and specifies certain requirements to be met by applicants.

All land in Mexico has a designated use. The Ley General de Desarrollo Forestal Sustentable indicates that authorizations must be granted by SEMARNAT for land use changes to industrial purposes. An application for change in land use, or Cambio de Uso de Suelo Forestal, must be accompanied by a technical study that supports the environmental permit application (Estudio Técnico Justificativo [ETJ]). In cases requiring a change in forestry land use, a Land Use Environmental Impact Assessment is also required. Mining projects also need to include a risk analysis for the use of regulated substances (Análisis de Riesgo) and an accident prevention program, which are reviewed and authorized by an inter-ministerial governmental body.

On June 7, 2013, the Federal Law of Environmental Liability (Ley Federal de Responsabilidad Ambiental) was enacted. According to this law, any person or entity that by its action or omission, directly or indirectly, causes damage to the environment will be liable and obliged to repair the damage, or to pay compensation in the event that the repair is not possible, in addition to any penalties imposed under any other judicial, administrative, or criminal proceeding.

20.6 Permits, Licenses and Authorizations

The main SEMARNAT permits required prior to the construction and development of a mining project are the MIA, the Forestry Change of Land Use (with the accompanying ETJ and, if applicable, the land use MIA), and a Risk Analysis (required only if regulated hazardous substances are proposed to be used at the project). A project-specific environmental license (Licencia Ambiental Única [LAU]), which states the operational conditions and requirements to be met, is issued by SEMARNAT when the agency has approved the project operations. An accident prevention program is required for an operating mine but is not required during the construction and start-up phase.

A construction permit is required from the local municipality and an archaeological release letter is required from the National Institute of Anthropology and History (INAH, for its initials in Spanish). The municipal land use license is related to a municipal endorsement to develop the mining project within the municipal jurisdiction. This procedure is important to avoid any future conflict with the use of the land and derives from the Human Settlement Law and the municipal urban development plans for each municipality. An application letter must be submitted to the local municipality to obtain this license. INAH oversees archaeological evaluations and clearance for the project after a site survey is made and any required mitigation steps are completed.

An explosives permit is required from the Ministry of Defense ("SEDENA", for its initials in Spanish) before construction begins. An application must be submitted to the SEDENA Mexico City offices.

Water discharge and usage must be granted by the CNA. Other local permits regarding non-hazardous waste handling and municipal safety and operating authorizations may also be required.

Hazardous wastes from the mining industry are highly regulated and specific handling requirements must be met once they are generated, such as the registration as a generator of such wastes, logbooks and handling manifests, and storage areas that comply with federal requirements, among others.

The key permits and the stages at which they are required are summarized in Table 1-1.

Table 20-1: Key Permits and Status

Permit	Mining Stage	Agency
Environmental Impact Statement – MIA	Construction/Operation/Post-operation	SEMARNAT
Land Use Change – ETJ and Land Use MIA	Construction/Operation	SEMARNAT
Risk Analysis	Construction/Operation	SEMARNAT
Construction Permit	Construction	Municipality
Explosive and Storage Permits	Construction/Operation	SEDENA
Archaeological Release	Construction	INAH
Water Use Concession	Construction/Operation	CNA
Water Discharge Permit	Operation	CNA
Project-specific License (LAU)	Operation	SEMARNAT
Accident Prevention Plan	Operation	SEMARNAT

20.7 Project Status

Work conducted in 2007 and 2008 included a social survey (Consultoria Ambiental, 2007) and a vegetation survey (Búrquez Montijo and Varela Espinosa, 2008).

The social survey included a review of the population and infrastructure of the local community. The survey was done in order to understand the local conditions and expectations with respect to the proposed mining operation. Publicly available socioeconomic data were gathered, plus a questionnaire was developed to collect data directly from the population. Results of the questionnaire indicated a variety of issues that needed attention, including the lack of water, lack of work, alcoholism and drug addiction, and lack of medical services.

The vegetation survey was conducted to support a future environmental impact statement. Thirteen species are listed as rare or under protection status per Mexican regulations or an international organization. Should the project advance, then management and monitoring programs will need to be established to conserve the biological ecosystem of the area and the program will need to be described in the environmental impact study.

There are presently no known environmental issues that could materially impact Barksdale's ability to extract the Mineral Resources; however, there are old tailings on site that will need to be characterized and managed.

The Project has not yet prepared final plans for waste and tailings disposal, site monitoring, and water management. During future phases, the environmental management program will need to consider these aspects over the life of mine, including closure and post-closure activities. No closure costs have been developed.

It is recommended that during the next phase of activities, an on-site site weather station be installed and that the environmental baseline studies and community relations activities be restarted.

21.0 CAPITAL AND OPERATING COSTS

All costs represented in this section are in US dollars (US$).

21.1 Initial Capital Costs

The total estimated initial capital cost for the design, construction, installation, and commissioning of the San Javier project is US$116.82 million. A summary breakdown of the initial capital cost is presented in Table 21-1.

Table 21-1: Initial Capital Cost Summary

Capital Cost Area	Cost (Million $)
Overall Site	0.33
Mining (includes Haul Roads)	1.06
Processing Plant (includes Leach Pad & Ponds)	49.38
On-site Infrastructure	9.91
Others	3.42
Pre-production Cost	8.13
Direct Cost	**72.24**
Indirect Cost	26.35
Owner's Cost	1.78
Contingency	16.44
Total Initial Cost	**116.82**

Note: Total may not add due to rounding.

21.1.1 Class of Estimate

This Class 5 cost estimate has been prepared in accordance with the standards of AACE. There was no deviation from AACE recommended practices in preparing this estimate. The accuracy of the initial capital cost estimate is ±35%.

21.1.2 Estimate Base Date

This estimate was prepared with a base date of Q2 2023. The estimate does not include any escalation past this date. Costing is based on in-house data and quotes from previous studies or potential suppliers.

21.1.3 Currency and Foreign Exchange

The capital cost estimate uses US$ dollars as the base currency. When required, quotations received from vendors were converted to US$ dollars, using a currency exchange rate of CDN$1.00 to US$0.75 or MXN$1.00 to US$0.055. There are no provisions for foreign exchange fluctuations.

21.1.4 Capital Cost Exclusions

The capital cost estimate presented herein is for information only and does not indicate the future capital cost estimate produced for subsequent studies.

The following items are not included in the capital cost estimate:

- Force majeure,
- Schedule delays, such as those caused by:
  - major scope changes,
  - unidentified ground conditions,
  - uncertainties in geotechnical or hydrogeological conditions,
  - labour disputes,
  - environmental permitting activities,
  - abnormally adverse weather conditions,
- Schedule acceleration costs,
- Cost of financing (including interests incurred during construction),
- Corporate expenses,
- Working or deferred capital (included in the financial model),
- Receipt of information beyond the control of the EPCM contractors,
- Salvage value for assets,
- Taxes and duties,
- Land acquisition, if required,
- Project sunk costs (exploration programs, etc.),
- Cost of this study and future studies, including feasibility studies,
- Closure and reclamation cost, which is included in the financial model,
- Vendor price fixing/gouging,
- Macroeconomic factors,
- Currency fluctuations,
- Geopolitical tensions or war,
- Disruptions of global supply and logistical services,
- Pandemics or other natural disasters,
- Royalties, which are included in financial analysis or permitting costs, except as expressly defined,
- Forward inflation,

- Escalations beyond the effective date of this study,
- Growth factors in design and engineering.

21.1.5 Mining Capital Cost

All mining activities are assumed to be contracted. No mine equipment or facilities expenditures are used in this evaluation except equipment mobilization charges. Total mining direct capital cost, including mine infrastructure and construction of haul roads, is estimated at $1.06 million, excluding pre-production mining costs.

Road costs are dependent on the terrain, ground conditions, water crossings, and vehicles that will use this road. For this project, a 4 m-wide single lane access road will be built. Costs vary for the terrain to be excavated. Specifically, terrain near the top of the mountain is approximated to cost USD$500 per m, while lower terrain is approximately USD$300 per m of linear metre.

21.1.6 Processing Plant and Infrastructure Capital Costs

Total processing plant and infrastructure direct capital costs are estimated at $63.04 million. The cost breakdown is provided in Table 21-2.

Table 21-2: Processing Plant and Infrastructure Direct Capital Cost

Description	Cost (Million $)
Overall Site (including Access Roads)	0.54
Crushing and Material Handling	12.24
Crushed Leach Feed Transport*	2.54
Leach Pad and Ponds	8.28
Solvent Extraction and Electrowinning	26.31
Power Supply and Distribution	7.67
Water Supply	0.31
Plant Ancillary Facilities	1.72
Others	3.42
Processing Plant and Infrastructure Total**	**63.04**

Note: * based on leased equipment; ** Total may not add due to rounding.

Overall site costs include civil site works, the main access road and site roads other than mining haul roads, and civil works not associated with particular structures, such as site drainage and runoff control.

Major mechanical costs were prepared based on quotations from qualified vendors. All equipment and material costs are included as a free carrier (FCA) or free board marine (FOB) manufacturer plants and are exclusive of spare parts, taxes, duties, freight, and packaging. These costs, if appropriate, are covered in the indirect cost section of the estimate.

21.1.6.1 Leach Pad and Ponds Capital Cost

Leach pad and pond capital costs for representative areas are shown in Table 21-3. The direct capital cost is estimated at $8.28 million for the initial leach pad and pond construction. The crushed leach pad feed is assumed to be transported by trucking, and all the mobile equipment will be leased.

Table 21-3: Leach Pad and Ponds Capital

Description	Cost (Million $)
Initial Leaching Pad Preparation	5.59
PLS Ponds and Pumps	0.98
BLS Ponds and Pumps	0.72
Strom/Runoff Ponds and Pumps	0.99
Total	**8.28**

Note: Total may not add due to rounding.

21.1.7 Indirect Capital Cost

The indirect capital cost breakdown is presented in Table 21-4. Project indirect costs, including contractor and construction field indirect, spares, and freight and logistics, were calculated on a percentage basis based on Tetra Tech's work experience. Allowances for initial fills were provided for reagents, lubricants, and fuel. An Engineering, Procurement and Construction Management (EPCM) allowance was calculated on a percentage basis based on Tetra Tech's in-house experience. Commissioning, start-up, and vendor assistance allowances were estimated based on Tetra Tech's in-house experience. The total indirect capital costs were estimated at $26.35 million.

Table 21-4: Project Indirect Cost Breakdown

Description	Cost (Million $)
Contractor Indirects	3.85
Construction Field Indirects	4.23
Spares	1.05
Commissioning and Start-up	0.18
Freight and Logistics	4.21
Vendor Assistance	0.36
EPCM	9.62
Initial Fills	2.87
Total Indirect Costs	**26.35**

Note: Total may not add due to rounding.

21.1.8 Owner's Cost

Owner's costs are assumed by the Owner to support and execute the Project. The project execution strategy, particularly for construction management, involves the Owner working with an EPCM organization and supervising the general contractor(s). The Owner's costs include field staffing, field travel, general field expenses, community relations, and Owner's contingency. The total Project Owner's cost is estimated at $1.78 million.

21.1.9 Contingency

The estimated contingencies are allowances for undefined items of work incurred within the defined scope of work covered by the estimate. Each discipline was allocated different contingency factors due to the varied risk levels. The average contingency for the Project is approximately 23% of the total direct cost, resulting in a total of US$16.44 million.

21.2 Sustaining Capital Cost

The sustaining capital costs are all required from Year 1 of operations to sustain the mining and processing operation for the LOM and are estimated to be $ 17.22 million for the project. The LOM sustaining cost is presented in Table 21-5.

Table 21-5: LOM Sustaining Capital Cost Summary

Description	Cost (Million $)
Leach Pad Facility	17.09
Environmental	0.13
Total Sustaining Capital Costs	**17.22**

Note: Total may not add due to rounding.

21.3 Operating Costs

The Project operating cost estimate consists of mining, processing, site services, and G&A costs, which are summarized in Table 21-6. The average LOM operating cost is estimated to be $10.17/t material processed or $2.16/lb copper produced.

Table 21-6: Project LOM Operating Cost Summary

Description	LOM Cost (Million $)	Unit Cost ($/t processed)	Unit Cost ($/lb Cu)
Mining	138.96	3.14	0.67
Processing	234.47	5.29	1.12
G&A and Site Services	44.29	1.00	0.21
Camp & Equipment Leasing	32.94	0.74	0.16
Total LOM Operating Cost	**450.67**	**10.17**	**2.16**

Note: Total may not add due to rounding.

The project operating cost estimate includes all recurring costs for payroll, service contractors, camp operations, maintenance parts and supplies, reagents and other consumables, supplies, freight, personnel transportation, etc. The operating cost estimates are based on budget prices obtained in Q1/Q2 2023 and/or from internal databases. The expected accuracy range of the operating cost estimate is ±35%.

The operations schedule is as follows:

- two 12-hour shifts per day
- work rotation schedule: 2 weeks on / 2 weeks off.

The costs were developed from the annual production schedule for all operating cost accounts. The operating cost estimate uses US$ dollars as the base currency. When required, labour and reagent unit costs were converted to US$ dollars, using a currency exchange rate of CDN$1.00 to US$0.75 or MXN$1.00 to US$0.055. There are no provisions for foreign exchange fluctuations.

21.3.1 Mining Operating Cost

Mine operating costs were based on local contracted mining, mine plan, and anticipated haul profiles. Comparisons were also made to other operating mines in the area to benchmark the provided contractor costs. The mining cost averages $1.95/t mined and includes all drilling, blasting, loading, and hauling costs.

21.3.2 Process Operating Cost

The average LOM process operating cost, excluding pad construction, was estimated to be $5.29/t material processed, including manpower, operation, maintenance consumables/supplies, power, and a 5% allowance for other operating costs. The estimated process operating cost breakdown is summarized in Table 21-7 at a nominal processing rate of 10,000 t/d, or 3,650,000 t/a. The process operating cost presented in Table 21-6 is the average operating cost for the LOM; hence, it is slightly higher than the value in Table 21-7.

Table 21-7: Process Operating Cost Summary

Description	Unit Cost ($/t processed)
Manpower	0.81
Liner Consumables	0.37
Reagents	1.92
Fuel	0.50
Maintenance Supplies	0.51
Operating Supplies	0.09
Power	0.81
Others	0.16
Total Process Operating Cost	**5.17**

Note: Numbers may not add due to rounding.

The process operating cost estimate includes the following:

- Hourly and salaried personnel requirements and costs, including supervision, operation, and maintenance; salary/wage levels, including burdens.
- Crusher liners estimated from the in-house experience,
- Maintenance supplies, based on major equipment capital costs,
- Reagent consumption based on test results and reagent prices estimated according to the database,
- Operation consumables, including laboratory and service vehicles consumables,
- Power consumption for the processing plant is based on the preliminary plant equipment load estimates and copper production.

21.3.2.1 Personnel

At a nominal processing rate of 10,000 t/d, the estimated average personnel cost is $0.81/t processed. The projected process personnel requirement is 117 persons, including:

- 15 staff for management and technical support, including personnel at laboratories for quality control and process optimization, but excluding personnel for sample assaying.
- 74 operators servicing overall operations from crushing to cathode production, including personnel for sample assaying.
- 28 personnel for equipment maintenance, including the maintenance management team.

21.3.2.2 Consumables and Maintenance/Operation Supplies

The operating costs for major consumables and maintenance/operation supplies were estimated at $3.39/t processed, excluding the costs associated with off-site cathode copper shipment (included in the financial model). The costs for major consumables, which include metal, reagent consumables, and fuel, were estimated to be $2.79/t processed. The unit prices of consumables were based on quotations from local marketing or/and similar local operations and from Tetra Tech's database or industry experience. The major consumable costs are related to reagents, especially sulphuric acid consumption, which is related to the soluble copper to total copper ratio.

The cost for maintenance/operation supplies was estimated at $0.60/t processed. Maintenance supplies were estimated based on approximately 6% to 8% of major equipment capital costs and/or the information from Tetra Tech's database/experience.

21.3.2.3 Power

The total process power cost was estimated to be $0.81/t processed. The estimated power unit cost was approximately $0.095/kWh, assumed to be supplied from the local grid power supply network. The major power consumption is related to copper deposition by EW from the electrolyte solution. Higher recovered copper would require higher energy consumption.

The power consumption was estimated from the preliminary power loads estimated from the process equipment load list and copper production. The average annual power consumption was estimated to be approximately 31.3 GWh or 8.6 kWh/t processed.

21.3.3 G&A and Surface Services Cost

G&A and site service costs do not relate directly to mining or processing operating costs. These costs include:

- Personnel: executive management, staffing in accounting, supply chain and logistics, human resources, external affairs functions, and other G&A departments.
- Expenses: insurance, administrative supplies, medical services, legal services, human resource-related expenses, travelling, community and environmental programs, accommodation/camp costs, bus crew transportation, general site road maintenance, regional and property taxes, and external assay/testing.

The G&A and site service costs, including site services, are estimated at $1.00/t processed based on a nominal mill feed processing rate of 10,000 t/d.

22.0 ECONOMIC ANALYSIS

An economic model was developed to estimate the annual cash flows and sensitivities for the Project. Pre-tax estimates of project economics were prepared for comparative purposes, while post-tax estimates were developed to assess potential project economic return. It must be noted, however, that tax estimates involve many complex variables that can only be accurately calculated during operations, and, as such, the post-tax results are only approximations. Sensitivity analyses were performed for variations in metal prices and operating and capital costs to determine their relative importance as project economics drivers.

This technical report contains forward-looking information regarding projected mine production rates, construction schedules, metal price and forecasts of resulting cash flows as part of this study. The ROM feed head grades are based on the production schedule generated by the resource estimates and preliminary mine design and are expected to be representative of the realized grades from actual mining operations.

Factors such as the ability to obtain permits to construct and operate a mine or to obtain major equipment or skilled labor on a timely basis to achieve the assumed mine production rates at the assumed grades may cause actual results to differ materially from those presented in this economic analysis.

This PEA is preliminary in nature. The results of the economic analysis performed as a part of this PEA are based in part on Inferred Mineral Resources. Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA will be realized.

The estimates of capital and operating costs have been developed specifically for this project and are summarized in Section 21.0 of this report.

22.1 Assumptions and Inputs

22.1.1 General

The following general assumptions and criteria form part of this analysis:

- Exchange rate – CDN$1.00 to US$0.75, MXN$1.00 to US$0.055.
- One-year construction period
- Discount Rate – 7%
- Equipment salvage values are considered at the end of mine life.
- A reclamation cost of $125,000/year has been used in the analysis.

22.1.2 Metal Pricing

The 2023 Base Case results use a copper price of US$4.00/lb.

22.1.3 Production

Average production statistics for 10,000 t/d operations are shown in Table 22-1.

Table 22-1: LOM Average Production Statistics

Description	Unit	LOM Values
Mine Life	years	13
Mineralized Material Mined	Mt	44.3
Waste Mined	Mt	29.2
LOM Material Processed	Mt	44.3
Head Grade	% Cu	0.34
LOM Copper Recovery	%	63.5
LOM Copper Produced	kt	94.7

22.1.4 Revenues and NSR Parameters

Mine revenue is derived from selling copper cathode into the international marketplace. No contractual arrangements for refining exist at this time. Details regarding the terms used for the economic analysis can be found in Section 19.0 of this report. Revenues from copper cathode production are assumed to begin in Year 1 and end in Year 13.

The actual production of the copper cathode will begin once the acid leach solution is applied to the heap leach materials and collected in sufficient quantities to operate the SX/EW recovery system. These systems are based on volume and require specific flow rates to operate properly. The leach pad construction has been scheduled early to allow leaching to begin and a supply of PLS ready for the SX/EW plant commissioning. Thus, sufficient leach area and copper concentrations in PLS are achieved to support SX/EW operations. Table 22-2 indicates the parameters used in the economic analysis.

Table 22-2: Parameters Used in Economic Analysis

Description	Unit	Value
Payability	%	99.5
Refining Charge	$/t	Included in Payability
Cathode Transportation Cost	$/t	80.00
Cathode Third-Party Cost	$/t	10.00
Royalty	% of net proceeds	2.00

22.2 Taxes

The Project has been evaluated on a post-tax basis to provide a more indicative value of the potential project economics. It must be noted, however, that tax estimates involve many complex variables that can only be accurately calculated during operations, and, as such, the post-tax results are only approximations. The tax calculations prepared do not include opening tax pools.

The following assumptions were used to calculate the taxes in the economic analysis:

- A 7.5% Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) royalty was used to reflect royalties to the Mexican government. The total royalties paid to the Mexican government for the life of the project amount to $27.88 million.

- A 30% corporate income tax rate was utilized.
- Capital expenditures are indexed for inflation, which runs through tax depreciation. An annual inflation rate of 4% was used for analysis.

22.3 Working Capital

Working capital is based on 30 days of accounts receivable and 90 days of accounts payable. Working capital is reflected in the cash flow as changes in net working capital.

22.4 Results of Economic Analysis

Table 22-3 provides a summary of the LOM cash flow.

Table 22-3: Cash Flow Summary

Description	Unit	Values
Total Revenue	Million $	831.3
Transportation Cost	Million $	7.6
Cathode Third-Party Cost	Million $	0.9
Royalty	Million $	16.6
Net Smelting Return	Million $	806.1
Total Operating Costs	Million $	450.7
EBITDA*	Million $	355.4
Initial Capital Cost	Million $	116.8
Sustaining Capital Cost	Million $	17.2
Reclamation Cost	Million $	2.5
Salvage Value	Million $	5.8
Pre-tax Cash Flow (Undiscounted)	Million $	224.7
Income Tax	Million $	50.3
Special Mining Duty	Million $	27.9
Total Corporate Tax	Million $	78.2
Post-tax Cash Flow (Undiscounted)	**Million $**	**146.6**
Post-tax Cash Flow (Discounted @ 7%)	**Million $**	**61.5**

*EBITDA: Earnings Before Interest, Taxes, Depreciation, and Amortization

The post-tax discounted annual cash flow and cumulative net cash flow are illustrated in Figure 22-1.

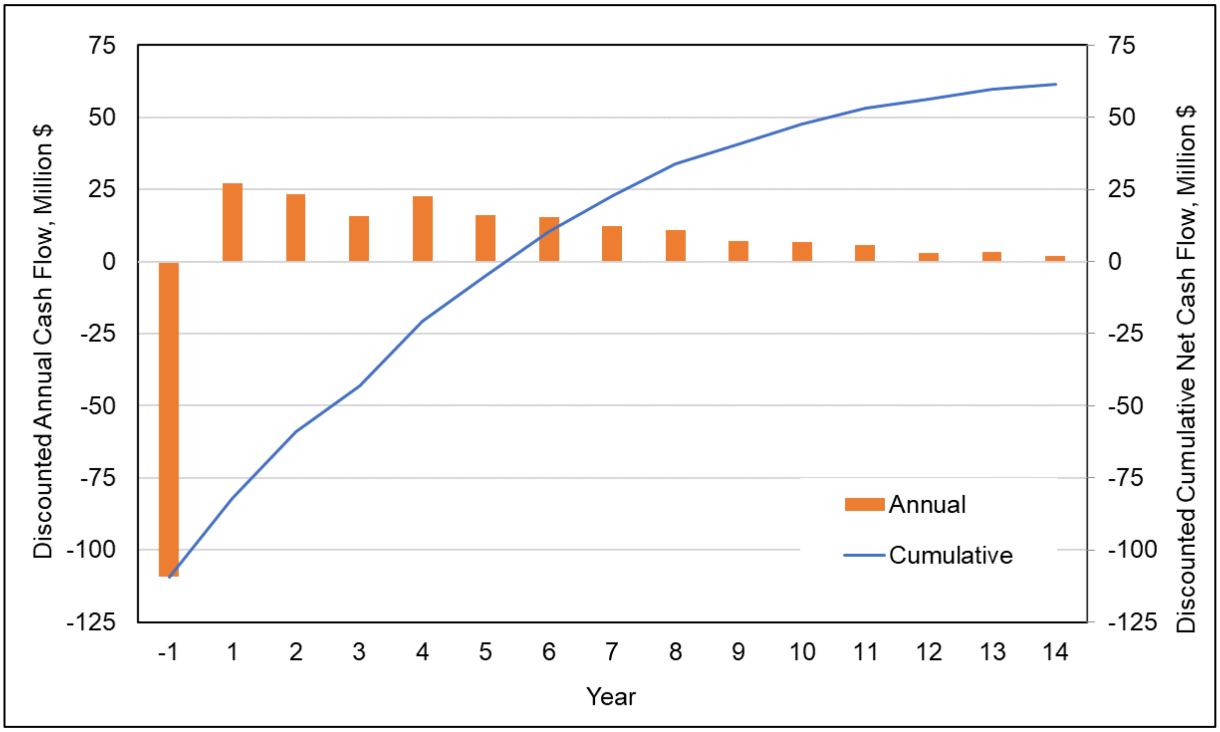


Figure 22-1: Discounted Post-Tax Annual and Cumulative Cash Flow

The post-tax financial model results for the base case are presented in Table 22-4.

Table 22-4: Summary of Economic Analysis

Description	Unit	Pre-tax	Post-tax
Undiscounted Net Cash Flow	Million $	224.7	146.6
NPV (at 7%)	Million $	111.8	61.5
IRR	%	26.3	18.1
Payback Period	years	3.8	5.3

Table 22-5 shows the cash flow for the base case.

Table 22-5: Summary of LOM Annual Cash Flow

Description	Unit	LOM	- 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Material Processed	Mt	**44.3**	0.0	2.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.4	1.6	0.0
Feed Grade	% Cu	**0.34**		0.47	0.42	0.34	0.34	0.30	0.29	0.35	0.30	0.30	0.37	0.35	0.28	0.22	0.0
Copper Produced	kt	**94.7**	0.0	8.5	9.8	8.3	8.9	7.8	7.6	8.2	6.9	7.0	7.6	6.9	5.2	2.0	0.0
Payability	%	**99.5**	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5
Initial Revenue	**M$**	**831.3**	**0.0**	**74.7**	**86.0**	**73.0**	**77.9**	**68.5**	**67.1**	**72.1**	**60.1**	**61.6**	**66.3**	**60.6**	**45.9**	**17.4**	**0.0**
Deductions																	
Transportation	M$	**7.6**	0.0	0.7	0.8	0.7	0.7	0.6	0.6	0.7	0.5	0.6	0.6	0.6	0.4	0.2	0.0
3rd party Cost	M$	**0.9**	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Royalty	M$	**16.6**	0.0	1.5	1.7	1.5	1.6	1.4	1.3	1.4	1.2	1.2	1.3	1.2	0.9	0.3	0.0
Revenue (after deductions)	**M$**	**806.1**	**0.0**	**72.5**	**83.4**	**70.8**	**75.5**	**66.4**	**65.1**	**69.9**	**58.3**	**59.8**	**64.3**	**58.8**	**44.5**	**16.9**	**0.0**
Capital Cost																	
Initial	M$	**111.0**	116.8	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	-5.8
Sustaining	M$	**17.2**	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.3	0.3	0.1	0.0
Reclamation	M$	**2.5**	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8
Working Capital	M$	**0.0**	0.0	1.2	2.0	1.4	-2.2	0.6	-0.1	1.7	-0.7	-0.1	0.7	0.3	-0.1	-4.7	0.0
Total CAPEX	**M$**	**130.7**	**116.9**	**3.0**	**3.8**	**3.1**	**-0.4**	**2.4**	**1.7**	**3.4**	**1.1**	**1.7**	**2.5**	**0.6**	**0.3**	**-4.4**	**-5.1**
Operating Cost																	
Mining	M$	**139.0**	0.0	8.9	14.7	17.0	10.6	10.4	9.6	16.3	9.2	9.6	12.8	11.3	8.5	0.0	0.0
Processing	M$	**234.5**	0.0	14.7	19.9	18.9	18.0	17.6	17.6	19.3	19.6	19.3	20.5	21.3	19.2	8.7	0.0
G&A Cost	M$	**44.3**	0.0	2.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.4	1.6	0.0
Camp/Equipment Lease	M$	**32.9**	0.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.1	0.0
Total OPEX	**M$**	**450.7**	**0.0**	**29.0**	**40.9**	**42.2**	**34.9**	**34.3**	**33.6**	**41.9**	**35.1**	**35.1**	**39.7**	**38.8**	**33.8**	**11.4**	**0.0**
Cash Flow																	
Pre-tax Cash Flow	M$	224.7	-116.9	40.5	38.7	25.5	41.0	29.7	29.8	24.5	22.1	23.0	22.1	19.3	10.4	9.9	5.1
Taxes	M$	**78.2**	0.0	9.6	10.3	4.8	9.4	5.6	5.3	3.7	1.8	8.8	8.1	6.4	3.0	1.3	0.0
Post-tax Cash Flow (Undiscounted)	**M$**	**146.6**	-116.9	30.9	28.4	20.7	31.7	24.1	24.5	20.8	20.3	14.2	14.0	12.9	7.4	8.6	5.1
Post-tax Cash Flow (Discounted @ 7%)	**M$**	**61.5**	-109.3	27.0	23.2	15.8	22.6	16.0	15.3	12.1	11.1	7.2	6.7	5.7	3.1	3.3	1.8

Note: Total may not add due to rounding.

22.5 Sensitivity Analysis

Tetra Tech investigated the sensitivity of NPV and IRR to the key variables. Using the Base Case as a reference, each key variable was changed between -30% and +30% in 10% increments while holding the other variables constant.

Sensitivity analyses were carried out on the following key variables:

- Copper price,
- Capital costs,
- Operating costs,

Table 22-6 shows the economic analysis comparison results for different metals without changing the other base case parameters.

Table 22-6: Post-Tax Economic Result Comparison for Different Metal Prices

Description	Unit	Base Case	Upper Case	Lower Case
Metal Price	US$/lb	4.00	4.50	3.50
Undiscounted Cash Flow	Million $	146.6	212.3	81.0
NPV (at 7%)	Million $	61.5	103.3	19.8
IRR	%	18.1	24.8	10.8
Payback Period	years	5.3	4.0	8.1

The analyses are presented graphically as economic sensitivities regarding post-tax NPV and IRR. The NPV and IRR are highly sensitive to the copper price and relatively less sensitive to operating and capital costs. Generally, sensitivity to metal prices can roughly be used to understand the sensitivity to metal grades. The NPV and IRR sensitivities are presented in Figure 22-2 and Figure 22-3.

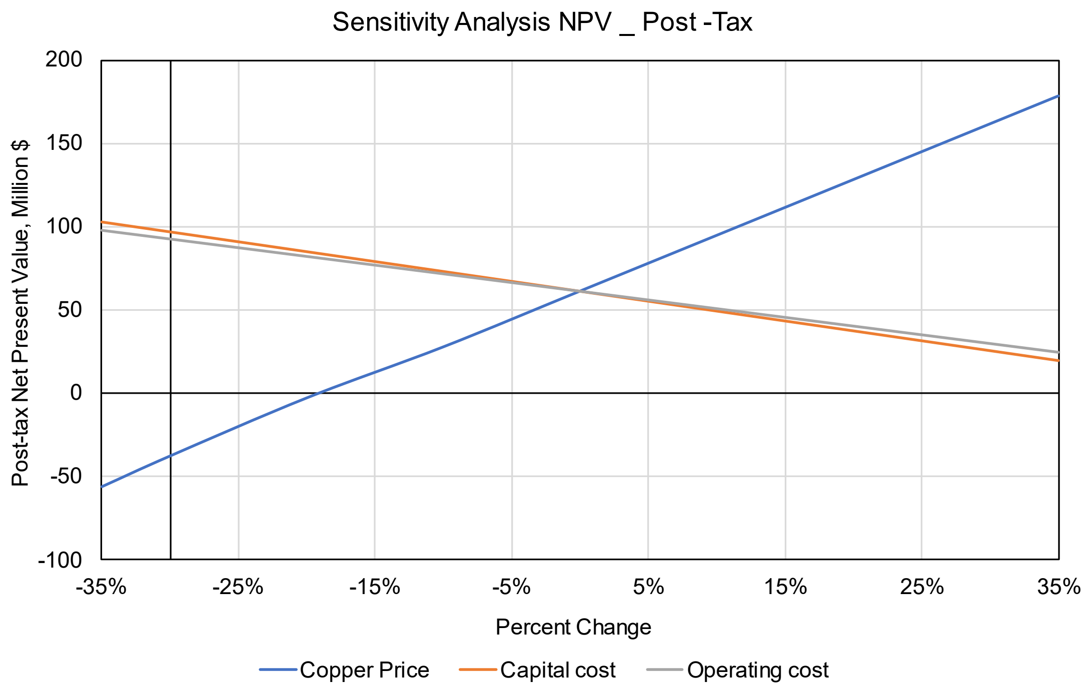


Figure 22-2: Sensitivity Analysis of Post-Tax NPV

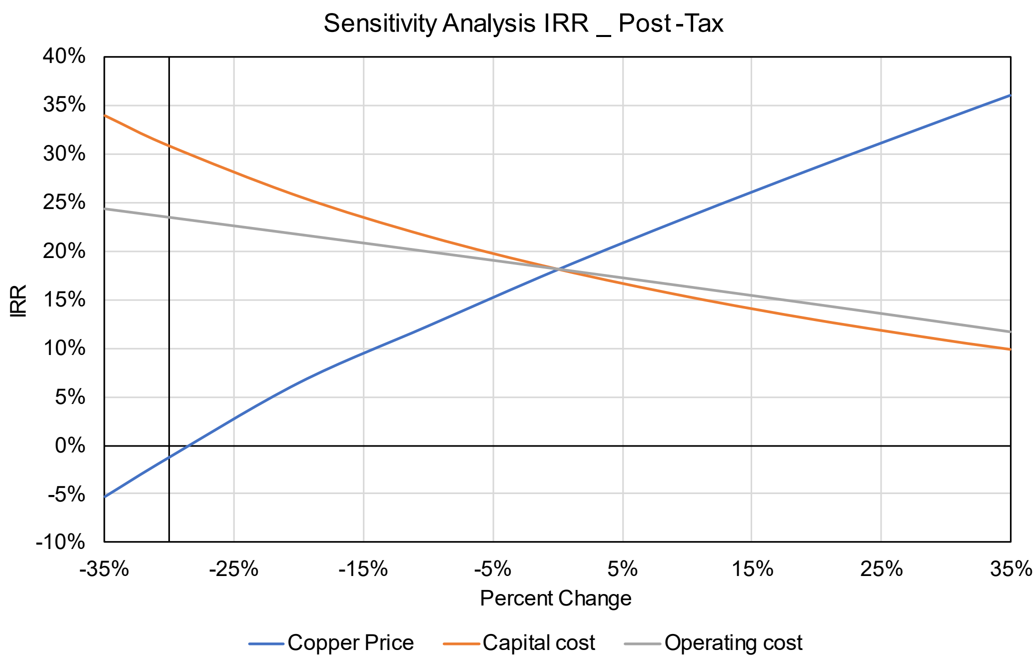


Figure 22-3: Sensitivity Analysis of Post-Tax IRR

23.0 ADJACENT PROPERTIES

The San Javier district has a long history of mining since the town foundation in 1706. Currently, there are three significant company players and many artisanal miners exploiting placer gold on streams and coal seams (see Figure 4-1). Osisko Development is focused on the San Antonio de La Huerta area, Barksdale at its San Javier project in the vicinity of the Cerro Verde and Mesa Grande-La Trinidad areas, and Canuc Resources with its San Javier project focused on the Santa Rosa mine trend.

Osisko Development Corp. is taking the San Antonio project, 10 km to the northeast of Cerro Verde, to the mining stage. A technical report released in July of 2022 discloses the presence of 14.9 Mt averaging 1.20 g/t Au, 2.9 g/t Ag containing 576,000 oz Au and 1.37 million oz Ag as Indicated Resources, and 16.6 Mt averaging 1.02 g/t Au, 3.3 g/t Ag containing 544,000 oz Au, 1.76 million oz Ag as Inferred Resources. These resources are in four deposits: Sapuchi, California, Golfo de Oro, and High Life. The mainly gold property is considered as an IOCG type deposit based on the alteration and geochemical assemblages. In the technical report on San Antonio the Sapo Sur, Sapo Este, Sapo Norte, and Carrizo Breccia areas are mentioned as carrying copper oxide and sulphide bodies, with some drilling having intercepted mineralization grade material over mineable widths.

Canuc Resources has been exploring for several years silver mineralization in veins 4.5 km north of Cerro Verde, and since 2021 has stressed the possibility of finding copper-gold IOCG-style mineralization. Placer gold has been exploited for a long time on an artisanal way in the San Antonio streams area, but this century has seen the wide use of heavy equipment to move and wash unconsolidated gravels and soils, disturbing over 20 km of streams on widths of up to 100 m. Anthracitic coal is being exploited by over 40 small miners from seams in the Santa Clara Formation, mainly west of the Cerro Verde mountain and to the East of La Barranca community.

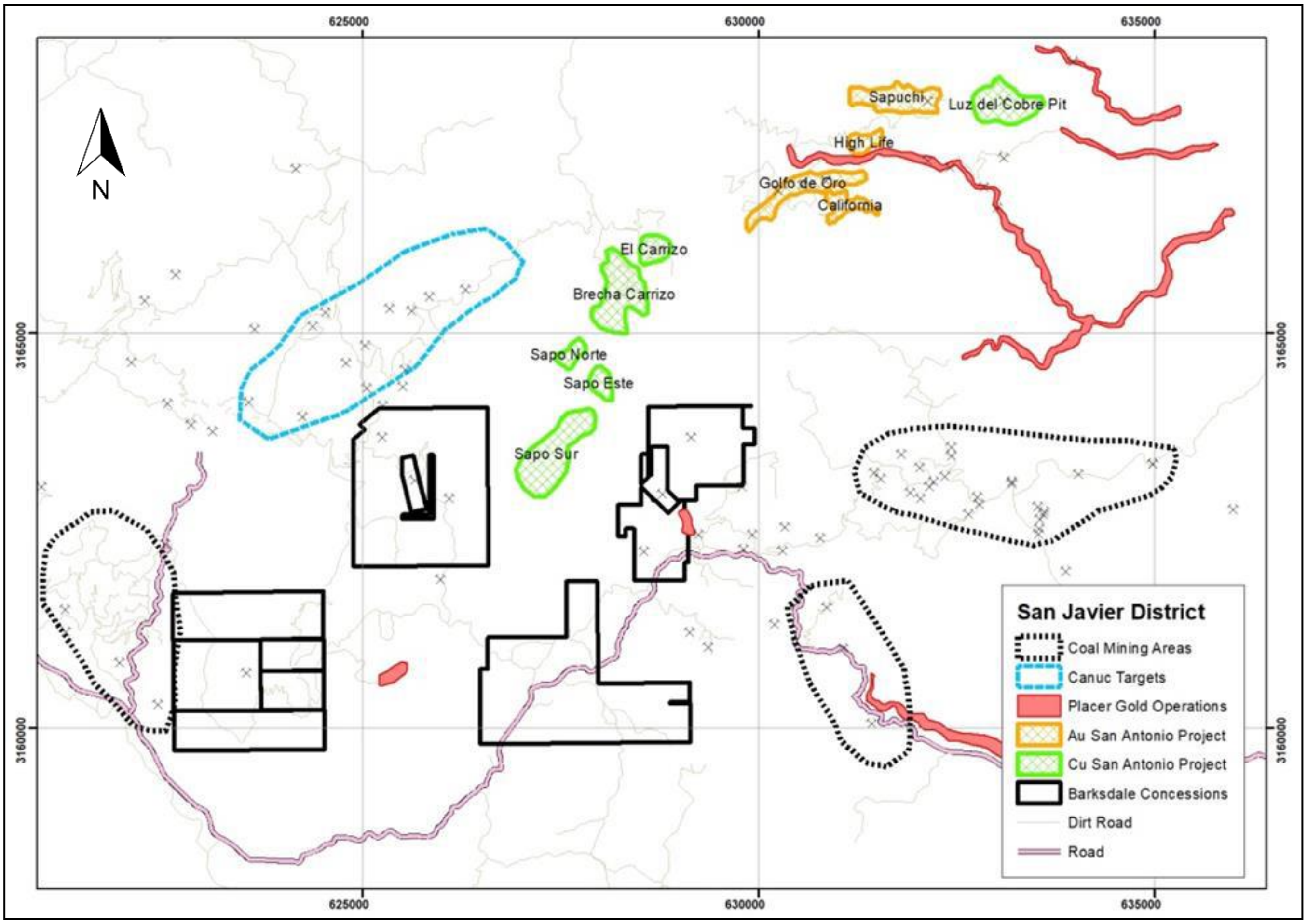


Figure 23-1: Active Projects within the San Javier District

24.0 OTHER RELEVANT DATA AND INFORMATION

The San Javier project comprises four groups of properties" Cerro Verde, San Carlos, Cobre Nuevo Norte, and Cobre Nuevo Sur. Most of the historic drilling focused in the Cerro Verde area, but the San Carlos group of claims which includes the La Trinidad and Mesa Grande areas (Figure 24-1) also had some drilling, with mineralization grade intercepts over mineable widths. The Cobre Nuevo Norte and Cobre Nuevo Sur groups of claims have not been explored yet.

La Trinidad and Mesa Grande areas are separated by a steep winding creek with a general south-southeast orientation. The Tarahumara Formation volcanic rocks are in the upper plate of a low-angle thrust fault, on top of the Barranca Group Triassic-Jurassic sedimentary rocks. Both the Santa Clara and Coyotes Formations are present below the fault. All holes at La Trinidad and Mesa Grande are collared in the Tarahumara volcanic rocks, and while none of those at Mesa Grande intercepted the underlying sedimentary rocks, 18 out of 24 holes at La Trinidad did.

In both areas, the lithologic, alteration, and mineralization assemblages are similar to those present at Cerro Verde and of IOCG style, above a low angle thrust fault. At Cerro Verde the sedimentary unit below the fault are conglomerates of the Coyotes Formation, whereas at La Trinidad below the volcanic rocks is the sequence of siltstone, shale, and sandstone with interbedded coal seams of the Santa Clara Formation. The andesitic volcanic rocks present varying intensities of silicification, sericitization and chloritization, accompanied by specularite as disseminations and veinlets with minor siderite and barite, and are probably part of the same mineralizing system of the Cerro Verde deposit.

24.1 La Trinidad

La Trinidad area has received more attention due to the bright red colour of the north-south hill and the higher-grade copper mineralization outcropping there. It is a roughly triangular zone about 100 m wide in the south and 850 m wide in the north, with a longitude (triangle height) of 950 m, bounded by streams on the eastern, western, and northern sides. The terrain is steep, with a difference in elevation of 200 m between the streams and the top of the hill, which is at 880 masl. Orcana drilled 1,260.50 m in nine HQ size diamond holes. Among the best intercepts are 40 m at 0.98% Cu, 48 m at 0.69% Cu, 24 m at 0.50% Cu, 51 m at 0.92% Cu, 150 m at 0.48% Cu, 57 m at 0.52% Cu, 123 m at 0.63% Cu, 33 m at 0.58% Cu, 48 m at 0.98% Cu and 15 m at 1.66% Cu. As at Cerro Verde, not all the samples from drilling have been assayed for gold, but interesting results have been obtained in the area, like 40 m at 0.16 g/t Au, 33 m at 0.10 g/t Au, 24 m at 0.10 g/t Au, 27 m at 0.31 g/t Au, 63 m at 0.31 g/t Au (including 15 m at 0.64 g/t Au), 18 m at 0.36 g/t Au, 9 m at 0.54 g/t Au, 6 m at 0.23 g/t Au, 31.5 m at 0.23 g/t Au, 12 m at 0.30 g/t Au, and 18 m at 0.64 g/t Au.

24.2 Mesa Grande

At Mesa Grande the mountain has a low relief top compared with the rest of the rugged terrain, but it is not the classic tabletop mountain. There is a 300 m difference between the top at 940 masl and the stream that straddles the east of the mountain. While all sides of Mesa Grande are steep, the eastern and southern parts present prominent cliffs. The area is 1,000 m wide in the south and about 500 m wide in the north, and 1,400 m in the north-south direction. The first holes were drilled by PD in 1996–1997, and Constellation drilled a few more in 2006–2007. Best intercepts include 30 m at 1.38% Cu, 36 m at 0.32% Cu, 27 m at 0.37% Cu, 81 m at 0.31% Cu, 39 m at 0.28% Cu, 48 m at 0.31% Cu and 27 m at 0.55% Cu. There are also some interesting gold intervals, like 38 m at 0.14 g/t Au, 36 m at 0.55 g/t Au, and 38 m at 0.12 g/t Au.

Recent geological mapping is extending the exploration area to the southeast of Mesa Grande, in the slopes of Cerro La Aguja, where the same specularite-bearing alteration assemblage in the volcanic rocks has been identified above the thrust fault, and specularite identified in the Coyotes Formation conglomerates, in an area roughly 500 m long by 350 m wide.

24.3 Gold Occurrence at San Javier – Cerro Verde Deposit

The San Javier mineral resource is defined by the heap leaching of the copper mineralization. Gold is also present at San Javier and is not part of the mineral resource as no definitive work has been completed to evaluate the potential for economic extraction of the gold. Within the San Javier deposit, which was modelled for the copper mineral resource, there is gold mineralization in the range of 250,000 to 400,000 oz occurring primarily in the oxide zone. No evaluation has been done to determine how it relates geometrically to the copper mineralization.

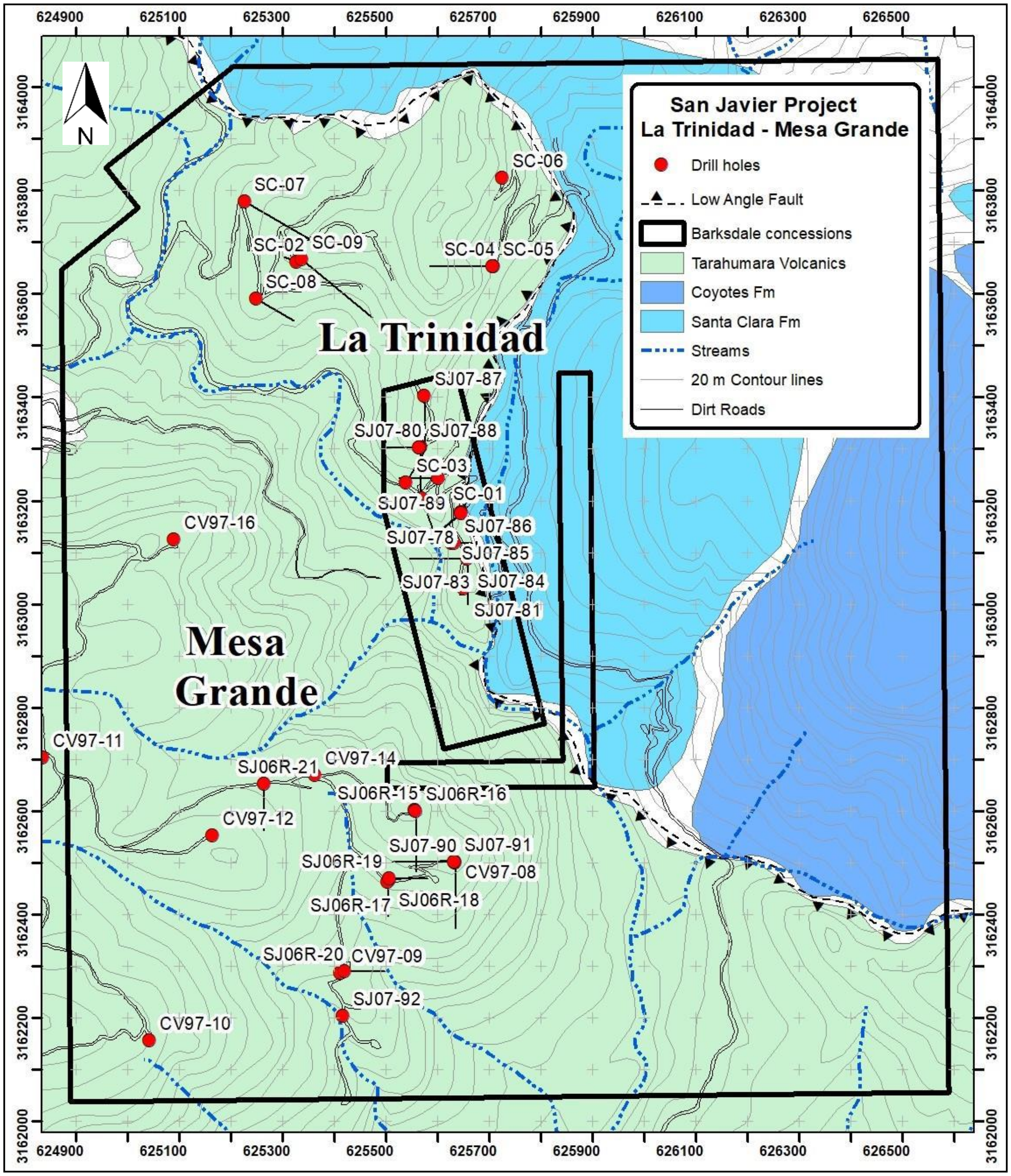


Figure 24-1: Map Showing Drillhole Locations at Mesa Grande and La Trinidad

25.0 INTERPRETATIONS AND CONCLUSION

This technical report contains forward-looking information regarding projected mine production rates, construction schedules, metal price and forecasts of resulting cash flows as part of this study. The ROM feed head grades are based on the production schedule generated by the resource estimates and the preliminary mine design and are expected to be representative of the realized grades from actual mining operations.

Factors such as the ability to obtain permits to construct and operate a mine or to obtain major equipment or skilled labor on a timely basis to achieve the assumed mine production rates at the assumed grades may cause actual results to differ materially from those presented in this economic analysis.

This PEA is preliminary in nature. The results of the economic analysis performed as a part of this PEA are based in part on Inferred Mineral Resources. Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA will be realized.

The intent of this report is to update the previous Mineral Resource based on additional drilling and geologic interpretation and preliminarily assess the project's economic using an open pit mining and heap leach followed by SX/EW processing. It is the opinion of the author that the Mineral Resource and PEA presented in this report have been completed in accordance with all requirements of NI 43-101 and have the potential to be expanded with additional drilling.

25.1 Mineral Resource

The Mineral Resource is updated with the drilling and geological interpretations current through May 2022. Continued evaluation of the deposit may increase the size of the Mineral Resource.

25.2 Metallurgy and Processing

The 2021–2022 metallurgical work (four column tests), together with the historical test work preliminarily defined the recovery of copper and the acid consumption by mineralized domain. In general, the mineralization in the leach and oxide zones responds well to the acid leach for copper extraction. The transition zone materials respond seasonally well to the sulphuric acid extraction; however, the supergene zone materials do not produce good metallurgical performances to the acid extraction. Additional work in this area is needed as the project moves forward.

The proposed process for the mineralization includes ROM crushing, heap leaching and SX/EW to produce salable cathode copper.

25.3 Mining

The San Javier project will be mined using a truck and shovel operation and will operate at a mining rate of approximately 10,000 t/d for a 12-year mine life with one year of pre-production. Mined material will be crushed and then stockpiled before being transported to a heap leach pad. Mineralized material feed will average a total copper grade of 0.34% during the LOM production. During one year of pre-production, three months of mineralized material (approximately 925 kt) will be crushed and stacked at the leach site. The San Javier resource out-crops in many areas of the mountain requiring a small quantity of pre-stripping, which will be used as fill material for construction and developing haul roads.

25.4 Infrastructure

The San Javier project is accessible from Hermosillo by a well-maintained paved two-lane highway (Highway #16). On Highway 16 at approximately Km 141, a junction to the north leads to San Javier Property. The site is currently accessed by a gravel road which would be upgraded to service the Project. The Project will require the development or upgradations of several infrastructure items. The project infrastructure will include the following major items:

- Access roads,
- Open pit mine and associated infrastructure,
- Heap leach facility,
- Processing facilities, including SX and EW plant,
- Maintenance complex and warehouse,
- Administration building,
- Reagent storage facility
- Assay laboratory,
- Explosive magazines storage,
- Potable water well,
- Seepage ponds.

25.5 Capital and Operating Costs

The estimated initial capital cost for the project's design, construction, installation, and commissioning is $116.8 million. This includes all direct costs, indirect costs, owner's costs and contingency.

The estimated overall Project operating cost, consisting of mining, processing, site service and G&A, is approximately $10.17/t material processed, or $2.16/lb copper produced.

25.6 Financial Analysis

This PEA is preliminary in nature. The results of the economic analysis performed as a part of this PEA are based in part on Inferred Mineral Resources. Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA will be realized.

The Project has been evaluated using a constant copper market price of US$4.00/lb Cu. The LOM base case project net cash flow pre- and post-tax is presented in Table 1-5. Applying an annual discount rate of 7%, the Project base case post-tax cash flow evaluates an NPV of $61.5 million and an IRR of 18.1% with a payback period of 5.3 years.

Table 25-1: Summary of Economic Analysis Results

Parameter	Unit	Pre-Tax	Post-Tax
NPV @ 7% discount	Million $	111.8	61.5
IRR	%	26.3	18.1
Payback Period	year	3.8	5.3

25.7 Risks and Opportunities

The risks and opportunities related to the current Mineral Resource estimate and metallurgy as presented in this report, include:

- Further drilling may identify increases or decreases in Mineral Resource tonnage and mineralized material grade.
- Further metallurgical testing may demonstrate variable recoveries and acid consumption, resulting in changes to the economic inputs to the definition of the Mineral Resource and project economics.
- Changes in future costs and copper prices could have a positive or negative impact on the current Mineral Resource tonnage and grade.
- Changes to the permitting requirements could impact the timing or required work for the permit application and regulatory approvals.

26.0 RECOMMENDATIONS

It is recommended further studies should be conducted to further assess project economics.

26.1 Resource Estimate

- Continue relogging of the Constellation drill core to match the logging procedures and interpretation used for the Barksdale drill core.
- Do density test on the Barksdale drill core and on future dill campaigns.
- Additional drilling should be considered to explore for extensions to mineralization as well as to convert inferred resources to higher confidence categories.
- Explore and drill the adjacent deposits within and adjacent to the San Javier project.
- Evaluate the gold mineralization and potential for defining a gold Mineral Resource.
- Proceed with environmental baseline studies.

The estimated costs for the recommended tests listed above are estimated to be approximately $5 million.

26.2 Mining

- Geologic identification of high-grade targets.
- Drill program to further define high grade areas and continuity of deposit.
- Geotechnical sampling and testing as part of drill program.

The estimated costs for the recommended tests listed above are estimated to be approximately US$600,000.

26.3 Metallurgy and Processing

Additional metallurgical test work should be completed to further advance the metallurgical understanding of the deposit. The test work should include:

- further optimize leach conditions,
- reduce acid consumption, especially for the supergene mineralization,
- improve copper extraction, including bacterial oxidation pretreatment,
- investigate other treatment methods for copper recovery from the supergene mineralization, such as flotation.
- determine iron and other impurity impacts on leaching and SX/EW processes and on cathode quality,
- gold and other metal recovery from the mineralization,
- large scale continuous pilot plant tests.

The estimated costs for the recommended tests listed above, excluding sample extraction and shipment to metallurgical laboratories, are estimated to be approximately US$600,000.

Further process optimization should be conducted, including equipment sizing, leach pad location and shape updating, solution handling and SX/EW layout and reagent handling. The costs for the processing optimization will be part of future process design.

26.4 Infrastructure

- Geotechnical investigations of surface infrastructure facilities.
- Perform a logistics study for the Project.
- Investigation and possible adaptation of newest building technologies for enhancing the energy efficiency of buildings and mechanical equipment.
- Hydrology and overall site water management study.
- Start consultation with the government and/or third parties to seek infrastructure funding or financing.
- Early planning and initiating conversations with the government and nearby potential mining projects for infrastructure sharing.
- Planning for the access road and site pre-development and construction activities.
- Water sources required for processing, especially for leaching, should be further investigated.
- For this study, it is assumed that the local electricity network should be capable of providing the power requirement for the proposed mining and processing. Further studies are needed to determine the network capacity and upgrading required if needed.

The costs associated to the items listed above are estimated to be approximately US$400,000.

26.5 Marketing Study

A copper cathode market study should be conducted based on the cathode quality from the pilot plant test work and estimated annual cathode production from the project. The study should include product shipment logistics. The cost for the marketing and logistics study is estimated to be US$50,000.

26.6 Environment

- Conduct baseline studies characterizing local and regional terrain, soils, ecosystems and vegetation to inform the environmental assessment and closure and reclamation planning.
- Conduct additional surface water and groundwater quality data collection for a more complete characterization of baseline water quality.
- Information characterizing metal leaching potential is limited at present but kinetic testing over a minimum of 12 months is expected to be required to inform project design and the environmental assessment.
- Further discussions, consultation and engagement with local communities, regulators and other interested parties will be required as baseline programs are developed.

The estimated cost for the environmental study (excluding environmental assessment and permitting) is estimated to be US$100,000.

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28.0 CERTIFICATES OF QUALIFIED PERSONS

CERTIFICATE OF QUALIFIED PERSON

I, Hassan Ghaffari, M.A.Sc., P.Eng., do hereby certify:

- I am a Director of Metallurgy with Tetra Tech Inc. with a business address at Suite 1000, 10th Floor, 885 Dunsmuir Street, Vancouver, BC, V6C 1N5.
- This certificate applies to the technical report entitled "San Javier Preliminary Economic Assessment, NI 43-101 Technical Report", with an effective date of January 02, 2024 (the "Technical Report").
- I am a graduate of the University of Tehran (M.A.Sc., Mining Engineering, 1990) and the University of British Columbia (M.A.Sc., Mineral Process Engineering, 2004).
- I am a member in good standing of the Engineers and Geoscientists British Columbia (#30408).
- My relevant experience includes more than 30 years of experience in mining and mineral processing plant operation, engineering, project studies and management of various types of mineral processing, including hydrometallurgical processing for mineral deposits.
- I am a "Qualified Person" for the purposes of National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) for those sections of the Technical Report that I am responsible for preparing.
- I conducted a personal inspection of the San Javier Property on March 30, 2023.
- I am responsible for Sections 2, 3, 18, 19, 20, 21.1 (except mining costs), 21.2 (except mining costs), and related disclosure in Sections 1, 25, 26 and 27 of the Technical Report.
- I am independent of Barksdale Resources as Independence is defined by Section 1.5 of NI 43-101.
- I have no prior involvement with the San Javier Property that is the subject of the Technical Report.
- I have read NI 43-101 and the sections of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101.
- As of the date of this certificate, to the best of my knowledge, information and belief, the section of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: January 02, 2024

Signing Date: June 04, 2024

"Signed and Sealed"

Hassan Ghaffari, M.A.Sc., P.Eng.
Director of Metallurgy
Tetra Tech Canada Inc.

CERTIFICATE OF QUALIFIED PERSON

I, Herbert E. Welhener, SME-RM, do hereby certify:

- I am currently employed by and carried out this assignment for Independent Mining Consultants, Inc. (IMC) located at 3560 E. Gas Road, Tucson, Arizona, USA, phone number (520) 294-9861.
- This certificate applies to the technical report entitled "San Javier Preliminary Economic Assessment, NI 43-101 Technical Report", with an effective date of January 02, 2024 (the "Technical Report").
- I graduated with the follow degree from the University of Arizona: Bachelor of Science – Geology, 1973.
- I am a Registered Member of the Society of Mining, Metallurgy, and Exploration, Inc. (# 3434330RM), a professional association as defined by NI 43-101. I am a Qualified Professional Member (Mining and Ore Reserves) of the Mining and Metallurgical Society of America (#01307QP).
- I have worked as a mining engineer or geologist for 49 years since my graduation from the University of Arizona.
- I am a "Qualified Person" for the purposes of National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) for those sections of the Technical Report that I am responsible for preparing.
- I conducted a personal inspection of the San Javier Property on July 12, 2022.
- I am responsible for Sections 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 23, 24, and related disclosure in Sections 1, 25, 26 and 27 of the Technical Report.
- I am independent of Barksdale Resources as Independence is defined by Section 1.5 of NI 43-101.
- I have prior involvement with the San Javier Property, that is the subject of the Technical Report, in acting as a Qualified Person for the "San Javier Copper Project – Sonora, Mexico NI43-101 Technical Report – Mineral Resource Estimate" technical report dated November 21, 2020.
- I have read NI 43-101 and the sections of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101.
- As of the date of this certificate, to the best of my knowledge, information and belief, the section of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: January 02, 2024

Signing Date: June 04, 2024

"Signed and Sealed"

Herbert E. Welhener, SME-RM
Independent Mining Consultants, Inc.

CERTIFICATE OF QUALIFIED PERSON

I, Maureen E. Marks, P.Eng., do hereby certify:

- I am the Mining Division Manager with Tetra Tech Inc. with a business address at Suite 1000, 10th Floor, 885 Dunsmuir Street, Vancouver, BC, V6C 1N5.
- This certificate applies to the technical report entitled "San Javier Preliminary Economic Assessment, NI 43-101 Technical Report", with an effective date of January 02, 2024 (the "Technical Report").
- I graduated in 2013 from Montana Technical University with a B.Sc. in Mining Engineering.
- I am a member in good standing with Engineers and Geoscientists of British Columbia (#45716).
- My relevant experience includes 12 years of experience working in precious metals, onsite operational experience and consulting. I have been directly involved in mine design and planning, mine production and economic evaluation, Ore and Mineral Reserve estimation, technical reviews of mineral assets and mining capital and operating cost estimation.
- I am a "Qualified Person" for the purposes of National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) for those sections of the Technical Report that I am responsible for preparing.
- I conducted a personal inspection of the San Javier Property on March 30, 2023.
- I am responsible for Sections 15, 16, 21.1 (mining costs only), 21.2 (mining costs only), 21.3 (mining costs only) and related disclosure in Sections 1, 25, 26 and 27 of the Technical Report.
- I am independent of Barksdale Resources as Independence is defined by Section 1.5 of NI 43-101.
- I have no prior involvement with the San Javier Property that is the subject of the Technical Report.
- I have read NI 43-101 and the sections of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101.
- As of the date of this certificate, to the best of my knowledge, information and belief, the section of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: January 02, 2024

Signing Date: June 04, 2024

"Signed and Sealed"

Maureen E. Marks, P.Eng.
Manager, Mining Division
Tetra Tech Canada Inc.

CERTIFICATE OF QUALIFIED PERSON

I, Jianhui (John) Huang, Ph.D., P.Eng., do hereby certify:

- I am a Senior Metallurgist with Tetra Tech Inc. with a business address at Suite 1000, 10th Floor, 885 Dunsmuir Street, Vancouver, British Columbia, V6C 1N5.
- This certificate applies to the technical report entitled "San Javier Preliminary Economic Assessment, NI 43-101 Technical Report", with an effective date of January 02, 2024 (the "Technical Report").
- I am a graduate of North-East University, China (B.Eng., 1982), Beijing General Research Institute for Non-ferrous Metals, China (M.Eng., 1988) and Birmingham University, United Kingdom (Ph.D., 2000).
- I am a member in good standing of the Engineers and Geoscientists British Columbia (#30898).
- My relevant experience includes over 36 years of involvement in mineral processing for base metal ores, gold and silver ores and rare metal ores and mineral processing plant operation and engineering, including hydrometallurgical mineral processing for various mineral mineralization.
- I am a "Qualified Person" for purposes of National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) for those sections of the Technical Report that I am responsible for preparing.
- I conducted a personal inspection of the San Javier Property on March 30, 2023.
- I am responsible for Sections 13, 17, 21.3 (except mining costs), 22 and related disclosure in Sections 1, 25, 26 and 27 of the Technical Report.
- I am independent of Barksdale Resources as Independence is defined by Section 1.5 of NI 43-101.
- I have no prior involvement with the San Javier Property that is the subject of the Technical Report.
- I have read NI 43-101 and the sections of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101.
- As of the date of this certificate, to the best of my knowledge, information and belief, the section of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: January 02, 2024

Signing Date: June 04, 2024

"Signed and Sealed"

Jianhui (John) Huang, Ph.D., P.Eng.
Senior Metallurgist
Tetra Tech Canada Inc.