Preliminary Economic Assessment NI 43-101 Technical Report

Escalones Copper Project

Santiago Metropolitan Region, Chile

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Prepared for:

WORLD COPPER LTD.

World Copper Ltd.

Prepared by

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This Technical Report on the Escalones Copper Project is submitted to World Copper Ltd. and is effective February 15, 2022.

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ACRONYMS AND ABBREVIATIONS

µm	micron
AA	Atomic Adsorption
Ag	silver
ANFO	ammonium nitrate/fuel oil
As	arsenic
Au	gold
CFP	cumulative frequency plot
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
cm	centimetre
CO_3	carbonate
Cu	copper
CuEq	copper equivalent
CuRec	copper recovery
CV	coefficient of variation
DGA	General Water Agency

DIA	Environmental Impact Declaration
EW	electrowinning
G&A	general and administrative
g/L	grams per liter
g/t	grams per tonne
Gasco	Compañía de Consumidores de Gas de Santiago S.A.
GM	General Minerals SCM
GM	geologic model
gpm	gallons per minute
gpm/ft^2	gallons per minute per square foot
GRC	Gold Springs Resource Corp.
GRE	Global Resource Engineering Ltd.
H_2SO_4	sulphuric acid
ha	hectare
HCl	hydrochloric acid
HDPE	high density polyethylene
HLF	heap leach facility
HP	horsepower
HRC	Hard Rock Consulting, LLC
ICP-AES	Inductively Coupled Plasma-Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma-Mass Spectrometry
ID	Inverse Distance
IP	induced potential
IRR	Internal Rate of Return
kg/tonne	kilograms per tonne
km^2	square kilometres
ktpa	kilotonnes per annum
KW	kilowatt
lb	pound
lb/tonne	pounds per tonne
LDRS	Leak Detection and Recovery System
LLDPE	linear low-density polyethylene
LOM	Life of Mine
lph/m^2	liters per hour per square metre
lpm	litres per minute
M	molar
masl	metres above sea level
Minera Aurex	Minera Aurex (Chile) Limitada
mm	millimetre
Mo	molybdenum

NaCl	sodium chloride
NaCN	sodium cyanide
NaOCl	sodium hypochlorite
NaOH	sodium hydroxide
NI	National Instrument
NN	Nearest Neighbor
NPV	Net Present Value
NSR	net smelter returns
OK	Ordinary Kriging
ORP	oxidation-reduction potential
PAG	potentially acid generating
PEA	Preliminary Economic Assessment
PLS	pregnant leach solution
PMA	Particle Mineral Analysis
ppm	parts per million
QP	Qualified Person
RM	Registered Member
ROM	run of mine
S	sulphur
SASC Chile	South American Silver Chile SCM
SASC	South American Silver Corp.
SI	International System of Units
SME	Society for Mining, Metallurgy and Exploration
SP	self-potential
SX	solvent extraction
TMI Chile	TriMetals Mining Chile SCM
TMI	TriMetals Mining Inc.
tonne/m^3	tonnes per cubic metre
tpd	tonnes per day
US$, USD	U.S. dollar
World Copper	World Copper Ltd.
WRA	whole rock analysis
XRD	x-ray diffraction
XRF	x-ray fluorescence
ZTEM	Z-Axis Tipper Electromagnetic

1.0 SUMMARY

World Copper Ltd. ("World" or "World Copper") is a TSX-V-listed copper asset development company based in Vancouver, BC, with two active projects in Chile, Escalones and Cristal, and one active project in Arizona, USA, Zonia. World Copper has retained Global Resource Engineering Ltd. ("GRE") to prepare a Preliminary Economic Assessment (PEA) and National Instrument (NI) 43-101 Technical Report for the Escalones Project (the "Project," the "Property," or the "Escalones Project").

The Escalones Project is located 35 kilometres (km) east of El Teniente, one of the world's largest underground copper mines, and within the renowned Chilean porphyry copper belt that runs north-south in the central Andes Mountains.

Practices consistent with Canadian Institute of Mining, Metallurgy and Petroleum (CIM) (2010) were applied to the generation of this PEA. The PEA includes restatement of the Mineral Resource Estimate issued in September 2021 (HRC, 2021).

1.1 Property Description and Ownership

The Escalones Project is located within the Santiago Metropolitan Region, in Central Chile, approximately 97 km southeast of Santiago and nine km west of the border between Chile and Argentina. The Project covers an area of 161 square kilometres (km^2), of which 1) 46 km^2 are covered by 19 exploitation concessions that are the subject of an option agreement between an indirect, wholly-owned subsidiary of World Copper, TriMetals Mining Chile SCM ("TMI Chile"), and a third-party vendor for a 100% interest in and to the concessions (the "Escalones Option") and 2) 115 km^2 are covered by 40 exploration concessions, owned by TMI Chile.

World Copper acquired the Escalones Project from Gold Springs Resource Corp., formerly TriMetals Mining Inc. (hereinafter referred to as "TMI") pursuant to a share purchase agreement made as of May 31, 2019, as amended, among Wealth Minerals Ltd., World Copper, Escalones Resource Corp. and TMI. As consideration, World Copper issued 25,000,000 common shares in its capital to Escalones Resource Corp., a wholly owned subsidiary of TMI, made a cash payment in the amount of $150,000, and granted to TMI a 1% to 2% net smelter returns (NSR) royalty on the Escalones exploration concessions. World Copper was also required to make additional cash payments to TMI in the aggregate of $850,000 as follows, these payments have been made as of the date of this publication:

Date	Cash Payment (CAD)
On or before February 28, 2021	$350,000 (PAID)
On or before January 12, 2022	$500,000 (PAID)
Total:	**$850,000**

In addition, the following payments to certain third-party property vendors are required to exercise the Escalones Option in full:

Date	Cash Payment (USD)
June 20, 2020	$60,000 (PAID)

Date	Cash Payment (USD)
December 30, 2020	$140,000 (PAID)
June 30, 2021	$150,000 (PAID)
September 30, 2021	$150,000 (PAID)
June 30, 2022	$500,000
June 30, 2023	$500,000
June 30, 2024	$3,000,000
Total:	**$4,500,000**

The Escalones exploitation concessions are subject to a 1% to 2% net smelter returns (NSR) royalty from the sale of products from the Escalones exploitation concessions. Further, TMI Chile has agreed to grant to Escalones Resource Corp. a 1% to 2% NSR royalty payable on production from the Escalones exploration concessions. Each of the NSR may be purchased back from the royalty holder pursuant to the terms of each royalty agreement.

Drill-defined mineralization within the Project area occurs beneath a high-standing, north-south ridge between Quebrada Escalones and Quebrada Argüelles, at elevations ranging from 3,400 metres above sea level (masl) in the west, up to approximately 4,077 masl on the ridge. Surface alteration and mineralization covers about 1.5 km east-west and 3 km north-south. The central intrusive complex is mostly buried beneath a glacial till-covered plateau called the “Meseta” at 3,800 masl and flanked by lower skarns on west (originally called “Escalones Bajo”), and higher skarn along the ridge crest to the east (originally called “Escalones Alto”).

1.2 Geology and Mineralization

The Escalones Property lies within the Miocene to Pliocene age Pelambres-El Teniente Porphyry copper belt, which hosts the world’s largest underground copper mine at El Teniente, as well as other large copper deposits at Los Bronces-Andina, Pelambres (Katsura, 2006) and Bajo La Alumbrera in Argentina. Copper mineralization at Escalones occurs in two forms: (1) as skarn and lithologically controlled mineralization hosted by altered sandstone/shale and intrusive dikes and sills and (2) as porphyry-style disseminated and stockwork mineralization hosted by an underlying intrusive granodiorite-diorite stock. Rock geochemistry from surface and drill core shows anomalous levels of gold, silver, and molybdenum that are spatially associated with the copper mineralization. This spatial relationship may also be due to separate pulses of mineralization or zoning within a much larger porphyry system.

Porphyry mineralization is associated with moderate to intense potassic alteration (as secondary biotite) in the granodiorite and adjacent hornfelsed sandstone. The metasomatic replacement or skarn-type mineralization is hosted by calcareous, feldspathic sediments, which form an open, upright, north-trending fold cored by the intrusive porphyry system. High-grade copper was historically mined (15 tonnes at 12% copper (Cu) (Katsura, 2006) at Escalones from exposures of magnetite-chalcopyrite skarn at Escalones Alto and prospects along Escalones Bajo. Previous drilling has demonstrated that high-grade magnetite skarn extends to the east and south from outcroppings at Escalones Alto and changes to calcsilicate dominated assemblages down-dip.

Skarn mineralization peripheral to the porphyry along the upper eastern margin (Escalones Alto) comprises mostly magnetite, garnet, and pyroxene skarn developed within sandstone, carbonate, and calcareous shale near contacts with intrusive rocks, with coarse copper oxides and carbonate near surface, transitioning to chalcopyrite-pyrite at depth. Finer disseminated and fracture-controlled mineralization occurs within biotite hornfels with quartz stockwork in steeply east-dipping hornfelsed calcareous shale and fine sandstone and, to a lesser extent, within altered andesite sills and dikes. Magnetite skarn generally hosts the better mineralization, especially in the upper oxidized portions. Grades are highest close to the contact of the reactive sedimentary rocks with the central intrusive complex.

Supergene weathering and mobilization of copper has developed a stratification subparallel to the current surface topography of enriched copper-gold-silver grades to roughly 300 metres below surface in both porphyry and skarn zones. The mineral zonation is clearly seen in core where upper portions are completely altered to clay with iron and copper oxides, transitioning down to mostly weakly altered rock with oxides primarily in fractures and faults, with the oxides diminishing with depth to where sulphides are preserved in fractures. The skarn is as deeply weathered and oxidized in places as the sedimentary and intrusive units with similar copper oxide minerals. However, the oxide-sulphide boundary is more complex within the skarn and controlled more by host lithology, with the coarse sulphides only partially converted to secondary minerals and extending closer to the surface, especially within calcareous units. Within thicker limestone beds, copper occurs mainly as fracture-controlled malachite or is confined to porphyry sills and dikes. The oxidation extends along sandstone and intrusive units well below the limestone on the east flank, indicating acidic oxidizing fluids migrated down and east from the ridge.

1.3 Status of Exploration

Drilling exploration at Escalones includes a total of 24,939 metres in 53 diamond drill holes. Between 1998 and 2011, a total of 1,556 surface samples were collected, comprising channel and chip samples across outcrops and road cuts. Most of the current Property has been mapped at a scale of about 1:100,000 (only northeast corner remains unmapped in places), and the area of drilling has been mapped at about 1:2000 scale.

Self-potential (SP), Induced Potential (IP), magnetic and Z-Axis Tipper Electromagnetic (ZTEM) geophysical surveys produced several anomalies that generally correlated poorly with drilling. ZTEM conductivity data suggests that there may be additional primary and/or secondary sulphide mineralization located in a broad zone extending for several kilometres south of the Meseta, paralleling the Argüelles valley. Interpretation of magnetic data shows anomalies that appear to be related to extensions of the skarn mineralization for several kilometres to the northeast, east, and southeast of Escalones Alto, towards the Rio Argüelles.

World Copper has not carried out further drilling on the project since the acquisition of the Project due to a combination of permitting, and seasonal (weather/climate) constraints. Since May 2019, World Copper has conducted desktop studies compiling and validating, to the extent possible, all historical digital surface sampling and drill data of the previous operators. During the data review, it was discovered that 23 of the 53 drill holes were missing core photos, so the core was photographed again. The geological, geochemical, and geophysical datasets have been integrated using GIS software. Geological plans and cross sections were redrawn at 100 metre intervals across the area of the historical drilling, and geophysical sections were drawn along collection lines where possible.

In January 2020, World Copper acquired ASTER imagery from PhotoSat of Vancouver, Canada, with the main objective of evaluating multiple colour anomalies across the concessions and comparing them with the main anomaly hosting the resource estimate. This work helped delineate the distal exploration targets and plans for future surface sampling.

In March and April of 2021, World Copper conducted rock sampling and mapping over the Escalones extension targets (see news release dated March 2, 2021) and northern targets. A total of 336 samples were collected from the Mancha Amarilla lithocap and East Skarn, with the objective of delimiting surface mineralization and alteration to help direct the drilling planned for the end of the year. The East Skarn comprises gossanous, highly mineralized sandstone and porphyry sills. The area was covered with semi-continuous 15-metre chip samples across bedding to evaluate the continuity of mineralization.

At the northern targets, 440 samples were collected and resulted in outlining two significant porphyry copper targets: Rio Negro and Argüelles Este. The field work confirmed the large ASTER anomalies are intense quartz-sericite, argillic and gossanous alteration of porphyritic and granitic intrusions, as well as skarn in volcanic and sedimentary units. The western-most anomaly, Rio Negro, is the most obvious target, with strong copper mineralization at surface and will be the priority drill target. Argüelles Este is large and more deeply weathered and needs more sampling to determine the best area for initial drilling.

1.4 Metallurgy

The completed test work data does not include any column leach tests; as a result, estimating the performance of the proposed heap leach is a challenge. The current data provides good insight into the acid solubility of the mineralized materials through acid bottle roll leach tests, but column tests are required to accurately estimate the scale factors required to derive the ultimate heap leach copper extractions.

Acid bottle roll tests showed copper extractions ranging from 78% to 96% for P_{80} 50 µm (micron) ground samples and from 80% to 90% for P_{80} 1.8-millimetre (mm) crushed samples. Sequential copper assays, completed on 75-micron material, indicate that the “oxide” samples had a weighted average copper extraction of 81% (acid and cyanide soluble). Although the data set is not very large, there is an indication that increasing sulfide grade negatively impacts the acid copper extraction, as would be expected.

Based on the data provided and GRE’s experience, GRE Qualified Person (QP) Dr. Harvey has recommended using an estimated copper extraction of 72.5% for finely crushed material placed on the heap leach. The annual extraction of fresh material placed on the heap has been scaled at 75%, 20% and 5% of the ultimate copper extraction for year 1, year 2, and year 3, respectively. An acid consumption of 15 kilograms per tonne (kg/tonne) has been used in the evaluation.

A comprehensive metallurgical test program is recommended to continue the evaluation of the potential for heap leach treatment. This program should include bottle roll leach tests in conjunction with column leach tests. The variables that should be examined including grade, resource spatial distribution, mineralogy, and particle size. Additionally, these tests should include both conventional acid leaching and bioleaching.

Escalones appears to be a typical Chilean copper deposit in that there are both hypogene and supergene zones. With these deposits, the transition zone between primary sulfide minerals (hypogene) and oxides (supergene) often represents the greatest metallurgical challenge. Within a bioleach environment, the potential exists to achieve improved copper extractions of the associated secondary copper sulphides.

1.5 Mineral Resource Estimate

The mineral resource estimate for the Escalones Property was completed by Richard A. Schwering P.G., Society for Mining, Metallurgy and Exploration (SME)-Registered Member (RM), with Hard Rock Consulting, LLC (HRC) and originally published in the Mineral Resource Estimate NI 43-101 Technical Report dated September 2021 (HRC, 2021). Mr. Schwering is a Qualified Person as defined by NI 43-101 and is independent of World Copper, Ltd. HRC estimated the mineral resource for the Project based on wireframe modeling and to a maximum search distance of 300 metres using an inverse distance to the 2.5 power interpolant. Geostatistics and mineral resource estimation were done with Leapfrog EDGE®. Three-dimensional wireframes and model visualization was done with Leapfrog Geo® software, and the mineral resources were constrained with a Lerchs-Grossman pit optimization. The metal of interest at the Project is copper. The mineral resources estimate reported here was prepared in a manner consistent with the "CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines" adopted by CIM Council on November 29, 2019. The mineral resources are classified as Measured, Indicated, and Inferred in accordance with "CIM Definition Standards for Mineral Resources and Mineral Reserves", prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on May 10, 2014. Classification of the resources reflects the relative confidence of the grade estimates. The effective date of the mineral resource estimate reported herein is June 25, 2021.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated based on limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration.

Resources are reported within an optimized pit shell and meet the test of reasonable prospects for economic extraction. A 0.13% Cu cutoff was chosen for reporting the mineral resource. The cutoff grade was calculated based on the following assumptions: a long-term copper price of US$3.50/pound (lb) Cu, assumed combined operating ore costs of US$6.50/tonne (process, general and administrative, mining, and taxes), refining & shipping costs of US$0.25/lb of Cu, metallurgical recoveries of 71% for copper, and a 1% to 2% net smelter returns royalty. The metal prices used in the cutoff represent a 15% increase over the three-year historical average as of June 30, 2021. Table 14-10 lists the cost and other parameters used in the cutoff calculation (all dollar amounts in US dollars). Table 1-1 shows the Mineral Resource Estimate for the Escalones Project.

Table 1-1: Oxide Mineral Resource Statement for the Escalones Project, June 25, 2021

Class	Density (tonne/m³)	Tonnes x 1,000	Grade Total (Cu%)	Metal Content X 1,000 (lb Cu)
Inferred	2.69	426,198	0.367	3,446,982

Notes:

(1) Mineral resources that are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated on the basis of limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration. See "Cautionary Note to United States Investors."
(2) Mineral resources are reported at a 0.13% CuT cutoff. The cutoff is calculated based on a long-term copper price of US$3.50/lb; assumed combined operating ore costs of US$6.50/tonne (process, general and administrative and mining taxes); refining & transportation costs of US$0.25/lb of Cu; metallurgical recoveries of 71% for copper and a 1% to 2% net smelter returns royalty.
(3) Mineral resources are captured within an optimized pit shell and meet the test of reasonable prospects for economic extraction by open pit. The optimization used the same mining costs of US$2.50/tonne mined and a 50º pit slope.
(4) Rounding may result in apparent differences when summing tonnes, grade and contained metal content.

1.6 Mining Methods

Mine plans for the resource area were designed and planned using conventional open pit mining method. The open pit area is suitable for phased designs. Ms. Lane of GRE used a triple bench format consisting of triple 10-metre vertical benches with a horizontal 13-metre catch bench every three vertical benches. Haul roads were designed with a minimum width of 34 metres and a maximum gradient of 10%. Haul ramps and roads have been designed to accommodate two-way traffic using 227-tonne haul trucks, water diversion ditches, and safety berms. Minor sections were narrowed to a single lane of 17 metres and a maximum slope of 15%.

Ms. Lane of GRE examined the economics of varying the cutoff grade. Cutoff grades of 0.13%, 0.15%, 0.17%, 0.19%, and 0.21% were evaluated. Ms. Lane of GRE selected the 0.17% cutoff grade for the base case. The resulting in-pit resources include 365.8 million tonnes of mineralized leachable material, 335.6 million tonnes of rock waste, 73.1 million tonnes of till waste, and 3,098.1 million lbs of contained copper at a grade of 0.384%.

A preliminary mining schedule was generated from the base case pit resource estimate. Ms. Lane of GRE used the following assumptions to generate the schedule:

- Mining Production Rate: 50,000 tonnes per day (tpd)
- Mine Operating Days per Week: 7
- Mine Operating Weeks per Year: 52
- Mine Operating Shifts per Day: 2
- Mine Operating Hours per Shift: 12

All facilities needed for the project, including administrative offices, warehouse, ammonium nitrate/fuel oil (ANFO) storage, equipment shop, fuel station, plant, leach pad, and waste storage, will need to be constructed. Ms. Lane of GRE developed conceptual layouts for the project.

1.7 Recovery Methods

The process for the Escalones project is comprised of conventional sulfuric acid heap leaching followed by solvent extraction and electrowinning to produce cathode copper. Figure 17-1 shows the conceptual flowsheet. The project employs open pit mining with a conventional heap leach system on a 365 day per year 24 hour per day basis. The target production rate is 50,000 tonnes per day of mineralized material producing an average of 52,000 annual tonnes of Grade-A copper cathode (115 million pounds). The estimated average copper extraction from the mineralized material is 72.5%, with 75% recovery of the recoverable copper during the first year, 20% during the second year, and 5% thereafter.

Run of mine (ROM) material would be trucked to a primary jaw crusher located reasonably close to the proposed open pit. The primary crushed material would then be conveyed to a secondary crushing circuit and delivered to the heap via a series of overland conveyors. A tripper conveyor located adjacent to the heap leach would transfer the crushed material to a series of grasshopper conveyors and ultimately to a stacking conveyor for placement on the heap.

The heap leach would consist of a suitable area lined with a solution containment system, typically a linear low-density polyethylene (LLDPE) liner with a rock over liner of sized material to facilitate drainage. Within this over liner would be placed drainage pipes to conduct the leach solution to the centralized collection ponds. The crushed material would be stacked in lifts on the lined pad by means of a slewing stacking conveyor. The lifts are targeted at 10 metres (32 feet) in height with a total heap height of 100 metres (328 feet). Once a suitable area has been stacked (cell), the cell would be irrigated with dilute sulfuric acid solution. Stacking would continue to advance, and each area irrigated with acid solution for a set period of time (primary leach cycle). The solution leaches copper from the heap materials and is transported to the copper recovery circuit as pregnant leach solution (PLS).

This PLS would be processed directly in the solvent extraction plant (SX), diverted to a dedicated pond, or recirculated to the heap. The SX circuit consists of a series of extraction stages and a stripping stage using a conventional mixer/settler arrangement. The loaded organic from the extraction stage would be transferred to the stripper vessel, producing a rich electrolyte solution for subsequent electrowinning. The copper-depleted raffinate from the extraction circuit would be recycled to the raffinate pond. Prior to electrowinning, the rich electrolyte would be purified to remove entrained organic through column flotation and filtration. The depleted “raffinate” solution would report to the heap leach raffinate pond/tank and be recirculated back to the heap after having the reagent levels adjusted (free acid).

The electrowinning (EW) circuit consists of a series of electrowinning cells equipped with cathodes and anodes. The copper depleted lean electrolyte would report back to the SX stripping circuit. The plated copper cathodes would be striped using a mechanized striping system after being washed. Grade-A copper cathodes would then be sampled and bundled for shipment.

The heap leach is typically designed to have multiple lifts stacked in sequence. Each new lift is placed on top of the last lift until the heap reaches its ultimate height. Heap leaches often utilize 10 or more lifts to reach an ultimate height of 100 to 150 metres (328 feet to 492 feet). The configuration of the heap leach is heavily dependent on the permeability characteristics of the material, the terrain available, and the geotechnical aspects of the site.

1.8 Capital and Operating Costs

The capital cost estimate has been prepared for the PEA under the assumption of processing of open pit mined material at a rate of 50,000 tpd. Project costs were estimated using cost data from Infomine (2021) and experience of senior staff. The estimate assumes that the project will be operated by the owner with leased equipment.

The capital costs are summarized in Table 1-2.

Table 1-2: Escalones Copper Project Capital Cost Summary

Item	Total
Royalty Buyback	$3.0
Process	$379.5
Infrastructure	$114.9
G&A	$7.4
Sustaining	$0.5
Contingency	$125.6
Total	**$630.9**

The operating costs assume owner operation. Operating costs are summarized in Table 1-3.

Table 1-3: Escalones Copper Project Operating Cost Summary

Item	Total Operating Cost (millions)	Unit Operating Cost	Unit
Mining	1,445.7	$1.87	$/tonne mined
Processing	1,239.8	$3.39	$/tonne processed
G&A	206.0	$0.56	$/tonne processed
Closure	64.5	$0.18	$/tonne processed
Total	**2,956.1**	$8.08	$/tonne processed

1.9 Economics

Readers are advised that Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability under National Instrument 43-101. This PEA is preliminary in nature and includes inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves under CIM Definition Standards. Readers are advised that there is no certainty that the results projected in this preliminary economic assessment will be realized.

A multi scenario analysis method was used to analyze the economic performance of the project by varying the cutoff grade, plant and heap leach locations, and method of procuring mobile production and support equipment.

Ms. Lane of GRE evaluated the following options:

- Cutoff grades of 0.13%, 0.15%, 0.17%, 0.19%, and 0.21% copper

- Two plant and heap leach locations: near the project immediately south of the Maipo River and approximately 65 km down valley in the Pangal and Cachapoal River valleys near west of the town of Rancagua
- Three mobile equipment procurement options: owner purchase of all equipment, owner lease of all equipment, and owner purchase of a base number of pieces of equipment with use of contractor equipment and labor for years with peak requirements.

After analyzing the economic results of all cases considered, Ms. Lane of GRE selected the 0.17% copper cutoff with the heap leach and plant located near the project and the mobile equipment leased by the owner as the base case as it results in the best overall economics.

Ms. Lane of GRE performed an economic analysis of the project by building an economic model based on the following assumptions:

- Copper price of $3.60/lb, based on using a weighted average of the 3-year trailing average copper price and the 2-year futures price, calculated as: 60% x 3-year trailing average price of $3.25/lb + 40% x 2-year futures price of $4.15/lb.
- Overall copper recovery of 72.5%
- Leach recovery delay as follows: 75% recovered during the first year on the heap, 20% recovered in the second year on the heap, and 5% recovered during the third year on the heap
- Copper 100% payable
- $80/tonne cathode premium
- $30/tonne transportation charges
- $3 million cost up front to purchase back existing NSR royalties under buyback provisions
- All costs input to the model are in US dollars. No exchange rate was applied.
- Sales and use taxes are not included in the model
- Chilean taxes, depreciation, amortization were included

Table 1-4 presents the key economic results for the project.

Table 1-4: Escalones Copper Project Key Economic Results

Economic Measure	Value
After Tax NPV @5% (millions)	$1,937
After Tax NPV @ 8% (millions)	$1,500
After-Tax IRR	46.2%
Initial Capital (millions)	$438
Payback Period (year)	2.18
All-in Sustaining Cost ($/lb Cu Produced)	$1.42
C1 Cash Cost ($/lb Cu Produced)	$1.19
Capital Intensity (Years 1 – 5)	$7,756
Capital Intensity (Life of Mine)	$8,416

Capital Intensity: Initial Capital USD/Avg ktpa Cu production

The project economics shown in the PEA are favorable, providing positive Net Present Value (NPV) values at varying copper prices, capital costs, and operating costs. The PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves under CIM Definition Standards. Readers are advised that there is no certainty that the results projected in this preliminary economic assessment will be realized.

1.10 Recommendations

The QPs recommend the following Phase 1 items and budget (inclusive of contingency) to advance the Escalones Copper project towards production (Table 26-1).

Table 1-5: Escalones Copper Project Estimated Costs to Complete the Phase 1 Work Programme

Exploration Cost Area	Total
Exploration Drilling	$4,000,000
Metallurgical Testing	$400,000
Permitting	$500,000
Total	**$4,900,000**

A comprehensive metallurgical test programme is recommended to fully evaluate the potential of heap leach treatment. This programme should include bottle roll leach tests in conjunction with column leach tests. The variables that should be examined include grade, resource spatial distribution, mineralogy, and particle size. Additionally, these tests should include both conventional acid leaching and bioleaching.

For exploration, the QPs recommend a drilling programme on the order of 5,000 to 10,000 metres to outline additional resources to the west, south ,and east flanks of the main deposit.

A Phase 2 programme would be contingent upon positive results from the Phase 1 programme, and the scope of the Phase 2 programme are conditioned on the results of the Phase 1 programme. For the purposes of conceptual level planning, it is assumed that a Phase 2 programme would consist of a nominal $25M program that would include an expanded exploration drill program to upgrade resources to reserves and engineering and economics studies that would result in a Pre-feasibility Study.

The QPs recommend further engineering evaluation of different projects sizes and the optimization of mine plans.

The QPs recommend the evaluation and incorporation of existing and/or future technologies to improve sustainability and reduce environmental impacts of the Project.

Baseline studies, some of which were initiated by TMI, are recommended to support the preparation of permitting documents. Baseline studies should include fauna and flora, archeology, human component, paleontology and landscape.

Development of other preliminary engineering studies that will support early preparation of a DIA are recommended. The following studies should be conducted to support infrastructure designs:

- Seismic study

- Hydrology and hydrogeology
- Geomorphology and geological risk
- Geotechnical studies
- Condemnation drilling

The QPs recommend additional evaluation of the potential for potentially acid generating (PAG) material, metal leaching, and groundwater mobilization of contaminants.

GRE recommends that World Copper conduct an early social perception study on the local communities to determine their perception/expectations about the future project. This will help identify and define any actions needed to be taken into account to obtain local community support for the project.

2.0 INTRODUCTION

2.1 Issuer and Terms of Reference

This technical report has been prepared for World Copper Ltd. "World Copper"). World Copper is a TSX-listed copper asset development company based in Vancouver, BC with two active projects in Chile: Cristal and Escalones and one active project in Arizona, USA: Zonia. World Copper has retained Global Resource Engineering Ltd. ("GRE") to prepare a Preliminary Economic Assessment (PEA) and subsequent NI 43-101 Technical Report for the Escalones project (the "Project", the "Property" or the "Escalones Project").

The Project is located 35 kilometres (km) east of El Teniente, one of the world's largest underground copper mines, and within the renowned Chilean porphyry copper belt that runs north-south in the central Andes Mountains.

Practices consistent with Canadian Institute of Mining, Metallurgy and Petroleum (CIM) (2010) were applied to the generation of this PEA. The PEA includes restatement of the Mineral Resource Estimate issued in September 2021 (HRC, 2021).

2.2 Sources of Information

A portion of the background information and technical data presented in this report was obtained from the following documents:

> Armitage, A., 2012. *Technical Report on the Resource Estimate on the Escalones Porphyry Copper Project, Santiago Metropolitan Region, Chile*; Prepared for South American Silver Corp.
>
> Katsura, K.T., 2006. *Report on the Escalones Property, Santiago Metropolitan Region, Chile*; Prepared for South American Silver Corp.
>
> Hard Rock Consulting, LLC, 2013. *Amended NI 43-101 Technical Report – Resource Estimate on the Escalones Porphyry Copper Project*; prepared for TriMetals Mining Inc.
>
> Hard Rock Consulting, LLC, 2021. *National Instrument 43-101 Technical Report: Mineral Resource Estimate for the Escalones Copper Project, Santiago Metropolitan Region, Chile*; prepared for World Copper Ltd.

The information contained in current report Sections 4 through 14 was largely presented in, and in some cases, is excerpted directly from, the reports listed above. GRE has reviewed this material in detail and finds the information contained herein to be factual and appropriate with respect to guidance provided by NI 43-101 and associated Form NI 43-101F1.

Additional information was requested from and provided by World Copper. In preparing Sections 9 through 13 of this report, the authors have relied in part on historical information including exploration reports, technical papers, sample descriptions, assay results, computer data, maps and drill logs generated by previous operators and associated third party consultants. Historical documents and data sources used during the preparation of this report are cited in the text, as appropriate, and are summarized in current report Section 27.

2.3 Qualified Persons and Personal Inspection

The Qualified Persons responsible for this report are Ms. J.J. Brown, P.G. of Hard Rock Consulting LLC (HRC), Mr. Richard Schwering, P.G. of HRC, Mr. Enrique Grez Armanet of Exploraciones Millacura SpA, and Ms. Terre Lane and Dr. J. Todd Harvey, both of GRE.

Mr. Schwering has over 10 years of combined experience in mineral exploration and geologic consulting, including a variety of project work specifically related to structurally controlled gold and silver resources and reserves. Mr. Schwering is specifically responsible for report Items 1.5, 11, 12.2, 12.3, and 14.

Ms. Brown, P.G., SME-RM, has 25 years of professional experience as a consulting geologist and has contributed to numerous mineral resource projects, including more than twenty gold, silver, and polymetallic resources throughout the southwestern United States and South America over the past five years. Ms. Brown is specifically responsible for Sections 1.3, 8, 9, and 10.

Mr. Grez is a QP Geologist who has more than 40 years of experience in geologic and geo-metallurgical modeling for mineral resources. He is an exploration specialist on natural resources from precious metals to copper and industrial minerals. He has solid exploration experience in Chile and all the Latin American countries. Mr. Grez is recognized as a Qualified Person on Mineral Resource and Reserves (Chile Law 20,235). Mr. Grez is the past Director at the Mining Commission for Resources and Reserves. Mr. Grez has presented seminars and instruction on mineral deposit valuation to multiple mineral companies and other entities including teaching courses and lectures in geology and geochemistry at Universidad de Atacama and Universidad del Desarrollo, Santiago Chile. Mr. Grez is responsible for Items 1.2, 7, and 12.1.

Ms. Lane, SME-RE, is a QP mining engineer with more than 35 years of experience. Her career has included full charge management of feasibility studies, mine and process engineering, and project development for surface and underground greenfield mines, and brownfield expansions. She has experience with a range of minerals, including base and precious metals, coal, potash, beryllium, uranium, talc, and sand and gravel; and she has managed projects throughout the world including the U.S., Canada, Mexico, India, Ireland, Russia, China, Chile, Bolivia, Peru, Costa Rica, Africa, and New Zealand. She has experience in most underground mining methods, from shrinkage stoping and cut and fill, to room and pillar, to block cave. Ms. Lane's professional experience includes conceptual and detailed engineering, project optimization, project development, construction, start-up, and operations. She has directed engineering studies for numerous mine development projects and has managed engineering and feasibility study budgets as high as $25M/year. She has been responsible for underground exploration programmes in foreign countries. She is an expert at resource estimation and mine design and has completed several hundred projects using all modeling techniques; estimates included: statistical analysis, geo-statistical analysis, inverse distance estimation, Kriging, single stage and multiple Indicator Kriging, geometallurgical modeling, and estimation of error. Ms. Lane is a Mining and Metallurgical Society of America (MMSA) Qualified Professional in Ore Reserves and Mining and she is a SME Registered Member. Ms. Lane is responsible for Sections 1.1, 1.6, 1.7, 1.8, 1.9, 1.10, 2, 3, 4, 5, 6, 12.5, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, and 27.

Dr. Harvey, PhD, SME-RE, is a QP process engineer with over 25 years of experience in mining, renewable energy, and technology. Dr. Harvey is a Qualified Person under the Society of Mining Engineers (SME) Registered Member accreditation. Dr. Harvey's background includes conventional gold recovery processes and refractory gold pretreatment via pressure oxidation, stirred tank BIOX, heap bio-oxidation, and roasting circuit design. Conventional base metal process design including polymetallic flotation, conventional oxide heap leaching, heap bioleaching and stirred tank bioleaching. Dr. Harvey has performed consulting for several companies in the field of process design and optimization, due diligence, and financial modeling. He possesses significant international experience, having lived in West Africa and South Africa and conducted a variety of projects in multiple countries. Dr. Harvey has extensive experience designing, performing, and analyzing metallurgical test work including mineralogy, crushing, grinding, gravity separation, filtration/thickening, flotation, CIL, heap leaching (gold/copper/zinc), refractory ore treatment (bioleaching – heap/tank, autoclaves, roasting), SX/EW, and tailings treatment. He has authored over 20 peer-reviewed technical papers and numerous studies and has presented at a variety of international conferences. He holds patents related to bioheap leaching biofuels production. Dr. Harvey is responsible for Sections 1.4, 12.4, 13, and 17.

Ms. Lane conducted a one-day site visit and inspection on February 10, 2022. Ms. Lane visited the Escalones project by road through the Maipo Valley. She was able to observe the infrastructure along the valley and the access to the Project and camp and the environmental conditions of the area. Ms. Lane attempted to access the Meseta by the existing roads, but falling rocks and debris prevented her from reaching the top. Ms. Lane also visited the site several times in the later half of the 1990s as Vice President of Engineering for General Minerals Corp. Ms. Lane also visited the core storage facility and viewed some of the core that was drilled by General Minerals and South American Silver.

Mr. Grez completed a site inspection on the property, on August 6, 2021. Mr. Grez visited the Escalones project by road through the Maipo Valley. He was able to observe the infrastructure along the valley and the access to the Project and camp and the environmental conditions of the area. But due to access being limited by snow cover access to the project was limited, so on August 14, 2021, a helicopter visit to the Project was completed. This allowed for a review of the geology of Escalones Alto and Meseta sectors. In addition to the review of the geologic conditions 9 drill holes locations were confirmed with a handheld GPS unit. On August 07, 2021, a review of drill core storage facility was completed. The drill cores were found to be stacked in wooden or cardboard boxes, generally in a good state of preservation and with their labels perfectly legible. Review of a select group of core holes allowed Mr. Grez to verify the different styles of skarn and porphyry-hosted mineralization and to compare the geology with the original drill hole mapping that was used to build the geological model and subsequently constrain the mineral resource model.

2.4 Units of Measure

All currency amounts are stated in US dollars (US$, USD). Quantities are generally stated in metric units, as per standard Canadian and international practice, including metric tonnes (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres for distance, hectares (ha) for area, percentage (%) for copper grades, and gram per tonne (g/t) for gold and silver grades. Imperial units (mostly pounds of copper) have occasionally been converted (where noted) to the International System of Units (SI units) for consistency.

3.0 RELIANCE ON OTHER EXPERTS

During the preparation of this report, the authors relied in good faith on information and agreements provided by World Copper regarding property ownership, mineral tenure, mineral rights, permitting, environmental liabilities, and property agreements as described in Sections 4 and 5 of this report. An independent verification of land title and tenure was not performed. In particular, the authors relied on the provisions of the share purchase agreement made as of May 31, 2019, as amended, among Wealth Minerals Ltd., World Copper, Escalones Resource Corp. and TMI (the “Share Purchase Agreement”) and the Option Agreement (as defined below). GRE has not verified the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) with third parties, including the Option Agreement (as defined below) and the Share Purchase Agreement.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Project Location and Ownership

The Project is located within the Santiago Metropolitan Region of Central Chile, approximately 97 km southeast of Santiago and near the headwaters of the Maipo River, 9 km west of the border between Chile and Argentina (Figure 4-1). Geologically, the Property is located approximately 35 km due east of the well-known producing underground copper mine El Teniente, within the Los Pelambres to El Teniente porphyry copper belt, which runs north-south through the Chile-Argentina border in the central Andes Mountains. The approximate geographic center of the Project area is located at latitude 34^{o} 7' south and longitude 69^{o}57.5' west.

Drill-defined mineralization within the Project area occurs beneath a high-standing, north-south ridge between Quebrada Escalones and Quebrada Argüelles, at elevations ranging from 3,400 metres above sea level (masl) in the west, up to approximately 4,077 masl on the ridge. Surface alteration and mineralization covers about 1.5 km east-west and 3 km north-south. The central intrusive complex is mostly buried beneath a glacial till-covered plateau called the "Meseta" at 3,800 masl and flanked by lower skarns on west (originally called "Escalones Bajo"), and higher skarn along the ridge crest to the east (originally called "Escalones Alto").

The Project covers an area of 161 square kilometres (km^2) (Figure 4-2), of which (i) 46 km^2 are covered by 19 exploitation concessions that are the subject of an option agreement (the "Option Agreement") between an indirect, wholly-owned subsidiary of World Copper, TriMetals Mining Chile SCM ("TMI Chile") and a third-party vendor for a 100% interest in and to the concessions (the "Escalones Option") and (ii) 115 km^2 are covered by 40 exploration concessions, owned by TMI Chile. Pertinent details of the Escalones mining concessions are summarized in Table 4-1.

World Copper acquired the Escalones Project from Gold Springs Resource Corp., formerly TriMetals Mining Inc. (hereinafter referred to as "TMI") pursuant to a share purchase agreement made as of May 31, 2019, as amended, among Wealth Minerals Ltd., World Copper, Escalones Resource Corp., and TMI. As consideration, World Copper issued 25,000,000 common shares in its capital to Escalones Resource Corp., a wholly owned subsidiary of TMI, made a cash payment in the amount of $150,000, and granted to TMI a 1% to 2% net smelter returns (NSR) royalty on the Escalones exploration concessions. World Copper was also required to make additional cash payments to TMI in the aggregate of $850,000 as shown in Table 4-2.

In addition, the payments shown in Table 4-3 to certain third-party property vendors are required to exercise the Escalones Option in full.

The Escalones exploitation concessions are subject to a 1% to 2% NSR royalty from the sale of products from the Escalones exploitation concessions. Further, TMI Chile has agreed to grant to Escalones Resource Corp. a 1% to 2% NSR royalty payable on production from the Escalones Exploration Concessions. Each of the NSR royalties may be purchased back from the royalty holder pursuant to the terms of each royalty agreement.

Figure 4-1: Escalones Project Location and Local Infrastructure

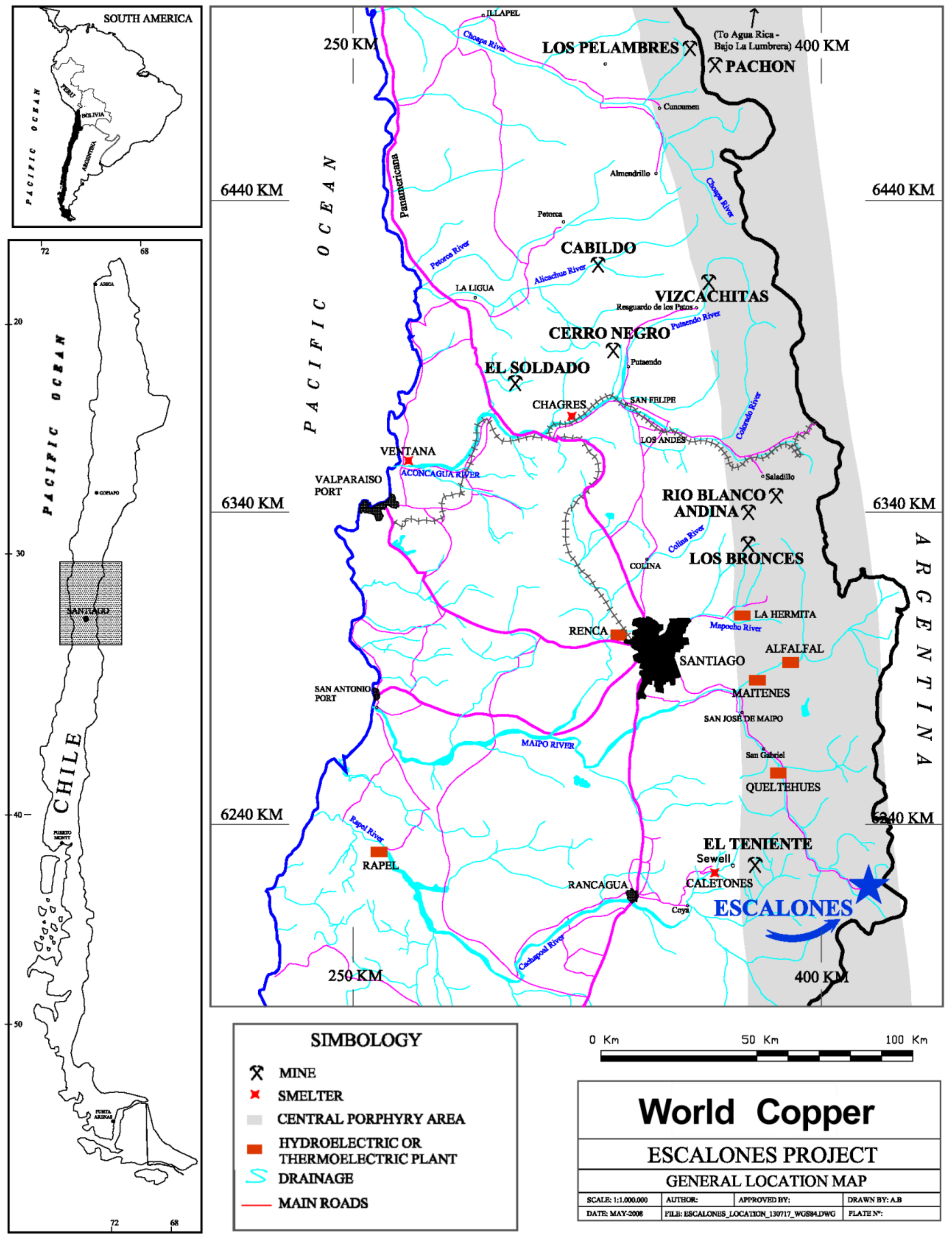


Figure 4-2: Escalones Project Area

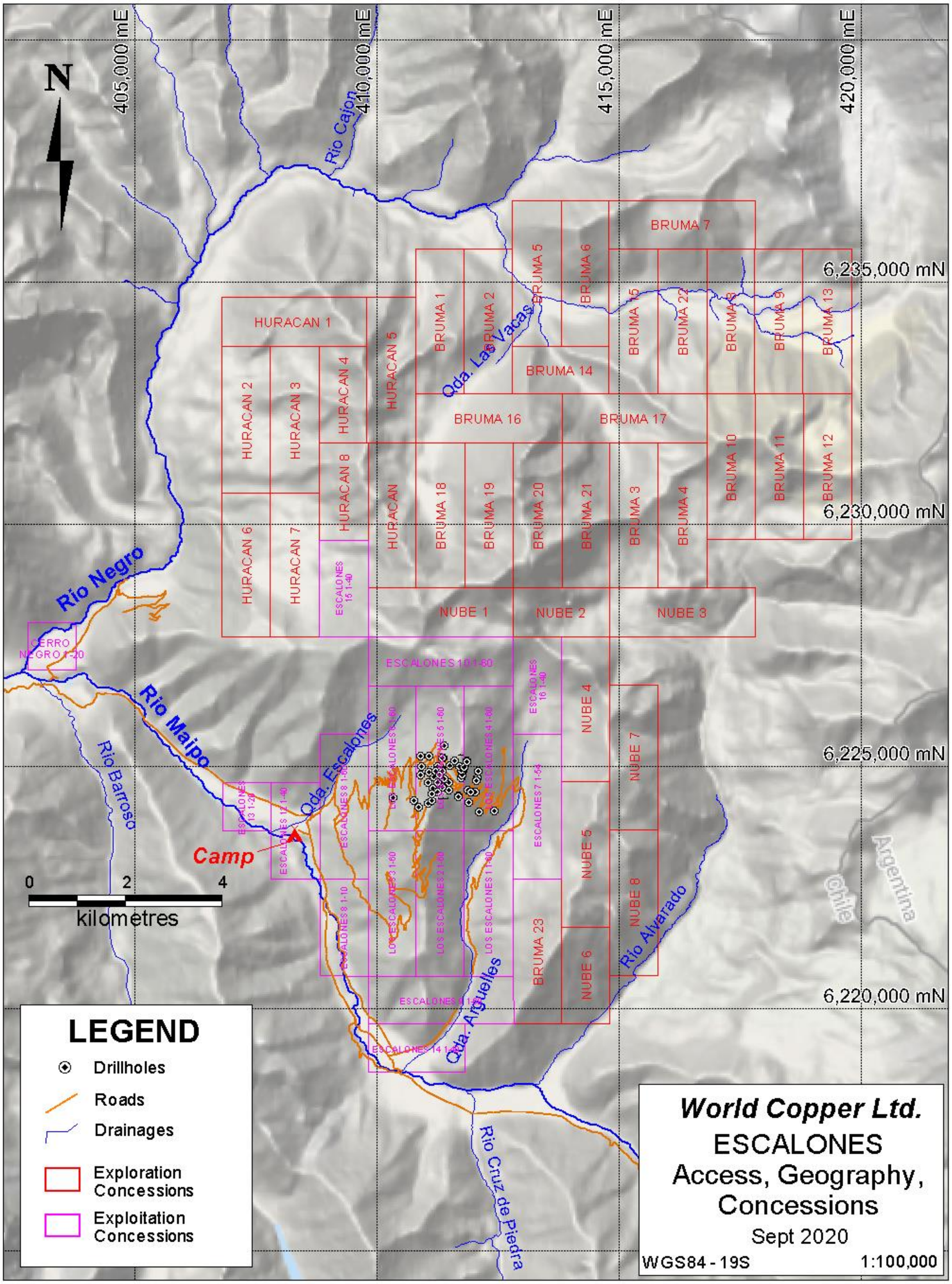


Table 4-1: Escalones Project Mineral Concessions

Concession	ID Number	Area (ha)	Owner	Type	Validity
CERRO NEGRO 1/20	13303-0721-4	100	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 7 1/54	13303-0636-6	270	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 8 1/40	13303-0652-8	200	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 8 1/60	13303-0637-4	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 9 1/60	13303-0638-2	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 10 1/60	13303-0639-0	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 12 1/40	13303-0653-6	200	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 13 1/20	13303-0654-4	100	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 14 1/40	13303-0640-4	200	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 15 1/40	13303-0641-2	200	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
ESCALONES 16 1/40	13303-0642-0	200	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
LOS ESCALONES 1 1/60	13303-0389-8	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
LOS ESCALONES 2 1/60	13303-0390-1	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
LOS ESCALONES 3 1/60	13303-0391-K	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
LOS ESCALONES 4 1/60	13303-0392-8	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
LOS ESCALONES 5 1/60	13303-0393-6	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
LOS ESCALONES 6 1/60	13303-0394-4	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
PUENTE RATONES 1/26	13303-0669-2	219	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
RIO CLARO 1/30	13303-0670-6	300	Sociedad Legal Minera Los Escalones	Exploitation	indefinite
HURACÁN 1	13303-3730-k	300	TriMetals Mining Chile SCM	Exploration	12-Mar-21
HURACÁN 2	13303-3729-6	300	TriMetals Mining Chile SCM	Exploration	27-Mar-21
HURACÁN 3	13303-3728-8	300	TriMetals Mining Chile SCM	Exploration	19-Mar-21
HURACÁN 4	13303-3734-2	200	TriMetals Mining Chile SCM	Exploration	12-Mar-21
HURACÁN 5	13303-3727-K	300	TriMetals Mining Chile SCM	Exploration	12-Mar-21
HURACÁN 6	13303-3726-1	300	TriMetals Mining Chile SCM	Exploration	12-Mar-21
HURACÁN 7	13303-3733-4	300	TriMetals Mining Chile SCM	Exploration	12-Mar-21
HURACÁN 8	13303-3732-6	200	TriMetals Mining Chile SCM	Exploration	20-Mar-21

Concession	ID Number	Area (ha)	Owner	Type	Validity
HURACÁN 9	13303-3731-8	300	TriMetals Mining Chile SCM	Exploration	20-Mar-21
NUBE 1	V-518-2019	300	TriMetals Mining Chile SCM	Exploration	submitted
NUBE 2	V-519-2019	200	TriMetals Mining Chile SCM	Exploration	submitted
NUBE 3	V-520-2019	300	TriMetals Mining Chile SCM	Exploration	submitted
NUBE 4	V-521-2019	300	TriMetals Mining Chile SCM	Exploration	submitted
NUBE 5	V-522-2019	300	TriMetals Mining Chile SCM	Exploration	submitted
NUBE 6	V-523-2019	200	TriMetals Mining Chile SCM	Exploration	submitted
NUBE 7	V-524-2019	300	TriMetals Mining Chile SCM	Exploration	submitted
NUBE 8	V-525-2019	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 1	133033458-0	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 2	133033457-2	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 3	133033456-4	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 4	133033455-6	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 5	133033454-8	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 6	133033453-K	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 7	133033452-1	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 8	133033451-3	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 9	133033450-5	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 10	133033449-1	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 11	133033468-8	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 12	133033466-1	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 13	133033465-3	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 14	133033464-5	200	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 15	133033463-7	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 16	133033462-9	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 17	133033461-0	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 18	133033459-9	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 19	133033460-2	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 20	133033469-6	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 21	133033470-K	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 22	133033471-8	300	TriMetals Mining Chile SCM	Exploration	submitted
BRUMA 23	133033467-K	300	TriMetals Mining Chile SCM	Exploration	submitted
	TOTAL	**16,189**			

Table 4-2: Escalones Option Payments

Date	Cash Payment (CAD)
On or before February 28, 2021	$350,000 (PAID)
On or before January 12, 2022	$500,000 (PAID)
Total:	**$850,000**

Table 4-3: Escalones Vendor Payments

Date	Cash Payment (USD)
June 20, 2020	$60,000 (PAID)
December 30, 2020	$140,000 (PAID)
June 30, 2021	$150,000 (PAID)
September 30, 2021	$150,000 (PAID)

Date	Cash Payment (USD)
June 30, 2022	$500,000
June 30, 2023	$500,000
June 30, 2024	$3,000,000
Total:	**$4,500,000**

4.2 Permitting and Environmental Liabilities

TMI carried out baseline studies during their field exploration programmes. These studies examined:

- Flora and fauna
- Glaciers
- Archeology
- Air quality
- Water sampling
- Wind and dust monitoring
- Installation and operation of two weather stations

Until the end of 2019, the project was permitted for 20,000 metres of additional drilling and construction of four kilometres of new roads. The permits will need to be updated once a schedule for exploration is known. GRE knows of no environmental liabilities associated with the Project, nor of any other significant factors which might affect access, title, or the right or ability to perform work within the Escalones Project area.

4.3 Mineral Tenure and Surface Rights

4.3.1 The Legal Framework in Chile

Mining in Chile is principally regulated by three main laws: (i) the Constitution of the Republic of Chile, Article 19, No. 24 subparagraphs 6 to 10 (the "Constitution of Chile"); (ii) the Organic Constitutional Law on Mining Concessions, Law 18.097 of 1982 (the "Organic Constitutional Law"); and (iii) the new Mining Code, Law 18.248 of 1983 (the "Mining Code") and its regulations.

In Chile, mining exploration and exploitation rights or “concessions” are separate and distinct from surface ownership and title of the land on which mining concessions may be constituted.

Pursuant to Article 19, Paragraph 24 of the Constitution of Chile, the state has absolute, exclusive, inalienable and non-prescribable ownership of all mines. The Chilean government owns such surface rights through the Ministry of Public Lands. On the other hand, the mining concession is an in rem right that is independent from the ownership of the land upon which that right is established. Accordingly, there is a separation of the ownership of the mining concession (which grants the rights to explore and exploit minerals) and the surface soil property where the labours of exploration and consequent mining exploitation is intended to be executed. Should the holder of a mining concession intend to develop and build a plant in correlation with a mining project, the holder thereof will either apply for a long-term easement or a lease with the government for the duration of the project.

Generally, a mining concession is transferable and transmissible, which may be conducted by way of property option agreement. Once a property option is fully exercised, the mining concession is transferred from the optionor to the optionee.

Mining concessions in Chile are awarded in a non-contentious legal proceeding and can be of two types: exploration concessions and exploitation concessions. An exploration concession or “pedimento” is temporary, is awarded to investigate the existence of concessible minerals, and does not entitle the holder to exploit. An exploitation concession or “manifestación” is indefinite and entitles the holder both to explore and to exploit concessible minerals (as discussed below). Any local or foreign person, whether natural or juridical, can acquire or apply for mining concessions to carry out mining activities and operations. However, because of legal responsibilities, the owners of such concessions must have a company incorporated in Chile, which can be a subsidiary of the parent company duly integrated into the country.

The Organic Constitutional Law requires an exploration concession to be registered, after which the concession is valid for two years. During this two-year period, the holder of the exploration concession can apply to the relevant court for the exploration concession to be converted into an exploitation concession if the holder wishes to extract minerals from the claim area for commercial purposes. Alternatively, the exploration concession can be renewed on a one-time basis for an additional two-year period, but the renewal requires that the holder relinquish 50% of the claim area. Exploration concessions must be filed with a competent court, and a one-time processing fee must be paid. The court will direct that a full copy of the claim be registered with the Registry of Discoveries of the Mining Titles Registrar, and that a full copy of such filing be published in the Official Mining Bulletin. The file will then be forwarded to the National Geology and Mining Service (“Sernageomin”) for review. Unless Sernageomin objects, the Court will award the exploration concession requested. Upon determination, successful applicants then maintain exploration concessions through the payment of annual fees. The Court will direct that an excerpt of the award be published in the Official Mining Bulletin and filed with the Registry of Discoveries of the Mining Titles Registrar, at which point the concession is duly constituted and registered.

Exploitation concessions are also maintained through the payment of annual fees. There is no limit to an exploitation concession's duration (provided that such annual fees are paid), and ownership of such concessions may be transferred or transmitted in the same manner as real estate.

4.3.2 World Copper’s Title and Surface Mining Rights - Escalones Property

4.3.2.1 Escalones Exploitation Concessions

46 km^2 of the Escalones Property are covered by 19 exploitation concessions that are the subject of the Option Agreement.

The Option Agreement was originally executed between Mr. Juan Luis Boezio Sepulveda (the “Offeror” or “Mr. Boezio”) and TMI Chile, on February 26th, 2004.

Mr. Juan Luis Boezio Sepulveda died on December 6th, 2011, therefore a succession community formed by the heirs of Mr. Boezio was originated, and hence such community acquired the ownership of the mining concessions and the obligations under the Option Agreement. However, since a succession community may not jointly own a mining concession according to the provisions of the Mining Code, then by the sole ministry of Law, a Legal Mining Company under the name of Sociedad Legal Minera Los Escalones Uno de San Jose de Maipo (the “Sociedad”) was incorporated, which remains until this day as the current offeror of the Option Agreement.

Pursuant to the Option Agreement, the Sociedad voluntarily granted to TMI Chile or the beneficiary an irrevocable option to purchase the mining concessions described in the first clause of such agreement and the easements, the mining camp and the water exploration claims in process of authorization, individualized in the second clause of the Option Agreement.

4.3.2.2 Escalones Exploration Concessions

115 km^2 of the Escalones Property is covered by 40 exploration concessions, owned by TMI Chile. Of the 40 exploration concessions, 31 of them are still in the process of constitution.

The mining concessions constitution proceeding is subject to the proper and timely compliance of each of the legal requirements and steps established in the Chilean Mining Code. The failure to fulfill these requirements may result in the lapsing or expiration of the mining concession in process or in a nullity vice by virtue of which the concession can be declared void and null. Therefore, the Court itself or third parties may challenge the constituting proceeding of exploitation or exploration mining concessions, until they are constituted, due to lack of compliance of the legal requirements. The mentioned Court’s judgment, along with the remedies and related resolutions, if applicable, must be registered at the Discoveries Registry in case of exploration mining concessions. Only by these means is a constituted mining concession duly acquired.

Additionally, constituted mining concessions may also be challenged within the term of four years as of the date of a publication of an abstract of the judgment at the Official Mining Gazette, granting such claims as exploration mining concession when they may be affected by a nullity vice.

4.3.2.3 Annual Mining Fees

All mining concessions must annually pay a mining fee during March each year to maintain the property in good standing. This payment depends on the area covered by the mining concession and the type of mining concession, i. e., exploitation or exploration. If such payment is not made, the National Treasury would include the concessions on a list of non-paid mining concessions. As a result, these mining concessions may be publicly auctioned.

If this auction procedure takes place, the mining concessions may be excluded by (i) providing proof of the previous payment of the fees (in case they were included in the auctioning list by mistake); or (ii) by paying double the amount of the applicable fees due, if they are paid after July 1st each year.

4.4 Mining Easement

On April 30, 1996, a settlement and easement agreement (the “Easement Agreement”) was executed between Compañía de Consumidores de Gas de Santiago S.A. (“Gasco”), on one hand, and Mr. Boezio (now, the Sociedad) and Compañía Minera Vizcachas (“Vizcachas”), on the other hand.

Pursuant to the Easement Agreement, Gasco as the landowner of the real estate named as "Cruz de Piedra," located in the San José de Maipo county, Cordillera Province, Metropolitan Region of Chile (the "Real Estate"), granted an occupation and transit easement over the Real Estate in favor of the following mining concession that partially cover the Real Estate (i) Los Escalones Uno 1/60; Los Escalones Dos 1/60; Los Escalones Tres 1/60; Los Escalones Cuatro 1/60; Los Escalones Cinco 1/60; Los Escalones Seis 1/60); (ii) exploration mining concessions property of Mr. Boezio, at such time, named as Escalones 7; Escalones 9; Escalones 15; Escalones 16; Cerro Negro; Cerro Blanco and Cascada; and (iii) exploitation mining concessions named as Valle Blanco 1/60 and Valle Blanco Dos 1/49, which were subject at that time to a leasing and promise to purchase agreement in favor of Compañía Minería Vizcachas.

The Easement Agreement is valid as long as the Sociedad or its legal successor has the ownership over the mining concessions and pays the annual easement compensation to Gasco.

4.4.1 Rights under the Easement Agreement

The Sociedad shall be entitled to execute exploration and exploitation activities, and to build paths, tunnels, electric facilities, facilities to intake water, and pipelines in order to execute all the necessary mining activities, over an area of 3,480 hectares.

4.4.2 Compensation and Payment Calendar

The Sociedad shall pay as compensation to Gasco an amount of 160 UF (Unidades de Fomento) before April 30th, each year. This payment shall be borne and executed by TMI Chile in accordance with clause No. 12 of the Option Agreement.

According to a leasing and promise to purchase agreement, executed between Mr. Boezio and Vizcachas, executed on June 3rd, 1992, Mr. Boezio promised to sell to Vizcachas the exploitation mining concessions named as Valle Blanco 1/60 and Valle Blanco Dos 1/49 ("Valle Blanco Mining Concessions"). Since the date of acquisition, Vizcachas shall remain as main and direct debtor of 50% of the compensations mentioned, being Mr. Boezio obliged to pay the remaining 50% of the payment due to the Easement Agreement.

Compañía Minera Catedral ("Catedral"), which is a related company of Vizcachas, bought from Mr. Boezio the Valle Blanco Mining Concessions on May 13th, 1997. Due to such deed, Catedral undertook to exercise the rights under the Easement Agreement under the same terms and conditions provided to Mr. Boezio, and to pay the 50% of the compensations provided in the Easement Agreement.

In addition, the lack or delay of payment shall, ipso facto, early terminate the Easement Agreement, along with any damages that may arise to Gasco.

4.4.3 Pipeline of Gasco

At the time of the agreement, Gasco intended to build a pipeline to transport natural gas to Argentina by means of the company Gasoducto Andes S.A. The pipeline has since been built, and the Sociedad must respect such pipeline, and the accessory facilities of the same.

4.4.4 Prior Communication to Gasco

The Sociedad must inform Gasco in writing and prior to the beginning of the mining activities this situation along with a general description of such mining activities. Also, the Sociedad must perform all the formalities requested by environmental laws and send to Gasco a copy of every document related to such formalities.

In addition, the Sociedad is unable to occupy and/or develop, directly or indirectly, or by means of a hired third party, any activity within 20 metres from the area occupied by the mentioned pipeline of Gasco. However, with the sole purpose to transit, the Sociedad or its dependents or employees may approach up to 5 metres of the lay out of the pipeline, if it does not affect the pipeline.

Failure to fulfill the aforementioned obligations will entitle Gasco and Gasoducto Andes S.A., or their successors, to claim the pertinent damages, and if the pertinent breach is repeated, it will also entitle Gasco to early terminate the Easement Agreement.

4.4.5 Assignment or Transfer; Renounce of Further Easements

The Sociedad may assign or transfer its rights over the mining concessions subject to this agreement; however, the assignee must explicitly undertake the terms and conditions of the Easement Agreement. Failure to perform this obligation will make Gasco not liable, and the assignee will not be entitled to exercise its rights under the Easement Agreement.

Note that the Sociedad waived the right to request any further mining easements to explore or exploit over the area covered by the easement described in the Easement Agreement, nor to claim any damages from the use of the pipeline.

4.5 Water Rights

Water rights in Chile are ruled by the Political Constitution of the Republic of Chile, the Water Code, and the Decree Law No. 203-2013, which regulates water rights applications, among others.

Water exploration rights are authorizations which entitle its owner to carry out underground exploration exclusively within the boundaries of a water exploration right. However, a water exploration right does not entitle its holders to intake or use the underground water discovered, but rather to request a water exploitation right at the General Water Agency (“DGA”), which will be understood as submitted not on the date of the application of the water exploitation right, but on the date when the resolution granting the water exploration right was issued.

An application requesting an exploration water right must be submitted at the DGA or the respective Governor’s office, along with the pertinent documentation.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Access and Climate

Access to the Project is via paved road from the town of San José de Maipó to San Gabriel and Romeral, then by dirt road along the ECOGAS pipeline right-of-way which follows the Maipó River to Quebrada Escalones. The base camp for the Project is located along the western edge of the Project just above the confluence of Quebrada Escalones and the Maipo River at an elevation of 2,400 masl. A total of 46 km of exploration drill access roads were built between 1997 and 2000 by TMI Chile that lead from the base camp and the ECOGAS pipeline access road via several switchbacks crossing the Escalones Bajo fault zone and continuing up to the Meseta and the Escalones Alto portions of the Project. Additional drill roads extend from the Argüelles River along the eastern side of Escalones Alto.

Climate is typical for the central Chilean Andes, with cool to moderate summers and cold winters with an average precipitation of 1,000 millimetres (mm), occurring primarily between May and October as snow. Winter weather (May to August) can be severe, with prolonged periods of freezing temperatures and storms with daytime highs around -10 to 0° C and locally heavy snowpack. Summer temperatures (November to February) range from 2° C at night to 20° C during the daytime. Exploration can generally be carried out from October through April of the following year.

5.2 Local Resources and Infrastructure

The Project is readily accessible from the city of Santiago and town of San José de Maipó, where there is an adequate supply of labor, equipment, and service requirements for conducting exploration or mining related activities.

Existing infrastructure in the Project area consists of a seasonal base camp, with the capacity to accommodate 50 persons, situated at lower elevations (2,400 masl) along the Rio Maipo. Three drill access roads from the camp (9, 14, and 22 km) have been re-opened, leading up to the main mineralized area. The Project is located adjacent to the ECOGAS pipeline right-of-way, which provides overland access from populated areas near Santiago. The pipeline right-of-way could potentially be developed as a utility corridor for power and other essential services from the Queltehues hydroelectric plant, approximately 53 km downstream.

5.3 Physiography

The Escalones Project straddles the Cordon Escalones, a very steep and rugged north-trending ridge between the Quebrada Escalones and Rio Argüelles near the headwaters of the Rio Maipo, and approximately 9 km from the border between Chile and Argentina. Elevation of the Project ranges from 2,400 metres at the base camp along the Rio Maipo, 3,400 metres at Escalones Bajo, 3,800 metres on the Meseta, and 4,077 metres along the ridge at Escalones Alto. The Project is covered in some areas by glacial moraines and steep talus slopes that locally exceed the angle of repose. Mountainous working conditions can be hazardous in the Mancha Amarilla and slopes east of Escalones Alto towards the Rio Argüelles. The terrain is typical for this part of the central Andes Mountains in Chile. Vegetation on the Project above

3,000 metres is non-existent to sparse with few small forbs and lichens found along the lower talus slopes and moraine deposits.

Prior to the construction of the ECOGAS gas pipeline and associated service road, there was no access to the Project except by horseback or helicopter. Presently, the pipeline road passes through the western part of the Project and provides relatively easy access from Santiago. Copper mineralization on the Project is exposed in two main prospect areas, or sectors, known as Escalones Bajo and Escalones Alto, with a 1.5 km area in between that is a relatively flat and gently sloping moraine-covered plateau called the Meseta.

6.0 HISTORY

6.1 Historical Ownership

The Escalones Project was first optioned by General Minerals SCM, Chile ("GM"), later known as South American Silver Chile SCM ("SASC Chile") when GM became a wholly owned indirect subsidiary of South American Silver Corp. ("SASC"), the latter being a company incorporated under the federal laws of Canada. GM first optioned the Escalones Project in 1996 under the direction of Fitch and Felipe Malbran from Juan Luis Boezio Sepulveda as the "Escalones Option." The Escalones Option is currently managed by Pablo Caglevic who represents the Sociedad.

In June of 1999, GM signed a joint venture agreement with ASARCO. Under terms of the agreement, ASARCO could earn 60% interest in the project by completing a bankable feasibility study and making certain additional payments to GM.

SASC Chile terminated its interest in the Project in 2001 due to the poor economic environment, low copper prices, and high ongoing option payments. SASC Chile reacquired its interest in 2004. No exploration sampling or analysis was carried out in 2004; however, several companies were shown the Project in an effort to locate a joint venture partner.

In March 2005, SASC Chile entered into an agreement with Minera Aurex (Chile) Limitada ("Minera Aurex"), a subsidiary of Phelps Dodge Corporation, whereby Minera Aurex could earn up to a 72% joint venture interest in the Project by incurring certain exploration expenditures, making certain payments to SASC Chile, and completing a feasibility study.

In May 2007, Minera Aurex terminated the joint venture agreement with SASC Chile. At the end of this stage, a total of 30 drill holes (12,666 metres) had been drilled on the Project.

In March of 2014, SASC changed its name to TriMetals Mining Inc. ("TMI"). Subsequently, in November of 2019, TMI changed its name to Gold Springs Resource Corp., and its common shares started trading on TSX under "GRC".

In May of 2019, Wealth Minerals Ltd. and Wealth Copper Ltd, each a private company, entered into a Share Purchase Agreement to acquire the Escalones project from TMI.

In July 2020, Wealth Copper changed its name to "World Copper Ltd."

6.2 Historical Exploration and Development

During the latter months of 1996 and early 1997, SASC Chile conducted initial geologic mapping and sampling. In 1997, the building of bulldozer roads commenced to provide access to the area between Escalones Alto and Escalones Bajo. Channel sampling and geological mapping was conducted at these new road cuts and along surface outcrops on the Project.

During the 1997 to 1998 field season, geological mapping was continued throughout the Property, and the bulldozer access roads to Escalones Alto were completed. A total of 36 km of self-potential (SP) geophysical surveys were completed during this season, and 310 additional channel samples of road cuts and bulldozer trenches were collected. A permanent camp facility with space for approximately 30 persons, an office, sample preparation and core logging facilities, and warehouse storage was completed at lower elevations adjacent to the ECOGAS pipeline above the confluence of Quebrada Escalones and the Rio Maipo.

The 1998 to 1999 field season included an intensive programme of road and trench building, in preparation for drilling, additional geophysical surveys, and geological and structural mapping on a project and broader district scale. Technical studies to determine the radiometric age of selected intrusive rock units, fluid inclusion studies from selected rock samples, and preliminary environmental and hydrological studies were conducted for the project. The first phase of diamond core drilling at Escalones Alto commenced in November 1998 and continued through March 1999. A total of nine drill holes (ES-1 through ES-9) were completed, totaling 4,434 metres of core, during this season. Detailed core logging and sampling was conducted for geochemical analyses, which showed the presence of strong copper-gold-molybdenum-silver mineralization in the Escalones Alto sector.

The 1999 to 2000 field season commenced in November 1999 and ended in late April 2000. The field programme primarily focused on completing drill access roads on the eastern side of Escalones Alto from the Rio Argüelles, continuation of the diamond drilling activities, and interpreting the results from prior geochemical and geological work. A total of 14 additional holes were completed during the season (ES-10 through ES-23), totaling 5,725 metres, for a comprehensive project totaling 23 holes for 10,159 metres. The primary focus of the drilling was in the Escalones Alto sector, with two holes completed in the Escalones Bajo sector, which tested structural and geophysical targets. An additional 16 km of access roads were completed during the season, bringing the total to 46 km of access roads completed on the Property.

During the 2000 to 2001 field season, a two-hole diamond-drilling (ES-24 and ES-25) programme totaling 1,212 metres was completed during February to March 2001. One of these holes, ES-25, targeted potential porphyry style mineralization underlying the Meseta area between Escalones Alto and Escalones Bajo. This hole explored beneath the moraine cover and successfully intercepted porphyry-copper style mineralization over much of its length, demonstrating that intrusive-hosted porphyry style mineralization is present beneath the Meseta.

In 2005, Minera Aurex completed an induced potential (IP) geophysical survey of the central part of the Property and defined a large sulphide target on the western part of the Meseta. This target is coincident with a road cut for which previous chip sampling by SASC Chile indicated the presence of 160 metres of 0.6% copper. Minera Aurex was unable to obtain the required drill permits to test this target in 2005 due to a change in environmental regulations in the region. On December 28, 2006, Minera Aurex received the required drilling permits from the Chilean government and drilling of five holes (1,294 metres) was completed in March of 2007. At the end of this stage, a total of 30 drill holes (12,664 metres) had been drilled on the Property.

In April 2008, SASC Chile, under the ownership of TMI, completed required environmental studies and submitted an Environmental Impact Declaration (DIA), which included a diamond drilling programme of 15,000 metres. The environmental license was granted on August 18, 2009. In March 2011, SASC Chile reopened facilities at the Escalones Property in preparation for the exploration programme that commenced in Q1-2011. A total of 136 additional channel samples in road cuts at Escalones Bajo and Escalones Alto were collected. During August to October 2011, SASC Chile hired a consultant geologist with expertise in porphyry copper deposits to carry out an evaluation of the geological model of the Escalones Cu-Mo porphyry-skarn by remapping 3,400 metres of the existing core. In November 2011, a total of 230 line-kilometres covering a total area of 45 km^2 of helicopter-borne Z-Axis Tipper Electromagnetic (ZTEM) and aeromagnetic geophysical surveys were carried out by Geotech Ltd.

In September 2012, TMI announced the results of the 2012 five-hole diamond drilling programme and the interpretation of the ZTEM conductivity and magnetic geophysical surveys at Escalones, including a new copper oxide zone. During the 2011 to 2012 season, TMI drilled five holes totaling 3,205 metres. Diamond drill hole ES-35, located 300 metres east of ES-24, intersected 71 metres of near surface, mixed secondary sulphide/oxide copper mineralization averaging 0.64% copper equivalent (CuEq). This hole also intersected high grade skarn mineralization at 456 metres, intercepting 4.5 metres of copper mineralization averaging 4.32% CuEq within a 9.25-metre zone averaging 2.39% CuEq. This skarn intercept extends the known skarn such that it has now been traced by drilling approximately 1.7 km horizontally and 1.1 km vertically.

In December 2012, TMI commenced a summer drill programme at the Escalones copper-gold project. During the field season 18 additional diamond-drill holes (ES-36 to ES-53) were drilled, completing 9,070 metres. A total of 53 diamond drill holes totaling 24,939 metres have been completed on the Project. 15,934 core samples were sent for geochemical analysis during the summer programme. In addition, an initial programme of metallurgical test work on Escalones material was commenced at SGS Laboratories in Ontario and was completed in April 2013. Subsequently, a second set of samples were sent to SGS for further metallurgical testing. The standard sulphuric acid leach test achieved average copper extraction of 77% from mixed copper oxide/sulphide mineralization. Copper flotation was also successful and rougher/cleaner flotation testing of the porphyry material achieved copper concentrate grades of 25-34%. The metallurgical testing used conventional sulphuric acid and flotation methods although TMI’s patented chloride leach was also tested. The patented leach averaged 100% extraction of the copper and 57% of the gallium on both oxide and sulphide mineralization but with high reagent consumption.

6.3 Historical Mineral Resource Estimates

The mineral resource estimates described in the following paragraphs predate current NI 43-101 reporting standards, though they were completed in accordance with the NI 43-101 reporting standards and mineral resource classification categories in place at the time they were prepared (2011 and 2013, respectively). The historical mineral resources are described here as they were originally reported, including the disclosure of ‘global’ mineral resources, which are mineral resources not constrained by a pit shell. A qualified person has not done sufficient work to classify the historical estimates described below as current mineral resources, and the historical mineral resource are considered relevant for historical completeness only. World Copper is not treating the historical estimates as current, and all historical mineral resource estimates are superseded by the mineral resource estimate presented in Section 14 of this report.

GeoVector Management Inc. prepared a mineral resource estimate on the Escalones Project for South American Silver Corp in 2011, as reported in a news release issued on December 19th, 2011 (filed on

SEDAR). The global Inferred mineral resource was estimated at “420 million tonnes of mineralized material containing 3.8 billion pounds (lbs) of copper, 56.9 million lbs of molybdenum, 610,000 troy ounces (oz) of gold and 16.8 million oz of silver, using a 0.2% copper equivalent (CuEq) cutoff grade.” This was equated to a CuEq content of 4.5 billion lbs of copper grading 0.49% CuEq, based on approximate 3-year average metal prices of $3.00/lb copper, $1,200/oz gold, $22/oz silver and $16/lb molybdenum. The estimate was based on 30 diamond drill holes (12,666 metres) and 43 channel and road cuts (>2,100 metres) with >10,934 assay values collected through 2011.

In May 2014, a revised Technical Report was prepared by TMI, who published a resource estimate dated 28 June, 2013 of 760 million tonnes of combined Inferred and Indicated at 0.33% Cu and 0.045 g/t gold (Au). This estimate is now considered historical for the following reasons:

1) Metal prices used to calculate the different cutoff grades have changed since 2013.
2) The estimate was not based on “in-pit” resources; CIM regulations state that any “updated resource” must be considered as historical when the resource does not contain a section on the “conformity shape of economic extraction” (i.e., a Whittle pit or equivalent).

The resources were estimated by Mr. Jeffrey Choquette, P.E. an appropriate independent qualified person. Table 6-1 presents an estimated range of mineral resources at various CuEq cut off grades to demonstrate the sensitivity of the resource estimate with respect to cut-off grade. The 2013 mineral resource estimate for the Escalones Property was reported using a base case 0.25 % CuEq cutoff grade for a total indicated resource of 232.561 million tonnes and a total inferred resource of 527.667 million tonnes. Copper Equivalent (CuEq %) calculations reflect gross metal content using approximate 3-year average metals prices as of June 25th, 2013, of $3.71/lb Cu, $1549/oz Au, $30.29/oz silver (Ag), and $14.02/lb molybdenum (Mo) and have not been adjusted for metallurgical recoveries. An economic cutoff grade of 0.25% CuEq was assumed.

The reader is cautioned that mineral resources are not reserves and do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing or other relevant issues and are subject to the findings of a full feasibility study. The quantity and grade of reported inferred mineral resources are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource; it is uncertain if further exploration will result in upgrading the inferred mineral resources to the indicated or measured mineral resource category.

Table 6-1: Escalones Project, Global Mineral Resource Estimate

			Cu		Au		Ag		Mo		CuEq	
Classification	**CuEq% Cutoff**	**Tonnes X 1,000**	**%**	**lbs X 1,000**	**g/t**	**oz x 1,000**	**g/t**	**oz x 1,000**	**%**	**lbs X 1,000**	**%**	**lbs X 1,000**
Indicated	0.15	405,242	0.243	2,170,281	0.052	674	0.528	6,879	0.006	51,308	0.302	2,701,842
	0.25	**232,561**	**0.308**	**1,578,329**	**0.067**	**498**	**0.661**	**4,939**	**0.006**	**31,909**	**0.380**	**1,947,232**
	0.35	107,885	0.393	935,279	0.082	285	0.877	3,041	0.006	14,730	0.477	1,134,703
	0.45	43,319	0.507	484,661	0.092	128	1.329	1,851	0.006	5,666	0.602	574,524
	0.55	19,395	0.634	271,048	0.098	61	1.948	1,215	0.005	2,342	0.737	315,284
	0.75	6,141	0.860	116,456	0.107	21	2.760	545	0.005	722	0.979	132,489

Classification	CuEq% Cutoff	Tonnes X 1,000	Cu		Au		Ag		Mo		CuEq	
			%	lbs X 1,000	g/t	oz x 1,000	g/t	oz x 1,000	%	lbs X 1,000	%	lbs X 1,000
	1.00	1,974	1.120	48,753	0.127	8	3.294	209	0.004	163	1.251	54,456
Inferred	0.15	1,023,299	0.253	5,712,479	0.028	931,176	0.624	20,520	0.006	132,276	0.300	6,768,823
	0.25	**527,667**	**0.343**	**3,992,410**	**0.036**	**609,437**	**0.849**	**14,398**	**0.007**	**79,489**	**0.401**	**4,664,903**
	0.35	233,140	0.463	2,378,257	0.047	349,019	1.205	9,029	0.008	40,503	0.535	2,750,819
	0.45	129,938	0.572	1,638,097	0.049	203,645	1.471	6,146	0.008	22,270	0.648	1,857,501
	0.55	73,690	0.688	1,117,424	0.051	120,870	1.622	3,842	0.007	11,658	0.765	1,243,336
	0.75	24,609	0.950	515,222	0.057	45,400	1.875	1,484	0.006	3,225	1.029	558,488
	1.00	8,622	1.300	247,098	0.055	15,342	1.792	497	0.003	661	1.368	260,062

6.4 Historical Production

The earliest reports describing geology and mineralization and the mining and production history for the Escalones Project are dated 1925 and 1926, respectively (Katsura, 2006). A report dated 1926 gives a total production of 15.4 tonnes at a grade of 12% copper for the month of April 1926. Based on the descriptions in these reports, all the old adits and surface workings that are observed on the Project were completed prior to 1926. The largest of the underground workings, the Socavon Grande, exploited surface exposures of magnetite skarn at the Escalones Alto sector of the Project. These workings consist of an adit approximately 40 metres long, another adit eight metres long, and scattered prospect pits at Escalones Alto and Escalones Bajo. Based on initial field observations by the predecessor company in 1996, it appears that no significant exploration or mining on the Project had been conducted since 1926, and the facts in the 1926 report appear to be reasonable based on the observed level of disturbance. To GRE's knowledge, no prior modern production has been carried out at the site.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

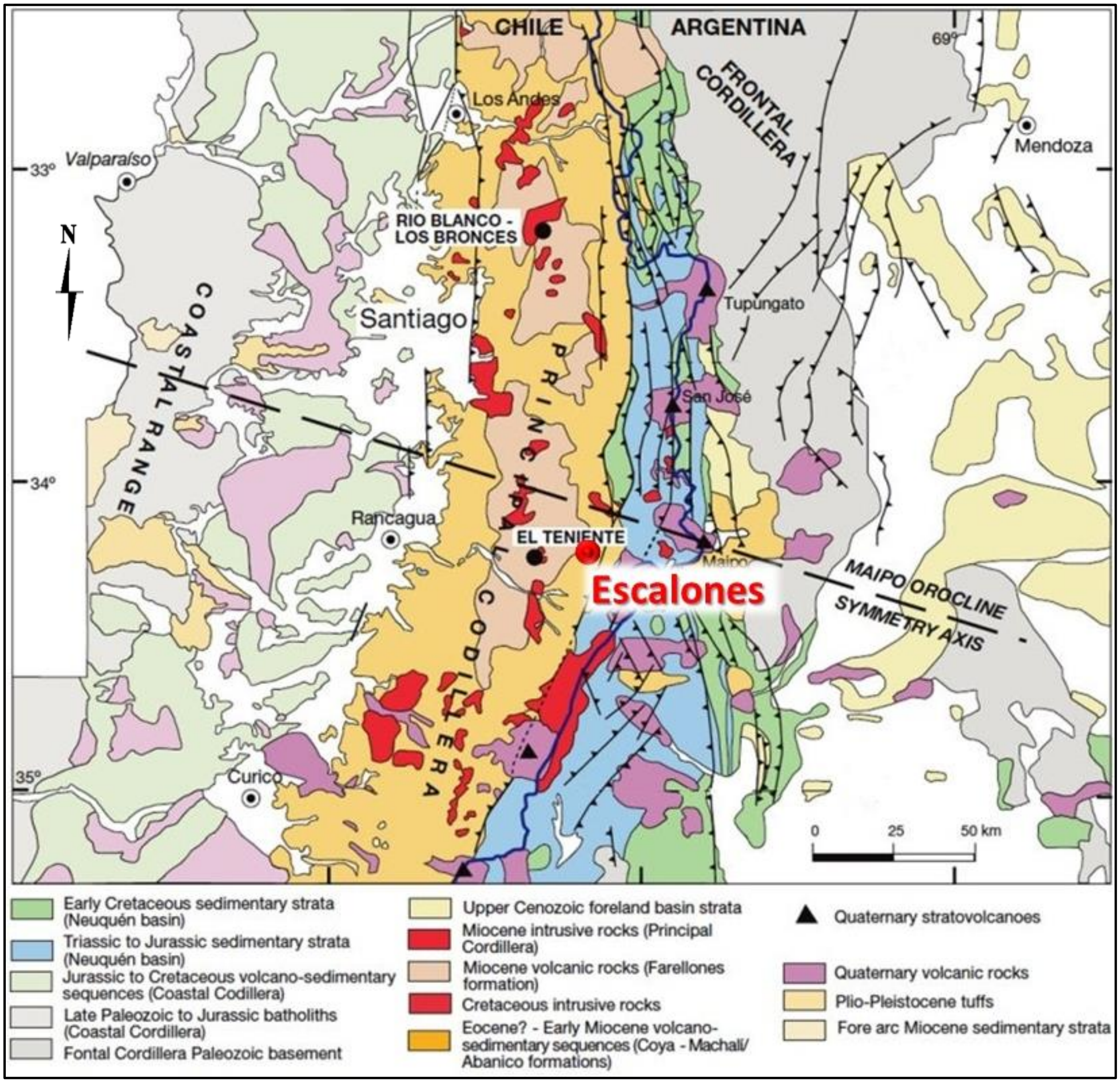
7.1 Regional Geology

The Property is situated within the Miocene to Pliocene age Pelambres-El Teniente Porphyry copper belt, which hosts the world's largest underground porphyry copper deposit at El Teniente, as well as other large copper deposits at Los Bronces - Andina and Pelambres in Chile, and Agua Rica, El Pachón and Bajo La Alumbrera in Argentina (Katsura, 2006). Porphyry copper mineralization within this metallogenic province is associated with igneous activity ranging in age from 4.6 to 7.0 Ma (El Teniente) to 9.7 Ma (Los Pelambres). The general age of igneous activity at the Escalones Property was determined to be between 8.2 to 6.7 + 0.3 Ma, based on a K/Ar analysis from primary igneous biotite in the granodiorite intrusive (Maus, 1999). Thus, the timing of intrusions and mineralization at Escalones is within the range of other large deposits in the metallogenic province.

The Escalones Project is in the central Andes Mountains (Figure 7-1), within a north-south trending fold and thrust belt consisting of Paleozoic and Mesozoic rocks that exhibit at least six episodes of tectonic and orogenic activity since the Triassic period (Giehn, 1960; Charrier, 1981; Ramos, 1988). The rock units exposed in the Project area consist of at least two episodes of Mesozoic transgressive marine and terrestrial sedimentary rocks, which are intercalated with volcanic units. These rock units have been subsequently folded, deformed, and displaced by thrust faulting, and intruded by Tertiary intrusive complexes (Figure 7-2). All rocks are overprinted by genetically related mineralization and hydrothermal alteration.

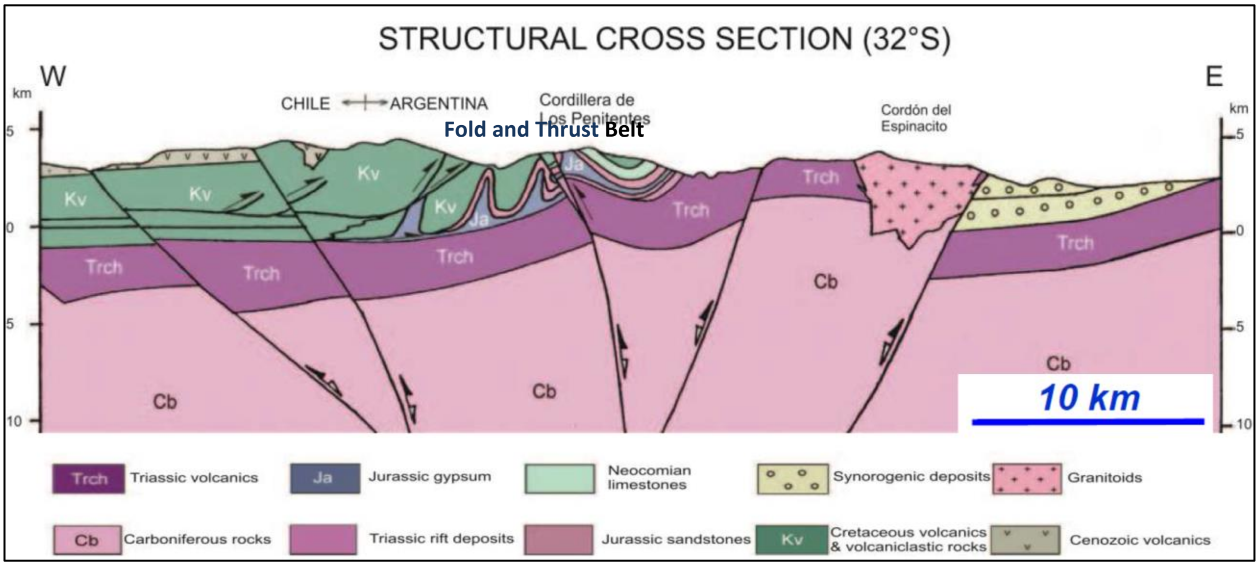
Normal faulting associated with regional uplift, and the active erosion by water and glaciers continue to expose deeper portions of the range.

Figure 7-1: Central Chile Regional Geology



modified from Mpodozis and Cornejo (2012)

Figure 7-2: Central Chile Cross Section at 32° South (300 Km North of Escalones)



modified from Mpodozis (2010)
Farther South, at Escalones, the Chile-Argentina border is east of the Fold and Thrust Belt

7.2 Local and Property Geology

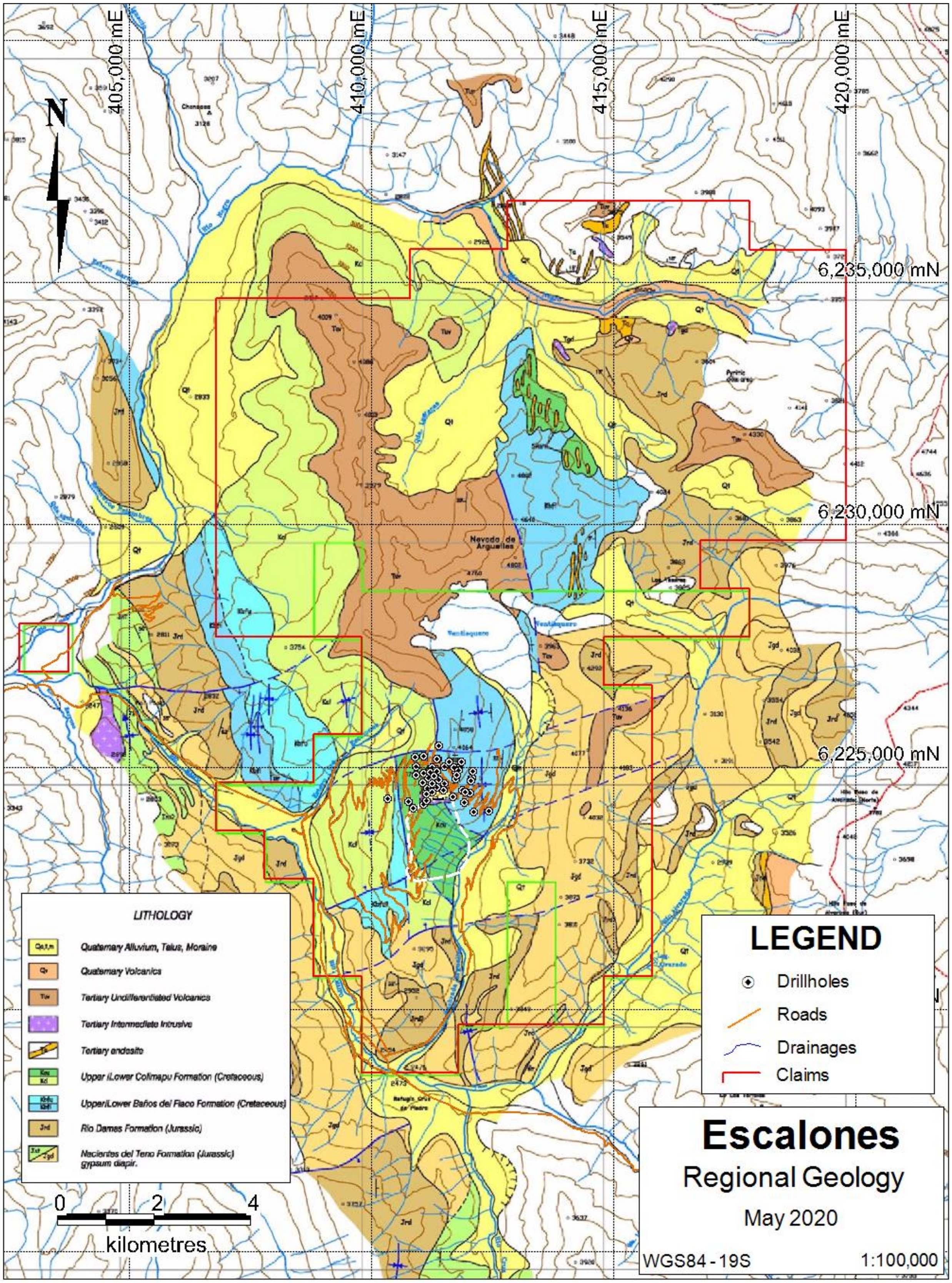
7.2.1 Lithology

The oldest rock units exposed in the Escalones area are identified as sediments of the Upper Jurassic Nacientes del Teno Formation, which consists of a sequence of tightly folded red sandstones, shale, sandy limestone and up to 200 metres of intercalated gypsum/anhydrite (Figure 7-3 and Figure 7-4). Regional folding of the Nacientes del Teno Formation has resulted in plastic deformation of the gypsum/anhydrite units, which commonly form diapirs that intrude overlying units and have displaced large blocks of adjacent sediments, often creating a chaotic assemblage of lithologies that obscures contact relations among other rock units. It has also been noted that this formation is commonly associated with detachment faults in the region and that gypsum diapirs migrate along these flat-lying structures (Maus, 1999).

The Rio Damas Formation stratigraphically overlies the Nacientes del Teno Formation and consists of more than 1,000 metres of volcanic andesite flows, tuffaceous sediments, intercalated conglomerates, and a red sandstone unit that were all deposited in a continental setting. Rocks of the Rio Damas Formation typically are highly disrupted and occur as displaced blocks within gypsum diapirs that are rooted in the underlying Nacientes del Teno Formation. In the Project area, a calcareous sedimentary member is referred to as the Escalones Bajo sedimentary sequence and is part of the Rio Damas Formation.

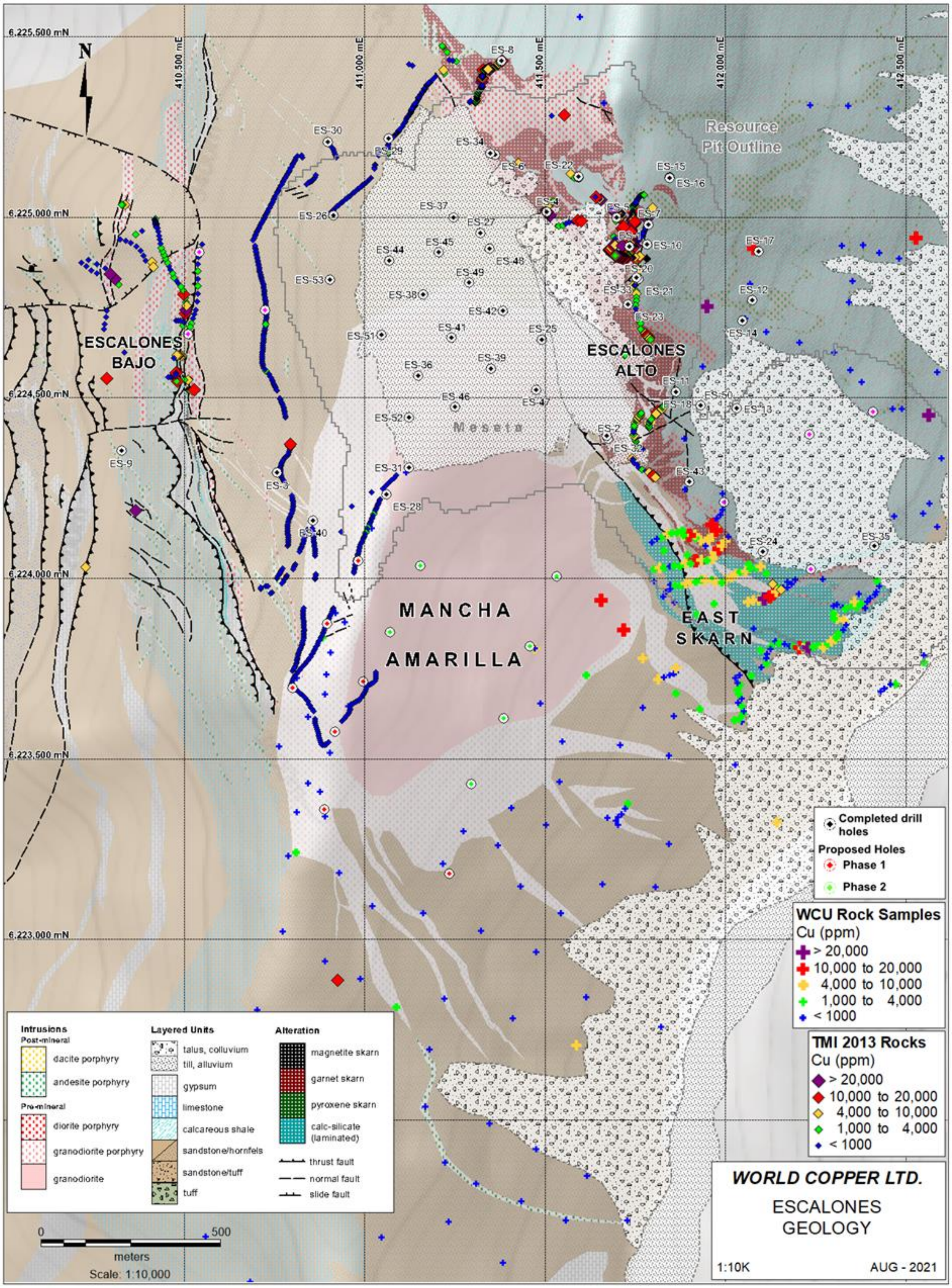
The Baños del Flaco Formation conformably overlies the Rio Damas Formation and consists of a thick package of rhythmically bedded calcareous to carbonaceous mudstone, siltstone, and fossiliferous limestone that are locally intercalated with volcaniclastic and andesitic flows. The dark grey to black colour and carbonaceous content are distinctive features that help distinguish the rocks of the Baños del Flaco Formation from both underlying and overlying terrestrial red-bed units in the project area. The Baños del Flaco Formation has also been described elsewhere as the Lo Valdes Formation, where it consists of a

Figure 7-3: Local Geology



modified from Armitage (2012)

Figure 7-4: Escalones Main Deposit Geology, Zones, and Surface Rock Sampling



note pit shell outline

1,300- to 1,800-metre section representing a continuous period of marine sedimentation in the Andean Basin during the late Jurassic-early Cretaceous and precedes a widespread compressive orogenic episode that began in the middle Cretaceous (Hallam, et al., 1986). In the project area, the upper calcareous sediments and limestone are referred to as the "Escalones Alto sedimentary sequence" and overlie a siltstone member of the same formation.

The Colimapu Formation overlies the Baños del Flaco Formation and is characterized by up to 3,000 metres of red tuffaceous sandstone, intercalated conglomerate, volcaniclastic and andesite flows, and evaporites that were deposited as the Andean Basin was being compressed and uplifted during the middle-Cretaceous.

In the Project area, the Colimapu Formation is unconformably overlain by a thick sequence of volcanic rocks consisting of subaerial andesite flow, tuffs, volcaniclastics, and breccias and is locally intercalated with tuffaceous sediments. These rocks have been tentatively correlated with the Late-Cretaceous Coya Machalí Formation, Abanico Formation, and/or the Miocene Farellones Formation in the Project area (Maus, 1999). Exposures of very young volcanic rock units have been identified north of the project area along the Cordon Escalones and are possibly recent flows and tuffs originating from Volcan Maipo, an active volcano located approximately 14 km southeast of the project area along the Chile-Argentina border.

The sedimentary rocks have been structurally arranged in a complex manner, such that tuffaceous sediments and carbonates of the Baños del Flaco Formation form the backbone of the Cordon Escalones. Along the north-trending Escalones Bajo structure, the tuffaceous siltstones and carbonates of the Rio Damas Formation are in thrust contact with the Baños del Flaco siltstones, and gypsum diapirs have migrated along the structure from the underlying Nacientes del Teno Formation. Along the east side of the Cordon Escalones, the upper limestone and carbonate members of the Baños del Flaco Formation appear to have been thrust over the lower tuffaceous siltstone member at Escalones Alto; this structural zone appears to be subparallel to primary bedding structures and is intruded by a series of andesite dikes and sills. The upper carbonate unit of the Baños del Flaco Formation is also referred to as the Escalones Alto sedimentary sequence.

The sequence of sedimentary and volcanic rocks in the Project area have been intruded by a central granodiorite stock followed by a series of intermediate composition dikes, sills, and plugs. The largest and oldest intrusion exposed is a granodiorite stock that crops out near the southwest edge of the Meseta and the steep slopes below and has been intersected in drill holes beneath the Meseta area. Emplacement of the granodiorite stock produced a broad alteration halo of biotite hornfels in overlying tuffaceous siltstones of the Baños del Flaco Formation, and garnet-magnetite skarn in more calcareous units. The granodiorite intrusion and adjacent altered rocks are in turn cut by later dacite/andesite dikes associated with the evolving intrusive porphyry system. Biotite-feldspar porphyry andesitic dikes and sills were emplaced subparallel to bedding planes within the Baños del Flaco Formation, along low-angle thrust faults and crosscut sedimentary units. A fine-grained diorite plug and associated dikes crosscut all sedimentary units and the andesite dikes and locally follow zones of recurring faults. The age of the andesite sills at Escalones was determined at Geochron Labs, Cambridge Mass., by K-Ar methods to be 8.2+ 0.3 Ma using a 'fresh' sample containing primary igneous biotite (Osterman, 1997) . A subsequent, poorly documented age determination by the same lab of 6.7 Ma was from the granodiorite intrusion (Maus, 1999), but considering that the granodiorite is cut by the 8.2 Ma andesite dikes, this age has likely been reset (there is no fresh granodiorite on the ridge). Nevertheless, these ages are similar to those from other important porphyry copper deposits in the central Chilean Andes, as described above.

7.2.2 Structure

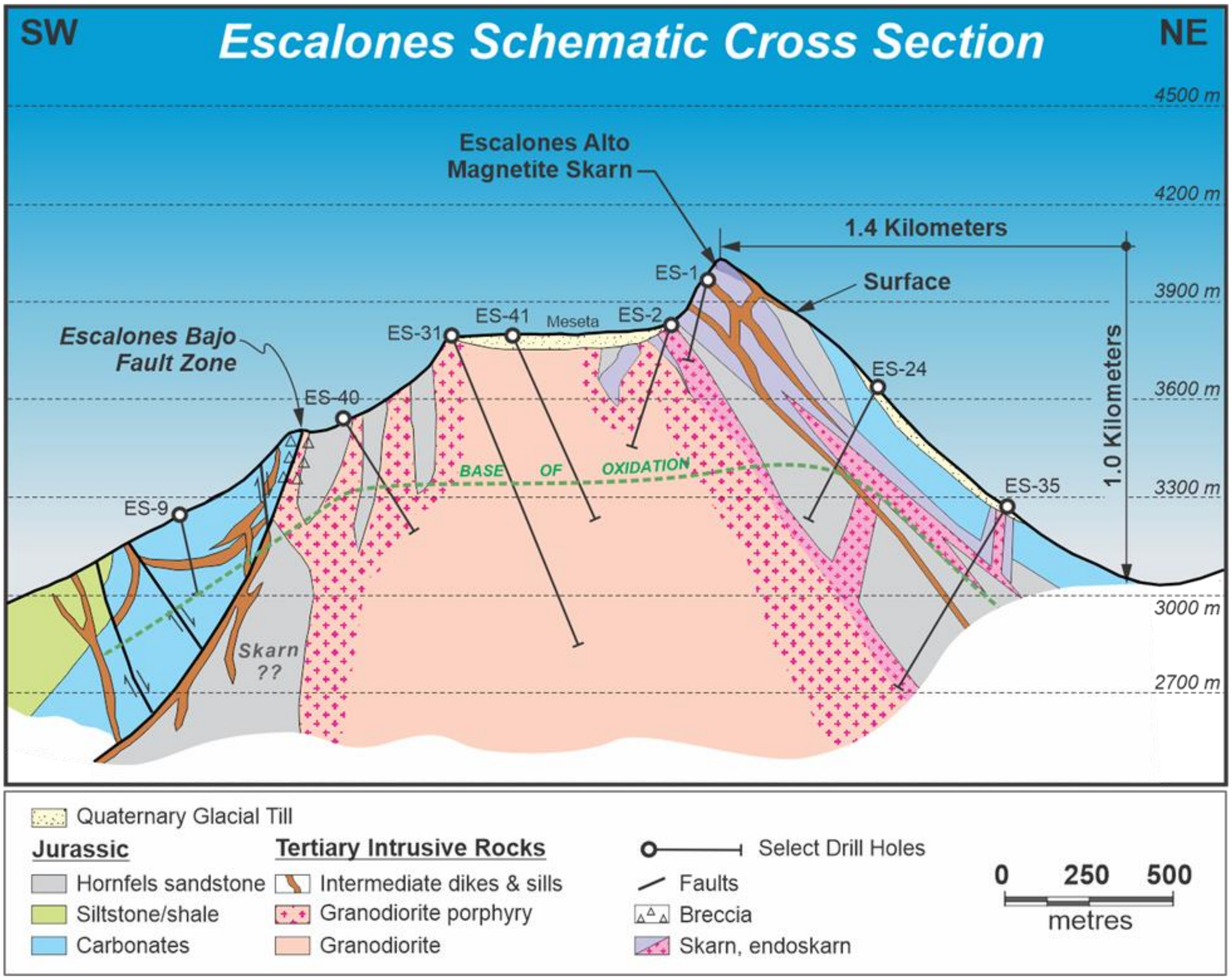
The Project is in the central Argentinean-Chilean Andes, which is dominated by a north-south alignment of folded rocks and east-west oriented basement faults (Katsura, 2006). There have been at least six major unconformities documented in the region, characterized by episodes of compressional deformation that resulted in folding, thrust faulting, detachments and normal faulting since the Triassic (Charrier, 1981; Ramos, 1988). Unravelling the structural history for a specific area is complicated in the project area because the gypsum/anhydrite units within the Nacientes del Teno and Colimapu formations deform plastically and are commonly mobilized as diapirs that displace large blocks of adjacent, more competent rocks in the stratigraphic section. The gypsum/anhydrite units commonly form the cores of anticlines in the region, and when these are breached by thrust faulting, the gypsum/anhydrite units move along these zones of weakness. The Escalones Bajo structure is an example of a thrust fault where gypsum has migrated along the contact and presents a complicated arrangement of the rock units and blocks within the structures.

Rock units of the Nacientes del Teno, Rio Damas, Baños del Flaco, and Colimapu formations have been folded, displaced by gypsum/anhydrite diapirs and locally juxtaposed by a complex series of thrusting and normal faults associated with regional deformation, basement structures, and the emplacement and evolution of the underlying porphyry system.

A study conducted by Glover (1999) to unravel the complex structural history at Escalones identified at least three phases of thrust faulting that pre-date emplacement of the intrusive complex and skarn mineralization. This sequence consists of an early phase of westerly oriented thrusting that resulted in placing Baños del Flaco (Escalones Alto) limestone in thrust contact over tuffaceous siltstones that belong to a lower member of the same formation. The second phase is characterized by the east-verging Escalones Bajo thrust fault, which is oriented at 350-360°/70-80° W; dikes present in the hanging wall limestone member have been boudinaged and are locally enclosed by gypsum in the fault zone. Gentle folding in the hanging wall rocks appears to have been synchronous with thrusting and only affects the upper plate units above the Escalones Bajo Fault zone. Glover (1999) estimates that up to 600 metres of displacement occurred along the Escalones Bajo Fault zone and suggests this fault may be part of a larger regional structure that was important in localizing subsequent intrusions and mineralization. Post deformational felsic dikes and magnetite skarn occur within the fault, with relatively unaltered limestone in the hanging wall indicating that the fault acted as an important barrier to hydrothermal fluids during mineralization. The last phase of thrusting is observed west of the Escalones Property, where an easterly oriented thrust appears to truncate the early thrusts. This structure is projected to occur north of Quebrada Escalones and the main project area.

East-west and northeast striking normal faults, dipping north, are observed in the project area to exhibit minor displacements but locally control emplacement of porphyry dikes. A prominent normal fault occurs in Quebrada Escalones, where the base of Cretaceous volcanic rocks has been displaced 200 metres down to the northwest. This fault appears to have been a locus for later emplacement of the porphyry intrusive stock and suggests that normal faulting and extension may have been synchronous with development of the underlying igneous complex. The Escalones Bajo Fault appears to have been reactivated as a normal fault, possibly during and after emplacement of the porphyry intrusion (Figure 7-5). Slivers of mineralized skarn occur within the broad Escalones Bajo Fault zone, and it appears that the fault acted as a conduit to mineralizing fluids.

Figure 7-5: Escalones Schematic Lithological Cross Section



7.3 Alteration and Mineralization

Copper and related gold-silver-molybdenum mineralization at Escalones occurs as skarn and porphyry types, as copper oxide (primarily chrysocolla), sulphate, and carbonate (malachite and azurite) down to approximately 3,400 metres elevation and along structures to 3,300 metres and transitioning at depth to chalcopyrite, chalcocite, bornite, and covellite. High-grade copper-oxide and copper-sulphide skarn mineralization forms the resistive high ridge at Escalones Alto and attracted the first exploration efforts and small-scale production from limited workings.

As shown in Figure 7-6 and Figure 7-7, the drilled area of porphyry mineralization is almost 100% covered by till gravels (the “Meseta”) and any exposures are strongly leached. Previous workers noted these outcrops as having porphyry potential, but porphyry mineralization was only confirmed once drilled.

Figure 7-6: Escalones Geology and Copper Grades on E-W Section 6224900N (with plan showing downhole Cu along top)

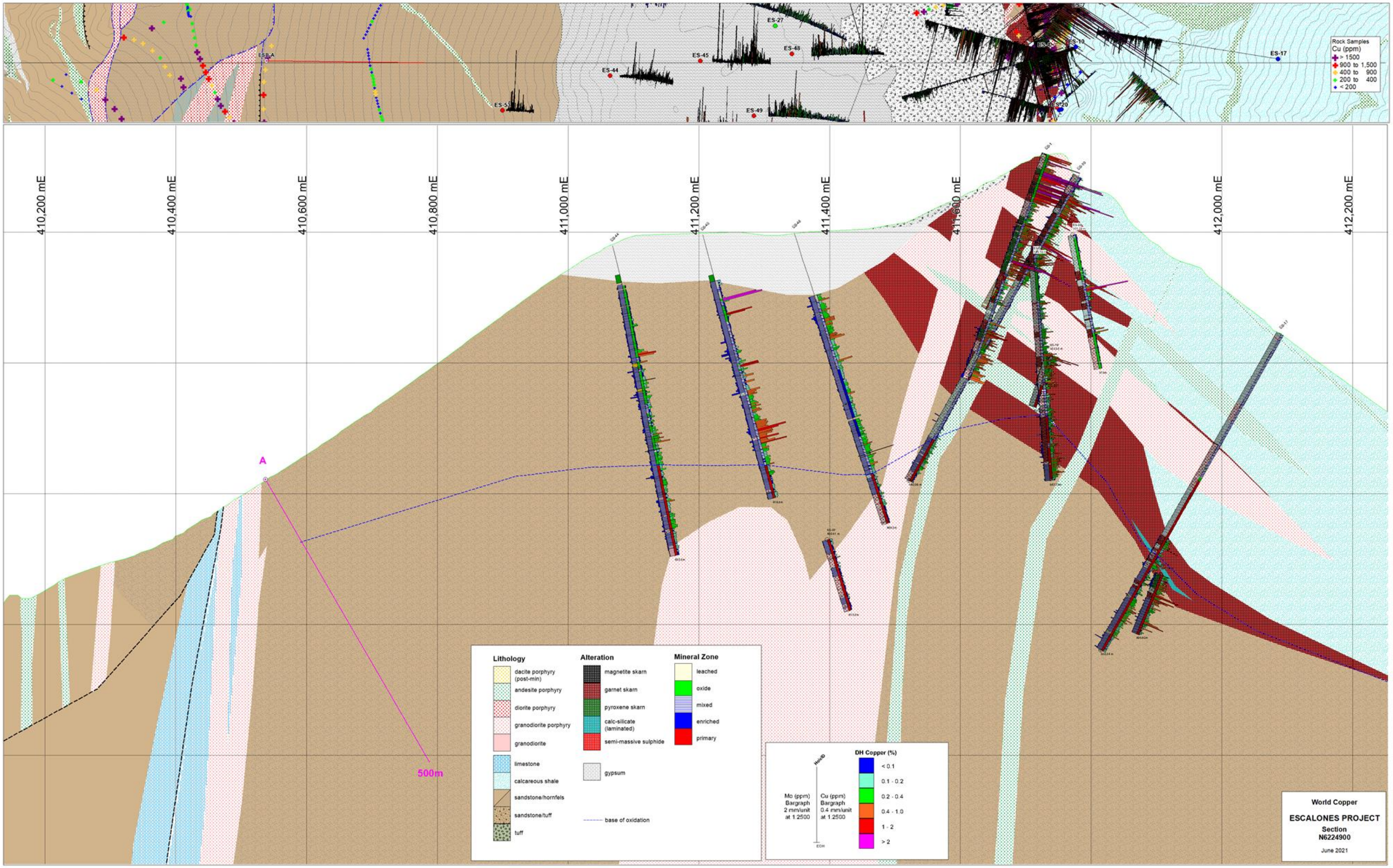
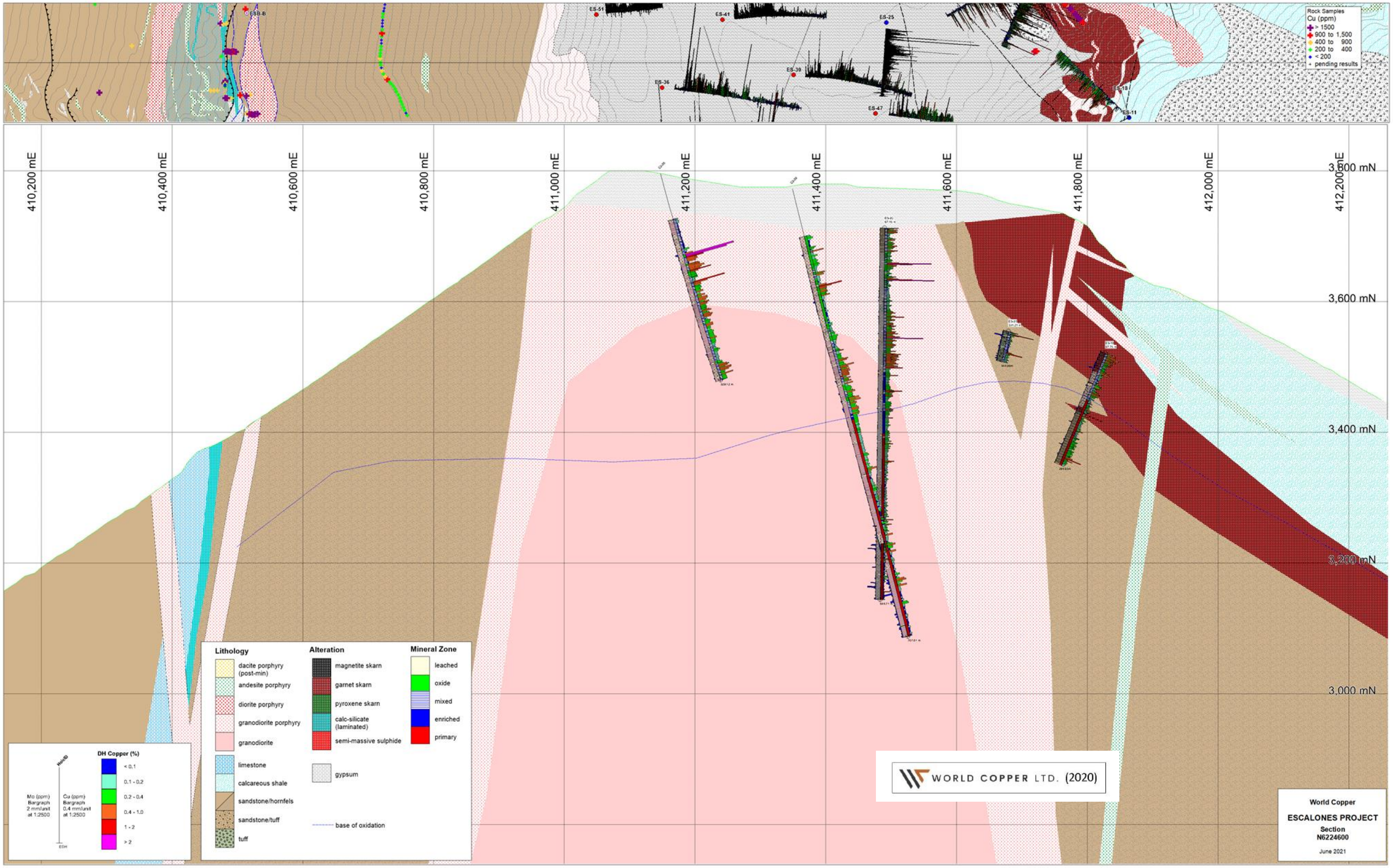


Figure 7-7: Escalones Geology and Copper Grades on E-W Section 6224600N



Drilling from the Meseta plateau revealed that the underlying copper mineralization occurs as fracture-fills, disseminations, and stockworks within the granodiorite and other porphyry intrusions.

Drill hole ES-25 was the first hole to intercept porphyry mineralization consisting of disseminated chalcopyrite and stockwork quartz veining hosted by seriate textured granodiorite and dacite porphyry stock. ES-25 intersected 293 metres averaging 0.36% copper and 0.09 g/t gold. Porphyry mineralization is associated with moderate to intense potassic alteration (as secondary biotite) in the granodiorite. In general, potassic-altered hornfelsed shale/sandstone along both western and eastern flanks of the central intrusive complex hosts lower copper grades than the granodiorite and dacite porphyry hosts.

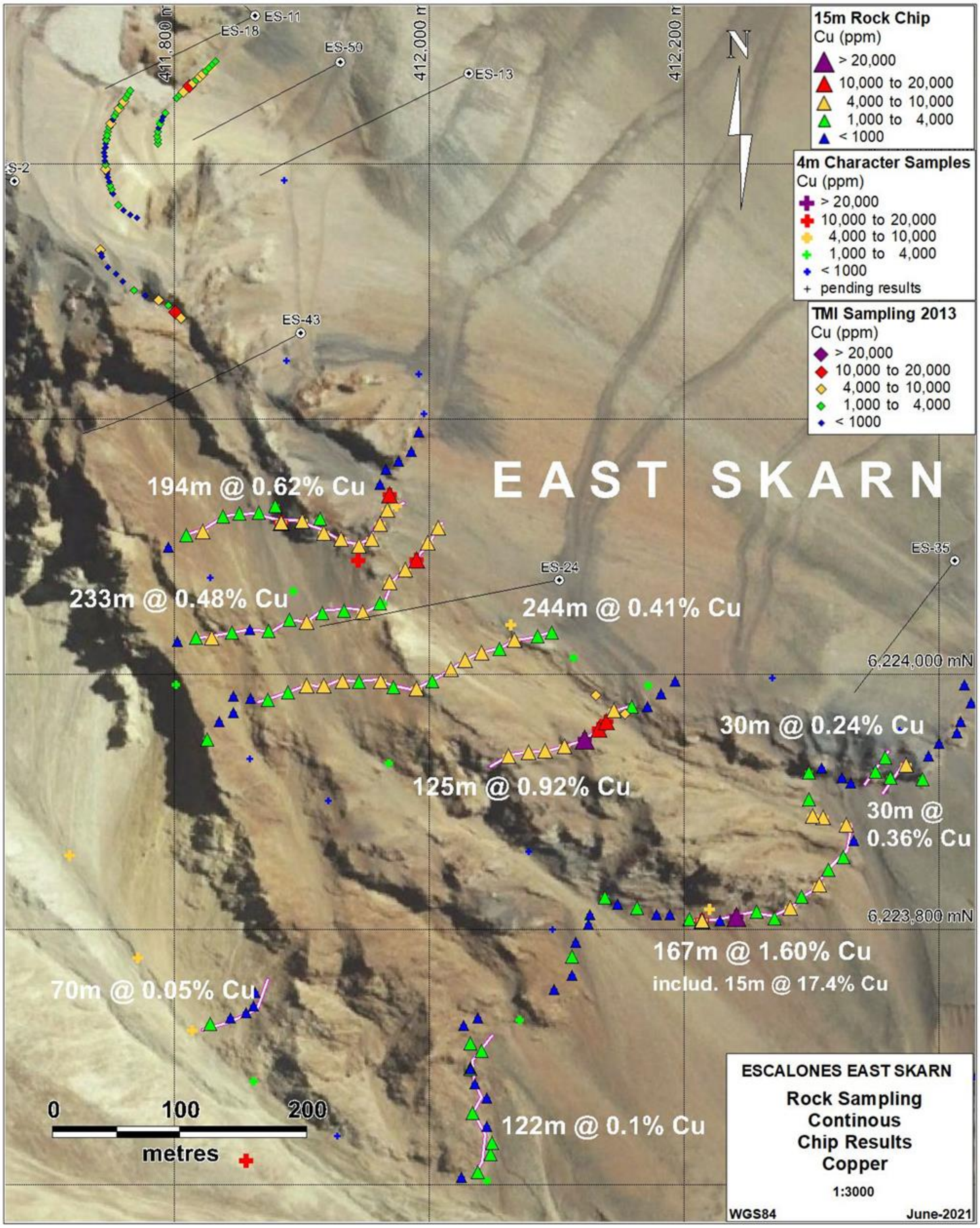
Enriched, oxidized porphyry mineralization is expected to continue under the southern extension of the lithocap, called the “Mancha Amarilla.” This area of gossanous argillic alteration extends over one kilometre to the south but has not been drill tested and only recently sampled at surface. Porphyry mineralization is also open to the west, between the western edge of the Meseta to the Escalones Bajo fault zone. Surface sampling indicates the fault zone is mineralized as well and may host higher-grade mineralization.

Skarn mineralization peripheral to the porphyry along the upper eastern margin (Escalones Alto) comprises mostly magnetite, garnet, and pyroxene skarn developed within sandstone, carbonate, and calcareous shale near contacts with intrusive rocks, with typical coarse copper oxides and carbonate near surface, transitioning to chalcopyrite-pyrite at depth. Finer disseminated and fracture-controlled mineralization occurs within biotite hornfels with quartz stockwork in steeply east-dipping hornfelsed calcareous shale and fine sandstone and, to a lesser extent, within altered andesite sills and dikes. Magnetite skarn generally hosts the better mineralization, especially in the upper oxidized portions. Grades are highest close to the contact of the reactive sedimentary rocks with the central intrusive complex.

The main skarn horizon forms the sharp ridge with the best mineralization at surface and dips steeply to depth under barren carbonate rocks to the east and north. It extends along surface down and to the southeast to holes ES-43 and 24 and, farther east, flattens in a north-plunging fold, exposing a large, wedge-shaped, gossanous zone called the East Skarn (Figure 7-8). The mineralization changes from garnet-magnetite-pyroxene skarn along the ridge crest to more of a calcsilicate assemblage within sandstone and shale and numerous feldspar porphyry sills. Extensive rock chip sampling of the outcrops returned wide intervals of significant copper oxide mineralization; the upper strata nearer the transition to overlying limestone were more reactive and are better mineralized. The 3.4 metres of near-massive sulphides with 5-7% copper intersected at the bottom of ES-35 is well-below the oxidized, better-mineralized upper portions of the zone and appears to be an isolated horizon. An uppermost, oxidized skarn horizon that was intersected at the top of ES-35 is buried beneath talus and has unknown dimensions. The east limit of this upper zone is unknown, as it is buried beneath talus, but probably extends another 200 to 250 metres to Quebrada Argüelles.

On the west side of the ridge, additional mineralization is concentrated along structural zones at Escalones Bajo (Katsura, 2006). Only one hole (ES-09) was drilled here but was collared in, and remained within, limestone for almost the entire length and so did not test mineralization exposed at the road cuts at surface.

Figure 7-8: East Skarn Rock Chip Sampling Results



The distribution of copper-gold-silver, in both porphyry and skarn zones, is strongly controlled by depth from surface, with higher grades occurring in the upper 300 metres and along oxidized structures. Within the main intrusion, and to lesser extent in the hornfels, supergene weathering and mobilization of copper has developed a sub-horizontal stratification ("blanket") of enriched grades to roughly 300 metres below surface. The mineral zonation is clearly seen in core where upper portions are completely altered to clay with iron and copper oxides, transitioning down to mostly weakly altered rock with oxides primarily in fractures and faults, with the oxides diminishing with depth to where sulphides are preserved in fractures. The skarn is as deeply weathered and oxidized in places as the sedimentary and intrusive units with similar copper oxide minerals. However, the oxide-sulphide boundary is more complex within the skarn and controlled more by host lithology, with the coarse sulphides only partially converted to secondary minerals and extending closer to the surface, especially within calcareous units. Within thicker limestone beds, copper occurs mainly as fracture-controlled malachite. The oxidation extends along sandstone and intrusive units well below the limestone on the east flank, indicating acidic oxidizing fluids migrated down and east from the ridge.

The potential extension of oxidized, higher-grade supergene mineralization to the south under the heavily clay-altered Mancha Amarilla lithocap is a priority drill target (Figure 7-9). An obvious alteration zone, the Mancha Amarilla remained largely unmapped and unsampled due to the rugged relief and loose rock. World Copper managed to sample about 80% of the area with 200-metre-spaced character sampling, with the objective of geochemically defining mineral zonation. This work established that intrusive rocks extend 600 metres south of the current limit of drilling and then transition to sedimentary units to the southeast. Copper appears to be largely leached from the surface. The area underlain by intrusive rocks has a geochemical signature typical of weathered copper porphyry systems, with relatively high Mo-Au±Cu and depressed Zinc (Zn)-Manganese (Mn).

Anomalously high gold values (> 2 g/t) within the Escalones Alto skarn zone (Table 7-1) are associated with low copper and silver values in shallow (<30-metre), oxidized drill interceptions from just two holes: ES-18 (andesite sill host) and ES-43 (skarn), about 250 metres apart. The intervals are from rusty, fractured rock lacking any typical epithermal mineralization (i.e., quartz veins) suggesting there is localized supergene gold in the skarn ore zone causing these high grades.

For intervals with < 2 g/t Au, all but one occurrence is accompanied by high copper grades (> 3%) and silver (>5 g/t), and gold grades have a positive correlation with these metals, indicating higher primary (sulphide) copper grades are associated with low to moderate Au-Ag. Over most of the deposit, Au-Ag correlate well with copper and are also enriched in the oxidized zone but at subeconomic grades.

Figure 7-9: Mancha Amarilla Lithocap Rock Chip Sampling Results; see Fig. 7-3 for Geology

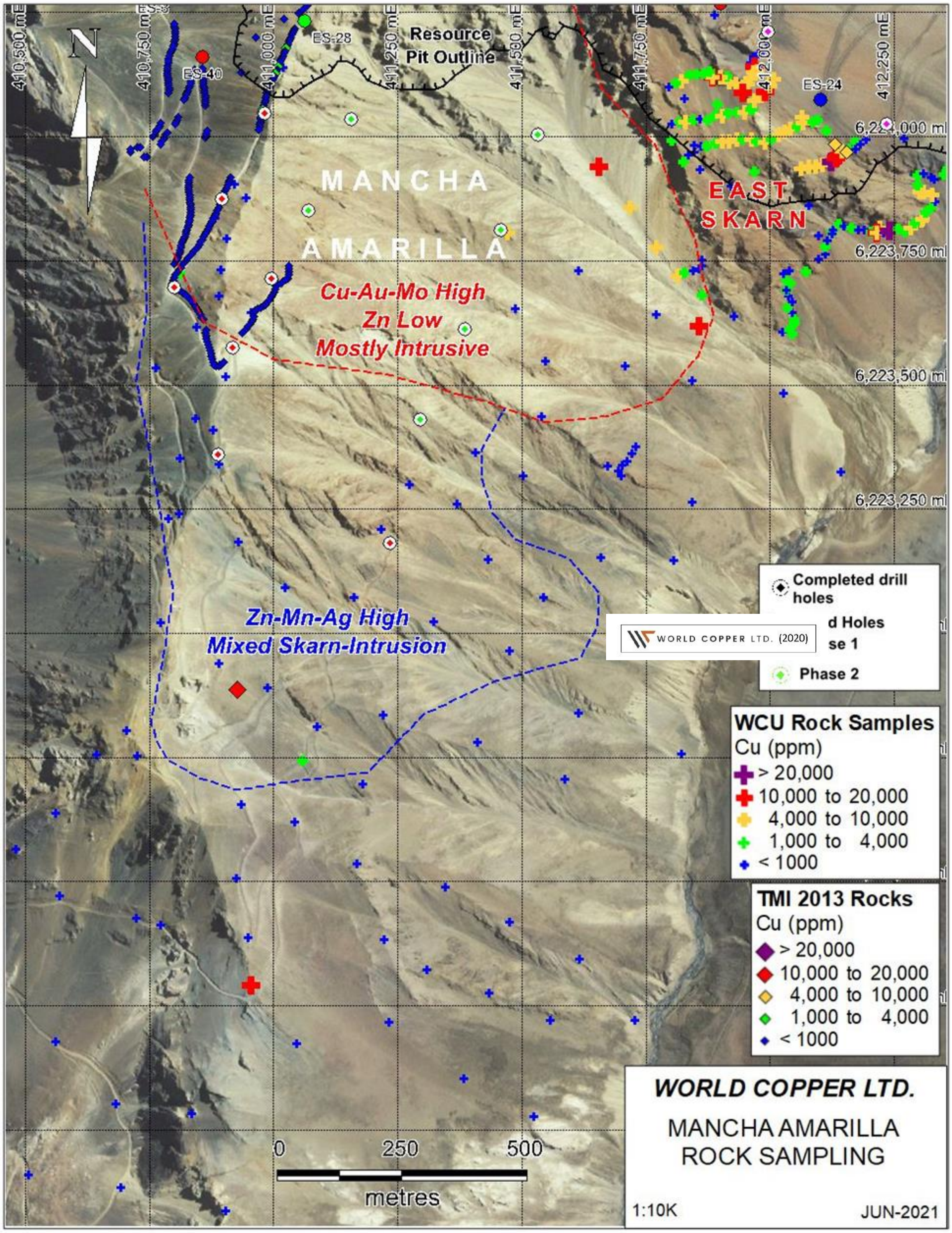


Table 7-1 :Top Ten "Gold Skarn" Assay Results Sorted by Au Grade

Hole ID	Sample	From (m)	To (m)	Width (m)	Cu (%)	Ag (g/t)	Au (g/t)	Mo (%)
ES-43	203022	33.10	34.50	1.40	0.0038	0.1	18.03	0.0015
ES-43	203023	34.50	35.69	1.19	0.0058	0.1	9.38	0.0019
ES-43	203020	32.00	33.10	1.10	0.0032	0.1	7.80	0.0030
ES-18	63448	28.00	29.00	1.00	0.0368	0.6	3.63	0.0052
ES-43	203016	25.00	27.00	2.00	0.0052	0.1	2.22	0.0019
ES-11	55476	178.00	179.00	1.00	9.9999	34.4	1.28	0.0114
ES-43	203019	30.50	32.00	1.50	0.0035	0.1	0.96	0.0027
ES-6	49413	133.00	134.00	1.00	3.0777	12.3	0.89	0.0015
ES-4	48452	136.10	137.35	1.25	3.8908	13.1	0.88	0.0073
ES-1	46112	65.00	65.80	0.80	3.2093	6.3	0.88	0.0032

8.0 DEPOSIT TYPES

Exploration at the Escalones Project is based on the two deposit-model types that have been identified within the Project area: porphyry and skarn (Katsura, 2006).

Porphyry copper deposits are large-tonnage, low-grade, hydrothermal copper sulfide occurrences distinguished by very large volumes of altered rock and temporally and spatially associated porphyritic intrusions. Copper in porphyry copper systems may occur in stockworks, disseminated, or as contact replacement bodies and may be found in wall rocks and/or in genetically related intrusions. Pyrite chalcopyrite-bornite often dominates the sulfide mineralogy. In deep zones or in calcareous rocks, pyrrhotite may be present instead of pyrite. Alteration types are typically zoned around a central core and, although they may vary depending on several factors, can include potassic (biotite and potassium feldspar), phyllic (sericite, quartz, pyrite), propylitic (chlorite, epidote, albite, calcite, sericite), and argillic (chlorite, montmorillonite) alteration.

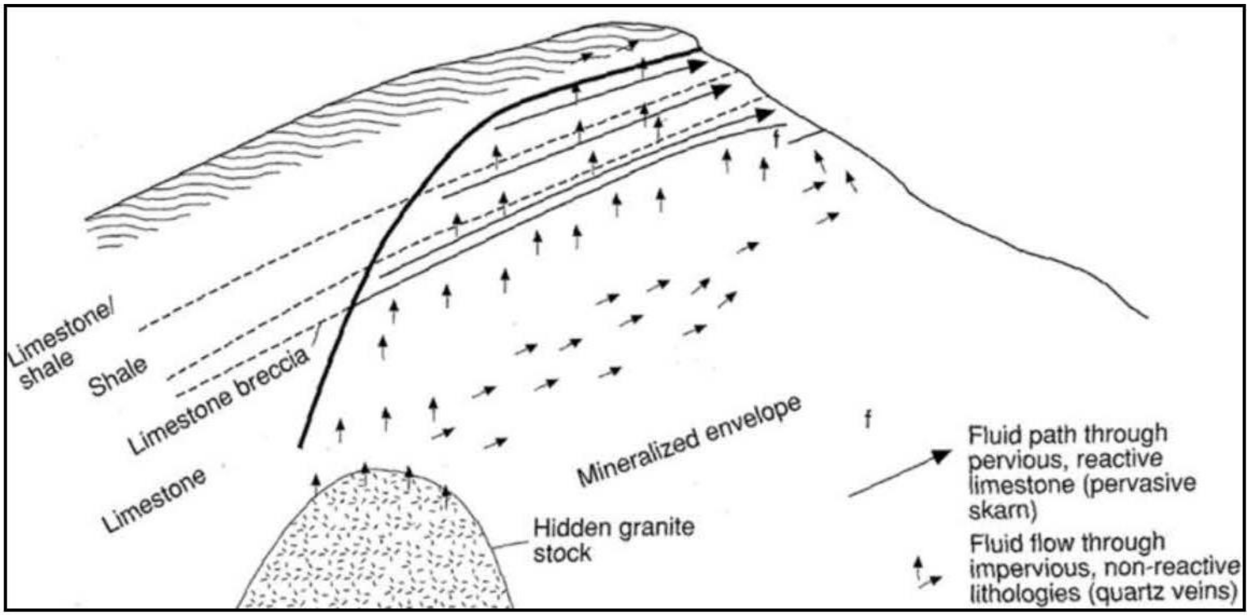
The dimensions and geometries of porphyry copper deposits vary widely, due in part to post-ore intrusions, the varied types of host rocks that influence deposit morphology, the relative amounts of supergene and hypogene ore, each of which has different configurations, and especially erosion and post-ore deformation including faulting and tilting (John, et al., 2010). Porphyry copper deposits commonly are centered around small cylindrical porphyry stocks or swarms of dikes that in some cases are demonstrably cupolas of larger underlying plutons or batholiths. Plan areas of ore-related intrusions typically range from 0.2 to 0.5 km^2. Undeformed deposits commonly have circular or elliptical shapes in plan-view, with diameters that typically range from 0.1 to 1.0 km and have vertical dimensions similar to their horizontal dimensions. In cross section, ore zones vary from cylindrical shells with altered, but low-grade, interiors referred to as “barren” cores, to inverted cups around barren cores, to multiple domes or inverted cups, and to vertically elongate, elliptical shapes (John, et al., 2010).

Skarns are coarse-grained metamorphic rocks composed of calcium-iron-magnesium-manganese-aluminum silicate minerals that form by replacement of carbonate-bearing rocks (in most cases) during contact or regional metamorphism and metasomatism. Skarn deposits are relatively high-temperature mineral deposits related to magmatic hydrothermal activity associated with granitoid plutons in orogenic tectonic settings; skarns generally form where a granitoid pluton has intruded sedimentary strata that include limestone or other carbonate-rich rocks. The processes that lead to formation of all types of skarn deposits include: (1) isochemical contact metamorphism during pluton emplacement, (2) prograde metasomatic skarn formation as the pluton cools and an ore fluid develops, and (3) retrograde alteration of earlier-formed mineral assemblages. Deposition of ore minerals accompanies stages 2 and 3.

Skarn deposits are typically zoned mineralogically with respect to pluton contacts, original lithology of host rocks, and (or) fluid pathways. Later petrogenetic stages may partly or completely obliterate earlier stages of skarn development. Skarn deposits commonly are also associated with many other types of magmatic-hydrothermal deposits in mineral districts. In fact, distinction between skarn and other deposit types is not always apparent, and in many districts, skarns form an intermediate “zone” between porphyry deposits in the center of mining districts and peripheral zones of polymetallic vein and replacement and distal disseminated deposits.

Figure 8-1, modified from Robb (2005), illustrates a typical environment in which polymetallic skarns normally form. When a granite or porphyry stockwork intrudes into a carbonate sedimentary sequence, the fluids associated with the intrusion pass through the contact sediments. This creates prograde hydrothermal alteration of varying intensities as a function of the host sediment composition and reactivity of this with the fluids. A distinct zonation is often evident in both the alteration suite and tenor of mineralization, with both increasing toward the center of the intrusive stockwork.

Figure 8-1: Example Ore-bearing Magmatic-Hydrothermal Fluid Association with Granitic Stock



Modified from Robb (2005)

Historical production and previous exploration at Escalones focused primarily on exposed skarn mineralization in the Escalones Alto portion of the Project and down-dip extensions of magnetite-copper skarn that have been exposed in road cuts and intercepted in drilling. The magnetite skarns contain high-grade copper mineralization and locally high gold grades. Most of the drill holes have explored the upper portions of the skarn and, to a limited extent, the down-dip and south extensions of mineralization. A secondary target area for skarn mineralization lies along the Escalones Bajo structure, which at surface has the most anomalous copper, gold, silver, and molybdenum outside the Escalones Alto skarn.

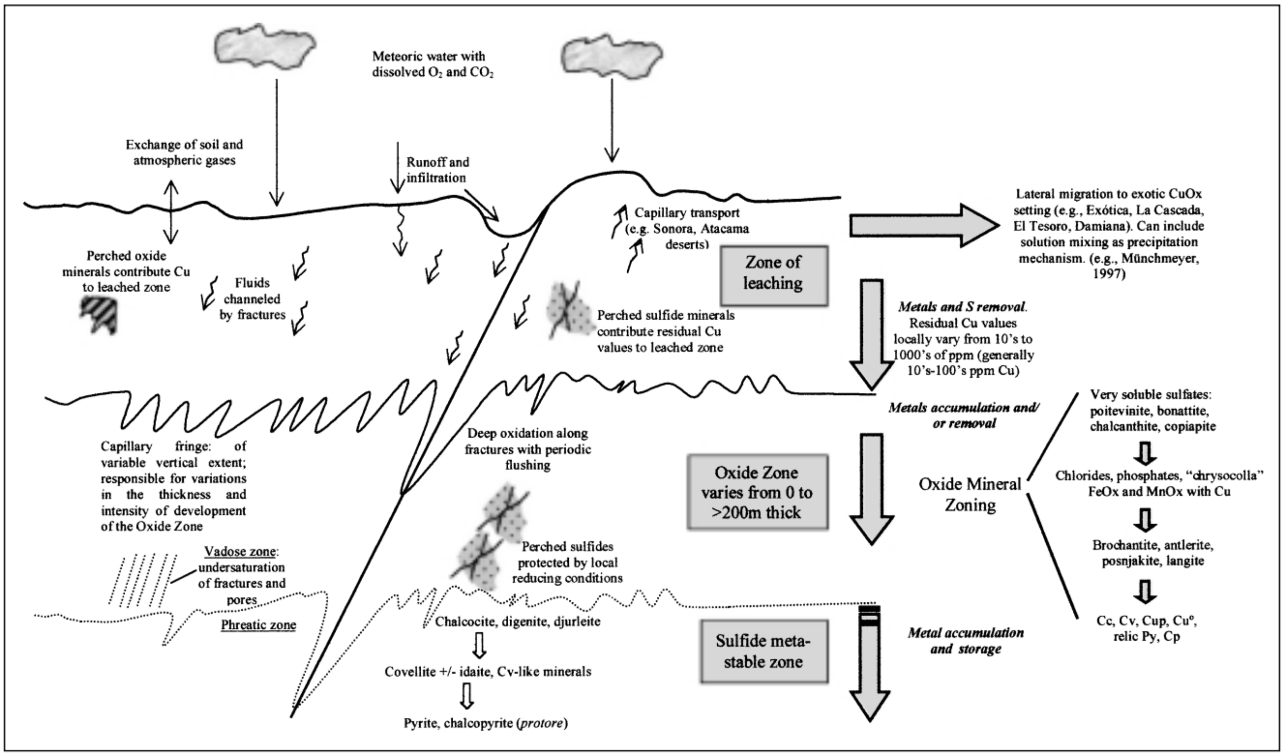
Porphyry mineralization is of much larger tonnage than the skarn (with currently defined extents), but lower in average grade. Both mineralization styles show secondary enrichment in the upper 300 metres and have their highest grades there. Currently the boundary of the enriched material with underlying primary sulphide mineralization is well-defined within the intrusions and hornfels, but less defined in the more geologically complex skarns. The boundary between dominantly acid-soluble copper resources versus primary sulphide-dominated mineralization, and the tonnages above and below, is crucial in determining whether the project should advance as a heap leach or flotation/leach combination operation.

The oxidized portion of the mineralization, as currently outlined by drilling, is larger than the sulphide portion, and the project will be advanced as a copper heap leach operation.

As summarized by Chavez (2000) and illustrated in Figure 8-2:

> Copper oxide occurrences display consistent vertical and lateral zoning patterns that mimic the hand specimen-scale paragenesis shown by individual copper oxide minerals. Weathering-derived copper mineral distribution is characterized by a supergene geochemical stratigraphy comprising copper oxides, iron ± manganese oxides, and copper sulfides. This stratigraphy begins at the surface with a leached rock volume typified by the occurrence of iron oxides and residual copper and manganese minerals. Depending on the distribution of fractures in the host-rock mass, leached zones may occur within and below both copper oxide and copper sulfide horizons. Indigenous copper oxide zones, generated via in situ oxidation of a sulfide-bearing rock, are usually developed so that the most reduced copper oxides (native copper and cuprite) are formed in the lower portions of the oxide column, suprajacent to and replacing supergene copper sulfides.

Figure 8-2: Schematic Diagram Showing the Weathering Environment of a Sulfide-bearing Mineral Occurrence



Chavez (2000)

9.0 EXPLORATION

9.1 World Copper Exploration

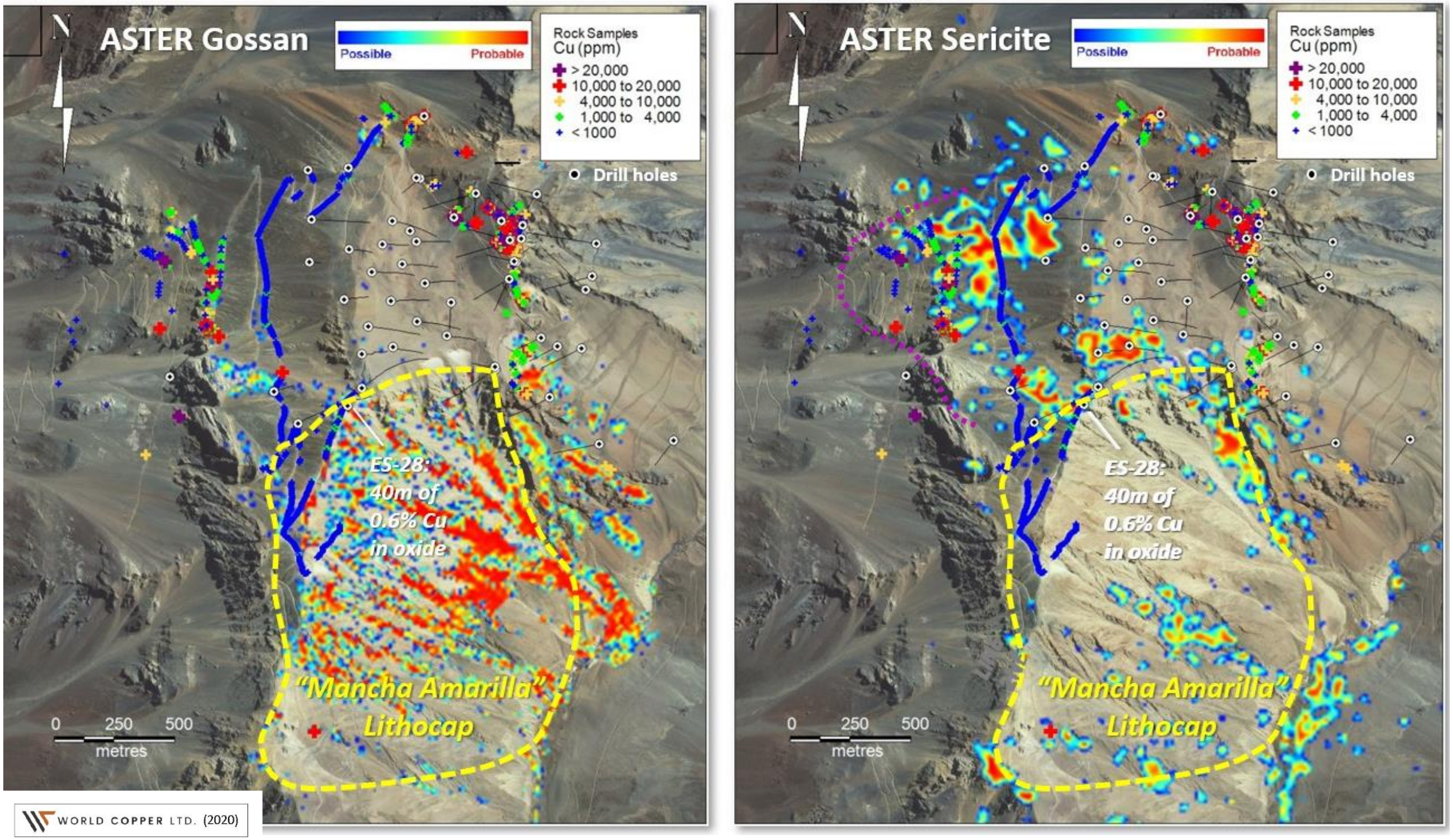
Exploration targets at Escalones are two-fold: 1) extensions to the drill-tested mineralization under the main ridge (the "Main Zone"), comprising flanking skarn, hornfels and the southern extension of primary and secondary-enriched mineralization under the Mancha Amarilla (Figure 9-1), and 2) distal porphyry and skarn targets, potentially of similar tonnage to the Main Zone, initially defined by satellite colour and ASTER anomalies (Figure 9-2 through Figure 9-4). Drilling to date at the Main Zone has focused on the skarn in the immediate vicinity and to the east of the Meseta, and the mineralized intrusions under the Meseta itself.

World Copper has not carried out further drilling on the project since the acquisition of the Project due to a combination of permitting, and seasonal (weather/climate) constraints. Since May 2019, World Copper has conducted desktop studies compiling and validating, to the extent possible, all historical digital surface sampling and drill data of the previous operators. The geological, geochemical, and geophysical datasets have been integrated using GIS software. Geological plans and cross sections were redrawn at 100-metre intervals across the area of the historical drilling, and geophysical sections were drawn along collection lines where possible. During the data review, it was discovered that 23 of the 53 drill holes were missing digital core photos, so the core had to be photographed again. The core photos were examined for consistency with the drill database (assays and logging) compiled by past operators, and greatly assisted in interpreting controls on mineralization. After recoding for mineral zonation, and replotting all sections, a 3D wireframe of the base of the supergene mineralization zone was created from the cross sections to ascertain the potential extent of soluble copper mineralization.

In November 2019, Pat Burns and Felipe Malbran (TMI's General Manager) conducted a fly-over of the project to ascertain the condition of access and historical drill roads, as well as to take photos of the distal anomalies. Sites examined from the air included the natural gas pipeline that passes through the project, the basecamp, and the main Escalones deposit along the western and eastern edges, noting the access roads and drill platforms on the top of the Escalones ridge and the old mine workings near the ridgetop. The flight then turned to the north up the Rio Negro and examined the three large hydrothermal alteration anomalies.

In January 2020, World Copper acquired ASTER imagery from PhotoSat of Vancouver, Canada, with the main objective of evaluating multiple colour anomalies across the concessions and comparing them with the main anomaly hosting the resource estimate. This work helped delineate the distal exploration targets and plans for future surface sampling. The imagery also helped to delineate the nature and extent of the essentially unexplored southern half of the main lithocap, which extends over one kilometre south of the historical drilling.

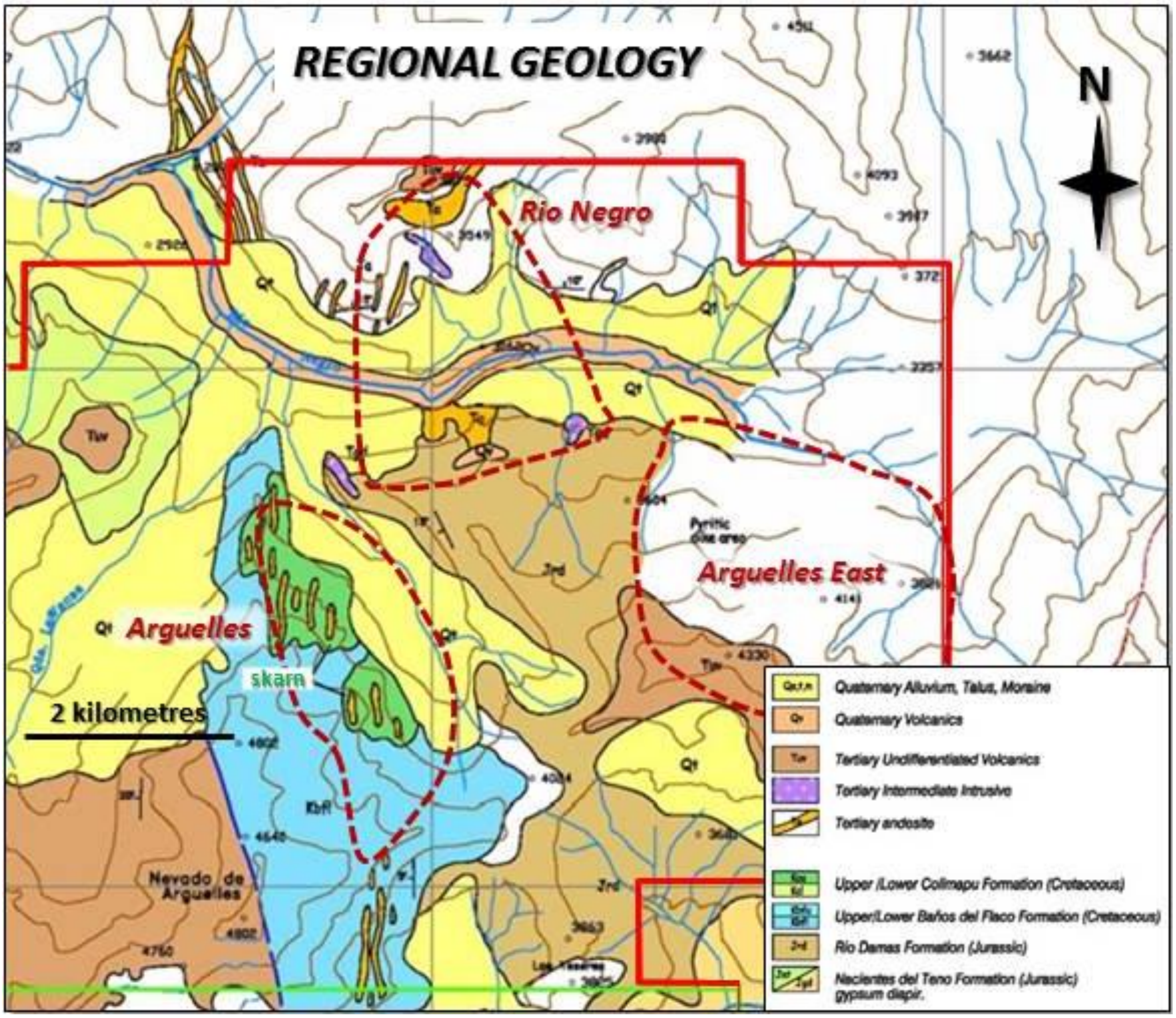
Figure 9-1: Satellite Imagery of the Mancha Amarilla Exploration Target at Escalones Main Zone with Cu in Rock Sampling



WORLD COPPER LTD. (2020)

Drill Holes are Shown with Stems Projected to Surface

Figure 9-2: Northern Targets on Regional Geology



modified from Armitage (2012)

Figure 9-3: Northern Targets Gossan Interpretation from ASTER Imagery

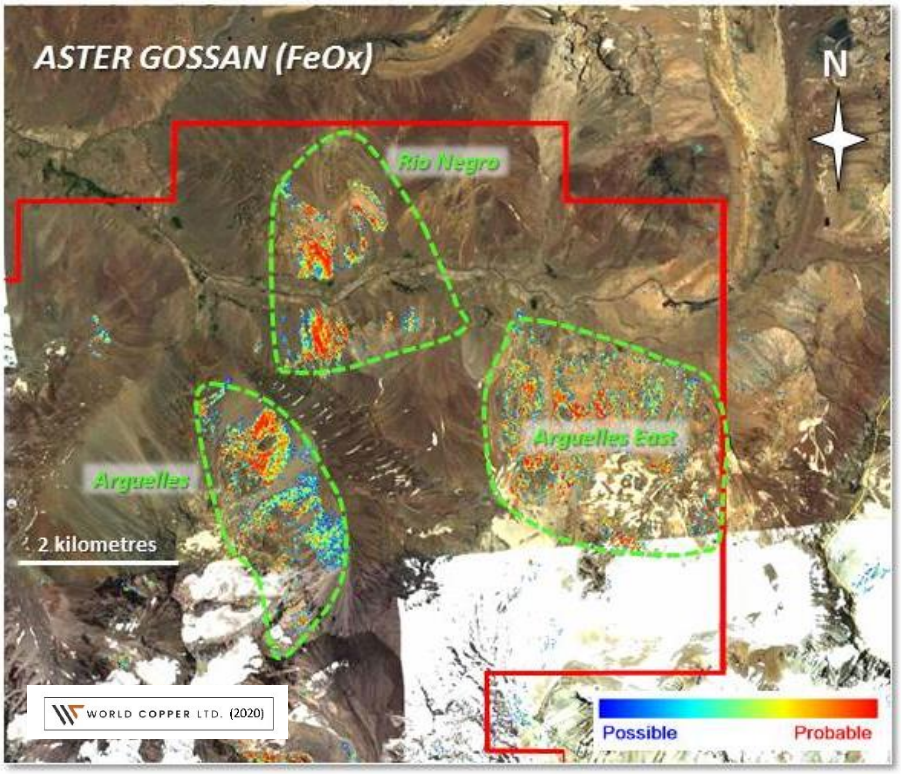
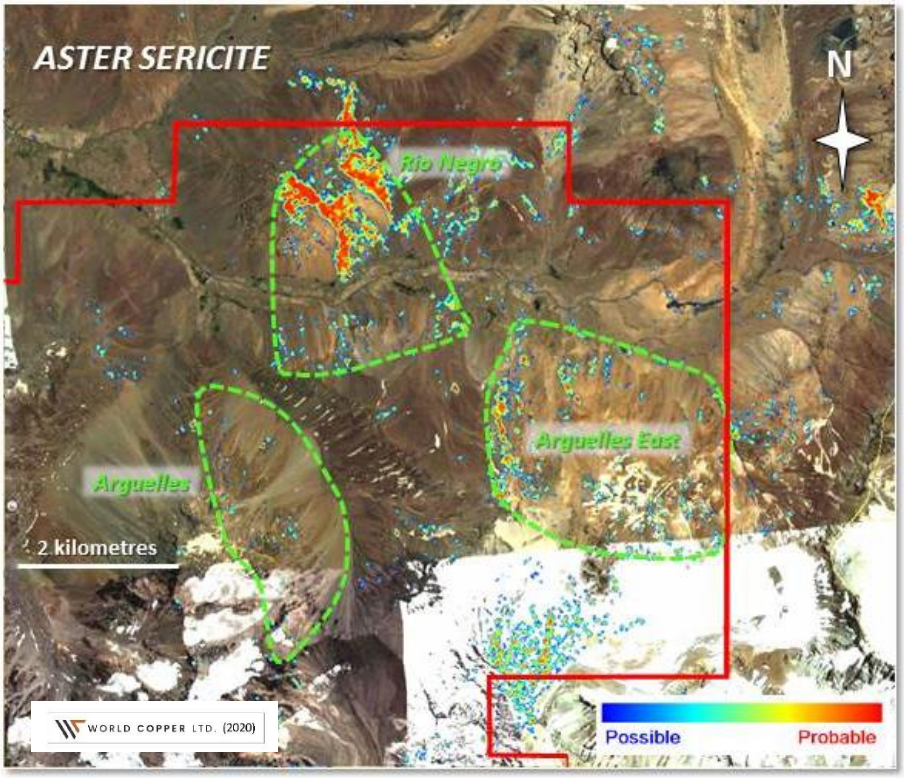


Figure 9-4: Northern Targets Sericite Interpretation from ASTER Imagery



Additional drill targets include:

- Extensions to the Escalones Alto skarn down-dip to the east to the talus-covered area north of hole ES-35
- Extensions to the known intrusion-hosted primary and secondary-enriched disseminated mineralization to the south of the Meseta under the Mancha Amarilla, an area approximately 1000 by 800 metres in size
- The west side of the Meseta and the rocks extending to the Bajo Fault, where secondary copper sulfides and oxides occur in road cuts and return relatively high copper grades in surface sampling.

In March and April, 2021, World Copper collected 440 surface rock chip samples from the three Escalones northern targets, which resulted in outlining two significant porphyry copper targets (Figure 9-5). Character rock chips were collected within a 4-metre-diameter area every 200 metres along a traverse, mostly along ridges and spurs when topography allowed, mostly from outcrop but in places from talus beneath inaccessible outcrops. For quality assurance and control, field blanks were inserted every 20 samples and field duplicates (resampling at the same location) taken every 20 samples. The 4-metre character sample field duplicates have a precision of ±44%.

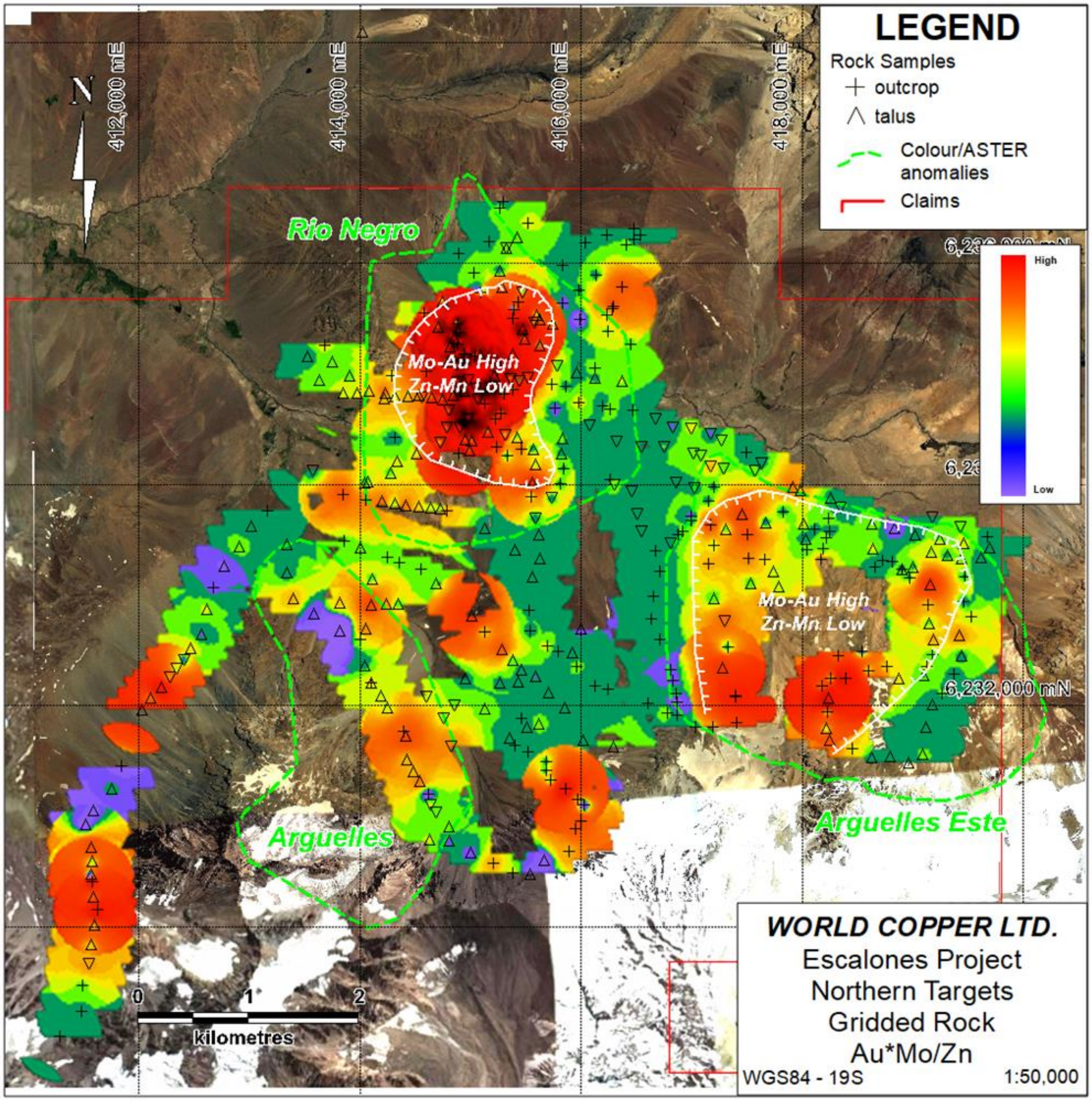
Sample bags were stored in rice sacks, secured with zip ties, and delivered to ALS Patagonia S.A. in Santiago, Chile. Multi-elements were assayed using the ME-MS61 package, which includes 4-acid digestion and Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) finish; samples with >10,000 parts per million (ppm) copper were re-assayed using method ME-OG62 with an Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) finish. Gold was done by method Au-ICP21, in which a 30-gram sample is fire-assayed and finished with ICP-AES.

The field work confirmed the large ASTER anomalies are intense quartz-sericite, argillic and gossanous alteration of porphyritic and granitic intrusions, as well as skarn in volcanic and sedimentary units. Ridge and spur character rock sampling at an average spacing of 200 metres defined two porphyry centres that are now considered drill targets. The western-most anomaly, Rio Negro, is the most obvious target, with strong copper mineralization at surface, and will be the priority. The eastern target, Argüelles Este, is larger and more deeply weathered and needs more sampling to determine the best area for initial drilling.

The Rio Negro target is a 2-km X 2-km argillic and quartz-sericite alteration zone within dacite/monzonite porphyries intruding clastic sedimentary rocks. Copper oxide mineralization is most obvious in the centre of the alteration, where multiple samples returned over 4,000 ppm (0.4%) copper and five samples returning over 1% copper (Photo 9-1 and Figure 9-6). This central area covers an area 800 metres x 1000 metres and will be the primary drill target.

The Argüelles Este target is a very large argillic and gossanous alteration zone two kilometres southeast of Rio Negro. The ASTER and geochemical anomaly generated by the sampling indicate the alteration is roughly three kilometres in diameter. Sporadic anomalous copper ad molybdenum occurs along the western third of the anomaly, where sandstone and interbedded gypsum horizons are intruded by coarse feldspar-porphyry dikes like those as the Escalones deposit. Associated anomalous metals suggest a higher level of erosion compared with Rio Negro, so more of the lithocap is preserved. A large (1 km) central area of the anomaly remains to be sampled and mapped.

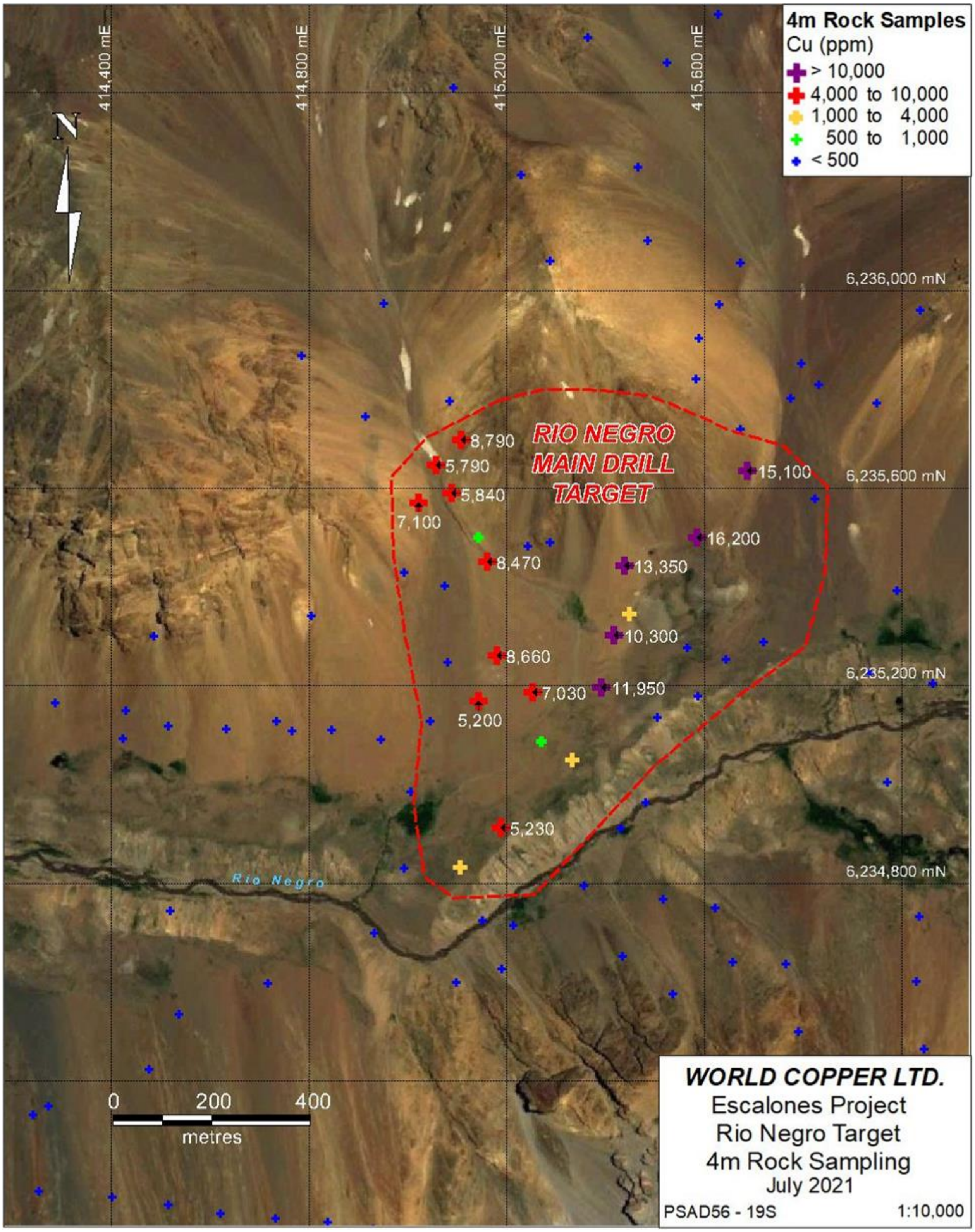
Figure 9-5: Gridded 4-metre Character Rock Sampling Results over the Northern Targets



Typical porphyry deposits have elevated Au-Mo and depressed Zn-Mn over 1 km in width.

Photo 9-1: Clockwise from top: View to the West over the Rio Negro Target, Rio Negro Sample Running 1.34% Cu as Chrysocolla and Tenorite, Rio Negro Copper Oxide Mineralization in Dacite with Quartz Vein Stockwork

Figure 9-6: Thematic Cu Map of 4-metre Character Rock Samples, Rio Negro



The same anomalous samples have elevated Mo-Au and depressed Zn-Mn, indicating porphyry-style mineralization.

Extensive skarn and calc-silicate alteration form a rugged, high ridge almost three kilometres long at the Argüelles target. Sampling was restricted to the accessible bases of the ridge, where a few samples on the west side returned values >1000 ppm Cu, with anomalous Mo and Ag. The focus here is narrow, high-grade mineralization, and this target will require more detailed sampling to determine the significance of the results.

9.2 Exploration Work Completed by Previous Operators

The following is a description of surface exploration work completed on the Project by previous operators to date. This includes historical work and work completed by TMI through 2013. The first phase of work on the Project by TMI included re-opening access roads and the project camp, re-logging and sampling of historical drill holes, re-interpretation of induced polarization and other geophysics, and trench sampling across surface exposures of geophysical anomalies and zones of visible copper mineralization.

9.2.1 Geophysical Exploration

In 2005, Minera Aurex completed a limited IP geophysical survey on the Meseta and further defined a geophysical target on its western side (Figure 9-8). The geophysical work consisted of approximately 12 km of variably oriented IP lines that identified a strong response in an area of approximately 1,000 by 500 metres located in the northwest segment of the Project approximately 1,000 metres to the west of the majority of the earlier (skarn) drilling. The IP apparently was successful in generally indicating porphyry copper style (i.e., disseminated) mineralization below the Meseta. However, when the inversions are plotted on sections with drill holes, the correlation of chargeability with copper grades is poor to non-existent.

In early 2011, approximately 8 km^2 of Self Potential (SP/Redox) geophysical lines were completed over the Main Zone by Jacob Skokan of Colorado (Skokan, 2011). Despite the author touting the results of this work, subsequent drilling revealed it to be of less use than initially thought. As an example, ES-9, is located within an SP high but collared on, and remained within, barren limestone. Hole ES-3 also is located on an SP high but returned relatively weak results. Further drilling in this western zone may intercept sulphides adjacent to the limestone, within the fault zone, to explain the SP anomaly. Three holes drilled near the recommended +1200-metre-deep hole all returned better values at shallow levels than at depth, against what the SP interpretation suggested.

In late 2011, Geotech Ltd. of Aurora, Ontario (“Geotech”) carried out a helicopter-borne geophysical survey for TMI, based out of San Gabriel, Maipo Valley. Principal geophysical sensors included a ZTEM system and a cesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 230 line-kilometres of geophysical data were acquired during the survey. This was the highest elevation survey conducted by Geotech and the lines had to be flown parallel to the main Escalones ridge, and therefore parallel to most geological trends. The survey was flown in a southwest to northeast (N 9° E azimuth) direction, with a flight line spacing of 200 metres. Due to the high relief (elevation ranging from 2,371 to 4,596 masl), tie lines were neither planned nor flown for this survey.

The survey results were presented as the following maps:

- Reduced to Pole of TMI (Figure 9-9)
- 3D View of In-Phase Total Divergence versus Skin Depth
- In-Phase Total Divergence (25Hz, 75Hz and 300Hz)

Figure 9-7: IP 150-metre Depth Slice, Main Escalones Zone

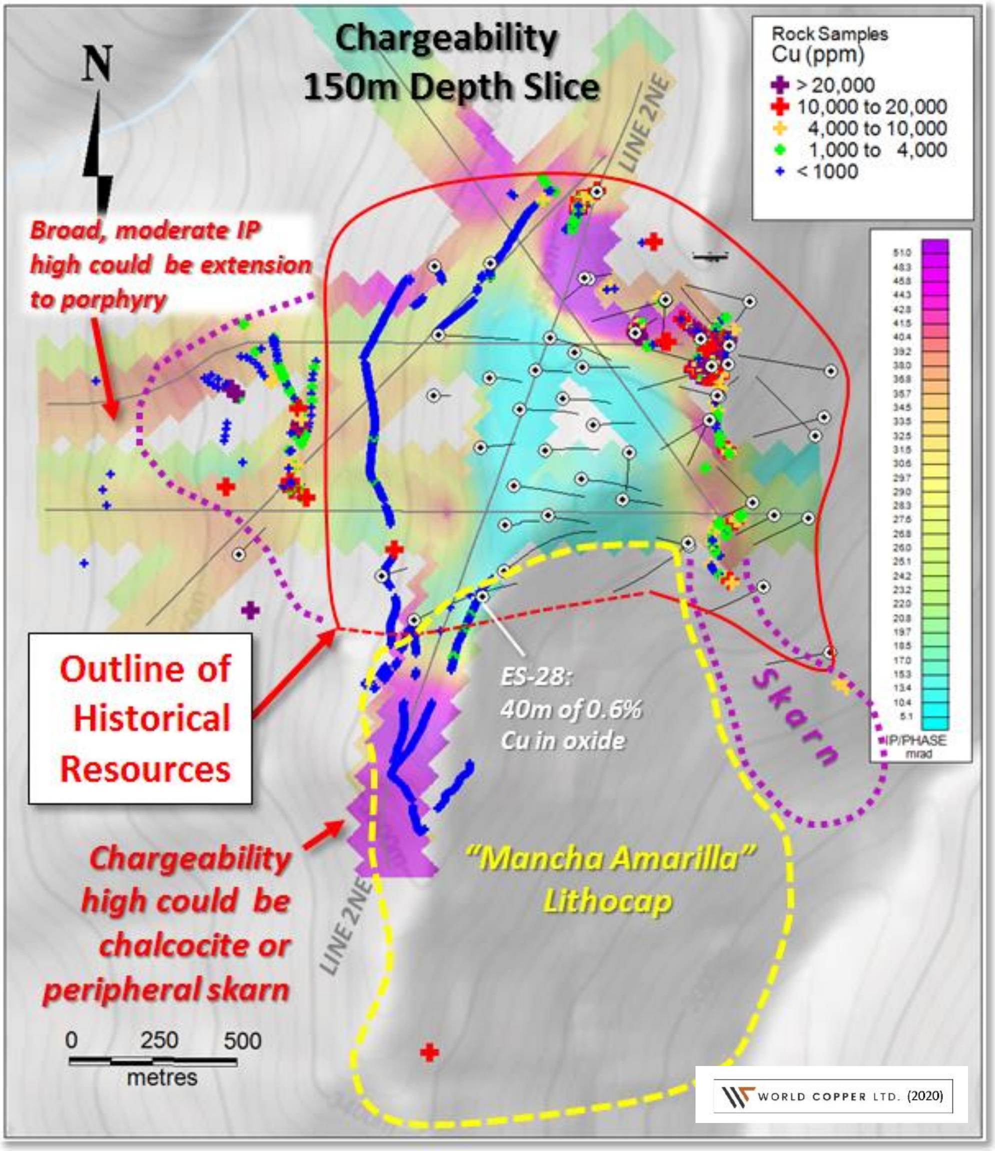
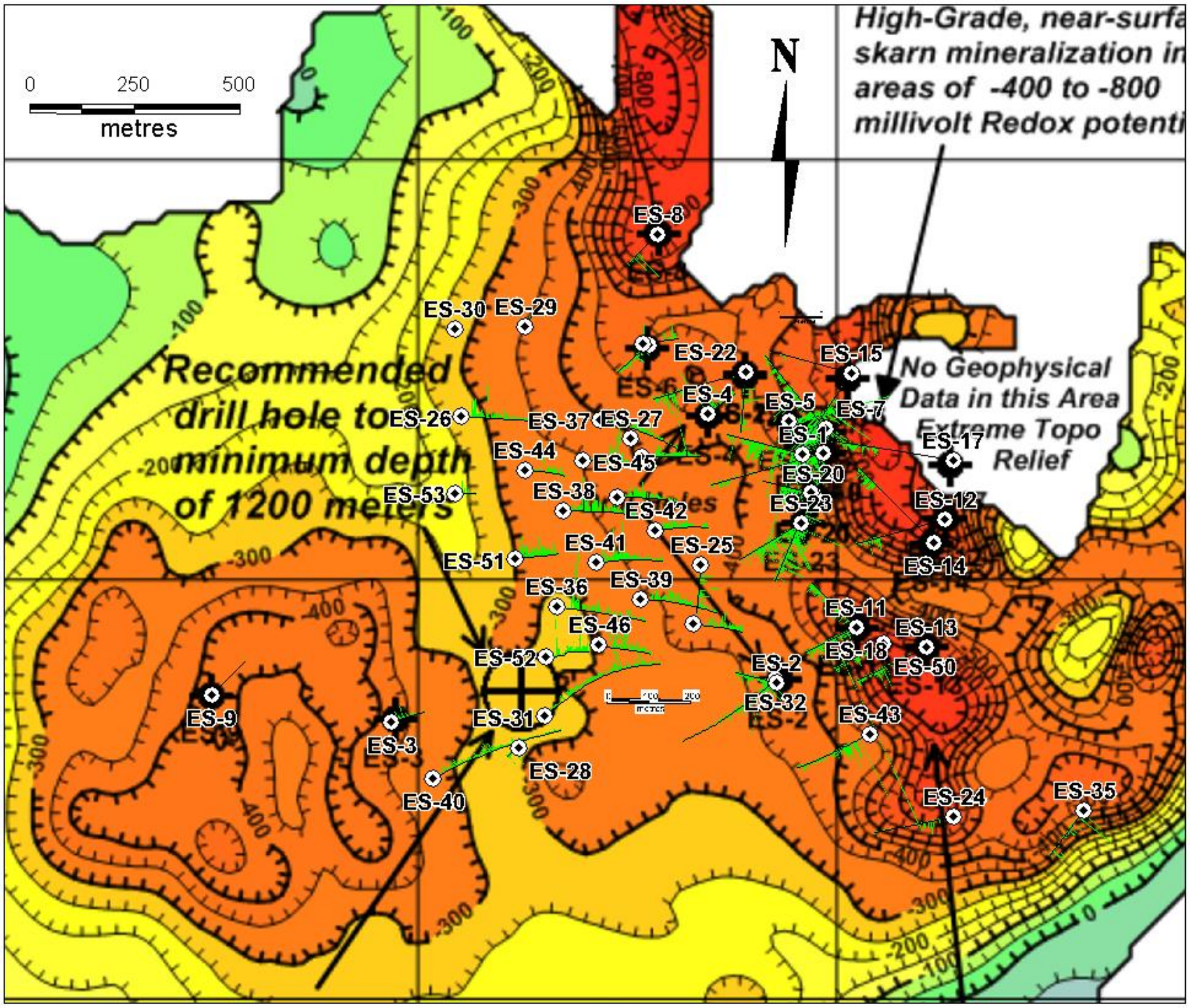
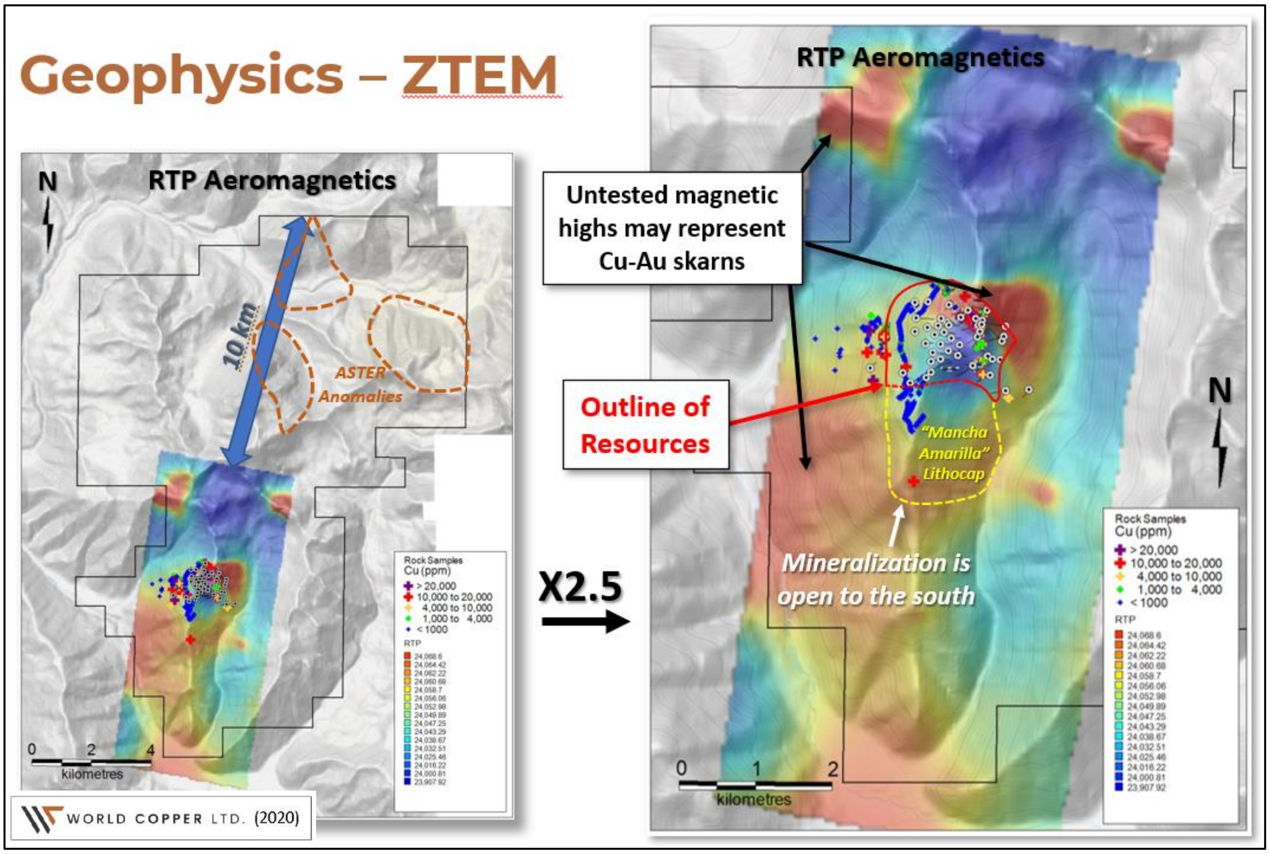


Figure 9-8: Map of SP/Redox over the Main Zone (with Downhole Cu as Bars on Drill Stems)



modified from Skokan (2011)

Figure 9-9: Airborne Reduce to Pole (RTP) Magnetic Anomaly over the Main Zone



- Tzx In-line In-Phase & Quadrature Profiles over 75Hz Phase Rotated Grid
- Tzy Cross-line In-Phase & Quadrature Profiles over 75Hz Phase Rotated Grid

Despite the shortcomings of the survey, the data underwent further processing by MIRA Geoscience, who completed 3D inversions of both the ZTEM resistivity data and the magnetic data. Their interpretation shows a magnetic body dipping east at Escalones Alto to a depth of approximately 2,000 metres coincident with the gold-copper magnetite skarn at ES-1 (Figure 9-9). The magnetic body interpreted at Escalones Alto extends the area with copper skarn mineralization for about 4 km in a north-south direction with dips to the east towards the Argüelles River. The 3D inversion interpretation of the ZTEM conductivity included a large elongate conductive body extending from the near surface mineralization located in ES-35 (71 metres of near-surface, mixed secondary sulfide/oxide copper mineralization averaging 0.64% copper equivalent). This conductive body extends several kilometres north-south within the lower part of the Argüelles valley in rocks that overlie the main skarn zone.

The line orientation and lack of tie lines complicated the data interpretation and, after reviewing the data with Wealth Copper in March 2020, Geotech agreed that the data needs to be reprocessed with more advanced software that was not available in 2011. Therefore, the interpretations of MIRA Geoscience are not being used to site drill holes at the current time.

9.2.2 Geochemical Sampling

Surface exploration by TMI included an intensive programme of surface geochemistry, primarily channel sampling of fresh rock exposures in cuts and trenches excavated by bulldozer during road construction (Figure 9-10). Although surface sampling is considered a reliable indication of mineralization in the surface environment, the depth, extent and lateral continuity of mineralization can only be confirmed by adequate drilling or underground work. Based on this sampling, a large area at Escalones Bajo was determined to host highly anomalous copper in an area of old workings, while at Escalones Alto, channel sampling of road cuts confirmed that high-grade copper values, and locally gold, are associated with the magnetite skarn. Some of the more significant results obtained during the 1997 to 1998 field season are listed in Table 9-1.

Figure 9-10: Thematic Map of Cu in TMI Surface Sampling, with Drill Holes

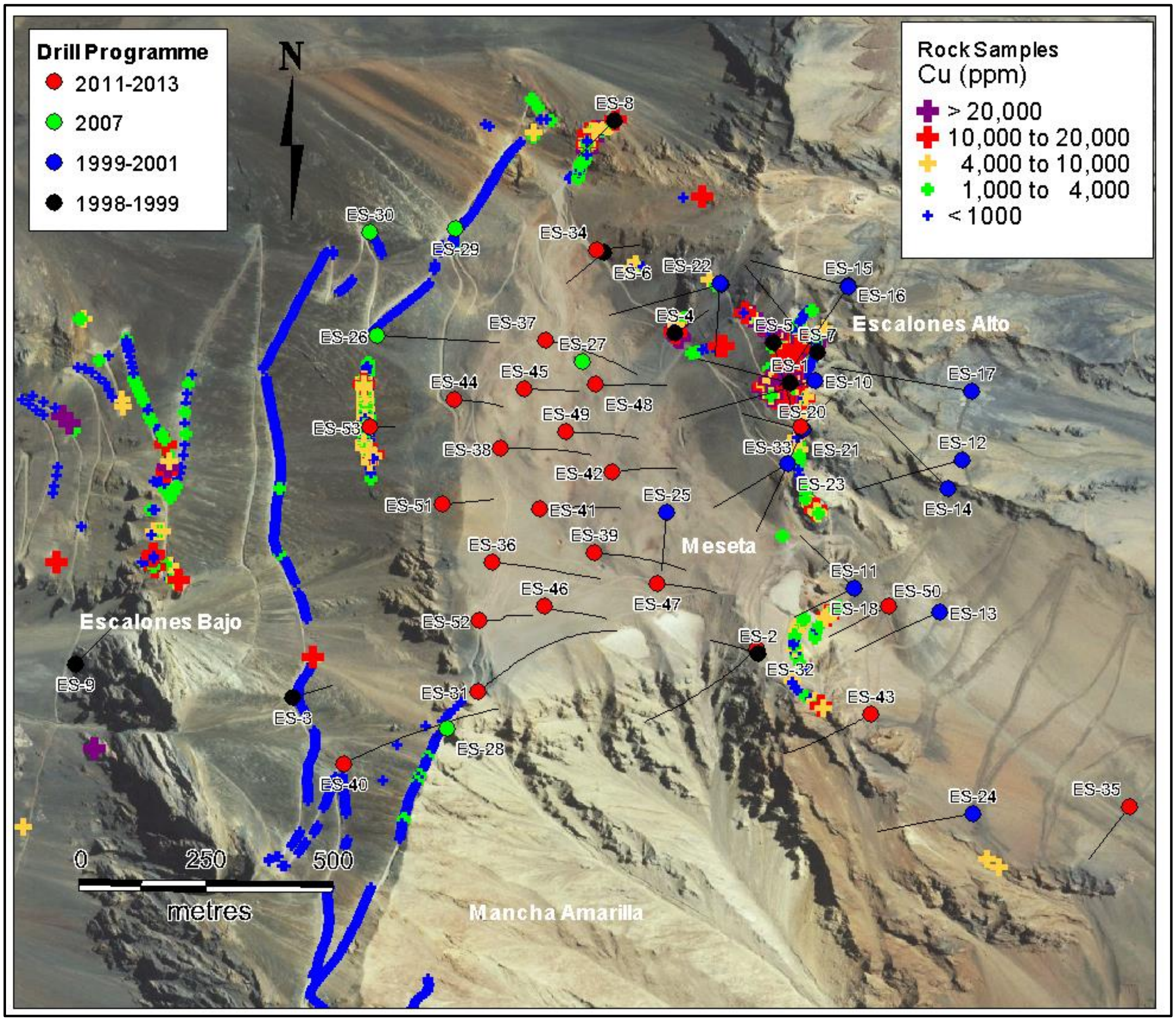


Table 9-1: Escalones Surface Sampling (1997 to 1999)

Sample ID	Distance (m)	Copper (%)	Molybdenum (ppm)	Gold (g/t)	Silver (g/t)
Escalones Bajo Road Cut Channel Sampling (1997-1998)					
14943-14950	170	0.51	32		
Including	60	1.22	41		
Including	20	2	79		
14919-14933	237	0.08	38		
31551-31562	117	0.11	9		
31564-31565	12	0.77	8		
Escalones Alto Road Cut Sampling (1997-1998)					
22319-22328	24	1.15	10		
Including	17	1.46	10		
22331-22333	30	1.03	13		
Including	10	1.45	12		
22334-22338	16.5	1.10	33		
14914-14918	19	0.33	60		
22339-22345	70	0.55	25		
Including	20	1.63	1		
22361-22377	35	0.55	7		
Including	6	1.48	8		
Socavon Grande Underground Sampling (1997-1998					
14733	0.8	1.86		13.93	
Channel C	1.8	2.76		1.75	
Channel D	2	2.61		0.5	
Channel G	11	1.98		0.21	
Including	4.0	3.91		0.55	
Escalones Alto Road Cut Sampling (1998-1999)					
Road Cut No. 1					
32873-32891				0.02	20
Including				0.08	46
Road Cut No. 2					
33146-33175	38	1.36		.22	
Trench					
33103-33128	26	0.71		1.24	
Including	8	0.5		3.37	

Results of the channel sampling from mineralized skarns exposed in underground workings and in outcrops at Escalones Alto indicated that significant copper grades can occur in both the garnet hornfels and magnetite skarn facies and that the higher gold values are associated primarily with the magnetite in the skarn.

During the second field season (September 1998 to March 1999), bulldozer trenching and road construction in Escalones Alto provided access and exposures for additional detailed sampling. Significant results from two of the road cuts and trenches on the southern face of Escalones Alto are included in Table 9-1 and Table 9-2.

Table 9-2: Escalones Road Cut Channel Sampling

Sample ID	Distance (m)	Copper (%)	Molybdenum (ppm)	Gold (g/t)	Silver (g/t)	Gallium (g/t)
Selected Escalones Bajo Road Cut Channel Sampling						
14943-14950	170	0.51	32	0.02		
Including	60	1.22	41	0.01		
Including	20	2	79	0.02		
14634-14636	11	1.3	7	0		
14919-14933	237	0.08	38	0		
31551-31562	117	0.11	9	0		
31564-31565	12	0.77	8	0		
111013-111075	126	0.03	3	0	0.6	17.1
Alto Road Cut Channel Sampling						
22319-22328	24	1.15	10	0.24		
Including	17	1.46	10	0.28		
22331-22333	30	1.03	13	0.04		
Including	10	1.45	12	0.05		
22334-22338	16.5	1.1	33	0.13		
14914-14918	19	0.33	60	0.01		
22339-22345	70	0.55	25	0.01		
Including	20	1.63	1	0.02		
22361-22377	35	0.55	7	0.06		
Including	6	1.48	8	0.12		
Road Cut 1:						
32873 – 32891	19	2.54		0.02	20	
Including: 32873-32874	2	7.41		0.08	46	
Road Cut 2						
33146-33175	38	1.36		0.22		
Trench						
33103-33128	26	0.71		1.25		
Including: 33107-33114	8	0.5		3.37		
111251-111311	116	1.4	21	0.57	8	37.7
Including 111278-111309	64	2.22	21	.83	12	58.9

During the 1999 to 2000 field season, additional high-grade copper-gold mineralization was discovered at Escalones Alto and extended the anomalous road cut area identified in the previous season further to the northeast. These results included an 81-metre-long channel sample interval that averaged 1.54% copper and 0.74 g/t gold. Within this interval, there is a 25-metre section that averaged 2% copper, 2.0 g/t gold, and 17 g/t silver. This section of the new road cut at Escalones Alto traverses the core area of the magnetite bearing skarn.

Additional geochemical rock sampling was carried out in 2011. Surface sampling at both Escalones Alto and Escalones Bajo areas returned significant values for copper, gold, silver, and gallium, as highlighted by selected one-metre channel sampling results in Table 9-2. Road cuts across surface exposures of this mineralization include 116 metres of 1.4% copper, 0.57 g/t gold, and 21 ppm molybdenum (1.83% CuEq).

10.0 DRILLING

World Copper has not completed any drilling exploration at the Project to date. The following paragraphs describe drilling exploration carried out by previous operators through 2013, the most recent date of drilling within the Project area.

A total of 53 drill holes have been completed on the Project, all on the Main Zone, totaling 24,939 metres (Table 10-1). This includes historical work (Katsura, 2006; Candia, 2007) and work completed by TMI through 2013. The first phase of work completed by TMI in 2011 included re-logging, and sampling of previous drill holes. The second exploration programme in 2012 to 2013 included 23 drill holes. Drilling carried out on behalf of TMI (SASC at that time) was conducted by Griffith Drilling, with offices in La Serena, Chile, using Atlas Copco CS14 and RBS 1800 drill rigs to collect both HQ3- and NQ-diameter core samples. Drill core was placed in wooden core boxes for HQ3, numbered and with metreage blocks inserted by Griffith Drilling employees. Core was collected by SASC personnel at the rig and taken to the camp in the morning and in the afternoon. Geotechnical logging recorded the following parameters: RQD, recovery, and frequency of fractures. This logging was supervised by SASC geologists based on existing protocols and was checked daily and transferred to digital files. The geological logging of the core was carried out by SASC geologists, who also defined the geological sampling intervals and checked the geotechnical data and inserted quality control samples.

Table 10-1 shows significant results of drilling to date. Drill hole locations are shown in Figure 10-1.

Table 10-1: List of Drill Holes Completed on the Escalones Project to Date

Hole #	Coordinates WGS84 Northing	Coordinates WGS84 Easting	Elevation (masl)	Azimuth	Dip	Length	Drilling Season
ES-1	6,224,919	411,732	3,919	280°	-70°	547.47	1998/99
ES-2	6,224,387	411,674	3,694	280°	-70°	286.09	1998/99
ES-3	6,224,293	410,757	3,579	70°	-80°	462.07	1998/99
ES-4	6,225,014	411,503	3,848	50°	-80°	455.97	1998/99
ES-5	6,224,999	411,698	3,949	160°	-75°	547.78	1998/99
ES-6	6,225,174	411,361	3,825	225°	-80°	549.61	1998/99
ES-7	6,224,980	411,785	3,893	315°	-75°	861.32	1998/99
ES-8	6,225,433	411,380	3,819	220°	-70°	291.88	1998/99
ES-9	6,224,353	410,326	3,250	40°	-75°	431.67	1998/99
ES-10	6,224,924	411,782	3,888	250°	-60°	554.49	1999/00
ES-11	6,224,516	411,863	3,606	240°	-70°	379.72	1999/00
ES-12	6,224,770	412,073	3,628	250°	-60°	437.67	1999/00
ES-13	6,224,471	412,031	3,515	240°	-60°	363.86	1999/00
ES-14	6,224,714	412,047	3,615	310°	-60°	495.62	1999/00
ES-15	6,225,111	411,845	3,945	280°	-60°	398.02	1999/00
ES-16	6,225,109	411,845	3,945	210°	-60°	475.65	1999/00
ES-17	6,224,906	412,091	3,645	275°	-60°	559.67	1999/00
ES-18	6,224,516	411,863	3,606	310°	-60°	294.93	1999/00
ES-19	6,225,112	411,593	3,937	250°	-60°	455.97	1999/00
ES-20	6,224,828	411,756	3,893	280°	-60°	242.78	1999/00
ES-21	6,224,829	411,759	3,893	200°	-60°	444.99	1999/00

Hole #	Coordinates WGS84 Northing	Coordinates WGS84 Easting	Elevation (masl)	Azimuth	Dip	Length	Drilling Season
ES-22	6,225,113	411,592	3,937	180°	-60°	282.12	1999/00
ES-23	6,224,759	411,730	3,837	235°	-60°	339.16	1999/00
ES-24	6,224,074	412,102	3,345	255°	-70°	558.15	2000/01
ES-25	6,224,662	411,491	3,779	180°	-80°	653.49	2000/01
ES-26	6,225,006	410,914	3,652	90°	-65°	572.85	2007
ES-27	6,224,957	411,321	3,797	200°	-85°	29.8	2007
ES-28	6,224,233	411,061	3,770	230°	-80°	190.2	2007
ES-29	6,225,218	411,066	3,710	30°	-85°	281.45	2007
ES-30	6,225,209	410,897	3,620	0°	-90°	219.45	2007
ES-31	6,224,307	411,122	3,793	50°	-75°	1.022.30	2011/12
ES-32	6,224,396	411,671	3,694	220°	-75°	1.045.00	2011/12
ES-33	6,224,832	411,753	3,894	45°	-75°	313	2011/12
ES-34	6,225,177	411,347	3,824	80°	-75°	323.5	2011/12
ES-35	6,224,089	412,412	3,186	215°	-75°	500.7	2011/12
ES-36	6,224,562	411,147	3,796	90°	-75°	689.4	2012/13
ES-37	6,224,999	411,247	3,803	90°	-75°	613.3	2012/13
ES-38	6,224,787	411,162	3,792	90°	-75°	596.3	2012/13
ES-39	6,224,581	411,349	3,773	90°	-75°	722	2012/13
ES-40	6,224,161	410,857	3,648	60°	-65°	661.4	2012/13
ES-41	6,224,666	411,240	3,782	90°	-75°	662.3	2012/13
ES-42	6,224,742	411,382	3,782	90°	-75°	445.7	2012/13
ES-43	6,224,268	411,899	3,533	240°	-70°	492.3	2012/13
ES-44	6,224,880	411,068	3,779	90°	-75°	483.3	2012/13
ES-45	6,224,903	411,206	3,796	90°	-75°	416.5	2012/13
ES-46	6,224,475	411,250	3,787	90°	-75°	446.4	2012/13
ES-47	6,224,522	411,474	3,781	90°	-75°	402.7	2012/13
ES-48	6,224,914	411,346	3,799	90°	-75°	466.3	2012/13
ES-49	6,224,819	411,288	3,792	90°	-75°	459.2	2012/13
ES-50	6,224,480	411,930	3,520	240°	-70°	381.8	2012/13
ES-51	6,224,674	411,047	3,755	90°	-75°	484	2012/13
ES-52	6,224,446	411,122	3,800	90°	-75°	461.5	2012/13
ES-53	6,224,827	410,903	3,680	90°	-75°	186	2012/13

Table 10-2: Drill Hole Significant Intercepts

Hole ID	From (m)	To (m)	Length* (m)	Copper (%)	Gold (gpt)	Silver (gpt)	Moly (ppm)
ES-1	0.5	77.0	76.5	1.32	0.13	4.1	15
Including	27.0	72.0	45.0	1.75	0.15	5.1	14
	109.0	201.0	92.0	0.62	0.05	2.5	70
Including	162.9	187.0	24.1	1.02	0.06	3.5	66
	271.0	377.6	106.6	0.54	0.05	1.2	139
ES-2:	27.5	87.0	59.5	0.42	0.03	1.0	117
Including	67.0	74.0	7.0	0.90	0.05	2.0	105
	97.0	142.0	45.0	0.37	0.03	1.0	167

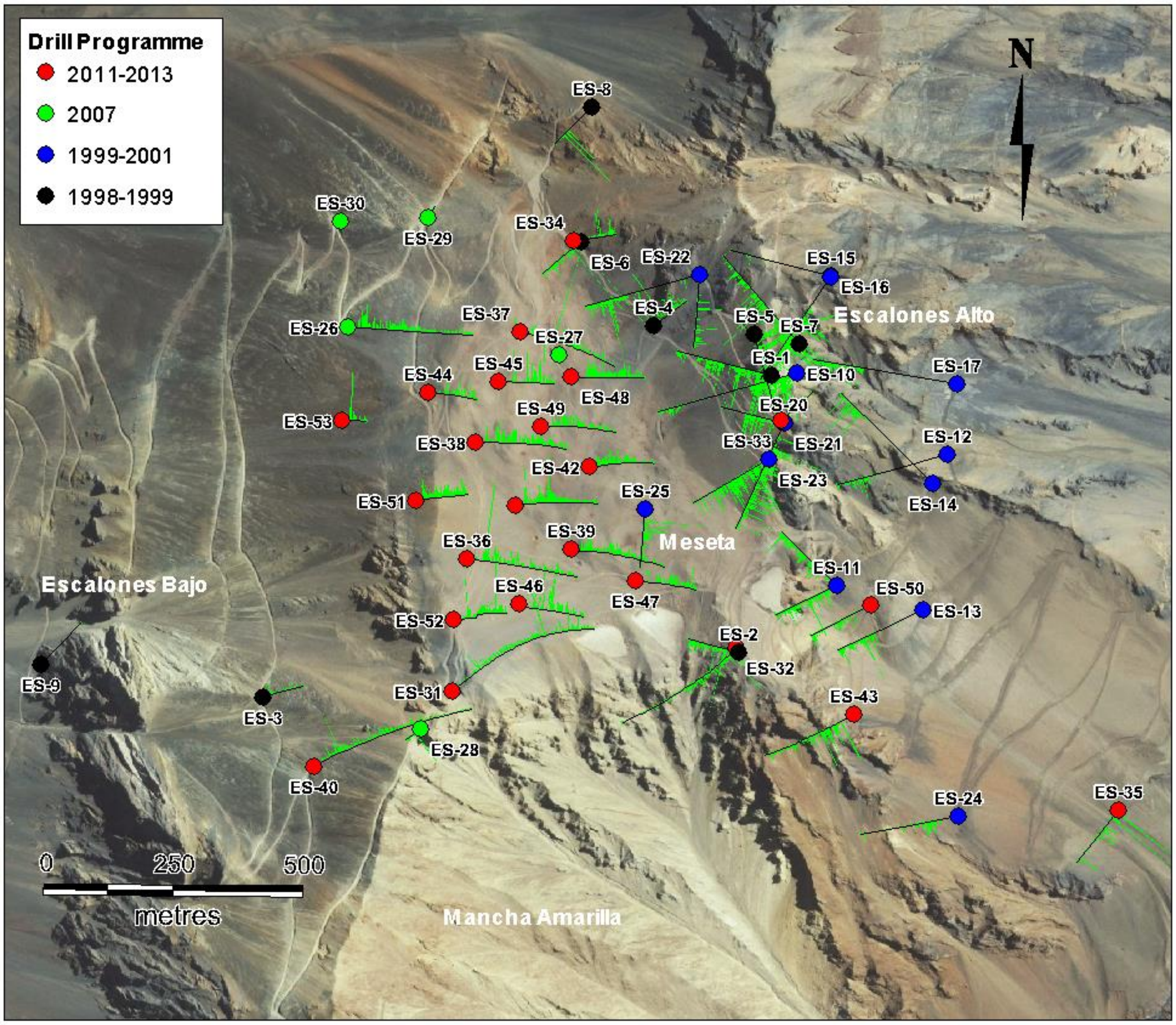
Hole ID	From (m)	To (m)	Length* (m)	Copper (%)	Gold (gpt)	Silver (gpt)	Moly (ppm)
Including	126.0	133.0	7.0	0.95	0.03	0.0	180
ES-4:	8.2	14.0	5.8	1.58	0.02	12.0	50
Including	11.0	13.0	2.0	3.01	0.04	24.0	70
	136.1	158.0	21.9	0.67	0.08	2.0	119
Including	136.1	148.0	11.9	0.94	0.13	3.0	154
	243.0	267.0	24.0	0.77	0.07	1.0	137
	309.0	347.0	38.0	0.45	0.05	1.0	44
ES-5	6.0	119.0	113.0	1.09	0.09	3.4	23
Including	6.0	45.8	39.8	1.88	0.14	5.3	42
Including	38.0	45.8	7.8	3.19	0.23	5.0	24
Including	96.4	119.0	22.6	1.65	0.18	5.0	17
Including	185.0	209.0	24.0	0.72	0.08	3.0	49
ES-6	124.0	135.0	11.0	0.98	0.23	4.6	88
ES-7	11.1	137.0	125.9	0.77	0.15	4.5	49
Including	14.9	74.5	59.6	1.00	0.19	6.3	45
	154.0	217.0	63.0	0.66	0.07	1.8	152
Including	165.0	173.0	8.0	1.13	0.15	3.2	491
	192.0	212.2	20.2	0.98	0.08	3.1	150
	287.0	314.0	27.0	0.46	0.06	1.7	35
	354.0	435.0	81.0	0.61	0.06	1.9	90
Including	354.0	368.0	14.0	1.02	0.09	3.7	153
	378.0	396.0	18.0	0.93	0.10	3.2	108
	445.0	469.0	24.0	0.68	0.05	1.2	92
Including	454.0	463.0	9.0	0.98	0.08	1.7	99
	484.0	514.0	30.0	0.42	0.03	1.0	72
	514.0	861.3	347.3	0.14	0.02	0.2	38
ES-8	181.0	202.0	21.0	0.27	0.03	2.3	118
	212.0	228.0	16.0	0.66	0.04	2.5	67
ES-10	34.0	177.0	143.0	0.56	0.09	2.7	52
Including	37.0	54.0	17.0	0.80	0.13	6.2	17
and	117.0	131.0	14.0	1.03	0.22	4.4	60
ES-11	55.5	67.0	11.5	0.75	0.14	4.1	44
	67.0	171.0	104.0	0.26	0.03	1.6	92
	171.0	379.7	208.7	0.35	0.03	0.7	40
Including	171.0	181.0	10.0	2.33	0.28	8.1	43
Including	174.0	179.0	5.0	4.13	0.49	15.0	60
ES-12	294.0	437.7	143.7	0.23	0.07	0.9	68
	317.0	353.0	36.0	0.41	0.09	1.8	120
	325.0	339.0	14.0	0.50	0.14	1.9	89
Including	326.0	329.0	3.0	0.83	0.09	3.1	122
ES-13	209.0	311.0	102.0	0.32	0.04	1.1	56
Including	222.0	231.0	9.0	0.69	0.09	3.2	168
and	249.0	254.0	5.0	0.99	0.09	2.9	21
ES-14	331.0	495.6	164.6	0.25	0.03	1.1	74
	424.0	447.0	23.0	0.54	0.07	2.6	38
	424.0	435.0	11.0	0.80	0.12	4.9	33

Hole ID	From (m)	To (m)	Length* (m)	Copper (%)	Gold (gpt)	Silver (gpt)	Moly (ppm)
	425.0	429.0	4.0	1.09	0.17	6.7	54
ES-16	263.0	399.0	136.0	0.76	0.07	3.4	22
Including	263.0	333.0	70.0	1.00	0.07	4.8	20
ES-17	401.0	404.0	3.0	0.70	0.19	3.8	65
ES-20	75.0	150.0	75.0	0.55	0.14	1.8	60
	122.0	149.0	27.0	0.89	0.18	2.4	98
	129.0	146.0	17.0	1.01	0.20	2.5	122
Including	130.0	132.0	2.0	1.76	0.55	5.1	150
and	142.3	146.0	3.7	1.58	0.19	2.8	113
ES-21	53.0	445.0	392.0	0.32	0.06	0.9	88
	54.0	61.0	7.0	0.75	0.17	5.0	23
	106.0	136.0	30.0	0.62	0.25	1.7	11
	109.0	113.0	4.0	1.02	0.25	1.3	21
	166.0	174.0	8.0	1.31	0.11	3.3	79
ES-22	130.0	141.0	11.0	0.95	0.01	5.8	7
	136.0	137.0	1.0	4.29	0.03	23.0	8
ES-23	3.4	339.2	335.8	0.44	0.07	1.2	76
	47.0	86.0	39.0	0.99	0.18	3.1	54
	63.0	77.0	14.0	1.38	0.17	3.7	60
	174.0	187.0	13.0	1.00	0.09	1.9	121
ES-24	131.0	205.0	74.0	0.34	0.06	2.2	82
	131.0	135.0	4.0	0.76	0.13	8.9	93
	125.0	241.0	116.0	0.30	0.05	1.6	57
ES-25	65.0	358.0	293.0	0.36	0.09	1.0	12
Including	197.0	288.0	91.0	0.50	0.10	1.3	12
Including	262.0	285.0	23.0	0.68	0.13	1.9	6
ES-26	1.7	572.9	571.2	0.15	-	0.2	58
	44.0	334.0	290.0	0.23	-	0.3	18
	62.0	90.0	28.0	0.56	-	0.4	26
ES-28	0.0	190.2	190.2	0.20	-	0.9	85
	44.0	94.0	50.0	0.45	-	0.8	101
	58.0	74.0	16.0	0.83	-	1.0	86
	134.0	190.2	56.2	0.18	-	0.8	74
ES-29	0.0	281.5	281.5	0.02	-	0.1	4
ES-30	0.0	220.0	220.0	0.02	-	0.1	2
	18.0	22.0	4.0	0.32	-	1.2	2
ES-31	214.0	744.5	530.5	0.20	0.02	0.2	29
	688.5	741.5	53.0	0.45	0.01	0.6	37
	710.0	719.0	9.0	1.01	0.02	1.9	69
ES-32	29.4	661.0	631.6	0.19	0.02	0.6	121
	49.0	83.8	34.8	0.47	0.04	4.2	77
	246.6	248.3	1.7	1.79	0.03	4.8	427
ES-33	181.5	201.0	28.5	0.40	0.02	1.8	1
Including	181.5	192.0	10.5	0.83	0.04	3.7	1
ES-34	187.1	323.5	136.4	0.25	0.06	0.3	85
	188.7	215.0	26.3	0.34	0.11	0.1	123

Hole ID	From (m)	To (m)	Length* (m)	Copper (%)	Gold (gpt)	Silver (gpt)	Moly (ppm)
	273.8	323.5	49.7	0.40	0.07	0.6	38
ES-35	148.0	500.7	352.7	0.16	0.01	1.2	23
	447.9	470.5	22.6	1.00	0.03	8.3	5
	456.3	465.5	9.3	2.11	0.07	17.2	5
ES-36	72.1	120.0	47.9	0.07	0.26	1.5	21
	120.0	358.2	238.2	0.41	0.10	0.6	33
Including	120.0	244.0	124.0	0.51	0.13	1.1	30
Including	129.0	156.0	27.0	0.99	0.15	2.0	39
Including	129.0	135.0	6.0	2.23	0.14	1.4	43
ES-38	69.4	131.8	62.4	0.17	0.08	0.2	62
	131.8	199.0	67.2	0.48	0.10	0.2	133
	132.6	145.3	12.7	0.64	0.11	0.1	183
	131.8	596.3	464.5	0.29	0.07	0.4	56
ES-39	74.8	152.0	77.2	0.21	0.08	0.2	27
	152.0	174.4	22.4	0.45	0.15	1.5	46
	152.0	156.2	4.2	0.84	0.12	0.7	60
	152.0	359.0	207.0	0.29	0.09	0.4	32
ES-40	73.9	164.0	90.1	0.21	0.02	0.3	26
	107.5	149.5	42.0	0.30	0.02	0.2	28
	121.5	123.5	2.0	1.97	0.02	0.1	27
	107.5	164.0	56.5	0.26	0.02	0.4	27
ES-41	78.0	198.8	120.8	0.26	0.17	0.9	28
	198.8	236.0	37.2	0.60	0.10	0.6	42
	204.5	219.0	14.5	0.90	0.10	0.7	38
	78.0	348.0	270.0	0.37	0.12	1.0	55
ES-42	74.1	129.0	55.0	0.32	0.10	0.2	9
	57.2	330.5	273.3	0.26	0.08	0.2	11
ES-43	32.0	35.7	3.7	0.00	12.19	0.1	21
Including	23.8	35.7	11.9	0.00	4.39	0.1	22
gold only	23.8	73.9	50.1	0.01	1.16	0.1	32
Cu Skarn	73.9	79.0	5.1	1.87	0.32	14.1	77
	107.2	128.8	21.7	0.54	0.07	4.4	45
	145.6	196.0	50.4	0.56	0.08	3.2	137
ES-45	100.0	130.0	30.0	0.52	0.05	0.8	84
	100.0	107.0	7.0	1.43	0.06	2.6	68
	247.0	344.0	97.0	0.52	0.03	0.2	160
	100.0	381.0	281.0	0.33	0.04	0.2	157
ES-46	205.0	245.0	40.0	0.87	0.09	0.6	56
	110.4	342.5	232.2	0.35	0.10	0.5	58
ES-47	84.0	125.5	41.5	0.10	0.13	0.2	11
	125.5	156.6	31.1	0.39	0.10	0.4	40
	233.0	284.0	51.0	0.37	0.04	0.8	30
	86.0	402.7	316.7	0.25	0.08	0.4	38
ES-48	138.5	171.5	33.0	0.45	0.04	0.5	117
	100.4	171.5	71.1	0.36	0.04	0.6	154
	100.4	296.6	196.2	0.26	0.04	0.4	89

Hole ID	From (m)	To (m)	Length* (m)	Copper (%)	Gold (gpt)	Silver (gpt)	Moly (ppm)
	299.6	372.8	73.2	0.28	0.04	0.2	34
ES-49	210.9	223.0	12.1	0.56	0.08	0.1	30
	115.0	268.0	153.0	0.31	0.07	0.5	33
ES-50	192.0	223.0	31.0	0.34	0.02	0.8	56
	352.5	381.8	29.3	0.31	0.02	0.7	44
ES-51	64.8	134.0	69.3	0.41	0.12	0.2	71
	118.9	134.0	15.2	0.50	0.19	0.5	126
	64.8	457.5	392.8	0.31	0.09	0.3	99
ES-52	118.2	152.0	33.8	0.52	0.16	0.6	5
	118.2	133.0	14.8	0.83	0.19	1.1	7
	76.6	204.0	127.4	0.19	0.16	0.5	9
	348.5	383.0	34.5	0.62	0.02	0.1	16
	205.1	461.5	256.4	0.29	0.05	0.3	53
ES-53	48.0	123.0	75.0	0.28	0.03	0.3	26
	48.0	70.6	22.6	0.51	0.03	0.3	19

Figure 10-1: Drill Holes with Downhole Cu Grades as Green Bargraphs



Drill hole ES-1 intersected copper mineralization beginning at the surface, with the highest grades in the uppermost 377 metres of the hole. Mineralization is hosted by skarn and intrusive andesite sills and dikes. The highest one-metre sample assayed 4.65% Cu from within the uppermost interval of skarn, and the upper 377 metre interval averages 0.63% Cu. If the 102 metres of lower-grade andesite sills and dikes are excluded, the average grade of the remaining 275 metres is 0.80% Cu. Mineralization in the upper 77 metres of ES-1 occurs as disseminated chalcopyrite in magnetite-rich skarn and as oxides within adjacent intrusive andesite sills, followed by 300 metres of intermixed metasomatically altered sediments, highly altered porphyritic intrusions, and younger dikes and sills. Between 377 and 548 metres (end of the hole), the volume of intrusive-hosted, porphyry style alteration and disseminated mineralization appears to increase, with visible chalcopyrite and bornite observed, and grades varying from trace to 0.4% Cu.

Drill hole ES-2 was collared 550 metres south of ES-1 and intersected copper and molybdenum mineralization within an intensely altered sequence of skarn and calcsilicate hornfels and intrusive dikes and sills. It was drilled to a depth of 286 metres, with two significant intercepts within the upper 142 metres (Table 10-2). Drill hole ES-2 was collared at a position lower in the stratigraphic sequence than ES-1, ES-5, and ES-7; therefore, the higher-grade, magnetite-bearing skarns appear to be absent.

Drill hole ES-3 was collared 1.2 km west of ES-1, on the west flank of the ridge in the area known as Escalones Bajo. The target was a self-potential (SP) geophysical anomaly. Low-grade chalcopyrite mineralization (0.1 to 0.25% Cu) was observed throughout the 462-metre-long hole, with individual one-metre intervals with a maximum of 0.8% Cu. Anomalous mineralization is primarily hosted by heavily fractured and altered biotite hornfels and porphyritic intrusive dikes. Although the grades intercepted by this drill hole are not as high as those encountered in the Escalones Alto area, anomalous copper was encountered in the presence of strong potassic alteration and locally intense quartz-sericite-anhydrite veining associated with the chalcopyrite. These features suggest that the hole was well within the porphyry hydrothermal system centred on the ridge.

ES-4 was collared 250 metres to the northwest of ES-1, with the objective of testing the northwest strike continuation of the skarn-hosting calcareous sediments. As with ES-2, the hole appears to have been collared stratigraphically below the east-dipping, principal magnetite skarn-hosting member. However, several significant intervals of copper mineralization grading between 0.45% and 1.58% Cu occur in both highly altered calcareous sediments and fractured intrusive rock with disseminated chalcopyrite and bornite.

Drill hole ES-5 was collared approximately 80 metres north of hole ES-1, along the projected strike of the limestone strata that hosts the high-grade magnetite skarn mineralization. ES-5 was oriented towards the south, at right angles to the orientation of ES-1, to obtain a three-dimensional geological and grade distribution profile within the skarn body. The mineralization intersected at the ends of holes ES-1 and ES-5 is 215 metres apart.

Drill hole ES-6 is located 200 metres northwest of ES-4, at the northern tip of the Meseta, and drilled to the southwest. The hole intersected biotite hornfels, a rock unit that proved to be a poor host to higher grade mineralization, but often lies in the footwall to the skarn-bearing limestone and calcareous sequence. Only relatively narrow mineralized intercepts were encountered, including 11 metres grading 0.98% Cu and 0.23 g/t of Au between 124 and 135 metres depth, and an intercept of 2 metres grading 1.5% zinc and 9.5 g/t of Ag at 354 metres depth.

Drill hole ES-7 was collared 54 metres northeast of ES-1 and drilled towards the northwest at a 75-degree dip to a depth of 861 metres. Strong mineralization extends to a depth of 514 metres throughout the sequence of altered limestone. Weak mineralization occurred within the underlying biotite hornfels.

Drill hole ES-8 was collared 260 metres north of ES-6 and located within a geologically complex area. One 7.0 metres interval of mineralization at 221 metres graded 1.37% Cu and 0.07 g/t of Au, hosted by magnetite skarn.

Drill hole ES-9 was collared 423 metres west of ES-3, at the base of an elongate limestone/gypsum outcrop extending over 700 metres to the south. The hole targeted mineralization in the footwall of the Escalones Bajo fault zone along the east contact of the limestone. However, the northeast azimuth and moderate dip meant the hole never exited the limestone and it failed to reach its target before collapsing in massive gypsum in the main fault zone. This hole concluded the first drill programme.

The second drill programme in late 1999 to early 2000 significantly expanded the area containing high-grade skarn mineralization, but mainly expanded the volume of disseminated, mixed oxide-sulphide copper mineralization to depths of up to 500 metres beneath the surface mineralization at Escalones Alto. The first two drill holes, ES-10 and ES-11, are located 50 and 417 metres east and southeast, respectively, of the high-grade skarn mineralization identified in the initial drill programme.

Holes ES-12 through ES-15 intercepted wide intervals of copper mineralization. These include ES-12, with 0.27% Cu over 91 metres from 297 to 388 metres; ES-13, with 0.44% Cu over 50 metres from 210 to 260 metres; and ES-14, with 0.41% Cu over 54 metres from 381 to 435 metres. Hole ES-15 encountered a possible west-dipping, post-mineralization intrusion and did not have any significant values until the very end of the hole.

ES-16, located on the same platform as ES-15, but drilled to the southwest (toward ES-1) at a dip of 60 degrees, intersected significant mineralization below the intrusion. This same panel of mineralization was intersected in the lower part of ES-17 and ES-14.

Holes ES-16 through ES-24 intersected narrow intervals ranging from 2.0 to 12.0 metres and averaging 0.4 to 0.8% Cu, with sporadic 1.0 metre intervals with a maximum of 2.75% Cu and anomalous gold values. The higher-grade intervals appear to be associated with highly fractured skarn and local secondary copper enrichment within relatively shallow depths. A one-metre intercept at 28.0 metres in ES-18 in skarn above an andesite sill assayed 3.6 g/t Au but low copper (0.036% Cu), indicating either shallow gold enrichment or a second mineralizing event.

The last hole of the second drill programme, ES-25, was collared west of the skarn ridge on the Meseta and intersected hydrothermally altered granodiorite and diorite containing stockwork-hosted and disseminated chalcopyrite, bornite, and molybdenite mineralization, along with anomalous gold values. This was the first hole targeting porphyry-hosted mineralization at Escalones. Anomalous copper mineralization begins below moraine cover at 55 metres and extends to a depth of 430 metres before tapering out.

The 2007 drill programme comprised six holes, beginning with ES-26 (previously ESC-1), and targeted geophysical anomalies. ES-26 was collared west of the Meseta and oriented east to reach the main IP anomaly below the plateau. It cut mainly sandstone and biotite hornfels, with scarce diorite, dacite and andesite dikes. The alteration consists principally of quartz-sericite veinlets over fine biotite-silica matrix, typical of hornfels. Abundant gypsum veinlets are also present below 260 metres. Copper oxide, some chalcocite and remnants of chalcopyrite were continuous between 42 and 88 metres. This interval reported 0.53% total Cu, mostly as soluble oxides and secondary sulphide. Below this interval, until 152 metres, the mineralization is patchy, with lower to similar grades to the upper part in a mixture of oxides, secondary, and primary sulfides. The primary zone, below 200 metres, is characterized by erratic mineralization of chalcopyrite > pyrite in veinlets and very little dissemination, associated with quartz-sericite, quartz and anhydrite veinlets. Molybdenite also occurs in veinlets with quartz and anhydrite.

Copper grades between 0.1 and 0.4% and averages 0.1% Cu. The Mo values are variable but increase below 370 metres, reaching a maximum of 602 ppm at 450 metres depth.

Drill hole ES-27 (ESC-2) was collared on the Meseta and was lost at 29.8 metres because the drill was not strong enough to drill through the post mineral gravel cover.

Drill hole ES-28 (ESC-3) was drilled off the southern edge of the Meseta, close to the southwest contact of granodiorite with hornfels. It was cut short because of drilling problems within a fault. Total depth of the hole was 190.2 metres. The hole started in hornfelsed sandstone, cutting several small diorite dikes. From 52 to 100 metres, the hole cut a porphyry diorite dike with secondary biotite and argillic alteration. Mineralization is restricted to mainly pyrite with traces to <0.5% chalcopyrite, molybdenite, and weak copper oxides in clays. From 48 to 80 metres, the hole grades 0.022% Cu and 125 ppm Mo. High molybdenum values match those from the surface trench samples. Below 100 metres, copper oxides increase, and a 40-metre-interval runs 0.60% Cu, then decreases as oxides are replaced by secondary and primary sulphides. This mineralized horizon appears to be the southern edge of the supergene enriched horizon intersected by holes to the north.

The hole continued in biotite hornfels to 190.2 metres, with mainly quartz, sericite and pyrite, and traces of chalcopyrite with frequent molybdenite veinlets. Copper grades increase below the top of sulphides, and the hole ended in increasing grades.

Drill hole ES-29 (ESC-4) was collared off the northwest edge of the Meseta and drilled to a final depth of 281.45 metres. The hole started in biotite hornfels similar to ES-26, with stockwork veinlets of pyrite with quartz-sericite haloes, with no significant copper. Between 126 and 144 metres, the hole cut a porphyry diorite dike with biotitic alteration and quartz-sericite-pyrite mineralization. Between 162 and 178 metres, the hole cut porphyritic andesite with biotite, quartz, and chlorite alteration and 1 to 2% pyrite and <0.5% chalcopyrite. From here to the end of the hole at 281.4 metres, the biotite hornfels has less chlorite and minor potassium feldspar, and pyrite varies between 1 to 2%, while the chalcopyrite continues in traces to <0.5%.

Drill hole ES-30 (ESC-5), collared 160 metres west of ES-29, was stopped at 219.45 metres due to lack of copper mineralization and similar geology to ES-26 and ES-29. It intersected biotite hornfelsed sandstone, with clastic textures partially preserved, and low-sulphide argillic gypsum veinlets. The mineralization consists mainly of pyrite from 0.5 to 1.5% with traces of chalcopyrite and local traces of molybdenite. A few narrow intervals contain > 0.10% Cu.

The next drill programme in the 2012 to 2013 exploration season focused on testing the intrusive part of the system underneath the central Meseta area. Limited drilling was carried out on the skarn to the east due to pending drill permits.

Nine Drill holes (ES-36, -38, -39, -41, -45, -46, -47, -51, and -52) were drilled on the Meseta and intersected mineralized granodiorite below 65 to 85 metres of glacial moraine. All these holes included intervals of enriched oxide and secondary sulphide mineralization below a partially leached, often gold-enriched oxide zone. The best intersections were in ES-36 and ES-38 (see Table 10-2). Hole ES-36 was drilled in the western part of the Meseta into porphyry-style mineralization. Below the glacial moraine, the hole continued in partially leached bedrock with enhanced gold values. This is underlain by a mixed or transition zone, including both primary and secondary copper sulfides and copper oxides. The best two-metre intersection averaged 3.04% Cu with 0.13 g/t Au. The better secondary enrichment averaged 0.99% Cu with 0.15 g/t Au and 2 g/t Ag over 27 metres, including 2.23% Cu with 0.14 g/t Au and 1.4 g/t Ag over 6 metres. This intercept continues for a total of 124 metres and averages 0.51% Cu with 0.13 g/t Au and 1.1 g/t of Ag.

Drill holes ES-37, -42, -44, -48, and -49 penetrated hornfels below the moraine cover and delimited the boundaries of the central intrusive in these areas. Nevertheless, these holes also included some partially enriched mineralization.

Two holes, ES-43 and -50, were in the skarn mineralization on the east side of the Meseta, one of which intersected gold-only mineralization in the shales overlying the skarn. This gold intercept in ES-43 is unusual and suggests that there was either a separate gold mineralizing event, or there is local supergene gold. This mineralization is open for 200 metres in all directions from the hole.

The last three holes drilled, ES-51 to -53, were collared along the west edge of the Meseta and targeted the western limits of porphyry-style, intrusion-hosted mineralization. The holes had similar mineralization profiles, with higher grades closer to surface due to secondary enrichment of copper as mostly oxides. Holes ES-51 and -52 passed from outer porphyritic phases of the intrusion into more equigranular phases from west to east. ES-53 was entirely within hornfelsed sandstone with mixed oxide and secondary copper, with lower grades than the other holes. The holes indicate that disseminated mineralization is open to the west on the steep slope below the Meseta. Surface sampling of roads in the area, with many samples of >1% Cu, indicates that mineralization continues for about 630 metres west of ES-53.

11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

World Copper has not completed any drill sample collection at the Project to date. The following paragraphs describe sampling and analytical procedures carried out by previous operators through 2013, the most recent date of exploration drilling within the Project area.

11.1 Analytical Procedures

For drilling completed between 1998 and 2001 (ES-1 to ES-25), all assays were performed independently by ACME Analytical Laboratories S.A. in Santiago, Chile, using Atomic Adsorption (AA) analytical methods (Katsura, 2006). Internal checks were performed through standards and the re-analyzing of certain samples. All samples were collected by, or under the direct supervision of, a Qualified Person as defined by NI 43-101, responsible for the programme. At the time, Dr. Lawrence A. Dick, Executive Vice President, Exploration for General Minerals Corporation (TMI's predecessor), was the Qualified Person on the Escalones Project. Dr. Dick was assisted by Felipe Malbran, the current Executive Vice President, Exploration for TMI. Emphasis was placed on quality control and the proper handling and numbering of all samples. Samples were analyzed by independent ACME Laboratory located in Santiago, Chile. Silver and gold were analyzed using fire assay and the AA method while copper was analyzed by AA. The ACME Laboratory in Santiago was not certified. However, the head office of ACME Analytical Labs Ltd. in Vancouver, was fully ISO 9001:2000 certified. Received results were checked for their geological reasonableness, and the field locations were cross-referenced with assay sheet sample numbers to check accuracy. All results (Ag, Cu, Mo, lead [Pb], and zinc [Zn]) over the detection limits were re- analyzed by AA.

11.2 QA/QC

Drill core sampling during the early (pre-2006) drilling programmes generally consisted of selecting 1.0-metre intervals so that higher grade intercepts could be identified and understood. In some case, shorter intervals were selected base on visual observations during core logging and mapping to isolate geologically important structures or to characterize the style of mineralization or significant changes in host rock types. Recovery of samples during drilling was very good, with the exception of the bottom section of ES-9 which encountered bad ground conditions and was terminated within a gypsum diaper unit. The core was sawed in half, with one half retained in the box and the other sent to the lab.

Check samples were collected by Kurt Katsura while preparing the 2006 Escalones technical report. Mr. Katsura bagged each sample, affixed the sample tag, described the samples taken, and prepared the sample submittal for delivery to ACME Laboratory located in Santiago, Chile. Mr. Katsura considered the sampling methods adequate to ensure that samples taken were secure and would produce meaningful results for the intent of fulfilling the requirements of a NI 43-101 report. The check samples were sent by courier to ACME laboratories in Santiago, Chile for fire assay and AA analysis and then sent to ACME in Vancouver for ICP analysis. Results were checked by re-analysis of 9% of the samples by ACME laboratories in Chile, who also insert 3% blank samples and 6% standard samples in each batch analyzed to ensure accuracy. The ACME Laboratory in Santiago is not currently certified. However, Acme Analytical Labs Ltd. in Vancouver, the head office, is fully ISO 9001:2000 certified.

The cores for drill holes ES-26 to ES-30 drilled by Minera Aurex were split by saw, and samples were sent to ACME laboratory to be analyzed by ICP 1D analysis. Some samples that included copper oxides or secondary copper mineralization were also analyzed for total copper and a sequential copper analysis. Two types of standard samples were intercalated every 40 samples. One standard presents moderated grade in copper and gold (0.25% Cu) while the second is almost barren. Duplicate samples were prepared from the unused coarse material left over from the sample preparation for every 40th sample and were analyzed by Andes Analytical also by ICP. The quality control report did not detect any anomaly in sample analysis.

As part of the 2011 drilling programme, TMI re-assayed drill core from holes ES-26 to ES-30, drilled previously by Minera Aurex (Table 11-1). Select intervals were analyzed by ALS Chemex, located in La Serena, Chile (ISO 9001:2015 Certified), for forty-eight elements using the ICP-MS61 method with a four-acid digestion. For the mineral resource estimate the ALS four-acid values were used.

Table 11-1: Re-Sample Results – 2011 Drill Core Samples

Hole ID	From (m)	To (m)	Length* (m)	ACME - ICP		ALS Chemex - ME-MS61	
				Copper (%)	Moly (ppm)	Copper (%)	Moly (ppm)
ES-26	1.65	572.85	571.2	0.15	39	0.1503	58
	44	334	290	0.23	13	0.2293	17.6
	62	90	28	0.54	20	0.56357	25.5
ES-28	0	190.2	190.2	0.18	79	0.1967	85
	44	94	50	0.4	95	0.4542	101
	58	74	16	0.67	75	0.82875	86
	134	190.2	56.2	0.17	65	0.18096	74
ES-29	0	281.45	281.45	0.02	3	0.0216	3.6
ES-30	0	220	220	0.02	3	0.017	2
	18	22	4	0.32	1	0.3195	1.8

Core samples collected during the 2011-2012 drill programme were analyzed by Andes Analytical Assay Laboratory (ISO 17025.Of2005 certified), located in Santiago, Chile. Gold was analyzed using fire assay and the AA method while silver, copper, molybdenum, and 38 additional elements were analyzed by ICP AES HF43 method with a four-acid digestion. Duplicates comprising 5% of the samples were given a different sample number and analyzed by the same lab. The quality control report did show two anomalies outside the standard error limits on gold samples, but the overall results aligned very well, as shown in Figure 11-1 and Figure 11-2. Copper samples aligned very well, and the gold anomalies could be due to nugget effect.

During the 2011-2012 drilling campaigns, the geologist on duty defined the samples to be taken and delivered the sampling plan to the assistants on duty. The assistants cut the core samples using a Husqvarna 7.5-horsepower core saw, and then bagged, labeled, and closed the samples under the supervision of the company geologist. The samples were kept in the cellar with a padlock until the date of transfer to the laboratory. Subsequently, a review of the number of samples was made, and they were placed in sacks and sent to the laboratory. The geologist on duty checked the sacks and prepared the shipping order. The samples were then shipped by the company in trucks to the AAS laboratory. All drill core boxes were individually labeled and photographed and contain the drill hole number, footage, and box number.

Figure 11-1: Analytical Results for Cu Duplicates

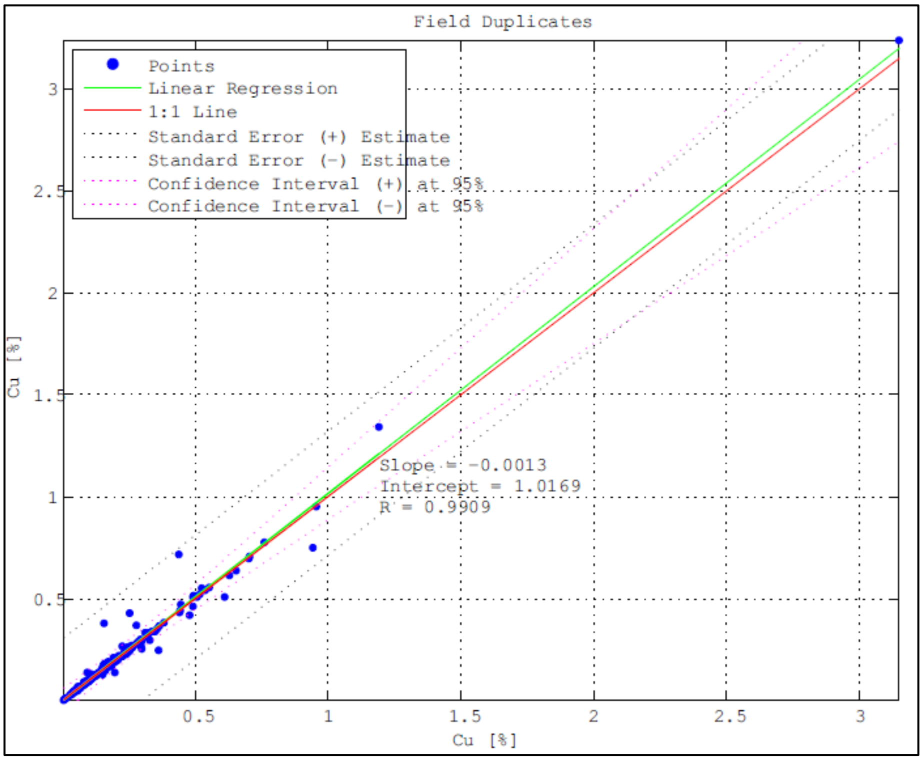
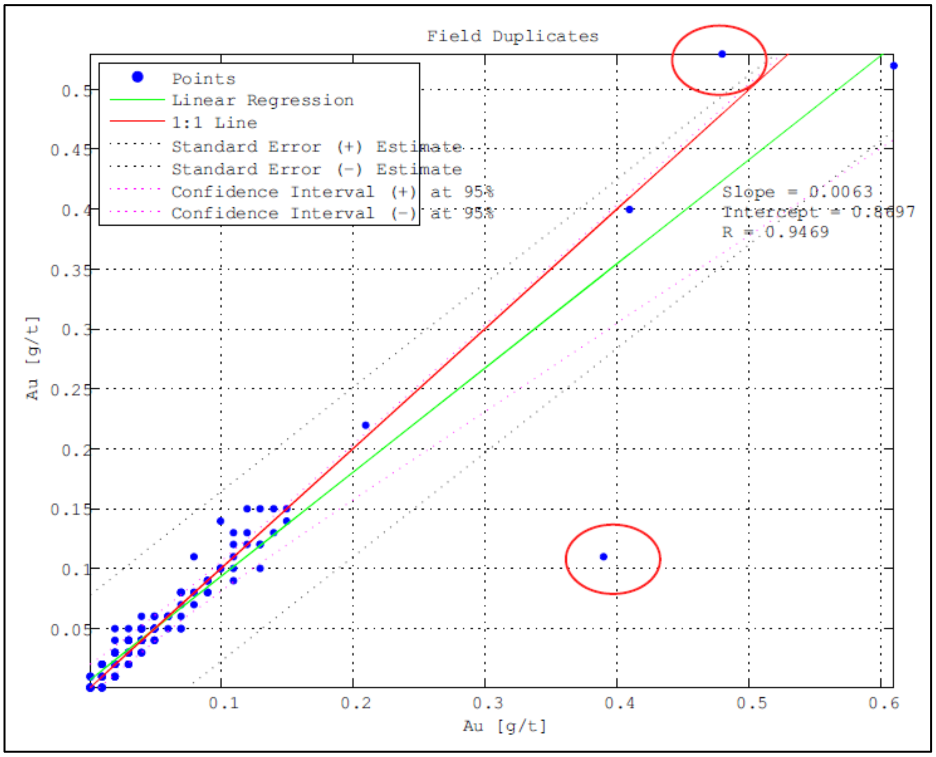


Figure 11-2: Analytical Results for Au Duplicates



Samples collected during drilling in 2012-2013 were again analyzed by Andes Analytical Assay Laboratory. Gold was analyzed using fire assay and the AA method, while silver, copper, molybdenum and 38 additional elements were analyzed by ICP AES HF43 method with a four-acid digestion. Overlimit copper (>10,000 ppm) was re-analyzed after aqua regia digestion to obtain total copper. Sample preparation was done in Andes Analytical Assay by crushing 80% passing -10 mesh on Rhino crushers (½-inch 24-channel stainless steel), and approximately 350 to 500 grams was pulverized to 95% passing -150 mesh. Duplicates comprising 5% of the samples were given a different sample number and analyzed by the same lab. During this programme, 2% of the samples were blanks and 5% were three different Standard Reference Materials from CDN Resource Laboratories Ltd. in Canada. The standards used were: CM24, medium gold, low copper; CM17, high gold, medium copper; CM15, high gold, high copper; and BL10, blank granitic material. The quality control report shows a few samples that reach warning limits for silver but none above the action limits, and the overall results are well within acceptable limits. Figure 11-3 through Figure 11-10 show the results of the control samples.

The QP considers that the sample preparation, security, and analytical procedures employed at the Project are acceptable from a relative industry standard perspective, and that the sample data are reasonably accurate and suitable for use in the estimation of mineral resources.

Figure 11-3: Analytical Results for Standard 24 Ag Results

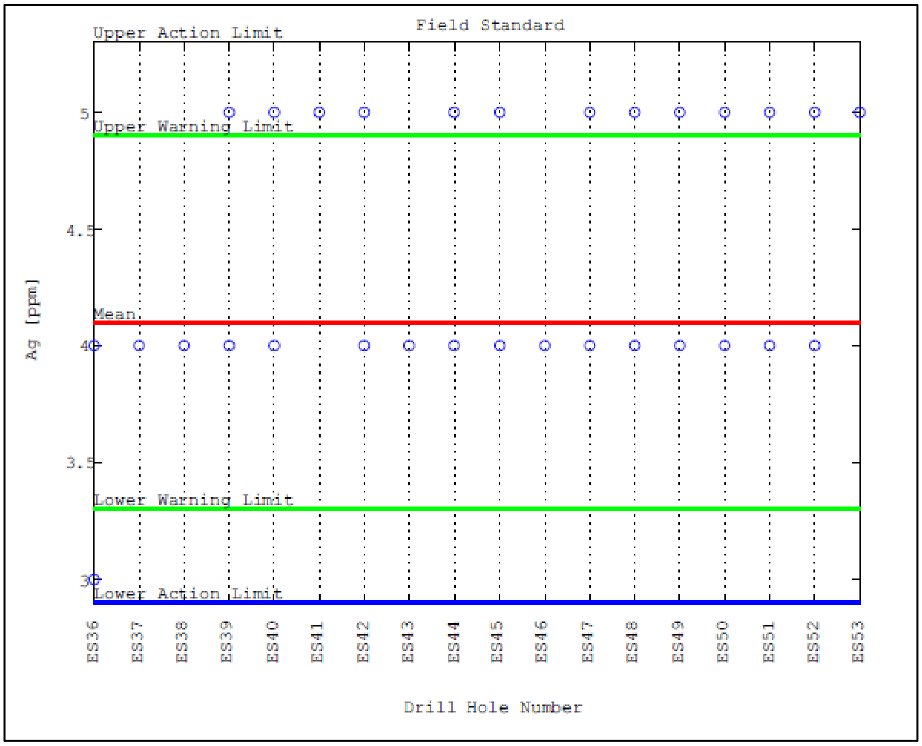


Figure 11-4: Analytical Results for Standard 24 Au Results

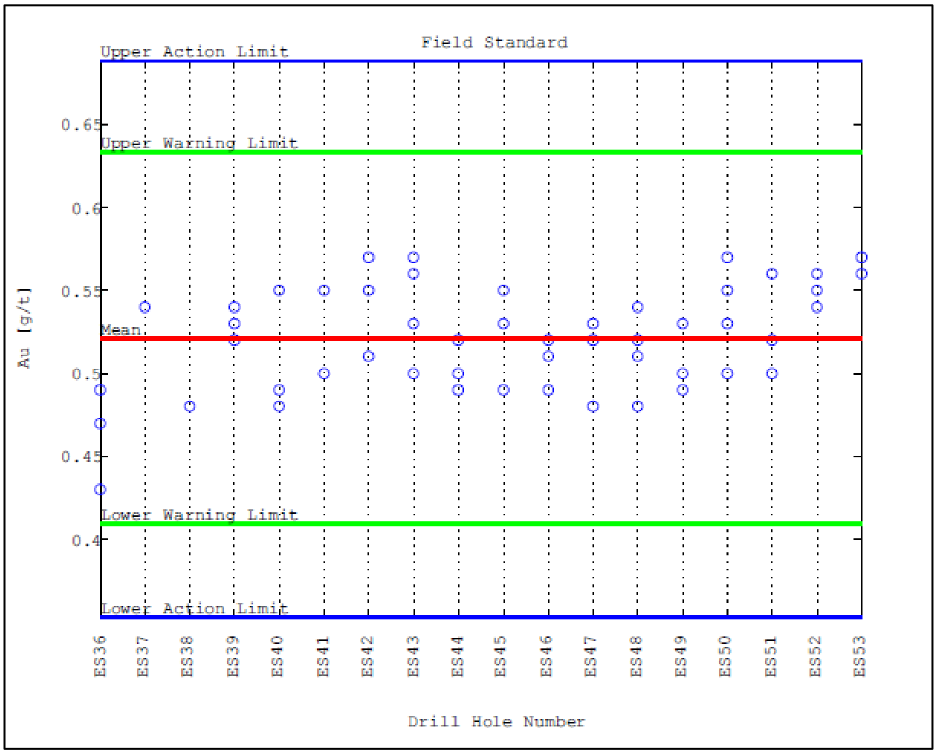


Figure 11-5: Analytical Results for Standard 24 Cu Results

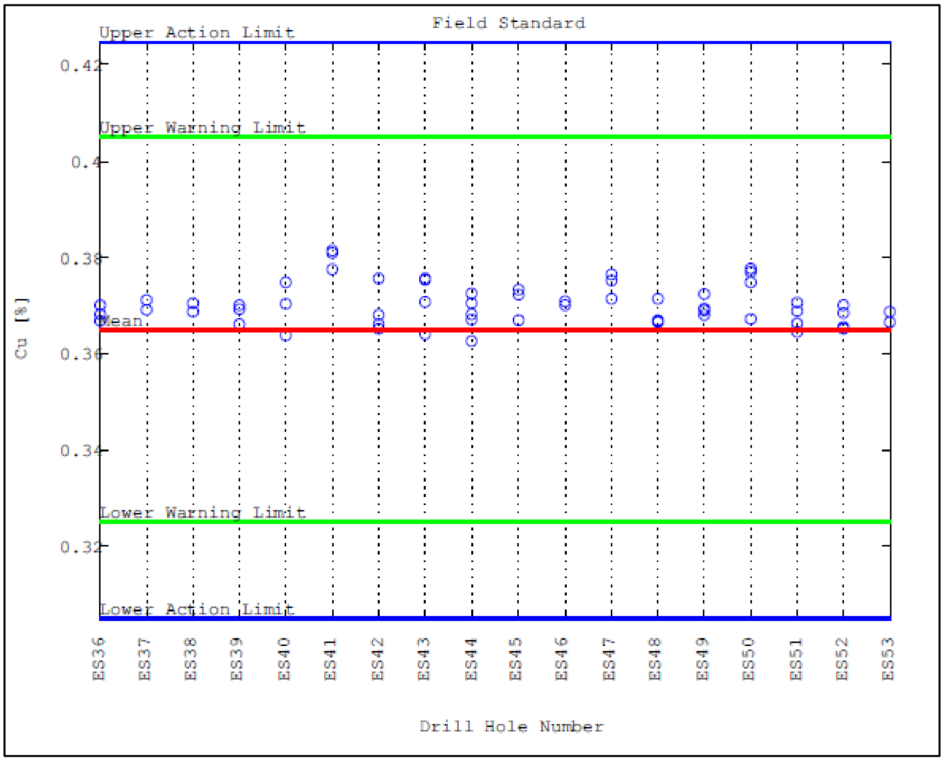


Figure 11-6: Analytical Results for Standard 15 Ag Results

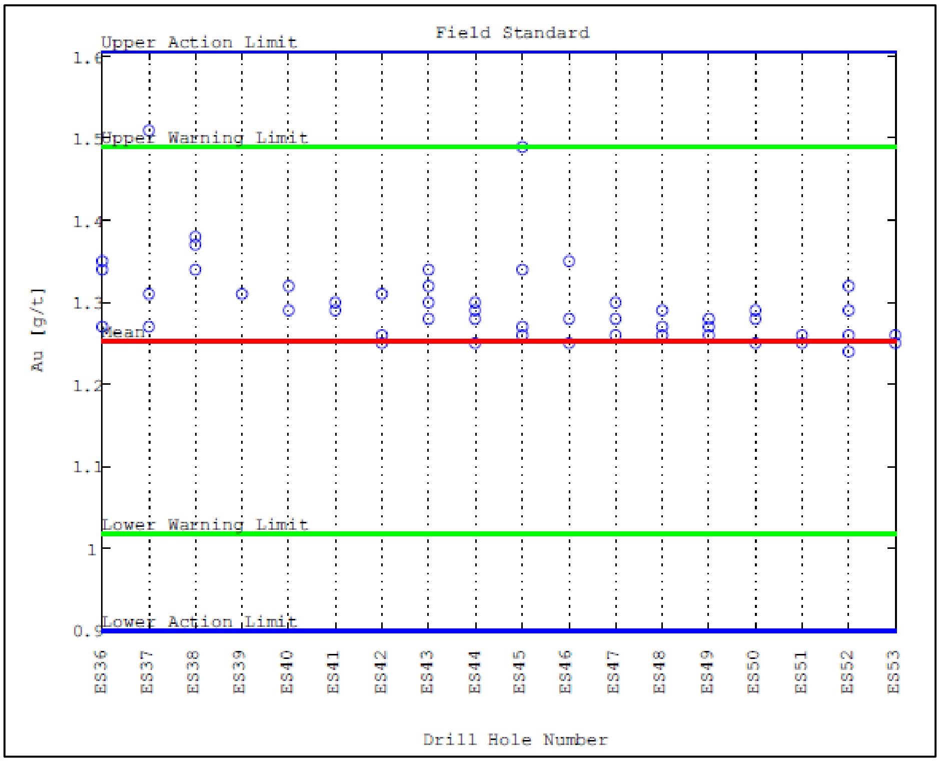


Figure 11-7: Analytical Results for Standard 24 Au Results

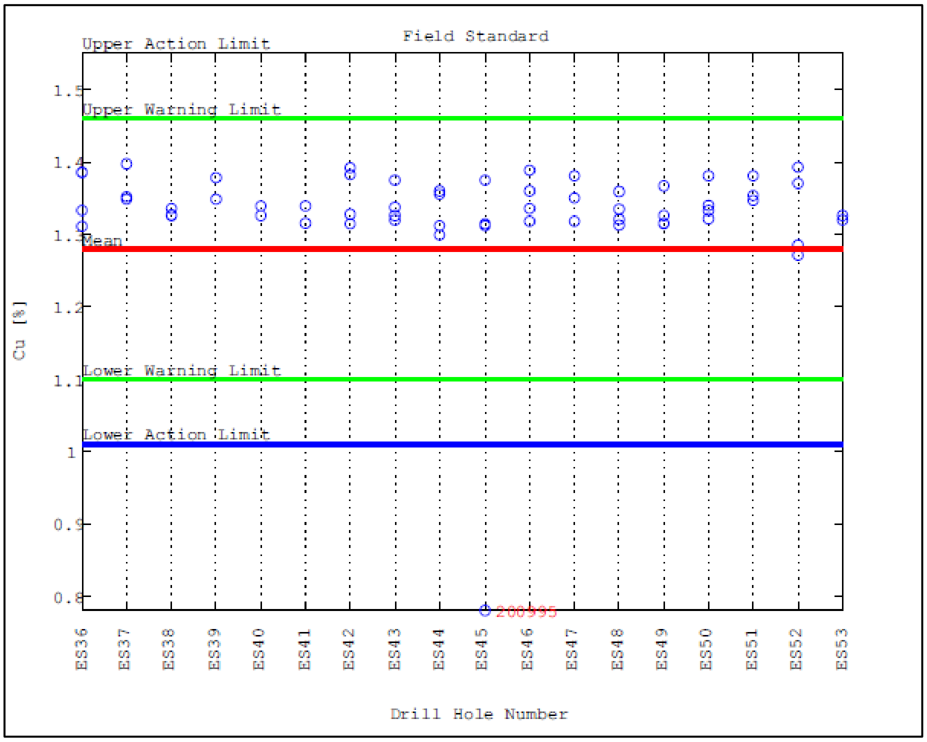


Figure 11-8: Analytical Results for Standard 24 Au Results

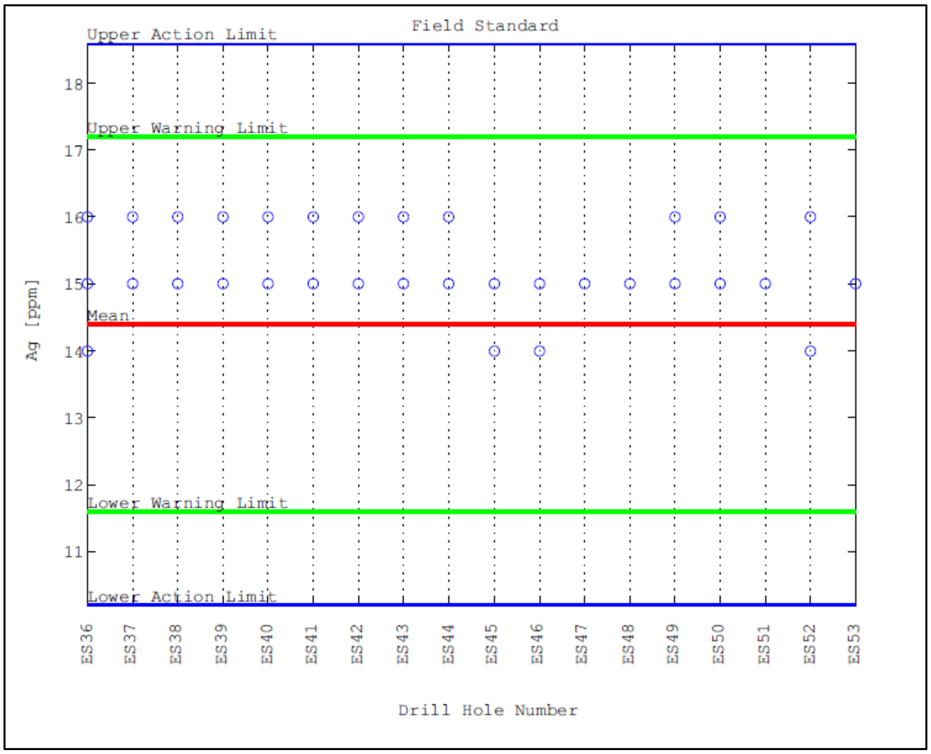


Figure 11-9: Analytical Results for Standard 24 Au Results

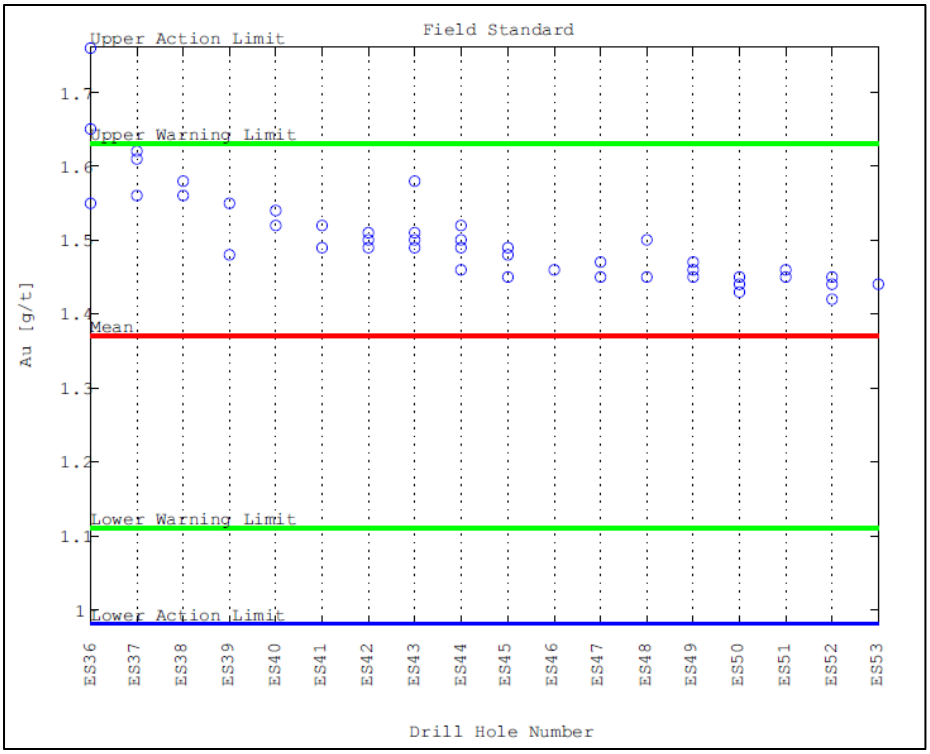
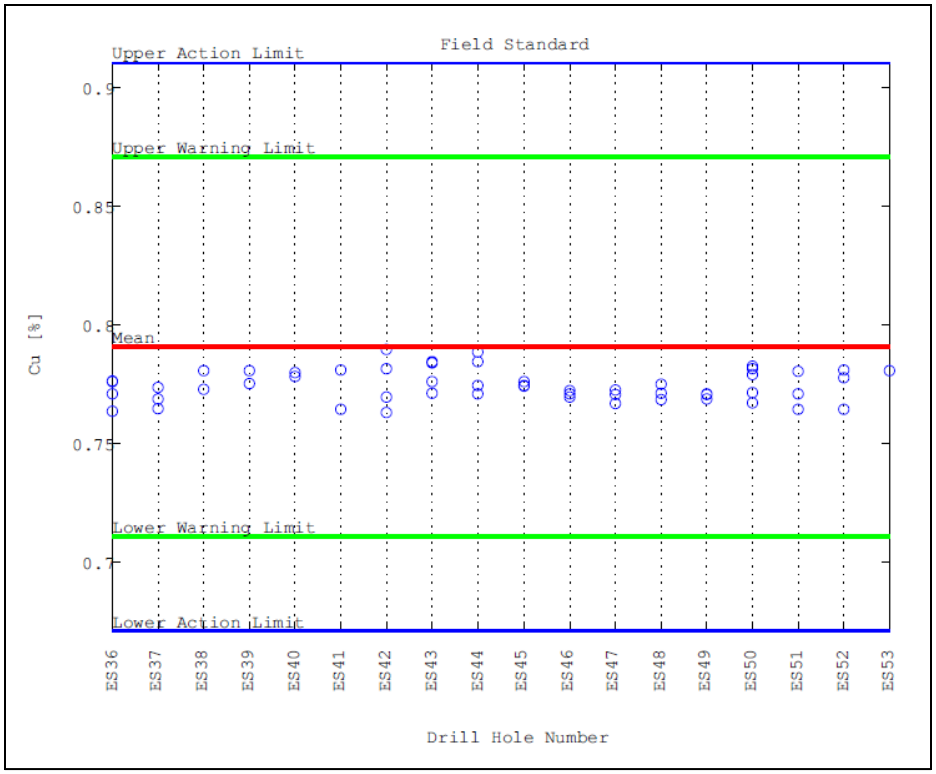


Figure 11-10: Analytical Results for Standard 24 Au Results



11.3 Sequential Leach and Acid Consumption Tests

In late 2020 and early 2021, 1,179 drill core sample pulps were pulled from storage and analyzed at ALS Laboratories in Santiago, Chile, for sequential copper leach by (AAS) methods CuCN-AN06, CuR-AN06, and CuS-AN06. The samples were selected from 18 drill holes and represent all major rock types and mineral zones, representing 2,037 metres of drill core, or about 16% of all oxidized intervals.

The sequential copper leach results were controlled by comparing the total copper by sequential leach with that by ICP-MS originally assayed by Andes Analytical Labs. Where results disagreed more than 20%, the sample and adjacent ones were re-assayed. Total copper by ICP-MS was run on every 20th sample as an additional check assay against the previous assays by various labs; results averaged ±5% of each other. A total of 40 check samples (roughly 1:30) were sent to SGS Laboratories, Santiago, for sequential leach testing, and the results were mostly in close (±3%) agreement with ALS. The 40 SGS check samples were also submitted for acid consumption tests, and an additional 27 samples were completed by ALS.

12.0 DATA VERIFICATION

12.1 2021 Site Visit

Mr. Enrique Grez Armanet completed the latest site inspection on the property for geological purposes on August 06, 2021. Mr. Grez visited the Escalones project by road through the Maipo Valley. He was able to observe the infrastructure along the valley and the access to the Project, camp, and environmental conditions of the area. Snow cover limited access to the higher-elevation roads at the site so, on August 14, 2021, Mr. Grez flew by helicopter to the Project, landing on the Meseta at the centre of the deposit. The Meseta had less than 25% snow coverage, which is exceptional for this time of the year. This allowed for a review of the geology of Escalones Alto and Meseta sectors.

The copper mineralization in the Escalones Altos Sector was found to consist of magnetite skarn with sulfides comprising chalcopyrite, pyrite, and bornite in a recrystallized limestone with contact-metamorphism minerals calcite, epidote, chlorite, quartz, magnetite, and garnet. Rocks of sandstone and siltstone protolith are transformed to hornfels of silica feldspars, epidote, and biotite, with the dissemination of pyrite, magnetite, and scarce chalcopyrite. Quartz veinlets with pyrite, chalcopyrite, and magnetite with a halo of up to 1-centimetre-wide of potassium feldspar also occur. Outcrops of the skarn show copper oxides chrysocolla, malachite, azurite, brochantite, and tenorite mixed with remnant pyrite, chalcopyrite, chalcocite, and covellite.

The Meseta was found to consist of a relatively flat plateau that has a poorly sorted detrital and moraine sediment cover that, at its edges, especially to the south, has scattered outcrops of a medium-grained granodioritic porphyry with phenocrysts 1 to 3 mm (millimetres) in diameter, which includes sub-millimetric biotite and feldspars. Veins of quartz and feldspars with some oxidized, limonitic sulfides were also observed in the rock.

The Escalones Alto and Meseta sectors have been explored with drill holes arranged on platforms aligned in a rough east-west direction and spaced approximately every 100 metres. Most of the hole collars were visible at the time of the visit. The drill holes are well established with a PVC pipe embedded in a concrete base. Most of the drill hole monuments visited have illegible identifications due to weathering. Photo 12-1 shows images of the drill-collar monuments for two drill hole locations.

To verify the name and coordinates of the drill collars, the coordinates on nine holes were taken with the help of a handheld GPS Garmin Oregon 650. This allowed Mr. Grez to identify some wells in the field and verify their coordinates; all measurements were found to be within the error of the handheld unit, ± 3.7 metres for horizontal measurements.

On August 7, 2021, a review of drill core storage facility was completed. The drill core was found to be stacked in wooden or cardboard boxes, generally in a good state of preservation and with labels perfectly legible, as shown in Photo 12-2. Review of a select group of holes allowed Mr. Grez to verify the different styles of skarn and porphyry-hosted mineralization and to compare the geology with the original drill hole mapping that was used to build the geological model and subsequently confine the mineral resource model.

Photo 12-1: Drill-Collar Monuments

Left: hole ES- 21 in the Alto zone; right: hole ES-48 on the Meseta Zone.

Photo 12-2: Core Boxes Stored in the Core Shed at San Gabriel Town

12.2 2013 Site Visit

Mr. Jeff Choquette, P.E., of HRC, visited the Escalones project site on June 4th, 2013. Several drill sites, the weather station, exploration camp, and core storage facility were all inspected during the site visit. Property information and drilling data were collected and reviewed at SASC Chile's Santiago office on June 3rd and 5th 2013. Hard copies of the original analytical sheets and other pertinent information are stored at the Santiago office in individual binders according to drill hole.

At the time of the site visit, road access was obstructed by snow cover, so the property was accessed via helicopter from Santiago to Escalones. The first area visited was the Meseta, which was mostly windblown clear of snow, revealing a few identifiable drill sites. The weather station was the only piece of equipment observed on site. From the Meseta, the helicopter flew to the exploration camp located in the valley bottom just below the project site. The exploration camp was on care-and-maintenance status for the winter, with just two people stationed on site for security purposes. All the drill core is processed and logged at the camp in two covered areas set up with logging tables.

From the exploration camp, the site visit continued down the Maipo valley roughly 45 km to a where the core is stored. The core is kept in an old storage building within a gated compound, and work is under way to expand the storage space available to include more of the building. At the core storage facility, a total of five drill holes representing each drilling phase and model domain were reviewed. The mineralized intersections were identified from cross-sections, and intervals for review were laid out in the core storage area. The assay results were compared to the associated core intervals, and random samples selected for quarter splitting were cut by the SASC Chile technicians. The quarter samples were then bagged and tagged for check assay, and the remaining quarter sample was left in the appropriate core box in the core storage. The samples selected for check assay included a mix of moderate and high-grade intervals. The samples were tagged by Mr. Choquette and remained with him for the duration of the site visit. The samples travelled back to the Santiago office with Mr. Choquette, where they were shipped via FedEx directly to his home office in Butte, Montana.

12.3 Verification by Richard Schwering

HRC received the exploration drill hole database from TMI in Excel format. The database contains data for 53 diamond drill holes (24,939 metres) and 15,656 associated assay values collected through 2013. The drill hole database includes collar coordinates, down hole survey data, assay data, lithology data, and specific gravity data. Coordinate data in the database was converted from datum Prov S. Amer 56 to WGS84. Drill hole locations were resurveyed with survey grade GPS (versus previous survey carried out with a handheld GPS unit); ten of the thirty hole locations from previous drill campaigns could not be properly located for resurvey and were mathematically transformed to the new datum.

HRC completed a cursory manual audit of the database to identify errors, overlaps, gaps, total drill hole length inconsistencies, non-numeric assay values, and/or negative numbers. No significant inconsistencies and/or errors were identified. The survey, assay, and geology tables maximum sample depths were compared to the maximum depth reported in the collar table for a random selection of drill holes, and no intervals exceeded the reported drill hole depths.

HRC received original assay certificates (Andes Analytical Assay Ltda.; Acme Analytical Laboratories, S.A.; and ALS Minerals, Chile) in pdf format for all samples included in the current drill hole database. A random manual check of greater than 2% of the database against the original assay certificates, focusing on Cu but with frequent spot checks on Au and Ag, revealed 100% accuracy for those records checked. ALS certificates of the sequential leach results were reviewed by HRC by checking 3.5% of reported values against the database, and no errors within the database were identified.

Samples selected for check assay by Mr. Choquette during the site visit were submitted to ALS Laboratories in Reno, Nevada, for duplicate analysis. The check sample and original assay values are summarized for comparison Table 12-1. The assays of the selected quarter core samples compare reasonably well to the original assays.

Table 12-1: 2013 Check Sample Results

Drill Hole	From	To	Check Sample No.	SASC Sample No.	Original Assay Values				Check Assay Values				Model Domain
					Cu%	Au ppm	Ag ppm	Mo ppm	Cu%	Au ppm	Ag ppm	Mo ppm	
ES-36	73.5	74.5	111778	114277	0.11	0.57	2.0	6	0.18	0.74	3.6	7	Leach
ES-36	135.0	137.0	111779	114315	0.63	0.12	2.0	76	0.70	0.14	0.7	98	Enrichment
ES-1	40.0	41.0	111780	46087	0.98	0.00	0.9	4	0.74	0.01	1.3	3	Skarn
ES-25	263.0	264.0	111781	72246	0.89	0.07	0.8	5	0.75	0.10	0.7	2	Prim Granodiorite
ES-37	257.3	259.0	111782	112709	0.50	0.07	1.0	34	0.44	0.03	<0.5	49	Biotite Hornfels

Verification efforts confirm that the geologic and geotechnical information, survey data, and assay values included in the Escalones database accurately represent the associated source documentation. Based on the results of the check sample programme, HRC's manual database audit, and previous verification of the database by GeoVector Management (2012), HRC considers the data included in the database to be sound and sufficient for use in estimating the mineral resources of the Escalones project.

12.4 Verification by Dr. Todd Harvey – Metallurgy QP

Metallurgical testing was completed for the Escalones project by a number of well-known commercial metallurgical laboratories and operating mines from 2012 to 2020. Dr. Harvey reviewed all available metallurgical reports. Dr. Harvey reviewed the sample selection and compositing used in the metallurgical test work and found that the selection of samples provided a broad representation of the deposit and geology. The test work is preliminary in nature and provides initial insight into the applicability of acid heap leaching for this deposit. Dr. Harvey reviewed the grades of the various samples selected for testing and verified the grade of material tested represents a spread of grades from very low grade to high grade that is typical for the grades found in the Escalones deposit. Dr. Harvey verified the metallurgical test work and samples to be representative spatially for this deposit as well. Dr. Harvey while performing his data analysis performed several mathematical tests to validate the metallurgical balances presented in the test work and he found the data presented in the metallurgical reports to be consistent with practices performed by reputable independent test laboratories. Dr. Harvey confirmed that the mineralization found at the Escalones Project is similar to mines where Dr. Harvey has performed other consulting work and finds that the test work for Escalones shows that the material behaves in a very similar manner, specifically in copper recovery and reagent consumption for the types of tests undertaken.

Given the similarities of the Escalones material to other similar operations, this provides a basis for benchmarking the metallurgical test work to actual acid heap leach mines for validating the finding of the test work. His complete discussion of the test work is provided in Section 13.0. The work appears to be professionally completed and is well documented but is preliminary in nature. The estimated copper extractions are based on Dr. Harvey's experience and have been put forward to allow for a preliminary analysis of the project.

12.5 Verification by Ms. Terre Lane – Mine Planning and Evaluation QP

Ms. Lane visited the site and core shed on February 10, 2022 and previously visited the site numerous times in the mid to late 1990s while employed as VP Engineering for General Minerals Corp. (GMC). Ms.

Lane viewed infrastructure, the camp, condition of access roads, and core that was drilled by GMC during her tenure with GMC, and core drilled by South American Silver subsequently.

Ms. Lane received the resource model from HRC, loaded it into GRE's computers, confirmed that we obtained the same statistical results HRC obtained, reviewed the geology, grade estimates relative to drill holes, and used the model as provided by HRC.

Visual and statistical verification of the resource block model prepared by HRC was performed by Ms. Lane of GRE by stepping through the model in section and in plan, to determine if the block model matched the geological interpretation and the rock types presented in the geological sections of this report. The block model was determined to properly corollate to the mapped and interpreted rock types. The model was also checked to ensure that blocks were properly projected to the topographic surface. The block size was evaluated to determine if the block size was an appropriate size for use as the selective mining unit for bulk open pit production and mine planning, the 10-metre by 10-metre by 10-metre blocks are felt to be appropriate for the mineralization type and the likely mining method and production rate. Ms. Lane of GRE then used the block model to create the mine plan, production schedule, and economic analysis for the Escalones Project. Mining and processing methods, costs, and infrastructure needs were verified by comparison to other similar sized open pit heap leach mines operating in Chile and experience of the QPs, (Ms. Lane and Dr. Harvey). Costs were developed from vendor quotations and comparisons to published and internal data used by the QPs in the preparation of similar studies. Costs were benchmarked to similar nearby operations, and unit costs of major consumables were also benchmarked to nearby operations. Other cost data used in the report was sourced from the most recent Infomine cost data report. All costs used in the analysis were verified and reviewed by Ms. Lane and were assessed to be current and appropriate for use. Finally, after the economic study was performed, the overall operating costs for different aspects of the operation (mining, process, and general & admin) were benchmarked against similar sized mines and recent feasibility studies to determine if they were similar, the results did benchmark well to other operations and economic studies. The taxation rates used and applied were values available from Chile government sources at the time of the economic analysis. A geotechnical analysis of pit slopes has not been prepared for the Project, so an assumption of 50 degrees was used for inter-ramp pit slope angles. This slope angle value is consistent with other shallow pits for this rock type and alteration type. Given the near surface nature and low strip ratio, there is a low risk in using this slope angle at this level of study. The topography used in the pit designs was the same as used by Mr. Schwering of HRC and was reviewed in comparison to local topography available on the Internet such as Google Earth.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

The majority of the laboratory test work for the Escalones project has been focused on the sulfide portion of the deposit with the goal of producing copper and molybdenum flotation concentrates. This report is focused on the exploitation of the oxide and transitional portions of the deposit through the use of sulfuric acid heap leaching; therefore, only the relevant test work reports and data are referenced.

The following relevant reports/data have been used for this report:

- 2012 SGS Canada Report titled "*An Investigation into Extracting Copper, Gallium and Molybdenum from Escalones Ore Samples*" (SGS Canada, 2012)
- April 2013 SGS Canada report titled "*An Investigation into the Recovery of Copper, Gold and Molybdenum from Escalones Ore Samples*" (SGS Canada, 2013a).
- October 2013 SGS Canada report titled "*An Investigation into the Recovery of Copper, Gold, and Molybdenum from Three Additional Samples from the Escalones Deposit*" (SGS Canada, 2013b)
- December 2020 ALS Laboratory sequential copper assays, no formal report was produced but the data was provided.

13.1 Executive Summary

The completed test work data does not include any column leach tests; as a result, estimating the performance of the proposed heap leach is a challenge. The current data provides good insight into the acid solubility of the mineralized materials through acid bottle roll leach tests, but associated column tests are needed to accurately estimate the scale factors required to derive the ultimate heap leach copper extractions.

Acid bottle roll tests showed copper extractions ranging from 78% to 96% for P_{80} 50 µm (micron) ground samples and from 80% to 90% for P_{80} 1.8-mm crushed samples. Sequential copper assays, completed on 75-micron material, indicate that the "oxide" samples had a weighted average copper extraction of 81% (acid and cyanide soluble). Although the data set is not very large, there is an indication that increasing sulfide grade negatively impacts the acid copper extraction, as would be expected.

Based on the data provided and GRE's experience, GRE QP Dr. Harvey has recommended using an estimated copper extraction of 72.5% for finely crushed material placed on the heap leach for evaluation purposes. The annual extraction of fresh material placed on the heap has been scaled at 75%, 20% and 5% of the ultimate copper extraction for year 1, year 2, and year 3, respectively. An acid consumption of 15 kg/tonne has been used in the evaluation.

A comprehensive metallurgical test programme is recommended to continue the evaluation of the potential for heap leach treatment. This programme should include bottle roll leach tests in conjunction with column leach tests. The variables that should be examined include grade, resource spatial distribution, mineralogy, and particle size. Additionally, these tests should include both conventional acid leaching and bioleaching.

Escalones appears to be a typical Chilean copper deposit in that there are both hypogene and supergene zones. With these deposits, the transition zone between primary sulfide minerals (hypogene) and oxides (supergene) often represents the greatest metallurgical challenge. Within a bioleach environment, the potential exists to achieve improved copper extractions of the associated secondary copper sulfides

13.2 SGS 2012

The 2012 programme was focused on the recovery of copper, gallium, and molybdenum into flotation concentrates from four core samples. Hydrometallurgical tests were performed on eight ore samples to determine the applicability of several leach processes in extracting copper and gallium. Table 13-1 shows the sample locations and initial assays.

Table 13-1: Samples SGS 2012

Sample	DDH	Category	From (m)	To (m)	%Cu
73907	ES-1	Escalones Alto - copper sulfide magnetite skarn	118	119	0.778
			119	120	1.008
			120	121	0.299
			121	122	0.250
			122	123	0.443
			123	124	0.624
			124	125	0.410
73906	ES-7	Escalones Alto - copper garnet skarn	16.00	17.00	0.740
			17.00	18.00	1.576
			18.00	19.00	1.010
			19.00	20.00	0.477
			20.00	21.00	0.399
			21.00	22.00	0.528
			22.00	23.00	0.688
			23.00	24.00	1.279
			24.00	25.00	0.441
			25.00	26.00	1.126
73905	ES-25	Porphyry Copper - mostly oxide	121.00	122.00	0.710
			122.00	123.00	2.473
			123.00	124.00	1.554
			124.00	125.00	0.351
			125.00	126.00	0.548
73908	ES-25	Porphyry Copper - sulfide	337.00	338.00	0.319
			338.00	339.00	0.300
			339.00	340.00	0.378
			340.00	341.00	0.370
			341.00	342.00	0.318
			342.00	343.00	0.307
			343.00	344.00	0.361
			344.00	345.00	0.286

Sample	DDH	Category	From (m)	To (m)	%Cu
75495	ES-26	Biotite hornfels - medium copper oxide & moderate gallium	106.00	108.00	0.148
			108.00	110.00	0.210
			110.00	112.00	0.313
			112.00	114.00	0.243
			114.00	116.00	0.255
			116.00	118.00	0.097
			118.00	120.00	0.178
			120.00	122.00	0.388
			122.00	124.00	0.207
			124.00	126.00	0.041
			126.00	128.00	0.101
			128.00	130.00	0.199
			130.00	132.00	0.071
			132.00	134.00	0.166
75496	ES-26	Biotite hornfels - low copper oxide & moderate gallium	154.00	156.00	0.081
			156.00	158.00	0.184
			158.00	160.00	0.261
			160.00	162.00	0.175
			162.00	164.00	0.112
			164.00	166.00	0.061
			166.00	168.00	0.050
			168.00	170.00	0.054
			170.00	172.00	0.075
75497	ES-28	Biotite hornfels - high copper oxide & moderate gallium	46.00	48.00	0.320
			48.00	50.00	0.381
			50.00	52.00	0.329
			52.00	54.00	0.738
			54.00	56.00	0.279
			56.00	58.00	0.856
			58.00	60.00	1.385
			60.00	62.00	0.294
			62.00	64.00	0.808
			64.00	66.00	0.700
			66.00	68.00	0.325
			68.00	70.00	0.713
			70.00	72.00	1.270
			72.00	74.00	1.135
75498	Surface	Magnetite skarn - very high gallium & copper	East	North	%CU
			411,920	6,225,322	4.47
			411,919	6,225,320	6.31
			411,921	6,225,319	2.95
			411,922	6,225,316	1.12
			411,922	6,225,314	3.18
			411,922	6,225,312	2.33
			411,921	6,225,310	2.03
			411,921	6,225,308	1.845
			411,920	6,225,306	0.908

13.2.1 Mineralogy/Chemical Characterization

The eight core samples received are labeled as 75495, 75496, 75497, 75498, 73905, 73906, 73907, and 73908. Head assays were performed on these samples via Inductively Coupled Plasma (ICP) spectroscopy. The head assay results can be seen in Table 13-2.

Table 13-2: Head Assays of the Eight Sample Received

Sample ID	75497	75496	75495	75498	73905	73906	73907	73908
Fe, g/t	37,400	31,900	27,300	440,000	19,500	127,000	177,000	19,400
Cu, g/t	4,380	1,270	1,900	32,000	10,500	8,740	5,480	2,690
Ga, g/t	17.1	16.9	14.9	129	17.3	41.8	14.5	16.8
Ag, g/t	1.3	<0.5	<0.5	22	1.8	7.6	3.4	1.5
Au, g/t	0.04	<0.02	0.02	1.43	0.11	0.26	0.1	0.05
In, g/t	<0.2	<0.2	<0.2	0.5	<0.2	3.3	1.3	<0.2
Al, g/t	85,000	80,600	81,800	11,900	77,000	40,400	36,000	78,900
As, g/t	20	<10	<10	<10	<10	64	<10	<10
Ba, g/t	364	424	456	13.9	472	17.4	29.5	503
Be, g/t	1.12	1.48	1.36	8.97	1.14	0.9	0.98	1.04
Bi, g/t	3.5	<0.6	<0.6	36	0.7	5.4	1.3	<0.6
Ca, g/t	15,100	7,650	12,800	18,300	19,400	184,000	126,000	16,900
Cd, g/t	0.3	<0.2	<0.2	<0.2	<0.2	0.4	0.2	<0.2
Co, g/t	13	8.7	9	19.8	9.9	11.7	69.7	8.1
Cr, g/t	90	72	121	18	131	81	87	98
K, g/t	19,600	35,600	30,600	3,530	14,400	1,680	920	12,900
Li, g/t	<20	<20	<20	<20	<20	<20	<20	<20
Mg, g/t	15,500	18,100	14,900	35,300	13,600	5,720	11,000	14,100
Mn, g/t	84.3	138	125	113	144	1250	1110	82.3
Mo, g/t	123	11.4	15.7	15.6	5.3	66.1	43.7	9.7
Na, g/t	24,500	18,200	25,000	650	33,500	4,490	4,080	38,100
Ni, g/t	23	15	13	145	25	25	24	24
P, g/t	1,280	681	668	4,570	496	16,700	4,480	526
Pb, g/t	19	4.8	4.9	9.3	4.6	4.8	2.3	4.2
Sc, g/t	25	<0.8	0.8	1.5	3.5	<0.8	<0.8	<0.8
Se, g/t	<10	<10	<10	<10	<10	<10	21	<10
Sn, g/t	3	4	4	9	<2	15	11	<2
Sr, g/t	344	161	195	18.2	428	49.1	61.4	502
Ti, g/t	3,670	3,560	3,780	671	2,940	2,100	2,240	2,730
Tl, g/t	<0.4	0.6	0.5	<0.4	<0.4	<0.4	<0.4	<0.4
U, g/t	1	0.6	0.6	6.9	0.5	18.8	4.9	<0.4
V, g/t	102	84	94	119	78	93	63	83
Y, g/t	14	25.2	22.8	7	11.4	23.8	17.6	6.8
Zn, g/t	54	20	14	112	20	97	44	18
pulp Ph	3.91	6.3	7.43	4.72	6.74	7.01	4.85	7.15
S= %	0.74	0.14	0.25	0.48	0.09	0.51	5.88	0.16

Sample ID	75497	75496	75495	75498	73905	73906	73907	73908
S %	1.79	0.44	0.49	2.39	0.58	1.07	7.05	0.21
Cu Total, %	0.438	0.127	0.19	3.2	1.05	0.87	0.55	0.27
Cu Oxide as Cu %	0.4	0.093	0.13	2.3	0.85	0.32	0.18	0.06
Acid Soluble Cu %	0.4	0.095	0.13	2.34	0.77	0.33	0.2	0.08
Cu Sulphide as Cu, %	0.038	0.034	0.06	0.9	0.2	0.554	0.368	0.212
Cu as Sulphide over Total Cu, %	9%	27%	32%	28%	19%	63%	67%	79%

* Italicized if calculated

The eight core samples were also subjected to Quantitative Evaluation of Materials by Scanning Electron Microscope (QEMSCAN) to provide bulk mineralogy. The QEMSCAN/Mineralogical results are presented in Table 13-3. Chalcopyrite and pyrite association are shown in Figure 13-1 and Figure 13-2, respectively.

Table 13-3: Mineralogical Results, Mass %

Mineral	**Sample ID**							
	75495	**75496**	**75497**	**75498**	**73905**	**73906**	**73907**	**73908**
Chalcopyrite	0.2	0.1	0.4	1.6	0.4	0.6	1.1	1.1
Cu-Oxide	0.1	0.0	0.0	0.0	0.9	0.0	0.0	0.1
Fe-Oxide low Cu	0.3	0.2	0.5	4.6	0.9	0.6	0.6	0.2
Pyrite	2.4	0.8	4.0	1.4	0.2	0.4	5.6	0.0
Other Sulphides	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fe-Oxides	0.4	0.2	0.4	7.3	0.3	1.8	7.0	0.4
Garnet	0.2	0.1	0.2	5.4	0.1	6.0	4.0	0.1
Quartz	29.5	31.2	29.6	1.4	8.4	5.7	15.6	28.1
Plagioclase	27.2	16.5	1.1	0.1	5.6	7.6	3.0	0.2
K-Feldspar	1.7	6.9	0.0	0.9	0.4	0.2	0.2	0.6
Chlorites	2.3	3.1	3.2	0.0	2.7	1.9	3.3	1.3
Micas	16.7	20.9	13.5	0.7	11.9	0.2	0.4	12
Clays	0.8	0.9	0.6	0.2	0.0	0.3	0.9	0.3
Calcite	0.3	0.1	0.0	0.7	0.1	0.1	0.4	0.1
Apatite	0.2	0.2	0.1	0.7	0.2	0.1	0.8	0.2
Gypsum	0.5	0.2	0.3	0.5	0.5	0.5	0.3	0.1
Talc	0.0	0.1	0.1	0.4	0.0	0.4	0.9	0.0
Jarosite	0.0	0.2	0.2	0.5	0.2	0.1	0.3	0.0
Ti-Minerals	0.3	0.2	0.3	0.1	0.2	0.2	0.8	0.2
Other Sulphides	0.1	0.1	0.5	0.5	0.0	2.4	0.7	0.0

Figure 13-1: Chalcopyrite Association in the Eight Core Samples

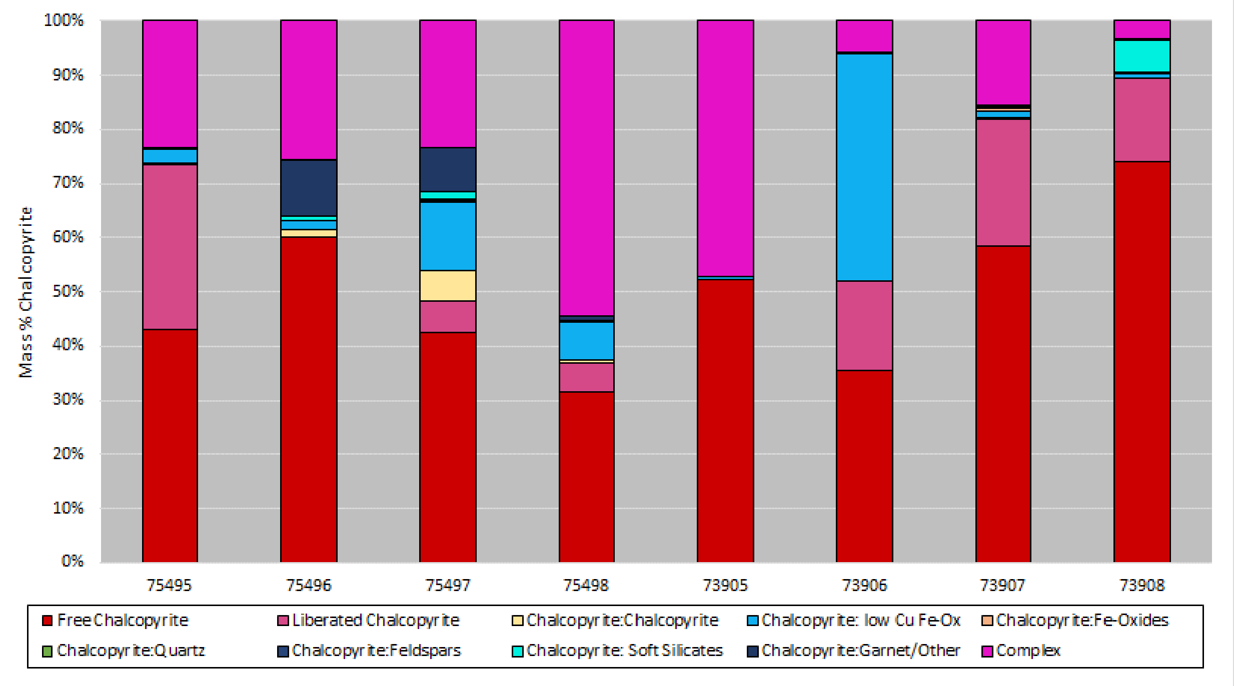
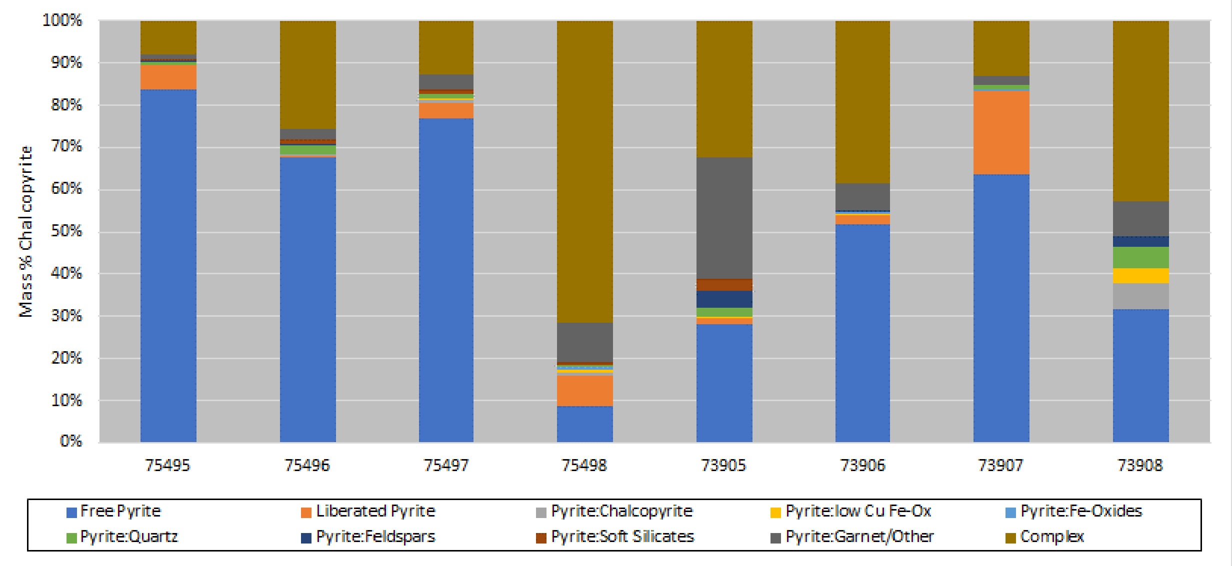


Figure 13-2: Pyrite Association in the Eight Core Samples



13.2.2 Leach Testing

A series of bottle roll leach test were conducted on the samples. Several of these leach tests are not relevant to the current flowsheet, so only summaries have been provided for those tests. A grind of 80% passing 50 µm was targeted for leaching test work. Leaching test work was performed on all eight received ore samples. Four leaching approaches were investigated:

- Hydrochloric acid leaching in a high chloride brine using sodium hypochlorite as oxidant
- Sulphuric acid leaching at pH 1

- Sulphuric acid leaching in a high chloride brine at pH 1 using air as oxidant
- Caustic leaching

Test conditions for each leaching method are detailed in Table 13-4.

Table 13-4: Leach Test Conditions Summary

Test Series	Sulfuric Acid Leaching	Chloride Leaching	Caustic Leaching	Sulfuric Acid - Chloride Leaching
Leaching Reagent	sulfuric acid	100 g/L HCl, 3 M NaCl	2 M NaOH	H_2SO_4, 4 M NaCl
Oxidant	none	NaOCl	none	air
Time, h	24	96	8	8
Temperature, °C	not controlled	80	95	80
Initial Pulp, % solids	15	15	15	15
Target pH	1	none	none	1
Other	pH controlled/ ORP Controlled			pH controlled

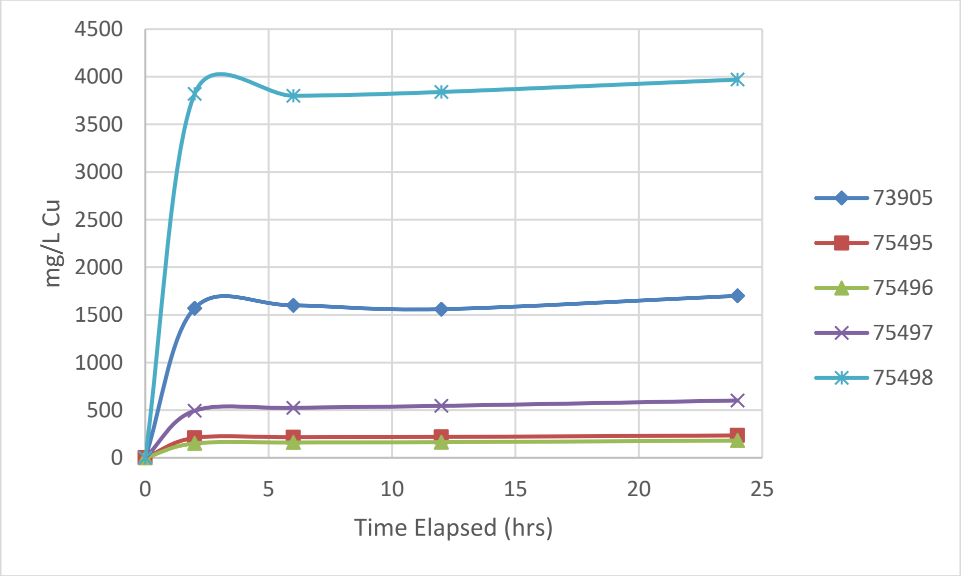
Sulphuric acid leaches were performed on five of the received samples (73905 and 75495 through 75498). A mild sulphuric acid leach test was first performed on ore sample 73905 because of its high copper oxide content. After the high acid consumptions resulting from the hydrochloric-chloride leaches, it was decided that samples 75495 to 75498 should also be leached in mild sulphuric acid conditions. In these tests, samples were leached for 24 hours at ambient temperature (no control) in a mild sulphuric acid solution. The pH of the pulp was maintained at pH 1 using sulphuric acid. The conditions and extractions from these tests are summarized in Table 13-5. The standard sulfuric acid leach test achieved average copper extraction of 77% from mixed copper oxide/sulfide mineralization.

Table 13-5: Conditions & Extractions of Sulphuric Acid Leach Tests, pH Controlled

Sample ID	73905	75495	75496	75497	75498
Test ID	CuOx1	CuOx2	CuOx3	CuOx4	CuOx5
Time, h	24	24	24	24	24
Initial Pulp, % solids	15	15	15	15	15
Target pH	1	1	1	1	1
Acid Consumption, kg/tonne	107	33	33	44	147
Solids Weight Loss, %	9.6	3.5	3.2	4.6	9.6
Final Pulp, % solids	13.1	14.8	14.8	14.6	13.7
S=	0.09	0.25	0.14	0.74	0.48
	Extraction				
% Fe	51	16	15	11	5
% Cu	96	66	74	72	78
% Ga	12	3	4	3	15

Copper extraction ranged from 66 % to 96 %, with the highest result originating from the high copper oxide sample. The copper solution assays for all five tests are presented in Figure 13-3.

Figure 13-3: Copper Solution Assays in Sulphuric Acid Leach Tests



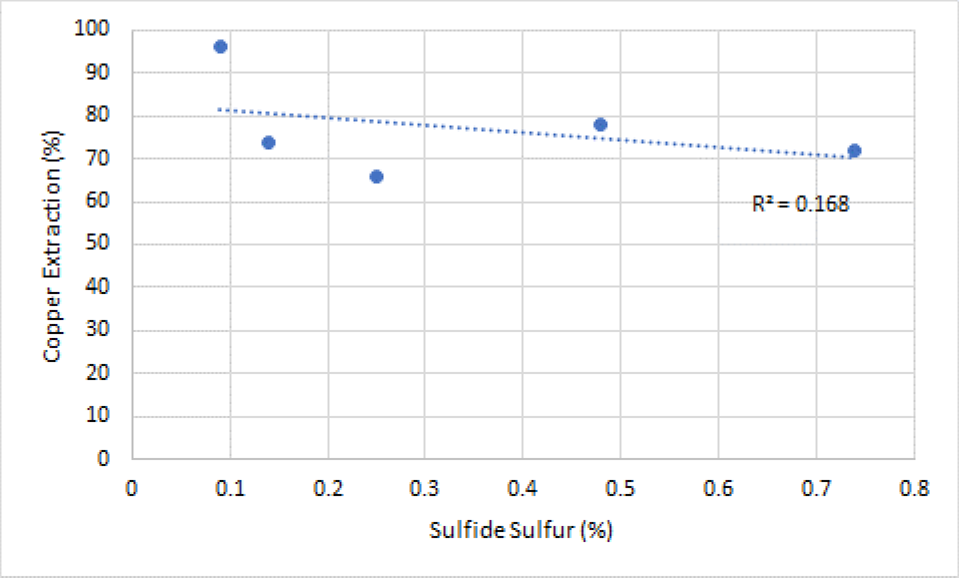
Most of the copper was leached within the first two hours of the tests. Acid consumptions are presented in Table 13-6.

Table 13-6: Sulfuric Acid Leach Test Acid Consumption

Test ID	73905 CuOX1	75495 CuOX2	75496 CuOX3	75497 CuOX4	75498 CuOX5
Acid Consumption (kg/tonne)	107	33	33	44	147

Acid consumptions were less than 50 kg/tonne for three of the five samples; acid consumption exceeded 100 kg/tonne for the other two samples. Solution samples were taken after 2, 6, and 12 hours to provide kinetic data. Figure 13-4 shows the relationship between sulfide sulfur grade and the copper extraction in the leach tests. There is not enough data to show a statistical significance, but the trend of higher copper extraction with lower sulfide sulfur grade is evident.

Figure 13-4: Relationship Between Sulfide Sulfur and Copper Extraction



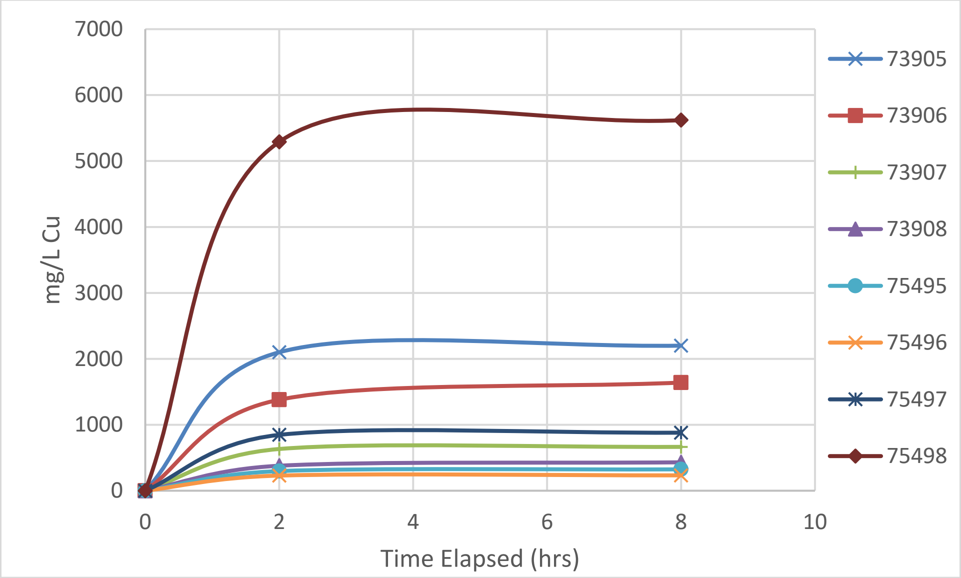
The samples also underwent leaching in sodium chloride (NaCl) and sulphuric acid (H_2SO_4). The lixiviant used was a solution of 4 M sodium chloride adjusted to pH 1 with sulfuric acid. The pH of the pulp was maintained throughout the test at pH 1 using sulfuric acid. Air was sparged into the pulp to promote oxidizing conditions. Table 13-7 presents the extraction results.

Table 13-7 Leach Extraction Sulfuric Acid - Chloride Brine

Sample ID	75498	73906	75495	75496	75497	73905	73907	73908
Test ID	AL1	AL2	AL3	AL4	AL5	AL6	AL7	AL8
%Iron (Fe)	7	12	54	33	31	61	46	4
%Cu	95	86	82	88	90	97	80	49
%Ga	14	40	25	12	5	7	8	3

Copper extractions were greater than 80% in all samples tested with the exception of 73908, where copper extraction was only 49%. Kinetic samples of the pulp were collected after 2 hours at temperature using a syringe. Copper solution assays are presented in Figure 13-5.

Figure 13-5: Copper Solution Assays of Sulphuric Acid in Chloride Brine Test



Acid consumptions ranged from 63 to 239 kg/tonne, as shown in Table 13-8 .

Table 13-8: Acid Consumptions for Sulfuric Acid-Chlorine Brine Leach Test

Sample ID	75498	73906	75495	75496	75497	73905	73907	73908
Test ID	AL1	AL2	AL3	AL4	AL5	AL6	AL7	AL8
Acid Consumption (kg/tonne)	239	88	132	89	117	136	76	63

The copper extractions in the sulfuric-brine system did not show the same dependency on the sulfide grade as in the previous sulfuric only system. Sulfide grades ranged from 0.09% to 5.88% in the samples tested.

Hydrochloric acid leaching was performed on four of the received samples (75495 through 75498). The samples were leached for 96 hours at 80°C in a 100 g/L HCl and 3 M sodium chloride lixiviant. A 12% sodium hypochlorite (NaOCl) oxidant was used. Samples were taken at 12, 24, and 48 hours to determine reaction kinetics. In all cases, the copper extraction exceeded 99%.

Caustic leach tests were performed on all eight of the received samples to determine if gallium extractions could be improved. Samples were leached in 2 M sodium hydroxide at 95°C for 8 hours. Copper extractions were generally low, with the highest being 36%. Gallium extractions were less than 15% for all samples except for 73906 which reached 63%.

No data was provided as to the origin of the samples employed for this test work; however, based on the sulfide assays, the majority of this material would be considered a primary sulfide suitable for flotation recovery. This project is focused on the oxide and transitional minerals associated with the deposit.

13.3 SGS April 2013

A second set of composite samples were sent to SGS for further metallurgical testing in April 2013. Six composites comprising 510 kg of material were made from 18 split-core samples taken from a variety of mineralization zones and included oxidized material near surface to sulphide mineralization at depth. Table 13-9 shows the samples as received and their respective composite samples. Unfortunately, none of this test work is applicable to the current flowsheet, but the assay and mineralogical data has been included for completeness.

Table 13-9: Samples SGS April 2013

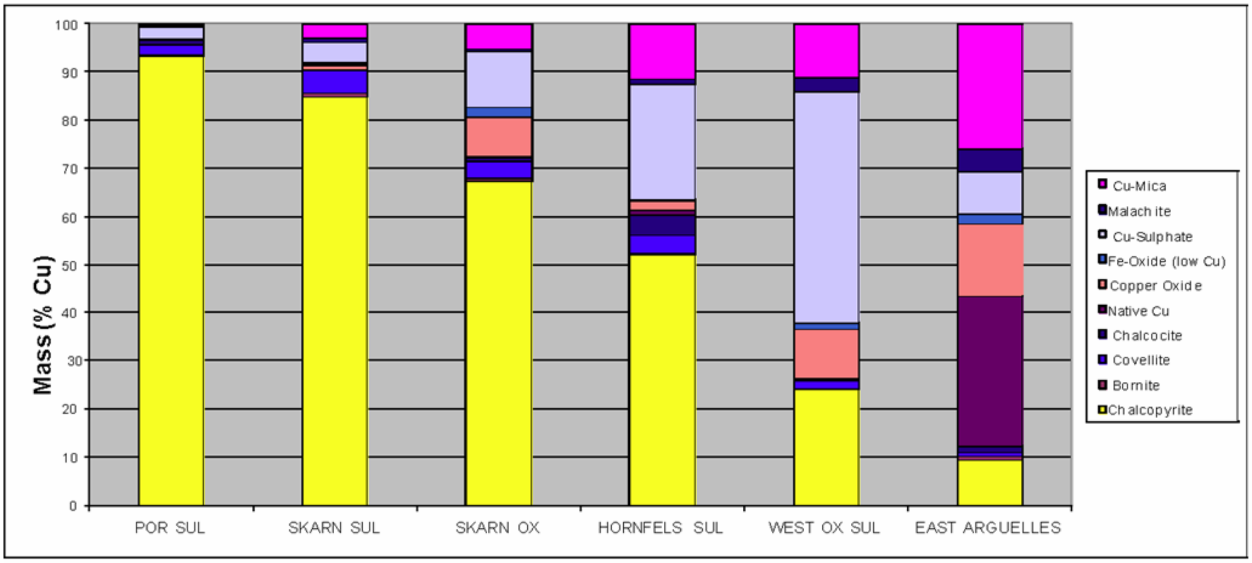
Category	DDH (from to)	MET Sample	Weight (kg)	Assays (from Client)		
				%Cu	%Mo	ppm Au
Porphyry Sulphide	ES-31 (259 to 287.5 m)	114129	27.55	0.31	0.002	0.02
	ES-31 (698 to 727.5 m)	114130	27.65	0.47	0.004	0.01
	Sub Total		55.20	0.39	0.003	0.01
Skarn Sulphide	ES-19 (353 to 369 m)	114136	26.15	0.68	0.008	0.04
	ES-04 (247 to 265 m)	114132	26.05	0.84	0.016	0.08
	ES-10 (115 to 135 m)	114134	25.15	0.85	0.008	0.17
	ES-21 (106 to 136 m)	114137	27.25	0.61	0.002	0.24
	ES-11 (169 to 182 m)	114135	18.35	1.91	0.004	0.22
	ES-35 (447.5 to 465.5 m)	114139	27.15	1.27	0.001	0.04
	Sub Total		150.10	0.98	0.007	0.13
Skarn Oxide	ES-04 (8.2 to 14 m)	114131	16.75	1.34	0.007	0.02
	ES-10 (37 to 53 m)	114133	27.15	0.84	0.002	0.13
	ES-23 (47 to 86 m)	114138	26.65	0.98	0.006	0.18
	Sub Total		70.55	1.01	0.005	0.12
West Oxide Sulphide	ES-26 (62 to 90 m)	114140	26.75	0.56	0.003	-
	Es-28 (44 to 82 m)	114141	26.75	0.56	0.012	-
	Sub Total		53.50	0.56	0.008	-
Hornfels Sulphide	ES-04 (330 to 360 m)	114144	26.45	0.4	0.003	0.06
	ES-11 (240 to 255 m)	114145	26.75	0.5	0.003	0.03
	ES-21 (373 to 402 m)	114146	27.05	0.35	0.016	0.04
	Sub Total		80.25	0.42	0.007	0.04
East Argüelles	ES-35 (17.4 to 52 m)	114142	26.95	0.64	0.001	0.01
	ES-35 (52 to 85 m)	114143	27.05	0.62	0.003	0.01
	Sub Total		54.00	0.63	0.002	0.01

The head assays of these samples are summarized in Table 13-10, along with the speciation of the copper phases by analytical methods and by QEMSCAN. Head assay values for the composites were calculated from the individual sub-composites, and these are shown in Table 13-10 along with the direct assays obtained by chemical analysis for copper, molybdenum, and sulphur. Also shown are the calculated Cu, S, and proportions of the main copper phases determined by QEMSCAN analysis. The calculated results of copper, molybdenum, and sulphur of each composite from 18 sub-composites assays correspond well with the direct chemical assay results of each composite. This provided confidence in the calculated proportions of copper present as primary sulphides, secondary sulphides, and oxides from the analytical copper speciation of the individual samples. The copper deportments are shown in Figure 13-6.

Table 13-10: Summary of Head Assays from Samples SGS April 2013

Composite	Method	Analysis (%, g/t)										Est Cu as Prim Sul., %	Est Cu as Sec. Sul., %	Est Cu as Oxide, %	Est Mo as Oxide, %	S as Sulphide, %
		Cu Total	Cu Sol in H_2SO_4	Cu Sol in NaCN	Mo Total	Mo Sol	Ag	Au	S	S°	CO_3					
Porphyry Sulfide	Calc from Samples	0.38	0.015	0.042	0.003	<.0005	0.75	0.04	1.24	0.62	<.05	88.8	7.2	3.9	<16.7	49.6
	Direct	0.39	-	-	0.003	-	-	-	1.24	-	-	-	-	-	-	-
	QEMSCAN	0.36	-	-	-	-	-	-	0.83	-	-	88.9	3.3	3.4	-	-
Skarn Sulphide	Calc from Samples	0.96	0.088	0.16	0.008	0.0009	4.31	0.11	6.25	5.17	2.57	83.5	7.3	9.2	11.3	82.7
	Direct	0.9	-	-	0.008	-	-	-	5.58	-	-	-	-	-	-	-
	QEMSCAN	0.98	-	-	-	-	-	-	5.41	-	-	84.8	5.6	9.6	-	-
Skarn Oxide	Calc from Samples	0.98	0.167	0.32	0.005	0.0014	5.98	0.12	4.75	3.39	3.13	66.9	15.9	17.1	26.7	71.4
	Direct	0.98	-	-	0.005	-	-	-	4.7	-	-	-	-	-	-	-
	QEMSCAN	1.11	-	-	-	-	-	-	4.01	-	-	67.3	4.7	28	-	-
West Oxide Sulphide	Calc from Samples	0.47	0.239	0.39	0.006	0.0023	0.52	0.04	1.32	0.57	0.07	16.1	32.6	51.3	37.5	72.8
	Direct	0.45	-	-	0.006	-	-	-	1.26	-	-	-	-	-	-	-
	QEMSCAN	0.45	-	-	-	-	-	-	1.22	-	-	24	2.2	73.8	-	-
Fornfels Sulphide	Calc from Samples	0.38	0.065	0.16	0.006	0.0021	0.56	0.03	1.42	0.94	<.05	59.4	23.6	17.1	34	65.8
	Direct	0.38	-	-	0.005	-	-	-	1.37	-	-	-	-	-	-	-
	QEMSCAN	0.42	-	-	-	-	-	-	0.077	-	-	52.1	8.2	39.7	-	-
East Argüelles	Calc from Samples	0.56	0.231	0.49	0.002	0.0005	0.52	<.02	1	0.92	2.39	12.6	46.2	41.2	36.6	92
	Direct	0.56	-	-	0.001	-	-	-	1	-	-	-	-	-	-	-
	QEMSCAN	0.47	-	-	-	-	-	-	1.28	-	-	9.3	3	87.8	-	-

Figure 13-6: QEMSCAN Copper Deportment for Composite Samples



Mineralogical examination indicated that the major gangue phases present in these composites were plagioclase, quartz, k-feldspar, tremolite, and secondary biotite/phlogopite. Carbonate minerals, including calcite, ankerite, and siderite, were present in all composites in various proportions. The copper-bearing minerals were primary and secondary sulphides, metallic copper, copper oxides, carbonates and silicates, and low copper-iron oxides.

The Porphyry Sulphide and Skarn Sulphide composites had the highest proportion of copper as primary sulphide (85% to 89%), the East Argüelles and West Oxide Sulphide composites the lowest (less than 25%), and the Hornfels Sulphide and Skarn Oxide composites were intermediate (52% and 67% by QEMSCAN, respectively). Most of the molybdenum was present as molybdenite (63% to 95%), but the heads were low (0.003 to 0.008% Mo). Most of the sulfur was present as sulphide except for the Porphyry Sulphide and West Oxide Sulphide composites, in which less than half of the sulfur was as sulphide. Bottle roll sulfuric acid leaching tests were conducted on samples of oxide scavenger concentrate and the corresponding oxide scavenger feed from batch flotation of all but the Porphyry Sulphide Composite. These were scoping tests with high levels of sulphuric acid addition and acid consumptions from 46 to 209 kg acid per tonne of leach feed.

The overall copper extraction ranged from 67% to 100% and was essentially achieved in the first 12 hours of leaching. The average copper extraction was 83% from the sulphide flotation tailings and 84% from the oxide scavenger concentrates. The iron extraction ranged from 2% to 38%. The copper tenor in the final pregnant leach solution (PLS) ranged from 93 milligrams per litre (mg/L) to 3,700 mg/L, the higher tenors coming from oxide scavenger concentrate leach tests. Weight losses ranged from 3% for the sulphide tailing samples to 20% for the oxide scavenger concentrate samples.

13.4 SGS October 2013

Approximately 50 kg of split drill core samples from each of the three composites was received in a single shipment on April 9, 2013 at the SGS Lakefield facility. A sample inventory and expected head grades provided by South American Silver Corporation are presented in Table 13-11. The assays of the samples are shown in Table 13-12.

Table 13-11: Samples SGS Oct 2013

Sample	Name	Interval (m)	Wt (kg)	Estimated Assays from Exploration Samples					
				Cu (%)	Mo (ppm)	Au (g/t)	Fe (%)	S (%)	As (%)
Met13-02	ES-36Partially Enriched	127.00 -167.00	50	0.76	48	0.129	~2.0	~1.0	
Met13-03	ES-36Porphyry	198.00 - 233.00	50	0.41	21	0.16	~2.2	~0.5	
Met13-04	ES-43GoldSkarn	23.77 - 35.69	25	0.006	33	2.33	~3.3	~0.9	~0.03
		53.00 - 65.00	25						

Table 13-12: Assays SGS Oct 2013

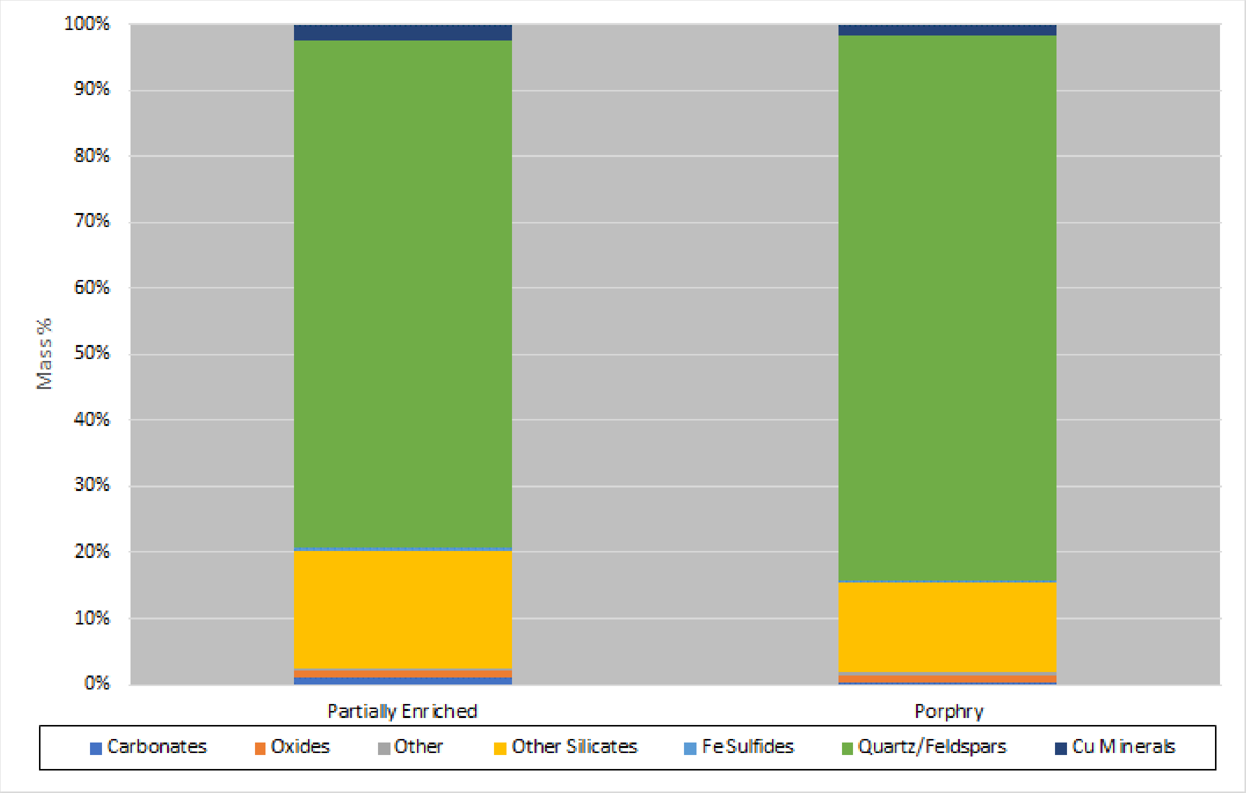
Sample ID	Assays, (%)												
	Cu	Cu*	Cu**	C(t)	CO3	TOC	C(g)	Mo (t)	Mo***	S	S=	Au	Ag
MET 13-02 -Enriched	0.89	0.59	0.61	0.22	0.89	-	-	0.008	0.003	0.77	0.48	0.17	<10
MET 13-03 -Porphyry	0.46	0.17	0.18	0.03	<0.05	-	-	0.003	<0.002	0.45	0.26	0.14	<10
MET 13-04 -Gold Skarn	0.006	0.002	0.004	4.25	18.9	0.41	0.06	0.003	<0.002	0.29	0.28	3.20	<10

* H_2SO_4 soluble copper
** NaCN soluble copper
***Molybdenum Oxide as Mo (acid soluble)

13.4.1 Mineralogy

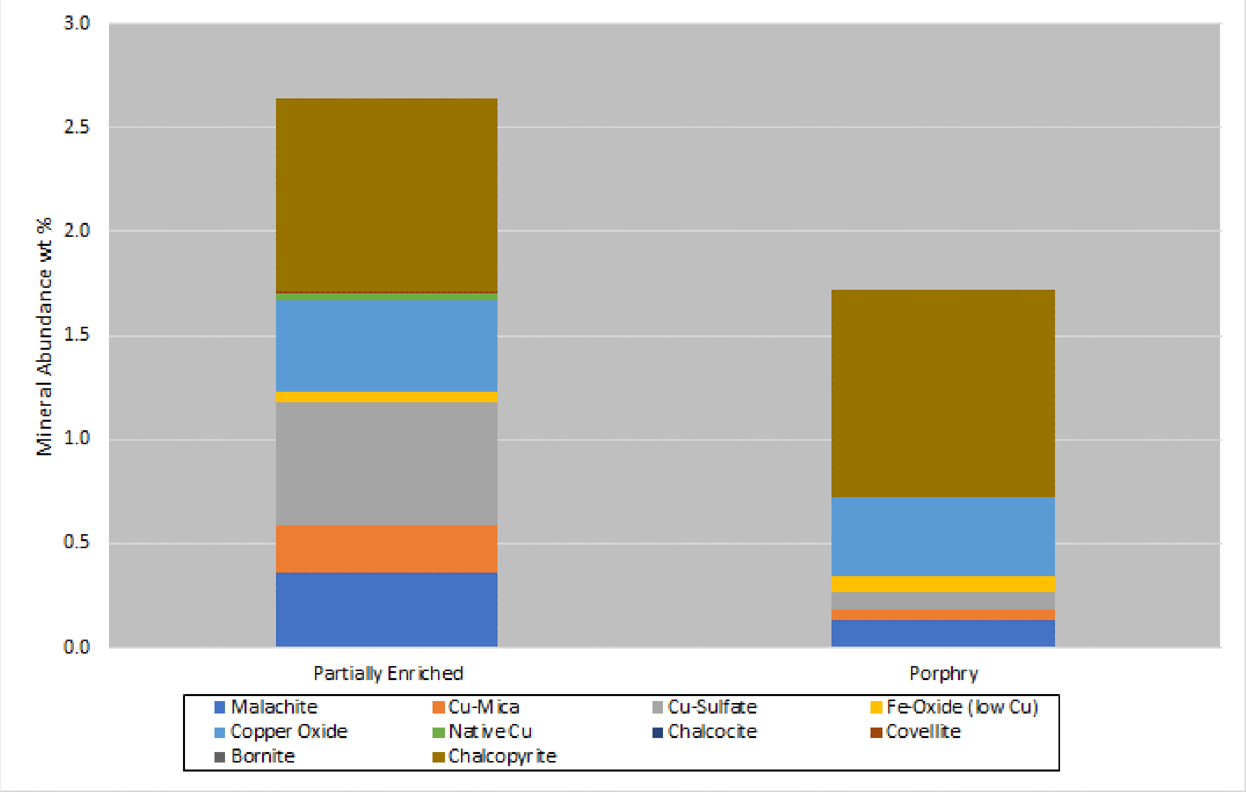
The mineralogical characterization predominantly used two methods, X-ray diffraction (XRD) and QEMSCAN Particle Mineral Analysis (PMA). Further sub-samples were riffled for whole rock analysis (WRA), Cu by x-ray fluorescence (XRF) and S by Laboratory Equipment Corp (LECO), a standard method of the determination of sulphur and carbon. Subsequently, the samples were screened at 75 µm to conduct the QEMSCAN analysis. Figure 13-7 shows the mass distribution, and Figure 13-8 shows the copper mineral distribution. The main purposes of this test programme were to: (i) identify and quantify the copper mineral species within the samples and (ii) assess any factors that may influence metallurgical performance.

Figure 13-7: QEMSCAN Mass Distribution



Other Silicates: include muscovite, biotite/phlogopite, clays, chlorites, garnets, and other silicates.

Figure 13-8: QEMSCAN Copper Mineral Association



The XRD analysis indicated sample Partially Enriched consisted of major (>30%) amounts of quartz, moderate amounts (10 to 30%) of plagioclase, and minor amounts (2 to 10%) of micas, potassium-feldspar and kaolinite. Trace (<2%) amounts of chlorite, pyrite, chalcopyrite, and magnetite are also present. Similarly, the Porphyry sample consisted of major amounts of quartz and plagioclase, minor micas and potassium-feldspar, and traces of chlorite, magnetite, and chalcopyrite.

The results from the XRD and QEMSCAN closely match. The Partially Enriched sample was dominated by quartz/feldspars (76.5%), other silicates (17.8%), carbonates (1.1%), oxides (91.0%), other minerals (0.3%). Copper minerals account for 2.6% and Fe-sulphides for 0.7%. The Porphyry sample was also dominated by quartz/feldspars (82.6%), other silicates (13.7%), carbonates (0.2%), oxides (1.2%), other minerals (0.4%). Copper minerals account for 1.7% and iron sulphides for 0.2%.

13.4.2 Heap Leach Amenability Tests

West Oxide and East Argüelles samples were received from the SGS Lakefield group. The samples were used as received. The head assays are presented in Table 13-13.

Table 13-13: Heap Leach Amenability Tests Head Assays

Assay	West Oxide B1	East Arquelles B2
Cu, %	0.45	0.51
Total S, %	1.26	1.00

Bottle roll tests were run for 22 days at room temperature. A target of 5 g/L sulphuric acid was maintained throughout the tests. The tests are referred to as B1 and B2 tests.

Cuts of 600-gram dry samples that had been crushed to -10 mesh (1.8 mm) were pulped with a solution containing 5 g/L sulphuric acid and approximately 4 g/L ferric iron as a sulfate at 40% solids pulp density. Agitation was provided by a roll table with timer set to rotate the bottles for 1 minute every hour. Samples were collected on day 1, 2, 4, 7, 10, and 18 of the tests to provide kinetic information. During the eighth day of the test, the ferric concentration was brought up to 10 g/L ferric (the original target level); by adding the necessary amount of ferric sulphate dissolved in the required quantity of deionized (DI) water equivalent to the kinetic samples collected during the first seven days of the tests.

The tests were stopped after 22 days. The pulp was filtered and the filtrate was collected and weighed. The filter cake was washed three times with DI water. Density measurements were taken of all the solution samples. A sample of the filtrate was analysed for copper, molybdenum, and iron, and a sample of the combined wash liquor was also submitted for assays. The washed residue was dried in an oven to constant weight and analysed for copper, iron, molybdenum, and sulphur.

A summary of the leaching tests conditions and results is listed in Table 13-14. Metals extractions were calculated based on the final solution and calculated head assays.

Table 13-14: Heap Leach Amenability Tests: Conditions and Results

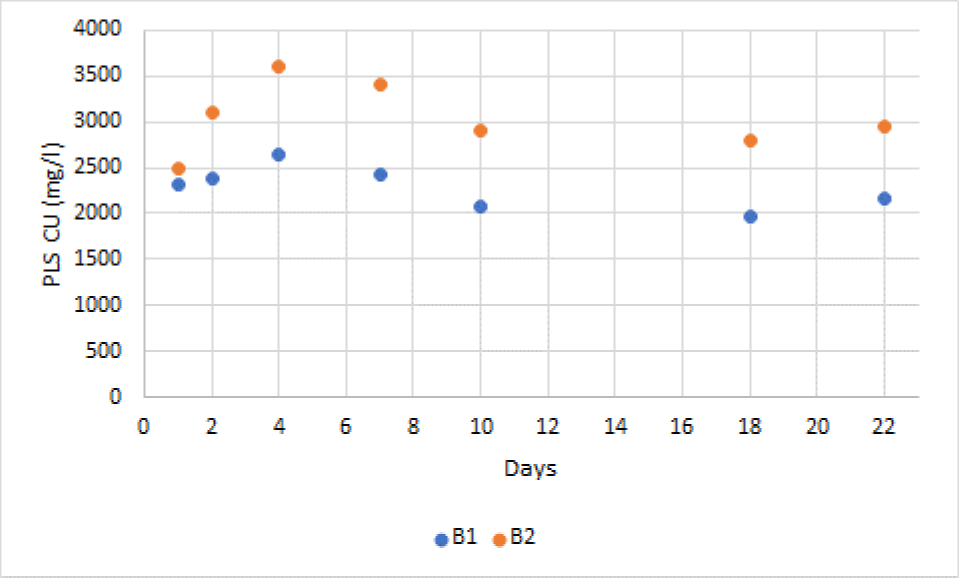
Sample	West Oxide	East Argüelles
Test ID	B1	B2
Leaching Reagent	H_2SO_4, FAT* controlled	
Time, day	22	22
Initial Pulp, % solids	40	40
Average Temperature, °C	21.9	22.8
Average ORP, mV	493	460
Average pH	1.42	1.47
Final pulp pH	1.64	1.69
Final FAT, g/L H2SO4	4	4
Acid Consumption (titr), kg/t feed	35.58	92.99
Acid Consumption (titr), t/t Cu diss	10	19
Gangue Acid Consumption, kg/t feed	35.57	92.97
Solids Weight Loss, %	5	1
Final Pulp, % solids	79	82
Cu Extraction, %	80	90
Cu in PLS, mg/L	2,170	2,960
Cu Calc Head, %	0.46	0.54
Cu Direct Head, %	0.45	0.51
Cu Residue Assay, %	0.10	0.06
Cu Accountability, %	102	107

* FAT – Free Acid Titration

Copper accountability was 102% for West Oxide and 107% for East Argüelles, with overall copper extractions of 80% for West Oxide and 90% for East Argüelles. Copper tenor in the final PLS was 2,170 mg/L for West Oxide and 2,960 mg/L for East Argüelles. Weight losses were measured at 5% and 1% for West Oxide and East Argüelles, respectively. The acid consumption is reported as kg of acid per tonne of feed and it was calculated as the difference between acid in (acid added during the test) and the acid out (free acid in the final PLS) and was 36 kg/t for West Oxide and 93 kg/t for East Argüelles.

Figure 13-9 shows the copper solution assays for both tests. Most of the copper was extracted during the first four days of leaching. The decrease in copper tenors at day 8 is the result of additional water addition with the ferric sulphate required to achieve the 10 g/L ferric concentration.

Figure 13-9: Copper Solution Grade - PLS



13.5 ALS Laboratories 2020

The upper portions of the deposit appear to contain significant oxidation. To confirm the visual interpretations of drill hole photographs, 1,179 archived drill core sample pulps were analyzed at ALS Laboratories in Santiago, Chile, using sequential copper leach methods in late 2020 and early 2021. The samples were selected from 18 drill holes and represent all major rock types and mineral zones, 2,037 metres of drill core, or approximately 16% of all oxidized intervals. Results by hole are given in Table 13-15 and summarized by rock type and mineral zone in Table 13-16. Note that the averages are weighted by mineral zone and rock type, but that these interval totals do not accurately represent the volume/mass of each type in the deposit.

Table 13-15: Sequential Copper Leach Results by Drill Hole

Hole	From	To	Length (m)	Grade CuTot (%)	Grade CuSol (%)	CuS* Rec	CuSol (CuS+CN**) Rec	Rock Types
ES-26	44	106	62.0	0.386	0.317	70%	80%	hornfels
and	134	210	76.0	0.236	0.170	56%	67%	hornfels >> porphyry
ES-28	44	190.2	146.2	0.246	0.202	34%	72%	hornfels > porphyry
ES-31	214	301	87.0	0.236	0.099	18%	43%	granodiorite
ES-32	31	185	152.7	0.293	0.207	63%	71%	skarn >> diorite porphyry
ES-33	89	95.5	6.5	0.255	0.200	72%	78%	garnet skarn
and	158	166	8.0	0.145	0.107	57%	74%	garnet skarn
and	183	204	21.0	0.489	0.270	38%	52%	garnet skarn
ES-34	22	35.5	12.7	0.313	0.098	25%	33%	garnet skarn
and	187.1	227	39.9	0.279	0.129	34%	51%	calcsilicate, skarn
ES-35	14.2	87	70.8	0.488	0.431	72%	84%	calcareous shale, diorite
ES-38	115.2	178.65	63.5	0.432	0.290	47%	61%	porphyry, granodiorite
and	180	334.9	154.9	0.369	0.183	9%	51%	porphyry > granodiorite
ES-39	224.5	295.5	71.0	0.304	0.196	49%	65%	porphyry, granodiorite
ES-40	73.9	196.5	122.6	0.188	0.146	47%	73%	hornfels > porphyry

Hole	From	To	Length (m)	Grade CuTot (%)	Grade CuSol (%)	CuS* Rec	CuSol (CuS+CN**) Rec	Rock Types
ES-42	163.5	213.5	50.0	0.278	0.239	82%	85%	hornfels >> porphyry
and	219	311.5	92.5	0.254	0.210	68%	79%	hornfels, porphyry
ES-43	72.5	128.8	54.5	0.450	0.130	18%	29%	hornfels, porphyry
and	145.6	200	54.4	0.561	0.158	16%	27%	skarn > porphyry
and	200	230	30.0	0.184	0.134	34%	68%	porphyry > hornfels
ES-47	130.3	152	21.7	0.336	0.293	86%	87%	granodiorite
ES-48	301.5	387.35	85.9	0.277	0.135	14%	47%	hornfels
ES-49	79.4	171	88.5	0.247	0.204	78%	82%	hornfels > porphyry
ES-50	107.6	239	128.7	0.236	0.107	32%	41%	skarn, hornfels > porphyry
ES-51	107	142	35.0	0.390	0.330	78%	84%	granodiorite
and	192	300.5	108.5	0.303	0.243	73%	79%	granodiorite
ES-53	33.5	130	96.5	0.245	0.202	64%	75%	hornfels

*sulfuric acid soluble; **cyanide soluble; CuSol = total of acid and cyanide soluble Cu

Table 13-16: Summary of Sequential Copper Leach Results

Lithology	Length (m)	CuTot%	CuSOL%	CuS* Rec	CuS+CN** Rec
intrusive	908	0.304	0.208	48%	66%
sand/siltstone	841	0.277	0.194	51%	69%
skarn/calcsilicate	233	0.365	0.172	35%	46%
Min Zone					
oxide	517	0.373	0.333	83%	88%
mixed	1236	0.263	0.152	40%	59%
enriched	229	0.319	0.138	8%	43%

*sulfuric acid soluble; **cyanide soluble; CuSol = total of acid and cyanide soluble Cu

Sequential assays are typically conducted on 1.8 mm material pulped to 25% solids with water. Sulfuric acid is added, and the copper extraction calculated after filtering and washing. Cyanide is added next, and the process repeated. The resulting extractions, CuS and CuCN, represent acid soluble copper and cyanide soluble copper or oxide and secondary sulfide copper mineral extractions, respectively. The weighted average copper extraction for all samples in Table 13-15 is 64.4%. The oxide samples, as defined by the mineral zone code definitions shown in Table 13-17, have a weighted average copper extraction of 80.8% (acid and cyanide soluble).

Table 13-17: Sequential Leach Zone Definition

Zone	As:Cn		Recovery	Comment
oxide	AS>CN	and	CuSol>75%	mostly CuOx and secondary sulphides
mixed	AS<CN	and	CuSol<75%	minor remnant primary sulphides (CP)
enriched	CN>AS	and	AS<10%	only secondary & primary sulphides
primary	AS+CN	is	<15%	>85% primary sulphides

AS= sulfuric acid soluble; CN = cyanide soluble; CuSol = total of acid and cyanide soluble Cu

In addition to the sequential leach tests, the check samples (40 total) that were originally sent to SGS Santiago were also submitted for acid consumption tests, and 27 samples were also tested by ALS. Results for all intervals with ≥0.1% soluble copper are summarized in Table 13-18.

Table 13-18: Summary of Acid Consumption Tests

Lithology	Interval Length (M)	Acid Net Kg/T	Acid Kg/Kg Cu	Acid Kg/Lb Cu
intrusive	34.3	23.7	15.6	7.1
sand/siltstone	46.0	35.7	29.3	13.3
skarn	10.5	39.4	17.0	7.7
Min Zone				
oxide	44.7	37.8	10.8	4.9
mixed	39.9	24.7	17.9	8.1
enriched	6.1	30.9	142.1	64.6

14.0 MINERAL RESOURCE ESTIMATE

This mineral resource estimate for the Escalones Property was completed by Richard A. Schwering P.G., SME-RM, with HRC. Mr. Schwering is a Qualified Person as defined by NI 43-101 and is independent of World Copper, Ltd., the vendor and the property. HRC estimated the mineral resource for the Project based on wireframe modeling and to a maximum search distance of 300 metres using an inverse distance to the 2.5 power interpolant. Geostatistics and mineral resource estimation were done with Leapfrog EDGE®. Three-dimensional wireframes and model visualization was done with Leapfrog Geo® software, and the mineral resources were constrained with a Lerch-Grossman pit optimization. The metals of interest at the Project are copper. The mineral resources estimate reported here was prepared in a manner consistent with the "CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines" adopted by CIM Council on November 29, 2019. The mineral resources are classified as Measured, Indicated, and Inferred in accordance with "CIM Definition Standards for Mineral Resources and Mineral Reserves," prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on May 10, 2014. Classification of the resources reflects the relative confidence of the grade estimates. The effective date of the mineral resource estimate reported herein is June 25, 2021.

14.1 Drill Hole Database

The Escalones mineral resource estimate is based on 53 diamond drill holes (24,939 metres) and 15,656 associated assay values collected from 1999 to 2013. HRC was provided the drill hole database in Excel format by World Copper, which included collar locations, down hole survey data, assay data, lithology data, and specific gravity data. Drill hole intervals with missing copper assays and zero values were replaced with 0.0005.

The database has been converted to WGS84 datum from the previous datum of Prov S. Amer 56 used in the 2012 resource model. The hole locations have also been surveyed with survey grade GPS versus the previous method of handheld GPS. Ten of the thirty hole locations from previous drill campaigns could not be properly located for resurvey and were mathematically adjusted to the new datum.

14.1.1 Geologic Model and Estimation Domains

World Copper contracted Vector Geologic Solutions to create a geologic model of the Project from cross sections oriented west to east on nominal 100-metre spacing. The geology cross sections were generated by World Copper by plotting downhole lithology, mineral zone, and copper grades against a plan of interpreted geology, outcrops, surface sampling and drill collars. The geologic model was developed using Leapfrog Geo software. Polylines were used to model the Glacial Till ("Till"), Skarns ("skpx"), and Porphyry ("grdp") units. The remaining volume is considered to be various sedimentary units ("sstn" and "horb"). Additionally, the oxide/secondary sulfide - primary sulfide boundary was also modeled using core photos combined with the downhole logs of minerals, and then adjusted with sequential copper leach data where it exists. The model was received by HRC on May 30, 2021, and is presented in Figure 14-1.

A box plot presented in Figure 14-2 shows copper grades are not constrained to geologic units, except for the Till. The observation is confirmed in contact plots, shown in Figure 14-3.

Figure 14-1: Oblique View of the Escalones Geologic Model

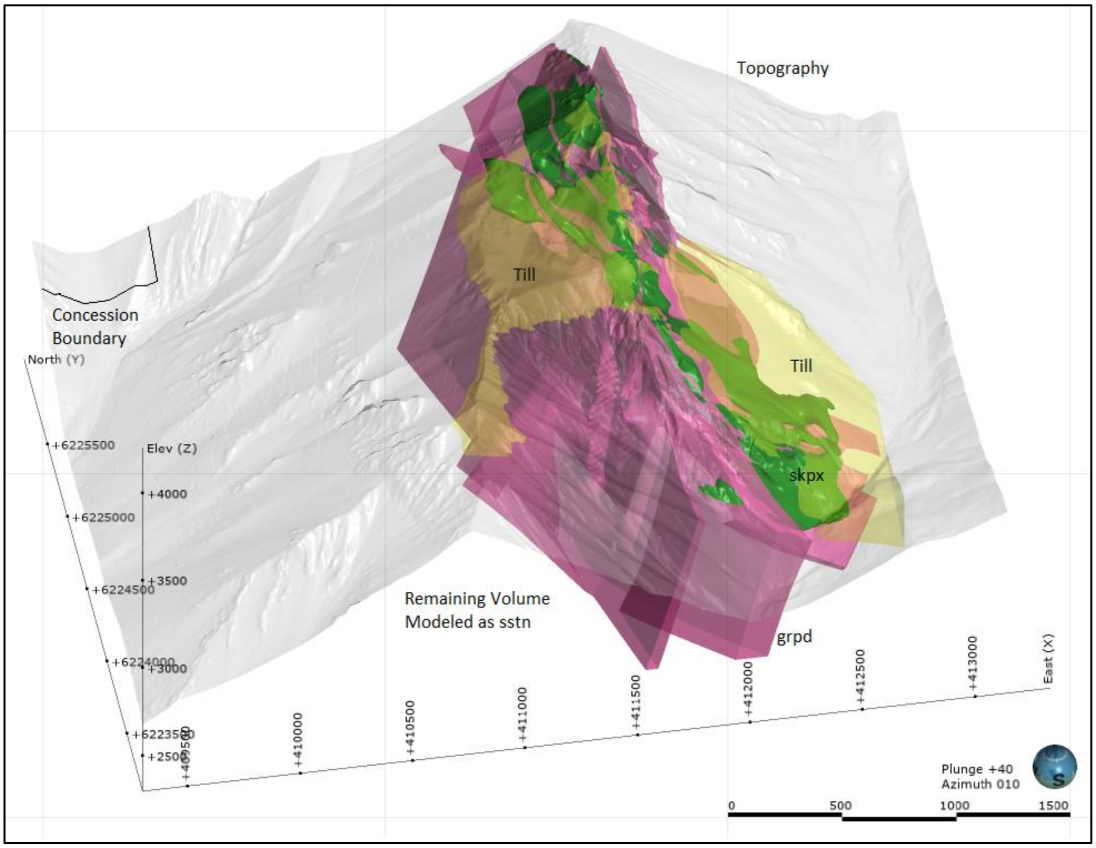


Figure 14-2: Box Plot of Copper Grades by Geologic Model Units

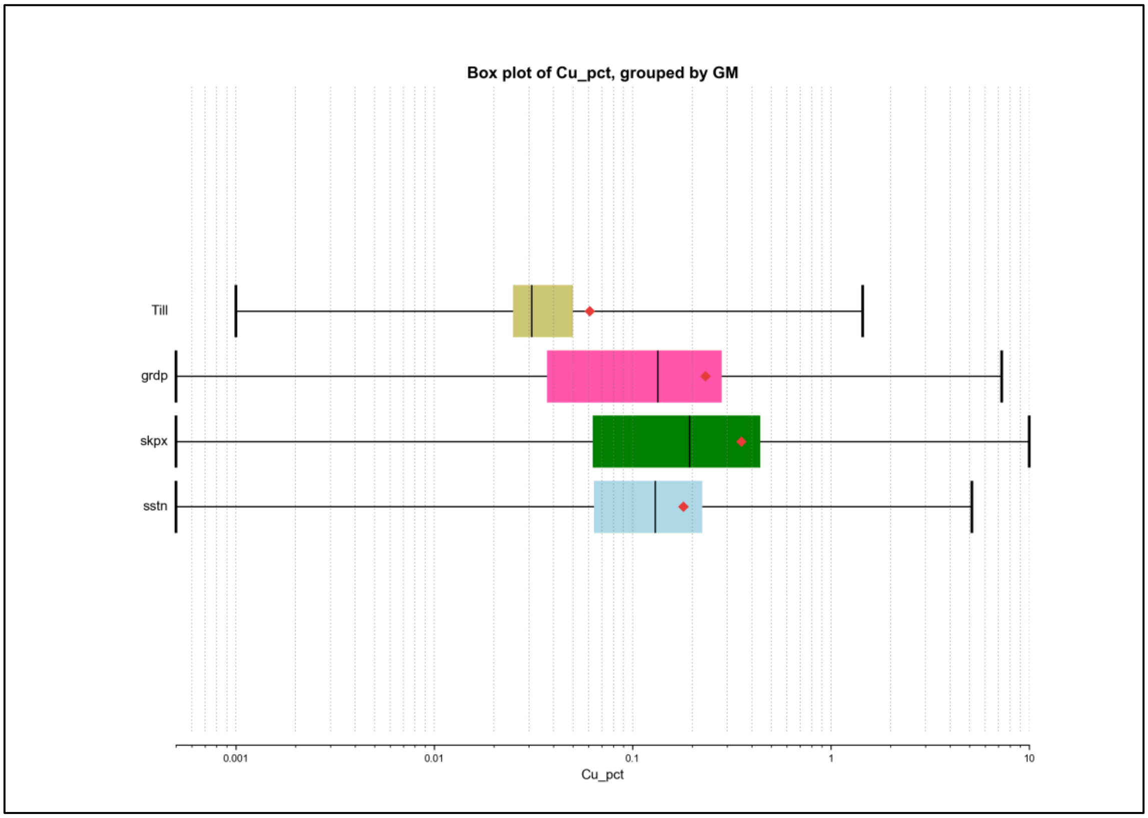
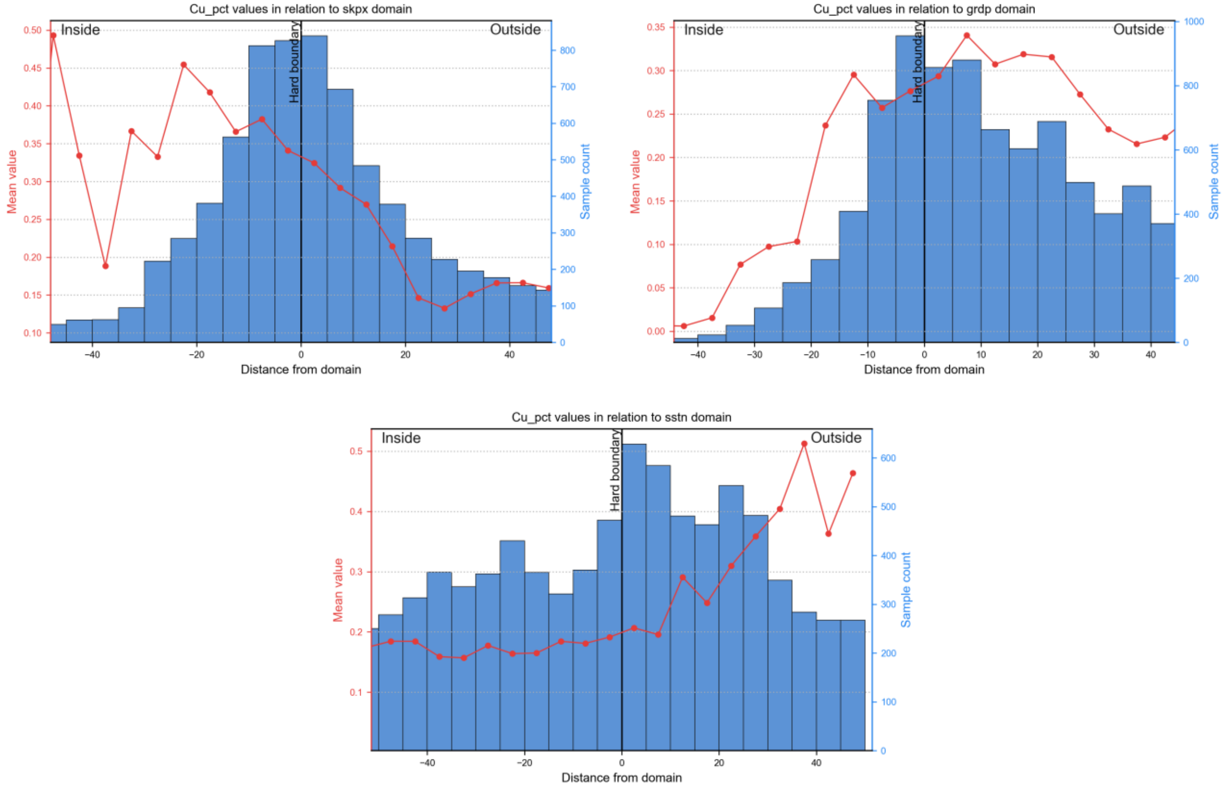


Figure 14-3: Contact plots of Copper Grades by Geologic Unit



Since copper mineralization is not controlled by lithology, copper grades were constrained using an indictor grade shell. The grade shell was interpolated from 3-metre downhole composites using 0.15% copper cutoff. Visual observations of copper grades suggest grades dip 55 degrees to the east on the east flank of the Project, closely following the trend of the modeled skarns. On the west flank of the Project, copper grades dip gently to the west. The interpolant incorporated the observed grades trends. The probability was adjusted until the number of composites above cutoff outside the indicator shell was close to the number of samples inside the indicator below the cutoff. This balance was achieved using a 48% probability. The indicator volume was trimmed against the glacial till and the topographic surface. Figure 14-4 shows the observed grade trends from 3-metre composites and the resulting indicator model. Table 14-1 summarizes the statistics of the indicator model. The estimation domains for the Project are the volume contained within the indicator volume and the volume contained outside the indicator volume, bounded by the extent of the geologic model.

Figure 14-4: Indicator Model

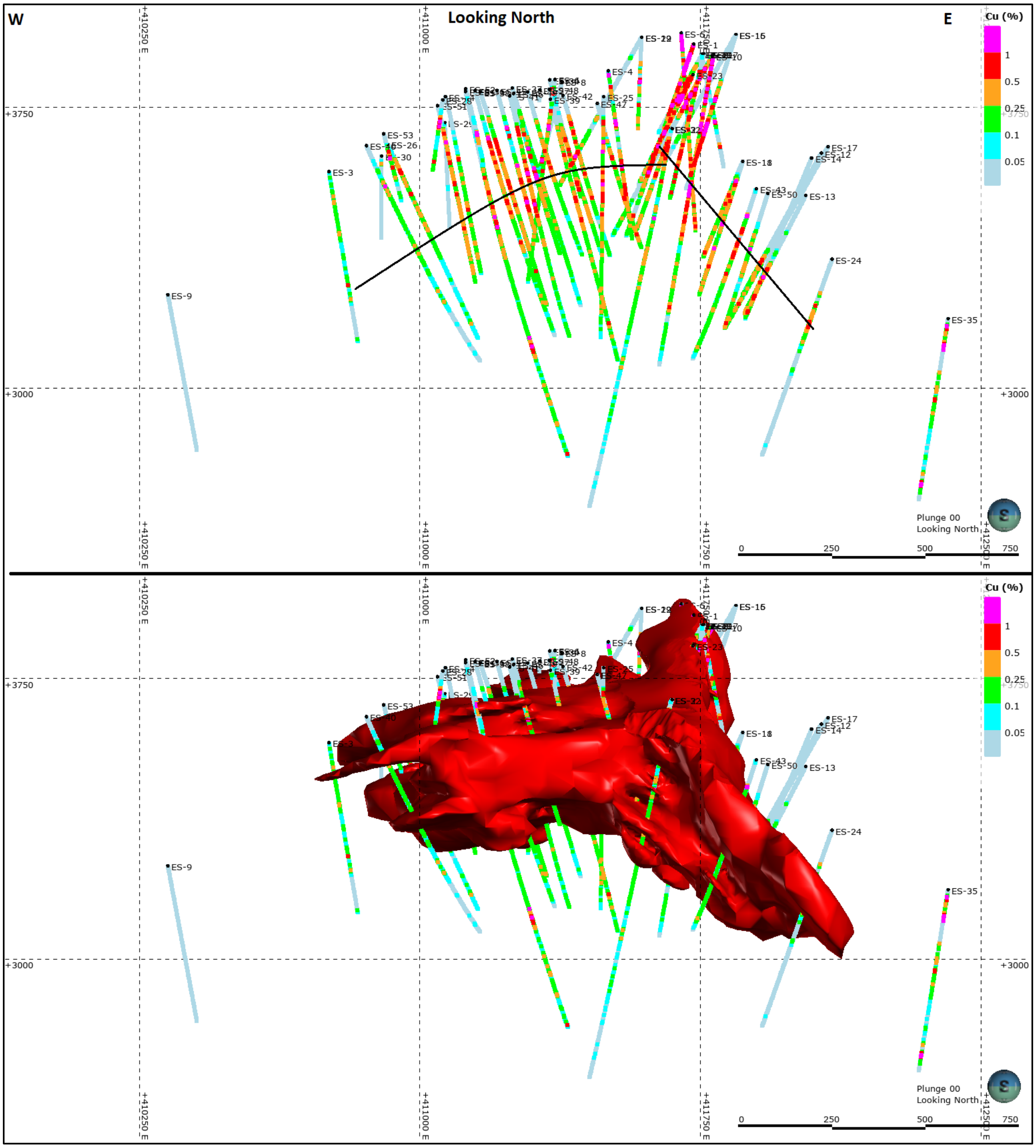


Table 14-1: Indicator Statistics

3m Composites	≥ Cutoff	< Cutoff
Number of points	3,468	4,454
Percentage	43.78%	56.22%
Mean value	0.37	0.06
Indicator Statistics	**Inside**	**Outside**
≥ cut-off		
Number of samples	3,030	438

3m Composites	≥ Cutoff	< Cutoff
Percentage	38.25%	5.53%
< cut-off		
Number of samples	409	4,045
Percentage	5.16%	51.06%
Mean value	0.35	0.08

14.2 Compositing

The average length of the drill hole samples is 1.3 metres with 99.6% of the samples being 2.0 metres or less. The most frequent sample length is 1.0 metre, with 54% of the samples at this length followed by 2.0 metre samples which represent 25% of the sample set. Considering the assay data statistics, with respect to interval length, a down-hole composite length of 3 metres was selected. The composites were tagged by the indicator estimation domains and the geologic model. Composite statistics are summarized in Table 14-2.

Table 14-2: Copper Composite Statistics (%) by Indicator Domains and by Geologic Model

Indicator	Geologic Model	Count	Mean	Std. Dev.	CV	Minimum	Median	Maximum
Global		7,922	0.195	0.275	1.41	0.000	0.127	5.407
Inside	All Lith	3,439	0.349	0.326	0.93	0.001	0.256	5.407
	skpx	565	0.498	0.474	0.95	0.036	0.355	5.407
	grdp	805	0.368	0.380	1.03	0.001	0.257	4.049
	sstn	2,069	0.286	0.192	0.67	0.001	0.233	2.884
Outside	All Lith	4,483	0.076	0.141	1.85	0.000	0.050	3.685
	skpx	664	0.091	0.193	2.13	0.001	0.035	1.845
	grdp	516	0.056	0.184	3.32	0.000	0.020	3.685
	sstn	3,303	0.078	0.120	1.53	0.000	0.061	3.160

14.3 Variography

Variography analysis of copper grades was completed for both estimation domains. Variography describes how similar sample grades are as a function of distance and direction. This is performed by comparing the orientation and distance used in the estimation to the variability of other samples of similar relative direction and distance. The spherical variograms were constructed using a “Pair-wise” method of organizing the variance pairs. The variograms were oriented 55 degrees to the east, representing the dominant trend in the deposit. Radial plots were then used to set the pitch. The nugget was determined from the down-hole variograms, and the total sill was normalized so the variance of the population was set to 1.0. Variogram parameters for each domain are presented in Table 14-3, and the variograms are illustrated in Figure 14-5 and Figure 14-6. The variogram study was unsuccessful in modeling the grade continuity for the Project. Reasons for the lack of continuity could be related to the limited number of drillholes covering the Project area.

Table 14-3: Variogram Parameters

Inside Direction			**Outside Direction**		
Dip	*Dip Azimuth*	*Pitch*	*Dip*	*Dip Azimuth*	*Pitch*
55	90	70	55	90	110
Normalised Nugget	*Structure 1*	*Structure 2*	*Normalised Nugget*	*Structure 1*	*Structure 2*
0.200	0.528	0.272	0.200	0.299	0.501
Range 1 (m)			**Range 1 (m)**		
Major	*Semi-major*	*Minor*	*Major*	*Semi-major*	*Minor*
80	25	20	10	10	75
Range 2 (m)			**Range 2 (m)**		
Major	*Semi-major*	*Minor*	*Major*	*Semi-major*	*Minor*
100	100	95	320	150	255

Figure 14-5: Copper Variogram Inside Indicator Domain

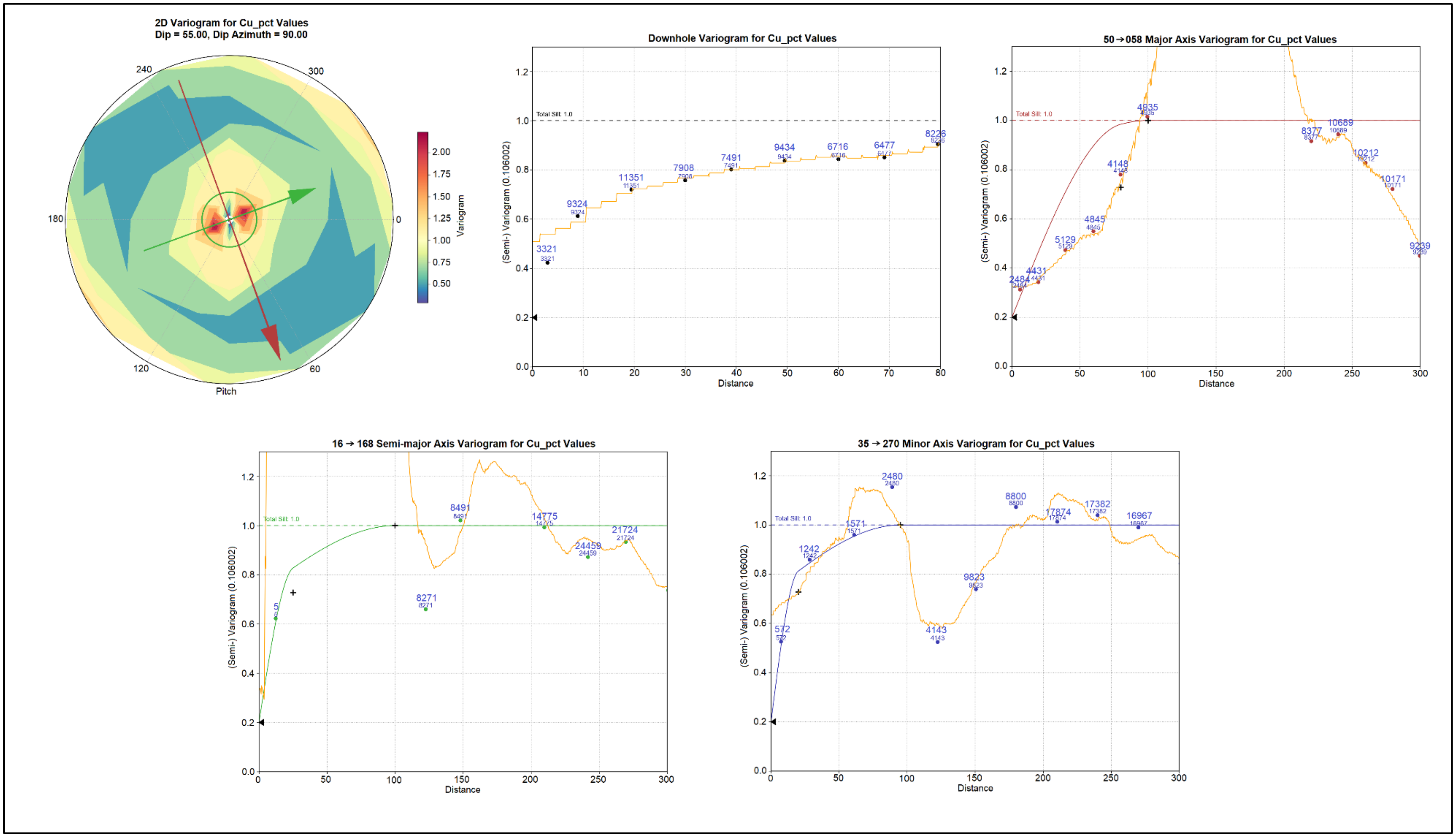
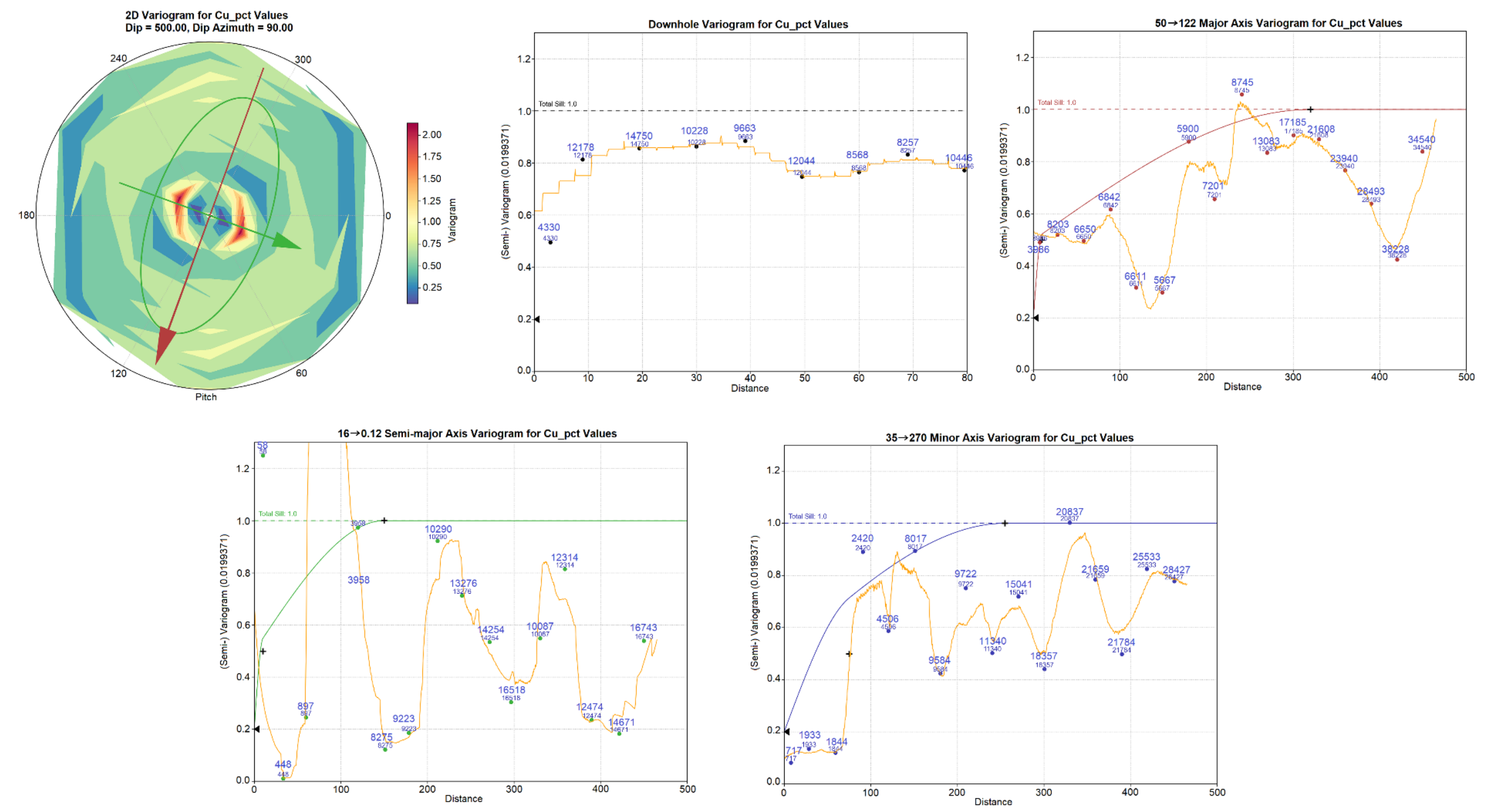


Figure 14-6: Copper Variogram Outside Indicator Domain



14.4 Block Model

The block model was created based on the definitions shown in Table 14-4. The block model origin coordinates are represented by the minimum easting "X", minimum northing "Y" and minimum "Z". The model was not rotated in any direction. Based on the anticipated mining methods, a block size of 10 metres × 10 metres × 10 metres was selected.

Table 14-4: Block Model Definitions for Escalones

Parameter	X	Y	Z
Origin	410,100	6,223,750	2,300
Block Size	10	10	10
No. Blocks	265	201	180
Boundary Size	2,650	2,010	1,800
Maximum Extent	412,750	6,225,760	4,100
No Rotation			

14.5 Estimation Methodology

Copper grades were estimated using inverse distance to the 2.5 power ("ID"). Both domains were estimated using the same parameters. The search ellipse incorporated a variable orientation following the observed grade trends shown in Figure 14-4. The estimate incorporated two passes, the first using a 150-metre x 150-metre x 100-metre range, and the second using a 300-metre x 300-metre x 200-metre range. A minimum of 3 and a maximum of 12 composites were required for block estimation. Composites were further limited to a maximum four per hole to reduce possible hole bias.

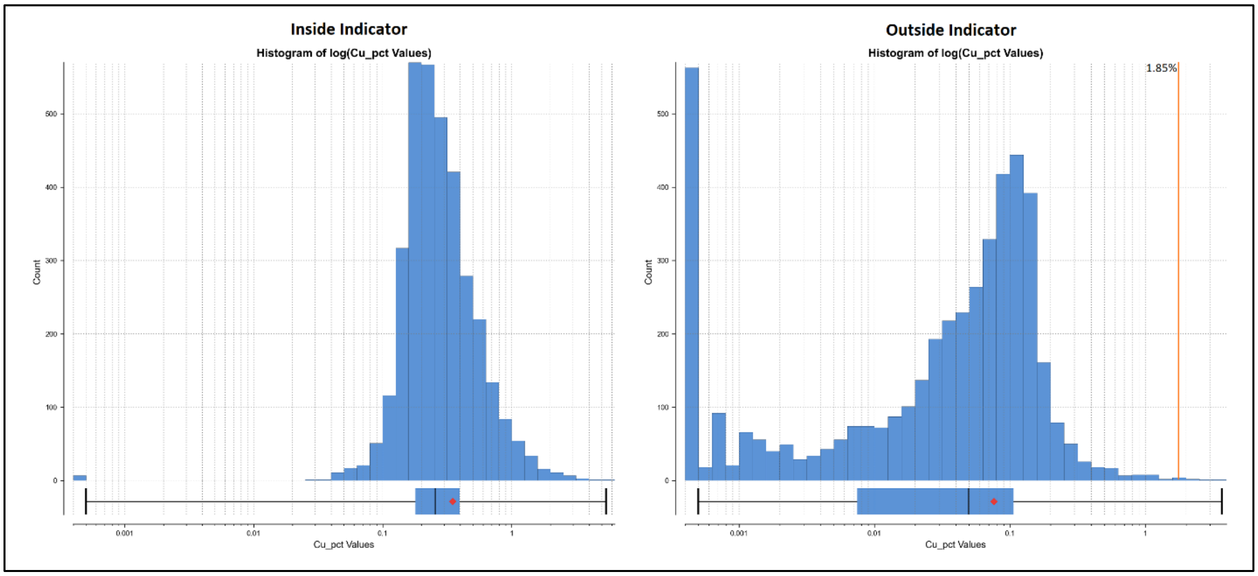
Table 14-5: Estimation Search Parameters

Estimate Pass	Ellipsoid Ranges (m)		
	Maximum	Intermediate	Minimum
Fist Pass	150	150	100
Second Pass	300	300	200
	Ellipsoid Directions		
	Dip	Dip Azimuth	Pitch
Fist Pass	Variable Orientation		
Second Pass	Variable Orientation		
	Minimum	Maximum	Max/Hole
Fist Pass	3	12	4
Second Pass	3	12	4

14.5.1 Outlier Restrictions

Composite copper grade populations were reviewed for statistical outliers for both domains. Composites within the indicator domain had the coefficient of variation (CV) less than 1.0 (Table 14-2). Additionally, review of the histogram did not show the presence of outliers (Figure 14-7). Copper values outside the indicator domain had a CV of 1.85 (Table 14-2), and the histogram (Figure 14-7) did show the presence of four statistical outliers greater than 1.85% Cu. These samples were restricted to a 100-metre x 100-metre x 67-metre search ellipse. Beyond that search ellipse, the composites inherited a value of 1.85% Cu.

Figure 14-7: Histogram of Copper Values by Domain



14.5.2 Copper Recovery

Copper recovery (CuRec) was estimated into the block model using an inverse distance 2.5 interpolant using 1,179 sequential leach assays totaling 2,037 metres. 1,149 of those assays are located within the oxide resources, and there is good spatial coverage across the property. Copper recovery was calculated from the sequential leach assay results using the following formula:

(CuS + CuCN)/(CuCN + CuRES +CuS) = CuRec

The goal of the CuRec estimate was to ensure all estimated copper blocks within the oxide zone also received a CuRec estimate. To that end, the CuRec estimate used the following methodology and parameters.

- Intervals without a CuRec assay were omitted from the estimate, not replaced with a below detection limit value
- CuRec was estimated in the volume above the base of oxide surface, below the topographic surface, and excluding the glacial till
- The volume below the base of oxide surface was assigned a CuRec of 15%
- A down-hole composite interval of 3 metres was selected for CuRec Assays
- The estimate was done using a single pass
    - Search ellipse was 600 metres x 600 metres x 400 metres
    - The search ellipse incorporated the variable orientation as the Copper estimate
    - A minimum of 3 samples, a maximum of 15 samples, with no more than 3 samples coming from a single drillhole.

14.6 Validation

HRC utilized several methods to validate the results of the estimation method. The combined evidence from these validation methods verifies the ID estimation model results.

14.6.1 Statistical Comparison

Nearest Neighbor (NN) and Ordinary Kriging (OK) models were run for copper to serve as comparisons with the estimated results from the ID method. Descriptive statistics for the ID method along with those for the NN and OK estimates as well as drill hole composites are shown by domain and by the geologic model (GM) in Table 14-6. Table 14-7 shows the statistical comparison between the estimates and composites by domain and oxidation model (OxMod). The estimate means for the global population as well as the means for the estimation domains are similar, suggesting the ID estimate is not biased or overestimating the copper grades. Additionally, the statistical comparisons within the geologic model and oxidation model show good agreement between the means. The reduction in mean, CV, and maximum from composites to the ID estimate shows an appropriate amount of smoothing.

Cumulative frequency plots (CFP) comparing ID, OK, NN, and composite grades for the global mineral resource estimate, inside the indicator domain, and outside the indicator domain, were created to evaluate the smoothing and distribution of estimated grades and are shown in Figure 14-8 through Figure 14-10.

Table 14-6: Model Comparison Descriptive Statistics for Copper by Domain and GM

Domain	GM	Estimate	Count	Mean	Std. Dev.	CV	Minimum	Median	Maximum
Global		Composite	7,922	0.19	0.27	1.41	0.0005	0.13	5.41
		NN	2,011,431	0.10	0.17	1.69	0.0005	0.06	5.41
		OK	2,029,198	0.10	0.13	1.22	0.0005	0.07	2.37
		ID	2,029,198	0.10	0.13	1.25	0.0005	0.07	2.64
Inside	All Lith	Composite	3,439	0.35	0.33	0.93	0.0005	0.26	5.41
		NN	290,725	0.30	0.24	0.80	0.0005	0.23	5.41
		OK	290,725	0.31	0.14	0.46	0.0005	0.27	2.37
		ID	290,725	0.31	0.16	0.52	0.0005	0.27	2.64
	skpx	Composite	805	0.50	0.47	0.95	0.0357	0.36	5.41
		NN	48,967	0.39	0.37	0.94	0.0005	0.29	5.41
		OK	48,967	0.39	0.20	0.52	0.0005	0.34	2.32
		ID	48,967	0.40	0.24	0.61	0.0005	0.34	2.64
	grdp	Composite	565	0.37	0.38	1.03	0.0005	0.26	4.05
		NN	42,210	0.31	0.25	0.81	0.0005	0.23	5.41
		OK	42,210	0.32	0.16	0.49	0.0005	0.28	2.37
		ID	42,210	0.32	0.17	0.54	0.0005	0.28	2.60
	sstn	Composite	2,069	0.29	0.19	0.67	0.0005	0.23	2.88
		NN	199,548	0.27	0.18	0.66	0.0005	0.22	2.88
		OK	199,548	0.28	0.11	0.38	0.0005	0.26	1.36
		ID	199,548	0.28	0.12	0.41	0.0005	0.25	1.51
Outside	All Lith	Composite	4,483	0.08	0.14	1.85	0.0005	0.05	3.69
		NN	1,720,706	0.07	0.13	1.93	0.0005	0.04	3.69
		OK	1,738,473	0.07	0.09	1.24	0.0005	0.06	1.78
		ID	1,738,473	0.07	0.09	1.23	0.0005	0.05	1.99
	skpx	Composite	516	0.09	0.19	2.13	0.0005	0.03	1.85
		NN	86,421	0.08	0.19	2.55	0.0005	0.01	3.69
		OK	87,103	0.08	0.14	1.69	0.0005	0.04	1.61
		ID	87,103	0.08	0.13	1.73	0.0005	0.04	1.67

Domain	GM	Estimate	Count	Mean	Std. Dev.	CV	Minimum	Median	Maximum
	grdp	Composite	664	0.06	0.18	3.32	0.0005	0.02	3.69
		NN	234,825	0.06	0.12	1.96	0.0005	0.03	3.69
		OK	239,498	0.07	0.08	1.20	0.0005	0.05	1.75
		ID	239,498	0.07	0.09	1.24	0.0005	0.05	1.99
	sstn	Composite	3,303	0.08	0.12	1.53	0.0005	0.06	3.16
		NN	1,399,460	0.07	0.13	1.86	0.0005	0.05	3.69
		OK	1,411,872	0.07	0.08	1.20	0.0005	0.06	1.78
		ID	1,411,872	0.07	0.08	1.18	0.0005	0.06	1.68

Table 14-7: Model Comparison Descriptive Statistics for Cu by Domain and OxMod

Domain	OxMod	Estimate	Count	Mean	Std. Dev.	CV	Minimum	Median	Maximum
Global		Composite	7922	0.19	0.27	1.41	0.0005	0.13	5.41
		NN	2,011,431	0.10	0.17	1.69	0.0005	0.06	5.41
		OK	2,029,198	0.10	0.13	1.22	0.0005	0.07	2.37
		ID	2,029,198	0.10	0.13	1.25	0.0005	0.07	2.64
Inside	Combined	Composite	3439	0.35	0.33	0.93	0.0005	0.26	5.41
		NN	290725	0.30	0.24	0.80	0.0005	0.23	5.41
		OK	290725	0.31	0.14	0.46	0.0005	0.27	2.37
		ID	290725	0.31	0.16	0.52	0.0005	0.27	2.64
	Oxide	Composite	2457	0.39	0.35	0.91	0.0005	0.28	4.05
		NN	174538	0.34	0.27	0.81	0.0005	0.26	5.41
		OK	174538	0.34	0.16	0.46	0.0005	0.31	2.37
		ID	174538	0.35	0.18	0.52	0.0005	0.31	2.64
	Sulfide	Composite	982	0.25	0.22	0.87	0.0418	0.21	5.41
		NN	116187	0.24	0.15	0.64	0.0418	0.20	5.41
		OK	116187	0.25	0.08	0.34	0.0952	0.23	2.21
		ID	116187	0.25	0.09	0.38	0.0889	0.22	2.37
Outside	Combined	Composite	4483	0.08	0.14	1.85	0.0005	0.05	3.69
		NN	1720706	0.07	0.13	1.93	0.0005	0.04	3.69
		OK	1738473	0.07	0.09	1.24	0.0005	0.06	1.78
		ID	1738473	0.07	0.09	1.23	0.0005	0.05	1.99
	Oxide	Composite	2489	0.06	0.15	2.46	0.0005	0.02	3.16
		NN	544142	0.06	0.14	2.53	0.0005	0.01	3.16
		OK	545066	0.06	0.11	1.75	0.0005	0.03	1.78
		ID	545066	0.06	0.11	1.73	0.0005	0.03	1.62
	Sulfide	Composite	1994	0.10	0.13	1.33	0.0005	0.08	3.69
		NN	1176564	0.07	0.12	1.70	0.0005	0.05	3.69
		OK	1193407	0.07	0.07	1.00	0.0005	0.07	1.75
		ID	1193407	0.07	0.08	1.02	0.0005	0.07	1.99

Figure 14-8: Global CFP for Copper ID, OK, NN, and Composites Grades

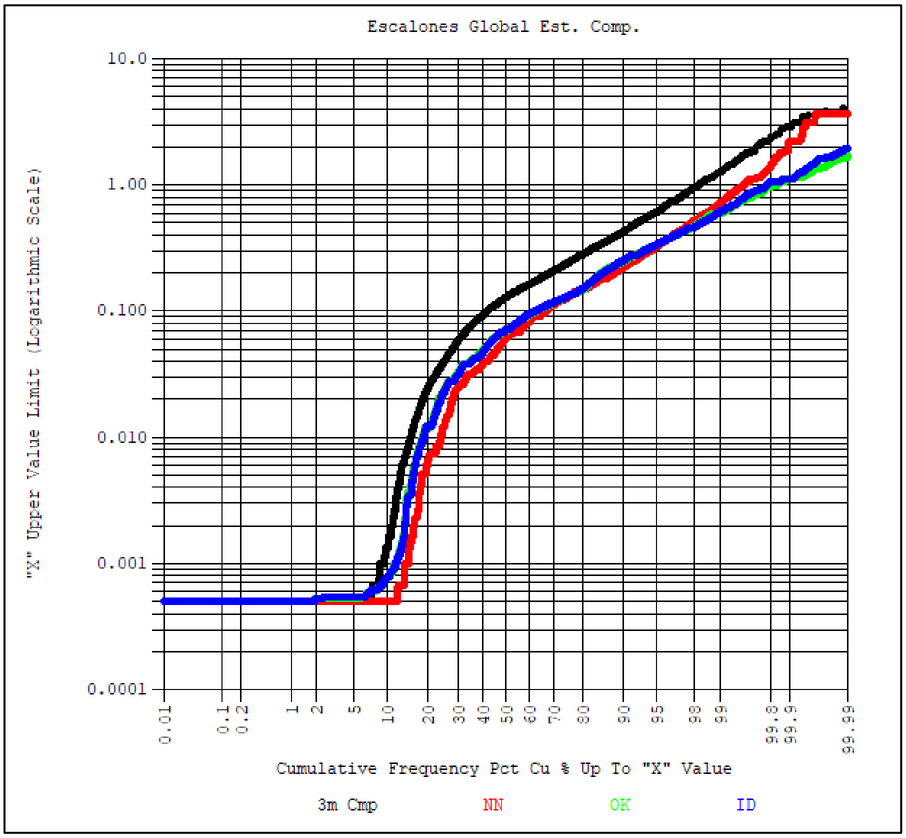


Figure 14-9: Inside Indicator CFP for Copper ID, OK, NN, and Composites Grades

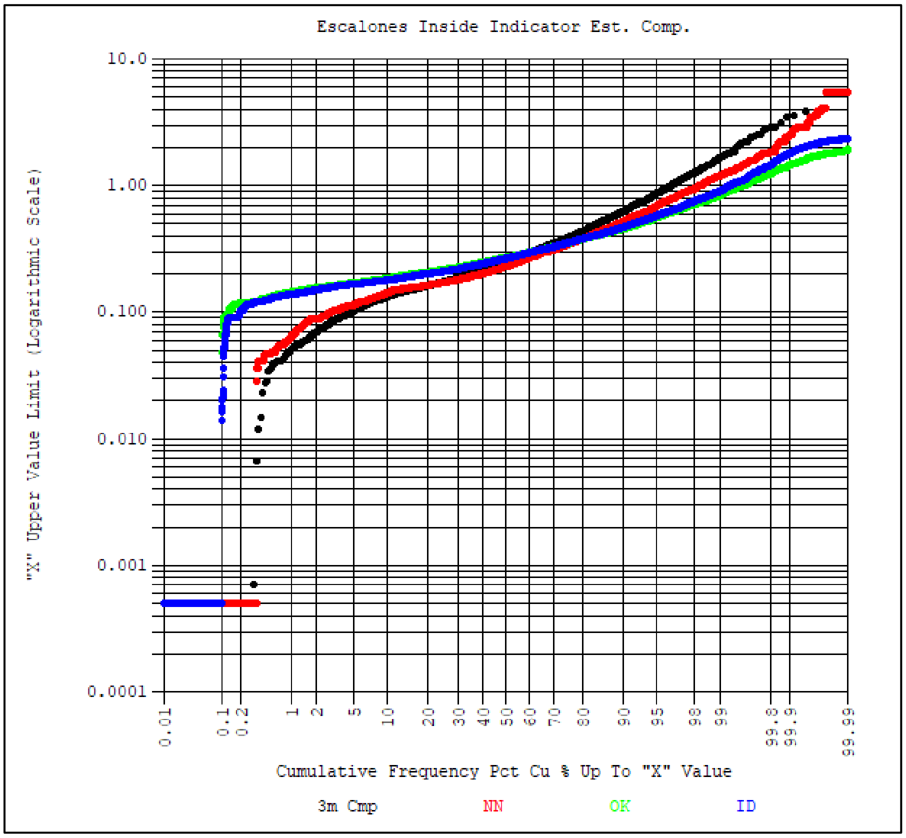
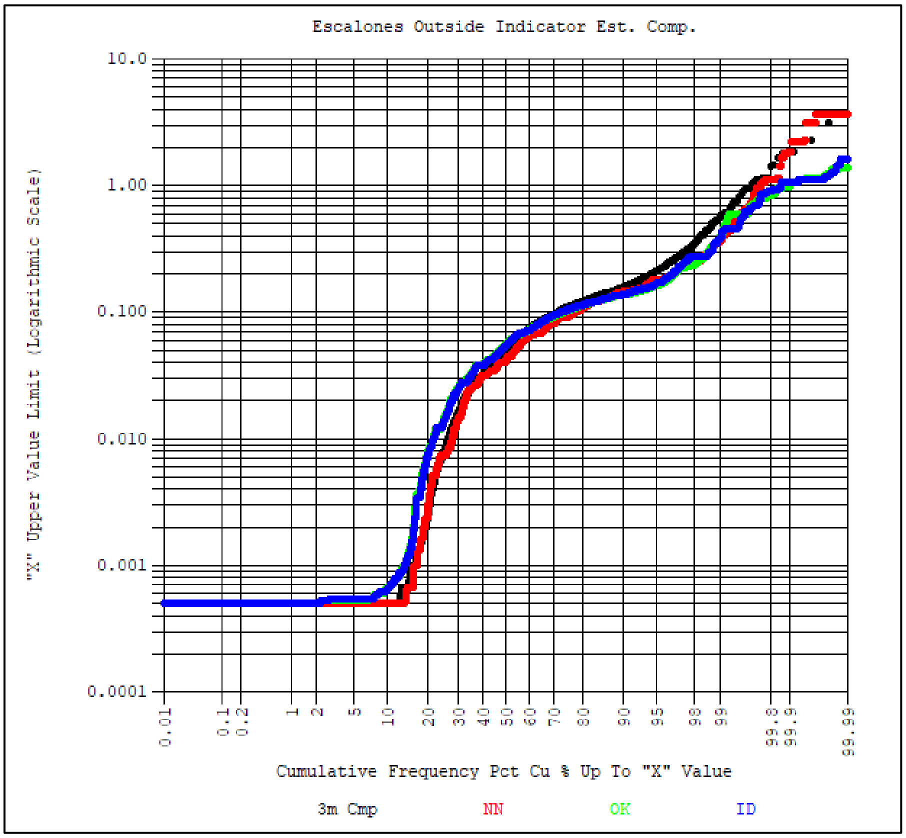


Figure 14-10: Outside Indicator CFP for Copper ID, OK, NN, and Composites Grades



The overall reduction of the maximum and standard deviation within the ID model in conjunction with the results from the CFP plots represent an appropriate amount of smoothing to account for the point to block volume variance relationship while maintaining similar means. The reduction in mean from the composite to the estimates is the result of large volumes of low-grade material being estimated in low-grade domains with relatively fewer composites. The occurrence of blocks with negative grades is the result a composite with significantly higher grade than surrounding samples. The small number of negative blocks is not a significant impact on the mineral resource estimate.

14.6.2 Swath Plots

Swath plots were generated to compare average estimated copper grade from the ID method to the NN and OK validation models. On a local scale, the NN model does not provide a reliable estimate of grade, but on a much larger scale, it represents an unbiased estimation of the grade distribution based on the total data set. Therefore, if the ID model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the distribution of grade from the NN.

Three sets of swath plots were generated for copper. Figure 14-11 shows the global copper swath plot set, Figure 14-12 shows the copper swath plot set inside the indicator, and Figure 14-13 shows the copper swath plot set outside the indicator. Each set contains a swath plot along the X axis of the block model (upper left corner), the Y axis of the block model (upper right corner), and the Z axis of the block model (lower center).

Figure 14-11: Global Copper Swath Plots

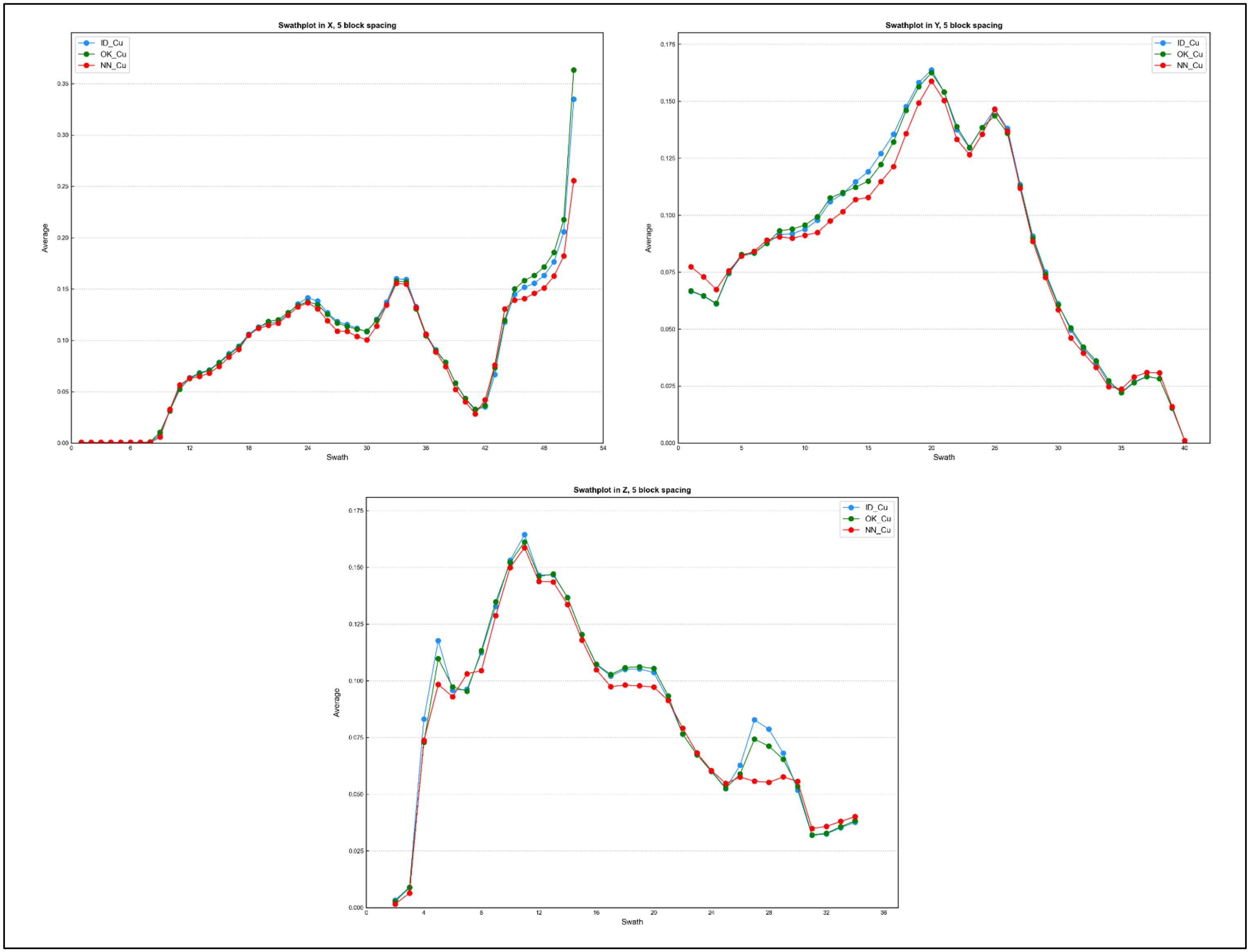


Figure 14-12: North-South Copper Swath Plot

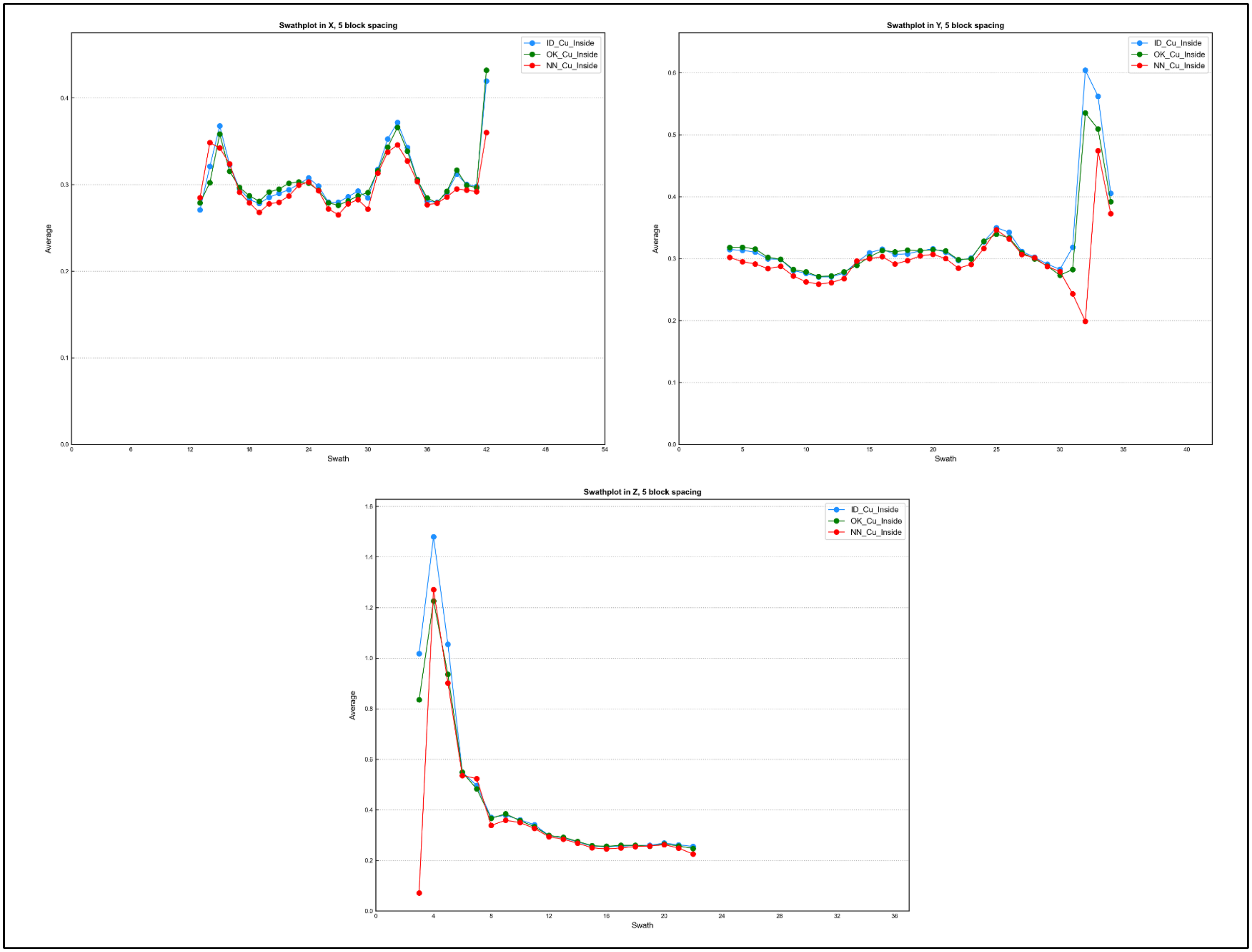
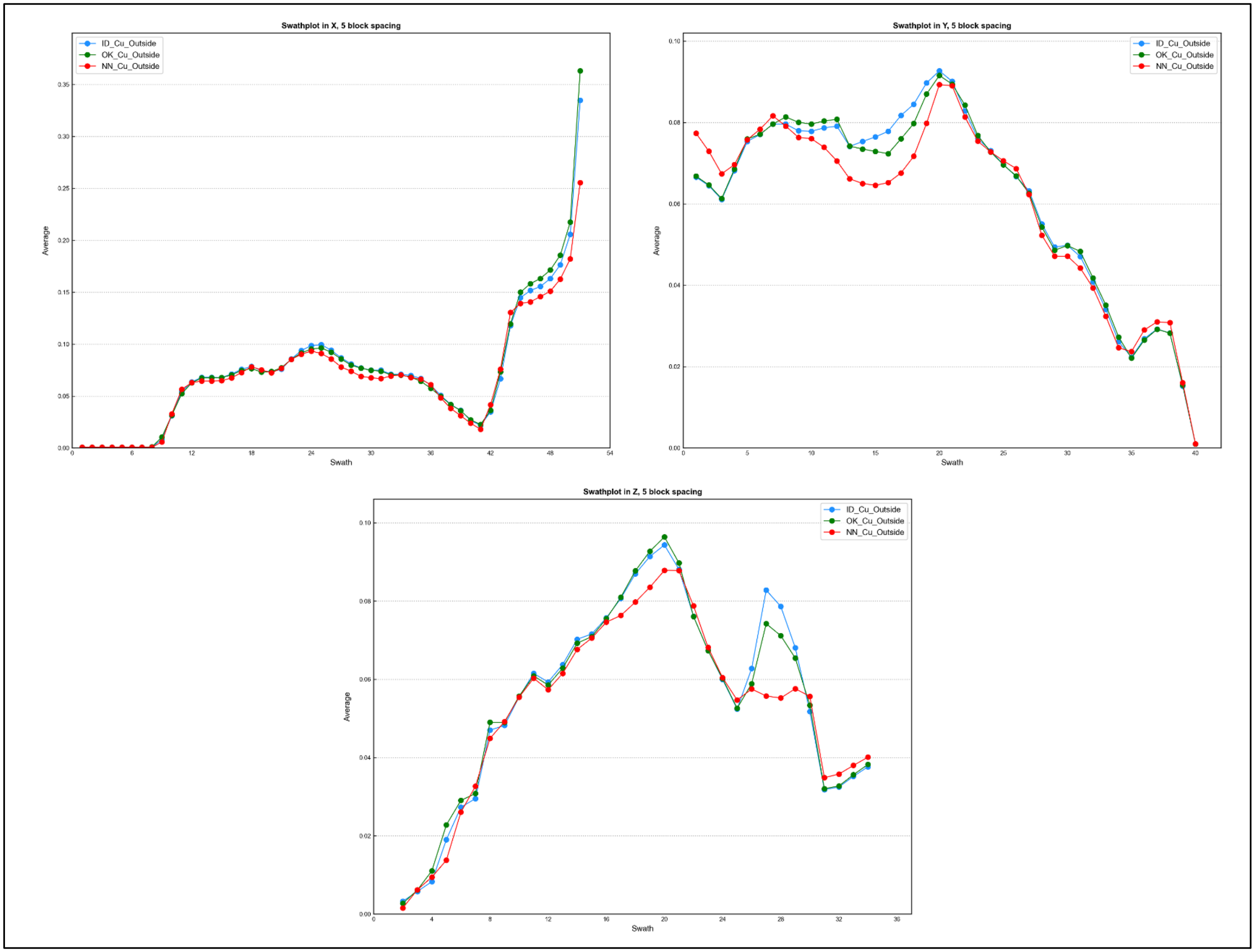


Figure 14-13: Elevation Copper Swath Plot



Correlation between the grade models is generally good, though deviations occur. Areas where these deviations occur are the result of low sample density. Of note, the deviations are more significant outside the indicator than inside the indicator.

14.6.3 Section Inspection

Bench plans, cross-sections, and long sections comparing modeled grades to the 3-metre composites were evaluated. The example sections displaying estimated copper grades (locations are shown in Figure 14-14) are shown in Figure 14-15 through Figure 14-17. The figures show good agreement between modeled grades and the composite grades. In addition, the modeled blocks display continuity of grades along strike and down dip.

Figure 14-14: Section Location Map

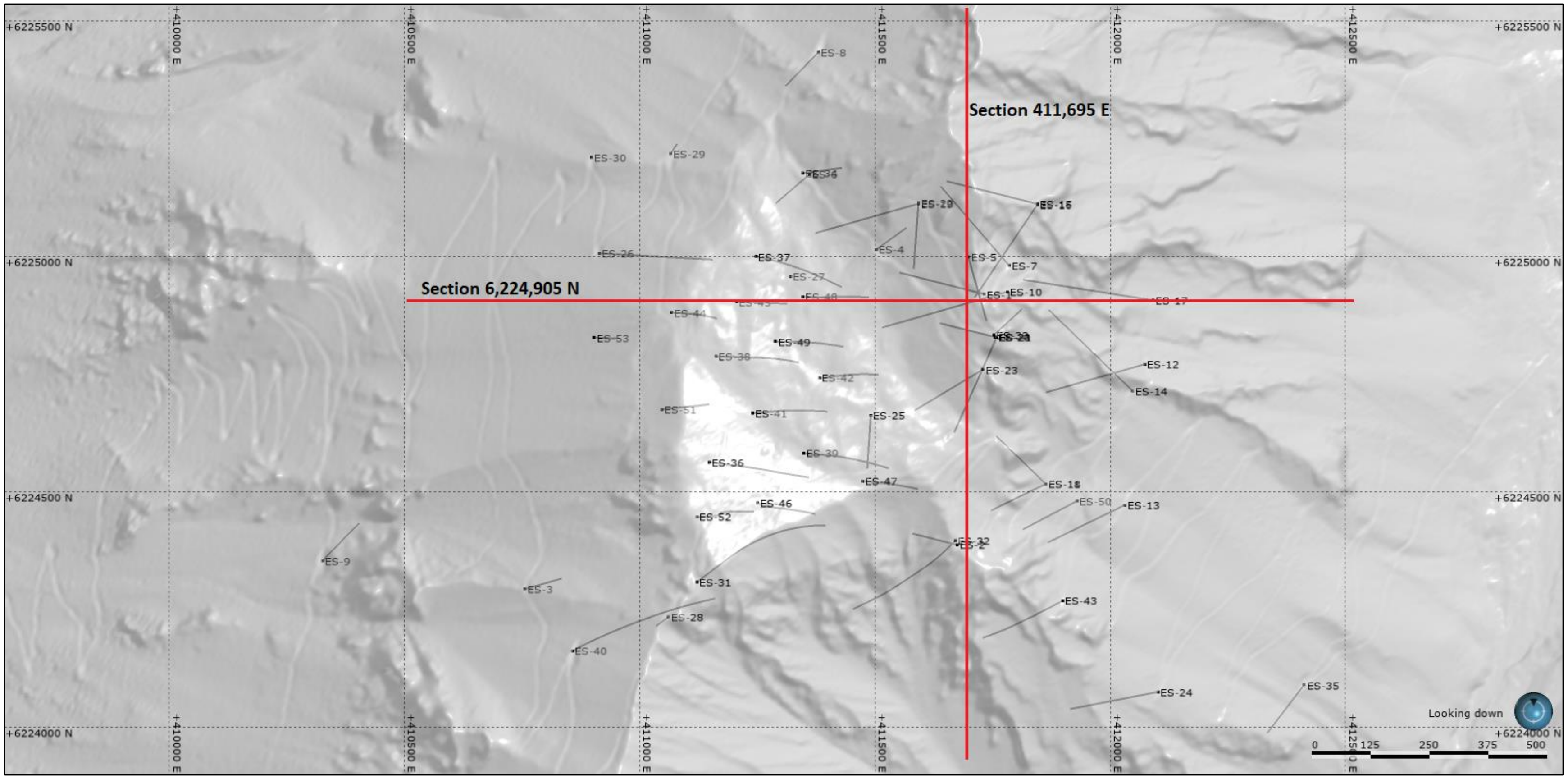


Figure 14-15: 6224905 N Cross Section of Estimated Copper Grades with Composites

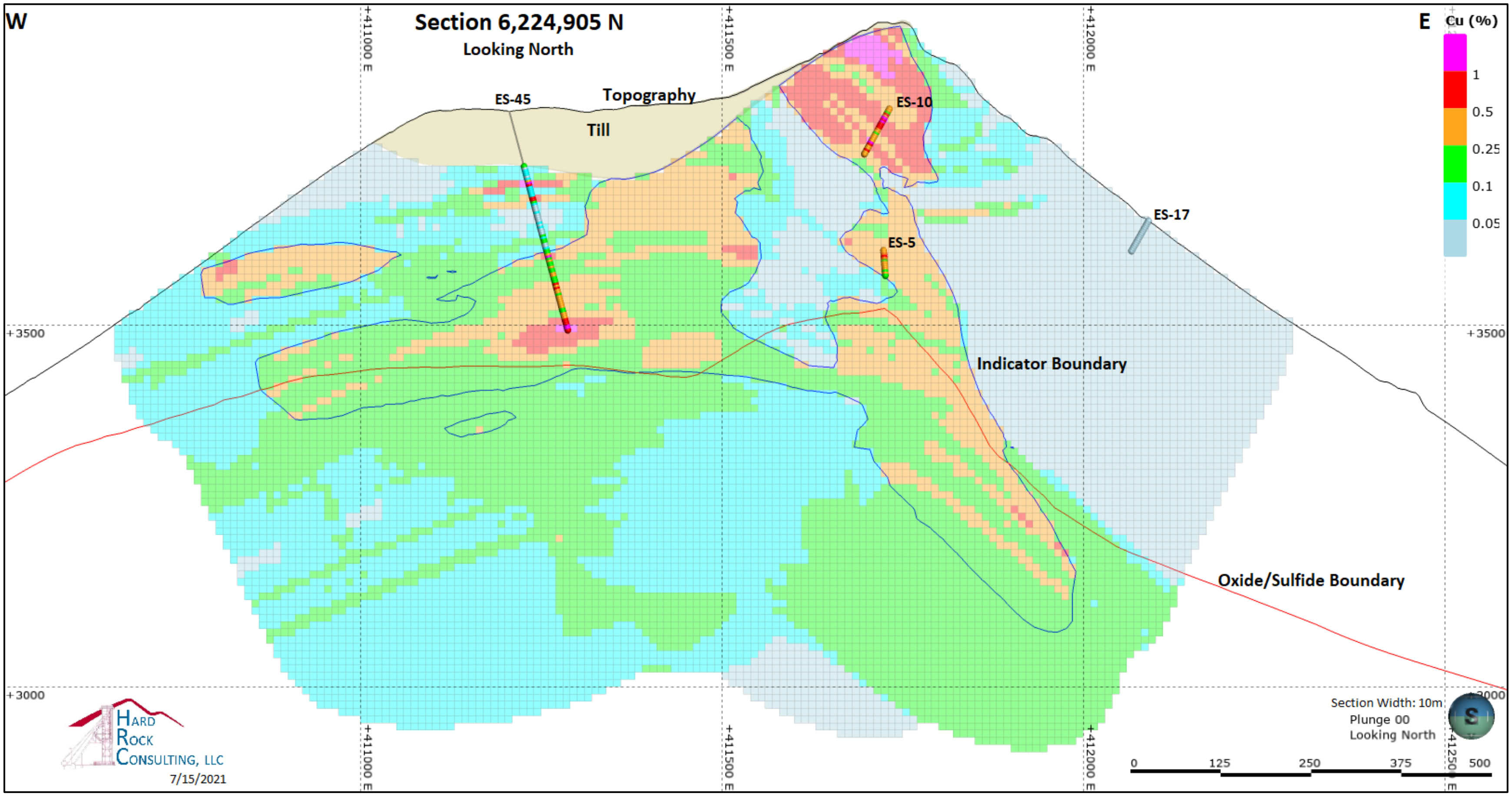


Figure 14-16: 411695 E Long Section of Estimated Copper Grades with Composites

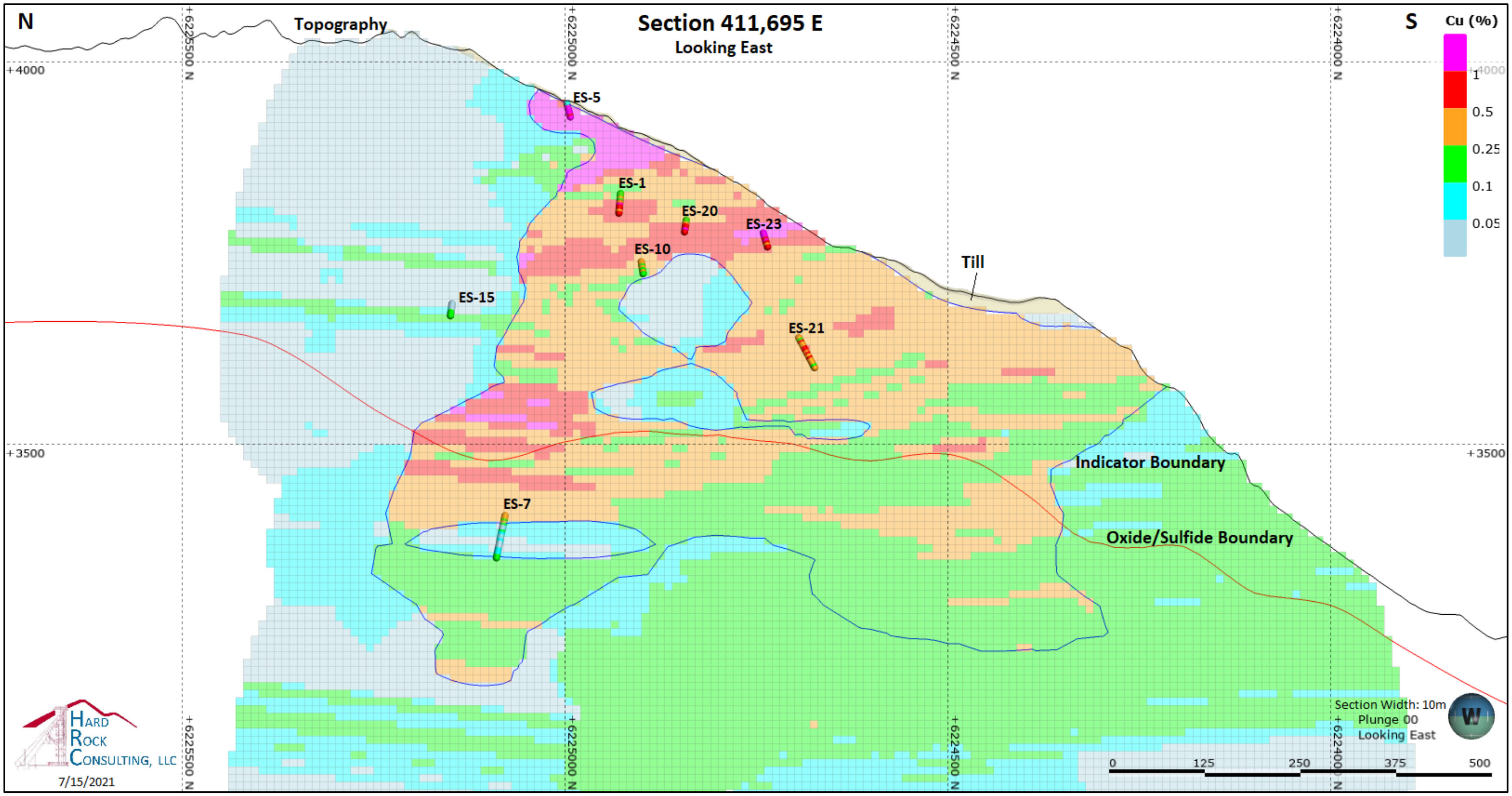
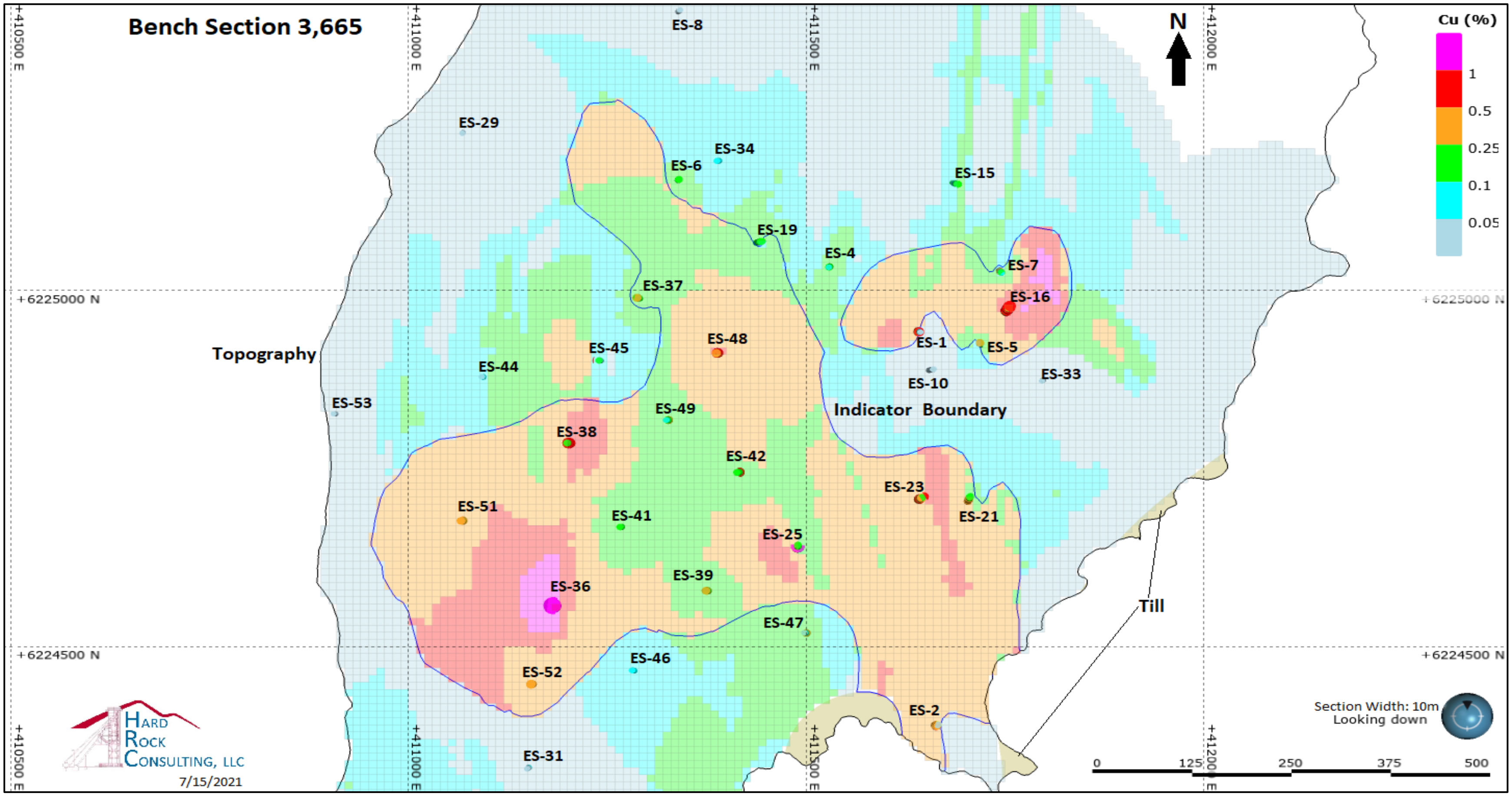


Figure 14-17: 3665.0 Bench Section of Estimated Copper Grades with Composites



14.7 Density

The database provided by World Copper contains 4,508 Specific Gravity (SG) samples from the drill core. The SG samples contained in the database were tagged to the Geologic Model and Oxidation Model, and then average and median values were calculated for each domain. Based on the averages from the study, densities were applied to the Geologic model lithologies as shown in Table 14-8.

Table 14-8: Density Averages by Litholgy

GM	SG
Glacial Till	2.00
Skarn	2.88
Porphyry	2.63
Sedimentary Units	2.64

14.8 Mineral Resource Classification

The mineral resources are classified as Measured, Indicated, and Inferred in accordance with "CIM Definition Standards for Mineral Resources and Mineral Reserves", prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on May 10, 2014. Classification of the resources reflects the relative confidence of the grade estimates.

Due to the limited number of sequential leach assays, the inconclusiveness of grade continuity from the variogram study, and the implementation of an indicator estimation domain as opposed to a robust geologic domain methodology, the estimated blocks above the modeled oxide/sulfide surface were given a resource classification of Inferred. Estimated blocks below the oxide/sulfide boundary are unclassified and excluded from the mineral resource statement.

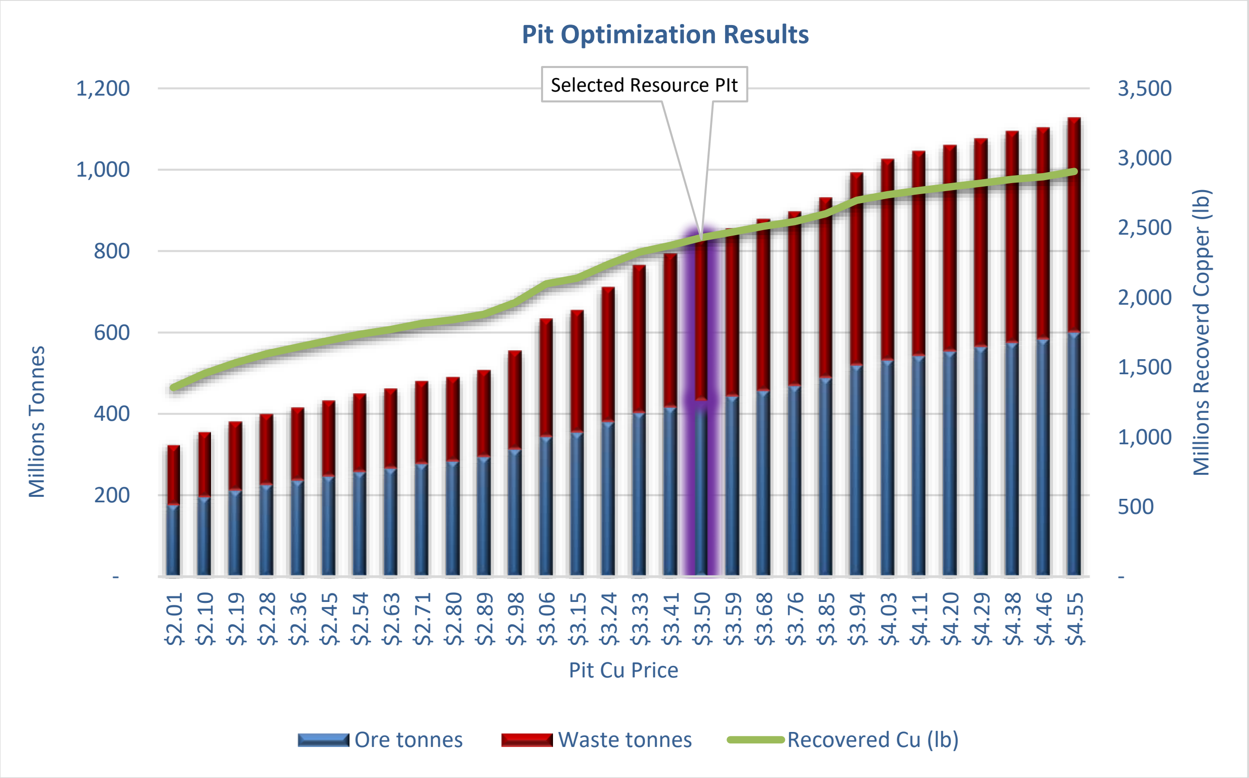
14.8.1 Mineral Resource Tabulation

The "reasonable prospects for economic extraction" requirement referred to in NI 43-101 was tested by designing a series of conceptual Lerchs-Grossman pit shells. The economic parameters used for this analysis are based upon estimated operating costs at the project scaled to reflect production rates, expected processing costs, and estimated recoveries from metallurgical tests completed to date. Table 14-9 summarizes the cost and recovery parameters used in the analysis. Blocks classified as Measured, Indicated, and Inferred were used to define the resource pit shell. The block model tonnes and estimated recovered copper are shown in Figure 14-18 at variable copper prices within corresponding pits, as a sensitivity analysis.

Table 14-9: Parameters used for Resource Pit Shell Generation

Item	Cost/Rate	Units
Base Case Cu Price	$3.50	US$ per lb Cu
Mining Cost	$2.50	US$ per Total tonne
Production Taxes	$0.50	US$ per process tonne
Processing Cost	$5.00	US$ per process tonne
G&A	$1.00	US$ per process tonne
Cu Process Recovery	71	%
Royalty	2.0	%

Figure 14-18: Pit Optimization Sensitivity Chart



14.9 Mineral Resource Statement

Resources are reported within an optimized pit shell and meet the test of reasonable prospect for economic extraction. A 0.13% Cu cutoff was chosen for reporting the mineral resource. The cutoff grade was calculated based on the following assumptions: a long-term copper price of US$3.50/lb Cu, assumed combined operating ore costs of US$6.50/t (process, general and administrative and mining taxes), refining & shipping costs of US$0.25/lb of Cu, metallurgical recoveries of 71% for copper, and a 2% net smelter returns royalty. The metal prices used in the cutoff represent a 15% increase over the three-year historical average as of June 30, 2021. Table 14-10 list the cost and other parameters used in the cutoff calculation (all dollar amounts in US dollars).

Table 14-10: Resource Cutoff

Internal Cutoff @ Cu Price/lb		**$3.23**
Processing	$/process tonne	$5.00
G&A + Taxes	$/process tonne	$1.50
Cu Recoveries	%	71%
Royalties	Gross	2.0%
Refining & Smelting cost	per/lb	$0.25
Total cost	$/process tonne	$6.50
Cu Selling Price	$US/lbs	$3.50
Cu Cutoff Grade		**0.13%**

This mineral resource estimate for the Escalones Property was completed by Richard A. Schwering P.G., SME-RM, with HRC. Mr. Schwering is a Qualified Person as defined by NI 43-101 and is independent of

World Copper, Ltd., the vendor and the property. HRC estimated the mineral resource for the Project based on wireframe modeling and to a maximum search distance of 300 metres using an inverse distance to the 2.5 power interpolant. Geostatistics and mineral resource estimation were done with Leapfrog EDGE®. Three-dimensional wireframes and model visualization was done with Leapfrog Geo® software, and the mineral resources were constrained with a Lerch-Grossman pit optimization. The metals of interest at the Project are copper. The mineral resources estimate reported here was prepared in a manner consistent with the "CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines" adopted by CIM Council on November 29, 2019. The mineral resources are classified as Measured, Indicated, and Inferred in accordance with "CIM Definition Standards for Mineral Resources and Mineral Reserves", prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on May 10, 2014. Classification of the resources reflects the relative confidence of the grade estimates. The effective date of the mineral resource estimate reported herein is June 25, 2021.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated based on limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration.

Table 14-11 shows the Mineral Resource Statement for the Escalones Project.

Table 14-11: Oxide Mineral Resource Statement for the Escalones Project, June 25, 2021

CLASS	Density	Tonnes	Grade	Metal Content
	tonne/m³	(x 1,000)	Total Cu%	(X 1,000) lb Cu
Inferred	**2.69**	**426,198**	**0.367**	**3,446,982**

*Notes:

(1) Mineral resources that are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated on the basis of limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration. See "Cautionary Note to United States Investors".

(2) Mineral resources are reported at a 0.13% CuT cutoff. The cutoff is calculated based on a long-term copper price of US$3.50/lb; assumed combined operating ore costs of US$6.50/tonne (process, general and administrative and mining taxes); refining & transportation costs of US$0.25/lb of Cu; metallurgical recoveries of 71% for copper and a 2% net smelter returns royalty.

(3) Mineral resources are captured within an optimized pit shell and meet the test of reasonable prospects for economic extraction by open pit. The optimization used the same mining costs of US$2.50/tonne mined and a 50º pit slope.

(4) Rounding may result in apparent differences when summing tonnes, grade and contained metal content.

Table 14-12 lists the Mineral Resources by lithology type. The majority of the Mineral Resource is in the Sedimentary units at 61% of the tonnes, followed by Skarns at 24% and Porphyry at 15%. The estimated metallurgical recovery was the highest in the Sedimentary units as well at approximately 73% and both the Skarn and Porphyry units were estimated at approximately 65%.

Table 14-12: Mineral Resource Estimate by Lithology Type

Class	Lith Type	Tonnes (x '000)	Copper (%)	Contained Copper (M lbs)
Inferred	Porphyry	64,228	0.368	520.4
Inferred	Sedimentary	260,067	0.349	2,000.8
Inferred	Skarn	101,903	0.412	925.7
Total	**All**	**426,198**	**0.367**	**3,447.0**

14.10 Factors that May Affect the Mineral Resource Estimate

The oxide/secondary sulfide - primary sulfide boundary has been modeled using core photos combined with the downhole logs of minerals, and then adjusted with sequential copper leach data where it exists. The sequential copper leach analyses were completed in 2021 from 1,179 drill core sample pulps that were submitted from past drilling completed by TMI from 2007 through 2013. Freshly collected drill hole samples within the currently defined oxide resource extents are needed to confirm the pulps did not oxidize significantly during storage. Existing holes can be twinned, but infill holes are probably more useful as they sample the same mineralization as well as further define the base of the oxidation surface. Due to the oxide surface also being developed with core photos, the base of the oxide surface is not expected to change very much with the new drilling, but metallurgical recoveries could vary within the defined oxide zone.

The Mineral Resources have currently only been reported above the base of the oxide/secondary sulfide - primary sulfide boundary to define material that can be recovered by leaching. There is sulphide material below this surface that has been successfully tested for flotation recovery in the past but has been excluded from the current declared Mineral Resources until more information on all of the requirements to recover this material can be analyzed.

HRC is unaware of any other known environmental, permitting, legal, title, taxation, socio-economic, marketing, political factors that may materially affect the mineral resource.

15.0 MINERAL RESERVES

There are no Mineral Reserves in this Technical Report.

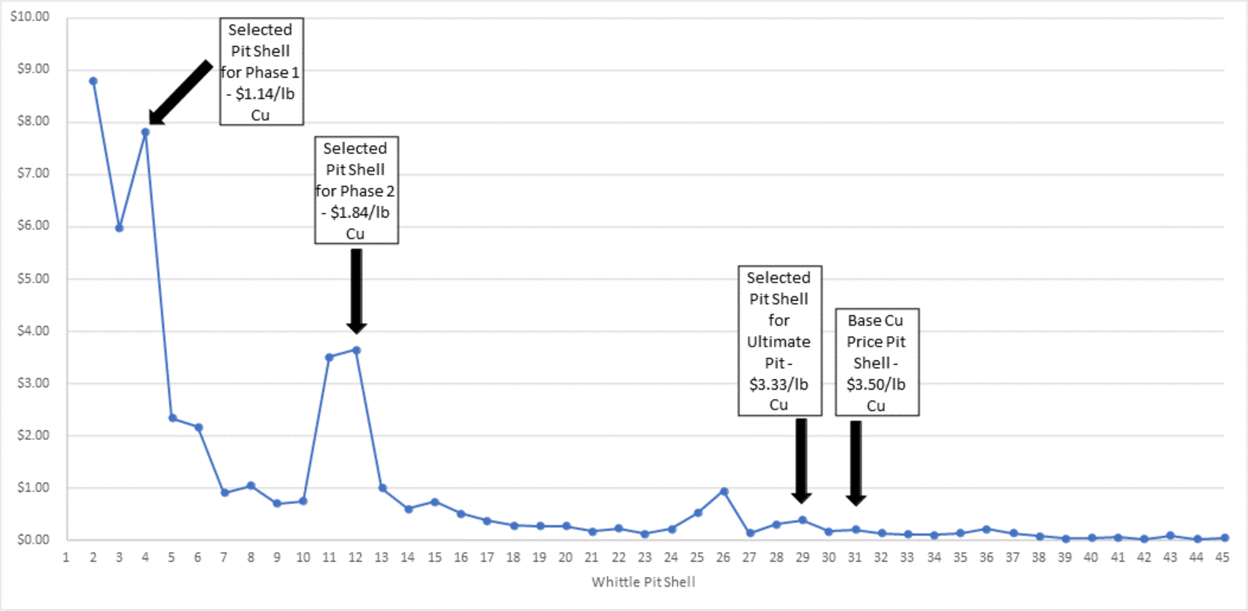
16.0 MINING METHODS

The Escalones Copper Project will employ conventional open mining techniques using front end loaders, hydraulic shovels, and rear dump rigid frame haul trucks. The mineralized material would be treated using heap leach, as discussed in Section 17. The mine plan is designed to deliver an average of 50,000 tonnes of heap leach material per day. The average daily waste production rate over the life of the mine would be 54,000 tonnes per day. Waste rock would be placed in a waste rock storage facility.

16.1 Whittle Pit Shell Analysis

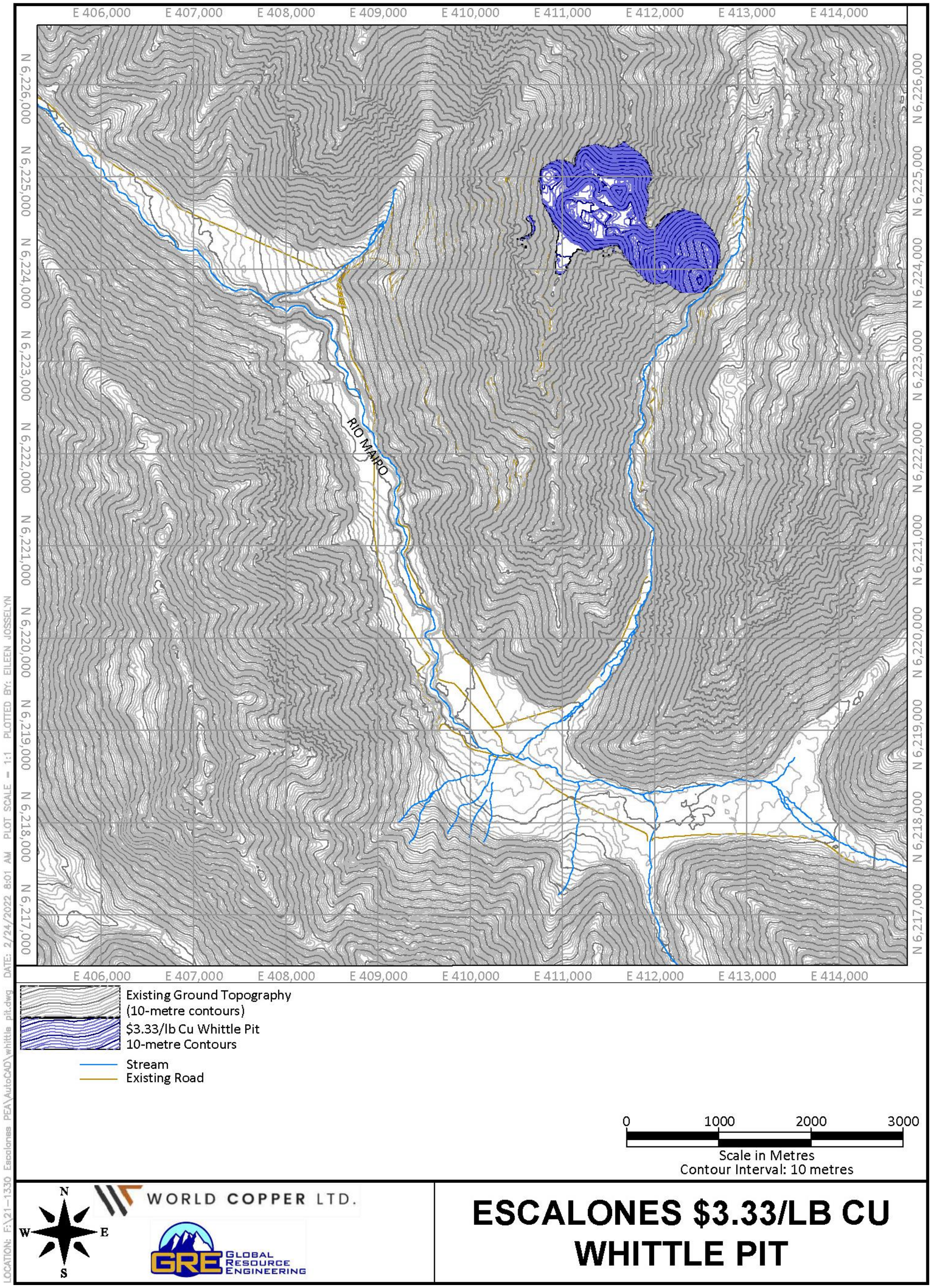
The Whittle pit shells created for the Resource Estimation, as described in Section 14, were analyzed to determine the optimal pit shell for economic extraction of the mineral resources contained in the block model. Ms. Lane of GRE examined the marginal impact on undiscounted cashflow for each Whittle pit shell. This analysis examines the impact that each incremental increase in the pit shell has on the undiscounted cashflow divided by the number of tonnes that are processed. Ms. Lane of GRE selected a case that gave a local spike in the marginal impact on undiscounted cashflow at a revenue factor equal to or less than the base price of $3.50/lb Cu, as shown in Figure 16-1. Ms. Lane also selected smaller Whittle pit shells with local spikes in the marginal impact on undiscounted cashflow for interim phases, as shown on Figure 16-1.

Figure 16-1: Escalones Open Pit Marginal Impact on Undiscounted Cashflow



The Whittle pit shell selected for the mine design is illustrated in Figure 16-2.

Figure 16-2: Escalones $3.33/lb Copper Whittle Pit Shell



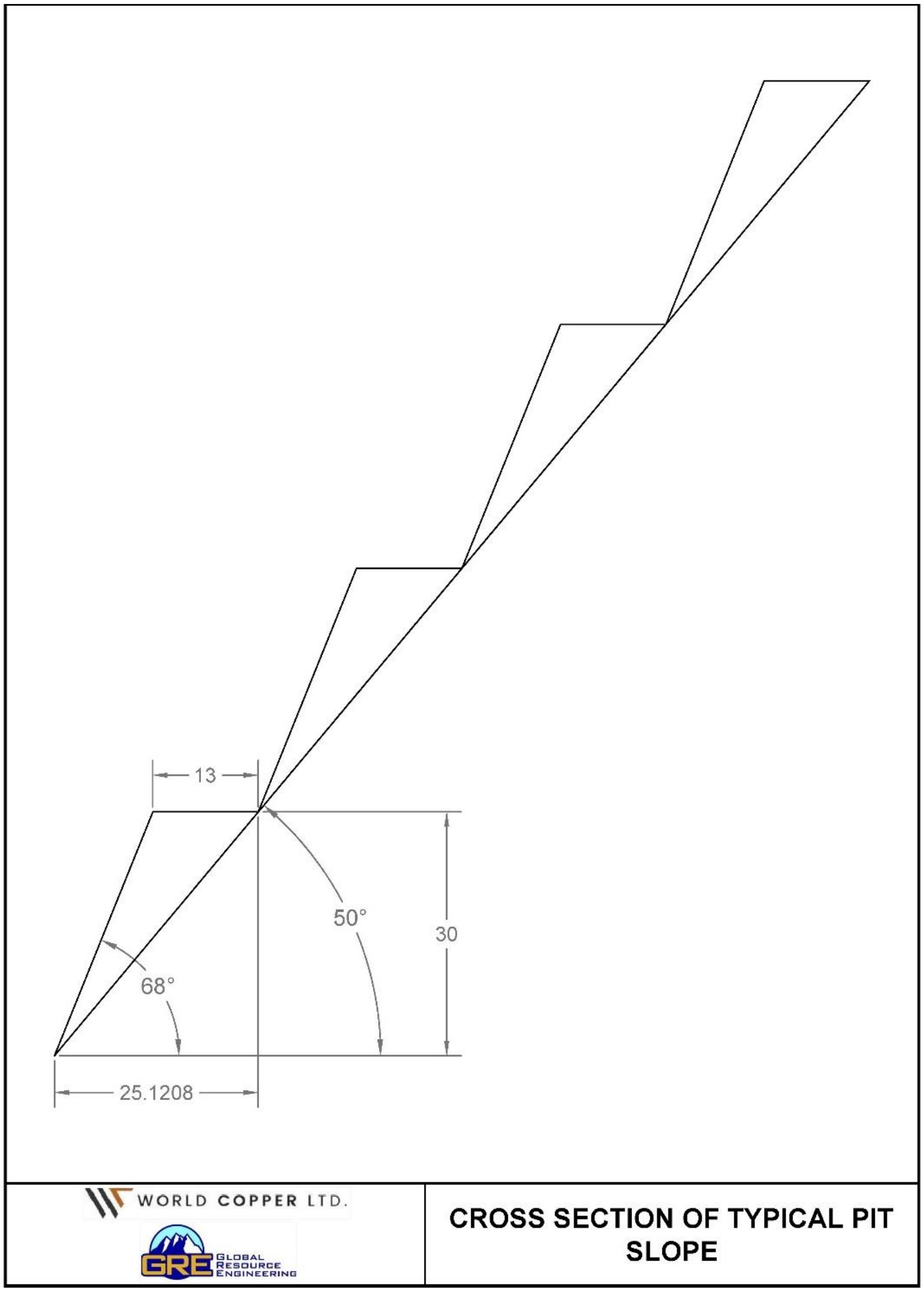
16.2 Pit Design

Ms. Lane of GRE used a triple bench format consisting of triple 10-metre vertical benches with a horizontal 13-metre catch bench every three vertical benches. The resulting open pit parameters are listed in Table 16-1 and illustrated in Figure 16-3.

Table 16-1: Escalones Open Pit Geotechnical Design Parameters

Pit Design Parameters	Value (degrees)
Max Inter-ramp Angle Hard Rock	50
Max Bench Face Angle	68

Figure 16-3: Cross-Section of Typical Pit Slope



The Whittle pit shells selected for each phase of the mine design were imported into GEOVIA Surpac software and designed with pit slopes and benching as described above and with haul roads. Haul roads were designed with a minimum width of 34 metres and a maximum gradient of 10%. Haul ramps and roads have been designed to accommodate two-way traffic using 227-tonne haul trucks, water diversion ditches, and safety berms. Minor sections were narrowed to a single lane of 17 metres and a maximum slope of 15%.

16.3 Base Case

Ms. Lane of GRE examined the economics of varying the cutoff grade. Cutoff grades of 0.13, 0.15, 0.17, 0.19, and 0.21 lb/tonne were evaluated. Ms. Lane of GRE selected the 0.17 lb/tonne cutoff grade for the base case.

The resources were reported out of Surpac by bench and pit phase. A summary of the reported resources for each pit phase are shown in Table 16-2. In some cases, out-of-pit haul roads needed to access pit areas on the steep banks of the property were included in the resource reporting.

Table 16-2: Escalones Copper Project Pit Phase Resources

Pit Phase	Mineralized Material (million tonnes)	Rock Waste Material (million tonnes)	Till Waste Material (million tonnes)	Contained Copper (millions lbs)	Copper Grade (%)	Stripping Ratio
1	42.4	20.3	15.5	533.6	0.570	0.84
2	94.	50.8	33.9	811.9	0.392	0.90
3	67.3	124.1	11.4	565.9	0.382	2.02
4	162.2	140.3	12.3	1,186.8	0.332	0.94
Total	**365.8**	**335.6**	**73.1**	**3,098.1**	**0.384**	**1.12**

1) The block model was created by HRC.
2) GRE used HRC's Whittle pit shells to create phases as a guide for phase design and the ultimate final pit design.
3) GRE used 50° inter-ramp angle pit slopes for the pit design, with 34-metre wide haul roads at 10% grade.
4) Resources in this table are reported at a 0.17% Cu cutoff grade.

16.4 Mine Schedule

A preliminary mining schedule was generated from the base case pit resource estimate. Ms. Lane of GRE used the following assumptions to generate the schedule:

- Mining Production Rate: 50,000 tonnes per day (tpd)
- Mine Operating Days per Week: 7
- Mine Operating Weeks per Year: 52
- Mine Operating Shifts per Day: 2
- Mine Operating Hours per Shift: 12

Pre-stripping of waste was included if waste occurred on a bench that had no corresponding processable material or if the tonnage of waste on a bench exceeded ten times the tonnage of processable material on that bench. The production rate for pre-strip benches was generally set to two times the leach material production rate, or 100,000 tpd, but varied to smooth out the mining fleet where possible.

For the economic model, the project was schedule by quarter for any pre-production years and for the first two production years, then by year for the remainder of the mine life. Ms. Lane of GRE included a gradual ramp-up to full production during the first year as follows: 25% for the first quarter, 50% for the second quarter, 75% for the third quarter, and 100% for the remaining duration. The mining schedule is summarized in Table 16-6 and illustrated in Figure 16-6.

16.5 Mine Operation and Layout

All facilities needed for the project, including administrative offices, warehouse, ANFO storage, equipment shop, fuel station, plant, leach pad, and waste storage, will need to be constructed. Ms. Lane of GRE developed conceptual layouts for the project. Phased site layout plans for each phase and sub-phase for the project are illustrated in Figure 16-5 through Figure 16-12 (Note: in these figures, the waste dump is illustrated as filling from the bottom up, whereas it will actually be filled from the top down).

16.5.1 Drilling Blasting

The process material and waste rock material would be drilled and blasted using a rotary crawl driller and ammonium nitrate fuel oil (ANFO). The till waste material would not require drilling and blasting.

16.5.2 Loading and Hauling

The blasted rock and till would be loaded with 20-cubic metre capacity front end loaders and hydraulic shovels into 227-tonne capacity haul trucks. Mineralized material would be hauled to the primary crusher, and waste material would be hauled to the waste storage facility.

Mineralized material from the primary crusher would be transported via conveyor to the secondary crusher as described in more detail in Section 17.

16.5.3 Waste Storage

Waste material would be stored in the waste storage facility located west of the pits in the adjacent valley. This location was selected to minimize hauling distances and disturbed acreage. Approximately 210 million loose cubic metres of waste would be mined and placed into the waste rock storage facility. An additional 170 million loose cubic metres of waste from haul road and leach pad construction would also be placed into the waste rock storage facility. The waste storage facility would be engineered to have overall final 3H:1V ultimate slopes.

16.5.4 Heap Leach

The heap leach facilities would be located south of the Maipo River immediately south of the project area. Ms. Lane of GRE has designed the structure with a maximum capacity of 229 million tonnes. The heap leach facility would be constructed as detailed in Section 17.0 by stacking lifts to a maximum height of 100 metres and with overall final 3H:1V ultimate slopes.

Table 16-3: Escalones Copper Project Base Case Mine Schedule Summary

Pit Phase	**Year -1**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**	**Year 12**	**Year 13**	**Year 14**	**Year 15**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Total**
Mineralized Tonnes (millions)																						
1	0.0	14.9	14.8	12.7																		42.4
2				5.5	18.3	18.3	18.3	18.3	15.5													94.0
3				2.6	1.2	0.2	2.2	6.7	19.4	16.7	10.8	7.3										67.3
4												10.2	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	6.0	162.2
Total	**0.0**	**14.9**	**14.8**	**20.8**	**19.5**	**18.5**	**20.5**	**24.9**	**34.9**	**16.7**	**10.8**	**17.5**	**18.3**	**18.3**	**18.3**	**18.3**	**18.3**	**18.3**	**18.3**	**18.3**	**6.0**	**365.8**
Rock Waste Tonnes (millions)[1]																						
1	2.2	10.9	4.4	2.7																		20.3
2				4.2	25.0	9.9	5.8	4.7	1.2													50.8
3				4.4	15.6	14.1	13.7	15.7	9.8	19.1	18.1	13.5										124.1
4											12.5	40.2	24.7	30.4	14.8	7.5	4.9	3.1	1.7	0.4	0.0	140.3
Total	**2.2**	**10.9**	**4.4**	**11.4**	**40.7**	**24.0**	**19.5**	**20.4**	**11.0**	**19.1**	**30.6**	**53.8**	**24.7**	**30.4**	**14.8**	**7.5**	**4.9**	**3.1**	**1.7**	**0.4**	**0.0**	**335.6**
Till Waste Tonnes (millions)[1]																						
1	0.1	8.1	4.9	2.5																		15.5
2				23.0	10.8	0.1																33.9
3				0.5	1.0	2.3	2.5	0.7	3.5	0.2	0.2	0.5										11.4
4											0.2	11.0	1.1	0.0								12.3
Total	**0.1**	**8.1**	**4.9**	**25.9**	**11.8**	**2.4**	**2.5**	**0.7**	**3.5**	**0.2**	**0.3**	**11.5**	**1.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**73.1**
Copper lbs (millions)																						
1	0.6	232.4	154.5	146.1																		533.6
2				58.7	154.7	161.0	149.3	146.3	141.9													811.9
3				26.0	10.4	1.8	25.5	54.8	146.1	150.4	92.1	58.8										565.9
4												86.0	146.7	140.3	140.8	129.7	119.7	115.1	132.8	130.1	45.7	1,186.8
Total	**0.6**	**232.4**	**154.5**	**230.8**	**165.1**	**162.8**	**174.8**	**201.1**	**288.0**	**150.4**	**92.1**	**144.8**	**146.7**	**140.3**	**140.8**	**129.7**	**119.7**	**115.1**	**132.8**	**130.1**	**45.7**	**3,098.1**

[1] Waste material from mining only

Figure 16-4: Escalones Copper Project Base Case Mine Schedule Summary

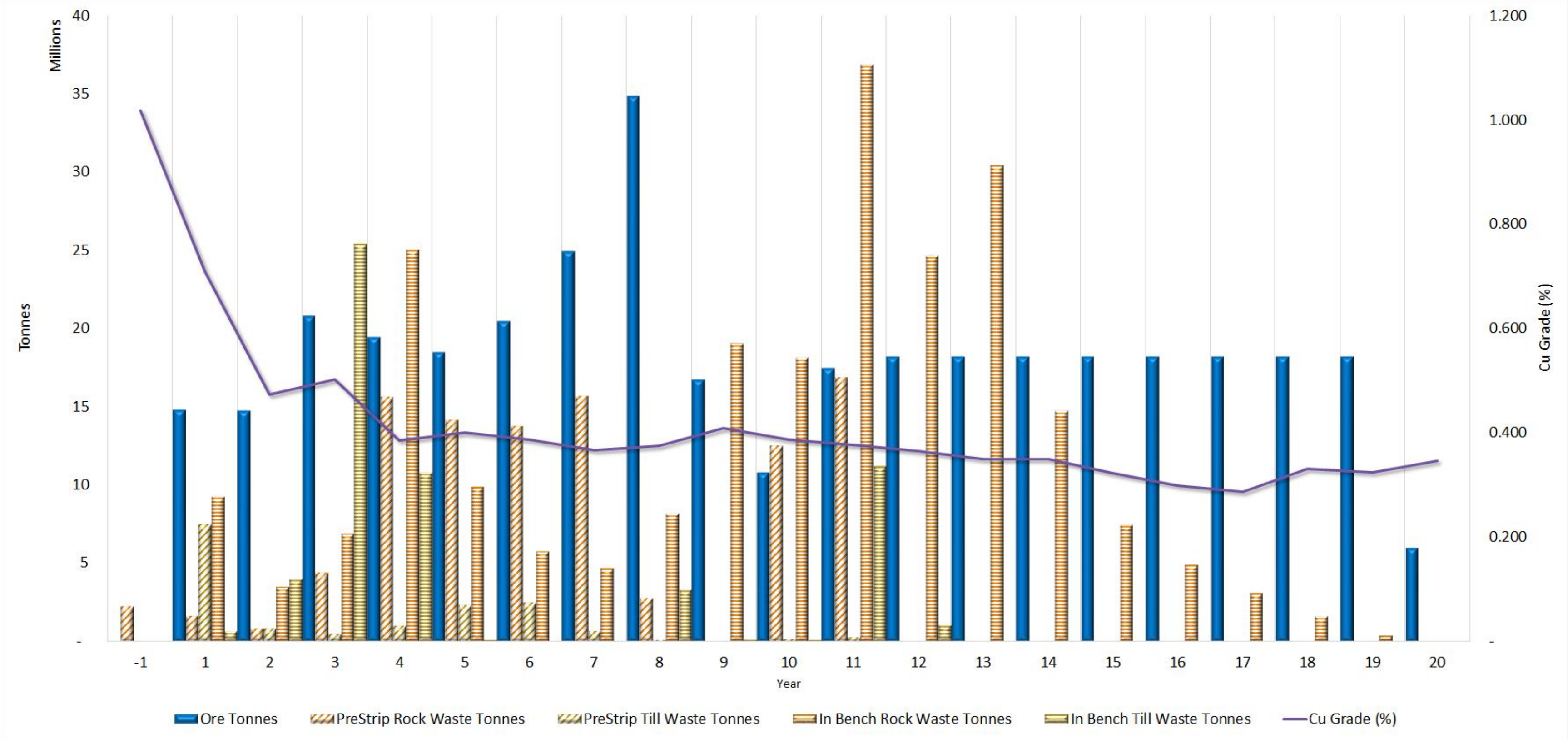


Figure 16-5: Escalones Copper Project Site Layout with Initial Haul Road and Facility Construction

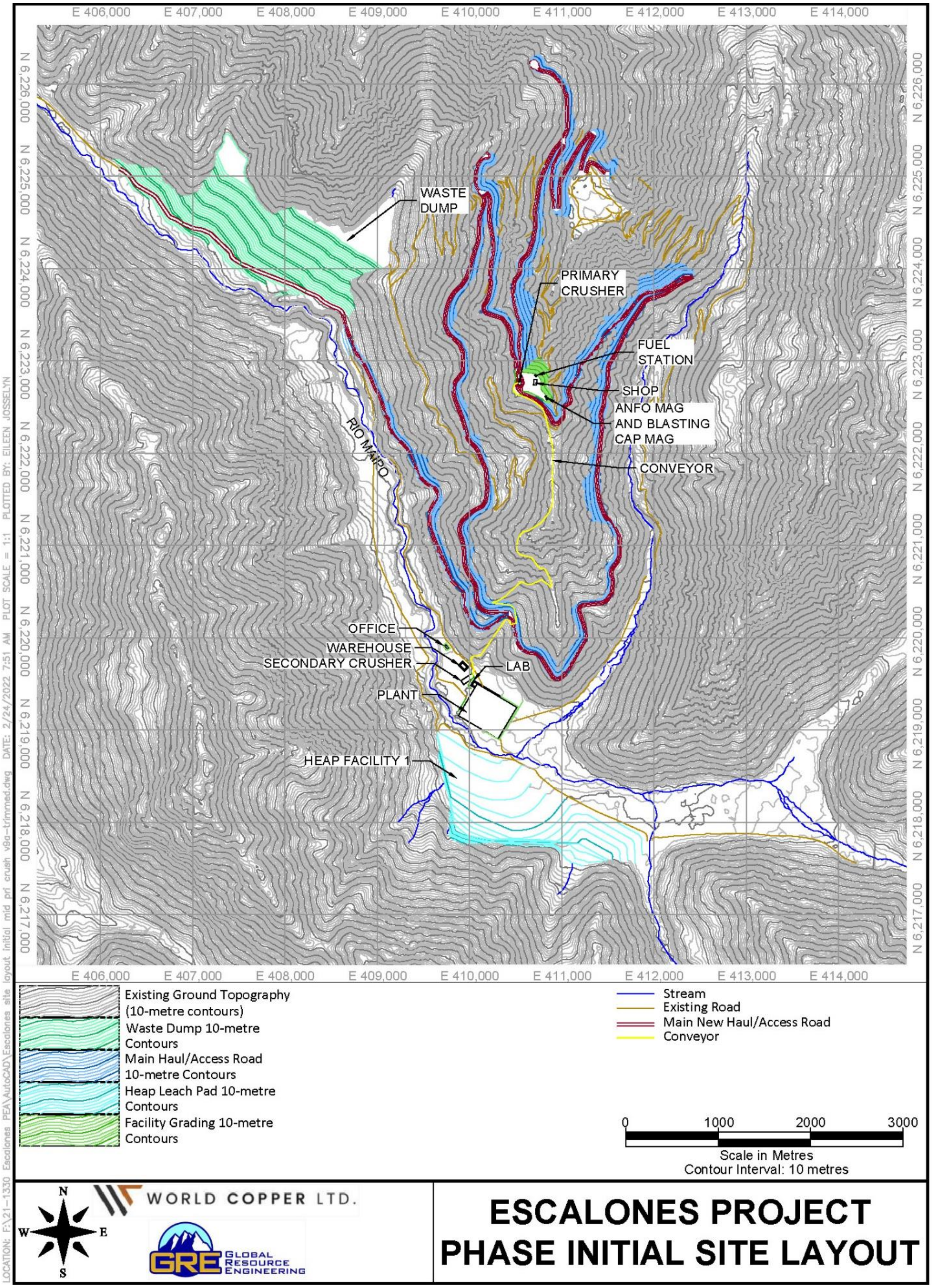


Figure 16-6: Escalones Copper Project Phase 1-1 Site Layout

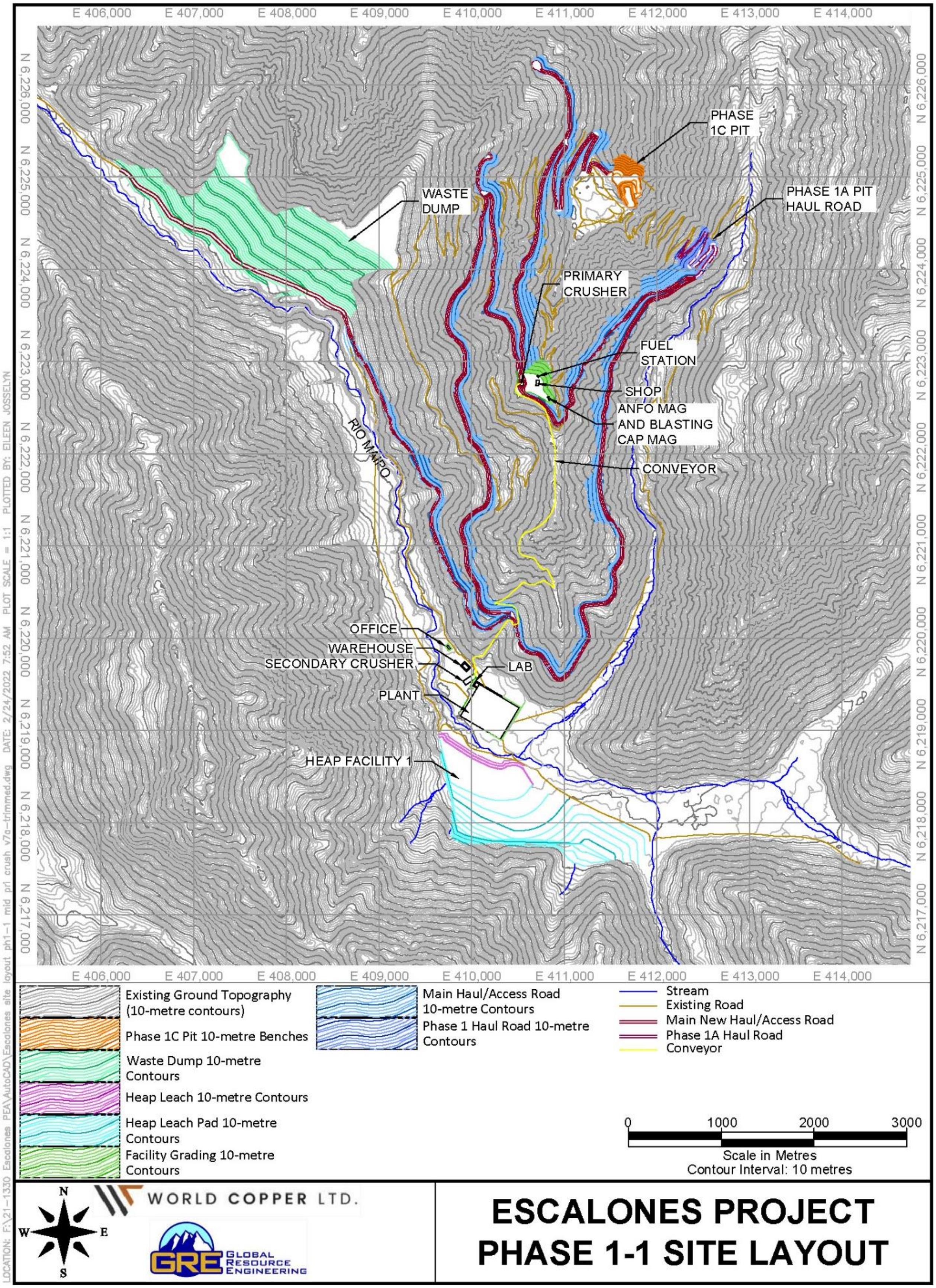


Figure 16-7: Escalones Copper Project Phase 1-2 Site Layout

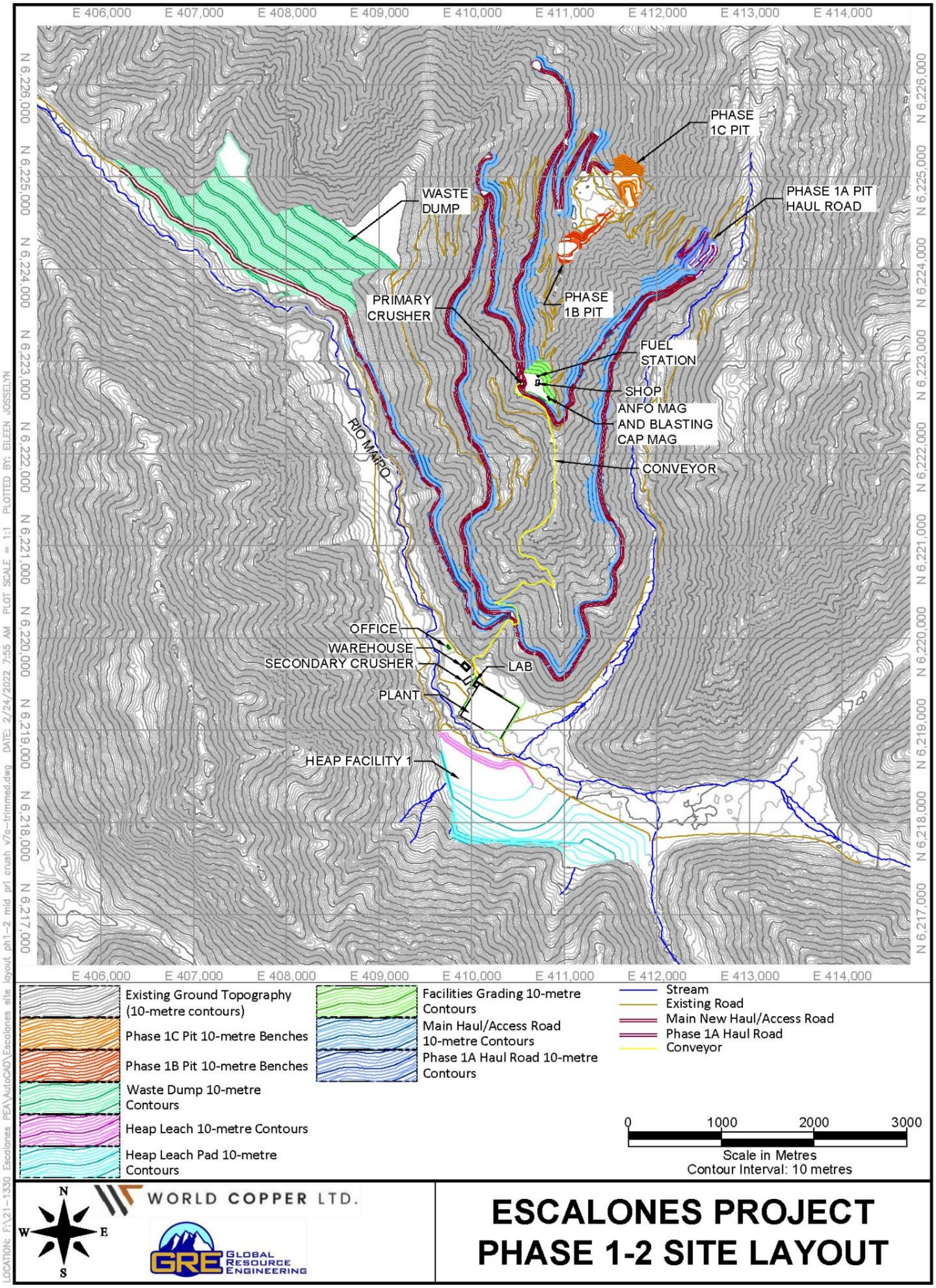


Figure 16-8: Escalones Copper Project Phase 1-3 Site Layout

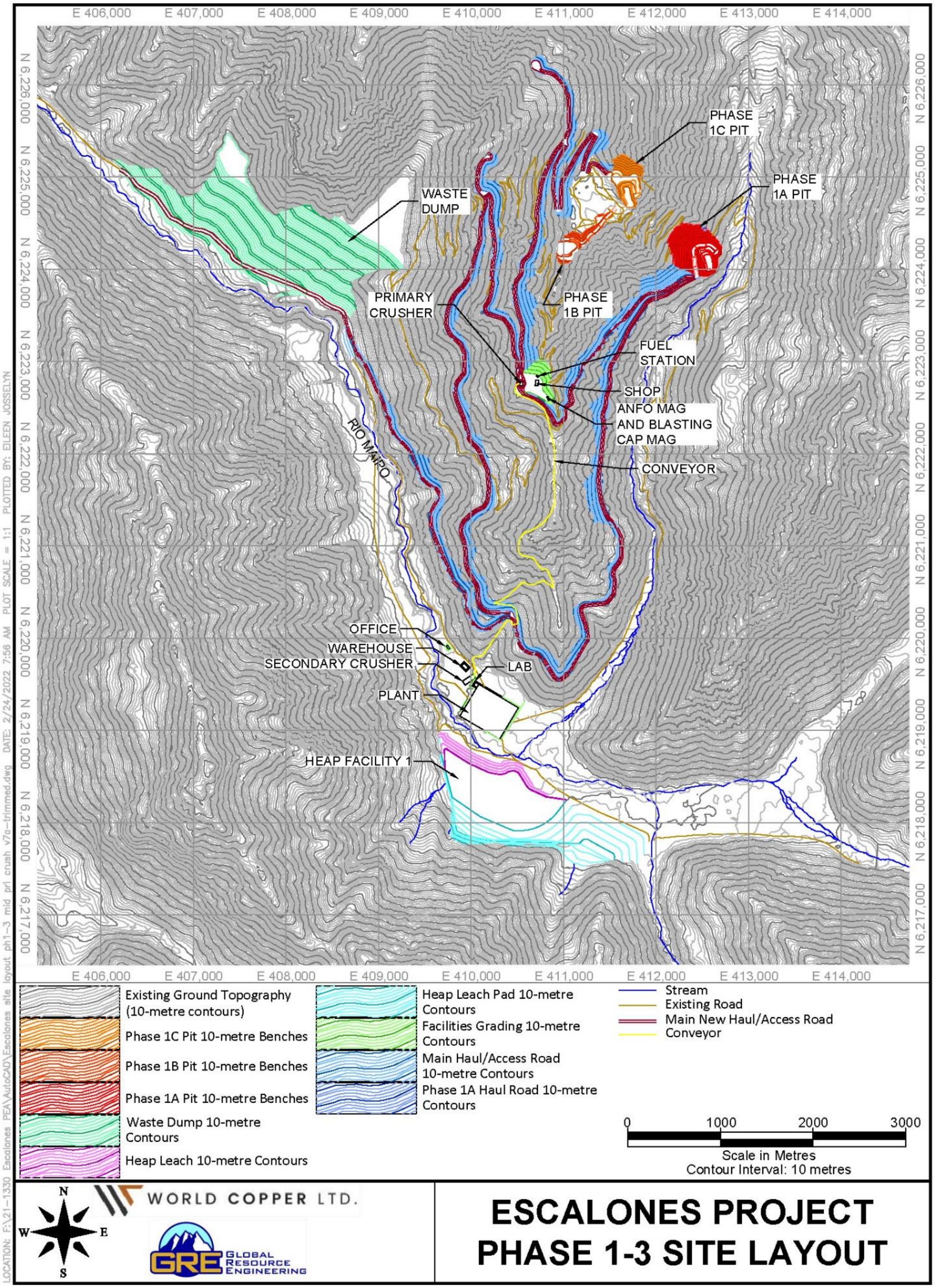


Figure 16-9: Escalones Copper Project Phase 2-1 Site Layout

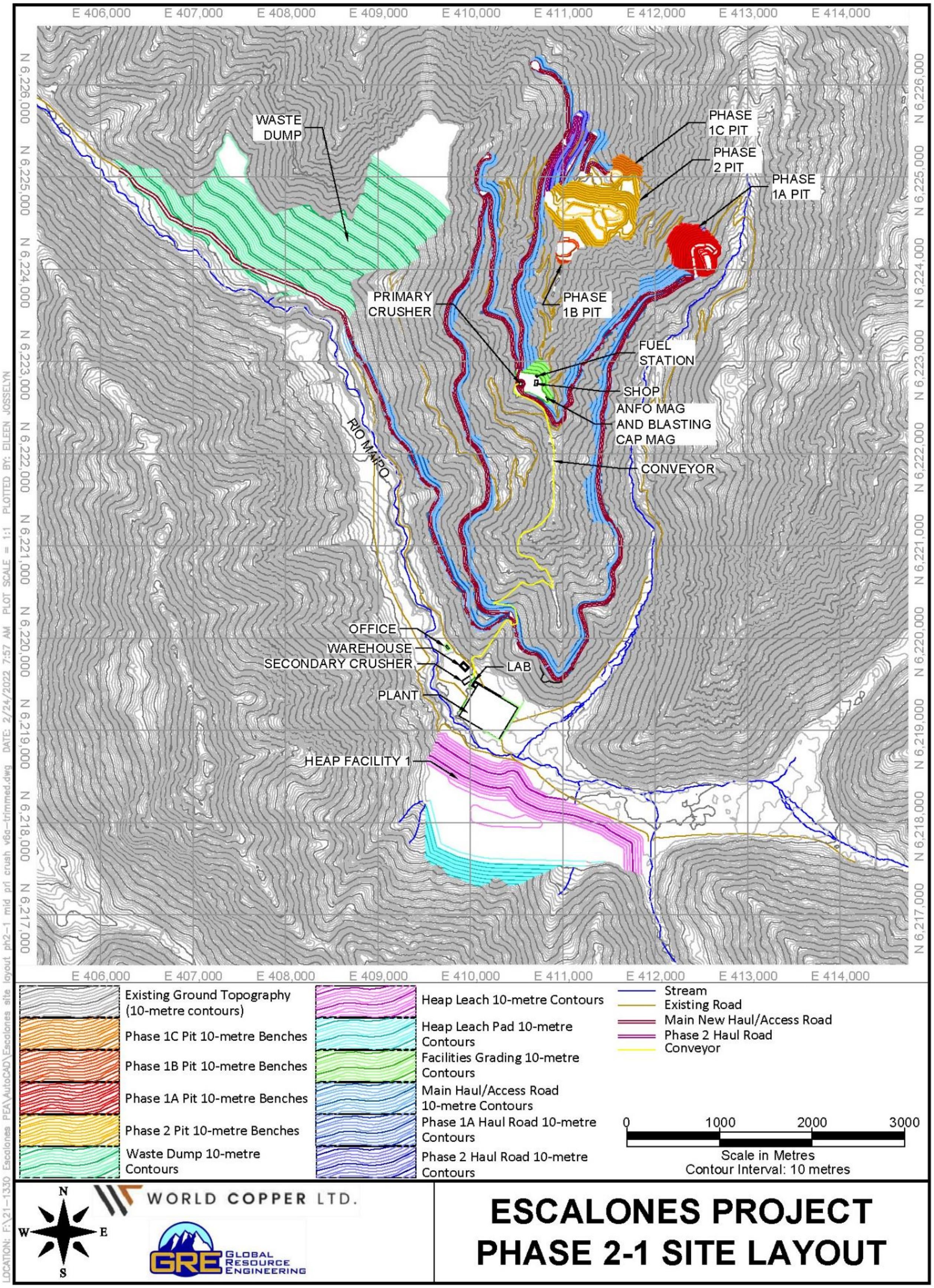


Figure 16-10: Escalones Copper Project Phase 2-2 Site Layout

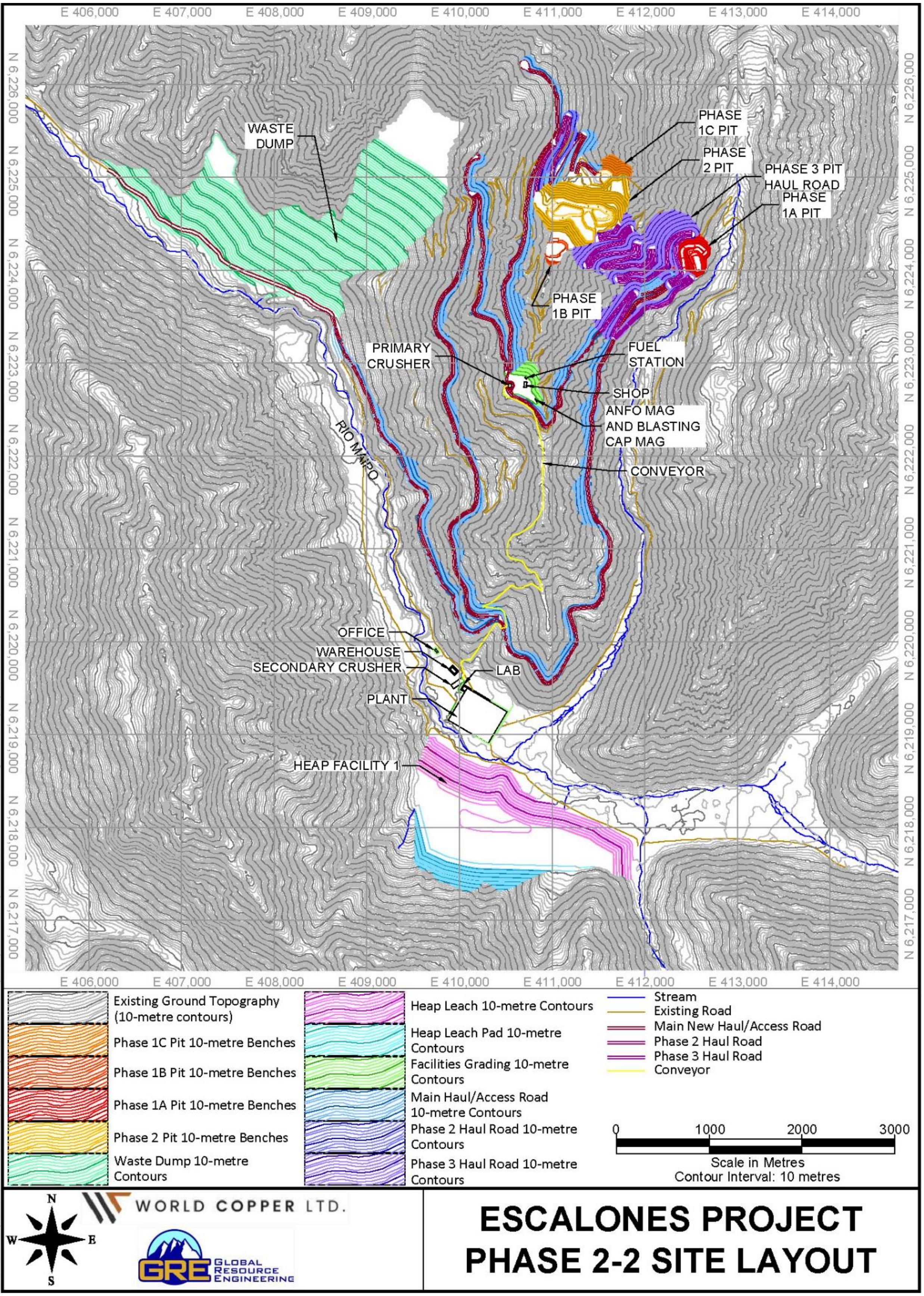


Figure 16-11: Escalones Copper Project Phase 3 Site Layout

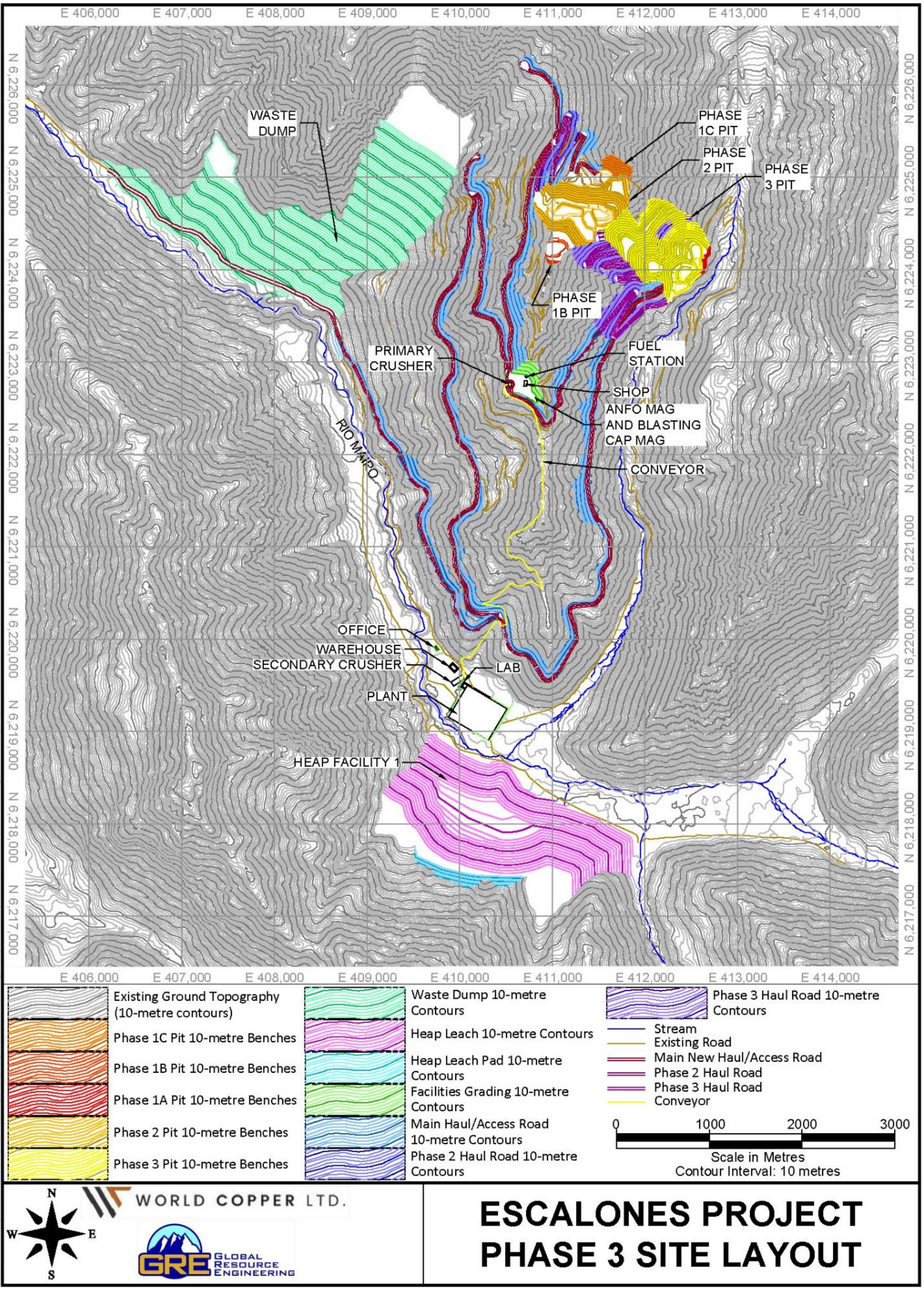
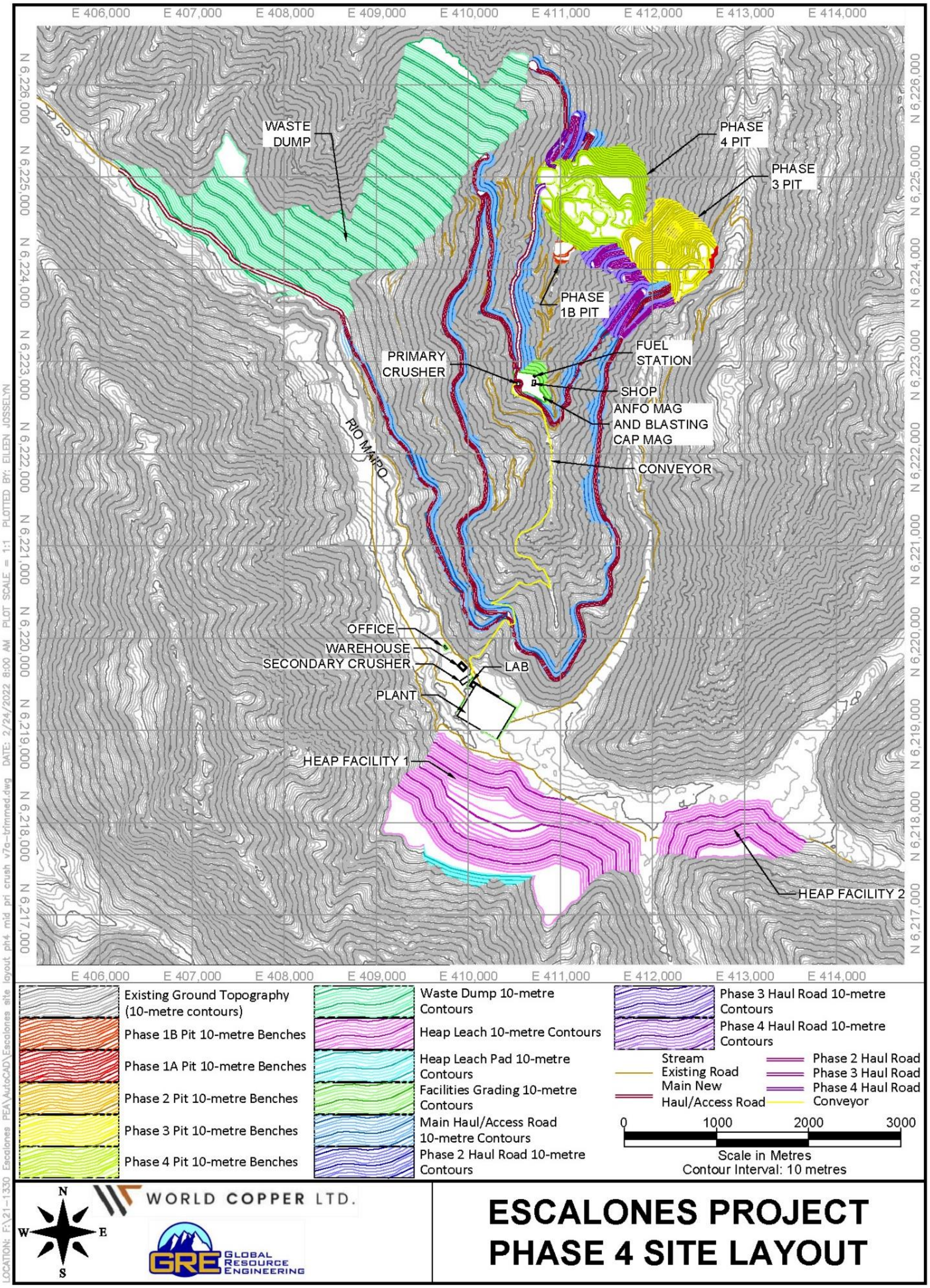


Figure 16-12: Escalones Copper Project Phase 4 Site Layout

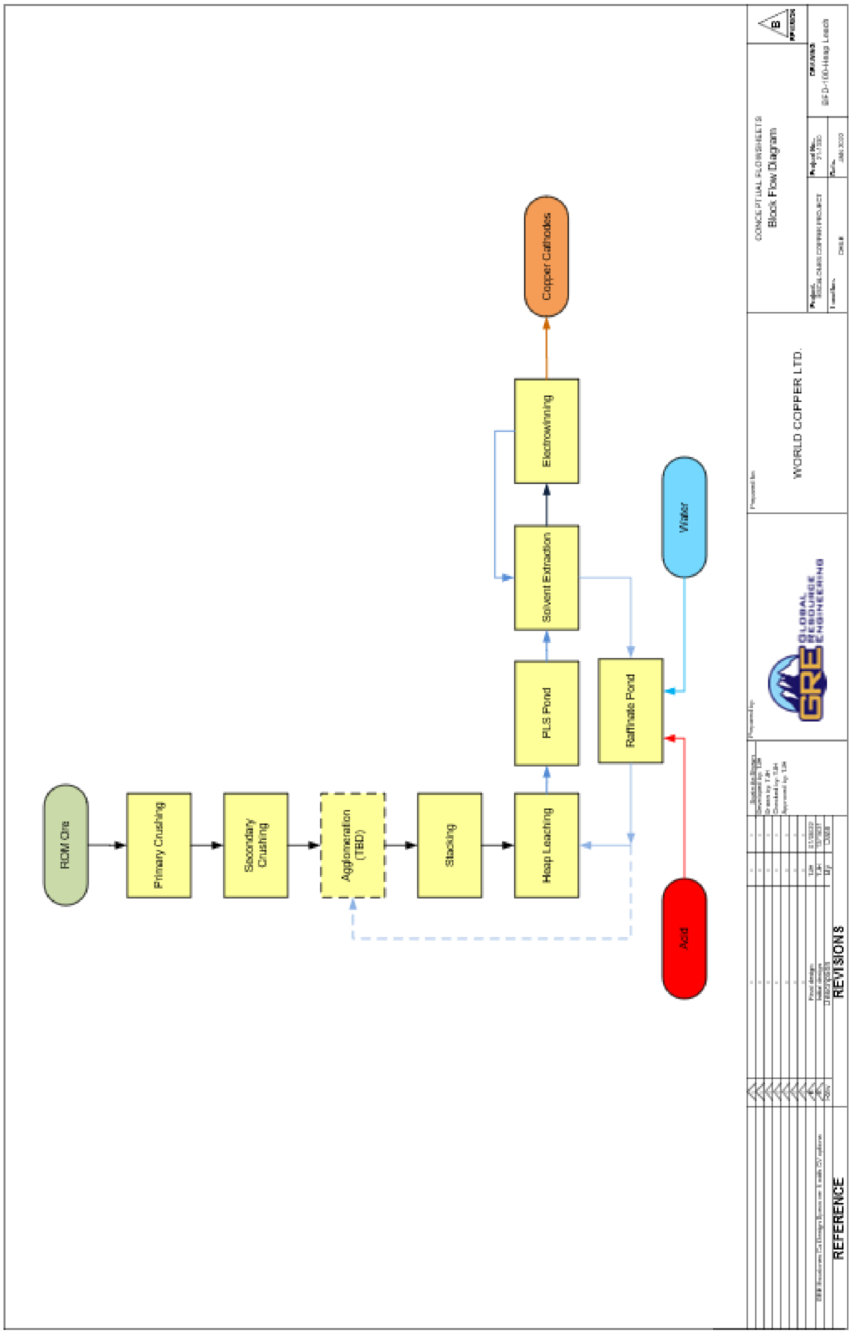


17.0 RECOVERY METHODS

17.1 Process Description

The process for the Escalones project is comprised of conventional sulfuric acid heap leaching followed by solvent extraction and electrowinning to produce cathode copper. Figure 17-1 shows the conceptual flowsheet. The project employs open pit mining with a conventional heap leach system on a 365 day per year 24 hour per day basis. The target production rate is 50,000 tonnes per day of mineralized material producing an average of 52,000 annual tonnes of Grade-A copper cathode (115 million pounds). The estimated average copper extraction from the mineralized material is 72.5%.

Figure 17-1: Conceptual Heap Leach Flowsheet



Run of mine (ROM) material would be trucked to a primary jaw crusher located reasonably close to the proposed open pit. The primary crushed material would then be conveyed to a secondary crushing circuit and delivered to the heap via a series of overland conveyors. A tripper conveyor located adjacent to the heap leach would transfer the crushed material to a series of grasshopper conveyors and ultimately to a stacking conveyor for placement on the heap.

The heap leach would consist of a suitable area lined with a solution containment system, typically a linear low-density polyethylene (LLDPE) liner with a rock over liner of sized material to facilitate drainage. Within this over liner would be placed drainage pipes to conduct the leach solution to the centralized collection ponds. The crushed material would be stacked in lifts on the lined pad by means of a slewing stacking conveyor. The lifts are targeted at 10 metres (32 feet) in height with a total heap height of 100 metres (328 feet). Once a suitable area has been stacked (cell), the cell would be irrigated with dilute sulfuric acid solution. Stacking would continue to advance, and each area irrigated with acid solution for a set period of time (primary leach cycle). The solution leaches copper from the heap materials and is transported to the copper recovery circuit as pregnant leach solution (PLS).

This PLS would be processed directly in the solvent extraction plant (SX), diverted to a dedicated pond, or recirculated to the heap. The SX circuit consists of a series of extraction stages and a stripping stage using a conventional mixer/settler arrangement. The loaded organic from the extraction stage would be transferred to the stripper vessel, producing a rich electrolyte solution for subsequent electrowinning. The copper-depleted raffinate from the extraction circuit would be recycled to the raffinate pond. Prior to electrowinning, the rich electrolyte would be purified to remove entrained organic through column flotation and filtration. The depleted "raffinate" solution would report to the heap leach raffinate pond/tank and be recirculated back to the heap after having the reagent levels adjusted (free acid).

The electrowinning (EW) circuit consists of a series of electrowinning cells equipped with cathodes and anodes. The copper depleted lean electrolyte would report back to the SX stripping circuit. The plated copper cathodes would be striped using a mechanized striping system after being washed. Grade-A copper cathodes would then be sampled and bundled for shipment.

The heap leach is typically designed to have multiple lifts stacked in sequence. Each new lift goes on top of the last lift until the heap reaches its ultimate height. Heap leaches often utilize 10 or more lifts to reach an ultimate height of 100 to 150 metres (328 feet to 492 feet). The configuration of the heap leach is heavily dependent on the permeability characteristics of the material, the terrain available, and the geotechnical aspects of the site.

17.2 Crushing Circuit

The ROM material would be transported to the primary jaw crusher by the mine haul trucks. The target capacity of the crushing circuit is 50,000 tonnes per day (55,121 short tons per day) at an 80% availability. The target feed top size is 400 mm (15.7 inches). ROM material would direct dump into the jaw crusher feed bin and discharged by means of a vibrating grizzly. The bin would be equipped with a static oversize grizzly and a rock breaker. The vibrating grizzly undersize and the jaw crusher product report to a conveyor to be transported to secondary crushing.

The proposed jaw crusher has a 200-centimetre (cm) x 150 cm opening (79-inch x 59-inch) and a target closed side setting of 225 mm (8.8 inches) and is equipped with a 400 kilowatt (KW) motor (536 horsepower (HP)). The feed rate to the circuit is designed at 2,604 tonnes per hour (2,871 short tons per hour). A ROM stockpile would be located near the crusher to handle excess feed and maintenance bypass material. Stockpiled material will be rehandled by a frontend loader.

Primary crushed material is conveyed to the secondary crushing plant via a 3-km-long series of conveyors (1.9 miles). All conveyors would be 137 cm wide (54 inches). The secondary crushing circuit consists of a vibrating double deck screen, 2.48-metre-wide and 6.1-metre-long (8-foot x 20-foot). The top screen is 125 mm (4.9 inches) opening and the bottom is 50 mm (1.97 inches). The target product is a P_{80} of 50 mm. The screen oversize reports to two standard 2.3-metre diameter (7.5-foot) cone crushers each 600 KW (800 HP). The crusher discharge and the screen undersize report to the crusher discharge conveyor.

The secondary crusher discharge conveyor feeds the 2-km (1.2-mile) overland heap conveyor. Circuit sizing was performed using crushing plant simulators, based on the projected average hardness of mineralization.

17.3 Heap Leach Circuit

Leach material would be stacked for a sufficient period to allow enough surface area to be created for irrigation. This also allows operations personnel to be a safe distance from active irrigation areas. Irrigation would be provided by an emitter-type irrigation system designed to deliver up to 12 liters per hour per square metre [lph/m^2] (0.005 gallons per minute per square foot (gpm/ft^2)). Emitter layout is designed to provide suitable leach material wetting. During the primary leach, the heap would be placed under irrigation for a period of approximately 120 days. After the primary leach, irrigation would be discontinued and advanced to the next cell. The subsequent lift will be placed on top of the previous lift, leaving a suitable setback from the previous crest. Rinsing will only occur during closure or once the heap reaches its ultimate height.

The copper leach solutions or PLS flow from the pad to the PLS sump/pond by gravity. The solution would be pumped from the sump to the SX circuit. Excess solution would be diverted to the PLS pond. Solution would be collected from each heap cell by a series of drainpipes under the heap that transport the solution to perimeter piping. The solution can be placed in either the PLS Pond or the Event Pond. Storm water collected from the pad during heavy precipitation events can be diverted to an Event water pond. The storm water can be used as fresh make up water to the circuit.

Due to land and terrain constraints, two heap leach facilities (HLFs) are required. These HLFs are located close to each other in the main valley near the mine. The HLFs are designed as a hybrid valley fill making use of the steep terrain to locate the leach pads. The base of the heap leach facility is contoured by a series of plateaus vertically spaced to provide heap stability. The toe of the heap leach is constructed as a dam to provide both buttressing and solution storage. The majority of the PLS will be drawn directly from the heap leach toe, with excess reporting to the PLS/Event Pond if required. Further engineering will be required to ensure acceptable heap stability is established.

The HLFs are designed to hold the life of mine production (19.5 years) approximately 366 million tonnes (229 million cubic metres) - Heap 1 is approximately 189 million cubic metres and Heap 2 is approximately

40 million cubic metres. Heap leach sizing, solution flows and water balances were developed using heap leach modeling software.

17.4 Solvent Extraction and Electrowinning

During normal operations, PLS solution would be pumped to the solvent extraction circuit. A conventional multi-stage solvent extraction plant will extract the copper from the PLS and transfer it to the electrowinning plant, where it will be deposited as copper cathodes. The SX plant is estimated to process approximately 3,500 cubic metres per hour of PLS. The initial design uses a two-stage extraction and a single stage strip configuration. No wash stage has been included at this level, but it may be necessary if high chloride water is employed.

A Ketoxime-Aldoxime or a mixture such as LIX984N has been proposed, along with diluent such as Shellsol D90 (isoparaffinic high flash point) as per typical copper SX configurations.

The rich electrolyte produced by the SX circuit would be transferred to the EW circuit. The circuit consists of two parallel trains of 174 cells with 60 cathodes per cell. Four rectifiers will provide the necessary current for electrowinning. Specific reagents would be added to promote proper cathode growth and maintain suitable over-voltages. Purge streams would be utilized to maintain acceptable impurity concentrations.

Cathodes would be allowed to plate until they reach their harvest mass. They would be harvested by an overhead crane and washed prior to reporting to a mechanical stripper. The stripping machine would be semi-automatic and would operate in 12-hour shifts.

Standard acid mist mitigation measures would be implemented through the use of specialized reagents and proper ventilation. Polypropylene spheres may also be employed for acid mist control.

17.5 Conceptual Heap Leach Pad and Pond Design

The HLF consists of the following system components:

- Heap leach pad
- Liner system
- Leachate (solution) collection system
- Storm pond
- Stormwater management system
- Freshwater supply

To minimize capital expenditure, the heap leach pad has been designed in phases, with each phase requiring advanced expansion of the engineered pad. The HLF would be constructed in three phases, with the pad foundation preparation, liner installation, and collection piping advanced as the leach pad expands. The capacity of each stacking stage includes an initial three-year period plus two additional two-year periods.

The initial HLF development (Phase 1) would also include the full development of the solution handling system, storm pond, and perimeter diversion ditches prior to commencing ore stacking and leaching.

17.6 Heap Leach Pad

The heap leach pad consists of a perimeter berm, pad liner system, and leachate collection system to collect and convey the leachate solution to the SX plant, which should be located adjacent to the heap leach facility. The leach pad for HLF1 has an approximate final footprint area of approximately 2,000,000 square metres (10,763,910 square feet) and for HLF2 of approximately 750,000 square metres (10,763,910 square feet).

The heap leach pad is designed to be operated as a fully drained system with no leachate storage within the main HLF except for solution storage at the heap face dam. Prior to the start of each of the development stages, the pad foundation must be prepared. Foundation preparation involves stripping the topsoil and vegetation and the removal of any rocks. The topsoil would be stockpiled at a convenient location and used for reclamation of the HLF area at closure. The underlying soils would be excavated down to a competent, stable foundation to provide a uniform and graded surface for the pad liner. Grading and backfill would be used to level the surface and to ensure that the pad grading will promote leachate flow towards the collection piping system and sump. A minimum pad grade of 1 to 2% is required.

As a result of the limited space available and the terrain constraints, the HLF will require significant cut and fill to develop a series of plateaus in the hillside. These plateaus will provide the geotechnical stability required for the heap leach.

17.7 Liner System

A liner system is planned to maximize solution recovery and minimize environmental impacts by minimizing leachate losses through the bottom of the leach heap pad. The liner system consists of both barrier and drainage layers using a combination of synthetic and natural materials to provide leachate solution containment that meets the accepted standards for leach pad design. The pad is designed to operate with minimal solution storage within the pad structure during normal operating conditions. The liner system is designed to meet the required performance standards assuming fully saturated solution storage conditions. A double liner system has been employed with two layers of synthetic material.

17.8 Liner Design

A liner system has been developed for the pad using an engineered composite double liner design. The double liner system is designed to be installed as the primary liner system under the entirety of the HLF. The double liner system consists of the following components:

- 0.5-metre-thick (1.6-foot-thick) over liner (38 mm [1.5-inch] minus with less than 10% fines content) using ore as the material
- 2 mm (80-mil) LLDPE geomembrane
- 0.3-metre-thick (1-foot-thick) compacted low permeability soil liner
- Leak Detection and Recovery System (LDRS)
- 1.5 mm (60-mil) LLDPE geomembrane.

- LLDPE was proposed for the geomembrane liner systems for the heap leach pad because it has the following benefits (Lupo, 2005):
    - Generally higher interface friction values, compared to other geomembrane materials
    - Ease of installation in cold climates due to added flexibility,
    - Good performance under high confining stresses (large heap height)
    - Higher allowable strain for projects where moderate settlement may become an issue.

17.9 Construction

Development of the heap leach liner would be constructed in three phases, with pad expansions proposed after three years of initial production to meet ore stacking requirements. The liner system would be constructed with both the synthetic and natural layers extending to the top of the perimeter berms to provide full containment. The synthetic liners and geotextiles would be anchored and backfilled in a trench along the heap leach pad perimeter and perimeter berms to ensure that ore loading does not compromise the liner coverage of the heap leach pad footprint by pulling the liner into the pad. Along the pad toe, all liners would be tied into their corresponding liner layer along the foundation of the pad to provide a continuous seal and drainage connection.

The perimeter berm would be constructed as part of the liner tie-in around the perimeter of the pad footprint to ensure that heap solution is contained within the pad and to prevent surface runoff entering the pad collection system. A 0.3-metre-thick (1-foot-thick) bedding sand layer would be placed on the face of the confining embankment directly underneath the second (bottom) geomembrane liner to provide additional integrity protection to the liner.

17.10 Over Liner

A protective layer of approximately ½ metre (1.5 feet) of coarse crushed ore/waste would be placed over the entire liner system footprint to protect the liner’s integrity from damage during ore placement. The over liner acts as the drainage layer, allowing solution drainage into the pipe collection system. The over liner material must be competent and be free from fines.

17.11 Solution Collection System

Collection and recovery of the leach solution is facilitated by the solution collection system in conjunction with the heap leach liner, over liner, and LDRS. The collection system consists of the following pipe and sump components:

- Lateral collection pipes
- Collection header pipes
- Main header collection pipes
- Leachate collection sumps

The solution collection system would be designed to facilitate quick and efficient solution conveyance off the pad to reduce the potential risk of solution losses through liner system. The entire piping system would be constructed from perforated corrugated plastic tubing (CPT), which is embedded within the over liner layer.

The lateral collection pipes, which would be spaced approximately five metres (16 feet) apart under the entire pad footprint, feed directly into the collection header pipes, which then flow into the main header. The main header pipes would be positioned along the centerline of each heap leach pad cell and terminate at the upstream toe of the perimeter berm at the leachate collection ditch. Two leachate collection ditches/pipes allow solution to flow by gravity to the required location. The collection pipes would be fitted with gate valves to allow solution to be directed to PLS feed pumps or to the Event pond.

17.12 Leak Detection and Recovery System

The LDRS would be designed to capture and convey any solution that may leak through the overlying primary geomembrane layer. The LDRS consists of a 0.3-metre-thick (1-foot-thick) sand layer embedded with 100-mm (4-inch) diameter perforated CPT collection pipes. Any leakage recovered by the LDRS would be conveyed into the LDRS sump at the downstream toe of the HLF. A level-switch controlled submersible sump pump would transfer the recovered solution via a pipe installed within the LDRS sand layer and connect into the main solution recovery line for processing. Monitoring of the leakage recovery would be undertaken by recording pump operating hours.

17.13 Leakage Detection Cells

To facilitate more accurate leak identification, the entire pad solution collection system is typically subdivided into multiple independently monitored areas (cells) separated by small berms. Each of these cells has a dedicated leakage detection collection system comprising a drain gravel layer beneath the inner composite liner system which conveys the leakage to a 100-mm (4-inch) diameter perforated collection pipe within the LDRS collection trench. The LDRS ditches flow by gravity at a minimum 0.5 % slope towards the LDRS collection sump, located along the sides of the leach pad. The flow rates from the dedicated collection pipes are continuously monitored and measured prior to discharging into a sump.

17.14 Solution Storage

17.14.1 Event Pond

The Event Pond is designed to provide storage for excess leachate and runoff generated as a result of rainfall events or excess PLS. The pond is situated immediately down gradient of the HLF, and pond flows are conveyed via solution collection piping inside lined ditches. The Event Pond is designed to meet the following design criteria:

- Storage capacity to contain the excess HLF leachate and surface runoff from the 1 in 100-year 24-hour storm event without discharge
- Overflow designed to discharge the 1 in 200-year 24-hour storm event

The storage requirements for the Event Pond were established based on containment of the entire estimated surface runoff generated from the HLF (at the Phase 3 footprint) during the 1 in 100-year 24-hour storm event. Based on the surface runoff estimates, the following storage requirements for the events pond were identified:

- Total runoff estimates for 1 in 100-year 24-hour storm event: 152,477 cubic metres (5,383,945 cubic feet)
- 10% additional factor of safety: 163,000 cubic metres (5.76 million cubic feet)

Solution stored in the Event Pond would be pumped back to the heap leach pad using the Event Pond pump station. The pump station is designed to be able to drain the storm volume over a period of approximately ten days.

17.14.2 PLS and Raffinate Pond

The PLS and Raffinate tank/ponds are designed to provide storage for leachate and heap return solutions. The PLS pond will functionally be the heap leach itself. No dedicated PLS pond is envisioned for the project, with excess PLS reporting to the Event or Raffinate Pond. The raffinate pond requires minimal storage capacity, and a tank may be employed for this purpose. The Raffinate pond/tank requires approximately four hours of storage capacity:

- The heap leach is designed to contain up to 24 hours of solution, assuming a maximum irrigation rate of 15 lph/m^2
- The heap leach is designed with a capacity of approximately 105,948 cubic metres (3,741,024 cubic feet).
- The Raffinate tank/pond is designed with a capacity of approximately 17,658 cubic metres (623,504 cubic feet).

Excess solution flows to any of these ponds/tanks would be diverted to the Event Pond for recycle back to the heap.

17.14.3 Pond Liner System

The engineered double liner system designed for the ponds uses the same design principles as the HLF pad liner system. The liner design consists of the following layer configuration:

- 1.5 mm (60-mil) high-density polyethylene (HDPE) geomembrane
- 0.3-metre-thick (1-foot-thick) low permeability soil liner
- Geosynthetic “geonet” drainage layer
- 1.5 mm (60-mil) HDPE geomembrane.

The liner system installed on the upslope of the pond embankment would have an additional 0.3-metre-thick1 (-foot-thick) bedding sand layer that would interface with the lower geomembrane layer to protect the integrity of the liner.

Installation of a LDRS is not required for the Storm Pond as the pond is operated as a dry facility and would only receive and store runoff water during significant storm events. In the event that leakage does occur through the double liner system, this water would be conveyed via the geonet layer to a 0.3-metre-thick (1-foot-thick) drainage blanket that underlies the Storm Pond embankment. This drainage blanket discharges to a sump for solution return to the pond.

It is recommended that HDPE geomembrane be used for the pond liner system rather than LLDPE. Unlike the heap leach pad, the pond liner system would not be subjected to high confining stresses from ore stacking, and HDPE has a higher ultraviolet resistance, which is critical for exposed surfaces like that of the ponds.

17.15 Runoff Collection and Diversion

The surface water management system proposed for the site consists of a series of ditches constructed around the perimeter of the HLF to intercept overland surface runoff around the HLF pad and to convey surface water away from the active site. The ditches are designed to meet the following design criteria:

- Conveys the 1 in 100-year 24-hour duration storm event
- Minimum freeboard = 0.3 metres (1-foot)
- Minimum ditch grade = 0.01 metre/metre (foot/foot)
- Side slopes = 2H:1V
- Channel shape = trapezoidal

Lining and protection of the ditch channels from erosion and scouring may be required for all permanent ditches. Temporary ditches would be constructed between heap phases.

18.0 PROJECT INFRASTRUCTURE

The Escalones Project is located within the Santiago Metropolitan Region of Central Chile, approximately 97 km southeast of Santiago, near the headwaters of the Maipo River, and 9 km west of the border between Chile and Argentina (Figure 4-1). The approximate geographic center of the Project area is located at latitude 34° 7’ south and longitude 69°57.5’ west.

The Project is readily accessible from the city of Santiago and town of San José de Maipó, where there is an adequate supply of labor, equipment, and service requirements for conducting exploration or mining related activities.

Existing infrastructure in the Project area consists of a seasonal base camp, with the capacity to accommodate 50 persons, situated at lower elevations (2,400 masl) along the Rio Maipo. Three drill access roads from the camp (9, 14, and 22 km) have been re-opened, leading up to the main mineralized area. The Project is located adjacent to the ECOGAS pipeline right-of-way, which provides overland access from populated areas near Santiago. The pipeline right-of-way could potentially be developed as a utility corridor for power and other essential services from the Queltehues hydroelectric plant, approximately 53 km downstream.

The project will require the following infrastructure for operations:

- Process water supply
- Power supply
- Access and haul roads
- Cathode storage and transport system
- Mine and plant infrastructure
- Ground material transport
- Upgraded or expanded camp

The conceptual design includes locating all project infrastructure facilities within the Maipo River Valley within the immediate vicinity of the mine (see Figure 16-5).

18.1 Process Water Supply

A rough estimate of process makeup water consumption assumes 0.06 cubic metres of water evaporated per stacked tonne, which is a 5% evaporation loss from irrigation flows, with an additional 0.15 cubic metres per stacked tonne stored in the heap. This results in an estimate of approximately 2.6 million cubic metres per year (5,000 litres per minute (lpm) [1,300 gallons per minute [gpm]]) makeup usage.

Mine process and camp water will require an additional 379 lpm (100 gpm).

GRE has assumed water would be available from the Rio Pangal Valley near El Teniente. World Copper currently has no water rights for Escalones; however, active discussions are ongoing to secure water supply.

18.2 Power Supply

The power requirements for the project are approximately 150 MkW. Power is assumed to come from the Queltehues hydroelectric plant, approximately 53 km downstream. High voltage transmission lines will need to be run from the Queltehues plant to the project.

18.3 Access and Haul Roads

The project is accessible from Queltehues via gravel road. Additional access and haul roads will be needed within the project to access mining and process facilities, crushers, and pits.

18.4 Camp

A camp suitable for housing up to 230 persons will need to be constructed. A suitable location down valley is assumed to be available.

19.0 MARKET STUDIES AND CONTRACTS

The Escalones project would produce copper cathode. A long-established, active, worldwide market exists for the buying and selling of copper. World Copper expects this to continue throughout the life of the Escalones project. Further market studies are not deemed necessary to establish the existence of a market for the product.

The base case copper price used was $3.60/lb, which is slightly less than the market price at the time of this study. The 3-year trailing average is $3.25/lb. GRE has provided sensitivity analysis from -20% ($2.88/lb) to +20% ($4.32/lb). The price of copper has been rising, and the GRE QP believes the $3.60/lb base case price reflects the consensus market forecast for copper.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 Environmental Setting

Section 5 describes the generalized environmental setting.

20.2 Environmental Permitting Requirements

As in majority of mining projects of this scale in Chile, an Environmental Impact Assessment (EIA) will be required for the project, which may take up to two years to process.

For an EIA, the following are required (Chile Atiende, 2021):

- Project description
- Baseline of the project that considers the projects that have a favorable Environmental Permit issued (RCA), in their area of influence
- Detailed description of the effects, characteristics or circumstances indicated in article 11 of Law No. 19,300
- Prediction and evaluation of the characteristic effects or circumstances indicated in article 11 of Law No. 19,300
- If necessary, a chapter should be added on the potential risks generated by the project on the health of the population, in accordance with article 12 letter d) of Law No. 19,300
- The measures that allow to certify that the EIA is responsible for the environmental effects mentioned in Art. 11 of Law No. 19,300
- Records that prove that the project complies with environmental regulations and with the requirements and contents of sectoral environmental permits (articles of Title VII of the SEIA Regulations)
- Environmental monitoring plan
- Description of the relationship of the project with regional and community development policies, plans and programmes
- Negotiation processes with the interested parties before the evaluation process, if the owner has carried them out

The following types of baseline studies may be appropriate for the project:

- Air quality and noise
- Fauna
- Flora
- Archaeological and paleontological studies
- Visual landscape
- Hydrology and hydrogeology

- Socio-economic studies

20.3 Sectoral Permits

The Project will have to identify and apply for Sectorial Permits (PS in the Spanish acronym) needed. Among the permits that may be required are those approved by the mining, water, and roads authorities that have long approval timelines, require a complex level of technical studies/data, or may have pre-requisites that could impact the Project schedule. A preliminary list of these includes the following:

- Closure plan
- Roads access permits
- Permit for construction of ponds or reservoirs with walls over 5 metres height or more than 50,000 cubic metres of fill
- Authorization for works in a water course
- Authorization for works modifying a water course
- Exploitation method authorization (open pit)
- Authorization for a stockpile or waste dump
- Favorable construction permit
- Building permits
- Final works reception
- Process plant operating permit
- Hazardous waste area
- Sulphuric acid tanks approval
- Sulphuric acid storage and management plans
- Sulphuric acid transport permits
- Waste management areas

20.4 Mine Closure

Decreto 41, Aprueba Reglamento de la ley de Cierre de Faneas y Instalaciones Mineras (BCN 2021) outlines the closure requirements for mine projects in the Republic of Chile. Using this document as a guide, GRE has calculated the closure cost requirements for the Escalones project. The primary closure tasks include:

- Treatment of HLF drain down water upon closure
- Covering and revegetation of the HLFs in a manner that is geotechnically stable and geochemically stable
- Reclamation of roads
- Plant site closure and reclamation
- Post-closure monitoring and maintenance.

GRE has used an engineering approach to closure cost estimation wherever possible. Because most of the closure cost is related to post-closure earthworks, GRE has used similar unit rates to the mine plan. GRE also assumes that the mine will use an owner-operated fleet of the same equipment used in mining. Due to the preliminary nature of the PEA cost estimate, some elements of the closure costs have been estimated from engineering experience. This primarily includes lesser-cost items like water treatment and plant demolition.

20.4.1 HLF Drain Down Water Treatment

It is necessary to treat approximately 2M cubic metres of acidified water upon mine closure. This water will be the barren leach solution present at the moment that it is no longer economically favorable to apply solution to the HLF. As mentioned in Section 20, the HLFs lie on the banks of a protected river. The drain down water will have a pH of approximately 2 and must be fully treated prior to discharge. It is anticipated that existing plant infrastructure (water tanks, lime storage silos, lime slaking facilities) will be available for treatment. GRE assumes that water treatment sludge will be air-dried and placed on top of the HLF prior to topsoil placement.

20.4.2 Covering and Revegetation of the HLFs

The HLFs will contain pore water (interstitial water) that will be pH 2. Studies have shown that this solution is nearly impossible to rinse out. As a result, it is standard practice to cover the HLFs with an Evapotranspiration cover (ET cover) which will prevent further infiltration and therefore leave the acidic pore water trapped in capillary storage. Incidental leachate will be treated in a passive treatment system.

As mentioned in Section 5.1, the site receives approximately 1000 mm of precipitation per year. GRE assumes that winds, high elevation, a moderately warm summer, and other factors make total yearly evaporation exceed precipitation. As a result, an ET cover can be an effective method for managing mine waste leachate. GRE assumes a 1-metre thickness will be required to “store and evaporate” the spring snowmelt and rainfall. Furthermore, the cover will be graded for drainage to facilitate as much runoff as possible. The cover media will be alluvial and colluvial topsoil collected from the footprint of the HLFs and the plant. It will be stockpiled on the relatively flat area located at the intersection of the Arroyo and Alvarado rivers until closure. A total of 4.3 million cubic metres will be stockpiled.

Despite the lack of existing vegetation, GRE believes that the cover can be revegetated if the correct species are selected. GRE has included an estimate for placing an appropriate seed mix on the HLF cover. Erosion protection is also essential to the ET cover success, and a budget for erosion management is included.

20.4.3 Road Reclamation

The road surface area at the Escalones project is very large: 26.9 km of 34-metre-wide roads will require reclamation upon closure. The total road surface area is approximately 914,000 square metres. Chilean regulations specifically mention haul road reclamation in the list of requirements. GRE proposes two methods for haul road reclamation:

- Where not in hydraulic drainage, the haul roads will be scarified (with a ripper attached to the back of a dozer) and revegetated.

- When the roads cross hydraulic drainages, the roads will be fully backfilled so there is no potential impact to the surface drainage. This backfilling will involve the removal of mining waste from the WRDs and placement in the roadbed so that the pre-mining slopes and drainage are re-established. This will occur for approximately 1.8 km of the haul road length. As with the top of the HLF, it is assumed that the roads can be revegetated with a suitable reclamation seed blend to mitigate erosion risk.

20.4.4 Water Treatment

It is assumed that water treatment will be required post-closure as residual moisture drains out of the HLF. This water will be treated with a passive treatment system located in the prior HLF pregnant solution pond, barren solution pond, and emergency pond. These ponds will be filled with limestone, organic matter, and other forms of substrate. This substrate will neutralize the acidic water, reduce the sulfate, and bind up the toxic metals. This system will be passive in the sense that it will not require reagents or electricity, but it will require constant management, maintenance, and support. It will operate for 10 years by which time it is assumed that the HLF ET cover has been effective and that the HLFs are no longer producing acidic leachate.

20.4.5 Plant Closure

The plant must be closed after mining. This includes the full removal of all structures and the reclamation of the plant footprint. It is assumed that concrete foundations will be broken up and left in place and covered with topsoil and revegetated.

20.4.6 Post Closure Monitoring and Maintenance

Chilean mine closure law requires a period of post-closure management, monitoring, and maintenance. The law does not specify a time period for this monitoring because each facility may require a different time period to reach a fully closed state. Due to the drain down of the HLF, GRE has assumed a 10-year leachate treatment period and management period. This period will include revegetation monitoring, erosion monitoring, and other maintenance and monitoring activities in support of mine closure. Ten years after the final closure, this PEA assumes that all facilities can be closed without further maintenance, management, or repairs.

21.0 CAPITAL AND OPERATING COSTS

21.1 Capital Costs

The capital cost estimate has been prepared for the PEA under the assumption of processing of open pit mined material at a rate of 50,000 tpd. Project costs were estimated using GRE in-house data, cost data from Infomine (2021) and experience of senior staff. The estimate assumes that the project will be operated by the owner with leased equipment.

Cost scheduling used the same schedule as was used for resource scheduling: quarterly for any pre-production years and the first two production years and annually thereafter. The initial capital costs are incurred in the quarters/years prior to production. GRE's QP expects there will be three to 5 years of continued exploration, engineering, and permitting prior to a production decision.

Initial capital costs are defined as all capital costs until production starts. This includes labor and development costs in the pre-production years. Sustaining capital is defined as the capital costs incurred in the periods after production begins.

All capital costs cited in this Report are referenced in US dollars with an effective date of February 2022.

Capital cost estimates were prepared based on current and expected long-term pricing assumptions and to a PEA level of ±35% level of accuracy.

The capital costs are summarized in Table 21-1.

21.1.1 Mine and Mobile Support Equipment

Mine equipment and mobile support equipment are assumed to be leased, with payment terms of 25% down payment and 6% annual interest for three years. Mine and mobile support equipment costs occur throughout the life of the project.

21.1.2 Tires

Costs for initial tire purchase is included for all major mobile equipment items requiring tires. Costs are incurred in quarter 3 of year -1.

21.1.3 Equipment Overhaul

Overhaul costs for all pieces of mobile equipment are included assuming 1/3 of the original capital cost incurred every three years of operation.

21.1.4 Process Plant

The heap leach is assumed to be constructed in three phases, with costs incurred for each phase in years -1, 7, and 17, respectively. Costs for the SX/EW plant are incurred in year -1.

21.1.5 Infrastructure

All buildings and associated infrastructure installed on a permanent or semi-permanent basis are considered infrastructure. They include material and installation costs. These costs are incurred in year

Table 21-1: Escalones Copper Project Capital Cost Summary ($millions)

Item	**Year -1**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**	**Year 12**	**Year 13**	**Year 14**	**Year 15**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Year 21**	**Year 22**	**Total**
Royalty Buyback	3.0																							3.0
Process	233.9							81.3										64.3						379.5
Infrastructure	107.0	7.8																						114.9
G&A	6.8	0.02	0.02	0.07	0.02	0.02	0.07	0.02	0.02	0.07	0.02	0.02	0.07	0.02	0.02	0.07	0.02	0.02	0.07	0.02	0.02			7.4
Sustaining	0.5																							0.5
Contingency	87.1	2.0	0.0	0.0	0.0	0.0	0.0	20.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.1	0.0	0.0	0.0			125.6
Total	**438.4**	**9.8**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**101.6**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**80.4**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**630.9**

-1. Each item's capital cost was estimated based on knowledge of nearby mine operations or senior engineers' experience. Table 21-2 shows total estimated costs for each infrastructure item.

Table 21-2: Escalones Copper Project Infrastructure Capital Costs

Item	Capital Costs ($millions)
Pioneering/Clearing/Grubbing	6.0
Haul Roads	15.5
Office	2.2
Warehouse	1.0
Mine Shop	5.0
Fuel Bay	0.5
Wash Bay	0.2
Cap Magazine and ANFO Storage Bin	0.5
Camp	4.0
Site General and Earthwork	10.0
Surface Water Management	2.0
Water Supply	26.4
Back Up Gen Set	0.3
Sub-station	15.0
Power Line 25kV	0.0
Power Line 33kV	26.4
Total	**114.9**

21.1.6 G&A Capital

General and administrative (G&A) capital costs include computers, software, technical support equipment, and office equipment. Initial capital costs for computers are $50k, occurring in the quarter 4 of year -1, with replacement costs occurring every three years for the life of the project. Initial capital costs for software are estimated at $150k, occurring in quarter 4 of year -1, with supplemental costs of $15,000 every year for the life of the project. The total G&A capital costs are summarized in Table 21-3.

Table 21-3: Escalones Copper Project G&A Capital Costs

Item	Capital Costs ($millions)
Computers	0.4
Software	0.5
Tech Equipment	0.1
Office Equipment	0.3
Fire Protection	0.3
Emergency Vehicle/Supplies	0.1
Guard House/Security	0.1
Startup Training	5.0
Metallurgical/Geotechnical Drilling and Assaying	0.8
Total	**7.4**

21.1.7 Sustaining

Sustaining costs are set at 10% of the average yearly owner's mobile equipment operating costs, or $0.5 million, and are incurred in quarter 3 of year -1.

21.1.8 Royalty Buyback

An existing 1% to 2% net smelter returns royalty exists on the Escalones resource exploitation concession, in favour of the previous option holder on the Project. The royalty is assumed to be re-purchased for a cost of $3 million in accordance with the buyback provisions of the royalty.

21.1.9 Continency

A 25% contingency was applied on all capital items, excluding the royalty buyback.

21.2 Operating Costs

The operating costs assume owner operation. Operating costs are summarized in Table 21-4.

Table 21-4: Escalones Copper Project Operating Cost Summary

Item	Total Operating Cost (millions)	Unit Operating Cost	Unit
Mining	1,445.7	$1.87	$/tonne mined
Processing	1,239.8	$3.39	$/tonne processed
G&A	206.0	$0.56	$/tonne processed
Closure	64.5	$0.18	$/tonne processed
Total	**2,956.1**	$8.08	$/tonne processed

Operating cost estimates were prepared based on current and expected long-term pricing assumptions and to a PEA level of +/- 35% level of accuracy.

21.2.1 Labor

Hourly labor for the project is based on the number of people needed to operate and support equipment for each shift in a day plus additional crew to fill in for absences. Salaried labor in the project is based on job positions filled regardless of production changes or equipment units needed. Table 21-5 through Table 21-8 show the required labor, and Table 21-9 shows the estimated mining and G&A labor costs by year. Processing labor costs are built into the processing unit costs of $3.39/tonne.

Table 21-5: Escalones Copper Project Hourly Labor by Year

Position	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Heavy Equipment Operator	40	49	39	52	48	48	48	48	56	36	44	52	36	36	36	36	36	36	36	36	36
Blaster	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Drill Operator	4	4	4	4	8	8	8	8	8	4	8	8	8	8	4	4	4	4	4	4	4
Production Truck Driver	4	31	46	68	84	80	92	112	108	124	124	92	28	28	20	16	16	20	20	20	24
Equipment Operator	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

Position	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Oiler/Mechanic	5	19	21	35	39	38	42	48	51	50	53	44	14	14	11	9	8	9	9	9	11
Mine Laborer	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Total	**76**	**126**	**133**	**182**	**202**	**197**	**213**	**239**	**246**	**237**	**252**	**219**	**109**	**109**	**94**	**88**	**87**	**92**	**92**	**92**	**98**

Table 21-6: Escalones Project Salaried Workers, Mine Management

Position	Number Each Year
Mine Superintendent	1
Mine Engineer	2
Geologist	2
Surveyor/Tech	2
General Foreman	1
Shift Supervisor	4
Total	**12**

Table 21-7: Escalones Project General and Administrative Positions

Position	Number Each Year of Production Ops	Number Each Year of Rinsing and Closure
General Manager	1	1
Purchasing Manager	1	0
Purchaser	2	0
Chief Accountant	1	1
Accounting Clerk	2	1
Human Resources/Relations Manager	1	1
Human Resources/Payroll Clerk	2	1
Security/Safety/Training Manager	1	0
Safety Officer	2	1
Environmental Supervisor	1	1
Environmental Technicians	2	1
Logistics Administrator	1	0
IT Manager	1	1
Warehouseman ON SITE	4	2
Accounts Payable Clerk	1	0
Receptionist/Secretary	1	0
Guards	4	1
Drivers	1	0
Camp Cook	4	2
Camp Janitorial	4	2
Camp Laundry	4	2
Camp Misc	4	2
Laborers / Janitorial on site	2	1
Total	**47**	**21**

Table 21-8: Escalones Copper Project Processing Positions

Position	Number Each Year
Metallurgical Staff	
Superintendent	1
Plant Manager	0
General Foreman	0
Maintenance Superintendent	1
Shift Foreman	4
Chief Assay Chemist	1
Sr Metallurgist	2
Metallurgist	2
Process Technician	3
Instrument Technician	2
Subtotal	**16**
Crusher	
Operator	16
FEL Operator	4
Maintenance	3
Electrical	2
Subtotal	**25**
Heap	
Stacking	4
Agglomeration	4
Irrigation Operator	4
Reagent Operator	4
Equipment Operator	4
Maintenance	4
Electrician	3
Subtotal	**27**
SX/EW	
SX Operators	4
EW Operators	4
Cathode Striping	12
Reagent Operator	4
Maintenance	4
Electrician	4
Subtotal	**32**
Laboratory	
Sample Preparation	12
Lab Tech	12
Assayers	3
Support	3
Subtotal	**30**
Total	**130**

Table 21-9: Escalones Copper Project Labor Costs by Year ($ millions)

Item	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Total
Mining Hourly	1.0	8.0	8.4	11.6	12.9	12.5	13.6	15.3	15.7	15.1	16.1	14.0	6.8	6.8	5.8	5.4	5.4	5.7	5.7	5.7	2.0			193.3
Mining Salaried	0.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.4			23.3
G&A Labor	0.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	0.8	1.5	1.5	50.5
Total	**1.7**	**11.6**	**12.0**	**15.2**	**16.5**	**16.2**	**17.2**	**18.9**	**19.4**	**18.8**	**19.7**	**17.6**	**10.4**	**10.4**	**9.4**	**9.0**	**9.0**	**9.3**	**9.3**	**9.3**	**3.2**	**1.5**	**1.5**	**267.1**

21.2.2 Mining Equipment and Consumables

Mining equipment includes production equipment and support equipment. Mining production equipment hours are calculated using the equipment productivity estimates and the number of tonnes required to be moved. It was assumed that all mining will be owner-operated.

Mining support equipment hours are calculated using the number of shifts that the equipment is operated per day, the number of pieces of equipment, and the operating hours per day. The operating hours per day are calculated assuming utilization of 90%, availability of 95%, and two twelve-hour shifts per day.

The leasing costs of mining equipment were included as an operating expense in accordance with the treatment of these expenses in Chile.

Blasting costs were calculated assuming powder factors 0.5 lb of ammonium nitrate fuel oil (ANFO)/tonne of processable material and 0.4 lb/tonne of waste rock and an ANFO unit rate of $0.34/lb. Waste till was assumed to not require blasting. Caps and primers were included at a rate of one per blast hole each at a cost of $7.40 each. Ore control testing was included at a unit rate of $0.03/tonne, and a miscellaneous blasting cost of $500,000/year was included.

Table 21-10 summarizes the mining equipment costs by year, and Table 21-11 summarizes the blasting costs per year.

21.2.3 Process Plant

The processing operating costs include labor, reagents and consumables, and power. Table 21-12 shows the estimated reagent and consumable consumptions and costs. The total unit rate for processing is $3.39/tonne of material processed on the heap leach. A summary of the process operating costs is provided in Table 21-13.

21.2.4 General and Administrative

General and administrative costs were estimated for two phases of the mine plan: open pit production operating and rinse and closure. The G&A costs include both salaried and hourly labor, supplies, office equipment, and anticipated regular expenses. Open pit production years have a G&A cost of $9.4 million per year and rinse and closure years have a G&A cost of 3.9 million per year. At the request of World Copper a total of greater than 10% of the estimated Escalones G&A budget was designated to support community relations and development. These costs allocated were at the discretion of the company and exceeded the base G&A estimate provided by GRE.

21.2.5 Closure

Closure costs are estimated over two years at the end of production due to the need to rinse and neutralize the leached material. Total cost for site closure is $64 million. Additional detail on closure costs is presented in Section 20.4.

21.2.6 Contingency

No contingency was applied to operating cost items except a 10% contingency which was applied to mining equipment leasing costs.

Table 21-10: Escalones Copper Project Mining Equipment Costs by Year ($millions)

Item	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Mine Production Equipment	1.4	19.8	23.6	37.1	46.1	42.4	46.2	56.3	55.0	55.7	59.9	52.0	18.4	19.2	14.0	12.0	11.6	11.8	12.0	12.8	4.5	611.8
Mine Support Equipment	1.0	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	1.5	91.2
Total	**2.4**	**24.5**	**28.3**	**41.8**	**50.8**	**47.1**	**50.9**	**61.0**	**59.7**	**60.4**	**64.5**	**56.7**	**23.1**	**23.8**	**18.7**	**16.6**	**16.3**	**16.5**	**16.6**	**17.5**	**6.0**	**702.9**

Table 21-11: Escalones Copper Project Blasting Costs by Year ($millions)

Item	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Explosives	0.3	4.0	3.1	5.1	8.8	6.4	6.1	7.0	7.4	5.4	6.0	10.3	6.5	7.2	5.1	4.1	3.8	3.5	3.3	3.2	1.0	107.8
Primers	0.0	0.0	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	0.0	0.0	0.0	0.0	1.1
Ore Control/ Sample Testing	0.1	0.8	0.6	1.0	1.8	1.3	1.2	1.4	1.4	1.1	1.2	2.1	1.3	1.5	1.0	0.8	0.7	0.6	0.6	0.6	0.2	21.0
Misc	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	9.8
Total	**0.5**	**5.3**	**4.2**	**6.6**	**11.2**	**8.3**	**7.9**	**8.9**	**9.4**	**7.1**	**7.8**	**13.0**	**8.3**	**9.3**	**6.7**	**5.4**	**5.0**	**4.7**	**4.5**	**4.2**	**1.4**	**139.7**

Table 21-12: Escalones Copper Project Reagent Consumption and Costs

Material	Unit	Units	Annual Consumption	Units	Cost Per Unit	Total ($/t)
Consumption						
Crusher						
Jaws	4	set/yr	4.00	ea	$350,000	$0.08
Mantles	8	set/yr	8.00	ea	$350,000	$0.15
Screens	4.0	set/yr	4.00	ea	$55,000	$0.01
Misc - belts, lube						$0.01
Subtotal						**$0.26**
Leach						
Acid	15.00	kg/t	273,750	t	$100.00	$1.50
Irrigation Cons	6.00	cells	120,394	m2/yr	$2.00	$0.08

Material	Unit	Units	Annual Consumption	Units	Cost Per Unit	Total ($/t)
Consumption						
Subtotal						**$1.58**
SX/EW						
Organic	0.01	kg/m3	220	t	$12,128	$0.15
Diluent	0.04	m3/m3	881	m3	$1,255	$0.06
Cathode and Anode Reposition	5%	repo	10,439	num	$450	$0.01
Guar	200.00	g/t	9.8	t	$5,000	$0.00
Cobalt	100.00	mg/l	25.1	t	$10,000	$0.01
Other Reagents						$0.11
Natural Gas	15.00	mbtu/hr	131,400	mbtu	$2.85	$0.02
Acid	1	kg/t	18,250	t	$100.00	$0.10
Subtotal						**$0.47**
Consumables						
Maintenance Items	3.0%	EquipCost	$137	EqCost(M)		$0.22
Diesel	20	liters/hr	175,200	liter/yr	$0.66	$0.01
Building Heat	144,184	BTU/m2	1,211	mbtu	$2.85	$0.00
Fresh Water	0.20	m^3/t	3,650,000	m3/yr	0	$-
Lab Supplies						$0.05
Misc Op Supplies			$250,000.00			$0.01
Subtotal						**$0.30**
Total						**$2.60**

Table 21-13: Escalones Copper Project Processing Costs by Year ($millions)

Item	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Labor	0.0	2.9	2.9	4.1	3.8	3.6	4.0	4.9	6.9	3.3	2.1	3.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	1.2	72.0
Reagents and Consumables	0.1	38.7	38.5	54.2	50.7	48.1	53.3	64.9	90.7	43.5	28.2	45.4	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	15.6	951.6
Power Consumption	0.0	7.5	7.5	10.6	9.9	9.4	10.4	12.7	17.7	8.5	5.5	8.9	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	3.0	185.7
Mobile Equipment	0.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.5	27.1
Total	**0.4**	**50.5**	**50.3**	**70.3**	**65.8**	**62.5**	**69.1**	**83.8**	**116.7**	**56.7**	**37.2**	**59.1**	**61.7**	**61.7**	**61.7**	**61.7**	**61.7**	**61.7**	**61.7**	**61.7**	**20.2**	**1,236.4**

21.3 Working Capital

Working capital is the necessary cash on hand for the next period's operating cost. The estimated total is $12 million. This cost is recovered at the end of production.

22.0 ECONOMIC ANALYSIS

Readers are advised that Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability under National Instrument 43-101. This PEA is preliminary in nature and includes inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves under CIM Definition Standards. Readers are advised that there is no certainty that the results projected in this preliminary economic assessment will be realized.

22.1 Model Cases

A multi scenario analysis method was used to analyze the economic performance of the project by varying the cutoff grade, plant and heap leach locations, and method of procuring mobile production and support equipment.

Ms. Lane of GRE evaluated the following options:

- Cutoff grades of 0.13%, 0.15%, 0.17%, 0.19%, and 0.21 % copper
- Three mobile equipment procurement options: owner purchase of all equipment, owner lease of all equipment, and owner purchase of a base number of pieces of equipment with use of contractor equipment and labor for years with peak requirements.

After analyzing the economic results of all cases considered, Ms. Lane of GRE selected the 0.17% copper cutoff and the mobile equipment leased by the owner as the base case as it results in the best overall economics.

22.2 Economic Analysis

22.2.1 Assumptions

Ms. Lane of GRE performed an economic analysis of the project by building an economic model based on the following assumptions:

- Copper price of \$3.60/lb, based on using a weighted average of the 3-year trailing average copper price and the 2-year futures price, calculated as: 60% x 3-year trailing average price of \$3.25/lb + 40% x 2-year futures price of \$4.15/lb.
- Overall copper recovery of 72.5%
- Leach recovery delay as follows: 75% recovered during the first year on the heap, 20% recovered in the second year on the heap, and 5% recovered during the third year on the heap
- Copper 100% payable
- \$80/tonne cathode premium
- \$30/tonne transportation charges
- \$3 million cost up front to purchase back royalties
- All costs input to the model are in US dollars. No exchange rate was applied.
- Sales and use taxes are not included in the model

- Chilean taxes, depreciation, amortization, and deductions as described below.

22.2.2 Taxes

Note: Ms. Lane is not an expert in Chilean taxes and relied on information provided by World Copper and obtained from on-line searches of Chilean tax codes to generate a tax model for the project. The calculations are based on the tax regime as of the date of this 2022 PEA. The tax calculations should be considered approximations because actual tax estimates involve complex calculations that can be accurately determined only during operations.

22.2.2.1 Chile Mining Royalty Tax

The Chile Mining Royalty tax applied or “Impuesto Específico a la Minería” in Spanish (IEM). This tax was introduced in 2006 and amended in 2010 and is applied against the collective operating (mining) profits of all the operating units. The tax rate is calculated on a step scale based on fine copper equivalent sales:

- 0 to 12,000 tonnes copper equivalent: no tax applied
- 12,001 to 50,000 tonnes copper equivalent: 0.5% to 4.5% of the Mining Operating Income according to the scale shown in Table 22-1.
- More than 50,000 tonnes copper equivalent: A different scale applies that starts at 5% of the Mining Operating Income for Mining Operating Margins less than 35%, and up to 34.5% for Mining Operating Margins in excess of 85% as shown in Table 22-2.

Table 22-1: Mining Royalty Tax Scale for Mining Exploitation under 50,000 tonnes of Equivalent Copper

Cu Eq (tonnes)		
From	To	Marginal Tax %
0	12,000	0
12,001	15,000	0.5
15,001	20,000	1
20,001	25,000	1.5
25,001	30,000	2
30,001	35,000	2.5
35,001	40,000	3
40,001	50,000	4.5

Table 22-2: Mining Royalty Tax Scale for Mining Exploitation over 50,000 tonnes of Equivalent Copper

Mining Operating Margin		
From	To	Marginal Tax %
0	35	5
35	40	8
40	45	10.5
45	50	13
50	55	15.5
55	60	18
60	65	21

Mining Operating Margin		
From	To	Marginal Tax %
65	70	24
70	75	27.5
75	80	31
80	85	34.5
85	9999	14

The Mining Operating Income on which this tax is applied is determined following certain specific rules. Certain expenses such as losses from past periods, accelerated depreciation of fixed assets, etc. are not allowed for this purpose. The Mining Operating Margin is determined as a ratio of the Mining Operating Income to the mining operational revenues.

22.2.2.2 Chile First Category Tax of 27%

First Category Tax is due on income from commercial, industrial and agricultural activities, mining, fishing and other extractive activities, investment and real estate. The applicable tax rate is 27%.

The following deductions were applied prior to determining taxes:

- Depreciation of mobile equipment was applied using the straight-line method with an accelerated period of five years.
- Depreciation of fixed assets was applied using the straight-line method with an accelerated period of six years.
- Mine development amortization was deducted from the gross margin.

22.3 Results

Ms. Lane of GRE considered the following key economic parameters to determine the best scenario: Net Present Value (NPV), Internal Rate of Return (IRR), payback period, mine life, and initial capital cost. Table 22-3 summarizes the results of the economic model.

The undiscounted and discounted cash flows are illustrated in Figure 22-1 and Figure 22-2, respectively.

Table 22-4 presents the key economic results for the project.

Table 22-3: Escalones Copper Project Economic Model Summary (millions)

	Average Years 1 - 5	Average LOM	Total	Year																							
				-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23-LOM
Mining Production																											
Heap Leach Tonnes, kt	16,964	17,419	365,803	27	14,860	14,795	20,832	19,475	18,496	20,490	24,936	34,875	16,731	10,837	17,467	18,250	18,250	18,250	18,250	18,250	18,250	18,250	18,250	5,981	0	0	0
Cu Mlbs	181.4	147.5	3,098.1	0.6	232.4	154.5	230.8	165.1	162.8	174.8	201.1	288.0	150.4	92.1	144.8	146.7	140.3	140.8	129.7	119.7	115.1	132.8	130.1	45.7	0.0	0.0	0.0
Cu Grade (%)	0.49		0.38	1.02	0.71	0.47	0.50	0.38	0.40	0.39	0.37	0.37	0.41	0.39	0.38	0.36	0.35	0.35	0.32	0.30	0.29	0.33	0.32	0.35	0.00	0.00	0.00
Rock Waste Tonnes, kt	17,953	15,979	335,560	2,247	10,948	4,389	11,367	40,661	24,035	19,492	20,358	11,005	19,084	30,643	53,759	24,669	30,431	14,794	7,477	4,943	3,145	1,671	399	42	0	0	0
Till Waste Tonnes, kt	10,223	5,222	73,112	66	8,134	4,883	25,946	11,847	2,448	2,482	714	3,460	188	312	11,510	1,110	12	0	0	0	0	0	0	0	0	0	0
Stripping Ratio	1.66		1.12	87.00	1.28	0.63	1.79	2.70	1.43	1.07	0.85	0.41	1.15	2.86	3.74	1.41	1.67	0.81	0.41	0.27	0.17	0.09	0.02	0.01	-	-	-
Total Tonnes, kt	45,140	36,880	774,476	2,340	33,942	24,068	58,145	71,982	44,979	42,464	46,008	49,341	36,004	41,792	82,736	44,029	48,693	33,044	25,727	23,193	21,395	19,921	18,649	6,023	0	0	0
Revenue																											
Recoverable Cu Mlbs	131.5	114.9	2,246.1	0.4	168.5	112.0	167.3	119.7	118.0	126.7	145.8	208.8	109.0	66.8	105.0	106.4	101.7	102.1	94.0	86.8	83.4	96.3	94.3	33.1	0.0	0.0	0.0
Heap Recovery, Mlbs	124.7	114.9	2,246.1	0.3	126.5	117.7	156.3	128.8	120.8	124.6	140.6	192.1	130.8	82.3	97.5	104.1	102.8	102.2	96.0	89.0	84.6	93.2	94.2	48.5	11.3	1.7	0.0
Heap Recovery, kt	56,520	52,089	1,018,014																								
Payable Cu, Mlb 100	124.7	114.9	2,246.1	0.3	126.5	117.7	156.3	128.8	120.8	124.6	140.6	192.1	130.8	82.3	97.5	104.1	102.8	102.2	96.0	89.0	84.6	93.2	94.2	48.5	11.3	1.7	0.0
Gross Revenue, US$mm	448.9	413.7	8,086.1	1.2	455.3	423.8	562.8	463.8	434.9	448.7	506.1	691.5	470.9	296.4	351.2	374.8	370.1	367.9	345.6	320.3	304.7	335.6	339.0	174.6	40.8	6.0	0.0
Cathode Premium, US$mm	4.5	4.2	81.5	0.0	4.6	4.3	5.7	4.7	4.4	4.5	5.1	7.0	4.7	3.0	3.5	3.8	3.7	3.7	3.5	3.2	3.1	3.4	3.4	1.8	0.4	0.1	0.0
Transport Costs, US$mm	(1.8)	(1.6)	(30.6)	(0.0)	(2.3)	(1.5)	(2.3)	(1.6)	(1.6)	(1.7)	(2.0)	(2.8)	(1.5)	(0.9)	(1.4)	(1.4)	(1.4)	(1.4)	(1.3)	(1.2)	(1.1)	(1.3)	(1.3)	(0.5)	0.0	0.0	0.0
Royalty-NSR, US$mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
Net Smelter Revenue, $USmm	**451.7**	**416.3**	**8,137.1**	**1.2**	**457.6**	**426.5**	**566.2**	**466.8**	**437.7**	**451.5**	**509.2**	**695.6**	**474.2**	**298.5**	**353.3**	**377.2**	**372.4**	**370.2**	**347.8**	**322.4**	**306.6**	**337.7**	**341.2**	**175.9**	**41.2**	**6.0**	**0.0**
Operating Costs																											
Mining Costs, $USmm	92.8	74.0	1,445.7	14.9	87.4	99.3	95.2	101.2	85.8	100.9	112.7	103.6	108.5	102.4	105.4	55.0	51.8	33.7	42.4	31.7	28.0	42.2	32.5	11.0	0.0	0.0	0.0
Processing Costs, $USmm	58.1	63.4	1,239.8	1.6	51.5	51.3	70.5	65.8	62.5	69.1	83.8	116.7	56.7	37.2	59.1	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	20.2	0.0	0.0	0.0
G&A Costs, $USmm	10.0	13.8	270.5	2.0	9.9	9.9	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	3.3	3.9	35.9	0.0
Total Operating Costs, $USmm	**160.9**	**151.2**	**2,956.1**	**18.6**	**148.7**	**160.5**	**175.7**	**177.2**	**158.6**	**180.2**	**206.7**	**230.4**	**175.4**	**149.8**	**174.7**	**126.9**	**123.7**	**105.6**	**114.3**	**103.6**	**99.9**	**114.1**	**104.4**	**34.6**	**3.9**	**35.9**	**0.0**
Operating Costs per Heap Leach tonne Mined	**9.49**	**8.08**	**8.08**	**699.34**	**10.01**	**10.85**	**8.44**	**9.10**	**8.57**	**8.79**	**8.29**	**6.61**	**10.48**	**13.82**	**10.00**	**6.96**	**6.78**	**5.78**	**6.26**	**5.68**	**5.48**	**6.25**	**5.72**	**5.79**			
Cash Costs, $US/lb Cu	**1.13**	**1.19**	**1.19**	**11.82**	**0.99**	**1.32**	**1.09**	**1.21**	**1.07**	**1.15**	**1.20**	**1.18**	**1.35**	**1.45**	**1.58**	**1.23**	**1.22**	**1.05**	**1.20**	**1.18**	**1.19**	**1.24**	**1.12**	**0.72**	**0.34**	**21.66**	**0.00**
Cash Costs (mining costs, processing costs, mine-site G&A, transportation excluding Pre-production mining and closure)																											
AISC, $US/lb Cu	**1.28**	**1.42**	**1.42**	**57.31**	**1.19**	**1.38**	**1.14**	**1.39**	**1.33**	**1.46**	**1.48**	**1.21**	**1.35**	**1.83**	**1.81**	**1.23**	**1.22**	**1.05**	**1.20**	**1.18**	**1.19**	**1.24**	**1.12**	**0.72**	**0.34**	**21.66**	**0.00**
AISC includes Cash Costs and sustaining capital, plus Pre-production mining and closure costs																											
Capital Costs																											
Total Initial, $USmm			438.4	438.4																							
Total Sustaining, $USmm			192.5	0.0	9.8	9.8	9.8	9.8	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	101.7	101.7	101.8	101.7	0.1	0.2	0.1	0.1	0.2	0.1	80.5
Total Capital Costs, $USmm			**630.9**	**438.4**	**9.8**	**9.8**	**9.8**	**9.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.2**	**101.7**	**101.7**	**101.8**	**101.7**	**0.1**	**0.2**	**0.1**	**0.1**	**0.2**	**0.1**	**80.5**
Working Capital																											
Change in Working Capital, $USmm				(12.4)	(4.1)	2.4	(0.5)	(0.1)	1.6	(1.8)	(2.2)	(2.0)	4.6	2.1	(2.1)	4.0	0.3	1.5	(0.7)	0.9	0.3	(1.2)	0.8	5.8	2.6	(2.7)	3.0

		Average Years 1 - 5	Average LOM	Total	Year																							
					-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23-LOM
Net Cash Flow Before Tax		$202.3	$256.8	$4,550.1	$(455.8)	$299.0	$256.2	$380.6	$279.8	$279.1	$271.3	$302.5	$465.2	$298.7	$148.6	$178.4	$250.0	$147.0	$162.9	$131.7	$117.0	$206.6	$223.4	$236.6	$141.2	$37.1	$(30.0)	$(80.5)
Cumulative Cash Flow Before Tax					$(455.8)	$(156.7)	$99.5	$480.1	$759.9	$1,039.0	$1,310.3	$1,612.8	$2,078.0	$2,376.7	$2,525.3	$2,703.7	$2,953.7	$3,100.7	$3,263.7	$3,395.4	$3,512.4	$3,718.9	$3,942.3	$4,179.0	$4,320.2	$4,357.3	$4,327.3	$4,246.9
Taxes																												
Taxable Income, $USmm		$237.1	$227.3	$4,442.0	$(2.7)	$260.0	$195.9	$320.4	$233.6	$229.4	$225.1	$324.8	$430.3	$270.7	$153.7	$166.4	$215.3	$213.7	$227.0	$201.3	$186.0	$172.6	$185.9	$183.3	$114.8	$23.9	$(43.2)	$0.0
Mining Royalty Tax	Progressive	$(17.0)	$(14.0)	$(274.5)	$0.0	$(20.3)	$(11.9)	$(24.8)	$(15.6)	$(16.2)	$(14.9)	$(29.5)	$(37.5)	$(21.2)	$(4.6)	$(7.5)	$(9.7)	$(9.6)	$(10.2)	$(9.1)	$(8.4)	$(5.2)	$(8.4)	$(8.3)	$(1.7)	$0.0	$0.0	$0.0
Corporate First Category Tax	27%	$(59.6)	$(58.8)	$(1,150.1)	$0.0	$(64.7)	$(49.7)	$(79.8)	$(58.9)	$(57.6)	$(56.7)	$(79.7)	$(106.0)	$(67.3)	$(40.3)	$(42.9)	$(55.5)	$(55.1)	$(58.5)	$(51.9)	$(48.0)	$(45.2)	$(47.9)	$(47.3)	$(30.5)	$(6.5)	$0.0	$0.0
Total Cash Taxes		$(76.6)	$(72.9)	$(1,424.5)	$0.0	$(85.0)	$(61.6)	$(104.7)	$(74.4)	$(73.8)	$(71.7)	$(109.2)	$(143.5)	$(88.6)	$(44.9)	$(50.4)	$(65.2)	$(64.7)	$(68.7)	$(61.0)	$(56.3)	$(50.4)	$(56.3)	$(55.5)	$(32.3)	$(6.5)	$0.0	$0.0
Net Cash Flow After Tax		$125.7	$183.9	$3,125.6	$(468.2)	$209.9	$206.8	$285.2	$215.0	$206.9	$197.7	$89.4	$319.7	$214.8	$105.9	$126.1	$188.9	$184.3	$197.4	$171.7	$163.3	$76.3	$166.0	$182.0	$114.9	$33.4	$(32.5)	$0.0
Cumulative Cash Flow After Tax					$(468.2)	$(258.3)	$(51.5)	$233.8	$448.8	$655.7	$853.5	$942.9	$1,262.6	$1,477.3	$1,583.3	$1,709.4	$1,898.3	$2,082.6	$2,280.0	$2,451.7	$2,615.0	$2,691.3	$2,857.3	$3,039.3	$3,154.2	$3,187.7	$3,155.2	$3,155.2

LOM – Life of Mine

Figure 22-1: Escalones Copper Project Undiscounted Cash Flow

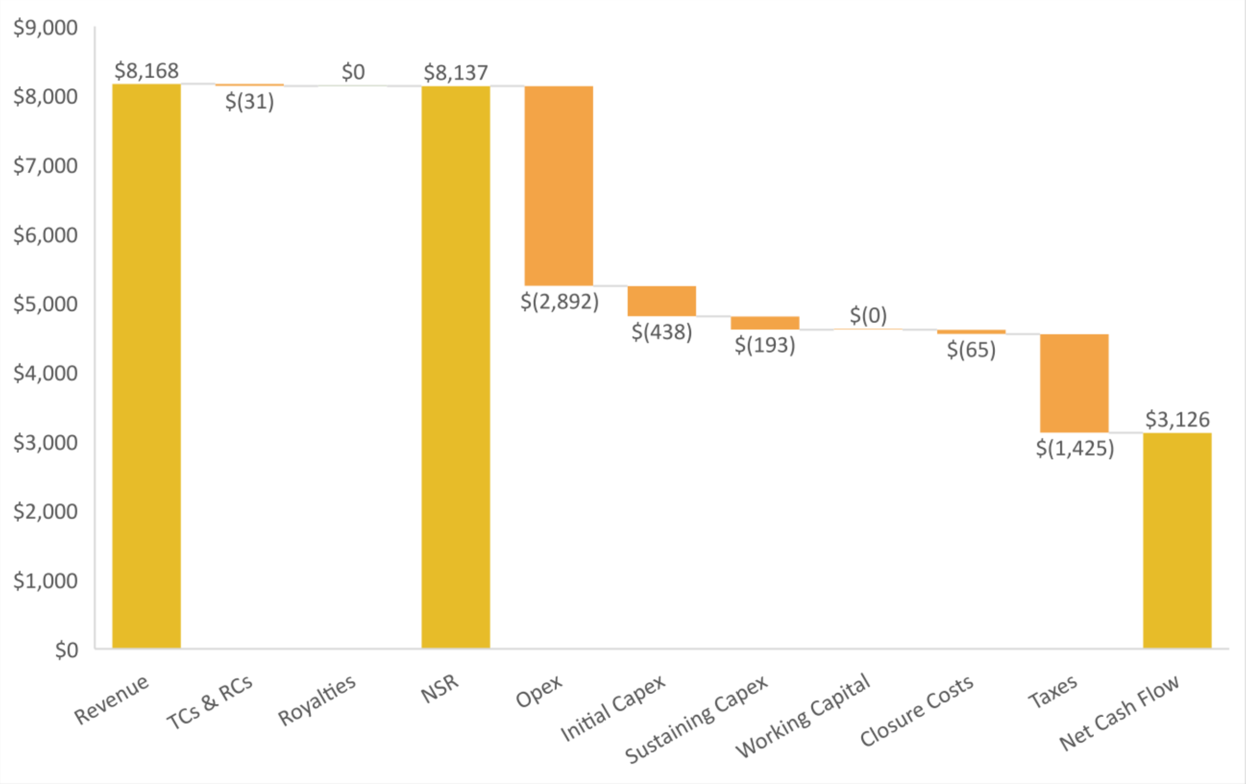


Figure 22-2: Escalones Copper Project Discounted Cash Flow

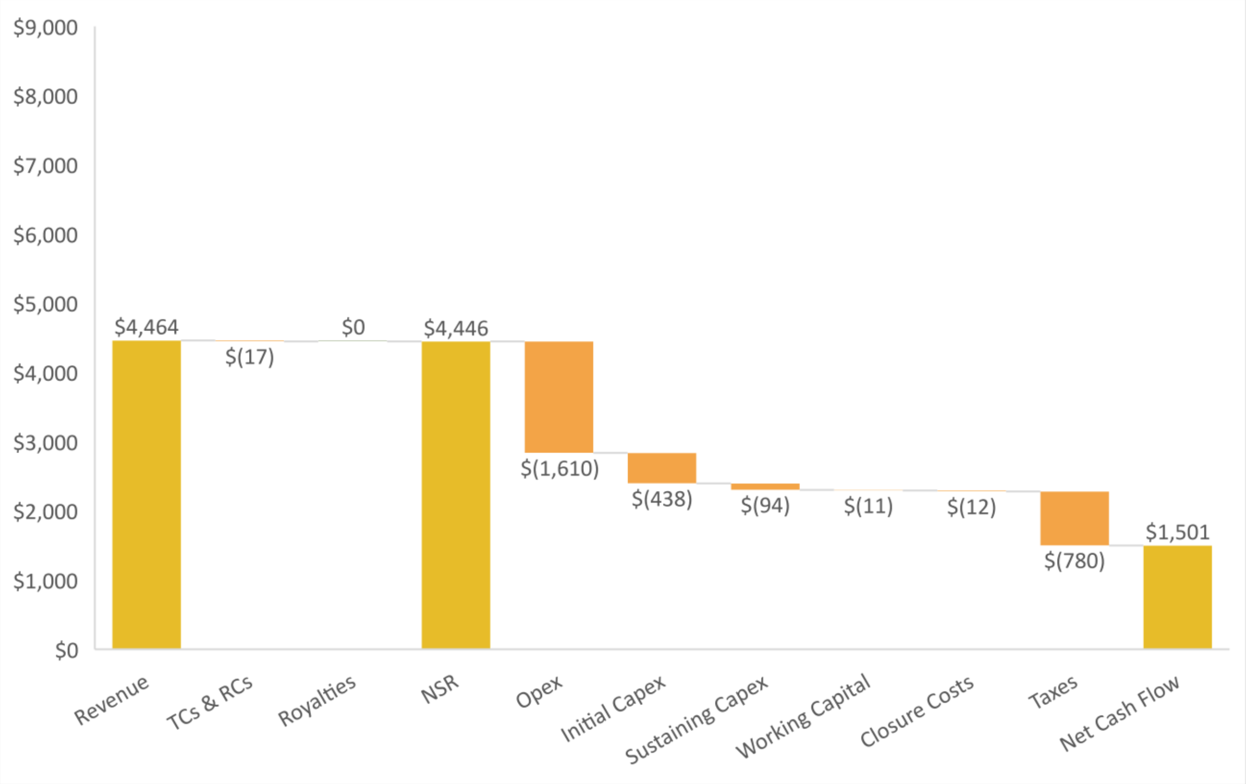


Table 22-4: Escalones Copper Project Key Economic Results

Economic Measure	Value
After Tax NPV @5% (millions)	$1,937
After Tax NPV @ 8% (millions)	$1,500
IRR	46.2%
Initial Capital (millions)	$438
Payback Period (year)	2.18
All-in Sustaining Cost ($/lb Cu Produced)	$1.42
Cash Cost ($/lb Cu Produced)	$1.19
Capital Intensity (Years 1 - 5)	$7,756
Capital Intensity (LOM)	$8,416

Capital Intensity: Initial Capital USD/Avg ktpa Cu production

22.4 Sensitivity Analyses

Ms. Lane of GRE evaluated the pre-tax and after-tax NPV@8% and IRR sensitivity to changes in contained copper, operating costs, and capital costs at a range of copper prices. For this analysis, Ms. Lane of GRE used a base case copper price of $3.60/lb. The results are shown in indicate that the after-tax NPV@8% and IRR are most sensitive to copper price, moderately sensitive to operating cost, and least sensitive to capital costs (Table 22-5 and Table 22-6 for NPV@8%, and Table 22-7 and Table 22-8 for IRR). The project is most sensitive to changes in copper price and head grade (i.e., contained copper).

Table 22-5: Escalones Copper Project Pre-Tax NPV@8% Sensitivities

Change From Base Case	Copper Price				
	$3.00	$3.25	$3.60	$3.75	$4.00
Sensitivity to Contained Copper ($M)					
80%	$801.7	$1,047.1	$1,390.5	$1,537.7	$1,783.0
90%	$1,172.5	$1,448.5	$1,834.8	$2,000.4	$2,276.4
100%	$1,543.2	$1,849.8	$2,279.1	$2,463.1	$2,769.8
110%	$1,913.9	$2,251.2	$2,723.5	$2,925.8	$3,263.2
120%	$2,284.6	$2,652.6	$3,167.8	$3,388.6	$3,756.5
Sensitivity to Operating Costs					
80%	$1,243.7	$1,446.3	$1,727.9	$1,848.3	$2,047.8
90%	$1,135.2	$1,339.2	$1,622.6	$1,743.4	$1,944.2
100%	$1,025.2	$1,230.5	$1,515.8	$1,637.2	$1,839.1
110%	$913.5	$1,120.5	$1,407.5	$1,529.7	$1,732.7
120%	$800.3	$1,008.8	$1,297.9	$1,421.0	$1,625.0
Sensitivity to Capital Costs					
80%	$1,103.2	$1,307.5	$1,591.6	$1,712.6	$1,913.8
90%	$1,065.0	$1,269.8	$1,554.4	$1,675.7	$1,877.1
100%	$1,025.2	$1,230.5	$1,515.8	$1,637.2	$1,839.1
110%	$983.6	$1,189.6	$1,475.5	$1,597.3	$1,799.6
120%	$940.5	$1,147.1	$1,433.7	$1,555.7	$1,758.4

Table 22-6: Escalones Copper Project Post-Tax NPV@8% Sensitivities

Change From Base Case	Copper Price				
	$3.00	$3.25	$3.60	$3.75	$4.00
Sensitivity to Contained Copper					
80%	$507.4	$678.3	$916.0	$1,017.5	$1,186.3
90%	$760.8	$948.9	$1,210.2	$1,321.6	$1,506.5
100%	$1,009.2	$1,214.6	$1,499.6	$1,620.9	$1,822.4
110%	$1,251.5	$1,473.4	$1,781.3	$1,912.2	$2,130.1
120%	$1,490.6	$1,728.8	$2,059.0	$2,199.8	$2,433.0
Sensitivity to Operating Costs					
80%	$1,226.4	$0.0	$0.0	$0.0	$0.0
90%	$1,118.6	$1,322.4	$1,605.5	$1,726.1	$1,926.5
100%	$1,009.2	$1,214.6	$1,499.6	$1,620.9	$1,822.4
110%	$898.3	$1,105.4	$1,392.3	$1,514.5	$1,717.0
120%	$785.7	$994.6	$1,283.7	$1,406.6	$1,610.4
Sensitivity to Capital Costs					
80%	$1,081.5	$1,285.7	$1,569.2	$1,690.0	$1,890.5
90%	$1,046.2	$1,250.9	$1,535.1	$1,656.3	$1,857.1
100%	$1,009.2	$1,214.6	$1,499.6	$1,620.9	$1,822.4
110%	$970.6	$1,176.8	$1,462.6	$1,584.3	$1,786.2
120%	$930.5	$1,137.4	$1,423.9	$1,546.1	$1,748.3

Table 22-7: Escalones Copper Project Pre-Tax IRR Sensitivities

Change From Base Case	Copper Price				
	$3.00	$3.25	$3.60	$3.75	$4.00
Sensitivity to Contained Copper					
80%	29%	35%	43%	47%	53%
90%	38%	45%	54%	58%	64%
100%	47%	54%	64%	68%	75%
110%	56%	63%	74%	78%	86%
120%	64%	72%	84%	89%	97%
Sensitivity to Operating Costs					
80%	55%	62%	72%	76%	83%
90%	51%	58%	68%	72%	79%
100%	47%	54%	64%	68%	75%
110%	43%	50%	60%	64%	71%
120%	39%	46%	56%	60%	67%
Sensitivity to Capital Costs					
80%	60%	69%	81%	87%	95%
90%	53%	61%	72%	76%	84%
100%	47%	54%	64%	68%	75%
110%	42%	49%	57%	61%	67%
120%	38%	44%	52%	55%	61%

Table 22-8: Escalones Copper Project Post-Tax IRR Sensitivities

Change From Base Case	Copper Price				
	$3.00	$3.25	$3.60	$3.75	$4.00
Sensitivity to Contained Copper					
80%	22%	26%	32%	35%	39%
90%	29%	33%	39%	42%	46%
100%	35%	40%	46%	49%	54%
110%	41%	46%	53%	56%	61%
120%	46%	52%	59%	63%	68%
Sensitivity to Operating Costs					
80%	40%	45%	52%	54%	59%
90%	38%	42%	49%	52%	56%
100%	35%	40%	46%	49%	54%
110%	32%	37%	44%	46%	51%
120%	29%	34%	41%	44%	48%
Sensitivity to Capital Costs					
80%	43%	49%	58%	61%	67%
90%	39%	44%	51%	54%	60%
100%	35%	40%	46%	49%	54%
110%	31%	36%	42%	44%	49%
120%	28%	33%	38%	41%	44%

A dynamic sensitivity analysis for the project, using @Risk proprietary Monte Carlo modeling software, was prepared for the project. The results of the Monte Carlo analysis can be used to demonstrate the economics of the project under scenarios where multiple variables are changed simultaneously. Monte Carlo results in Table 22-9 and Figure 22-3 to Figure 22-5 are displayed as P_{90} the result where 90% of the 20,000 generated outcomes of the dynamic statistical modeling exceeded (or did not exceed) the result. Probability distribution for Monte Carlo analysis inputs were:

- Copper Price: $3.00 to $4.20 – Triangular Distribution
- CAPEX: 65% to 135% – Beta General Distribution
- OPEX: 65% to 135% – Beta General Distribution
- Copper Recovery: 67.5% to 77.5% - Beta General Distribution
- Copper Head Grade (Payable Copper): 90% to 110% - Beta General Distribution

Table 22-9: Escalones Copper Dynamic (Monte Carlo) Sensitivity Analysis Results

Monte Carlo Dynamic Modeling Results[1]	**P_{90}**
Post – Tax NPV$_8$ - $US million	$1,098 million
Post – Tax IRR - %	34.2%
C1 Cash Costs - $/lb Cu	$1.46 / lb Cu

Figure 22-3: Monte Carlo Probability Plot of Post Tax NPV

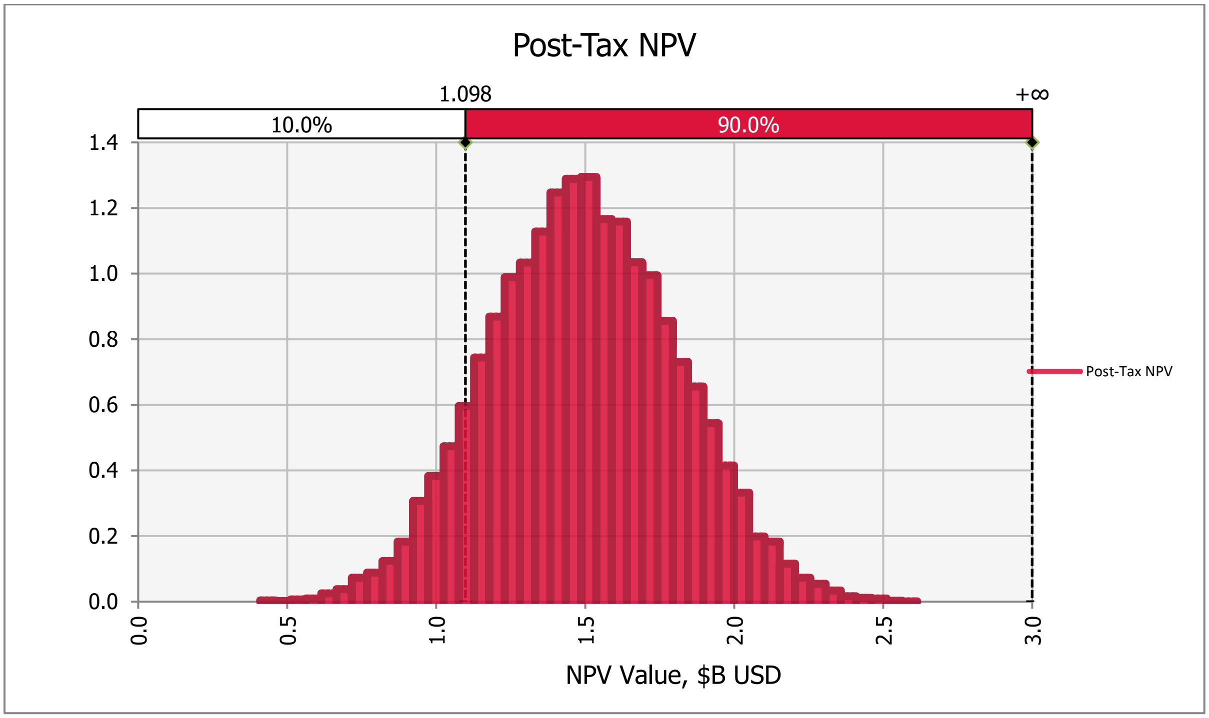


Figure 22-4: Monte Carlo Probability Plot of Post Tax IRR

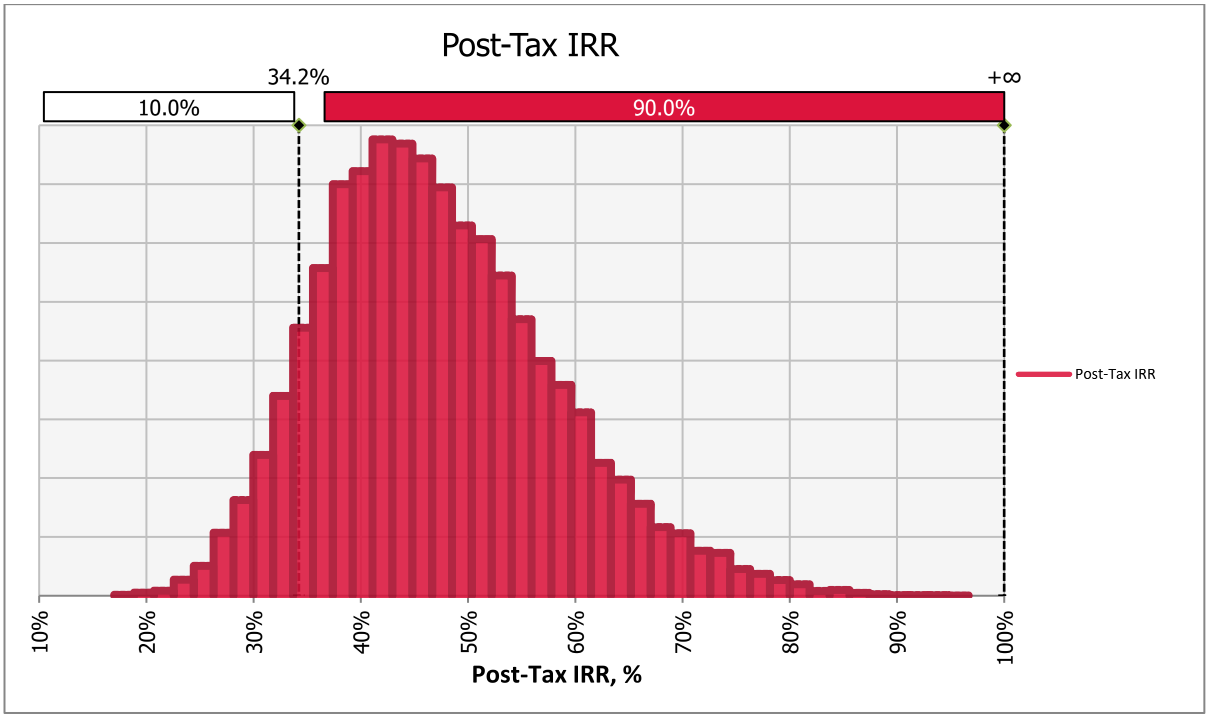
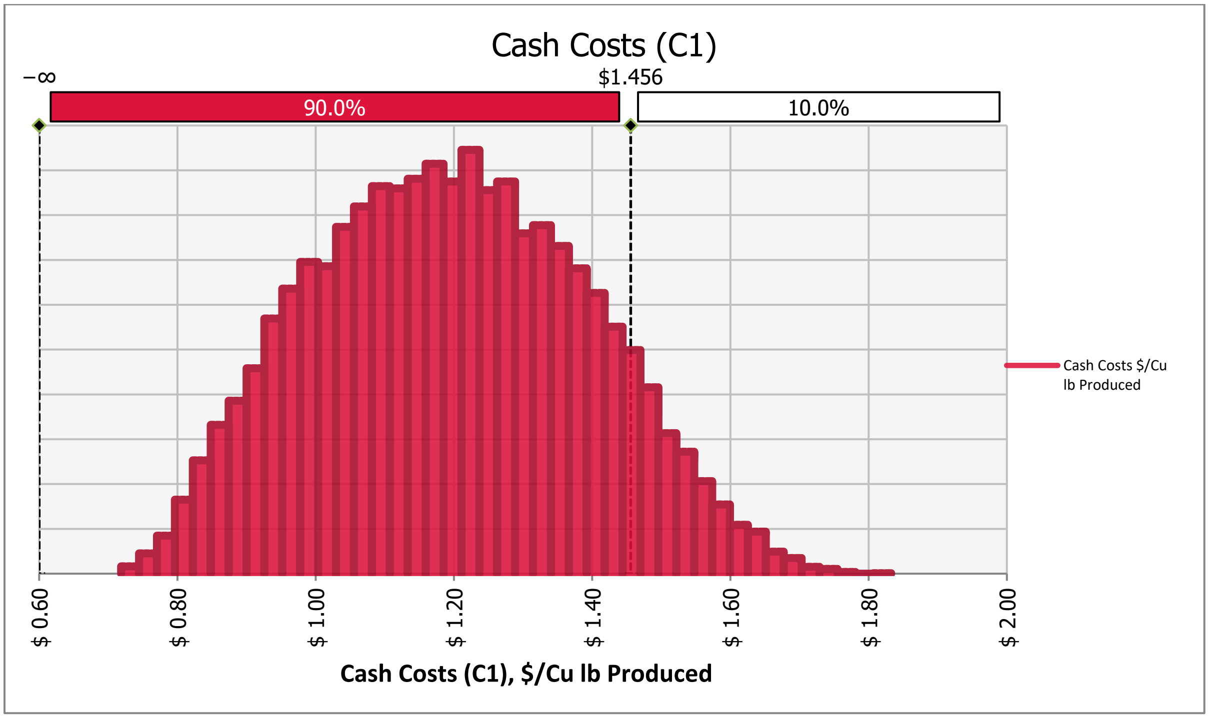


Figure 22-5: Monte Carlo Probability Plot of Cash Cost



22.5 Conclusions of Economic Model

The project economics shown in the PEA are favorable, providing positive NPV values at varying copper prices, capital costs, and operating costs. The PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves under CIM Definition Standards. Readers are advised that there is no certainty that the results projected in this preliminary economic assessment will be realized.

23.0 ADJACENT PROPERTIES

GRE knows of no immediately adjacent properties which might materially affect the interpretation or evaluation of the mineralization, exploration targets, or economics of the Escalones Project. Codelco's El Teniente Mine is located 35 km west.

24.0 OTHER RELEVANT DATA AND INFORMATION

Section 27, References, provides a list of documents that were consulted in support of the Resource Estimate. No further data or information is necessary, in the opinion of the authors, to make the Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

The key economic results for the base case are summarized in Table 25-1.

Table 25-1: Escalones Copper Project Key Economic Results

Economic Measure	Value
After Tax NPV @5% (millions)	$1,937
After Tax NPV @ 8% (millions)	$1,500
IRR	46.2%
Initial Capital (millions)	$438
Payback Period (year)	2.18
All-in Sustaining Cost ($/lb Cu Produced)	$1.42
Cash Cost ($/lb Cu Produced)	$1.19
Capital Intensity (Years 1 - 5)	$7,756
Capital Intensity (LOM)	$8,416

Capital Intensity: Initial Capital USD/Avg ktpa Cu production

The project economics shown in the PEA are favorable, providing positive NPV values at varying copper prices, capital costs, and operating costs. The PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves under CIM Definition Standards. Readers are advised that there is no certainty that the results projected in this preliminary economic assessment will be realized.

26.0 RECOMMENDATIONS AND OPPORTUNITIES

26.1 Recommendations

The QPs recommend the following items and budget (inclusive of contingency) to advance the Escalones Copper project towards production (Table 26-1).

Table 26-1: Escalones Copper Project Estimated Costs to Complete the Phase 1 Work Programme

Exploration Cost Area	Total
Exploration Drilling	$4,000,000
Metallurgical Testing	$400,000
Permitting	$500,000
Total	**$4,900,000**

26.1.1 Metallurgical Testing

A comprehensive metallurgical test programme is recommended to properly evaluate the potential of heap leach treatment. This programme should include bottle roll leach tests in conjunction with column leach tests. The variables that should be examined include grade, resource spatial distribution, mineralogy, and particle size. Additionally, these tests should include both conventional acid leaching and bioleaching.

26.1.2 Exploration Drilling

For exploration, the QPs recommend a drilling programme on the order of 5,000 to 10,000 metres to outline additional resources to the west, south, and east flanks of the main deposit.

26.1.3 Phase 2 Programme

A Phase 2 programme would be contingent upon positive results from the Phase 1 programme, and the scope of the Phase 2 programme are conditioned on the results of the Phase 1 programme. For the purposes of conceptual level planning, it is assumed that a Phase 2 programme would consist of a nominal $25M program that would include an expanded infill drill program to upgrade resources to reserves and engineering and economics studies that would result in a Pre-feasibility Study. Drilling would be at least planned at an appropriate spacing so that new mineralization could be largely included as reserves. Infill drilling over the area of the current resource estimate would decrease the hole spacing within the porphyry to an average of 100 metres and within the skarn to roughly 50 metres.

The QPs recommend further engineering evaluation of different projects sizes and the optimization of mine plans.

The QPs recommend the evaluation and incorporation of existing and/or future technologies to improve sustainability and reduce environmental impacts of the Project

26.1.4 Environmental Recommendations

Baseline studies, some of which were initiated by TMI, are recommended to support the preparation of permitting documents. Baseline studies should include fauna and flora, archeology, human component, paleontology and landscape.

Development of other preliminary engineering studies that will support early preparation of a DIA are recommended. The following studies should be conducted to support infrastructure designs:

- Seismic study
- Hydrology and hydrogeology
- Geomorphology and geological risk
- Geotechnical studies
- Condemnation drilling

GRE recommends additional evaluation of the potential for PAG, ML, and groundwater mobilization of contaminants.

GRE recommends that World Copper conduct an early social perception study on the local communities to determine their perception/expectations about the future project. This will help identify and define any actions needed to be taken into account to obtain local community support for the project.

26.1.5 General

The QPs recommend further engineering evaluation of different projects sizes and the optimization of mine plans.

The QPs recommend the evaluation and incorporation of existing and/or future technologies to improve sustainability and reduce environmental impacts of the Project.

26.2 Opportunities

The QPs believe there are opportunities to improve sustainability using technologies such as electric mining equipment, regenerative conveyor systems, alternative leaching technologies, and sea water for processing.

27.0 REFERENCES

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CERTIFICATE OF QUALIFIED PERSON

I, Jennifer J. Brown, the co-author of the report entitled “Preliminary Economic Assessment NI 43-101 Technical Report, Escalones Copper Project, Santiago Metropolitan Region, Chile” with an effective date of February 15, 2022 and an issue date of March 22, 2022 (the “Technical Report”), DO HEREBY CERTIFY THAT:

1. I am currently employed as Principal Geologist by:

   Hard Rock Consulting, LLC
   7114 W. Jefferson Ave., Ste. 308
   Lakewood, Colorado 80235 U.S.A.

2. I am a graduate of the University of Montana and received a Bachelor of Arts degree in Geology in 1996.
3. I am a:
   - Licensed Professional Geologist in the State of Wyoming (PG-3719)
   - Registered Professional Geologist in the State of Idaho (PGL-1414)
   - Registered Member in good standing of the Society for Mining, Metallurgy, and Exploration, Inc. (4168244RM)
4. I have worked as a geologist for over 24 years since graduation from the University of Montana, as an employee of various engineering and consulting firms and the U.S.D.A. Forest Service. I have more than 10 collective years of experience directly related to mining and or economic and saleable minerals exploration and resource development, including geotechnical exploration, geologic analysis and interpretation, resource evaluation, and technical reporting.
5. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
6. I was previously involved in the Project during preparation of the NI 43-101 Technical Reports filed in 2013 and 2021.
7. I am responsible for Sections 1.3, 8, 9, and10 of the Technical Report.
8. As of the date of this certificate and as of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.
9. I am independent of the issuer (World Copper Ltd.), and the property applying all of the tests in section 1.5 of NI 43-101 101 and in section 3.2(b) of Appendix 3F of the TSX Venture Exchange’s Corporate Finance Manual.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Jennifer J. (J.J.) Brown

“J. J. Brown”

Geologist

Hard Rock Engineering

Denver, Colorado

Date of Signing: March 22, 2022

CERTIFICATE OF QUALIFIED PERSON

I, Richard A. Schwering, P.G., SME-RM, the co-author of the report entitled "Preliminary Economic Assessment NI 43-101 Technical Report, Escalones Copper Project, Santiago Metropolitan Region, Chile" with an effective date of February 15, 2022 and an issue date of March 22, 2022 (the "Technical Report"), DO HEREBY CERTIFY THAT:

1. I am currently employed as Principal Resource Geologist by:

   Hard Rock Consulting, LLC
   7114 W. Jefferson Ave., Ste. 308
   Lakewood, Colorado 80235 U.S.A.

2. I am a graduate of the University of Colorado, Boulder with a Bachelor of Arts in Geology, in 2009 and have practiced my profession continuously since 2013.
3. I am a Registered member of the Society of Mining and Metallurgy and Exploration (No. 4223152RM) and a Licensed Professional Geologist in the State of Wyoming (PG-4086)
4. I have worked as a Geologist for 11 years and as a Resource Geologist for a total of 7 years since my graduation from university; as an employee of a junior exploration company, as an independent consultant, and as an employee of various consulting firms with experience in structurally controlled precious and base metal deposits.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I was previously involved in the Project during preparation of the report titled "National Instrument 43-101 Technical Report: Mineral Resource Estimate for the Escalones Copper Project Santiago Metropolitan Region, Chile" dated September 20, 2021 with an effective date of June 30, 2020.
7. I am responsible for Sections 1.5, 11, 12.2, 12.3, and 14 of the Technical Report.
8. As of the date of this certificate and as of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.
9. I am independent of the issuer (World Copper Ltd.), and the property applying all of the tests in section 1.5 of NI 43-101 101 and in section 3.2(b) of Appendix 3F of the TSX Venture Exchange's Corporate Finance Manual.
10. I have read National Instrument 43-101 and Form 43-101F1, and submit that this Technical Report has been prepared in accordance with that instrument and form.

Richard A. Schwering

"Richard A. Schwering"

Geologist

Hard Rock Engineering

Denver, Colorado

Date of Signing: March 22, 2022

CERTIFICATE OF QUALIFIED PERSON

I, Enrique Grez Armanet, of Av. Tabancura 1050 Suite 303 in Vitacura – Santiago, Chile, the co-author of the report entitled "Preliminary Economic Assessment NI 43-101 Technical Report, Escalones Copper Project, Santiago Metropolitan Region, Chile" with an effective date of February 15, 2022 and an issue date of March 22, 2022 (the "Technical Report"), DO HEREBY CERTIFY THAT:

1. I am currently employed as Principal Geologist by:

   Exploraciones Millacura SpA, Av. Tabancura 1050 Suite 303, Vitacura – Santiago, Chile.

2. I am a graduate of the University of Chile, Santiago, having obtained a Bachelor of Science in 1977
3. I am a member of good standing with the Colegio de Geólogos de Chile.
4. I am member of good standing with the Instituto of Ingenieros de Mina de Chile.
5. I am a Qualified Person on Mineral Resource and Reserves – Comisión Minera, Chile (Chile Law 20,235) Registered at N° 0015.
6. I have practiced as an Exploration Geologist, since 1980 and predominantly as a consultant, since 1993. I have more than 40 years of experience in geologic and geo-metallurgical modeling for mineral resources. I am exploration specialist on natural resources from previous metals to copper and industrial minerals, providing technical support to other Qualified Technical Reports and performances on mineral valuation for arbitration at ICSID venues as well. Solid exploration experience in Chile and all the Latin American countries.
7. I am a qualified person for the purpose of Resource & Reserve technical reporting and for the purpose of NI 43-101.
8. I was previously involved with the Escalones Project during preparation of the report titled "National Instrument 43-101 Technical Report: Mineral Resource Estimate for the Escalones Copper Project Santiago Metropolitan Region, Chile" dated October 6, 2021 with an effective date of August 15, 2021.
9. I personally inspected the Project on August 6th, 2021, and August 14th, 2021.
10. I am responsible for Sections 1.2, 7, and 12.1 of the Technical Report.
11. As of the date of this certificate and as of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.
12. I am independent of the issuer (World Copper Ltd.), and the property applying all of the tests in section 1.5 of NI 43-101 and in section 3.2(b) of Appendix 3F of the TSX Venture Exchange's Corporate Finance Manual.
13. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
14. I have read National Instrument 43-101 and Form 43-101F1 and submit that this Technical Report has been prepared in accordance with that instrument and form.
15. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Enrique Grez Armanet

"Enrique Grez Armanet"

Geologist

Exploraciones Millarcura

Santiago, Chile

Date of Signing: March 22, 2022

CERTIFICATE OF QUALIFIED PERSON

I, Terre A. Lane, of 600 Grant St., Suite 975, Denver, Colorado, 80203, the co-author of the report entitled "Preliminary Economic Assessment NI 43-101 Technical Report, Escalones Copper Project, Santiago Metropolitan Region, Chile" with an effective date of February 15, 2022 and an issue date of March 22, 2022 (the "Technical Report"), DO HEREBY CERTIFY THAT:

1. I am a MMSA Qualified Professional in Ore Reserves and Mining, #01407QP, and I am a Registered Member of the Society for Mining, Metallurgy, and Exploration
2. I hold a degree of Bachelor of Science (1982) in Mining Engineering from Michigan Technological University.
3. I have practiced my profession since 1982 in capacities from mining engineer to senior management positions for engineering, mine development, exploration, and mining companies. My relevant experience for the purpose of this PEA is as the resource estimator, mine planner, and economic modeler with 25 or more years of experience in each area.
4. I have taken classes in geology, structural geology, mineralogy, Mineral Resource estimation in university, and have taken several short courses in geostatistics subsequently.
5. I have worked in geology, managed geologic teams, created lithological and structural models, and I have been involved in or conducted the estimation of resources for several hundred projects at locations in North America, Central America, South America, Africa, Australian/New Zealand, India, China, Russia and Europe using nearly all estimation techniques.
6. I have estimated resources and created mine plans for several copper/molybdenum porphyry/skarn deposits including Vizcachitas, Henderson, Climax, Mount Emmons, North Ore Shoot (Bingham Canyon), and others and have overseen the resource estimate and mine design of many other similar porphyry deposits.
7. I have created or overseen the development of mine plans for several hundred open pit and underground projects and operating mines.
8. I have been involved in or managed several hundred studies including scoping studies, prefeasibility studies, and feasibility studies.
9. I have been involved with the mine development, construction, startup, and operation of several mines.
10. I have read the definition of "Qualified Person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional organization (as defined in National Instrument 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101.
11. I most recently visited the Escalones property on February 10, 2022 for one day and have reviewed previous geological data, geochemical results, metallurgical and technical reports on the subject property. I have previously visited the site a number of times in the last half of the 1990s while I was employed as VP Engineering for General Minerals Corp.
12. I am responsible for Sections 1.1, 1.6, 1.7, 1.8, 1.9, 1.10, 2, 3, 4, 5, 6, 12.5, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, and 27 of the Technical Report.
13. I am independent of World Copper as described in section 1.5 by National Instrument 43-101.

14. I previously worked on the Escalones Project for South American Silver.
15. I have read National Instrument 43-101 and Form 43-101F1. The Technical Report has been prepared in compliance with the National Instrument 43-101 and Form 43-101F1.
16. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Terre A. Lane
"Terre A. Lane"
Principal Mining Engineer
Global Resource Engineering, Ltd.
Denver, Colorado
Date of Signing: March 22, 2022

CERTIFICATE OF QUALIFIED PERSON

I, J. Todd Harvey, of 600 Grant Street, Suite 975, Denver, CO 80203, the co-author of the report entitled "Preliminary Economic Assessment NI 43-101 Technical Report, Escalones Copper Project, Santiago Metropolitan Region, Chile" with an effective date of February 15, 2022 and an issue date of March 22, 2022 (the "Technical Report"), DO HEREBY CERTIFY THAT:

1. I am currently employed as Principal Process and Mining Engineer by Global Resource Engineering, Ltd.
2. I graduated with Ph.D. in Mining Engineering from the Queen's University at Kingston in 1994, a Master's degree in Mining Engineering from the Queen's University at Kingston in 1990 and a Bachelor's degree in Mining Engineering in 1988 all with a specialization in mineral processing. I also hold a degree in Metallurgical Engineering and Computer Science from Ryerson University in Toronto Canada graduating in 1986 as well as an MBA from the University of New Brunswick in Saint John Canada graduating in 2001.
3. I have worked as a Process Engineer for over 35 years since my graduation from university. My relevant experience includes process due diligence/competent persons evaluations of developmental phase and operational phase mines throughout the world, including mines in the USA, Canada, Kazakhstan, Brazil, Mexico, and Africa to name a few. I have a wide range of experience in multiple mineral fields including precious metal processing and base metals such as copper, lead, and zinc.
4. I am a Registered Member (No. 04144120) of the Society for Mining, Metallurgy & Exploration Inc. (SME). I am also a member of the Association for Mineral Exploration (AME), Minerals Engineering Journal Review Board, and the Journal of Hydrometallurgy Review Board.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional organization (as defined in National Instrument 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101.
6. I have not visited the Escalones Property.
7. I am responsible for Sections 1.4, 12.4, 13, and 17.
8. I am independent of World Copper as described in section 1.5 by National Instrument 43-101.
9. I have not previously worked on the Escalones Project.
10. I have read National Instrument 43-101 and Form 43-101F1. The Technical Report has been prepared in compliance with the National Instrument 43-101 and Form 43-101F1.
11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

J. Todd Harvey

"J. Todd Harvey"

Metallurgist

Global Resource Engineering, Ltd.

Denver, Colorado

Date of Signing: March 22, 2022