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Technical Report

Solaris La Verde Copper Property

Solaris Resources Inc.

Michoacán State, Mexico

In accordance with the requirements of National Instrument 43-101 "Standards of Disclosure for Mineral Projects" of the Canadian Securities Administrators

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AMC Project 721022
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1 Summary

1.1 General and terms of reference

This Technical Report on the La Verde Copper Property (the Property) located in the state of Michoacán in Mexico, includes the current La Verde Project (La Verde or the Project). It has been prepared by AMC Mining Consultants (Canada) Ltd. (AMC) of Vancouver, Canada, on behalf of Solaris Resources Inc. (Solaris). This report has been prepared in accordance with the requirements of National Instrument 43-101 (NI 43-101), "Standards of Disclosure for Mineral Projects", of the Canadian Securities Administrators (CSA) for lodgment on CSA's "System for Electronic Document Analysis and Retrieval" (SEDAR).

The previous Technical Report, which this supersedes, is titled "La Verde Copper Project, Michoacán State, Mexico" prepared by AMC for Equinox Gold Corp. (Equinox) and Solaris Copper Inc. with an effective date of 20 June 2018 (2018 AMC Technical Report).

Solaris is an Augusta Group company with a focus on growth in gold and copper projects and is based in Vancouver, British Columbia (BC). Solaris was formed in August 2018 as a spin-out of Equinox's copper assets and was formerly known as Solaris Copper Inc. Solaris is listed on the TSX as "SLS".

1.2 Property description, location, and ownership

The Property is located in the state of Michoacán in west central Mexico, approximately 320 kilometres (km) west of Mexico City and hosts porphyry copper style mineralization. The Property consists of one concession totaling approximately 2,500 hectares (6,425 acres). Within the concession, mineralization is hosted within a mid-tertiary granodiorite / quartz monzonite intrusive complex roughly 5.5 km long and 1 km wide, which is up to 750 metres (m) above sea level (masl), known as the Sierra del Marqués intrusive complex and also referred to as the Sierra del Marqués range or ridge.

Solaris holds a 60% interest in the Property through its wholly owned Mexican subsidiary Minera Hill 29, S.A de C.V (MinHill). MinHill beneficially owns 60% of the common shares of Minera Torre de Oro, S.A.P.I de C.V. (MTO), a Mexican corporation and the holder of the Property. The remaining 40% of the common shares of MTO are held by a wholly owned subsidiary of Teck Resources Limited.

When Minera Aur Mexico S.A. de C.V. (Aur) executed a purchase agreement with Minera Cima S.A. de C.V. (Cima) to acquire a 100% interest in the original seven mining claims upon completion of certain payments, Cima retained a 0.50% net smelter royalty (NSR) on the property.

1.3 History

The Property is situated within the Michoacán Copper Belt. This metallogenic area has been explored and mined on a small scale since the early 1900s, focusing on high-grade showings.

However, it was virtually unexplored by modern methods until rock chip sampling, geophysics, and diamond drilling was conducted in the late 1950s by Consejo de Recursos No Renovables (CRNR). Since this initial phase of exploration, five major exploration efforts have been completed on the Property.

Subsequent explorers consisted of Lytton / Hudson Bay Mining and Smelting (HBM&S) program (1967 - 1974), Noranda Mining and Exploration Inc. (Noranda) (1995), Aur (2005 – 2007), and MTO (2007 -2009), before MinHill (2010 - 2012). The work mainly consisted of geophysics and diamond drilling. It also included some underground mapping and sampling. The MinHill work is discussed in Section 1.5.

1.4 Geology and mineralization

Most of the Project area is underlain by the north-western margin of the mid-tertiary Huacana granodiorite / quartz monzonite batholith. This same batholith is host to the San Isidro and Inguarán copper breccia pipes located roughly 20 km and 50 km, respectively, to the south-east of La Verde.

The Sierra del Marqués intrusive complex at La Verde is dominated by quartz diorite and forms an east-west trending arcuate range roughly 5.5 km long, 1 km wide, and up to 290 m above the surrounding blanket of Quaternary sediments. The range is divided into the Cerro La Laguna (West Hill) and Cerro Mina La Verde (East Hill) by a topographic low known as La Puerta located roughly in the centre of the arc.

The East Hill contains four main copper mineralized zones. Three of these zones (#1, #3, and #4) are hosted within altered and brecciated quartz diorite in close proximity to dykes and stocks of quartz-feldspar porphyry, while the fourth zone (#2) is hosted largely within unbrecciated quartz-feldspar porphyry. All four mineralized zones form a roughly circular pattern on the western half of the East Hill, in a plan view. Alteration tends to be fairly tightly restricted to zones of brecciation, except in the case of large-scale calcium-sodium metasomatism within quartz diorite adjacent to quartz-feldspar porphyry.

The West Hill is characterized by approximately east-west trending bands of phyllic / propylitic alteration with associated pyrite-chalcopyrite ± arsenopyrite- pyrrhotite veining at the contact between quartz diorite porphyry and quartz diorite. The lateral extent of these mineralized east-west striking veins forms a north-northeast south-southwest trending roughly elliptical shaped deposit, in a plan view. The western half of the West Hill consists of "red diorite" stained red by inclusions of hematite. A major north-northwest trending magnetic lineament occupies this region of the West Hill and may reflect a structural break separating red diorite to the west from quartz diorite to the east. Apart from a few small vein showings, no significant copper-mineralization has been intersected to date within the red diorite.

1.5 Exploration and drilling

Exploration carried out on and adjacent to the West Hill and East Hill deposits by MinHill consisted of induced polarization (IP) surveys in 2010 and 2012. This was followed up with diamond drilling consisting of the completion of 20 drillholes in 2010, 24 drillholes in 2011, and a further 12 drillholes in 2012. Combined with the prior exploration work, drilling carried out on the property consists of 649 drillholes totaling 115,574 m, excluding eleven short CRNR holes drilled in 1958 for which there are incomplete records.

1.6 Sampling and data verification

Drill core was handled using a standard process. In addition to geological logging, rock quality data (RQD) was collected and core was photographed. Core is stored in a secure warehouse located 8 km north-east of Nueva Italia, Michoacán. This facility, which includes offices, has ample room for core logging and sawing / sampling and core / reject / pulp storage. All historic core, rejects, and pulps are currently stored at the warehouse.

Samples were taken to Acme Analytical Laboratories Mexico S.A. de C.V. (Acme), Guadalajara, Mexico, for sample preparation. Analysis was carried out at Acme in Vancouver, BC, Canada. The analysis was by inductively coupled plasma (ICP) with overages for copper or molybdenum (>1%) analyzed by atomic absorption spectroscopy (AAS); if the concentration of gold was above 0.5 g/t, that sample was fire assayed. MinHill used a series of certified reference materials (CRM) from CDN Resource Laboratories Ltd., blank reference materials (blanks), and duplicates as part of their quality assurance / quality control (QA/QC) program.

The Qualified Person (QP) believes that the QA/QC program that was initiated by MinHill during the 2010 drilling program and continued through the 2011 and 2012 programs follows industry accepted guidelines and the results confirm the validity of the assays obtained from that program.

A site inspection was conducted by QP, Mr José A. Olmedo, MSc. from 24 to 28 May 2021. During the field visit to the Property, the author identified the geological aspects of the West and East Hill deposits and reviewed drill cores at the warehouse facility located at the project office 8 km north-east of Nueva Italia, Michoacán. The locations of selected drill collars were verified in the field, drill core was reviewed from selected core intervals, and assay intersections identified and related to the drill logs. Based on the data verification steps carried out, the QP determined that the RQD, downhole survey, geological logging, and assay data to be adequate for the purpose intended.

1.7 Metallurgical testwork

The major component of potentially economic material derives from the copper content of the sulphides with a minor component from the East Hill oxides. West Hill oxide material is essentially waste due to the copper being in chlorite and showing very low recoveries.

The most relevant metallurgical testwork was conducted at G&T Metallurgical Services (G&T) in Kamloops, BC during 2011 and 2012.

The first phase was carried out in late 2011. The key objectives were to prepare four global composites based on oxide and sulphide material for each of West Hill and East Hill and, on these, carry out a standard set of comminution tests followed by flotation tests to maximize copper recoveries into high-grade copper concentrates. In addition, a detailed assessment of concentrate quality was carried out. High levels of arsenic were found to report to the flotation concentrates in 2011, especially in East Hill sulphides where the arsenic is present as the copper-arsenic sulphosalt, tennantite. As a result of this, a further round of testwork was conducted in April 2012 to confirm previous results and generate larger amounts of rougher and final concentrates for testing at other laboratories of downstream treatment options.

This off-site testwork on arsenic removal technology included Galvanox™ leaching, Teck's CESL process and partial roasting. The QP concludes that Galvanox™ leaching was not applicable, the CESL process is so far commercially unproven, but partial roasting, as practiced at Codelco's Mina Ministro Hales operation in Chile, could be a viable concentrate treatment route for consideration.

Although work is required in the next phase of study on investigations into geo-metallurgical variability, the QP is satisfied that, based on the initial metallurgical testwork, 90% copper recovery to a 26 – 27% Cu concentrate is achievable on the sulphide material with a conventional crushing, grinding (SAG-Ball mill-pebble Crusher (SABC)) flotation circuit. The mineralized material is moderately hard but with good liberation characteristics at a primary grind size of approximately 200 µm. The circuit would be configured in two trains of crushing, grinding and rougher flotation with a common regrind and three stage cleaning circuit. A tailings thickener has been included in the flowsheet, mainly to maximize tailings storage efficiencies and also to minimize water consumption.

The main risk to marketability of potential concentrate is its projected arsenic content. Although various alternative downstream concentrate treatment options to remove arsenic were tested, the focus to date has been on proven roaster technology to treat the La Verde concentrates and recover arsenic into a stable and environmentally inert compound.

1.8 Conclusions and recommendations

There has been a Preliminary Economic Assessment (PEA) carried out on the Property which is no longer current.

The data and core are stored in a secure environment and are available for any continued work.

La Verde is a property of merit for Solaris and will be advanced in due course. The key risks and opportunities at present are listed below.

Key areas of risk or uncertainty that need to be addressed in moving the Project forward:

- Additional drilling to improve the robustness of the geological model and if merited form the basis for a new current Mineral Resource estimate.
- Potential geometallurgical variability is poorly understood and any additional drilling needs to be designed such that appropriate metallurgical samples can be obtained.
- Management of high arsenic grades and arsenic by-products, both from an economic and an environmental point of view.
- Social license. The initiation of systematic social and environmental assessment of the water access, infrastructure, and tailings disposal assumptions contained in the study is required. Continued development of good relationships with the local stakeholders, particularly with the nearby communities is required.

The following recommendations are listed below, and the associated costs are estimated in Table 1.1.

1.8.1 Geology

- Additional drilling to improve the robustness of the geological model and if merited form the basis for a new and current Mineral Resource estimate.
- Any future CRM choices for QA/QC should include some material with lower copper grades (say 0.15%).
- Standard blank sample should be used in further drilling programs as part of the future QA/QC process.
- The core recovery data in the paper logs should be digitized so that it can be used in future.
- Previous drilling has been directed along north-south azimuths. This has resulted in very oblique interception of the northeast-southwest copper mineralization trends for the West Hill mineralization, and it is recommended that any future West Hill drillholes be directed along 120° or 300° azimuths. Similarly, it is recommended that future East Hill drillholes be directed along 045° or 225° azimuths to optimally intersect the copper grade trend.
- The structural differences between East Hill and West Hill have never been resolved and there could be a left-handed slip fault (or fold) separating the two regions of the deposit (see Section 7.4). Ground geophysical methods or limited strategic drilling may resolve this difference and may have profound implications for the architecture and scale of the deposit.
- An audit and if necessary, a rebuild of the database is recommended in the next stage of the project.
- Carry out a Mineral Resource estimation when Solaris sees fit to advance the Project.

1.8.2 Metallurgy

- Initiate a program investigating the geo-metallurgical variability across the deposits to develop a geo-metallurgical map and appropriate geo-metallurgical domains.
- Investigate options to improve precious metals recovery, especially gold in West Hill sulphides.

1.8.3 Environmental and social

- Strengthen company involvement with local communities and initiate conversation with the relevant stakeholders regarding the extension and considerations of the project. Particularly relevant is the community engagement respect the Project’s water and land uses.
- Initiate environmental and social baseline studies.

Table 1.1 Estimated cost of recommendations

Activity	**Cost estimate (US$M)**
Additional drilling for resources + first geomechanic studies	2.9
Database audit and rebuild as necessary	0.1
Mineral Resource estimate	0.1
Geo-metallurgical investigations, including improving gold recovery	0.8
Environmental and social baseline studies	1.1
Total	**4.0**

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2 Introduction

2.1 General and terms of reference

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This report supersedes the previous Technical Report titled "La Verde Copper Project, Michoacán State, Mexico" prepared by AMC for Equinox Gold Corp. (Equinox) and Solaris Copper Inc. with an effective date of 20 June 2018.

2.2 The Issuer

Solaris is an Augusta Group company with a focus on growth in gold and copper projects and is based in Vancouver, British Columbia (BC). Solaris was formed in August 2018 as a spin-out of Equinox's copper assets and was formerly known as Solaris Copper Inc. Equinox, a one-time owner of the property, holds 17% of Solaris. Solaris owns 60% of the Property with Teck Resources owning the remaining 40%, and the joint venture operating company is Minera Torre de Oro, S.A.P.I de C.V. (MTO). Solaris' flagship project is the 100% owned Warintza project in Equador.

Solaris is listed on the TSX as "SLS".

2.3 Report authors

The names and details of persons who prepared, or who have assisted the Qualified Persons (QPs) in the preparation of this Technical Report, are listed in Table 2.1. The QPs meet the requirements of independence as defined in NI 43-101.

Table 2.1 Persons who prepared or contributed to this Technical Report

Qualified Persons responsible for the preparation of this Technical Report						
Qualified Person	**Position**	**Employer**	**Independent of Solaris**	**Date of last site visit**	**Professional designation**	**Sections of Report**
Mr J.M. Shannon	General Manager / Principal Geologist	AMC Mining Consultants (Canada) Ltd.	Yes	No visit	P.Geo.	2-6, 14-24, 27 and parts 1, 25, 26.
Mr A. Riles	Principal Metallurgical Consultant	Riles Integrated Resource Management Pty Ltd	Yes	11-12 April 2012	MAIG	13 and parts 1, 25, and 26
Mr M.F. O'Brien	Principal Resource Geologist	Red Pennant Communications	Yes	No visit	Pr. Sci.Nat., FAusIMM, P.Geo.	9-11 and parts 1, 7, 8 25, and 26
Mr J.A. Olmedo	Independent Consultant / Principal Geologist	Independent	Yes	24-28 May 2021	SME CP #426799RM	12 and parts 1, 7, 8, 25, 26
Other Experts who assisted the Qualified Persons						
Expert	**Position**	**Employer**	**Independent of Solaris**	**Visited site**	**Professional designation**	**Sections of Report**
Dr A Ross	Principal Geologist	AMC Mining Consultants (Canada) Ltd.	Yes	No recent visit	P.Geo.	Peer review

The current personal inspection was conducted by QP, Mr José A. Olmedo, MSc. from 24 to 28 May 2021. During the field visit to the Property, the author identified the geological aspects of the West and East Hill deposits and reviewed drill cores at the warehouse facility located at the project office. The locations of selected drill collars were verified in the field, drill core was reviewed from selected core intervals, and assay intersections identified and related to the drill logs.

This report is effective 3 June 2021.

2.4 Source of information

The most recent source of information is the Technical Report titled "La Verde Copper Project, Michoacán State, Mexico" prepared by AMC for Equinox and Solaris Copper Inc. with an effective date of 20 June 2018 (2018 AMC Technical Report). While that report was an update of earlier reports in 2014 and 2012 necessitated by name changes the report titled, Technical Report and Resource Estimate of the La Verde Copper Project, Mexico prepared for Minera Hill 29 S.A. de CV (MinHill) by Tetra Tech Wardrop. January 2012, by Tim Maunula (2012 Tetra Tech Technical Report), is also a source referred to.

2.5 Units of measure, currency, and acronyms

Throughout this report, measurements are in metric units and currency in US dollars (US$) unless otherwise stated.

3 Reliance on other experts

The QPs have relied, in respect of legal aspects, upon the work of the Experts listed below. To the extent permitted under NI 43-101, the QPs disclaim responsibility for the relevant section of the Technical Report.

The following disclosure is made in respect of this Expert:

- Kunz Abogados – Federico Kunz registration number 185296.

Report, opinion, or statement relied upon:

- Letter to the TSX Venture Exchange regarding Minera Torre De Oro, S.A.I.P de C.V. dated 13 March 2020.

Extent of reliance:

- Full reliance following a review by the QP.

Portion of Technical Report to which disclaimer applies:

- Sections 4.2 and 4.5.

The following disclosure is made in respect of this Expert:

- Secretary of Economy, General Directorate of Mines document

Report, opinion, or statement relied upon:

- Report to verify the execution of works and exploration or exploitation works (acceptance of assessment work); document dated 3 June 2021.

Extent of reliance:

- Full reliance following a review by the QP.

Portion of Technical Report to which disclaimer applies:

- Sections 4.2.

4 Property description and location

4.1 Location

The Property is located in the state of Michoacán, approximately 320 km west of Mexico City. The known copper deposits on the Property lie 8 kilometres (km) north-east of the town of Nueva Italia de Ruiz (population ~32,000) and 8 km south-west of the town of Lombardia (population ~12,000). Uruapan (population ~356,000) is the largest city near the Property and is 60 km to the north.

The centre of the Property is at a latitude of 19°05'14"N and at 102°00'41"W longitude, equivalent to coordinates 814,302 mE and 2113,035 mN in Universal Transverse Mercator (UTM), Zone 13Q.

Figure 4.1 La Verde regional location map

Source: Catalyst Copper, (2012).

4.2 Land tenure

The Property consists of one claim as outlined in Table 4.1 and illustrated in Figure 4.2.

Table 4.1 La Verde concession

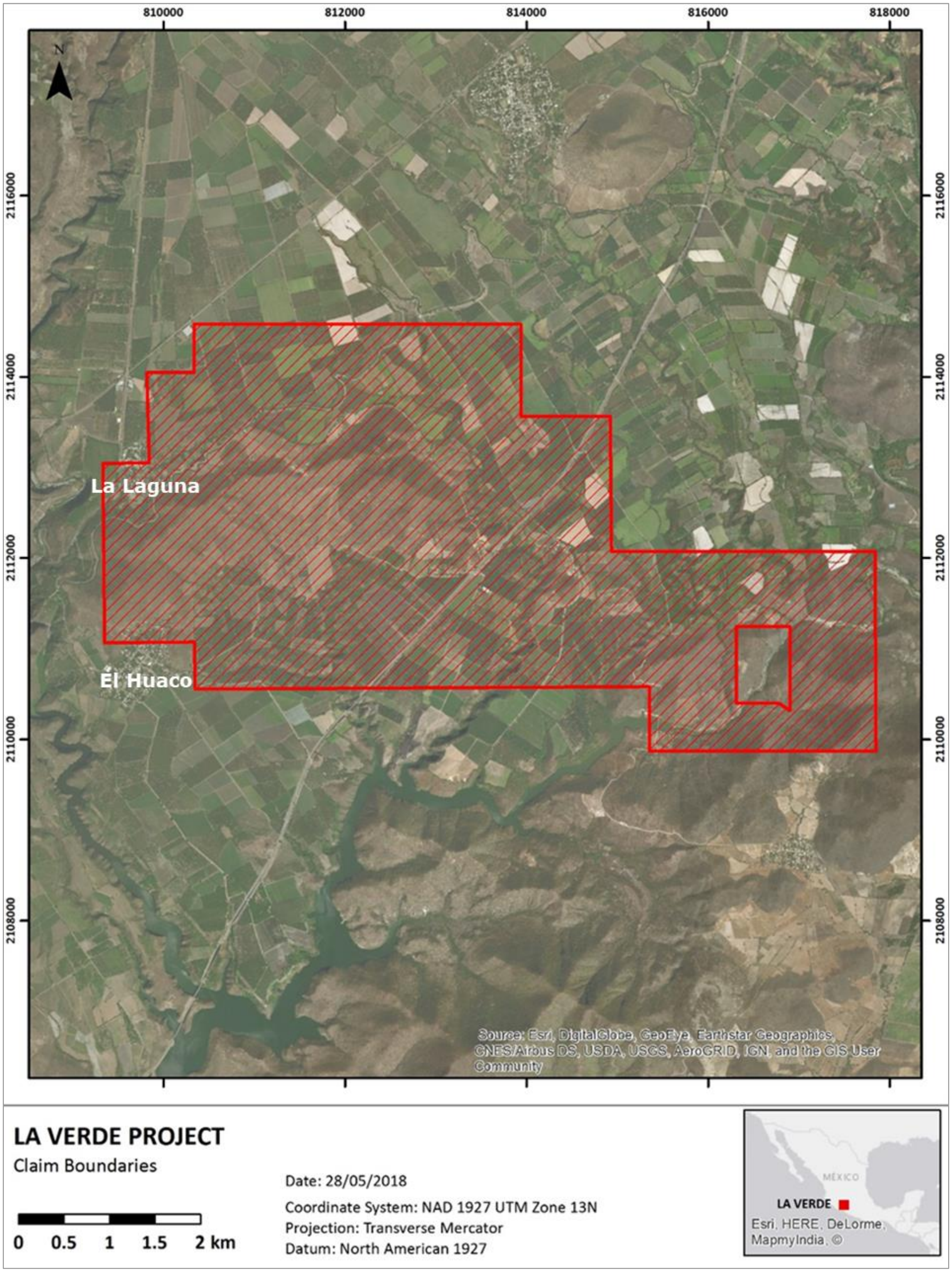
Claim	Title No.	In force	Expiration date	Area (ha)
Unificacion Santa Maria	245706	20 October 2017	6 May 2053	2,547.4237

The Unificacion Santa Maria concession title number 245706 was granted originally to Minera Cima S.A. de C.V. (Cima) with the title number 224965 and recorded on 30 June 2005.

The original surface of the claim covered by the above mentioned concession, was reduced to its current surface area of 2,547.4237 hectares, and issued with the title number 245706 to MTO, according to registration data from the Registry dated 20 October 2017.

Solaris holds a 60% interest in La Verde through its wholly owned Mexican subsidiary Minera Hill 29, S.A de C.V (MinHill). MinHill beneficially owns 60% of the common shares of MTO, a Mexican corporation and the holder of the property. The remaining 40% of the common shares of MTO are held by a wholly owned subsidiary of Teck Resources Limited.

Figure 4.2 La Verde claim map



Source: Equinox, (2018).

All of the original claims which constituted the Unificacion Santa Maria were acquired by Mr Jorge Ordoñez, the principal owner of Cima, in a Mexican claim lottery. In February 2005, the original seven claims were unified and deemed the Unificacion Santa Maria claim. Since then, the concession has been reduced to one claim as shown in Table 4.1 and Figure 4.2. The work carried out on the amalgamated claims is allowable for distribution of exploration expenditures for the current Unificacion Santa Maria land position. This has been reviewed by the QP and the payments and assessment work show the claim in good standing.

4.3 Royalties and taxes

When Minera Aur Mexico S.A. de C.V. (Aur) executed a purchase agreement with Cima in late 2005, to acquire a 100% interest in the original seven mining claims upon completion of certain payments, Cima retained a 0.50% net smelter royalty (NSR) on the property.

4.4 Environmental liabilities

The QP is not aware of any environmental or social issues that may affect access, title, or the right or ability to perform work on the property. All exploration activities conducted on the property have been in compliance with relevant environmental permitting requirements.

4.5 Surface rights and permitting

At this time, MTO is not carrying out mining activities on the claim regarding exploration or exploitation, so no permits or licenses need to be obtained at this time.

Mining concessions in Mexico do not grant any surface rights. Owners of a mining concession must come to an arrangement with the landowners in order to get property or use rights.

The known copper deposits are on the common land owned by the El Huaco Ejido (communal land cooperative). Early on, Aur had difficulty in negotiating access rights with the El Huaco Ejido. MTO when operator, improved community relations between itself and the Ejido through assistance with several projects for the cooperative as well as hiring some of its members during the exploration seasons. A four-year access agreement was successfully negotiated that allowed access to El Huaco common ground for exploration purposes. This access agreement has now expired and will need to be re-established.

5 Accessibility, climate, local resources, infrastructure, and physiography

5.1 Accessibility

Two paved highways provide access to the Property including the new Morelia – Lazaro Cárdenas highway (toll road) and the original Lombardia-Nueva Italia highway, also termed Mexico Highway 37 (Figure 4.1). Within the Property there are a series of all-weather dirt roads and old drill roads.

The closest international airport is at Morelia. The General Francisco J. Mujica International Airport is approximately 170 km to the north-east of the Property via the new Morelia-Lazaro Cárdenas Autopista. A second international airport, Ixtapa Zihuatanejo International Airport, is located approximately 200 km south of the Property. Uruapan is served by the Uruapan International Airport.

5.2 Climate

The climate in the Project area is classified as semi-dry temperate with rain in the summer, an average annual temperature of 27.3°C, and a mean temperature of 25.3°C in the coldest month of the year. Average annual rainfall is 707.5 millimetres (mm) with the bulk of the rainfall occurring in June, July, August, and September (588 mm). Exploration and mining can be carried out all year long.

5.3 Local resources

There are several villages adjacent to the concession boundary (see Figure 4.1). The two closest villages are El Huaco, immediately south-west of the known deposits, and La Laguna, to the west. Both villages have a couple of hundred residents. These villages could provide some of the workforce for the Project.

The larger town of Nueva Italia de Ruiz (2020 population 32,328) is immediately south-west of the concession boundary. The Aur / MTO core and rejects that were stored in a secure warehouse in La Laguna have been transported to a much larger warehouse facility 4 km north of Nueva Italia de Ruiz. The front of the warehouse opens onto the main Lombardia-Nueva Italia de Ruiz highway, while the main railway to the coast is adjacent to the rear of the warehouse (Figure 5.1).

Figure 5.1 Lowell copper core storage and sampling facility

Source: Catalyst Copper.

Lombardia (2020 population 12,309) is north of the Property boundary. Most of the labourers and equipment required for any Project advancement could be sourced from either of these larger towns. Uruapan (2020 population 356,786) is approximately 60 km north of Nueva Italia de Ruiz.

More specialized equipment and skilled labourers may be sourced from Uruapan, Morelia (2020 population 849,053) and Lazaro Cardenas (2020 population 83,637). Difficult items may have to be sourced from Mexico City or Guadalajara. It should not be necessary to source many items from outside Mexico. Drill equipment for both core and reverse circulation drilling and personnel can be sourced from other regions within Mexico.

5.4 Infrastructure

There is a high-volume irrigation canal transecting the concession which is used by the local mango and cucumber farmers for cultivation purposes. The canal empties into a steep canyon, El Marqués River gorge, near El Huaco. To date, the availability and access to water for the exploration programs has been favourably negotiated with local communities.

The road system in this part of Mexico is excellent. The rail link to the deep-sea port of Lazaro Cardenas is in excellent condition. A siding already exists at the new core storage warehouse facility north of Nueva Italia de Ruiz which could be used to handle bulk imports and copper concentrates.

There are several high-tension electrical lines (66 kVA) within 5 km of the Project. Telephone / cell coverage in the area is excellent.

5.5 Physiography

The topography of the area is dominated by a ridge of prominent hills surrounded by low relief farmland and occasional deeply incised canyon drainages. The main area of interest is characterized by a series of hills approximately 5.5 km long (east-west) by 1 km wide (north-south) referred to as the Sierra del Marqués. The maximum elevation on the Property is approximately 750 metres above sea level (masl) and occurs on Cerro Mina La Verde (East Hill). The valley floor is at approximately 425 masl to the south of Sierra del Marqués and 500 masl to the north.

Figure 5.2 View from East Hill showing farmland in the valley

Source: José A. Olmedo, (2021).

Vegetation in the district is classified as Selva Baja Caducifolia and most hills are covered with secondary vegetation consisting of small trees, bushes, and vines. Large trees include tamarindo, pinzon, and cuatro hojas, however, much of the primary vegetation has been stripped and secondary vegetation dominates the non-irrigated land.

Irrigation of the valley floor has generated a strong agricultural industry. The main crops in this area include mango, rice, cucumber, tomato, corn, lime, and grapefruit. Agricultural fields are active year-round with some areas generating up to four harvests per year.

Figure 5.3 Irrigation canal at El Marqués River Gorge

Source: Catalyst Copper.

The US Geological Survey has recorded three earthquakes in proximity to Property. On 29 October 1990 there was a 5.1 magnitude earthquake at 98.6 km depth 16.5 km to the south-east of the Property. On 3 July 1973 there was a 5.6 magnitude earthquake at 125 km depth 22 km to the east of the Property. Then on 28 May 1985 there was a 5.2 magnitude earthquake at 105 km depth 27.6 km to the south-east of the Property.

6 History

6.1 Regional mining history

The Property is situated within the Michoacán Copper Belt. This metallogenic area has been explored and mined on a small scale since the early 1900s, focusing on high-grade showings. Since the early 1960s, the world mining industry has focused on exploration for large tonnage, low-grade porphyry copper deposits. This new direction has brought significant activity to this area. Copper-bearing breccia pipes in the Huacana pluton, including La Verde, San Isidro, and Inguarán, underwent extensive exploration by mining companies and by various academic organizations including the US Geological Survey and the Servicio Geologico Mexicano.

The largest copper mine in the region is located approximately 50 km east-southeast of La Verde at the Inguarán operation. American Smelting and Refining Company (ASARCO) (now Grupo Mexico or GMEXICO) mined several breccia bodies at Inguarán from 1971 to 1982 and extracted some 7,000,000 t of ore grading 1.2% Cu (Osoria et al. 1991).

Copper mining in other parts of the region has been restricted to small operations centred on high-grade structures in andesites to the south of La Verde and in the Huacana pluton. Mining operations such as Las Mexicanas produced small amounts of ore which were treated at a small mill in Oropeda. A small underground mine and mill was developed in Brazil (also known as Calzontzin) where limited tonnage was mined from a copper-rich narrow structure (~2 metres (m) wide) in the Huacana pluton.

6.2 Ownership

Table 6.1 Ownership over time

Year	Company and milestone
1957	Mine operated and owned by Sr. Jose Maria Flores Barron.
1967	Lytton enters into agreement with Flores Barron.
1974	Hudson Bay Mining and Smelting (HBM&S) acquires control of Lytton.
1995	Mexican government mining agency, El Fideicomiso de Fomento Minero promotes the Property. Noranda Mining and Exploration Inc. (Noranda) completes extensive due diligence but does not proceed.
2003	Claims enter lottery and are acquired by Cima.
2004	Aur enters into an option to purchase agreement with Cima.
2007	Teck acquires Aur's parent company in September 2007 and effects a name change from Aur to MTO.
2009	Svit Gold Corp. a predecessor of Catalyst Copper Corp. (Catalyst) initiates talks with Teck. Svit lists on TSX and changes its name to Catalyst and sets up MinHill, as a local company, and enters an option with MTO.
2012	MinHill fulfills option and owns 60% of MTO which is the operating company.
2016	Catalyst becomes a wholly owned subsidiary of Newcastle Gold Ltd. (Newcastle).
2017	NewCastle became a wholly owned subsidiary of Equinox.
2018	Equinox transfers its copper assets into Solaris Copper Inc.
2019	Solaris Copper Inc. changes its name to Solaris Resources Inc.

6.3 Exploration history

6.3.1 Summary

The Property was virtually unexplored by modern methods until rock chip sampling, geophysics, and diamond drilling was conducted in the late 1950s by Consejo de Recursos No Renovables (CRNR). Since this initial phase of exploration, five major exploration efforts have been completed on the Property, including MinHill.

A summary of exploration activity at the Property is presented in Table 6.2.

Table 6.2 Summary of exploration activity

Year	Activity
1906	Onset of mining high-grade copper zones.
1957	CRNR completed mapping, geophysics (ground magnetics), and underground sampling of stopes and adits, 370 samples taken with average grade of 1.4% Cu.
1958	CRNR completed 11 diamond drillholes on the southern flank of the East Hill, totaling 741 m of BQ core.
1967 to 1972	Lytton completes a comprehensive program of geological mapping, soil geochemistry, IP geophysics, and approximately 50,201 m of diamond drilling and 12,584 m of percussion drilling. First feasibility study completed.
1974	HBM&S after taking control of Lytton carried out an additional 6,659 m of diamond drilling as well as a second feasibility study.
1976	D. Coochey completes resource estimate of West Hill.
1984	D. Coochey completes updated estimate of West Hill resource.
1995 to 1996	Mexican government mining agency, El Fideicomiso de Fomento Minero (FIFOMI) promotes the Property. Noranda completes due diligence including underground mapping and sampling, IP geophysics and 300 m of RC drilling in the plains to the south of the Sierra del Marqués.
2005	Aur completed an airborne magnetometer, electromagnetic, and radiometric survey in January 2005. Then acquires old data including the complete 1972, 1974 feasibility reports, archived drill logs, surface geologic maps, and various other data from HBM&S data warehouse in Flin Flon, Manitoba.
2005 to 2007	Aur completed 24 diamond core drillholes for a total of 9,600 m and stores core in La Laguna warehouse. Aur completed a series of short-lined IP surveys over the Property in 2005. The resulting cut lines are still extremely visible from surface and satellite. Work was disrupted due to progressively poorer community relations with the El Huaco Ejido until the company was barred from the Property.
2007 to 2009	MTO completed four diamond core drillholes totaling 1,562 m in 2008. The core is stored in the La Laguna warehouse. Community relations with the El Huaco Ejido have improved.
2009 to 2012	When MinHill options the Property from MTO they completed additional diamond drilling and geophysical surveys.

6.3.2 Lytton / HBM&S program (1967 - 1974)

Lytton completed an extensive exploration program at La Verde from 1967 to 1972 including geological mapping and sampling, soil geochemistry, induced polarization (IP) geophysics, underground development and sampling, bulk sampling, and drilling. This work resulted in the delineation of a large, mineralized vein complex, known as the West Hill Zone, and four distinct mineralized breccia zones within the East Hill area. Exploration activity is summarized in Table 6.3.

Table 6.3 Lytton / HBM&S exploration program

Company	Year	Activity	Description
Lytton	1966 - 1967	IP survey	47.5 km
	1966 - 1967	Soil geochemistry	-
	-	Drilling – core	50,201 m
	1967 - 1972	Surface	152 holes, V-1 to V-142
	1969 - 1972	Underground	97 holes, UV-1 to UV-90
	-	Drilling – percussion	12,584 m
	1967 - 1972	Surface	198 holes, S-1 to S-213, and R-2 to R-24
	1969 - 1972	Underground	91 holes, US-1 to US-204
	1970	IP survey	179.5 km
	1968 - 1971	Underground development	2.2 m wide crosscuts and drifts totaling 3,386 m
	1971	Bulk sampling	245 m of crosscut sampling
	1967 - 1972	Geological mapping	1:4000 scale map of the Sierra del Marqués
	1968 - 1971	Underground mapping	1:200 scale adit map
HBM&S	1974 - 1976	Drilling – core	6,659 m
	-	Surface	27 holes, V-143 to V-169

All IP surveys done for Lytton were undertaken by Seigel Asociados. Numerous anomalies were identified on both West and East Hill that correspond well to the known mineralized zones. Lytton and HBM&S used much of this IP data to target additional drillholes.

Extensive drilling was completed on the Project, mostly by Lytton (62,785 m) and later by HBM&S (6,659 m). A database for these drillholes includes short form logs that record rock types and assays. Generally, both the East and West Hills were drilled along 50 m sections and at 50 m intervals.

6.3.3 Noranda program (1995)

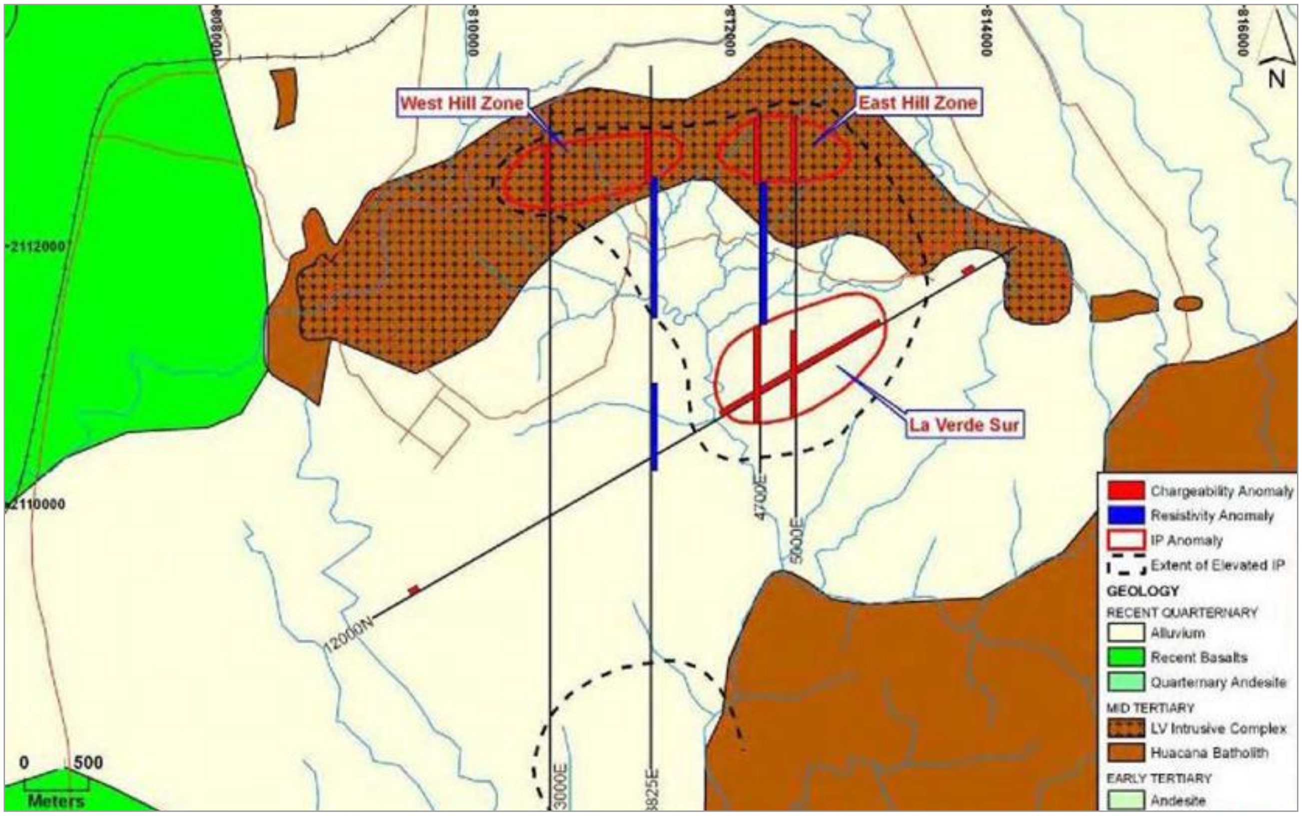
In early 1995 Noranda completed a significant amount of field work on the Property which is summarized in Table 6.4.

Table 6.4 Noranda exploration program

Year	Activity	Description
1995	Geological mapping • Underground • Surface - regional	East Hill and selective West Hill adits
1995	Sampling • Underground • Silt - regional IP survey	East Hill and selective West Hill adits 27 km

The underground work by Noranda corroborated the mineralization in drillholes and Noranda concluded that the historical grades could be considered valid, with the exception of gold which it believed was lower than that reported in the 1972 feasibility study. The most significant finding of the Noranda program, however, was the identification of a 1 km by 2 km IP anomaly at 100 m depth known as "La Verde Sur", located roughly 1 km south of the East Hill in an area of alluvial cover as illustrated in Figure 6.1.

Figure 6.1 Noranda IP results



Source: 2012 Tetra Tech Technical Report.

6.3.4 Aur program (2005 – 2007)

Aur conducted an aggressive exploration program that is summarized in Table 6.5.

Table 6.5 Aur exploration program

Year	Activity	Description
2004 to 2006	Line cutting	
	Geophysical surveys	
	Airborne	65 km, N-S lines 100 to 200 m apart
	Ground	593 line km – mag, electromagnetic (EM) and radiometric
		IP (60 km) and magnetometer
	Soil Geochemistry	487 samples
	Geological mapping	
	Surface – regional	1:20,000
	Drilling - core	
	Surface	24 holes, 9,600 m, confirmation drilling and IP anomaly testing

The airborne, helicopter-based geophysics was completed by McPhar Geosurveys of Canada in January 2005. Zang Geophysical Consultants interpreted the results in April 2005. The airborne magnetics identified the eastern two-thirds of the La Verde intrusive as a large prominent magnetic low especially around the known mineralized zones. Red diorite in the western half of West Hill is thought to result in the magnetic high in this part of the intrusive. The magnetic low anomaly continues to the north-west of La Verde but shifts westerly at the edge of the East Hill known mineralized zones and continues under the alluvium in the La Laguna area. The electromagnetic (EM) survey identified several resistivity anomalies that correlate to mineralized zones. The radiometric survey outlines the location of exposed Huacana batholith, including the La Verde intrusive complex.

The soil geochemical surveys focused on the western end of the Sierra del Marqués and Las Minitas. The most significant copper soil anomaly was in the Las Minitas prospect area.

Ground geophysics was run over the cut lines and undertaken by Quantec Geophysics in February / March 2005. IP spacing was 100 m over the East and West Hill deposits and 50 m on the perimeter of the deposits and Las Minitas prospect. The results outlined a large chargeability anomaly at a depth of 200 m below the surface of Sierra del Marqués. Several anomalies within the area have not been drill tested. The ground magnetometer survey showed good correlation to the airborne magnetometer results.

Geological reconnaissance mapping was completed to understand the property-scale geology, and to investigate mineral occurrences as well as airborne geophysical anomalies outside of Sierra del Marqués. Much of the Property has yet to be mapped as the program was cut short due to the onset of the rainy season; however, a 1: 20,000 scale preliminary geological map was developed.

A total of 9,600 m of surface diamond drilling (7,085 m NQ size, 2,515 m HQ size) in 24 drillholes was completed on the Property by Aur between November 2004 and August 2005. Seventeen of the holes confirmed each of the mineralized zones in both West (two holes) and East Hill (15 holes).

Aur's sample intervals within drill core were primarily selected based on the degree of visible copper mineralization within a given zone (i.e., zones of high grade material were separated out from zones of lower grade material). When present, major lithological breaks were used to begin / end an individual sample interval.

While blanket sampling was not applied in the Aur drill program at La Verde, barren intersections up to 20 m in width within otherwise mineralized zones were generally included in sampling for continuity purposes. Overall, approximately 64% of all core drilled at La Verde was sampled for assaying.

6.3.5 MTO program (2007 – 2009)

Upon Teck's acquisition of the parent of Aur, due to a name change the following work was completed by MTO (Table 6.6).

Table 6.6 MTO exploration program (2007 – 2009)

Activity	Description
Geological Geophysical	Reinterpretation of older data
Drilling – core • Surface	Reinterpretation of older data Four holes, 1,562 m, perimeter holes

From 2008 to 2009 MTO completed a re-evaluation of the historical geology and drill database. A new deposit model was developed by MTO geologists (Chamberlain 2009). Through this work, modifications to logging and mapping and recommendations for future exploration were put forth. Historical geophysical data was re-interpreted by MTO geophysics personnel (V. Sterritt 2008; B. Lum 2009). Conclusions and recommendations from this work were as follows:

- Using the airborne data, several regional structures (i.e., faults and contacts) and large zones of potential porphyry-style alteration were inferred.

- There is a decent correlation between structures identified from the aeromagnetic data and the regional geology and there is potential for developing a map of the bedrock geology under alluvium using the magnetics.
- The mineralized zones occur in a strong magnetic low, which corresponds well with the mineralized lithologies.
- The magnetic low is much larger than the exposed Sierra del Marqués, indicating that there is potential for mineralization under cover to the north and south of the known deposits.
- The IP / resistivity data indicates potential for untested sulphide mineralization between East and West Hill, south of East and West Hill beyond the depth of investigation of the survey and drilling and to the north-west beyond the survey extents.

Four diamond drillholes totaling 1,562 m were completed on the Property. The four holes explored IP anomalies outside of the Sierra del Marqués ridge as MTO was still in the process of negotiating an access agreement with the El Huaco Ejido. Anomalous intersections were encountered in one of these holes. This data, coupled with the geophysical data, indicate that there may be more mineralization at La Verde than has been identified at the East and West Hill deposits.

6.4 Previous production

Small scale copper mining began at Cerro Mina La Verde (East Hill) in 1906 and continued intermittently until the early 1960s. Approximately 50,000 tons of ore was mined from high-grade sections using underground mining methods. Mined ore was hand-sorted, and material grading greater than 10% Cu was shipped to local smelters (Coochey and Eckman 1978). Evidence of previous mining is scattered throughout the Property, including underground workings and large open stopes on the south slope of East Hill, as well as open cuts and smaller stopes on Cerro La Laguna (West Hill). The stopes on the West Hill continue to a depth of approximately 35 m but have a short, generally less than 25 m, strike-length.

Figure 6.2 Access to old workings

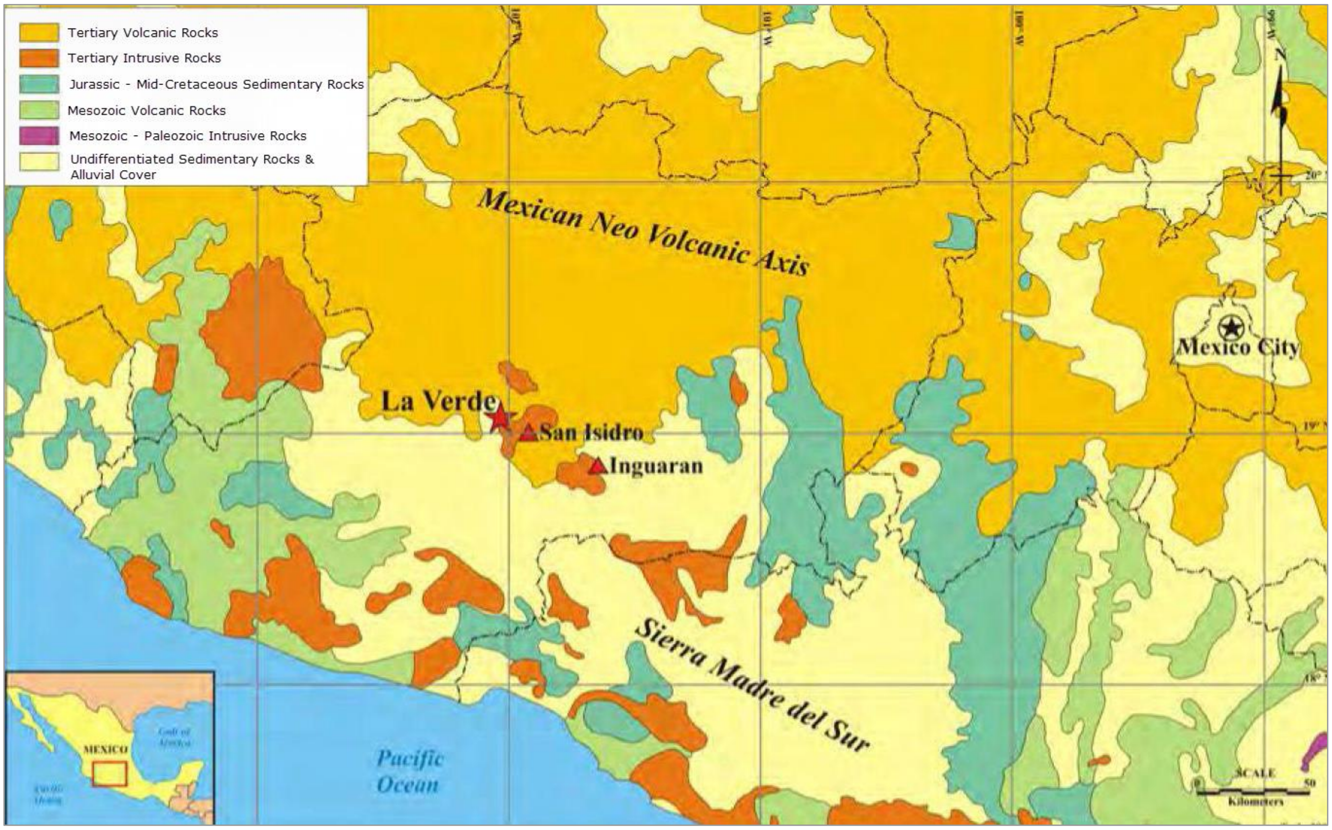
Source: Catalyst Copper, (2011).

7 Geological setting and mineralization

7.1 Regional geology

The Property is situated along the southern margin of the Mexican Neovolcanic Axis and within the Sierra Madre del Sur (Figure 7.1). Most of the Project area is underlain by the north-western margin of the mid-Tertiary Huacana granodiorite / quartz monzonite batholith. This same batholith is host to the San Isidro and Inguarán copper breccia pipes located roughly 20 km and 50 km, respectively, to the south-east of La Verde (Figure 7.1).

Figure 7.1 Regional geology



Source: Catalyst Copper, (2012).

7.2 Local geology

The surficial geology in this region is characterized by a blanket of Quaternary sediments dominated by thick sequences of bedded conglomerate, lesser sandstone, mudstone, and recent volcanic rocks (Coochey and Eckman 1978). The La Verde intrusive complex represents a window of exposed intrusive basement and forms an east-west trending arcuate range.

Early Tertiary supracrustal basement rocks are present in the El Marqués River gorge south of the Property where interlayered porphyritic andesite and lesser basalt flows are exposed beneath Quaternary andesite flows.

7.3 Property geology

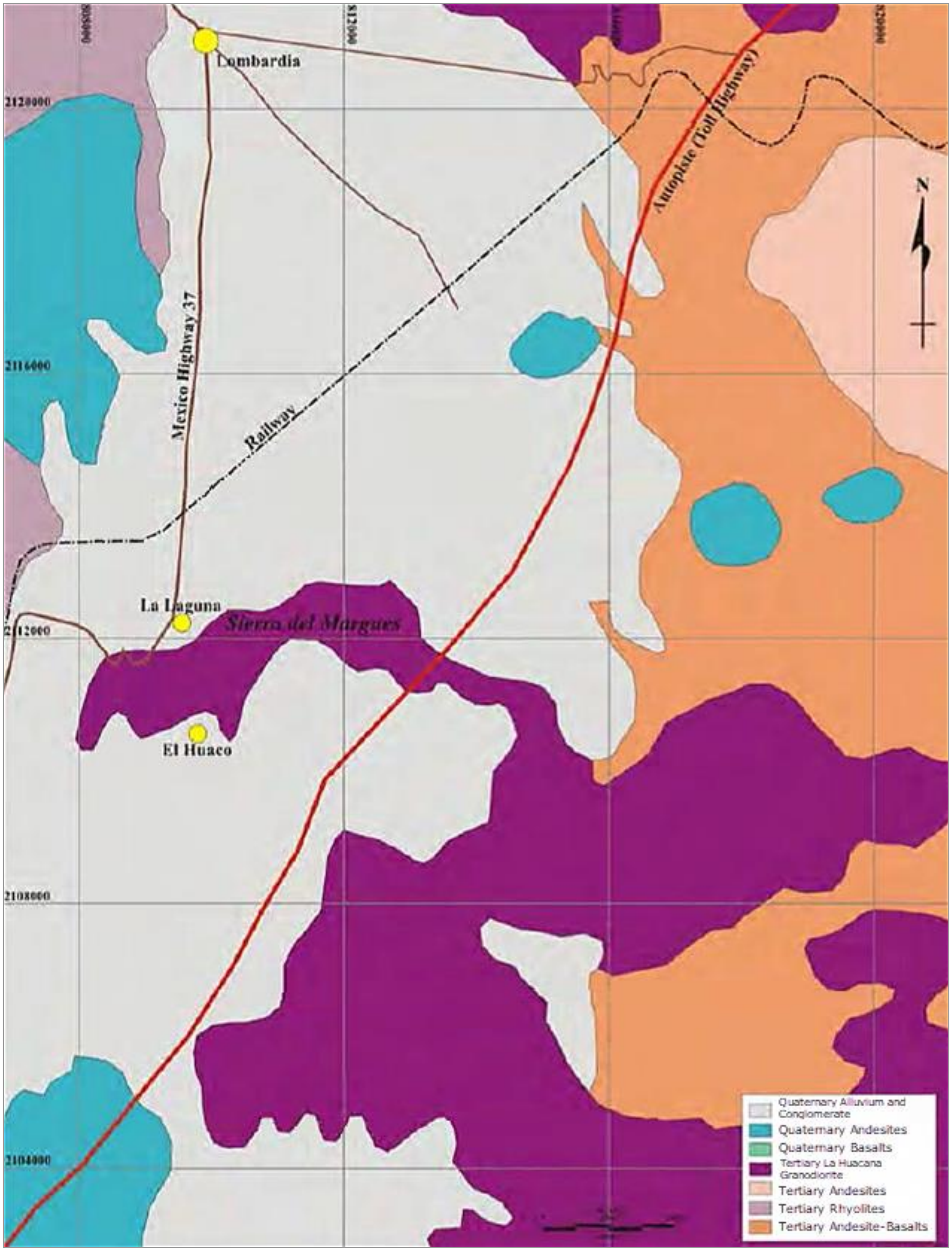
7.3.1 Summary

The intrusive complex at La Verde is dominated by quartz diorite, which is exposed along an east-west-trending arcuate mountain range roughly 5.5 km long, 1 km wide, and up to 290 m above the surrounding blanket of Quaternary sediments (Figure 7.2 and Figure 7.3). The range is known as the Sierra del Marqués and is divided into the Cerro La Laguna (West Hill) and Cerro Mina La Verde (East Hill) by a topographic low known as La Puerta located roughly in the centre of the arc.

The East Hill contains four main copper mineralized zones. Three of these zones (#1, #3, and #4) are hosted within altered and brecciated quartz diorite in close proximity to dykes and stocks of quartz-feldspar porphyry, while the fourth zone (#2) is hosted largely within unbrecciated quartz-feldspar porphyry. All four mineralized zones form a roughly circular pattern on the western half of the East Hill, in a plan view. Brecciation mechanisms on the East Hill vary from mechanical milling to hydrothermal cracking. Alteration tends to be fairly tightly restricted to zones of brecciation, except in the case of large-scale calcium-sodium metasomatism within quartz diorite adjacent to quartz-feldspar porphyry. Potassic feldspar alteration was noted in drillholes located on the north side of the East Hill.

The West Hill is characterized by approximately east-west trending bands of phyllic / propylitic alteration with associated pyrite-chalcopyrite ±arsenopyrite pyrrhotite veining at the contact between quartz diorite porphyry and equigranular quartz diorite. The lateral extent of these mineralized east-west striking veins forms a north-northeast south-southwest trending roughly elliptical shaped mineralized body, in a plan view. The western half of the West Hill consists of equigranular "red diorite" stained red by inclusions of hematite. A major north-northwest-trending magnetic lineament occupies this region of the West Hill and may reflect a structural break separating red diorite to the west from quartz diorite to the east. Apart from a few small vein showings, no significant copper mineralization has been intersected to date within the red diorite.

Figure 7.2 Local geology map



Source: Catalyst Copper, (2012).

The Las Minitas prospect (south-east from La Verde in Figure 7.3) is located roughly 2 km east-southeast of the East Hill. It consists of a narrow, east-west-trending zone of propylitic / silica alteration with associated weak chalcopyrite-pyrite mineralization.

Descriptions of the various rock units at the Property are summarized below and are extracted from Wilson 2005a, b, Weston 2005a, b, and Chamberlain 2009.

Figure 7.3 Geology of the La Verde intrusive complex

Source: Catalyst Copper, (2012).

Intrusive rocks at La Verde are sub-alkaline and range in composition from diorite to granodiorite.

Various types of brecciated intrusive rocks are common, specifically at the East Hill, and host much of the copper mineralization discovered there to date.

7.3.2 Quartz diorite group

Quartz diorite forms the dominant rock type on the Property. It is the host rock in the West Hill and both the host rock and the most significant component of clasts in the breccias.

The mineralogy of quartz dioritic rocks at La Verde consists dominantly of plagioclase, quartz, biotite, actinolite with varying amounts of hornblende, magnetite and a variety of alteration products including chlorite-epidote-carbonate-sericite / clays-iron (Fe)-titanium (Ti) oxides-Fe / Cu sulphides. In hand sample, fresh quartz diorite is dark grey, coarse-grained, weak to strongly feldspar porphyritic and moderate to strongly magnetic. All dioritic rocks are affected by late stage magmatic deuteric alteration of pyroxene to a combination of hornblende-actinolite-magnetite such that very little if any primary pyroxene is preserved. Subsequent chlorite alteration of amphibole is fairly ubiquitous but generally quite weak. Fresh potassium feldspar is rare and is most often turbid in thin section, variably altered to sericite and clays.

7.3.3 Feldspar +/- quartz porphyritic felsic intrusive group

Felsic intrusive rocks have been restricted to the East Hill. Based on available core and limited outcrops there are at least four main types of felsic intrusive rocks present as breccia clasts or as lithological units:

- Feldspar-biotite porphyry.
- Hornblende-quartz-feldspar porphyry.
- Hornblende-feldspar-quartz-eye porphyry.
- Fine to medium-grained aplite.

Hornblende-quartz-feldspar porphyry is considered the most abundant type of felsic intrusion on East Hill. Detailed mapping would be required to substantiate this idea, as feldspar-biotite porphyry and hornblende-quartz-feldspar porphyry have historically been mapped as a single unit.

7.3.4 Breccia

Brecciated quartz diorite, feldspar±quartz porphyritic felsic intrusions host the bulk of copper mineralization. The breccias show a wide range of characteristics, commonly complicated by secondary alteration and mineralization. There are three types of breccia that have been recognized at La Verde. These three types have been subdivided according to cement versus matrix fill, lithofacies, and components (Chamberlain 2009).

Two hydrothermal events have been recognized. The initial stage is associated with the copper mineralizing event. The secondary stage crosscuts the lithology. A possible third event involves tourmaline ±hematite cemented quartz and sericite altered diorite clast breccias.

7.4 Structure

No significant faults have been identified in drilling or in outcrops although there are numerous minor structures / faults trending east-west, northeast-southwest and southeast-northwest. Several regional structures (faults and / or contacts) have been identified by airborne magnetic and electromagnetic geophysics as well as ground magnetometer and IP surveys run over the Property. The interpreted aeromagnetic geophysical survey data indicates that there could be a left-handed slip fault (or fold) separating the East Hill from the West Hill, striking at approximately 045° azimuth. Very limited drilling in the projected fault area has not identified this structure.

No folding has been recognized in the drilling or in outcrops.

7.5 Alteration

In the West Hill area vein-controlled phyllic and propylitic alteration is oriented east-northeast within the quartz-gabbro porphyry stock, east-southeast within surrounding quartz diorite, and east-west common to both. Historical mapping indicates linear east trending zones of quartz-sericite alteration that can be traced for up to 900 m on surface.

Alteration on East Hill is limited to mineralized zones and associated breccias although there are a few broad zones of calcium-sodium metasomatism found on the East Hill. Potassic alteration was observed in drill cores on the north side of the East Hill deposits. Outside of these zones, little to no pervasive wall-rock alteration is present.

7.6 Mineralization

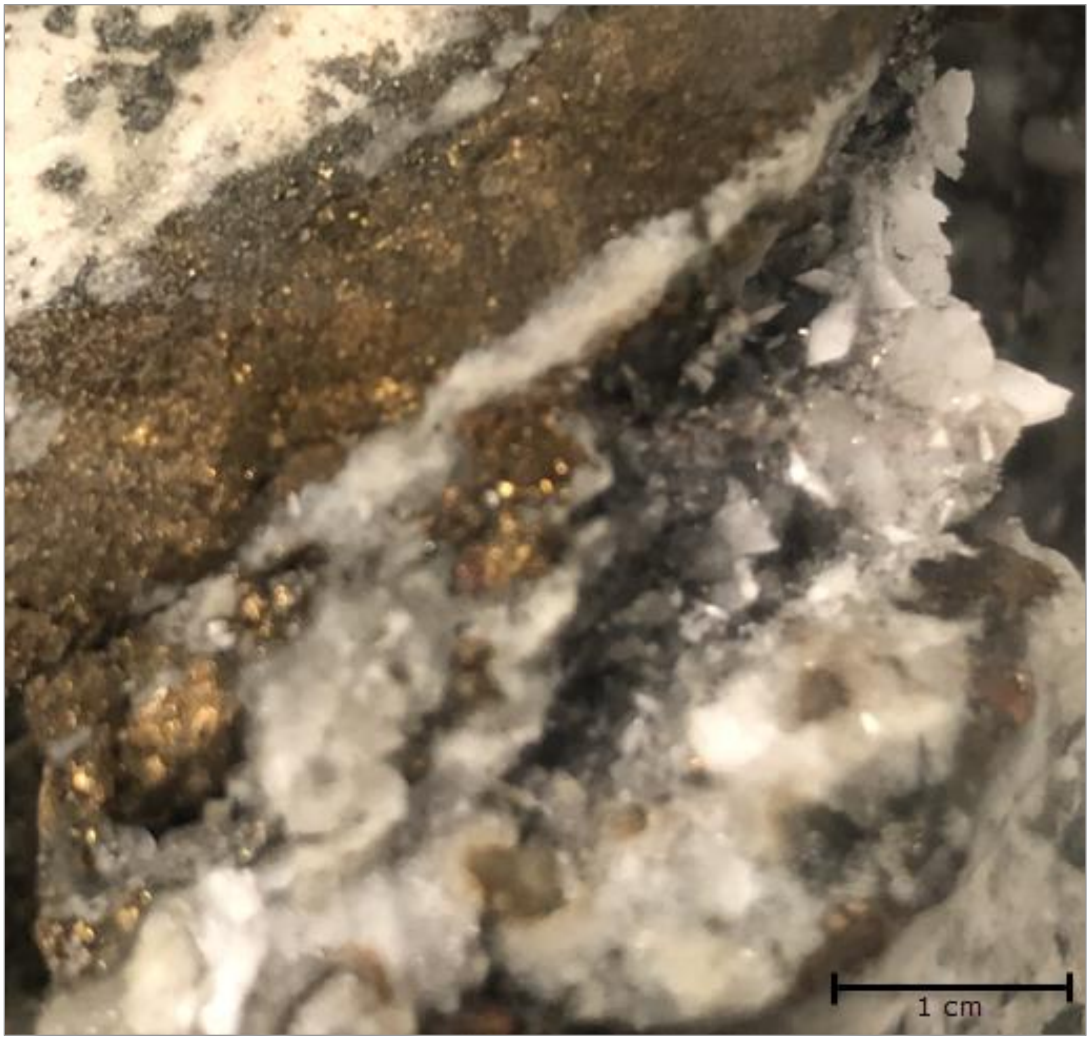
Mineralization discovered to date at La Verde occurs predominantly within five main zones, four of which are situated within the East Hill area. Detailed descriptions of all five zones are contained in the Weston and MacLean 2006 report but are summarized in the following sections.

7.6.1 West Hill

The West Hill deposit has a north-northeast-trending elliptical outline, approximately 300 to 500 m wide by 800 m in length. Mineralization on the West Hill deposit occurs in veins within phyllic-propylitic alteration envelopes and the mineralization outcrops in a number of locations, commonly marked by the appearance of limonite-malachite stained waste piles and / or sparse vegetation "kill" zones.

The West Hill consists of steeply-dipping to vertical bands of epidote-sericite-quartz-calcite-altered quartz diorite and quartz-gabbro porphyry containing veinlets, veins, and disseminations of pyrite-chalcopyrite±pyrrhotite-arsenopyrite. This is seen in Figure 7.4 which shows a chalcopyrite / pyrite vein associated with quartz-calcite veining and disseminated sulphides in drillhole DH-LV11-031 at 794 m.

Figure 7.4 West Hill chalcopyrite / pyrite vein associated with quartz-calcite veining



Source: José A. Olmedo, (2021).

Phyllic-propylitic alteration veins strike east-northeast within the quartz-gabbro porphyry stock, east-southeast within surrounding quartz diorite, and east-west common to both. Historical mapping indicates linear east-trending zones of quartz sericite alteration that can be traced for up to 900 m on surface.

In drill core, mineralized veins vary from a few centimetres to several metres in width. Zones of mineralization often consist of groups or swarms of mineralized veins with increased alteration intensity correlating with increased vein density.

A low vein density usually corresponds with weakly mineralized zones, with sulphides generally restricted to veins. Wall-rock alteration occurs as discrete envelopes around the veins. Surrounding host rocks are generally unaltered.

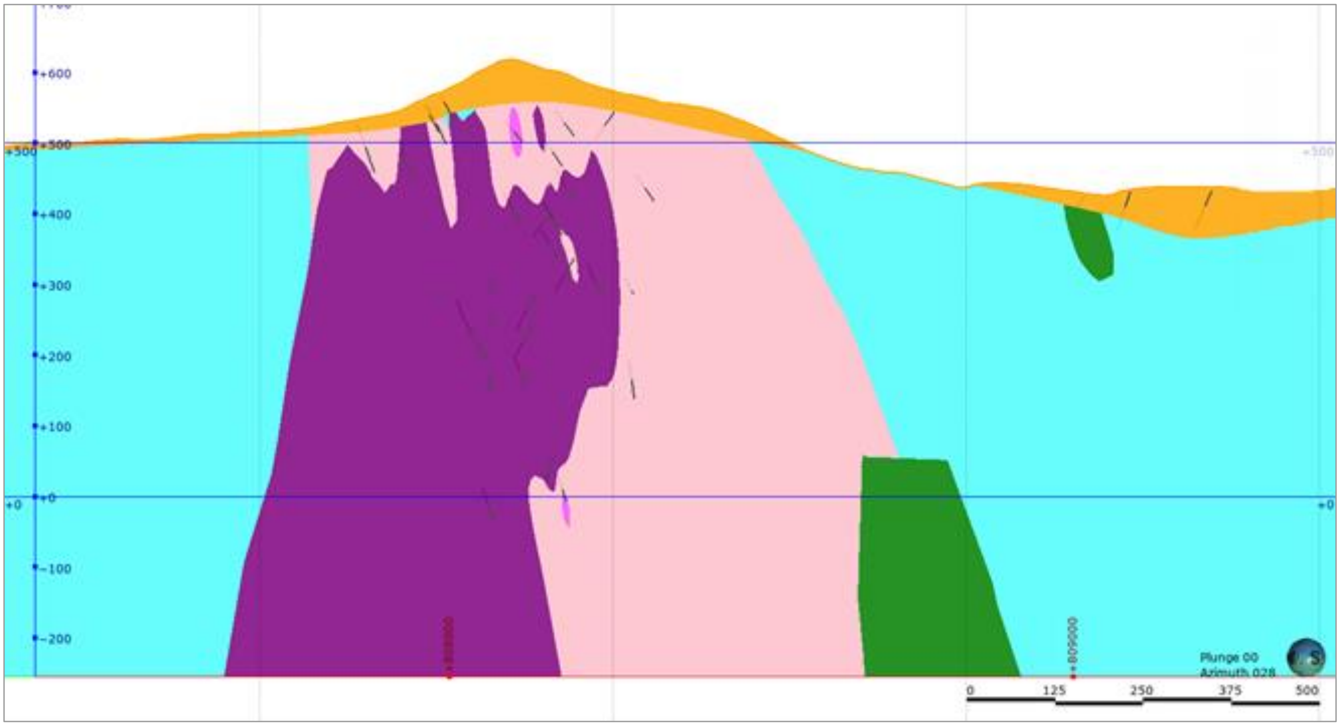
Where there is high vein density, alteration in vein selvages coalesces and sulphides commonly occur as disseminations in the vein selvages. The altered and / or mineralized host rock is characteristically lighter in color, non-magnetic, and visually distinct from unaltered quartz diorite / quartz-gabbro host rock.

Localized high-grade mineralization has been observed in drill core. As an example, drillhole C11-04-02 intersected massive chalcopyrite veins of greater than 2 m core-width. The non-true-width sample assayed 13.88% Cu over 3.99 m. Underground mapping indicates that these wider zones of high-grade mineralization pinch and swell over the width of the drift and plunge either steeply east or steeply west.

It is difficult to correlate the mineralized structures due to the variability of copper grades and widths between drillholes. Previous interpretations have been guided by phyllic-propylitic alteration zones to connect the mineralized intervals. Drilling has intersected zones of alteration / mineralization to a depth of 0 masl or 600 m below the top of West Hill.

In 2021, a revised three-dimensional model of the West Hill and East regions was constructed using Leapfrog Geo v2021.1 software. A north-northeast facing section across the West Hill is shown in Figure 7.5 with the lithology codes explained below.

Figure 7.5 Section across West Hill (looking NNE 028°)



	Code	Description		Code	Description
	7	East Hill Quartz Diorite		8	West Hill Quartz Diorite
	5	West Hill Quartz Diorite Porphyry		200	Quaternary
	6	West Hill Quartz-Feldspar Porphyry		300	Country Rock (unmineralized)

Note: Scale and depths in metres.
Source: Red Pennant Communications, (2021).

7.6.2 East Hill

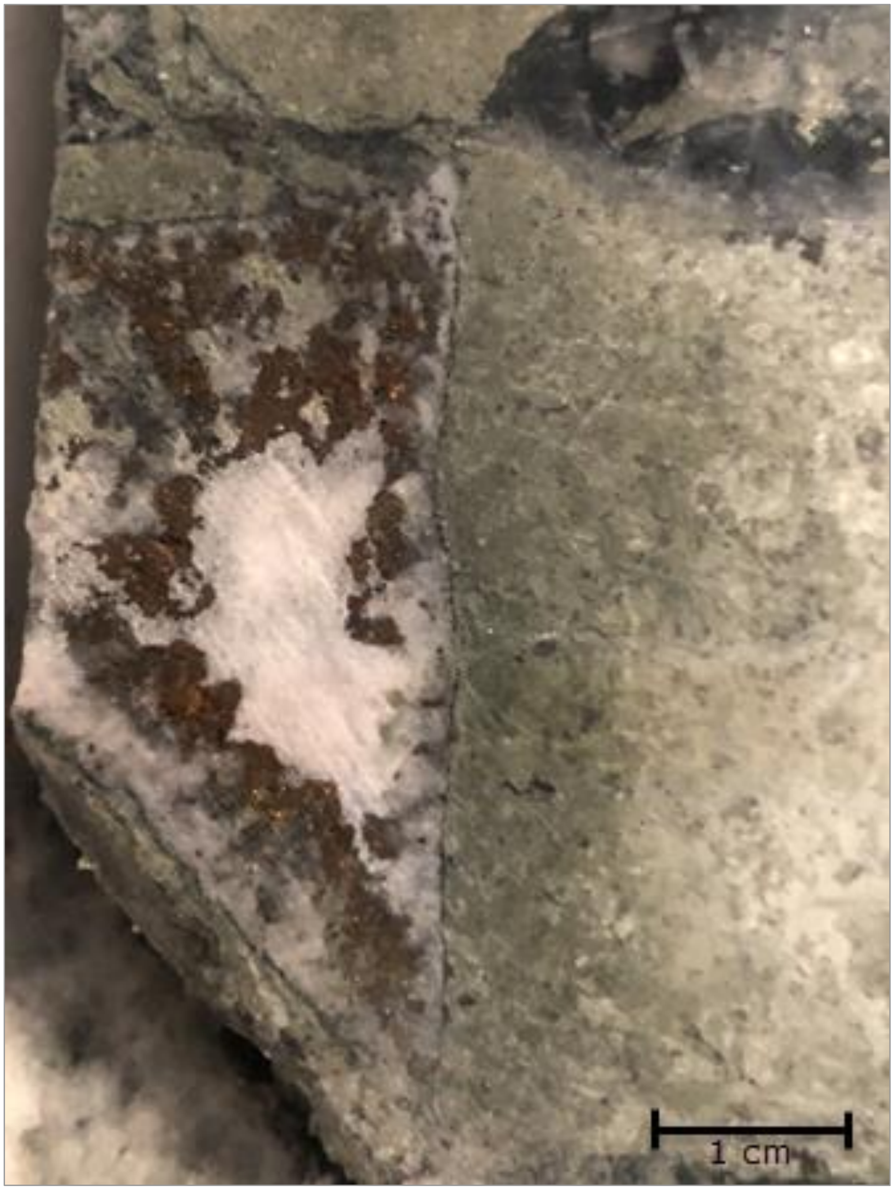
7.6.2.1 #1 Zone (Breccia)

The #1 Zone is exposed at surface between sections 812300 to 812600 mE as a roughly east-trending series of malachite-stained quartz diorite breccia outcrops. Weathering and copper-oxide mineralization is generally restricted to within 20 m of surface. Note the section lines are shown on Figure 7.3.

Mineralization occurs principally as disseminations and blebs of bornite-chalcopyrite± arsenopyrite-molybdenite throughout the matrix and within fragments of brecciated quartz diorite. Some mineralization also occurs as planar fracture veinlets and joint coatings within large quartz diorite blocks and unbrecciated quartz diorite wall-rock. The breccias are generally weakly to moderately altered to an assemblage of chlorite-sericite-calcite±quartz. Zones of patchy pink alteration have been interpreted to be potassically altered (potassium feldspar-chlorite-sericite ±quartz-epidote-calcite) fragments and are almost always associated with higher-grade bornite±molybdenite-arsenopyrite mineralization within the #1 Zone.

This is seen in Figure 7.6 which is an example of crackle quartz diorite breccia with open space calcite-arsenopyrite-chalcopyrite-bornite mineralization with tourmaline rind at cement clast boundary, and chlorite-sericite alteration as seen in DH-V-126-T at 319 m at East Hill.

Figure 7.6 East Hill example of crackle quartz diorite breccia



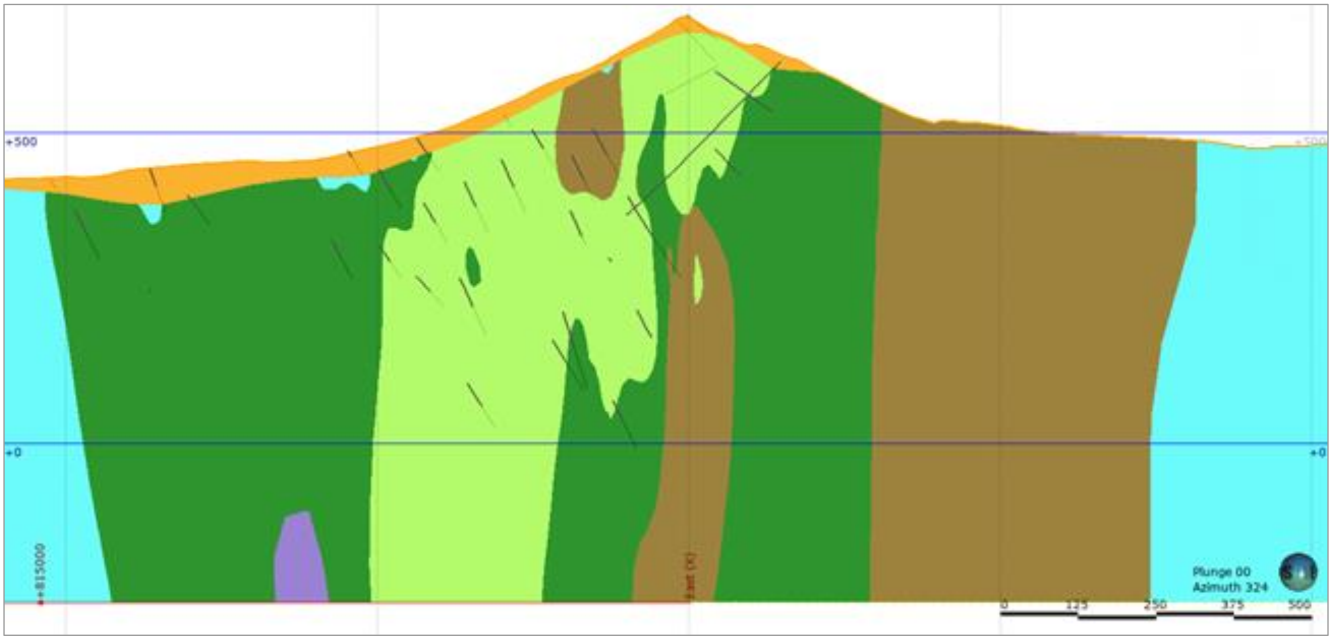
Source: José A. Olmedo, (2021).

The #1 Zone forms a well-defined, consistently mineralized body at a cut-off grade of 0.3% Cu. It has rough dimensions of 150 to 220 m wide, 100 to 150 m deep, and 200 m long. The western boundary of the zone is quite sharp as it passes into sporadically mineralized breccia. The zone thins into two separate mineralized bodies to the east in section 812450 mE, before it apparently pinches out in section 812500 mE. This area is poorly delineated, but the IP chargeability inversion data indicates that there is potential for undiscovered mineralization at depth or along strike.

The lower contact of the #1 Zone dips gently to the north between 20° to 30° and roughly parallels the breccia / quartz diorite footwall contact but extends into unbrecciated footwall up to 90 m in section 812350 mE. Mineralization within the footwall differs in that it occurs principally as veinlets and disseminations associated with a mix of alteration assemblages including quartz-potassium feldspar-sericite-chlorite. Previous work suggests this footwall style mineralization may represent part of a feeder system to the overlying mineralized breccias.

A north-west facing section across the East Hill is shown in Figure 7.7.

Figure 7.7 Section across East Hill (looking NW 324°)



	Code	Description		Code	Description
	1	East Hill Breccias		7	East Hill Quartz Diorite
	2	East Hill Quartz Diorite Porphyry		200	Quaternary
	3	East Hill Quartz-Feldspar Porphyry		300	Country Rock (unmineralized)

Note: Scale and depths in metres.
Source: Red Pennant Communications, (2021).

7.6.2.2 #2 Zone

Copper mineralization within the #2 Zone generally does not begin until 50 to 150 m below surface. However, copper mineralization on the western extension between lines 812300 mE to 812350 mE comes within 5 to 10 m of surface and is clearly visible as a chargeability inversion anomaly. The upper 100 to 200 m of this zone is hosted within a rootless, unbrecciated, quartz-feldspar porphyry which shows little alteration outside of the mineralized veinlets. Below the porphyry, mineralization continues down into quartz diorite and quartz diorite breccia.

Within quartz-feldspar porphyry, the mineralization is characterized by 1 to 2 mm wide sub-vertical sheeted veins of chalcopyrite-bornite±molybdenite-arsenopyrite within discrete alteration envelopes of quartz-chlorite-sericite. The veins are generally sub-parallel but conjugate sets have been observed. Mineralization can also occur as finely disseminated chalcopyrite-bornite associated with sericite-chlorite altered amphibole crystals within quartz-feldspar porphyry. At depth, the host rock changes to quartz diorite and quartz diorite breccia with local zones of mixed breccia containing quartz-feldspar porphyry fragments intermingled with quartz diorite breccia. The mineralization style largely remains as fracture veinlets and fine disseminations, often associated with sericite-chlorite-quartz± potassium feldspar-calcite alteration envelopes. However, with depth a strong and pervasive calcic-sodic-silicic (Ca-Na-Si) metasomatism pervades both quartz diorite and quartz diorite breccia often masking igneous textures. This widespread alteration type may indicate the presence of a large felsic intrusion at depth as there appears to be a close spatial relationship at surface between calcic-sodic±silicic metasomatism and quartz-feldspar porphyry.

The #2 Zone trends east-southeast and at a cut-off grade of 0.3% Cu forms a well-defined, consistently mineralized, vertically dipping tabular body between 50 to 150 m wide, up to 250 to 300 m in strike length, and with a dip extent of 350 m that is open at depth. The bottom of the mineralizing system has yet to be defined for most of its strike length and there is potential to add significant tonnage to this zone at depth.

Previous work indicates a lateral zonation in sulphide mineralogy as the zone tends to be chalcopyrite dominant in the south and bornite dominant in the north. As well, in sections with deep drillhole penetration the grade appears to decrease gradually with depth.

The western boundary of the #2 Zone is poorly defined and currently extends into the wide and deeply mineralized area of the #4 Zone. Mineralization within this region contains some characteristics of the #2 Zone, with fracture veins of bornite±chalcopyrite within quartz-feldspar porphyry recorded in previous drill logs as far west as section 812250 mE.

To the east, the down dip extent of the #2 Zone appears to merge with the #1 Zone as the mineralization shifts from #1-style blebs to #2-style sub-parallel fracture veins in a continuously mineralized section intersected in hole C11-05-06. This area is also characterized by a lateral displacement of the #2 Zone to the south before it gradually pinches to less than 20 m width at its eastern boundary. The cause of this south, right-lateral shift is unclear as the majority of late faults in the East Hill have been previously mapped as trending north-east, east, and south-east, and there does not appear to be a southerly shift in the outline of the #1 Zone in this area.

7.6.2.3 #3 Zone

The #3 Zone is intermittently exposed on surface for roughly 400 m between sections 812325 to 812725 mE as a south-east trending zone of malachite-stained breccias of quartz-feldspar porphyry in the north-west and quartz diorite breccia extending from the centre to the south-east. Mixed breccias of quartz-feldspar porphyry and quartz diorite occur within the contact areas between the two main rock types. Weathering and copper oxide mineralization is generally restricted to within 20 m of surface except in zones of faulting where surface waters have percolated to greater depths.

Mineralization within the #3 Zone occurs as blebs, disseminations, and veins of chalcopyrite-bornite within sericite / kaolinite-chlorite-quartz±calcite-potassium feldspar altered framework supported breccias of quartz-feldspar porphyry, quartz diorite, and mixed varieties of the two. Quartz-feldspar porphyry breccias tend to be more tightly packed with less rotational movement than brecciated quartz diorite, and in several cases brecciated dykes of quartz-feldspar porphyry are observable in drill core.

At a cut-off grade of 0.3% Cu, the #3 Zone forms a continuously mineralized south-east trending elongate corridor that extends for roughly 500 m. In cross section, however, this corridor consists of one to three mineralized sections which merge and bifurcate along strike. In the north-west the zone consists of two mineralized panels dipping to the north-east at 50 to 60° with long axis 120 to 170 m and width 30 to 80 m. At roughly 812550 mE these two panels merge to form a single intermittently mineralized body roughly 150 m wide and 100 to 220 m long. By 812650 mE, the zone splits again to form two mineralized zones, one of which exhibits a strong vertical aspect.

7.6.2.4 #4 Zone

Copper mineralization within the #4 Zone does not outcrop and generally does not begin until 100 to 300 m below surface. Historical mapping indicates that it is manifested at surface as a 60 to 90 m wide north-west trending band of weakly to non-mineralized green sericitized crackle breccia between sections 811925 to 812250 m E. Near its eastern boundary in section 812225 mE, the #4 Zone approaches within 20 to 30 m of surface where it appears to merge with the #2 Zone.

Historically the #4 Zone was the last to be discovered at La Verde. Due to economic restrictions inherent with the depth of mineralization, its dimensions were never properly delineated, and as such there is good potential to add significant tonnage to this zone in the future.

Mineralization within the zone is characterized by blebby to disseminated chalcopyrite-pyrite ±bornite-arsenopyrite occurring principally within the matrix to a hydrothermal “crackle” breccia cemented by a combination of quartz-calcite-tourmaline-chlorite gangue. Brecciated host rocks are dominantly quartz diorite, but several intervals of brecciated quartz-feldspar porphyry indicate the area was intruded by several felsic dykes prior to, and possibly coincidental with brecciation. Indeed, a large feldspar±quartz porphyritic stock occurs immediately north of the #4 Zone, and a mineralized feldspar-quartz-biotite bearing granodiorite has been intersected at depth in drilling to the north in hole C11-05-15.

An early episode of silicification associated with the #4 Zone is evident as numerous cross-cutting quartz veinlets at surface, and coarse, drusy quartz±tourmaline veins up to 4 m in core-width observed at depth. Subsequent brecciation of the host rock ensued, as evidenced by the presence of quartz diorite fragments with quartz veinlets near surface, and brecciated quartz±tourmaline vein fragments at depth. Pervasive wall-rock alteration followed (with zoned breccia fragments containing light grey sericite / kaolinite-calcite altered cores and dark green chlorite-tourmaline altered margins) along with cementation of the breccia matrix by a combination of quartz-calcite-tourmaline-chlorite-chalcopyrite.

At a cut-off grade of 0.3% Cu (which includes 9 m internal waste), the zone is a large, roughly east-west, irregularly shaped body with strike length up to 300 m, width varying from 100 to 350 m, and an open down-dip extent up to 400 m. The western boundary of the zone is quite sharp, terminating abruptly in section 811936 mE. To the east the zone pinches from 200 m width in section 812085 mE to less than 100 m width in section 812130 mE before it appears to merge with the #2 Zone. A large chargeability inversion anomaly to the south suggests sulphide mineralization may continue for several hundred metres beyond the presently assumed southern limit of mineralization. The northern boundary appears to dip steeply to the north between 55 to 75° until section 812225 mE where it dips vertically, similar to the #2 Zone. The upper surface of the #4 Zone is highly irregular in form and may in fact be sub-horizontal with sub-vertical mineralized shoots emanating upward from the main mineralized zone.

7.6.3 Las Minitas

The Las Minitas prospect occurs 2 km east-southeast of the East Hill, just east of the town of Las Minitas. The prospect is characterized by an area, roughly 100 by 50 m, of exposed malachite chips and a few shallow historical trenches. Geophysical and geochemical surveys revealed an east-west trending IP inversion anomaly with coincident copper-in-soil anomaly over a strike length of roughly 700 m. Subsequent drilling intersected significant copper mineralization in only one of five holes drilled to test the area.

Hole C11-05-20 confirmed the existence of shallow copper mineralization of limited width and strike extent immediately east of the historical showing. Mineralization here occurs as a 15 m wide discrete band of chalcopyrite-pyrite disseminations and veins within pervasively quartz-chlorite-epidote altered massive medium-grain quartz-monzodiorite. The mineralized band is interpreted from geophysics to dip moderately (~45°) to the south and was not intersected in any other holes located 200 m, 400 m, and 640 m to the east.

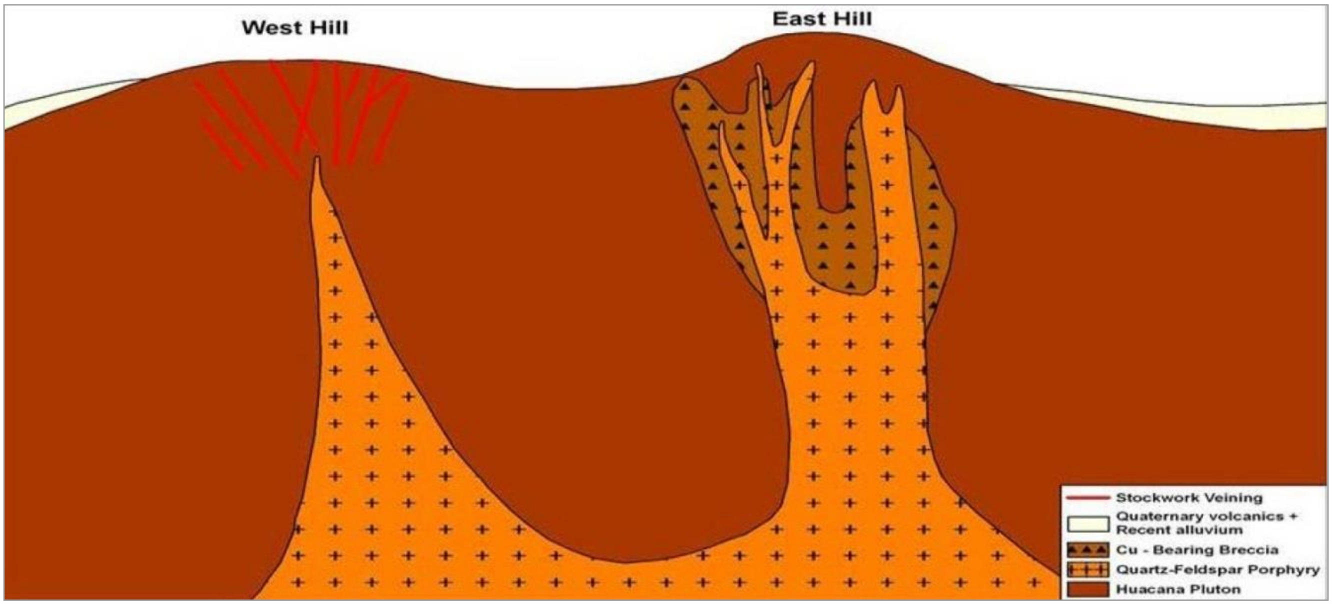
8 Deposit types

The La Verde deposit represents the upper portions of a copper porphyry deposit.

Several models have been developed for the La Verde deposit that differ in the details. One of these is illustrated in Figure 8.1, put forth by Weston and MacLean (2006). The figure illustrates the relationship between intrusive breccias (East Hill) and buried porphyry (West Hill) copper systems at depth.

Examples of similar mineralized intrusive breccias are the Willa breccia pipe in south-eastern BC (Wong and Spence 1995), the mineralized breccia pipes of Copper Basin, Arizona (Johnston and Lowell 1961), and numerous copper bearing tourmaline breccia pipes in Chile as described by Sillitoe and Sawkins (1971).

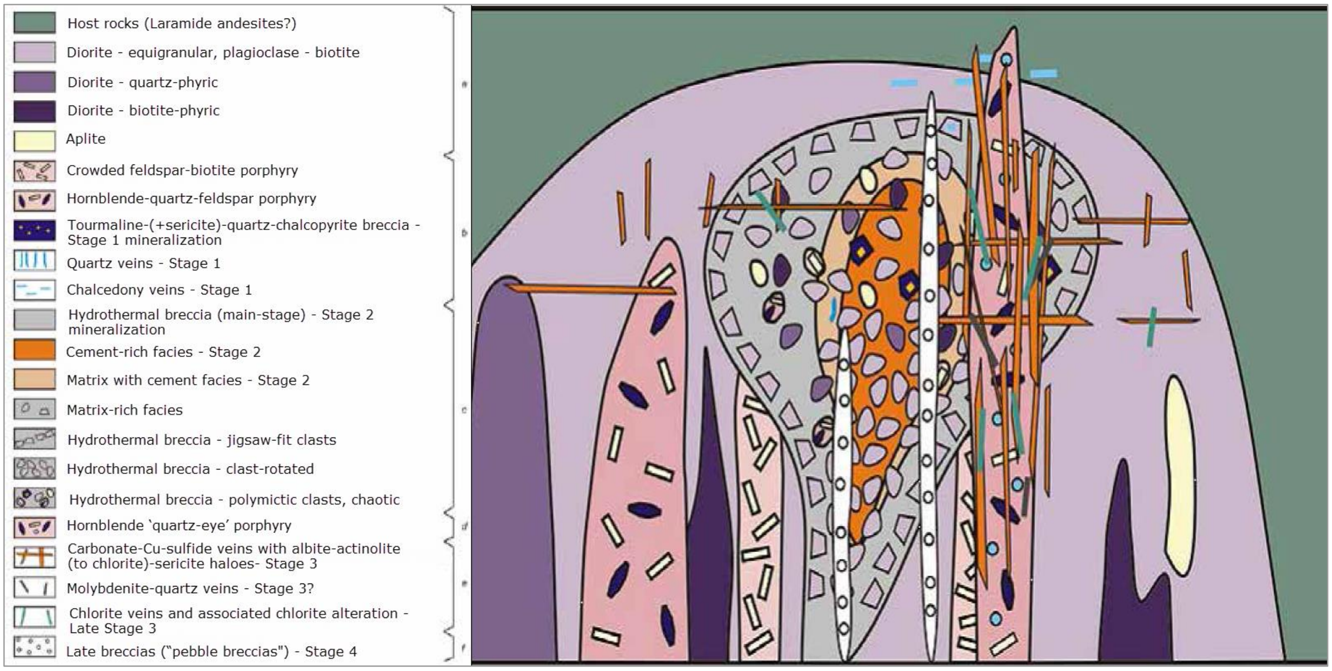
Figure 8.1 Idealized porphyry copper model for La Verde



Source: Weston and MacLean, (2006).

A model for the East Hill deposit has been developed by Chamberlain (2009) and is illustrated in Figure 8.2.

Figure 8.2 Idealized porphyry copper model for East Hill



Source: Chamberlain, (2009).

This model includes the initial diorite intrusion which is overprinted by a series of pulsed breccia facies with and without copper mineralization. A series of carbonate copper sulphide-sheeted veins crosscut the lithology followed by small-scale bornite±chalcopyrite veinlets that crosscut the porphyry and diorite. This is followed by chlorite veins and pervasive chlorite alteration which occurs and replaces mafic mineral phases. The final recognized event is the emplacement of a hydrothermal breccia with calcite-quartz-tourmaline-chalcopyrite cement.

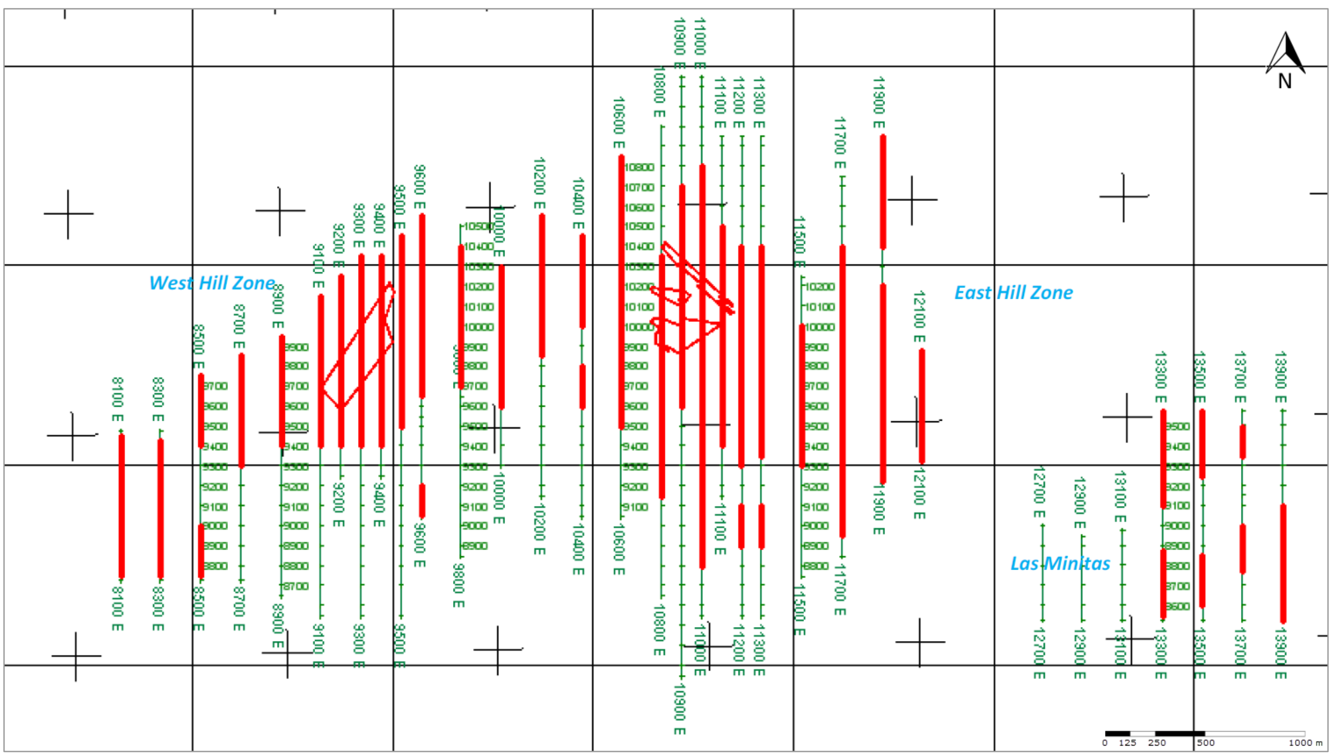
9 Exploration

9.1 2010 exploration

Based on the "Property of Merit" report (Makepeace 2010) recommendations, MinHill carried out an exploration program in 2010. A 150-line km pole-dipole IP program was completed in October 2010 (Lajoie 2010) and was conducted by Pacific Geophysical Ltd (Pacific Geophysical) of Vancouver, BC. The geophysical survey covered the East and West Hill as well as to the northern portion of the Huacana Batholith area to the south end of the concessions. A standard pole dipole array with a=100 m and the majority of the separation was n =1 to 12 which improved depth detection and target delineation capability.

The results indicated that the southern portion of the concession hosted several IP anomalies that can be attributed to hematite in quartz monzonite (Figure 9.1). The hematite mineralization appears to be highly chargeable at times which can create shallow IP anomalies. Several drill target areas were discovered from the survey including Huaco, Huaco South, Tziritzicuaro North. A review of the previous data confirmed that the strongest chargeabilities in the vicinity of West Hill mineralization were toward the north. This suggests that the area between West Hill deposit and the main irrigation canal has mineral potential.

Figure 9.1 IP survey – anomalies shown in red

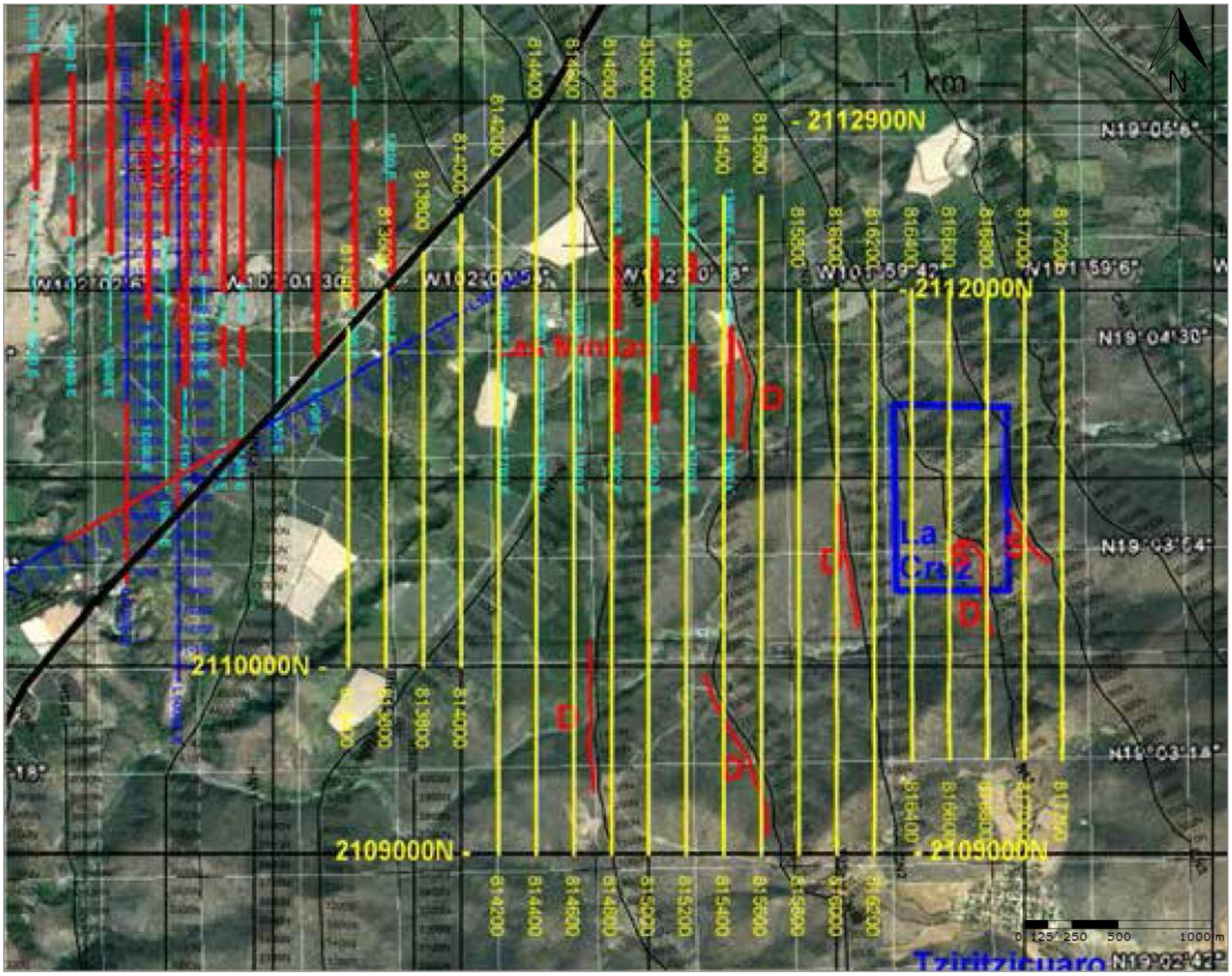


Source: Catalyst Copper, (2012).

9.2 2012 exploration

In 2012, a 59 line-km pole-dipole IP survey was completed in the Las Minitas area, south-east of East Hill. The 2012 survey was also conducted by Pacific Geophysical for MinHill. The survey was conducted on a UTM grid with 200 m line spacing. Figure 9.2 shows the location of the 2012 lines relative to previously completed survey lines in the Las Minitas region; the La Cruz concession is indicated by the blue rectangle.

Figure 9.2 2012 IP survey relative to previous surveys



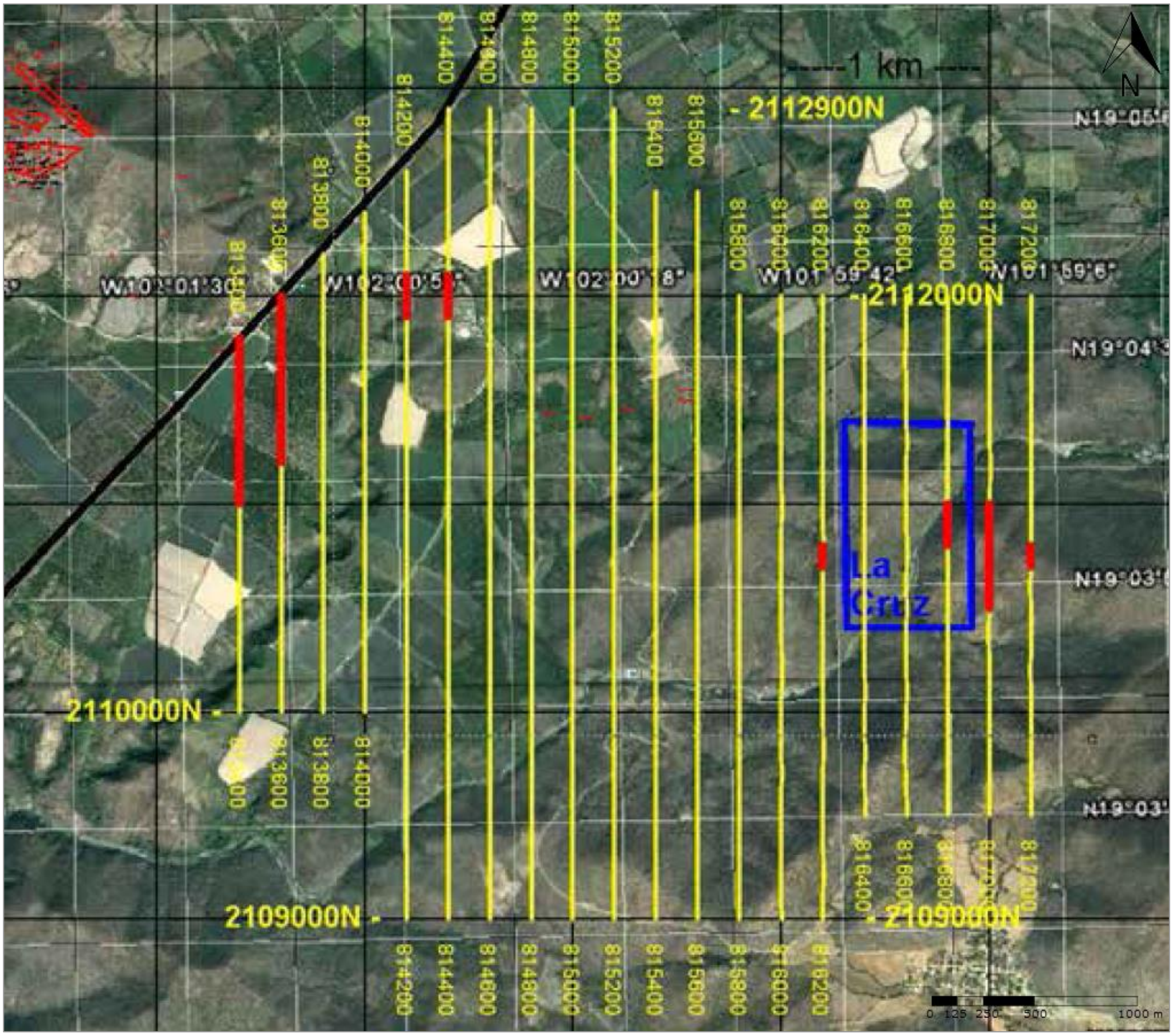
Notes:

- Yellow lines = 2012 IP survey.
- Blue / green / red lines = previous survey.
- White grid is latitude / longitude.

Source: Catalyst Copper, (2012).

The results show several areas with anomalous IP responses that are prospective for further exploration. These anomalous areas are indicated by the red portions of the survey lines on Figure 9.3. These results identify three areas of potential interest with anomalous IP responses, however the IP responses are lower than those of the West Hill and East Hill mineralized zones. Previous drill testing of other IP anomalies in this area of the Property have intersected hematite, and not copper, mineralization.

Figure 9.3 2012 IP survey anomalous IP responses



Notes:

- Red lines = anomalous IP chargeability responses.
- White grid is latitude / longitude.

Source: Catalyst Copper, (2012).

10 Drilling

10.1 Introduction

This section discusses the drilling carried out by MinHill in the period 2010 to 2012. The drilling carried out by previous operators is briefly discussed in Section 6.3. The total number of holes recorded in the database does not reconcile with that in the descriptive text in previous reports. This may in part be due to holes drilled in relinquished claims, but the discrepancy needs to be verified prior to any revised Mineral Resource estimation being carried out. The database is not clear as to the operator or year drilled which may be part of the discrepancy, and this should all be reconciled. As recommended separately in Section 12, a database audit and possible rebuild should be carried out. In Table 10.1 the summary of drilling over time by operator is shown as complied from within the 2012 Tetra Tech Technical Report.

No core recovery data is available in digital form in 2021. The core recovery data in the paper logs should be digitized so that it can be used in future. Core recovery for the drillholes reviewed in the site inspection is mainly excellent varying from 94.75% to 100% with one exception, see Section 12.3.

Table 10.1 Drilling summary over time

Operator	Year	Type	# of holes	Metres
Lytton	1967 - 1972	Surface DDH	152	50,201.0
	1969 - 1972	U/G DDH	97	
	1967 - 1972	Surface Percussion	198	12,584.0
	1969 - 1972	U/G Percussion	91	
HBMS	1974 - 1976	Surface DDH	27	6,659.0
Aur	2004-2005	Surface DDH	24	9,600.0
MTO	2007-2009	Surface DDH	4	1,562.0
MinHill	2010	Surface DDH	20	12,279.6
	2011	Surface DDH	24	15,918.0
	2012	Surface DDH	12	6,770.6
Total			**649**	**115,574.2**

Notes: DDH=diamond drillhole, U/G = underground.
Source: Compiled from 2012 Tetra Tech Technical Report.

10.2 MinHill drilling

MinHill completed drilling programs in 2010, 2011, and 2012. Figure 10.1 illustrates the distribution of 2010 and 2011 drillholes (blue squares) relative to the 2012 drillholes as well as holes completed by previous operators. The MinHill drill program used two skid-mounted drill rigs from Falcon Drilling. The holes were collared using HQ core size to a depth of approximately 400 to 500 m and then reduced to NQ size. Core recovery was regarded as excellent.

10.2.1 2010 drill program

Twenty diamond drillholes were completed on the Property in 2010 for a total of 12,279.6 m. Eleven holes for a total of 6,322.5 m were completed to verify historical drillhole mineralization, and are discussed in Section 10.3. Eight holes for a total of 5,269.8 m were completed to expand the known mineralization, especially at depth. A 687.3 m diamond drillhole was completed to identify any mineralization associated with an IP anomaly that had been discovered from the 2010 geophysical survey.

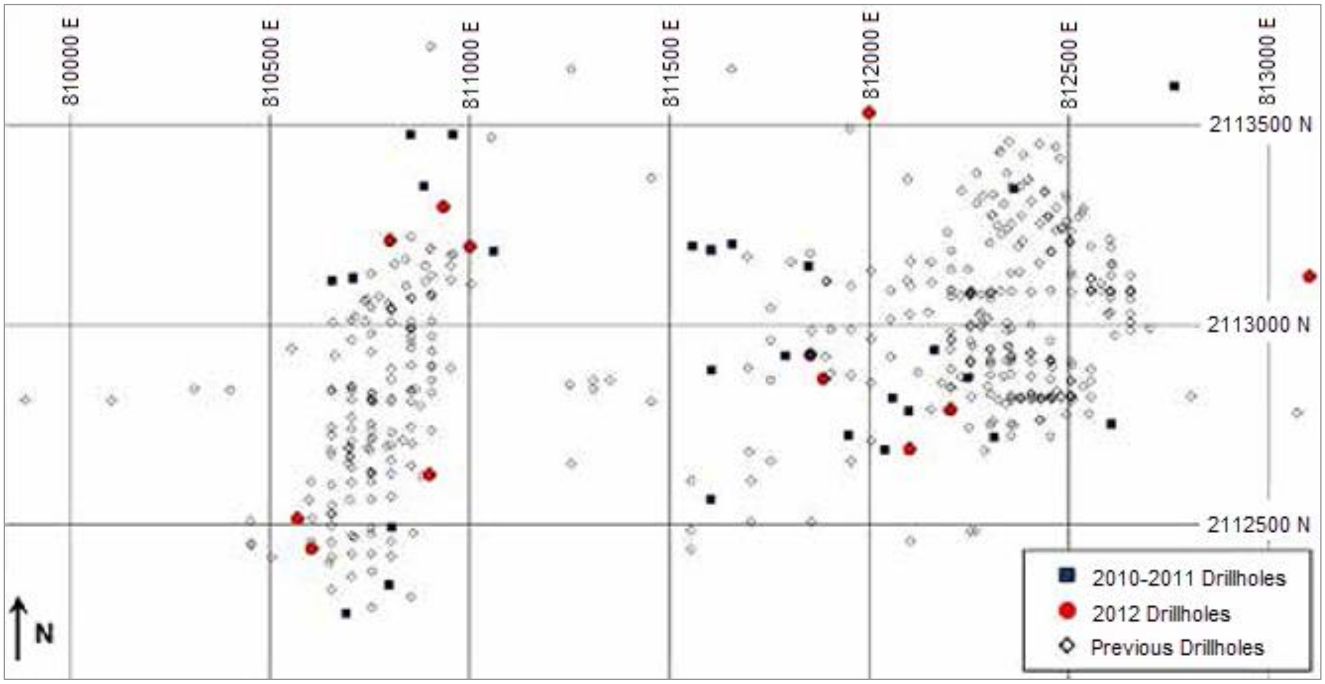
10.2.2 2011 drill program

Twenty-four drillholes were completed in 2011 for a total of 15,918.0 m. Two drillholes targeted the Noranda IP target La Verde Sur. The remaining 22 drillholes focused on infill drilling of East and West Hill.

10.2.3 2012 drilling

Twelve drillholes were completed in 2012 for a total of 6,770.6 m. All but one drillhole was more than 400 m in length. The 2012 drilling focused on expanding the known mineralization of both East and West Hill mineralization, including some infill and some delineation drilling. As in the 2010 and 2011 drilling programs, the 2012 program used two skid-mounted drill rigs from Falcon Drilling. The holes were collared using HQ to a depth of approximately 400 to 500 m and then reduced to NQ.

Figure 10.1 La Verde drillhole collar map



Notes: Grid display easting (E) and northing (N) values (units in metres).
Source: Catalyst Copper, (2012).

Table 10.3 lists the collar locations and other details for the MinHill drillholes drilled in 2010 through to 2012.

Table 10.2 Collar locations

Hole Number	Easting	Northing	Collar RL	Depth	Azimuth	Dip
V-126T	811937.0	2112670.0	459.7	694.0	0.0	-45.0
V-12T	812323.0	2112796.0	637.0	580.0	0.0	-60.0
V-13T	812319.0	2112827.0	622.1	492.8	320.0	-60.0
V-14T	812567.0	2113071.0	618.3	349.2	230.0	-45.0
V-15T	810855.0	2112954.0	567.8	659.6	180.0	-45.0
V-17T	810999.0	2112974.0	540.8	551.5	180.0	-45.0
V-19T	810782.0	2112859.0	553.6	661.0	180.0	-45.0
V-21T	810754.0	2112809.0	552.4	671.6	180.0	-45.0
V-38T	812637.0	2112860.0	649.6	575.0	180.0	-50.0
V-47T	810944.0	2112994.0	542.8	586.3	180.0	-45.0
V-75T	810692.0	2112208.0	480.3	501.8	0.0	-45.0
LV10-005	810930.0	2113150.0	527.0	631.0	180.0	-45.0
LV10-006	811006.0	2113276.0	527.0	779.0	180.0	-45.0
LV10-007	811655.0	2112991.0	528.0	607.2	45.0	-45.0
LV10-008	810841.0	2112157.0	457.0	706.0	0.0	-45.0
LV10-009	811896.0	2112947.0	565.0	766.0	45.0	-45.0
LV10-010	810732.0	2112087.0	438.0	620.9	0.0	-45.0
LV10-011	812087.0	2112493.0	489.0	761.0	0.0	-45.0
LV10-012	811513.0	2108097.0	440.0	687.3	0.0	-70.0
LV10-076a	812433.0	2113155.0	647.4	398.9	0.0	-90.0
LV11-013	810750.0	2112932.0	540.0	496.2	0.0	-50.0
LV11-014	810750.0	2112932.0	540.0	754.6	180.0	-45.0
LV11-015	811100.0	2112980.0	558.0	706.1	180.0	-55.0
LV11-016	810850.0	2112300.0	495.0	894.5	0.0	-50.0
LV11-017	811900.0	2112732.0	475.0	894.6	0.0	-50.0
LV11-018	812000.0	2112529.0	468.0	924.1	0.0	-50.0
LV11-019	812150.0	2112586.0	504.0	858.1	0.0	-50.0
LV11-020	812350.0	2112520.0	534.0	804.4	0.0	-45.0
LV11-021	812458.0	2110768.0	419.0	709.5	0.0	-50.0
LV11-022	812675.0	2110957.0	407.0	157.1	0.0	-50.0
LV11-023	812678.0	2110971.0	407.0	534.9	0.0	-50.0
LV11-024	812101.0	2112619.0	515.0	762.0	0.0	-45.0
LV11-025	812200.0	2112737.0	530.0	921.1	0.0	-45.0
LV11-026	812292.0	2112669.0	562.0	753.9	0.6	-60.0
LV11-027	811834.0	2112726.0	482.0	549.6	359.2	-50.6
LV11-028	811650.0	2112990.0	528.0	474.2	1.8	-49.7
LV11-029	811650.0	2112860.0	541.0	460.0	358.1	-50.3
LV11-030	811646.0	2112366.0	426.0	413.2	3.0	-51.6
LV11-031	810898.0	2113274.0	508.0	900.0	182.1	-50.4
LV11-032	810700.0	2112920.0	530.0	841.3	185.1	-49.2
LV11-033	811600.0	2113000.0	521.0	484.9	3.0	-45.6
LV11-034	811700.0	2113000.0	533.0	499.9	0.8	-46.3
LV11-035	812650.0	2112550.0	600.0	511.0	0.8	-50.2
LV11-036	812820.0	2113400.0	497.5	613.4	225.0	-65.0

Hole Number	Easting	Northing	Collar RL	Depth	Azimuth	Dip
LV12-037	813100.0	2113120.0	480.0	400.3	224.2	-63.6
LV12-038	811885.0	2112865.0	470.0	682.8	1.3	-56.1
LV12-039	812100.0	2112690.0	490.0	682.0	3.3	-57.1
LV12-040	810570.0	2112515.0	525.0	401.8	0.7	-47.3
LV12-041	810800.0	2113210.0	565.0	641.9	185.9	-61.7
LV12-042	812204.0	2112788.0	534.0	565.1	3.6	-54.8
LV12-043	811000.0	2113195.0	540.0	389.0	181.0	-44.8
LV12-044	811852.0	2112925.0	450.0	783.8	1.2	-60.5
LV12-045	810935.0	2113295.0	530.0	499.6	1.5	-45.0
LV12-046	812000.0	2113530.0	520.0	646.5	0.8	-55.0
LV12-047	810900.0	2112625.0	490.0	587.0	2.1	-45.0
LV12-048	810605.0	2112441.0	485.0	490.9	0.0	-47.0

Table 10.3 summarizes significant results intersected in 2012 drilling, which was the most recent MinHill drilling.

Table 10.3 2012 drilling – summary of significant results

Hill	Drillhole	From (m)	To (m)	Length (m)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)
East	LV12-037	118.70	125.00	6.30	0.423	0.160	1	0.001
		129.00	135.00	6.00	0.119	0.042	1	0.001
		140.00	148.00	8.00	0.250	0.196	2	0.001
		221.80	229.50	7.70	0.116	0.043	1	0.009
		261.50	265.50	4.00	0.102	0.006	1	0.006
		277.30	280.90	3.60	0.145	0.078	1	0.011
		315.40	319.75	4.35	0.116	0.007	1	0.001
		329.20	332.45	3.25	0.123	0.033	1	0.001
East	LV12-038	35.80	39.80	4.00	0.266	0.015	1	0.001
		112.00	114.85	2.85	0.118	0.007	2	0.001
		216.80	224.80	8.00	0.105	0.004	1	0.001
		230.80	234.80	4.00	0.105	0.014	1	0.001
		248.50	265.70	17.20	0.108	0.003	1	0.001
		271.00	276.50	5.50	0.154	0.011	1	0.001
		276.50	303.70	27.20	0.576	0.275	1	0.001
		303.70	324.25	20.55	0.121	0.041	1	0.001
		333.15	336.65	3.50	0.599	0.127	11	0.001
		336.65	367.20	30.55	0.132	0.036	1	0.001
		370.40	380.10	9.70	0.159	0.063	1	0.001
		381.70	384.70	3.00	0.230	0.031	1	0.001
		392.70	396.70	4.00	0.117	0.032	1	0.001
		396.70	461.25	64.55	0.371	0.121	4	0.004
		464.60	468.60	4.00	0.102	0.026	1	0.002
		483.25	498.10	14.85	0.096	0.042	1	0.001
		498.10	675.30	177.20	0.536	0.041	5	0.006
		675.30	682.80	7.50	0.179	0.002	2	0.002

Hill	Drillhole	From (m)	To (m)	Length (m)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)
East	LV12-039	89.05	92.20	3.15	0.184	0.038	2	0.001
		236.80	250.80	14.00	0.349	0.028	2	0.001
		332.00	346.00	14.00	0.234	0.008	3	0.001
		354.00	358.15	4.15	0.249	0.023	4	0.001
		360.30	368.00	7.70	0.106	0.023	2	0.001
		376.00	603.05	226.95	0.673	0.076	6	0.003
		617.00	621.00	4.00	0.131	0.008	2	0.004
		627.00	631.00	4.00	0.435	0.005	5	0.014
		646.00	651.50	5.50	0.221	0.004	2	0.012
		661.60	673.35	11.75	0.932	0.009	6	0.009
West	LV12-040	59.00	69.25	10.25	0.121	0.002	1	0.001
		69.25	74.90	5.65	1.659	0.009	4	0.001
		143.00	147.00	4.00	0.265	0.001	1	0.001
		161.70	165.10	3.40	0.120	0.001	1	0.001
		181.90	216.00	34.10	0.855	0.003	2	0.001
		226.00	229.60	3.60	0.100	0.001	1	0.001
		231.20	236.70	5.50	0.828	0.001	3	0.001
		236.70	244.70	8.00	0.109	0.003	1	0.001
		256.60	259.30	2.70	0.282	0.002	2	0.001
		288.30	291.70	3.40	0.259	0.002	1	0.001
		320.20	323.10	2.90	0.250	0.001	1	0.001
		327.30	331.50	4.20	0.222	0.003	1	0.001
		364.60	372.35	7.75	1.477	0.006	2	0.001
		383.05	387.35	4.30	0.263	0.002	1	0.001
West	LV12-041	69.00	76.45	7.45	0.423	0.011	3	0.007
		93.00	106.00	13.00	0.601	0.011	2	0.003
		185.00	193.00	8.00	1.324	0.005	7	0.002
		223.50	227.30	3.80	0.581	0.005	4	0.001
		249.55	259.00	9.45	0.269	0.005	1	0.003
		284.50	311.40	26.90	0.286	0.012	1	0.002
		337.30	408.00	70.70	0.857	0.003	3	0.001
		419.00	438.00	19.00	1.946	0.003	5	0.001
		461.60	477.50	15.90	0.614	0.003	2	0.001
		487.00	496.00	9.00	1.898	0.180	5	0.001
		533.60	539.00	5.40	0.641	0.001	2	0.001
		549.00	553.70	4.70	0.608	0.001	1	0.001
		581.20	585.00	3.80	1.397	0.003	3	0.001
		594.25	597.20	2.95	0.612	0.001	1	0.001
		605.20	640.10	34.90	0.603	0.002	1	0.001
East	LV12-042	47.30	50.70	3.40	0.266	0.019	1	0.001
		100.75	243.00	142.25	0.287	0.007	3	0.001
		289.60	293.70	4.10	0.229	0.008	2	0.001
		325.60	330.70	5.10	0.239	0.001	1	0.001
		359.15	557.95	198.80	0.375	0.078	5	0.004

Hill	Drillhole	From (m)	To (m)	Length (m)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)
West	LV12-043	30.80	34.15	3.35	0.237	0.004	2	0.001
		115.60	119.80	4.20	1.008	0.046	5	0.001
		176.00	203.00	27.00	0.687	0.006	2	0.001
		211.20	221.30	10.10	0.689	0.036	2	0.001
		283.50	287.50	4.00	0.238	0.005	1	0.009
		311.20	316.25	5.05	0.295	0.017	1	0.002
		336.50	345.80	9.30	0.682	0.021	3	0.005
East	LV12-044	197.10	201.15	4.05	0.237	0.018	2	0.002
		238.00	246.00	8.00	0.295	0.016	5	0.001
		278.55	283.30	4.75	0.245	0.022	4	0.003
		303.50	307.50	4.00	0.231	0.021	3	0.001
		366.20	369.65	3.45	0.390	0.050	3	0.001
		400.50	406.50	6.00	0.200	0.140	2	0.002
		432.85	436.70	3.85	0.213	0.113	2	0.002
		483.00	487.00	4.00	0.563	0.095	5	0.005
		506.40	510.40	4.00	0.647	0.504	7	0.003
		533.70	575.35	41.65	0.555	0.014	5	0.003
		657.00	746.50	89.50	0.526	0.014	7	0.007
West	LV12-045	115.00	118.50	3.50	0.250	0.002	2	0.003
		133.15	150.90	17.75	1.246	0.019	5	0.003
		233.00	255.90	22.90	0.972	0.015	4	0.001
		295.60	299.00	3.40	0.269	0.002	2	0.001
		326.70	352.70	26.00	1.683	0.007	4	0.001
		381.00	395.25	14.25	2.038	0.010	6	0.001
		403.15	410.50	7.35	0.389	0.003	2	0.001
East	LV12-046	187.80	227.10	39.30	0.227	0.038	2	0.001
		256.30	259.55	3.25	0.223	0.041	3	0.001
		267.50	274.90	7.40	0.217	0.062	2	0.001
		279.60	283.60	4.00	0.291	0.045	4	0.001
		314.50	319.70	5.20	0.206	0.055	3	0.003
		414.00	418.00	4.00	0.299	0.003	8	0.001
		445.40	452.50	7.10	0.238	0.092	3	0.002
		466.30	472.00	5.70	0.380	0.094	4	0.002
		493.00	528.95	35.95	0.587	0.114	6	0.002
		562.35	611.40	49.05	1.188	0.039	10	0.003
		623.85	630.10	6.25	0.276	0.005	3	0.012
		635.00	641.00	6.00	0.214	0.046	3	0.010
West	LV12-047	81.70	86.30	4.60	0.294	0.003	2	0.001
		114.60	123.35	8.75	0.263	0.004	2	0.001
		132.80	140.85	8.05	0.874	0.009	4	0.001
		185.70	188.70	3.00	0.461	0.003	3	0.001
		196.30	205.30	9.00	0.627	0.042	4	0.004
		209.30	213.30	4.00	0.251	0.005	2	0.001
		259.00	263.00	4.00	0.229	0.002	2	0.001
		298.00	330.70	32.70	0.387	0.003	2	0.001
		378.00	381.95	3.95	1.639	0.014	5	0.001

Hill	Drillhole	From (m)	To (m)	Length (m)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)
		413.45	422.75	9.30	0.668	0.018	2	0.001
		433.40	437.60	4.20	0.220	0.002	2	0.001
		452.00	458.85	6.85	0.405	0.002	2	0.001
		478.30	480.25	1.95	0.353	0.003	2	0.001
		493.60	584.90	91.30	0.530	0.003	2	0.001
West	LV12-048	92.00	94.80	2.80	0.345	0.002	2	0.001
		98.60	102.55	3.95	0.818	0.002	2	0.001
		115.00	124.25	9.25	0.882	0.002	2	0.002
		146.40	153.85	7.45	0.225	0.002	2	0.001
		179.35	188.70	9.35	0.469	0.004	2	0.001
		208.50	216.00	7.50	0.264	0.002	2	0.001
		222.00	226.00	4.00	0.645	0.004	2	0.001
		244.00	252.00	8.00	0.634	0.005	2	0.001
		261.60	269.25	7.65	1.010	0.006	2	0.001
		279.00	283.00	4.00	0.202	0.002	2	0.001
		298.50	308.60	10.10	2.020	0.003	3	0.002
		320.20	324.20	4.00	0.296	0.002	2	0.001
		352.20	356.20	4.00	0.267	0.007	2	0.001
		373.20	377.10	3.90	2.148	0.007	4	0.001
		382.40	385.75	3.35	0.380	0.004	2	0.001
		411.80	428.05	16.25	0.474	0.002	2	0.001
		456.95	465.35	8.40	0.299	0.002	2	0.001

10.3 Verification drillholes - 2010

The verification, or twinned, drillholes (T suffix in Table 10.4) were drilled as close as possible to the pre-MinHill holes, based on the known coordinates of those holes. In some cases, the exact collar location of the historical drillhole could not be determined. Half of the historical holes had no down-the-hole surveys so their path was assumed to be linear while the verification holes were all surveyed at regular intervals throughout the holes. The verification holes were drilled deeper than the historical holes because mineralization continued at depth. Deeper mineralized intervals were intersected in the majority of the verification holes.

Table 10.4 compares the weighted average of the initial continuous mineralized intervals within each of the historical holes as compared to the verification holes. This analysis illustrates that although the continuous interval is large, the majority of the verification holes compare favourably with the historical data. There are a few holes that do not compare well but are still anomalous. These differences could be explained by:

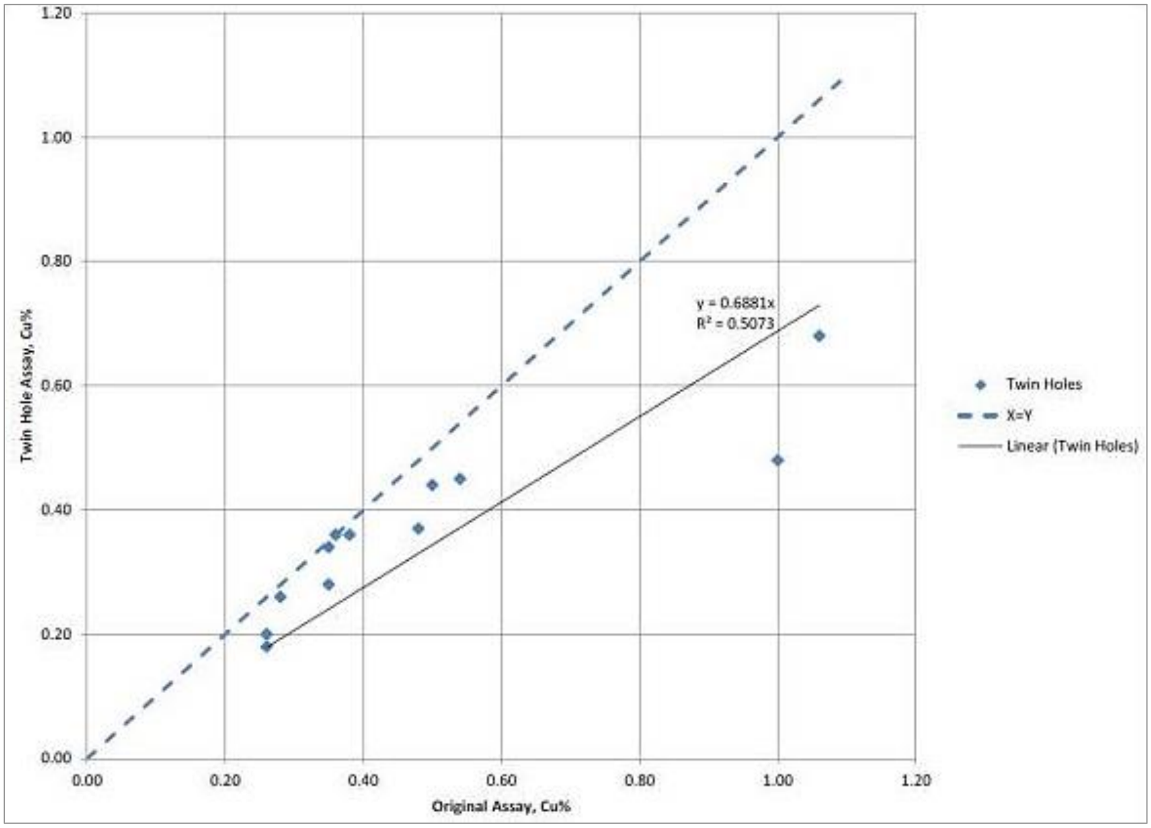
- The historical and verification holes may be further apart from one another, possibly due to survey accuracy of the collar location of the historical hole with respect to the verification hole collar.
- The historical holes that have no down-hole surveys could have deviated independently to the verification holes creating an increasing distance between the holes as the hole depths increased.
- Small-scale variations or high-grade veinlets may have been intersected in one hole and not the other due to the nature of the geological formations (e.g., breccias) being intersected.

Table 10.4 Twinned drillholes

Holes	From (m)	To (m)	Interval (m)	Grade (Cu %)
V-126	228.05	360.25	132.20	0.48
V-126T	227.53	360.85	133.32	0.48
V-12	96.80	240.70	143.90	1.06
V-12T	96.00	240.00	144.00	0.68
V-13	27.80	276.50	248.70	0.26
V-13T	28.71	276.70	247.99	0.20
V-14	16.30	167.00	150.70	0.38
V-14T	16.10	165.40	149.30	0.36
V-15	13.40	281.20	267.80	0.54
V-15T	13.00	282.00	269.00	0.45
V-17	80.80	351.00	270.20	0.26
V-17T	79.50	352.00	272.50	0.44
V-19	37.00	261.25	224.25	0.50
V-19T	37.50	260.86	223.36	0.34
V-21	20.15	310.50	290.35	0.28
V-21T	20.20	311.00	290.80	0.26
V-38	70.35	243.90	173.55	0.35
V-38T	70.10	243.00	172.90	0.18
V-47	108.30	390.15	281.85	0.36
V-47T	108.60	391.00	282.40	0.37
V-75	74.70	473.00	398.30	0.35
V-75T	74.50	473.00	398.50	0.28
V-76	0.00	90.85	90.85	1.00
V-76T	0.00	91.00	91.00	0.36

The quantile-quantile (QQ) plot is illustrated in Figure 10.2 and demonstrates that the twin hole assays were generally lower in grade but match reasonably well up to 0.5% copper. High-grade chalcopyrite veinlets result in a greater assay difference at higher grades, which is to be expected given the nature of high-grade mineralization.

Figure 10.2 QQ plot, twin hole assays



Source: 2012 Tetra Tech Technical Report.

10.4 Drillhole survey

The MinHill diamond drillhole collars were initially surveyed with a Garmin GPS 60CSx which has an accuracy of ±3 m. All 2010 and 2011 drillholes were later resurveyed by an external surveyor. A rented FlexIT Smart Tool Survey System (No. 54611) was used for all down-the-hole surveys.

10.5 Mineral sample length versus true thickness

The relationship between sample length and true thickness cannot always be established for porphyry style mineralization. At the Property, there is disseminated and stockwork mineralization. Both the East and West Hill mineralized zones are irregular, coupled with multiple phases of intrusion. This makes it difficult to know the orientation and dimensions of mineralization relative to an individual drillhole. Therefore, although mineralized intervals may be selected on the basis of grade, the true thickness of the mineralized zone is not readily apparent.

In the West Hill area, the drillholes have a bearing of 000° azimuth. The holes are inclined and depending on the dip inclination of the individual holes, the true thickness would be approximately 60% to 90% of the drill core intervals.

10.6 Conclusion

In the QP's opinion, the 2010 to 2012 drilling was carried out and verified in a manner consistent with industry standards and is adequate for Mineral Resource estimation purposes. Pre-2010 drilling data should be reviewed (using statistical methods) to determine if it should be used for resource estimation. Subsequent to any estimates being made, the estimates should be re-run without the pre-2010 data, to assess the sensitivity of the estimates to the pre-2010 drilling.

11 Sample preparation, analyses, and security

The following Sections 11.1 through 11.5 are a summarized version of the sample preparation methodology.

11.1 Sample preparation

For each drillhole, one geologist was assigned responsibility for all aspects of the core sampling.

Core boxes were transported twice daily from the drill station to the core facility. Rock quality designation (RQD) and geology were logged on paper. Sample intervals were marked on the core box and sample tags were attached. A digital photo was taken of each core box prior to cutting.

Core was cut in half with a diamond core saw. Sample intervals were generally 2 m in length. The samples were placed in heavy mil plastic bags with a sample tag inside the bag and the sample number written on the outside. Samples were then placed in nylon sacks. Sample numbers were written on each sack. A lab sample sheet documents each sack and each sample within the sack.

Quality assurance / quality control (QA/QC) samples were inserted into the sequence of sample numbers for each hole. A standard was inserted every 20 samples and a blank was inserted every 30 samples. Coarse duplicate samples, in the form of a quarter of the remaining core interval, were inserted every 40 samples.

Geological logs, photos, and samples sheets were input into a laptop daily. This data was backed up onto a second computer and an external drive each day.

11.1.1 Sampling of previously drilled core

In 2010 and 2011, MinHill sampled legacy core from drillholes completed by Aur in 2005 to 2007. Aur had only sampled 64% of the core, leaving many gaps including apparently barren intervals within mineralized areas. MinHill sampled these gaps to provide continuous sampling. A total of 524 samples were collected from 14 Aur drillholes. Sample preparation, storage, analysis, and QA/QC for these samples is the same as for other samples collected by MinHill, described elsewhere in this section.

11.2 Core storage facility

MinHill established a secure core storage facility at a large warehouse in Estación Nueva Itália which is approximately 4 km north of Nueva Italia de Ruiz along Mexico Highway 37. This warehouse is still maintained and has been recently visited by the QP for Section 12 and found to be in good order (see Section 12 for details). The warehouse backs onto a siding which is part of the main line railway to the ocean port facilities at Lazaro Cardenas.

The facility has ample room for core logging, core sawing / sampling, and core / reject / pulp storage. All historic core, rejects, and pulps are currently stored at the secure warehouse at Estación Nueva Itália.

11.3 Sample analysis

During the most recent drill campaigns in 2011 to 2012, samples were taken to Acme Analytical Laboratories Mexico S.A. de C.V. (Acme), Guadalajara, Mexico, for sample preparation. An employee from Acme signed for the samples and drove them to the laboratory. Each sample was pulverized and sieved generating a pulp and rejects. The sample was crushed to 80% passing 10 mesh, split 500 g, and pulverized to 85% passing 200 mesh (R200-500). The rejects were returned to MinHill in Estación Nueva Itália by Acme drivers.

The pulps were sent by air express cargo to Acme Analytical Laboratories in Vancouver, BC for analysis. The analysis was initially a 36 element inductively coupled plasma (ICP) analysis (Acme Group 1D). A 0.5 g sample split is leached in hot (95°C) aqua regia with the resulting aliquot being analyzed by an inductively coupled plasma emission spectrometry (ICP-ES). This initial analysis was changed to achieve optimum precision especially in copper (Acme Group 7AR). The aqua regia aliquot is analyzed by ICP-ES emission spectrometry giving "%" concentrations for base and precious metals. If the concentration of copper or molybdenum were over 10,000 ppm (1%) then the sample had an atomic absorption spectroscopy (AAS) finish (Acme Group 8AR). If the concentration of gold was above 0.5 g/t that sample was fire assayed (Acme Group G01).

The results of the analysis were digitally sent to MinHill and followed up by hardcopy assay certificates.

Acme Analytical Laboratories Ltd. (AcmeLabs) was an independent, internationally recognized, ISO 9001:2008 certified facility (Quality Management System Certificate FM 63007) at the time the samples were submitted. They were subsequently acquired by Bureau Veritas Commodities Canada Ltd in 2014, holding global certifications for Quality ISO9001:2008, Environmental Management: ISO14001 and Safety Management OH SAS 18001 and AS4801.

A random series of 100 pulps was sent to ALS Minerals' laboratory in North Vancouver in 2011, BC, Canada as a check on AcmeLab's performance. ALS Minerals is also an ISO 9001:2015 certified facility and operates in compliance with ISO / IES 17025:2017.

11.4 Review of quality assurance / quality control

MinHill used a series of certified reference materials (CRMs), blank reference materials (blanks) and duplicates as part of their QA/QC program.

11.4.1 Certified reference materials

Four CRMs from CDN Resource Laboratories Ltd. (CDN Resource) in Langley, BC were used during the exploration program: CDN-CM-5, CDN-CM-6, CDNCM- 8, and CDN-CM-12.

The CRMs analyzed by AcmeLabs report close to the recommended values.

Table 11.1 lists the number of CRMs analyzed by AcmeLabs, the results of those assays, the number of times an insertion error occurred and the number of times the standard was outside acceptable limits. The CRM grades are significantly higher than the possible economic copper cut-off grade range (0.15 to 0.25%) so any future CRM choices should include some material with lower copper grades (say 0.15%).

Table 11.1 Summary of Certified Reference Material results

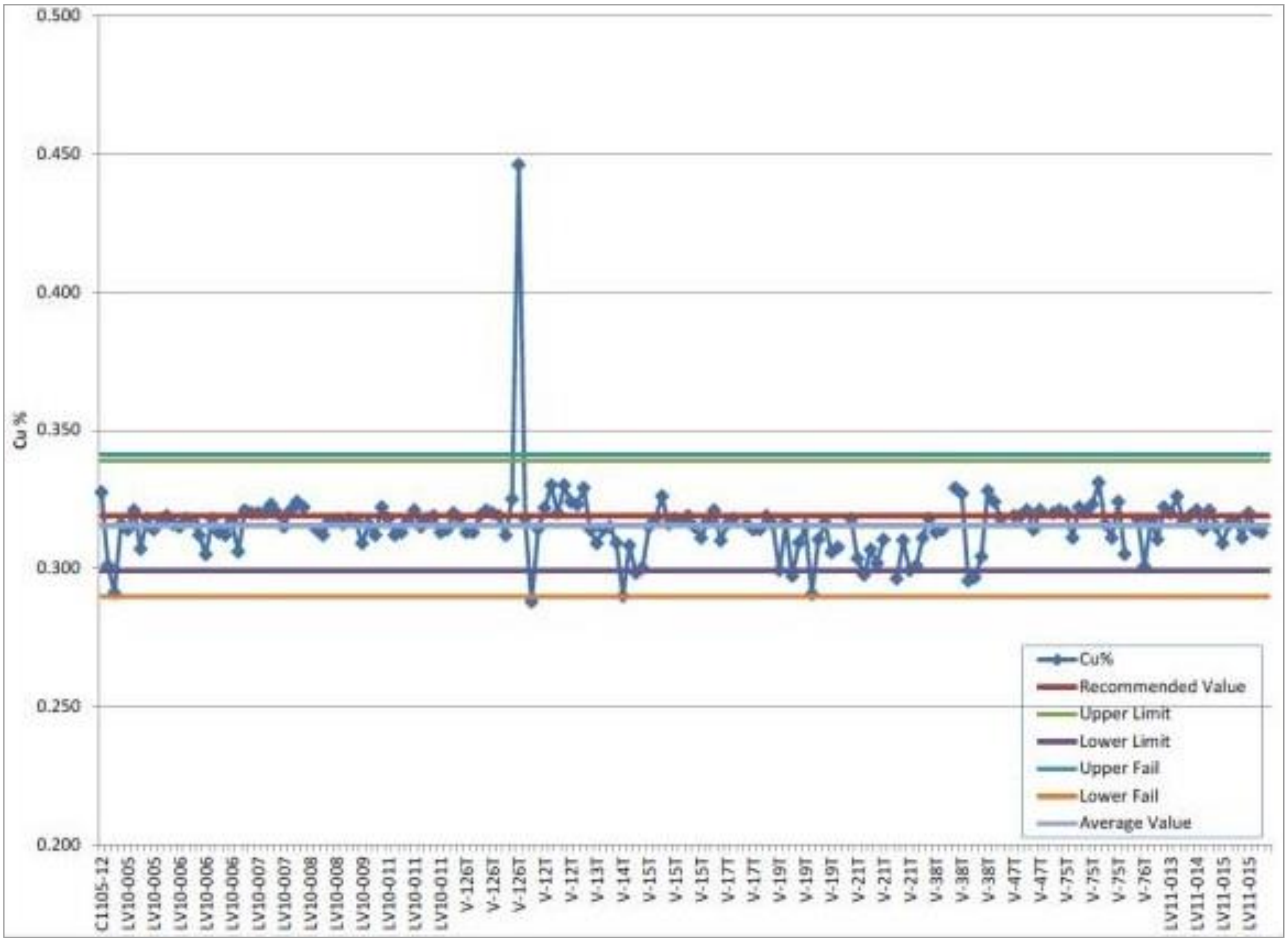
SRM	No. of CRM analyzed	Average Cu (%)	Two standard deviations	Insertion errors*	Fails
ACME CDN-CM5	180	0.316	0.026	9	2
Expected	N/A	0.319	0.020	N/A	N/A
ACME CDN-CM6	338	0.737	0.042	9	2
Expected	N/A	0.737	0.039	N/A	N/A
ACME CDN-CM8	196	0.367	0.012	3	0
Expected	N/A	0.364	0.024	N/A	N/A
ACME CDN-CM12	16	0.914	0.024	0	1
Expected	N/A	0.917	0.044	N/A	N/A

Note: *An insertion error is where the CRM was identified as the wrong standard. Insertion errors are not considered fails.

In addition, for CDN-CM-5, ten samples had insufficient material for gold analysis. For CDN-CM-6, twelve samples had insufficient material for gold analysis and one sample had insufficient material for copper analysis. For CDN-CM-8, fifteen samples had insufficient material for gold analysis and two samples for copper.

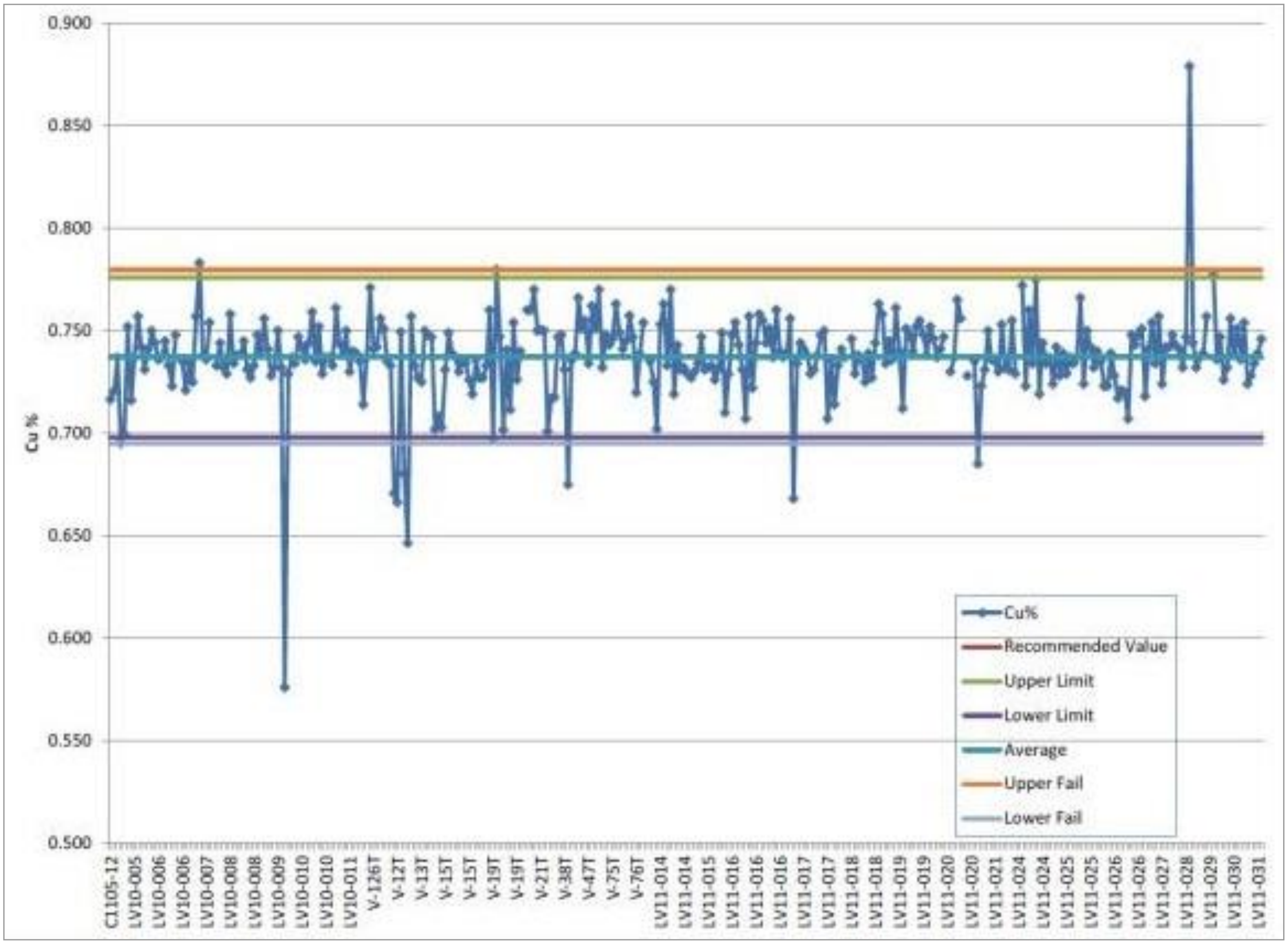
The following charts, Figure 11.1 to Figure 11.4, illustrate the standard assay results for standards CDN-CM-5, CDN-CM-6, CDN-CM-8, and CDN-CM-12.

Figure 11.1 CRM CDN-CM-5 copper assay results



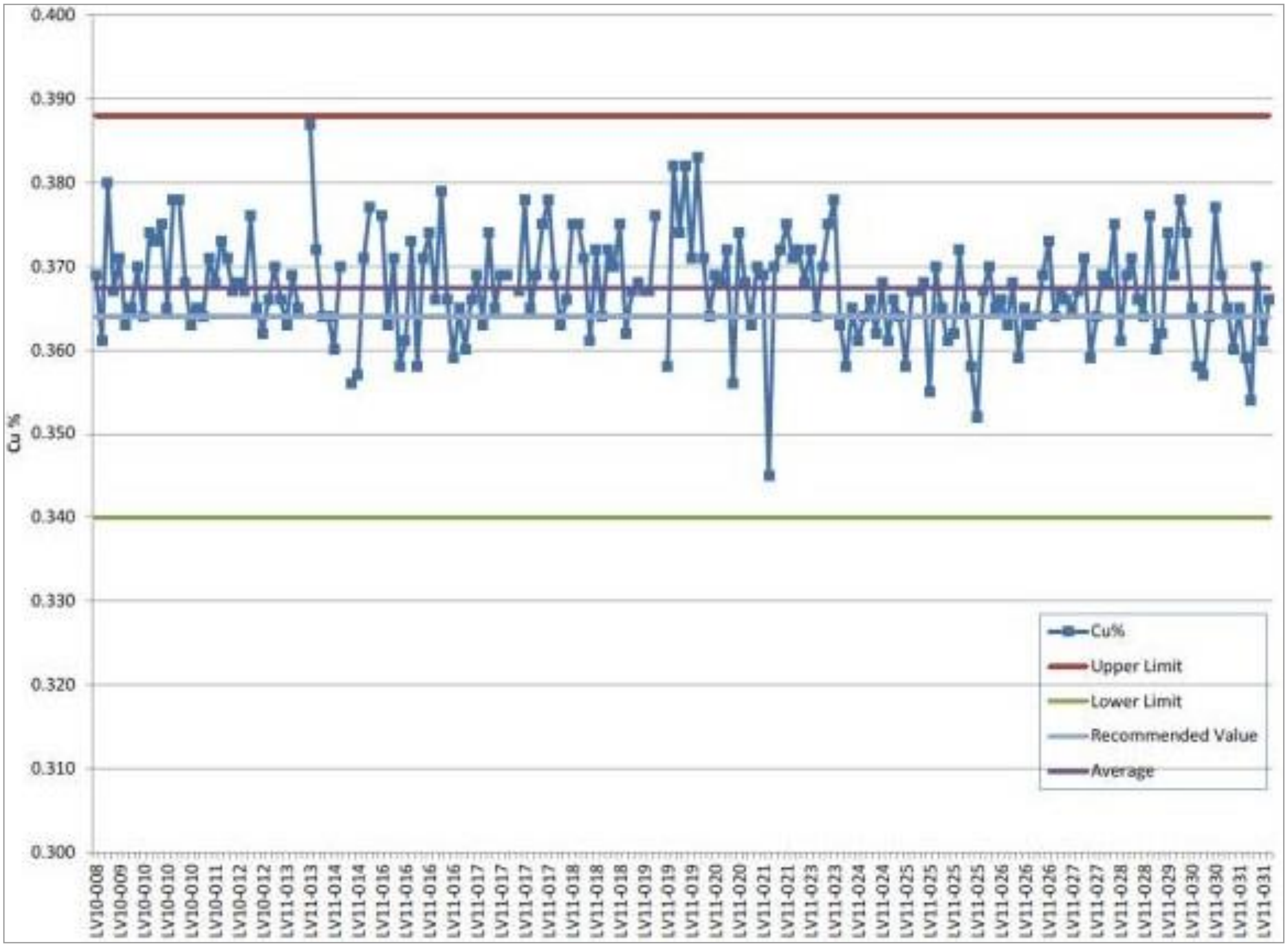
Source: Catalyst Copper, (2012).

Figure 11.2 CRM CDN-CM-6 copper assay results



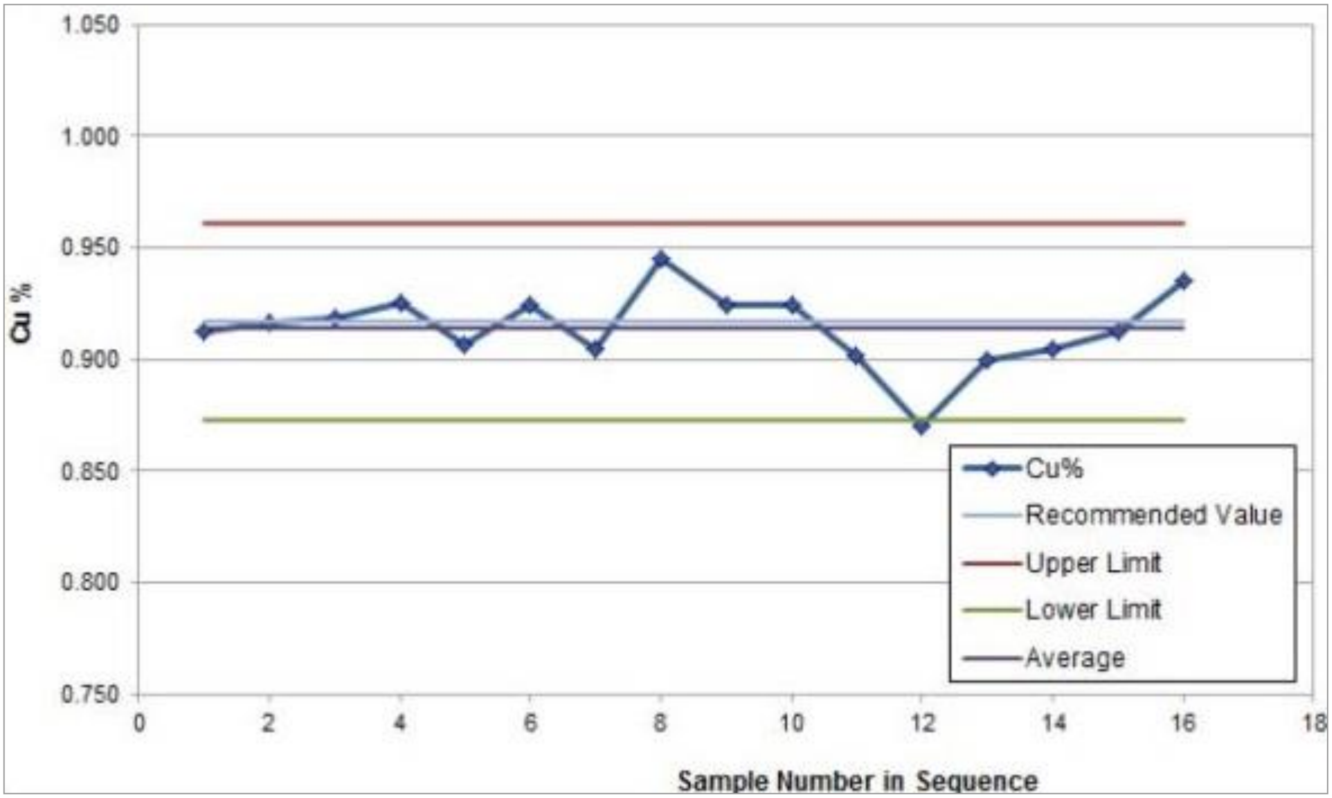
Source: Catalyst Copper, (2012).

Figure 11.3 CRM CDN-CM-8 copper assay results



Source: Catalyst Copper, (2012).

Figure 11.4 CRM CDN-CM-12 copper assay results



Source: Catalyst Copper, (2012).

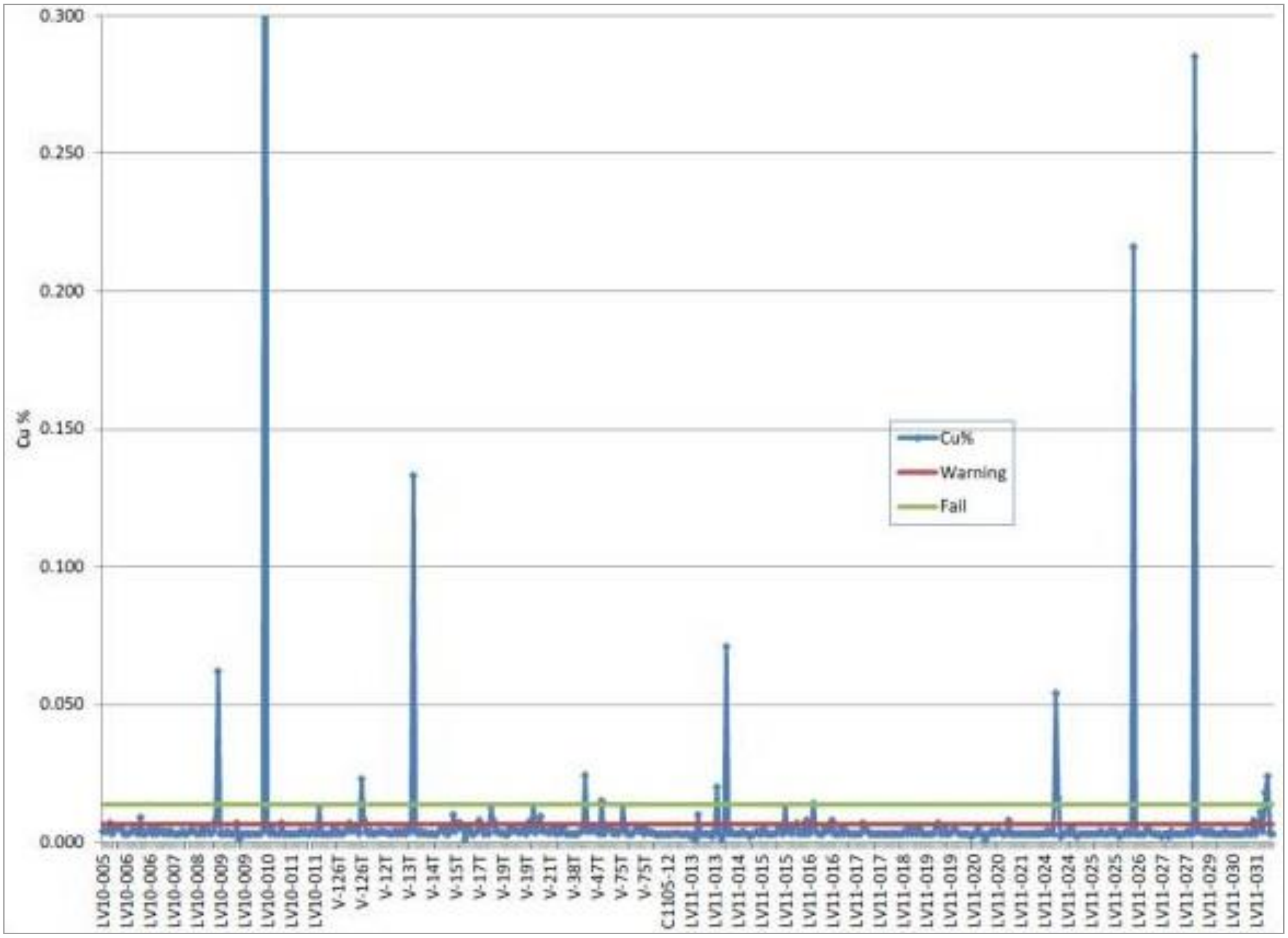
11.4.2 Blanks

There were 498 blanks inserted in the program. The blanks were material from a local gravel pit (volcanic cinder cone). The copper assays from the blank samples were quoted in parts per million rather than copper percent, due to the very low concentration of copper in the blanks. Ten independent samples averaging 3.1 kg were sent to AcmeLabs for analysis. The average of these samples was 28.9 ppm copper ± 2.2 ppm copper. Figure 11.5 illustrates the blank sample assay results.

There are many sample results that plot above the second standard deviation level. This can partially be attributed to the lower detection limit (1 ppm copper) of the equipment used and possibly the potential inhomogeneity of the blank material. Although the copper levels in the blank material are extremely low, Micon (Makepeace 2011) had recommended that a standard blank sample be used in further drilling programs as part of the QA/QC process. This was not implemented by MinHill in the 2011 drill program. Using three times the "accepted average", there were 15 blank samples that failed. One may be an insertion error, as it appears to be a CRM sample for CM-6.

The QP recommends that a standard blank sample be used in further drilling programs as part of the future QA/QC process.

Figure 11.5 Blank sample copper assay results



Source: Catalyst Copper, (2012).

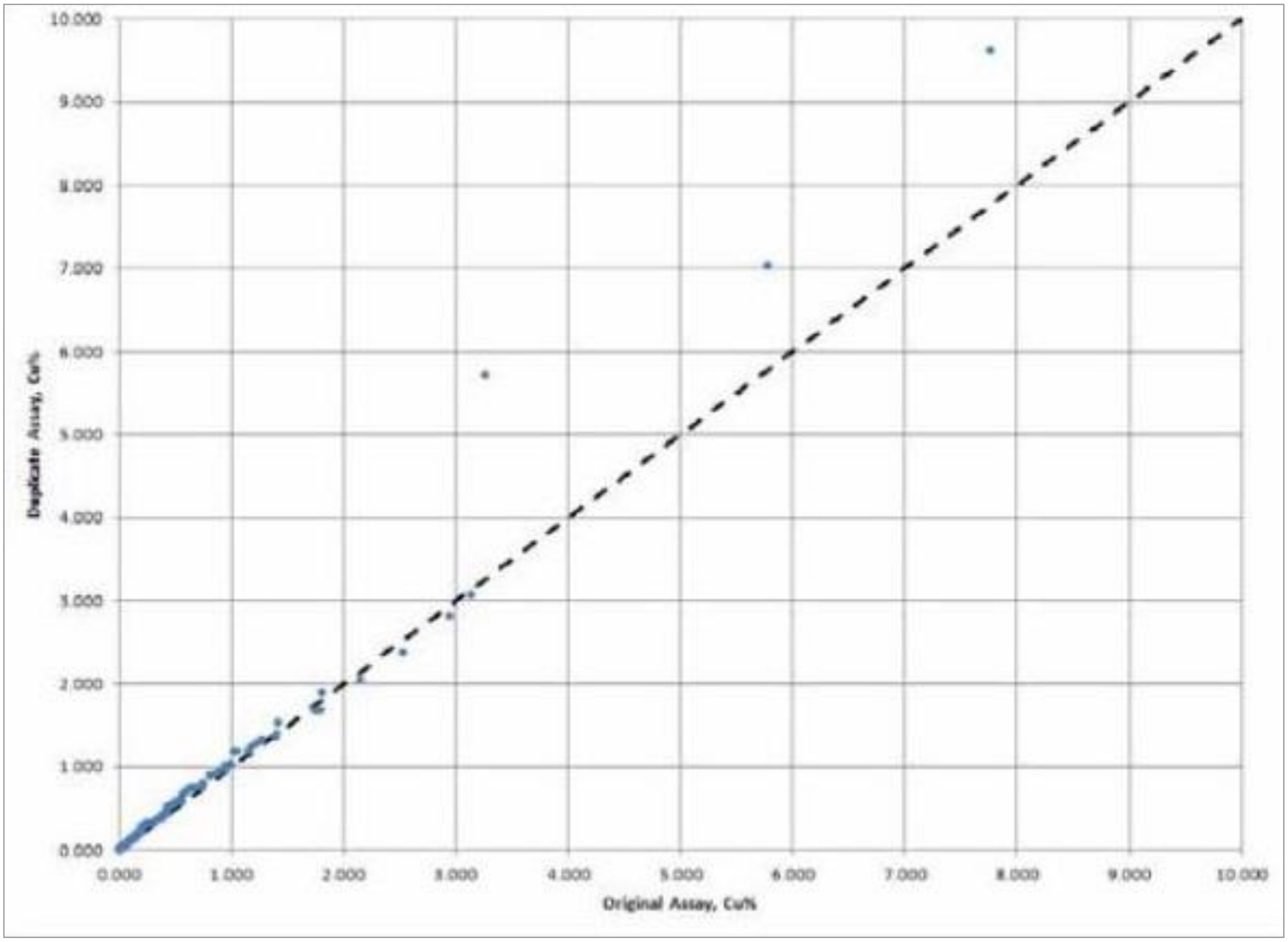
11.4.3 Duplicates

There were 382 coarse reject duplicate samples analyzed during the program. The duplicates report 70% within 20% relative difference the target is generally set for 90%. These results reflect the influence of the high-grade copper veinlets within the core.

The QQ plot in Figure 11.6 shows that there is no bias present in the samples. Generally, the distribution tracks closely to the X=Y line up to 3% copper. Above the 3% copper point, the duplicate assay trend higher than the original assay.

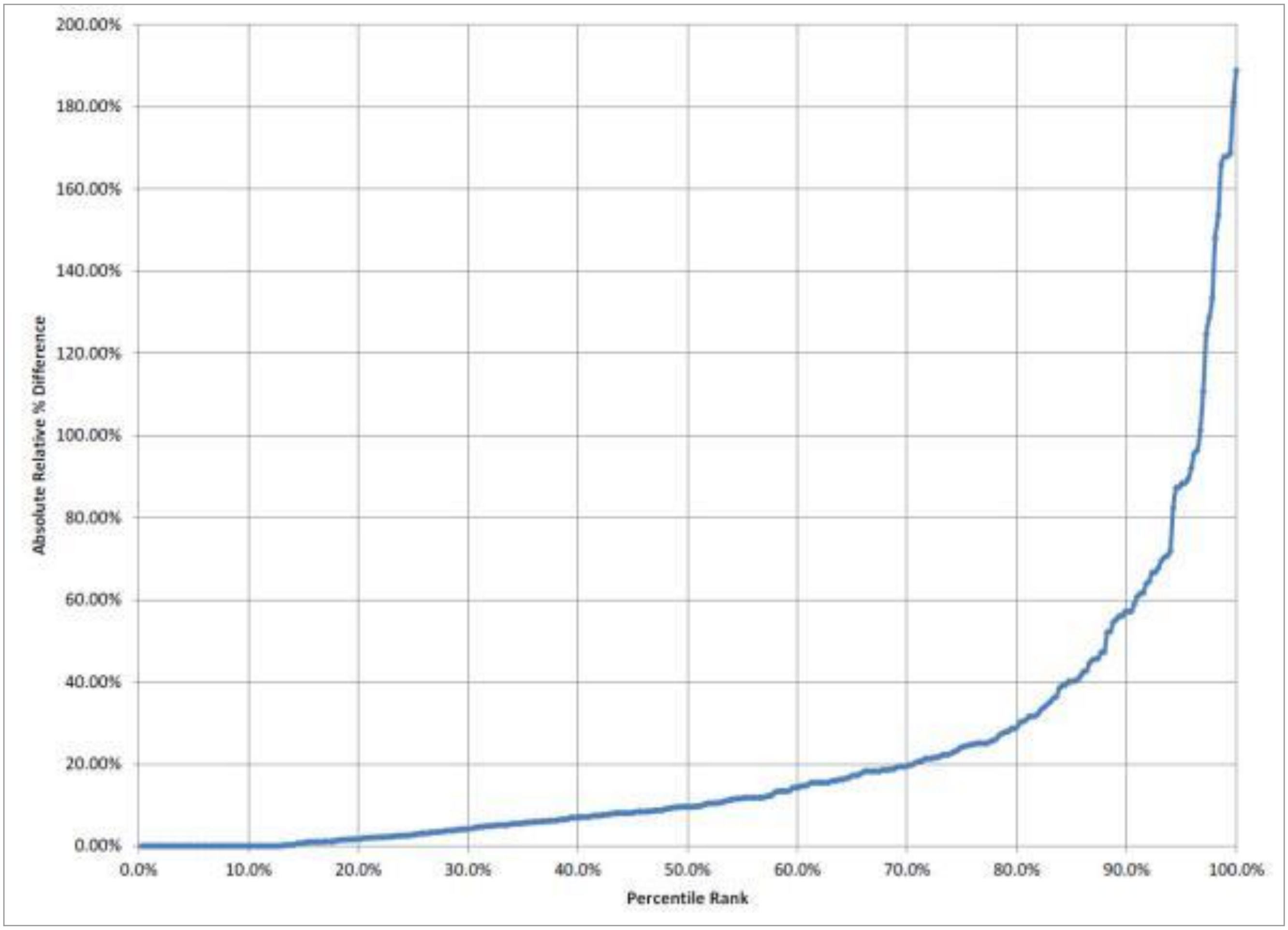
Figure 11.7 illustrates the comparison between the two assay results by way of a relative difference plot. The duplicates report 70% within 20% relative difference, the target is generally set for 90%. These results reflect the influence of the high-grade copper veinlets within the core.

Figure 11.6 Coarse reject duplicate QQ plot



Source: 2012 Tetra Tech Technical Report.

Figure 11.7 Coarse reject duplicate relative difference plot



Source: 2012 Tetra Tech Technical Report.

11.4.4 Umpire samples by second laboratory

The 100 samples that were re-assayed at ALS Minerals have been compared to the AcmeLabs analysis. Based on this small number of samples, the AcmeLabs analysis reports 0.004% copper below the ALS Minerals analysis with a standard deviation of 0.035% copper. An analysis of the QA/QC standards, used in the MinHill drill program, was also carried out. The results showed similar variations to the 100 samples. This nominal difference between laboratories is considered acceptable.

11.5 Discussion

The QP believes that the QA/QC program that was initiated by MinHill during the 2010 drilling program and continued through the 2011 and 2012 programs follows industry accepted guidelines and the results confirm the validity of the assays obtained from that program.

The QP recommends timely monitoring of QA/QC samples through control charts to further improve the QA/QC program.

12 Data verification

12.1 Introduction

A site inspection was conducted by QP, Mr José A. Olmedo, MSc. from 24 to 28 May 2021. During the field visit to the Property, the author identified the geological aspects of the West and East Hill deposits and reviewed drill cores at the warehouse facility located at the project office 8 km north-east of Nueva Italia, Michoacán.

In addition, the QP reviewed the information from La Verde exploration data files provided by Equinox and Solaris Copper Inc.; including, publicly disclosed information contained in the 2018 AMC Technical Report and the drillhole database.

The locations of selected drill collars were verified in the field, drill core was reviewed from selected core intervals, and assay intersections identified and related to the drill logs.

The reported data collection work was completed using industry-standard procedures, including a QA/QC program consisting of the insertion of certified standards, blanks, and duplicates into the sample stream.

12.2 Drillhole collar verification

Ten drillhole collar positions were checked in the field during the visit using a Garmin GPS Map 62s with software version 7.20, where metal marks were located in the field for randomly selected collars. Figure 12.1 shows the metal mark and GPS device for drillhole LV11-019.

Figure 12.1 Collar marker LV11-019

Source: José A. Olmedo, (2021).

Table 12.1 compares the collar locations in the field against the drillhole collar database. The average difference is less than 3 m, confirming an acceptable level of precision for coordinates and elevations for the database used in resource estimation.

Table 12.1 Field check – collar survey

Collar coordinate verification (all metres)									
Reference	**Collars database Mexico ITRF92 / UTM zone 13N**			**Collars JAO, 2021 GPS MAP 62s**			**Difference Database - JAO**		
Hole	**Easting**	**Northing**	**Elev**	**Easting**	**Northing**	**Elev**	**Easting**	**Northing**	**Elev**
LV10-007	811605.7	2113187	521.1	811608	2113189	519	-2.3	-2.4	2.1
LV10-009	811848.1	2113147	563.1	811850	2113148	560	-1.9	-1.1	3.1
LV11-017	811853.4	2112926	472.0	811852	2112929	475	1.4	-3.1	-3
LV11-019	812098.3	2112787	515.4	812099	2112791	511	-0.7	-4.5	4.4
LV11-024	812058.9	2112817	503.3	812061	2112819	502	-2.1	-1.9	1.3
LV11-028	811603.6	2113188	521.1	811603	2113192	523	0.6	-4.5	-1.9
LV11-031	810853.7	2113475	511.7	810855	2113476	514	-1.3	-1.1	-2.3
LV11-033	811555.8	2113196	518.5	811554	2113198	526	1.8	-1.6	-7.5
LV11-036	812763.0	2113595	504.6	812762	2113590	503	1	5.3	1.6
LV12-042	812204.0	2112788	534.0	812204	2112786	533	0	2	1
Average difference							**1.31**	**2.75**	**2.82**

Source: José A. Olmedo 2021. (JAO)

12.3 Core logging verification

At the core storage warehouse near Nueva Italia de Ruiz., a total of 76 complete drill cores were identified (see Table 12.2). These cores are well stored and secured for future audits and are available for any other testing requirement.

Table 12.2 Drill core located at the Nueva Italia warehouse

Drillhole number	Drillhole number	Drillhole number	Drillhole number
(Aur holes 2004-2005)	C11-05-20	LV10-10	LV11-030
C11-04-01	C11-05-21	LV10-011	LV11-031
C11-04-02	C11-05-22	LV10-012	LV11-032
C11-04-03	C11-05-23	LV11-013	LV11-033
C11-05-04	C11-05-24	LV11-014	LV11-034
C11-05-05	(MinHill verification 2010)	LV11-015	LV11-035
C11-05-06	V10-05	LV11-016	LV11-036
C11-05-07	V10-13-T	LV11-017	LV12-037
C11-05-08	V10-14-T	LV11-018	LV12-038
C11-05-09	V10-15-T	LV11-019	LV12-039
C11-05-10	V10-21-T	LV11-020	LV12-040
C11-05-11	V10-47-T	LV11-021	LV12-041
C11-05-12	V10-75-T	LV11-022	LV12-042
C11-05-13	V10-76-T	LV11-023	LV12-043
C11-05-14	V10-126-T	LV11-024	LV12-044
C11-05-15	(MinHill 2010-2012)	LV11-025	LV12-045
C11-05-16	LV10-06	LV11-026	LV12-046
C11-05-17	LV10-07	LV11-027	LV12-047
C11-05-18	LV-10-08	LV11-028	LV12-048
C11-05-19	LV10-09	LV11-029	

Source: José A. Olmedo, (2021).

Figure 12.2 is a view of the interior of the core storage facility showing the racks of drill core and core laid out for inspection.

Figure 12.2 Drill cores at Nueva Italia warehouse

Source: José A. Olmedo, (2021).

Figure 12.3 shows a number of core boxes showing the box labeling including depth markers.

Figure 12.3 Core boxes

Source: José A. Olmedo, (2021).

Selected sections of 13 drillhole cores from the West Hill and East Hill mineralized areas were logged in detail by the QP for a total of 2,184 m. These intersections are listed in Table 12.3.

Core recovery for these drillholes is mainly excellent varying from 94.75% to 100%, except for the V-14T upper section which is 86.5%. RQD measurements reported in the database are consistent with that observed.

Table 12.3 Verification of drill core intersections

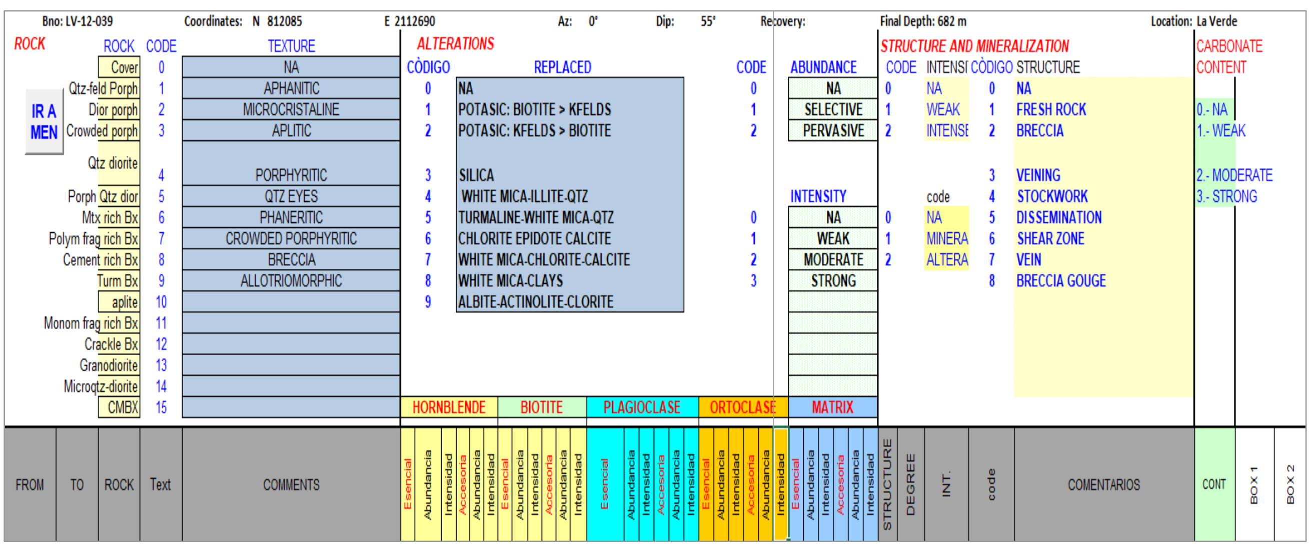
Drillhole ID	From (m)	To (m)	Area	Length (m)	Average % Cu
C1104-02	50	270	West Hill	220	0.484
C1104-03	21	150	East Hill	129	1.008
C1105-04	15	430	East Hill	415	0.505
C1105-07	50	120	East Hill	70	0.265
LV10-005	400	520	West Hill	120	0.554
LV10-011	570	640	East Hill	70	0.444
LV11-018	580	850	East Hill	270	0.454
LV11-020	520	560	East Hill	40	0.668
LV11-024	320	560	East Hill	240	0.571
LV11-026	460	550	East Hill	90	0.407
LV11-031	730	880	West Hill	150	0.51
V-14T	0	160	East Hill	160	0.357
V-126T	260	470	East Hill	210	0.455

Source: José A. Olmedo, (2021).

Core box labeling, distance markers, and assay tags were reviewed. No errors were noted.

The geological data as logged was compared with the database record and visually inspected, and in the QP's opinion, the recording and database is complete and robust. An example of the logging codes and format is shown in Figure 12.4.

Figure 12.4 Logging format



Source: MinHill, (2012).

In general, lithology, contacts, and alteration described in the database are, in the QP's opinion, consistent with the personal observations; there is some inconsistency in the identification of alteration paragenesis, some are gradational, and the distinction between different alteration styles may be subtle. In East Hill, there are multiple intrusions with related breccia types showing various styles of mineralization from disseminations to structural veins; however, copper grades are consistent with copper sulphides (mainly chalcopyrite) visually observed in core boxes. As in most porphyry deposits, grades are transitional and exact interpretation of local lithological contacts does not affect the overall grade estimation.

12.4 Database grade verification

The QP reviewed the grade database against Acme Labs Assay Certificates. In 2021, a selection of 500 certificates was selected at random from the MinHill drilling from 2010 – 2012 as provided by Solaris Copper Inc., and these were compared back to the drilling database. The author notes that all samples reviewed matched the database exactly and no discrepancies were found.

Due to multiple ownership changes and as any Mineral Resource estimation considers some 649 drillholes totaling 155,574 m, with 49,597 copper assays, a full audit of the database is recommended in the next stage of the project.

12.5 Conclusions

Based on the data verification steps outlined above, the author considers the La Verde exploration data reviewed; including, collar survey, drilling recovery (%), RQD, downhole survey, geological logging, and assay data to be adequate for the purpose intended.

13 Mineral processing and metallurgical testing

13.1 Introduction

Historical testwork programs and their results have already been reported in the 2012 Tetra Tech Technical Report. They are summarized below.

The 1972 metallurgical studies by Lytton (raw data lost) showed 55% recovery from oxides, >90% recovery from sulphides, both to superior grade (>35% Cu) concentrates, especially early in the mine life. Additional work in 1976 by Hazen focused on grind size and reagent optimization and also attempted to address the issues around arsenic levels in the concentrates. The results as of 1976 are shown in Table 13.1.

Table 13.1 1976 Hazen metallurgical study results

Mineralization type	Feed Cu %	Recovery % Cu	Conc grade Cu %
Mixed ox / sulphide	0.76	54.8	37.4
East Hill zones 1, 3	0.7	93.7	36.6
East Hill zones 2	0.68	90.9	26.6
West Hill	0.68	91.9	25.5
Stockpile	0.27	87.6	27.6
Average	0.65	90.5	32.1

The average expectation was of >90% copper recovery to a copper concentrate of 32% Cu, with the higher grades coming from the mixed oxide-sulphide material and from the secondary sulphides in East Hill Zones 1 and 3.

The most recent metallurgical testwork was initiated by Catalyst (operating as MinHill), as part of a Preliminary Economic Assessment (PEA). A preliminary phase was carried out at G&T Metallurgical Services Ltd (G&T) in Kamloops, BC in late 2011.

The key objectives were to prepare four global composites based on oxide and sulphide material for each of West Hill and East Hill and, on these, carry out a standard set of comminution tests followed by flotation tests to maximize copper recoveries into high grade copper concentrates. In addition, a detailed assessment of concentrate quality was carried out.

Subsequently, and pursuant to the high levels of arsenic found to report to the flotation concentrates in 2011, a further round of testwork was conducted in April 2012 to confirm previous results and generate larger amounts of rougher and final concentrates for testing at other laboratories of downstream treatment options.

These two programs (named KM2900 and KM3306, respectively) are reported separately in Section 13.3.

13.2 Metallurgical samples

The metallurgical samples were taken from a selection of holes from West Hill and East Hill whose collars covered the grid areas 2112300-2113200 N by 810700-811100 E and 212800-2113300 N by 812200-812500 E, respectively.

The QP considers that the samples provide adequate spatial representation but at a lower density in West Hill.

For each of West Hill and East Hill, the samples were composited by oxide or sulphide characteristics, thus providing four composites. The West Hill oxide composite covered depths to 40 m and the sulphide, 50 – 140 m, although heavily weighted to deeper intersections. The East Hill oxide composite covered depths to 30 m and the sulphide 30 – 130 m, more evenly spread.

It is considered that, to date, the oxide-sulphide transition zone in West Hill has been inadequately represented and this may constitute a geometallurgical risk. It is recommended that this be addressed in the next phase of study with acid soluble copper assays being included in the in-fill drilling assays.

Inadequate account has been taken of the alteration chemistry although this is to a certain extent a function of the incorporation of historical drilling data where core logs were not as comprehensive as the more recent drilling. As is discussed in Section 13.3, the mineralogical characteristics of the two oxide samples are very different, with East Hill oxide exhibiting a “classic” supergene” weathering profile, whereas West Hill oxide appears to be a result of a different (hypogene?) mechanism.

The East Hill sulphide composite does not take account of the zoning described in Section 7.6.2, as had been done by Hazen; therefore, the composite selection does not address any potential mineralogical and resulting geometallurgical differences arising from the alteration geochemistry.

The QP’s experience on the smaller porphyritic systems and associated vein-fracture hosted deposits in Mexico (as opposed to the giant Chilean porphyries where sheer scale imposes some homogeneity) is that there is often significant geometallurgical variability, especially associated with alteration geochemistry.

In summary, the QP believes that the metallurgical samples are spatially representative but that there should have been more consideration of the alteration geochemistry and resulting geometallurgical implications. Although the samples are adequate for the current status of the project, it is considered essential that high priority be given early in subsequent studies to investigations of the geometallurgical variability; therefore, it is recommended that any in-fill drilling program of the next phase of study will include variability testing to address some of these issues around alteration geochemistry.

13.3 Metallurgical testwork

13.3.1 KM2900 – August to November 2011

13.3.1.1 Chemical and mineralogical characteristics

89 individual intersections of half drill core were received, coarse-crushed, and 200 g assayed for Cu, Cu_{OX}, and Cu_{CN}. The last two represent acid soluble oxide copper and cyanide-soluble secondary copper, respectively.

For both East and West Hill material, high levels of oxide copper were most evident at depths shallower than 30 m. Below that, oxide copper levels were generally around 5% of the total copper, except for occasional higher values (10 – 20%) in East Hill at around 80 m depth.

Cyanide soluble copper levels showed that a general rising trend with depth to levels containing > 50% of total copper in East Hill and in West Hill were generally much lower (10%) apart from slightly elevated (20%) levels at around 20 m depth.

The composites were WH-1 and WH-2, being oxide and sulphide material respectively from West Hill and EH-3 and EH-4, being similarly oxide and sulphide material from East Hill.

The chemical content of the four composites is shown in Table 13.2.

Table 13.2 Chemical analysis of composites

Composite	Cu %	Cu (ox) %	Cu (CN) %	Mo %	Mo (ox) %	Fe %	S %	Ag g/t	Au g/t	As %	Co g/t	C %
WH-1	0.36	0.17	0.03	0.004	0.004	6.35	0.06	1	<0.01	0.058	25	0.02
WH-2	0.63	0.01	0.01	0.003	0.002	4.65	1.57	2	0.04	0.170	188	0.55
EH-3	0.45	0.33	0.05	0.021	0.021	3.43	0.07	1	0.13	0.009	19	0.39
EH-4	0.72	0.03	0.34	0.002	0.001	2.47	0.58	6.5	0.09	0.058	100	0.66

Note that both oxide composites confirmed the high levels of acid soluble copper expected from the individual intersections. This is generally difficult to recover via flotation.

The East Hill sulphide material had just under half the copper in cyanide soluble form suggesting the presence of secondary copper minerals such as chalcocite and covellite. These secondary copper sulphides, although often slower floating than chalcopyrite, should result in higher grade copper concentrates, as indicated by the earlier work at Hazen.

Molybdenum was predominantly in the oxide form and, therefore, not expected to be readily recoverable by flotation.

The copper deportment of the four composites in mineralogical terms is summarized in Table 13.3.

Table 13.3 Copper deportment

Composite	% of copper occurring in copper-bearing minerals								
	Chalcopyrite	Bornite	Chalcocite / covellite	Malachite	Chrysocolla	In Feox	In Chlorite	In Mnox	Tennantite
WH-1	3.5	0.3	-	2.5	4.4	21.4	66.2	1.7	-
WH-2	93.5	2.5	3.1	1.0	-	--	-	-	-
EH-3	4.6	1.6	4.2	51.0	6.1	8.4	24.2	-	
EH-4	44.1	32.5	20.4	-	-	-	-	-	3.0

From Table 13.3, it is evident that the two oxide samples WH-1 and EH-3 are very different, as mentioned in Section 13.2.

While the East Hill oxide material has the acid soluble copper content largely as malachite (difficult to float but possible with sulphidation by sodium hydrosulphide NaHS), the non-sulphide copper in West Hill is predominantly contained in chlorite and in iron and manganese oxides. Flotation recovery of these constituents would be expected to be close to zero and, in any case, even if recoverable to some extent, would result in concentrates of too low a grade to be sold. This West Hill oxide is, effectively, waste.

The East Hill weathering profile is a typical supergene phenomenon with malachite; on the other hand, the weathering mechanism at West Hill appears to be different with much higher proportions of copper-bearing chlorite, possibly related to the alteration geochemistry and hypogene effects.

Gangue mineralogy was also reported in the G&T report and shows the predominantly quartz-feldspar mineralogy of East Hill as opposed to the quartz-epidote veining of the West Hill. West Hill generally shows more mineralogical evidence of the propylitic / phyllic alteration.

With respect to the sulphide mineralogy, the East Hill copper deportment studies confirm the high proportion (almost 50%) of secondary sulphides. It is also significant that, although arsenopyrite was reported in the West Hill sulphide composite, the arsenic in East Hill occurred as tennantite-tetrahedrite, so any arsenic depression in the latter case would adversely impact on copper recovery.

Liberation studies reported by G&T indicated that with the nominal primary grind of 150 – 200 microns an acceptable liberation would be achieved for sulphides, whereas the East Hill oxide material appeared to be more sensitive to grind size and a finer grind may be required.

13.3.1.2 Comminution tests

The comminution test data, including Bond and SMC tests is shown in Table 13.4.

Table 13.4 Comminution results

Composite	Bond indices		SMC test results						Calculated	
	Abrasion	BWI	DWi kWh/m^3	Mia kWh/t	A	b	S.G.	t_a	A*b	Mib kWh/t
WH-1	0.023	15.6	3.8	11.9	60.9	1.21	2.81	0.68	73.7	21.4
WH-2	0.178	16.8	8.1	21.6	65.9	0.53	2.83	0.32	34.9	22.8
EH-3	0.091	15.6	6.8	20.3	71.3	0.54	2.62	0.38	38.5	22.0
EH-4	0.132	16.1	7.7	22.5	78.6	0.43	2.62	0.34	33.8	23.9
Average	0.106	16.0	6.6	19.1	-	-	2.72	0.4	45.2	22.5
Average (excl WH-1)	0.134	16.2	7.5	21.5	-	-	2.7	0.3	35.7	22.9

Note that in addition to the results reported by G&T, there has also been added the simple calculation of A*b and the SMC M_{ib} parameter calculated from the original Bond ball mill work index data.

With the exception of the much softer WH-1 oxide material, different for the reasons already discussed and which will effectively be classified as waste for the purposes of this study, the La Verde material showed limited variability across the three composites tested and would be regarded as moderately hard.

The QP notes that the Bond ball mill work index tests were carried out at a closing size of 106 µm, finer than the expected grind size at least for the sulphides, and this should be revised in the next phase of study to be closer to the expected grind size.

The material was tested as being of relatively low abrasivity.

This data was sufficient for any preliminary grinding equipment sizing and power demand estimations for process design purposes.

13.3.1.3 Flotation tests

Rougher flotation tests on the WH-1 oxide sample confirmed the poor recoveries expected from the mineralogy and no further work on this composite was carried out.

The rougher flotation results for the other three composites, based on a potassium amyl xanthate (PAX) collector with sodium hydrosulphide (NaSH) as a sulphidizing agent for East Hill oxide sample, are summarized in Table 13.5 and Figure 13.1.

Table 13.5 Rougher flotation results – copper recovery vs mass pull wt%

	wt%	Cu rec %	wt%	Cu rec %	wt%	Cu rec %
Grind size	147 (WH)		217 (WH)		305 (WH)	
WH-2	5.1	94.9	4.7	93.6	4.4	91.6
	6.0	96.2	5.9	95.8	5.7	94.4
	7.0	96.9	6.9	96.7	7.1	95.6
Grind size	145 (EH)		223 EH)		300 (EH)	
EH-4	4.5	95.3	4.1	94.8	4.2	92.7
	5.5	96.4	4.8	95.9	5.3	94.5
	7.1	97.3	5.5	96.6	6.4	95.6

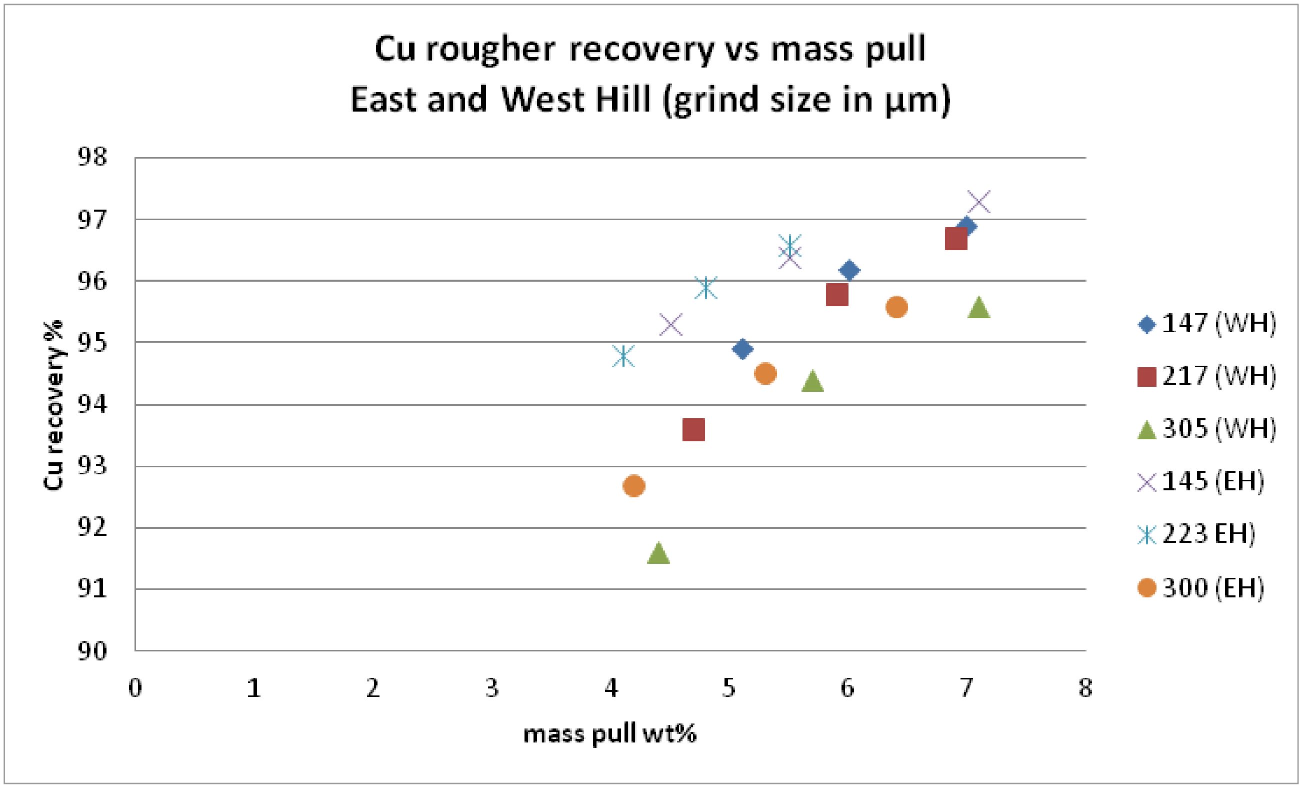
Two things are evident from Figure 13.1:

1 West Hill and East Hill sit on two slightly different grade recovery curves, with East Hill being slightly superior perhaps due to the secondary copper sulphides enhancing concentrate grades.

2 For both East and West, the 145 – 147 µm and 217 – 223 µm curves are very similar but the 300 – 305 µm curves are inferior. So, although the G&T report states that a primary grind of 300 µm would be adequate, the QP considers that a slightly finer grind, say 220 µm, would provide an extra two points recovery. At this stage, a fine grind is recommended subject to more a detailed trade-off and optimization study to balance additional recovery against additional grinding costs at the next phase of study.

Molybdenum recovery attempts were unsuccessful, due to it being in the oxide form.

Figure 13.1 Sulphide Cu rougher performance vs grind size



Source: AMC.

In the cleaner tests, EH-3 oxide sample appeared insensitive to cleaner / regrind conditions and overall recoveries (batch basis) of 40% to a concentrate assaying at least 30% Cu appeared achievable.

In the case of the sulphide composites, West Hill appeared to benefit from floating at a higher ph (9.5) in terms of improving concentrate grade with no impact on recovery, whereas with East Hill a higher pH did improve concentrate grade but at the expense of copper recovery.

Regrinding improved concentrate grade for both West and East and for East appeared to be the key to realizing the concentrate grade of the secondary copper sulphides.

The other key result from the cleaner work was that arsenic will be an issue with concentrate quality. Some success was achieved with rejecting arsenopyrite from the West Hill sulphides, especially with elevated pH (11) where less than 10% arsenic recovery was achieved whilst still maintaining copper recoveries in the 80 – 90% range.

However, with East Hill the arsenic being as tennantite-tetrahedrite meant that similar differentiation was not possible.

Flotation kinetics was not specifically addressed but typical flotation times were 6 - 10 minutes for roughers and up to five minutes for cleaners. The higher end of the range of times was used in the design criteria presented in Section 17.

The above discussions have all been related to batch tests, essential for establishing, and then optimizing flotation conditions. However, definitive results for plant recovery predictions can best be derived from locked cycle tests in which intermediate streams are recycled, and these results are tabulated in Table 13.6 and Table 13.7.

Table 13.6 Locked cycle test results – sulphides

Product	**wt%**	**Assay**					**Distribution %**				
		Cu %	**S %**	**As %**	**Ag g/t**	**Au g/t**	**Cu**	**S**	**As**	**Ag**	**Au**
WH-2											
Feed	100	0.62	1.6	0.17	3	0.02	100	100	100	100	100
Rghr Conc	7.6	7.75	16.7	1.49	27	0.21	94.2	79.3	66.8	68.7	62.8
Final Conc	2.2	26	38.1	0.94	81	0.12	91.8	52.4	12.2	60.5	10.6
Clnr 1 tail	5.4	0.28	7.96	1.71	4	0.24	2.5	26.8	54.6	8.2	52.2
Rghr Tail	92.4	0.04	0.36	0.06	1	0.01	5.8	20.7	33.2	31.3	37.2
EH-4											
Feed	100	0.74	0.59	0.05	8	0.06	100	100	100	100	100
Rghr Conc	5.8	12.1	8.6	0.68	116	0.84	93.8	83.9	74.2	87.6	83.7
Final Conc	2.5	27.4	19.3	1.50	260	1.87	92.2	81.6	70.9	85.5	80.9
Clnr 1 tail	3.3	0.36	0.42	0.05	5	0.05	1.6	2.3	3.4	2.1	2.8
Rghr Tail	94.2	0.05	0.1	0.01	1	0.01	6.2	16.1	25.8	12.4	16.3

Note that for these sulphide locked cycle tests, a primary grind of 300 µm was employed, coarser than ideal, and for WH-2 there were three stages of cleaning at pH 9.5. For EH-4 there were also three stages of cleaning, but at natural pH and with no regrind. The QP believes that the higher-grade potential of the secondary copper sulphides was not realized under these conditions and there remains upside in the concentrate copper grade.

As expected from the cleaner tests, arsenic levels in final concentrate are high. In East Hill, despite the lower feed As %, unacceptably high (>1% As) from a concentrate marketing perspective, due to the co-recovery of tennanite an copper arsenic sulphosalt.

The very low levels of gold recovery to final concentrate for WH-2, despite reasonable recovery to rougher concentrate, appear anomalous, but the QP has referred back to the original results and can find no obvious error. This should be investigated further.

Table 13.7 Locked cycle test results – oxides

Product	wt%	Assay					Distribution %				
		Cu %	S %	As %	Ag g/t	Au g/t	Cu	S	As	Ag	Au
EH-3											
Feed	100	0.47	0.08	0.02	2	0.06	100	100	100	100	100
Rghr Conc	1.9	14.2	1.59	0.23	63	3.43	57.6	39	19.1	58.6	101.4
Final Conc	0.8	28.8	3.07	0.42	124	5.91	51.5	33.2	14.9	51.3	77
Rghr Tail	99.2	0.23	0.05	0.02	1	0.02	48.5	66.8	85.1	48.7	23

For the oxide locked cycle test a finer primary grind of 138 µm was employed and a negative electrochemical potential (relative to Ag / AgCl-Pt electrode) was maintained using NaHS to promote the flotation of malachite and azurite. The recovery relative to the batch tests was significantly increased due to the recycling of first cleaner tail. Only one stage of cleaning was necessary.

13.3.2 KM3306 – April 2012

13.3.2.1 Chemical and mineralogical characteristics

This second phase was conducted principally to generate additional concentrates for downstream treatment option studies, targeted at reducing arsenic levels in the concentrates. Material remaining from the KM 2900 initial phase was used and additional composites were prepared from similar intersections.

Table 13.8 shows the chemical analysis of the new composites (WH-5 and EH-6), both sulphides, compared to the equivalent composites from KM 2900. The general match is good except that arsenic levels are about half the earlier values. Mineral deportment was also similar, although again there were some differences with respect to arsenic with arsenopyrite dominant and both new composites and less tennantite-tetrahedrite in EH-6 than in EH-4. EH-6, however, also contained cobaltite which is assumed will float similarly to the copper arsenic sulphosalts.

Liberation characteristics were reported as being similar.

Table 13.8 KM 3306 chemical analysis of composites

Composite	Cu %	CU (ox) %	Cu (CN) %	Fe %	S %	As %	C %
KM2900 WH-2	0.63	0.009	0.01	4.65	1.57	0.17	0.55
KM3306 WH-5	0.68	0.007	0.013	5.21	1.79	0.078	0.38
KM2900 EH-4	0.72	0.029	0.34	2.47	0.58	0.058	0.66
KM3306 EH-6	0.77	0.03	0.37	2.36	0.49	0.029	0.6

13.3.2.2 Concentrate generation

Following rougher tests at a primary grind of around 300 µm which produced similar results as previously although with slightly lower recovery, probably due to the coarser grind, locked cycle tests were again carried out.

Table 13.9 shows the results of these locked cycle tests.

WH-2 concentrate grade was significantly lower, thought to be due to reagent overdosing, but recovery was lower too. Interestingly the concentrate grade for EH-6 was significantly higher despite neither regrinding nor a higher pH being employed.

Arsenic levels were still in excess of 1% in final concentrate despite the lower head grade and arsenic recovery was significantly higher for WH-5, presumably related to the reagent overdosing already referred to.

Table 13.9 Locked cycle test results – sulphides

Product	wt%	Assay				Distribution %			
		Cu %	Fe %	S %	As %	Cu	Fe	S	As
WH-5									
Feed	100	0.66	4.92	1.68	0.08	100	100	100	100
Rghr Conc	9.4	6.2	15.7	12.8	0.50	87.6	30	71.5	62.3
Final Conc	3.0	19.0	33.4	37.9	1.15	86.8	20.5	68.1	41.9
Clnr 1 tail	6.0	0.08	7.3	0.9	0.28	0.7	8.9	3.2	20.1
Rghr Tail	90.6	0.09	3.8	0.53	0.03	12.4	70	28.5	37.7
EH-6									
Feed	100	0.69	2.49	0.51	0.03	100	100	100	100
Rghr Conc	7.0	9.0	7.0	6.2	0.30	91.4	19.8	84.5	77.5
Final Conc	1.8	34.4	16.7	23.3	1.16	88.3	11.9	81.1	71.3
Clnr 1 tail	3.6	0.39	3.61	0.31	0.04	2.0	5.2	2.2	4.4
Rghr Tail	93	0.06	2.15	0.09	0.01	8.6	80.2	15.5	22.5

13.4 Metallurgical grade-recovery predictions

Based predominantly on the KM2900 testwork, Table 13.10 summarizes the grade-recovery predictions on which the pit optimization and flowsheet development are based.

The QP notes the following with respect to the figures highlighted in bold:

- Gold recovery in West Hill sulphides at 10% appears anomalously low, as mentioned previously, and merits further investigation.
- Arsenic recovery in West Hill sulphides has been predicted at 20%, higher than the 12% reported in the testwork, and conservatively reflecting the possibility of a much higher figure (42%) as found in the KM3306 work.
- In the absence of data, arsenic recovery for East Hill oxides is assumed to be the same as for the sulphides, but the proportion of oxides is low, so this is hardly material.
- East Hill sulphides concentrate grade is reported as 27.5% per KM2900, although the KM3306 work indicates that higher grades can be achieved. However, KM3306 Cu recovery was lower so this potential for a higher grade, although quite likely based on the mineralogy, is not certain and should be subject to confirmation in the next phase of study.

Table 13.10 Metallurgical recovery and concentrate grade parameters

Metallurgical parameters												
	Cu			Au			Ag			As		
	W Su	E Su	E ox	W Su	E Su	E ox	W Su	E Su	E ox	W Su	E Su	E ox
Recovery Conc. grade	90% 26%	90% **27.5%**	50% 29%	**10%**	80%	75%	60%	85%	50%	**20%**	70%	**70%**

13.5 Concentrate quality

The testwork has shown that the La Verde sulphide mineralization, which constitutes the major part of the deposit, is metallurgically amenable to a conventional flowsheet utilizing a relatively coarse grind and a straightforward flotation circuit.

However, the presence of arsenic (and antimony) as deleterious elements does present an adverse impact on the economic extraction of the mineral. Table 13.11 lists the important elemental analyses for the three composites of economic value, with potentially payable values shown in bold and significant penalty element levels shown in red.

Table 13.11 Copper concentrates analysis

Element	Symbol	Units	WH-2	EH-4	EH-3
Aluminium	Al	%	0.24	2.59	2.35
Antimony	Sb	%	0.01	**0.56**	0.05
Arsenic	As	%	**0.94**	**1.5**	0.16
Bismuth	Bi	g/t	<20	62	<20
Cadmium	Cd	g/t	44	20	2
Calcium	Ca	%	0.21	1.37	1.15
Carbon	C	%	0.05	0.31	2.62
Cobalt	Co	g/t	1162	994	188
Copper	Cu	%	**26**	**27.4**	**28.8**
Fluorine	F	g/t	31	133	163
Gold	Au	g/t	**0.12**	**1.87**	**5.88**
Iron	Fe	%	32	14.5	10.6
Lead	Pb	%	0.04	0.02	0.04
Magnesium	Mg	%	0.054	0.29	0.5
Manganese	Mn	%	0.005	0.039	0.15
Mercury	Hg	g/t	<1	1	<1
Molybdenum	Mo	%	0.017	0.029	0.42
Nickel	Ni	g/t	246	92	160
Palladium	Pd	g/t	0.015	0.005	0.008
Phosphorus	P	g/t	19	234	656
Platinum	Pt	g/t	<0.001	<0.001	0.22
Selenium	Se	g/t	47	38	19
Silicon	Si	%	0.45	8.03	7.53
Sulphur	S	%	38.1	19.3	3.07
Silver	Ag	g/t	**76**	**258**	**124**
Zinc	Zn	%	0.54	0.11	0.03

Copper concentrates are regarded as "clean" with arsenic levels less than 0.1% As. Penalties generally commence at 0.3% As and arsenic levels greater than 1% As pose significant marketing issues, especially as China, an important destination for copper concentrates in the global market, imposes a 0.5% As limit on imported material.

Preliminary results have been received from the hydrometallurgical and roasting testwork carried out on the concentrates generated in the KM 3306 program of April 2012. The key outcomes are summarized below:

- Galvanox™ leach technology did not appear suitable. This process relies on the chalcopyrite-pyrite galvanic couple to dissolve chalcopyrite under atmospheric leach conditions, but the La Verde concentrates are low in pyrite; therefore, a pyrite addition was required. Even with that, 80% extraction was the maximum achieved and extractions > 90% were only possible with the addition of petroleum coke. The QP considers that the core feature of the galvanic couple that makes this process attractive is not applicable to La Verde and therefore does not believe this process merits further testwork.
- Teck's CESL process was also tested. This process consists of pressure oxidation and an "enhanced atmospheric leach" stage in the presence of chloride ions, followed by pressure cyanidation for precious metals recovery. Testwork objectives were achieved, namely:
  - >97. 5% copper extraction.
  - >85% gold and silver extraction.
  - Arsenic was precipitated and As in solution was < 20 ppm.

However, the QP notes the following:

- The process is relatively complex and chloride solutions will incur materials of construction issues.
- Despite several years of operation of the CESL demonstration plant, no commercial scale plant is in operation.

Nevertheless, the excellent results achieved with respect to metal extractions and arsenic precipitation merit further investigations.

- Partial roasting for As and Sb removal was tested at Outotec's laboratory in Sweden. Outotec concluded that both the East Hill and West Hill concentrates were suitable for fluidized bed roasting with calcine arsenic levels expected to be <0.3% As, and possibly as low as 0.1 – 0.2% As in full scale operation. However, the East Hill material contained coarse lime or dolomite which formed calcium arsenates and limited arsenic removal to 0.35% As in calcine. The coarseness of these carbonates indicated possible contamination and Outotec recommended that further investigations be carried out to verify if they were intrinsic to the concentrates or indeed extraneous contamination.
- These results indicate that roasting can achieve saleable concentrates for La Verde, notwithstanding the carbonate issue. Also, in view of the recent re-commercialization of roasting and current advanced investigations at other operations, including Codelco's Mina Ministro Hales operation in Chile, it is believed that roasting is a viable concentrate treatment option for consideration.

14 Mineral Resource estimates

There are no Mineral Resources to be reported at this time.

15 Mineral Reserve estimates

There are no Mineral Reserves on the Property.

16 Mining methods

As this is not an advanced property, this section is not required.

17 Recovery methods

As this is not an advanced property, this section is not required. Potential recovery methods are discussed in Section 13.

18 Project infrastructure

As this is not an advanced property, this section is not required. Logistics and infrastructure are discussed in a summary fashion in Section 5.

19 Market studies and contracts

As this is not an advanced property, this section is not required.

20 Environmental studies, permitting, and social or community impact

As this is not an advanced property, this section is not required.

21 Capital and operating costs

As this is not an advanced property, this section is not required.

22 Economic analysis

As this is not an advanced property, this section is not required.

23 Adjacent properties

There are no properties adjacent to the Property that are considered relevant to this Technical Report.

24 Other relevant data and information

There is not any additional information or explanation required at this time to make the Technical Report more understandable and not misleading.

25 Interpretation and conclusions

La Verde has been on care and maintenance since 2016. There has been a PEA carried out on the Property which is no longer current.

The data and core are stored in a secure environment and are available for any continued work.

La Verde is a property of merit for Solaris and will be advanced in due course. The key risks and opportunities are listed below.

Key areas of risk or uncertainty that need to be addressed in moving the Project forward:

- Additional drilling to improve the robustness of the geological model and if merited form the basis for a new and current Mineral Resource estimate.
- Potential geometallurgical variability is poorly understood and any additional drilling needs to be designed such that appropriate metallurgical samples can be obtained.
- Management of high arsenic grades and arsenic by-products, both from an economic and an environmental point of view.
- Social license. The initiation of systematic social and environmental assessment of the water access, infrastructure, and tailings disposal assumptions is required. Continued development of good relationships with the local stakeholders, particularly with the nearby communities is required.

26 Recommendations

The recommendations for the ongoing exploration and development of the Property are as follows. Cost associated with the recommendations are estimated in Table 26.1.

26.1 Geology

- Additional drilling to improve the robustness of the geological model and if merited form the basis for a new and current Mineral Resource estimate.
- Any future CRM choices for QA/QC should include some material with lower copper grades (say 0.15%).
- Standard blank sample should be used in further drilling programs as part of the future QA/QC process.
- The core recovery data in the paper logs should be digitized so that it can be used in future.
- Previous drilling has been directed along north-south azimuths. This has resulted in very oblique interception of the northeast-southwest copper mineralization trends for the West Hill mineralization, and it is recommended that any future West Hill drillholes be directed along 120° or 300° azimuths. Similarly, it is recommended that future East Hill drillholes be directed along 045° or 225° azimuths to optimally intersect the copper grade trend.
- The structural differences between East Hill and West Hill have never been resolved and there could be a left-handed slip fault (or fold) separating the two regions of the deposit (see Section 7.4). Ground geophysical methods or limited strategic drilling may resolve this difference and may have profound implications for the architecture and scale of the deposit.
- A full audit and, if necessary, a rebuild of the database is recommended in the next stage of the project.
- Carry out a Mineral Resource estimation when Solaris sees fit to advance the Project.

26.2 Metallurgy

- Initiate a program investigating the geo-metallurgical variability across the deposits to develop a geo-metallurgical map and appropriate geo-metallurgical domains.
- Investigate options to improve precious metals recovery, especially gold in West Hill sulphides.

26.3 Environmental and social

- Strengthen company involvement with local communities and initiate conversation with the relevant stakeholders regarding the extension and considerations of the project. Particularly relevant is the community engagement respect the project’s water and land uses.
- Initiate environmental and social baseline studies.

Table 26.1 Estimated cost of recommendations

Activity	Cost estimate (US$M)
Additional drilling for resources + first geomechanic studies	2.9
Database audit and rebuild as necessary	0.1
Mineral Resource estimate	0.1
Geo-metallurgical investigations, including improving gold recovery	0.8
Environmental and social baseline studies	1.1
Total	**4.0**

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28 QP certificates

CERTIFICATE OF AUTHOR

I, John Morton Shannon, P.Geo., of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as General Manager and Principal Geologist with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver, British Columbia V6C 1S4.

2 This certificate applies to the Technical Report titled "Solaris La Verde Copper Property" with an effective date of 3 June 2021 (the "Technical Report"), prepared for Solaris Resources Inc. ("the Issuer").

3 I am a graduate of Trinity College Dublin in Dublin, Ireland (BA Mod Nat. Sci. in Geology in 1971). I am a member in good standing of the Engineers and Geoscientists British Columbia (Registration #32865) the Association of Professional Geoscientists of Ontario (Registration #0198). I have practiced my profession continuously since 1971, and have been involved in mineral exploration and mine geology for over 45 years since my graduation from university. This has involved working in Ireland, Zambia, Canada, and Papua New Guinea. My experience is principally in base metals and precious metals, and have been Chief Geologist on two very large mines for major companies, with responsibility for all geological aspects of the operation.

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.

4 I have not visited the La Verde Property.

5 I am responsible for Sections 2-6, 14-24, 27 and parts of 1, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.

7 I have not had prior involvement with the property that is the subject of the Technical Report.

8 I have read NI 43-101 and the section of the Technical Report for which I am responsible has been prepared in compliance with NI 43-101.

9 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the section of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 3 June 2021
Signing Date: 23 July 2021

"Original signed by"

John Morton Shannon, P.Geo.
General Manager / Principal Geologist
AMC Mining Consultants (Canada) Ltd.

I, Alan Riles, MAIG, of Gorokan, New South Wales do hereby certify that:

1 I am the Director and Principal Metallurgical Consultant of Riles Integrated Resource Management Pty Ltd., with an office at 8 Winbourne Street, Gorokan, NSW 2263, Australia.

2 This certificate applies to the Technical Report titled "Solaris La Verde Copper Property" with an effective date of 3 June 2021 (the "Technical Report"), prepared for Solaris Resources Inc. ("the Issuer").

3 I graduated with a Bachelor of Metallurgy (Hons Class 1) from Sheffield University, UK in 1974. I am a registered member of the Australian Institute of Geoscientists. I have practiced my profession continuously since 1974, with particular experience in study management, and with both operational and project experience in precious and base metal deposits, including copper projects in Mexico and the geometallurgy of arsenic in copper ores.

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.

4 I have visited the La Verde Property from 11 to 12 April 2012 for two days.

5 I am responsible for Section 13 and parts of 1, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.

7 I have had prior involvement with the property that is the subject of the Technical Report in that I was a qualified person for a previous AMC Technical Report on the La Verde Property in 2012 (effective date 30 September 2012) and 2018 (effective date 20 June 2018).

8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

9 As of the effective date of the Technical Report and the date of this certificate, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 3 June 2021
Signing Date: 23 July 2021

"Original signed by"

Alan Riles, MAIG

Director and Principal Metallurgical Consultant

Riles Integrated Resource Management Pty Ltd

CERTIFICATE OF AUTHOR

I, Michael O'Brien, Pr. Sci.Nat., FAusIMM, P.Geo., of Coquitlam, British Columbia do hereby certify that:

1 I am a Principal Resource Geologist with Red Pennant Communications, with an office at 1380 Pinetree Way, Unit 81, Coquitlam, British Columbia V3E 3S6, Canada.

2 This certificate applies to the Technical Report titled "Solaris La Verde Copper Property" with an effective date of 3 June 2021 (the "Technical Report"), prepared for Solaris Resources Inc. ("the Issuer").

3 I graduated with a BSc (HONS) in Geology from the University of Kwazulu-Natal in 1978, and an MSc in Geology from the University of the Witwatersrand in 2002. I am a registered member of the Engineers and Geoscientists British Columbia (#41338). I have practiced my profession in geology for a total of 42 years with experience in exploration, advanced evaluation, operations, resource estimation, and technical report writing.

I have experience of geological modelling and Mineral Resource estimation for several porphyry-related copper-gold-silver-molybdenum deposits including La Colosa in Colombia, El Toro Mine in Peru and the Red Chris Mine and the Schaft Creek and Tatogga Deposits in BC.

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.

4 I have not visited the La Verde Property.

5 I am responsible for Sections 9-11, and parts of 1, 7, 8, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.

7 I have had prior involvement with the property that is the subject of the Technical Report in that I was a qualified person for a previous AMC Technical Report on the La Verde Property in 2012 (effective date 30 September 2012) and 2018 (effective date 20 June 2018).

8 I have read NI 43-101 and the section of the Technical Report for which I am responsible has been prepared in compliance with NI 43-101.

9 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the section of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 3 June 2021
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Michael O'Brien, Pr. Sci.Nat., FAusIMM, P.Geo.

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CERTIFICATE OF AUTHOR

I, José A. Olmedo, SME CP, of Valle de Mexico, do hereby certify that:

1 I am currently an Independent Consultant with an office at Valle de Mexico 26, Loma de Valle Escondida, Atizapan, 52930 Estado de Mexico.

2 This certificate applies to the Technical Report titled "Solaris La Verde Copper Property" with an effective date of 3 June 2021 (the "Technical Report"), prepared for Solaris Resources Inc. ("the Issuer").

3 I have a bachelor's degree in Geological Engineering from Universidad Nacional Autónoma de México with Professional ID #598612; Master of Science Degree in Mineral Exploration (Minex Program) from McGill University, Montreal, Canada, and several diplomas in Business Administration, International Business, and Economic Geology from different national and international institutions. I am certified as Valuator of Mineral Properties for the Imperial College, London, UK, and certified as Financial Analyst and Enterprise Valuator for CFI (Corporate Finance Institute, Vancouver, Canada. I am a Registered Member in good standing of SME (Society for Mining, Metallurgy & Exploration Engineers USA), registration number 426799RM. and an active member of the AIMMGM (Asociación de Ingenieros de Minas, Metalurgistas y Geólogos de México) #15655.

   I have been actively involved for 44 years with national and international corporations in mineral exploration and economic assessment of mineral properties of different styles of mineralization. This includes porphyry related projects as La Verde Copper Project that is the subject of the Technical Report. My performance is results oriented, with start-up expertise and have proved successful in project management, technical reporting, corporate finances, and strategic planning.

   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.

4 I have carried out a personal inspection of the La Verde Property from 24 to 28 May 2021.

5 I am responsible for Section 12, and parts of 1, 7, 8, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.

7 I have not had prior involvement with the property that is the subject of the Technical Report.

8 I have read NI 43-101 and the section of the Technical Report for which I am responsible has been prepared in compliance with NI 43-101.

9 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the section of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

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