Independent Geologist's Report on the Mineral Assets of Challenger Exploration Limited

Prepared for

Challenger Exploration Limited

Prepared by

SRK Consulting (Australasia) Pty Ltd

CEL001

May 2019

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15 May 2019

The Directors
Challenger Exploration Limited
Level 17, 500 Collins Street
Melbourne VIC 3000

Dear Directors

Challenger Exploration Limited – Independent Geologist's Report

At your request (agreement signed 9 July 2018), SRK Consulting (Australasia) Pty Ltd (SRK) has prepared an Independent Geologist's Report (IGR) on certain Mineral Assets located in Argentina and Ecuador as held by AEP Corporation Pty Ltd (AEP). SRK understands that Challenger Exploration Limited, formerly Challenger Energy Limited (Challenger or the Company) has entered a binding term sheet relating to the acquisition of a 100% interest in the issued capital in AEP (the Proposed Transaction). Furthermore, SRK understands that this report will be included in a Prospectus dated and lodged on or about 15 May 2019 to assist in complying with the requirements of the Australian Securities Exchange (ASX) Listing Rules and for an offer of up to 166,666,667 shares at an issue price of A$0.03 per share to raise $5,000,000 (Public Offer).

As outlined in Challenger's announcement to the ASX on 25 February 2019, the key mineral assets held by AEP to be considered in this report comprise:

- the right to earn up to a 100% interest in the El Guayabo breccia and porphyry gold-copper project located in El Oro Province of southern Ecuador
- the right to earn up to a 75% interest in the Hualilan high grade gold-silver project located in San Juan Province of northwestern Argentina.

Collectively, these projects are known as the "Mineral Assets" throughout this report.

The objective of this report is to (1) provide an overview of the geological setting of the Mineral Assets; (2) present for each project a geological description; (3) outline the recent exploration work undertaken on each project; and (4) comment on the exploration potential of the project areas.

This report has been prepared in accordance with the ASX Listing Rules. Under these rules, reporting in accordance with the guidelines of the JORC Code (2012) and VALMIN Code (2015) mineral reporting codes (as defined here within) is required.

The report was compiled by Dr Stuart Munroe, BSc (Hons), PhD (Structural Geology), GDip (AppFin&Inv), MAusIMM. Dr Munroe is a full-time employee of SRK and has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration to qualify as Competent Person as defined in the 2012 Edition of the JORC Code. Dr Munroe consents to the inclusion of this report in Challenger's acquisition proposal based on this information in the form and context in which it appears.

Information basis of this report

For the preparation of this report, Challenger has made available all relevant information held by the Company. SRK has supplemented this information, where necessary, with information from its own geological databases or information available within the public domain. The principal sources of information are included in a reference list at the end of the report. The report includes information available up to the date of this report. Challenger has stated that all information provided may be presented in the report and that none of the information is regarded as being confidential.

Legal matters

SRK notes that it is not qualified to make legal representations with regards to the ownership and legal standing of the Mineral Assets that are the subject of this report. SRK has not attempted to confirm the legal status of the tenements with respect to acquisition or joint venture agreements, native title, local heritage or potential environmental or land access restrictions. Instead, SRK has relied on information provided by Challenger. SRK has prepared this report on the understanding that all the tenements of Challenger are currently in good standing or pending and that there is no cause to doubt the eventual granting of any tenement applications.

Statement of SRK independence

Neither SRK nor any of the author of this report have any material present or contingent interest in the outcome of this report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of SRK.

SRK is qualified to provide such reports for the purposes of inclusion in public company documents. The Effective Date of the report is 1 April 2019.

SRK has no beneficial interest in the outcome of the technical assessment informing this report being capable of affecting its independence.

Consulting fees

SRK's estimated fee for completing this report is based on its normal professional daily rates plus reimbursement of incidental expenses. The fees are agreed based on the complexity of the assignment, SRK's knowledge of the assets and availability of data. The fee payable to SRK for this engagement exclusive of expenses is estimated at approximately A$50,130. The payment of this professional fee is not contingent upon the outcome of the Prospectus.

Warranties and indemnities

Challenger has warranted, in writing to SRK, that full disclosure has been made of all material information and that, to the best of its knowledge and understanding, such information is complete, accurate and true. As recommended by the VALMIN Code, Challenger has provided SRK with an indemnity under which SRK is to be compensated for any liability and/or any additional work or expenditure resulting from any additional work required:

- which results from SRK's reliance on information provided by Challenger or from Challenger not providing material information; or
- which relates to any consequential extension workload through queries, questions or public hearings arising from this report.

Consent

SRK has given and has not withdrawn its written consent for the report to be used in a proposal to shareholders to acquire the Mineral Assets, including publication on Challenger's company website and to the inclusion of statements made by SRK and to the references of its name in other documents pertaining to Challenger's proposal. SRK provides this consent on the basis that the technical assessments expressed in the Summary and in the individual sections of this report be considered with, and not independently of, the information set out in the complete report and the Cover Letter.

SRK confirms that to the best of its knowledge and belief (having taken all reasonable care to ensure that such is the case), the information contained in the report is in accordance with the facts and does not omit anything likely to affect the import of such information.

SRK confirms that nothing has come to its attention to indicate any material change to what is stated in the report.

Yours faithfully

For and on behalf of **SRK Consulting (Australasia) Pty Ltd**

Dr Stuart Munroe, *BSc(Hons), PhD, GDip (AppFin&Inv), MAusIMM*
Principal Consultant (Project Evaluation)

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Disclaimer

The opinions expressed in this report have been based on the information supplied to SRK Consulting (Australasia) Pty Ltd (SRK) by Challenger Exploration Limited (Challenger or the Company). The opinions in this report are provided in response to a specific request from Challenger to do so. SRK has exercised all due care in reviewing the supplied information. While SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this report, about which SRK had no prior knowledge nor had the opportunity to evaluate.

Glossary and List of Abbreviations

Term	Meaning
Ag	Chemical symbol for silver
AIG	Australia Institute of Geoscientists
Albite	A sodic plagioclase feldspar mineral ($NaAlSi_3O_8$)
ASL	Above sea level
As	Chemical symbol for arsenic
ASX	Australian Securities Exchange
AusIMM	Australasian Institute of Mining and Metallurgy
Au	gold
Breccia	Fragmented rock
Calc-alkaline	A group of igneous rocks, common in volcanic arcs, high in calcium and potassium
Chalcocite	A copper-sulphide mineral (Cu_2S)
Chalcopyrite	A copper-iron-sulphide mineral ($CuFeS_2$)
Chert	A sedimentary rock composed of microcrystalline or cryptocrystalline quartz
conglomerate	a coarse-grained clastic sedimentary rock that is composed of rounded to sub-angular clasts
Cu	Chemical symbol for copper
Devonian	A period of geological time from 419.2 Ma to 358.9 Ma
Dacite	An igneous, volcanic rock with a porphyritic texture and is intermediate in composition between andesite and rhyolite
Diamond Drill (DD)	diamond core drilling
Dyke	A narrow tabular intrusive rock body
Epithermal	Warm ground waters at shallow depth (<2 km) under conditions in the lower ranges of temperature and pressure
Fault	A fracture in earth materials, along which the opposite sides has been displaced parallel to the plane of the movement
Felsic	A group of minerals including feldspar, feldspathoids, quartz, and muscovite
g/t	grams per tonne
Geophysics	The study of the Earth using quantitative physical methods to measure its electrical conductivity, gravitational and magnetic fields
Granite	An acid intrusive rock
Granodiorite	A type of granitic rock with abundant feldspar
Hydrothermal breccia	A breccia formed by explosion of superheated water migrating from depth to the surface
Hydrothermal Fluid	Upward flowing fluids originating from igneous or metamorphic geological events
Induced Polarisation (IP) survey	Geophysical survey method to measure the electrical property of rocks in the Earth
Intrusive	An igneous rock formed entirely within the Earth's crust
Jasper	An aggregate of microgranular quartz or chalcedony and other mineral phases that is produced from contact metamorphism and hydrothermal solution
JORC Code	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves
K	Chemical symbol for potassium

Term	Meaning
km	kilometre
Limestone	A sedimentary rock composed mainly of skeletal fragments of marine organisms
Lutite	Shale (A fine-grained sedimentary rock composed of mud that is a mix of flakes of clay minerals and silt-sized particles)
m	metre
m ASL	Metres above sea level
Ma	Million years
Magnetite	A mineral of iron oxide, Fe_3O_4, that often occurs with magnesium, zinc, and manganese and is an important ore of iron
Metamorphic rock	A rock altered by temperature and pressure within the earth
Mineral Resource	A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality) and quantity that there is reasonable prospect for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge including sampling. Mineral Resources are sub-divided in order of increasing geological confidence into Inferred, Indicated and Measured categories.
Mineralisation	Geological occurrence of mineral of potential economic interest
Miocene	An epoch from about 23 to 5.3 million years ago
Mo	Chemical symbol for Molybdenum
Mt	million tonnes
Na	Chemical symbol for sodium
Oxidation	Process of change in the rock mineral assemblage due to the action of surface-derived groundwater and air
Palaeozoic	An Era in geological time from 542 to 251.9 million years ago
PEA	Preliminary Economic Assessment prepared in accordance with Canadian National Instrument 43-101
Permian	A period of geological time from 298.9 Ma to 251.9 Ma
Pb	Chemical symbol for lead
Phyric	A rock containing coarse crystals (phenocrysts) identifiable with the naked eye
ppb	parts per billion
ppm	parts per million
Porphyry	An intermediate or acid igneous rock of fine-grained size, with some larger crystals, usually feldspar, scattered in the finer-grained groundmass
Potassic	Chemical alteration of a rock by hydrothermal and other fluids which results in the formation of potassium minerals
Proterozoic	A geological time period from 2.5 billion years ago to 542 million years ago
Pyrite	A mineral of iron sulphide (FeS_2)
QA/QC	The combination of quality assurance, the process or set of processes used to measure and assure the quality of a product, and quality control, the process of ensuring products and services meet consumer expectations
Quartz	A silicon mineral SiO_2
Quartz-vein	Planar occurrences of quartz infilling fractures in the rock at a late stage of metamorphic activity and formed from hydrothermal fluid deposition
RC	Reverse circulation

Term	Meaning
Sample	The removal of a small amount of rock pertaining to the deposit, which is used to estimate the grade of the deposit and other geological parameters.
Sandstone	A clastic sedimentary rock composed mainly of sand-sized mineral particles or rock fragments
Schist	A medium-grade metamorphic rock with grains in a preferred orientation. It is defined by having more than 50% platy and elongated minerals
Sedimentary	Rock formed at or near the surface by accumulation of detrital rock or precipitated from solution at atmospheric temperature and pressure
Sericite	A mineral composed of fine-grained white mica
Shale	A fine-grained sedimentary rock composed of mud that is a mix of flakes of clay minerals and silt-sized particles
Shear zone	Structural deformation of rock by shearing stress under brittle-ductile or ductile conditions at depths in high pressure metamorphic zones
Silicified	A rock altered by addition of quartz
Sill	A narrow tabular intrusive rock body that is parallel to primary foliation (bedding)
Siltstone	A fine-grained granular sedimentary rock
Silurian	A period of geological time from 443.8 Ma to 419.2 Ma
Skarn	Metamorphic rocks that form by the combined processes of heating from nearby intrusions and hydrothermal alteration created by the same intrusions
SRK	SRK Consulting (Australasia) Pty Ltd
Tenement / Concession	A general term for a Prospective, Exploration and/or Mining Lease.
Tertiary	A period of geological time (1.5 million years ago to 65.5 million years ago)
tpa	tonnes per annum
VALMIN Code	Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets
Volcanic	Formed by or associated with a volcano
Zn	Chemical symbol for zinc

Executive Summary

At the request of Challenger Exploration Limited (Challenger or the Company), SRK Consulting (Australasia) Pty Ltd (SRK) has prepared an Independent Geologist's Report (IGR) on two exploration projects (the El Guayabo Project in Ecuador and the Hualilan Project in Argentina), here referred to as the Mineral Assets.

It is SRK's understanding that this report will be used in a Prospectus dated and lodged on or about 15 May 2019, which includes a proposal to acquire the Mineral Assets subject to shareholder approval and for an offer of up to 166,666,667 shares at an issue price of A$0.03 per share to raise A$5,000,000 (Public Offer).

Mineral assets

Challenger proposes to acquire a 100% interst in the issued capital of AEP Corporation Pty Ltd (AEP).

The proposed projects held through AEP are detailed in the following subsections.

El Guayabo Project

AEP holds a 100% interest in Ecuador Mining Pty Limited (EMP). EMP has entered into a farm-in agreement to acquire up to 100% interest in the El Guayabo mining concession from Torata Mining Resources TMR S.A. (TMR), a company incorporated and registered in Ecuador. EMP has earned an initial 19.9% interest in the El Guayabo Project and can acquire up to 100% via a staged farm-in agreement subject to terms outlined in an ASX release by Challenger on 25 February 2019. The terms include a minimum exploration expenditure of A$2 million, in the first year to go to 35% and an additional A$3 million, over four years from June 2018 to move to 51%.

Hualilan Project

AEP holds a 100% interest in Afro Asian Resources Pty Ltd (AAR), which has a binding farm-in agreement with Golden Mining S.R.L. (GML), a company incorporated and registered in Argentina. GML is the current holder of mining concessions in Argentina at Cerro Sur and a surrounding exploration concession. GML has also entered into an agreement with the holder of additional adjacent mining concessions at Cerro Norte, to acquire those concessions. Collectively, the Cerro Sur and Cerro Norte concessions are known as the Hualilan Project.

The farm-in agreement provides AEP to a right to acquire up to 75% of the Hualilan Project subject to terms outlined in an ASX release by Challenger (5 February 2019), including an initial A$1 million expenditure on the Hualilan Project and completion of a Definitive Feasibility Study within five years to move from 25% to 75% interest in the Hualilan Project.

El Guayabo Project

The El Guayabo Project is located in El Oro Province in southern Ecuador, 55 km by road, from the coastal provincial capital of Machala and 20 km from Santa Rosa. Regular daily flights from Quito (Capital of Ecuador) arrive at Santa Rosa international airport.

The El Guayabo mining concession encompasses an area of 281 hectares (2.8 km^2).

TMR currently has mining tribute agreements with multiple small-scale mining groups on the El Guayabo concession to extract a maximum of 300 tonnes per day (tpd) across the concession. Currently, the main production area is on the Ecuaba Fault (vein) where ore is being extracted from up to four underground levels. Ore is transported by small tonnage trucks to nearby processing facilities. Other smaller tribute mining operations are evident on the concession.

There are no royalty agreements on the concession other than the statutory Ecuadorian Government royalties.

The El Guayabo Project is located in the central to north-central part of the Portovelo-Zaruma gold mining district within the late Oligocene to Early Miocene aged Cangrejos Zaruma intrusive belt, which is prospective for porphyry-hosted copper, gold, silver and molybdenum deposits. The intrusions range in age from 40 Ma to 10 Ma, suggesting a long-lived intrusive complex as is the case for much of western South America (Chile – Peru – Bolivia).

The El Guayabo Project is located approximately 10 km southeast of the third party owned Cangrejos porphyry copper-gold deposit and approximately 20 km northwest of the third party owned Zaruma porphyry deposit.

Within the El Guayabo Project, the following key rock types have been recognised:

- Porphyry intrusions, typically with quartz and feldspar phenocrysts
- Intrusive-related breccia which is most commonly matrix supported, with clasts composed of the metamorphic host rock, intrusions and pre-existing mineralisation and earlier breccias which have been re-brecciated. The breccia may be mineralised or unmineralised. Ten mineralised breccias have been identified at surface, in workings or drill holes within the licence and immediate surrounds.

Copper and gold mineralisation has been found in the following settings:

- Steeply plunging composite intrusive breccias
- Quartz veins and veinlets, including fault-controlled (shear zone hosted) veins
- Disseminated pyrite and pyrrhotite in the intrusions and in the metamorphic host rock near the intrusions.

A large proportion of the previous exploration completed at El Guayabo was undertaken by Odin Mining and Exploration Ltd (Odin) and Newmont Mining Corporation (Newmont) in joint venture with Odin from 1992 to 1994.

Newmont and Odin completed a 33-hole diamond drill campaign for a total of 7,605 m drilled. In addition, geological mapping and soil and rock chip sampling surveys were completed. Newmont conducted an airborne magnetic geophysical survey over the property in 2000. Kinross Gold Corporation (Kinross) was active in the district from 2006 to 2009 under a joint venture farm-in agreement with Odin. Kinross also completed a program of geological mapping and soil and rock geochemical sampling.

In SRK's opinion, the El Guayabo Project remains prospective for porphyry-related copper, gold and silver mineralisation across the concession in the following settings:

- Matrix to intrusive breccia
- Vein systems overprinting intrusive-related breccia and porphyry intrusions
- Fault breccia and fault-hosted veins.

Typically, not all of the breccia and fault zones contains ore-grade mineralisation in intrusive-related mineral systems; however, a single deposit typically has multiple mineralising events. Despite the extended exploration history, past drilling and tribute mining at El Guayabo, the following are among areas in the concession that have yet to be drill tested:

- Soil and rock chip geochemical anomalies in the centre of the concession, south of the Gold Block and north of the Copper Block
- Extensions to the Gold Block and Copper Block

- Strike, depth and parallel fault extensions of the Ecuaba Fault/ vein
- Soil/ rock chip geochemical anomalies to the northeast of the Ecuaba Fault that may be a source for the fault-controlled mineralisation.

A proposed exploration program at the El Guayabo Project initially aims to identify and priorities drilling targets. The proposed exploration program involves the following:

- Systematic mapping and channel geochemical sampling of more than 1 km of existing workings
- Sampling of additional breccia bodies at surface
- Multi-element re-assay of approximately 1,100 m of quarter-core drilled by previous explorers
- 3D geophysical surveys covering 16 km^2; only widely spaced airborne magnetics has previously been completed over the El Guayabo Project
- Soil geochemistry and mobile metal ion geochemical surveys covering 16 km^2
- Further drill testing.

In SRK's opinion, the proposed exploration program is well suited to the style of mineralisation and the stage of exploration at the El Guayabo Project. It is expected that results of some of the proposed exploration will be available in the first half of 2019.

Hualilan Project

The Hualilan Project is located approximately 120 km north-northwest of San Juan, the capital of San Juan Province in northwestern Argentina. The Project is accessible via sealed roads to within 500 m of the licence and then by a series of unsealed roads around the mining leases and exploration licence application.

The Hualilan Project is a gold, zinc, silver and copper-bearing manto/ skarn located on a series of *Minas* (mining leases) and *Demasias* (mining lease extensions), surrounded by an exploration licence application.

Gold and base metal mineralisation has been identified at 19 sites over a 4 km strike length in two zones – Cerro Norte and Cerro Sur.

The mining leases and the exploration licence application that make up the Hualilan Project are not subject to any royalties other than the statutory government royalties. There are currently no mining or mining agreements in place.

Hualilan is located within the Central Pre-Cordillera, to the east of the main Cordillera and the Andes mountains. The area is a fold and thrust belt of lower Palaeozoic back-arc basin shallow marine and terrestrial sedimentary rock with minor volcanic and intrusive rocks. Porphyry rocks with dacitic and tonalitic composition range in age from 13 Ma to 5 Ma.

The area is flanked to the north, west and south by a diversity of mineral deposits from large tonnage copper and/ or gold porphyries, skarn, manto, Carlin-style replacement, epithermal, vein- and breccia-hosted deposits.

The Hualilan mineralisation is a manto style of mineralisation. Manto is a replacement or distal skarn mineralisation which has been described in many locations in South America and Central America. Manto deposits typically contain elevated Cu, Pb, Zn, Au, Ag, Mo, Bi and Sb. Mineralisation may be parallel to stratigraphy (mantos), in shoots within the plane of bedding and in veins.

The main host unit to mineralisation at Hualilan is the Ordovician aged San Juan Limestone, which is overlain by the Silurian aged Tucunuco Formation, composed of conglomerate, sandstone and shale. Intermittent production from the Hualilan Project under Spanish administration occurred from 1561 until 1840. During this period, 19 different excavations were worked on the property.

In 1872, new equipment, including an amalgamation circuit, was installed. However, it was not possible to treat sulphides and this led to mine closure. In 1875, an English company, Argentina, re-opened the operation and installed additional equipment incorporating a two-furnace roaster circuit to treat the sulphide ore. The company processed a reported 80 tonnes per day. A cyanidation plant installed in 1914 to treat tailings was upgraded in 1955.

The total historical production would not have exceeded 150 kt (Jenks, 2004).

Modern exploration restarted at the Hualilan Project in 1984, when Compañía Minera Aguilar S.A. (Aguilar) completed an exploration program concentrating on Cerro Norte, including 16 reverse circulation (RC) drill holes for a total of 2,040 m.

In 1995, Plata Mining Ltd (Plata) commissioned a work program at Cerro Norte, including a further 13 RC drill holes for a total of 1,193 m.

In 1998, a Chilean consulting firm (EPROM) conducted detailed exploration of the property for Plata. Exploration included seven bulk metallurgical samples. A 320 m long, 4 m by 4 m production decline was driven by Plata beneath the Main Manto at Cerro Norte.

Compañía Minera El Colorado SA (CMEC) assumed active management of the project in 1999, including RC drilling (19 holes totalling 1,598 m), metallurgical testing resource and reserve estimation and mining studies.

In addition to the RC drilling, 107 diamond drill holes (total of 12,384 m) have been completed from 1999 to 2005. CMEC drilled 60 diamond drill holes in 1999–2000 for a total of 4,907.3 m and La Mancha Resources Inc. (La Mancha) drilled a further 47 diamond holes for a total of 7,477 m in 2003–2005. No drilling or significant exploration has been completed at the Hualilan Project since that time. The past drill data, sampling, assay and available QA/QC is currently being compiled into a drill hole database.

There are multiple historical resource estimates for the Hualilan Project, none of which comply with reporting according to the JORC Code (2012). A non-JORC Code Foreign Resource Estimate was completed by La Mancha Resources in 2003 and updated in 2006. The 2006 update did not include the east–west mineralised Magnata Vein despite the known mineralisation in the Magnata Vein being drilled on a 25 m by 50 m spacing.

The source of the Foreign Resource Estimates are resource reports prepared for La Mancha Resources presented in Canadian National Instrument NI 43-101 Technical Reports dated 12 April 2003 and 30 November 2006.

The Foreign Resource Estimates are relevant and material to Challenger as they demonstrate that the Hualilan Project has the potential to be economically viable.

In SRK's opinion, the Hualilan Project is prospective for extensions to the existing skarn and manto gold, silver (zinc, copper, lead) mineralisation that has been partially mined. The exploration proposed by Challenger for the Hualilan Project aims to organise the vast amount of existing exploration and trial mining data from the Hualilan Project with the objective of updating the Foreign Resource Estimate and reporting according to the JORC Code (2012). The objective of the exploration is to undertake a Preliminary Economic Assessment (PEA) and to identify extensions to the mineral system that could improve the economics of the Hualilan Project.

The proposed work program includes:

- Digitising all historical data, including approximately 150 drill holes, shallow open pit data, underground development and numerous phases of underground mapping to undertake a detailed interpretation of known mineralised zones; this work is proceeding at the date of this report

- Investigate further drilling requirements to upgrade the resource and report to JORC Code (2012) standard; complete twin drill holes to confirm the geology, alteration and mineralisation; check previous assays and validate previous data as required
- Field mapping, structural interpretation and alteration mapping using high resolution satellite data to better target extensions of known mineralisation
- Further metallurgical testwork.

In SRK's opinion, the proposed exploration program is well suited to the style of mineralisation and the stage of exploration at the Hualilan Project.

Proposed budget

The proposed use of funds raised from the Public Offer in support of the proposed exploration programs at the El Guayabo and Hualilan projects is shown in Table ES-1.

Table ES-1: Proposed use funds from the capital raising

Project	Description	Year 1 (A$)	Year 2 (A$)
El Guayabo	Mapping, sampling, re-logging	490,000	320,000
	Geophysics (Note: $0.55 million paid prior to IPO)	50,000	Contingent
	Drill testing(#1)	730,000	Contingent
	Site management	350,000	170,000
	Subtotal - El Guayabo	**1,620,000**	**490,000**
Hualilan	Mapping and sampling	210,000	160,000
	Drill testing(#2)	330,000	Contingent
	PEA (including resource estimation and preliminary metallurgical testwork)	350,000	Contingent
	Site management	240,000	140,000
	Subtotal - Hualilan	**1,130,000**	**300,000**
Corporate	Working capital, administration, contingency	550,334	512,659
	Expenses of the offer	397,007	-
	Subtotal - Corporate	**947,341**	**512,659**
	Total	**3,697,341**	**1,302,659**

Notes:
IPO = Initial Placement Offering
#1: The initial 2,000 m drilling program at El Guayabo is contingent on the results of the geophysics program.
#2: The second 1,000 m drilling program at Hualilan is contingent on results of the initial 1,000 m program.

In SRK's opinion, the use of funds is consistent with the objectives of the exploration and the proposed work program. SRK cautions that the proposed program for Year 2 is dependent on the result achieved in Year 1 and thus may differ from that presented.

1 Introduction

This Independent Geologist's Report (IGR) has been prepared by SRK Consulting (Australasia) Pty Ltd (SRK) at the request of Challenger Exploration Limited (Challenger). It is intended to inform shareholders of the technical merits and planned forward exploration program associated with the El Guayabo copper-gold porphyry project in El Oro Province in southern Ecuador and the Hualilan gold-silver project of San Juan Province in northwestern Argentina.

1.1 Background

Challenger Exploration Limited (ACN 123 591 382) (formerly Challenger Energy Limited, formerly Sunset Energy Limited) is listed on the Australian Securities Exchange (ASX) with ticker code CEL and is domiciled in Melbourne, Victoria. The Company was incorporated on 23 January 2007 and admitted to the Official List of ASX Limited on 5 November 2007 as an oil and gas exploration company focused on energy assets in the United States of America. More recently, Challenger has focused on development of a world-class shale gas play in the Karoo Basin in South Africa and has also sought to identify assets that will add value while maintaining a balanced risk profile.

As announced to the ASX on 25 February 2019, Challenger proposes to acquire all the issued capital in AEP Corporation Pty Ltd (AEP), an Australian private company incorporated in Belmont, New South Wales on 19 July 2018. AEP's current corporate structure is shown in Figure 1-1.

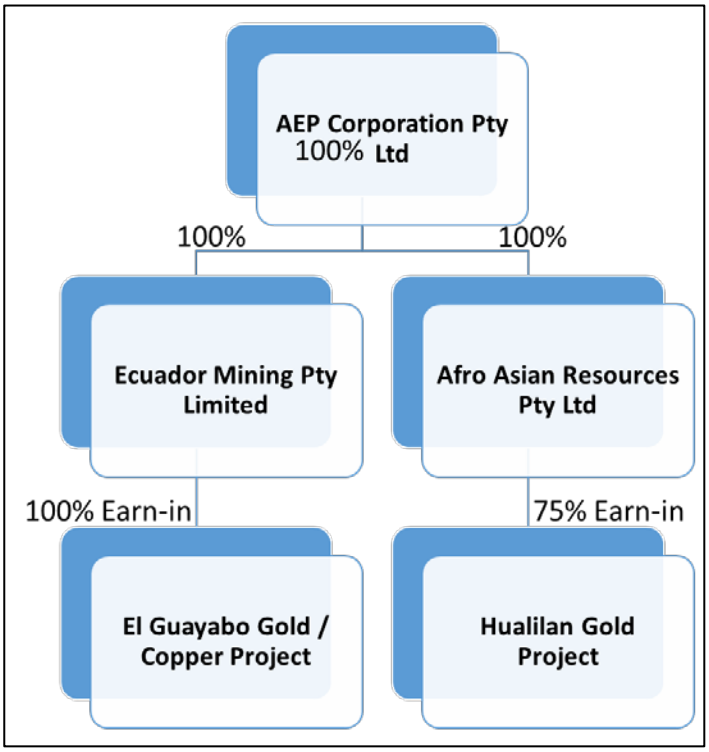

Figure 1-1: Corporate structure of AEP

AEP's Mineral Assets to be acquired under the Proposed Transaction are summarised in the following subsections.

El Guayabo Project

AEP holds a 100% interest in Ecuador Mining Pty Limited (EMP), an unlisted Australian company registered on 10 May 2018 with mineral interests in Ecuador.

EMP has entered into a farm-in agreement to acquire up to a 100% interest in the El Guayabo mining concession from Torata Mining Resources TMR S.A. (TMR), an Ecuadorian registered company with its offices in Buenavista 2619 y Av. Bolivar, La Providencia, Machala, El Oro, Ecuador, the current owner of the El Guayabo Project. EMP has earned an initial 19.9% interest in the El Guayabo Project and may acquire up to 100% interest via a staged farm-in agreement with the following milestones:

- Stage 1: Expenditure of A$2 million by 15 June 2020 (approximately 1 year after relisting) to earn a 35% interest in the El Guayabo Project
- Stage 2: Expenditure of an additional A$3 million by 1 June 2022 to increase its interest in the El Guayabo Project to 51%
- Stage 3: At any time on or before 15 December 2022, and at the sole discretion of EMP (being controlled by the Board of Challenger), issue 180 million ordinary shares in Challenger to Torata S.A. to acquire the residual 49% interest in the El Guayabo Project. These shares will be subject to necessary regulatory and shareholder approval.

Hualilan Project

AEP holds a 100% interest in Afro Asian Resources Pty Ltd (AAR), an unlisted Australian company registered on 25 February 2010 with mineral interests in Argentina.

AAR has entered into a binding farm-in agreement with Golden Mining S.R.L. (GML), an Argentinian company. GML is the current holder of Cerro Sur mining concessions and has also entered into an agreement with the current holders of the Cerro Norte mining concessions. Collectively, the Cerro Sur and Cerro Norte concessions are known as the Hualilan Project.

The farm-in agreement provides AEP with the right to acquire up to a 75% interest in the Hualilan Project subject to the following milestones:

At Cerro Sur (including a 26 km^2 exploration licence surrounding the projects):

- Minimum expenditure of A$1 million (combined on Cerro Sur and Cerro Norte) and the issue of 6.667 million Challenger shares no later than 1 July 2020 to acquire an initial 25% interest in the Project
- A milestone payment of 1.667 million Challenger shares due on 22 June 2019
- Completion of a Definitive Feasibility Study within five years to move from 25% to 75% interest in the Project.

At Cerro Norte:

- A payment of 1.667 million Challenger shares to Cerro Sur owners for assignment of Cerro Norte farm-in due no later than one month after re-listing on the ASX
- Minimum expenditure of A$1 million and the issue of 5 million Challenger shares no later than 1 February 2021 to acquire a 25% interest in the Project
- Completion of a Definitive Feasibility Study within five years and the issue of 50 million Challenger shares to move from 25% to 75% interest in the Project.

1.2 Reporting compliance, reporting standard and reliance

1.2.1 Reporting compliance

This report has been prepared to the standard of, and is considered by SRK to be, a Technical Assessment Report under the guidelines of the *2015 edition of the Australasian Code for the Public Reporting of Technical Assessments and Valuations of Mineral Assets* (the VALMIN Code).

The VALMIN Code incorporates the *2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia* (the JORC Code).

As per Clause 19 of the JORC Code (*for significant projects the reporting of all criteria of sections 1, 2 and 3 of Table 1 on an 'if not, why not' basis is required, preferably as an appendix*). Challenger has previously published a JORC Code (2012) Table 1 as part of an ASX release of 25 February 2019.

1.2.2 Reliance on SRK

SRK is responsible for this report and declares that it has taken all reasonable care to ensure that the information contained in the report is, to the best of its knowledge, in accordance with the facts and contains no omission likely to affect its import.

SRK considers that its opinion must be considered as a whole and that selecting portions of the analysis or factors considered by it, without considering all factors and analyses together, could create a misleading view of the process underlying the opinions presented in this report. The preparation of a report is a complex process and does not lend itself to partial analysis or summary.

SRK has no obligation or undertaking to advise any person of any development in relation to the Mineral Assets which comes to its attention after the date of this report or to review, revise or update the report or opinion in respect of any such development occurring after the date of this report and its 'no material change' statement.

1.3 Base technical information, effective date and publication date

The base technical information date, and the Effective Date of the report is 1 April 2019 (the Effective Date). The technical information has been prepared as at the Effective Date. As at the publication date of this report, SRK is not aware that any material change has occurred since the Effective Date. This includes, inter alia, no material changes to the technical information as reported in this report.

1.4 Verification and validation

This report is dependent on technical, financial and legal input. In respect of the technical information as provided by the Company and taken in good faith by SRK, and other than where expressly stated, any figures presented have not been independently verified by means of re-calculation. However, SRK has conducted a review and assessment of all material technical issues likely to influence the technical information included in this report, which included the following:

- SRK reviewed the historical data made available by the Company in respect of the Mineral Assets
- Dr Stuart Munroe visited the El Guayabo Project on 25–27 August 2018 to inspect the style of mineralisation
- Dr Munroe also visited the Cerro Sur and Cerro Norte Projects on 29 August 2018 inspect the style of mineralisation present within the Project
- SRK made enquiries of Challenger, AEP and Mineral Asset vendors' key project and head office personnel, contractors and consultants between June 2018 and April 2019.

Accordingly, Challenger and AEP have provided technical data (geological information, assay information, exploration programs) to SRK for the purpose of this review and inclusion in the report. SRK confirms that it has performed all necessary validation and verification procedures deemed necessary and/ or appropriate by SRK in order to place an appropriate level of reliance on such technical information.

1.5 Limitation, reliance on information, declaration, consent and cautionary statements

1.5.1 Limitations

The technical information supplied to SRK relies on assumptions regarding certain forward-looking statements. These forward-looking statements are estimates and involve a number of risks and uncertainties that could cause actual results to differ materially. The projections as presented and discussed herein have been proposed by Challenger's management and cannot be assured. They are necessarily based on economic assumptions, many of which are beyond the control of the Company. Future cashflows and profits derived from such forecasts are inherently uncertain and actual results may be significantly more or less favourable. Unless otherwise expressly stated all the opinions and conclusions expressed in this report are those of SRK.

1.5.2 Reliance on information

SRK has relied upon the accuracy and completeness of technical, financial and legal information and data furnished by or through Challenger.

Challenger has confirmed to SRK that, to its knowledge, the information provided by it (when provided) was complete and not incorrect or misleading in any material respect. SRK has no reason to believe that any material facts have been withheld. While SRK has exercised all due care in reviewing the supplied information, SRK does not accept responsibility for finding any errors or omissions contained therein and disclaims liability for any consequences of such errors or omissions.

SRK has not undertaken any accounting, financial or legal due diligence of the Mineral Assets or the associated company structures and the comments and opinions contained in this report are restricted to technical and economic aspects associated with the Mineral Assets. Where aspects of legal issues, marketing, commercial and financing matters, insurance, land titles and usage agreements, and any other agreements and/or contracts Challenger may have entered into are covered in this report, SRK has relied on information provided by the Client. SRK has not researched property title or mineral rights for the concession area and expresses no opinion as to the ownership status of the property.

This report includes technical information, which requires subsequent calculations to derive subtotals, totals and weighted averages. Such calculations may involve a degree of rounding and consequently introduce an error. Where such errors occur, SRK does not consider them to be material.

In this report, SRK refers to and relies on a market release to the ASX by CEL, on 25 February 2019, which includes information on historical, foreign resource estimates and provides a JORC Code Table 1 in support of historical exploration results and the estimates. The estimates are historical, foreign estimates and are not reported in accordance with the JORC Code. A Competent Person has not completed sufficient work to classify the esimates as Mineral Resources in accordance with the guidelines of the JORC Code. It is uncertain whether further exploration work would enable the estimates to be reportable as a Mineral Resource estimate in accordance with the JORC Code.

Financial Reliance

In considering all financial aspects relating to the Mineral Assets, SRK has placed reliance on Challenger that all statutory and regulatory payments [and those due to other third parties] as may be necessary to execute the proposed acquisition and exploration programs is appropriate as at the Effective Date (defined in Section 1.3).

Legal Reliance

In consideration of all legal aspects relating to Challenger's Mineral Assets, SRK has placed reliance on the representations of the Company that the following are correct as of the Effective Date (defined in Section 1.3) and remain correct until the Publication Date (defined below):

- The Company Directors are not aware of any legal proceedings that may have any influence on the rights to explore, develop and mine the minerals present within and associated with the Mineral Assets.
- The legal owners of all mineral and surface rights have been verified.
- No significant legal issue exists which would affect the likely viability of the exploration and production licences as reported herein.

1.5.3 Declaration

Neither SRK nor the persons (as identified in Section 1.7) responsible for authoring this report, nor any Directors of SRK have at the date of this report, nor have had within the previous two years, any shareholding in the Company, the Mineral Assets, or any other economic or beneficial interest (present or contingent) in any of the assets being reported on. SRK is not a group, holding or associated company of the Company. None of SRK's partners or officers are officers or proposed officers of any group, holding or associated company of the Company.

Further, no person involved in the preparation of this report is an officer, employee or proposed officer of the Company or any group, holding or associated company of the Company. Consequently, SRK, the authors and the Directors of SRK consider themselves to be independent of the Company, its directors, senior management and technical consultants.

SRK will receive a fee of A$50,130 for the preparation of this report in accordance with normal professional consulting practices. This fee is not dependent on the findings of this report or the success of the proposed acquisition and SRK will receive no other benefit for the preparation of this report. Neither SRK nor any of the authors have any pecuniary or other interests that could reasonably be regarded as capable of affecting its ability to provide an unbiased opinion in relation to the Mineral Assets.

1.6 Indemnities provided by the Company

Challenger has warranted, in writing to SRK, that full disclosure has been made of all material information and that, to the best of its knowledge and understanding, such information is complete, accurate and true. As recommended by the VALMIN Code, Challenger has provided SRK with an indemnity under which SRK is to be compensated for any liability and/or any additional work or expenditure resulting from any additional work required:

- which results from SRK's reliance on information provided by Challenger or from Challenger not providing material information; or
- which relates to any consequential extension workload through queries, questions or public hearings arising from this report.

1.7 Qualifications of Consultants and Competent Persons

The SRK Group comprises over 1,500 staff, offering expertise in a wide range of mining and resource engineering disciplines with 45 offices located on six continents. The SRK Group prides itself on its independence and objectivity in providing clients with resources and advice to assist them in making crucial judgment decisions. For SRK this is assured by the fact that it holds no equity in either client companies/ subsidiaries or mineral assets.

SRK has a demonstrated track record in undertaking independent assessments of resources and reserves, project evaluations and audits, Competent Person's Reports, Mineral Resource and Ore Reserve Compliance Audits, Independent Valuation Reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. SRK has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs. SRK also has specific experience in commissions of this nature.

This report has been prepared based on a technical and economic review by a team of consultants sourced from SRK's offices in Australia. These consultants have extensive experience in the mining and metals sector and are members in good standing of appropriate professional institutions. The consultants comprise specialists in the fields of geology and resource estimation and project evaluation (hereinafter the "Technical Disciplines").

The Competent Person who undertook the site visits to the Mineral Assets, has overall responsibility for the report and has reviewed the mineral exploration aspects of the project portfolio as reported by Challenger is Dr Stuart Munroe, BSc (Hons), PhD (Structural Geology), GradDip AppFin&Inv, MAusIMM(CP), who is a full-time employee of SRK. Dr Munroe is a Member of the AusIMM. Dr Munroe has over 20 years' experience in the mining and metals industry and qualifies as a Competent Person as defined in the JORC Code (2012).

The Competent Person who has peer reviewed this report is Mr Jeames McKibben, BSc (Hons), MBA, MAusIMM(CP), MAIG, MRICS (Registered Valuer and Chartered Valuation Surveyor), who is a Principal Consultant at SRK's Brisbane office. He is a current member of the VALMIN Code Review Committee. Mr McKibben has 25 years' experience in the mining and metals industry and also has been involved in the preparation of numerous Independent Geologist's Reports comprising technical evaluations of various mineral assets internationally during the past 15 years, which is relevant to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012).

Table 1-1 provides a summary of the key report contributors.

Table 1-1: Summary of responsibilities of key contributors

Competent Persons					
Competent Person	**Position/ Company**	**Responsibility**	**Independent of Challenger**	**Date of last site visits**	**Professional designation**
Stuart Munroe	Principal Consultant (Project Evaluation)/ SRK Consulting (Australasia) Pty Ltd	Overall Report	Yes	August 2018	BSc(Hons), PhD, GDip AppFin&Inv, MAusIMM,
Jeames McKibben	Principal Consultant (Project Evaluation)/ SRK Consulting (Australasia) Pty Ltd	Peer Review	Yes	None	BSc(Hons), MBA, MAusIMM(CP), MAIG, MRICS

2 El Guayabo Project

2.1 Project setting

The El Guayabo Project is situated in El Oro Province in southern Ecuador (Figure 2-1). El Oro Province is named after the historically important gold production which has previously been a significant contributor to the provincial economy. The El Guayabo Project is centred at a latitude of 3° 34.5' S and a longitude of 7° 52.2' W.

The El Guayabo Project is located 55 km by sealed road, south of the port city of Machala. Machala is the provincial capital of El Oro Province and Ecuador's fourth largest city with a population of 250,000. The regional farming centre of Santa Rosa is located approximately 20 km from the El Guayabo Project. Regular daily flights from Quito (Capital of Ecuador) arrive at Santa Rosa international airport. Puerto Bolivar, a major deep-water port, is located 9 km west of Machala. The port has the potential to facilitate the exportation of concentrate and importation of equipment for the Project.

Basic goods and services for the early stages of exploration and mining can be sourced from Santa Rosa and Machala. A field camp, core logging and core preparation facility, core and sample storage facility, cooking and basic living quarters are located on the property.

Figure 2-1: Location of the El Guayabo Project in Ecuador

Source: AEP.

2.1.1 Topography, elevation and vegetation

El Guayabo is located in the foothills of the Andes Mountain range. The Project elevation ranges from approximately 580 m to 1,160 m ASL. Generally, the land is steep and level ground is found only where excavated and on hill tops. The vegetation is characterised by tropical rainforest except where it has been cleared for crops.

2.1.2 Climate and length of operating season

El Guyabao is in the tropics at a latitude of approximately 3.5° south but has a tropical temperate climate owing to the location on the western, seaward side of the Andes and the moderate altitude. Annual rainfall is typically 1,400 mm with heavier rainfall from December to April. During the peak of the wet season, travel on four-wheel drive tracks and on walking tracks may be difficult, although it is expected that exploration, development and mining can occur through all seasons.

2.2 Project tenure

The El Guayabo mining concession encompasses an area of 281 hectares (2.8 km^2). Details of the concession are shown in Table 2-1.

Table 2-1: Mining concessions that comprise the El Guayabo Project

Name	Number	Status	Grant date	Expiry date *	Area (ha)	Annual rent (US$)	Expenditure commitment (US$)
El Guayabo	COD225	Granted	19/05/2010	14/10/2031	281	36,811	Nil

Source: AEP.

Note: * Mining concessions in Ecuador have renewal rights for a further 20 years beyond the expiry date.

Ownership of minerals and non-renewable natural resources in Ecuador are vested with the State. El Guayabo COD225 is a small-medium scale mining concession. The concession holder has the right to explore, exploit, process and sell any metallic minerals within the concession.

A mining concession is granted for up to 25 years in Ecuador and may be transferred with prior authorisation of the State mining authorities. A mining concession may be renewed upon application to the Mining Ministry.

Mining concession holders have an obligation to:

- Pay annual mining conservation patent fees
- Obtain administrative authorisations prior to commencing activities
- Submit annual exploration reports and investment plans
- Obtain an environmental licence prior to commencing activities
- Ensure at least 80% of the workforce is Ecuadorian
- Train personnel
- Submit biannual production reports
- Pay mining royalties to the State (as set out below)
- Comply with an environmental management plan
- Comply with the regulatory and the mining title duties and obligations
- Maintain information regarding operations.

When a project is considered by the State to be a large-scale mining operation (defined as either in excess of 1,000 tonnes of mined material per day for underground operations and/or in excess of

2,000 tonnes per day for open pit operations), prior to the commencement of the exploitation phase, the concessionaire must first sign an exploitation contract with the Ecuadorian Government. This contract pertains to all minerals located in the concession area and establishes the formal legal framework for development, construction and operation of mining projects.

Concession holders are required to pay tax and royalties as outlined below:

- Income tax at the rate of 37% of net income which is made up of 22% income tax, 12% state tax and 3% tax to employees. Value added tax (VAT) of 12% is payable on goods purchased and services rendered. Mineral exporters are able to recover VAT as of 1 January 2018.
- Royalties for large-scale mining at a rate of not less than 3% and not higher than 8% of the sale revenues of the principal and secondary minerals. Royalties are calculated on the gross income, less refining and transport costs.
- Windfall profit tax which is currently being reviewed by the Government of Ecuador and may be overturned. Currently, the windfall profit tax is levied at a rate of 50% payable only 48 months after pre-production investments in the mining project have been recuperated. To calculate the windfall profit tax, metal prices are equal to their 10-year rolling average plus one standard deviation.
- Municipal Patent which is calculated according to the concession holder's assets with US$5,000 being the maximum annual tax able to be levied.
- Annual Municipal Tax and Superintendency of Companies which is paid at the rate of 0.25% of the value of the concession holder's assets.

2.2.1 Agreements

TMR currently has mining tribute agreements with multiple small-scale mining groups on the El Guayabo concession to extract a combined total of no more than 300 tonnes per day across the concession. Currently, the main production area is at the Ecuaba Fault (vein) in the central-western part of the concession, where copper-gold bearing ore is extracted by these tribute miner groups from up to four underground levels. Ore is transported by small tonnage trucks to nearby processing facilities. Other smaller tribute mining operations are evident on the concession. Production from the tribute mining is recorded by TMR. SRK has not reviewed the tribute mining agreements or verified production records or sample assay grades.

There are no royalty agreements on the concession other than the statutory Ecuadorian Government royalties.

2.3 Geological setting

The El Guayabo Project is located at the western end of the late Oligocene to Early Miocene aged Cangrejos Zaruma intermediate alkaline intrusive belt, which is controlled by a northwest-striking fault zone (Figure 2-2). The intrusions range in age from 40 Ma to 10 Ma, suggesting a long-lived intrusive complex as is the case for much of western South America (Chile – Peru – Bolivia). The intrusions in the belt are commonly overprinted by late porphyry dykes and intrusion breccia, suggesting deeper, evolving magmatic systems are feeding shallower systems.

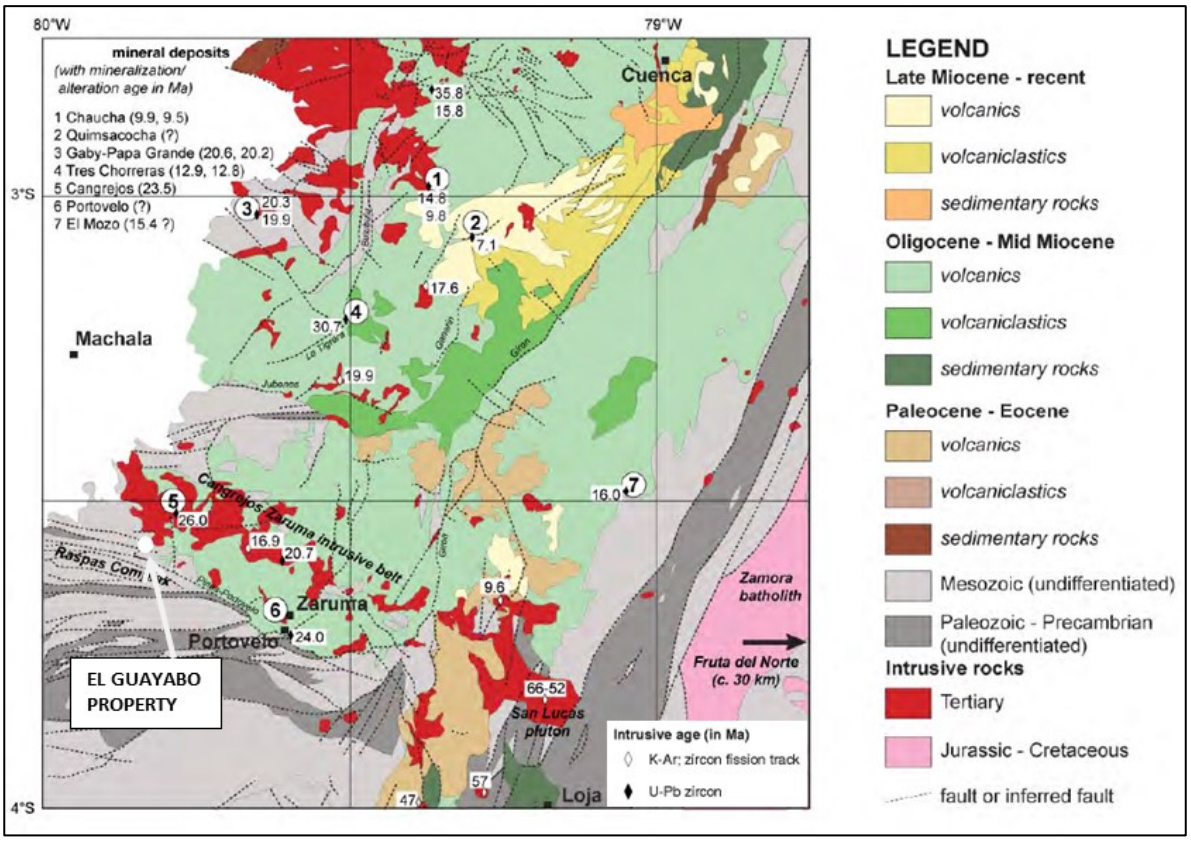

Figure 2-2: Regional geology of the Cangrejos Zaruma intrusive belt in the El Guayabo Project area

Source: After Schutte et al., 2012.

2.3.1 Porphyry copper-gold deposits

Porphyry copper-gold deposits are generally of low metal tenor (commonly <1% Cu and <1 g/t Au) but may form large-tonnage bulk mineable resources and hence potentially represent high-value mineralised systems.

Porphyry copper-gold deposits are interpreted to have formed at relatively deep (1 to 2 km) crustal levels in association with small felsic intrusive bodies or stocks as interpreted for El Guayabo in Figure 2-3. Mineralisation commonly occurs around smaller intrusions that develop from larger magmatic masses at depth. Higher grade mineralisation is commonly associated with repeated emplacement of porphyritic intrusions. Formation of stocks of brecciated intrusion and host rock may form adjacent to and at shallower levels than the porphyry stocks.

Chalcopyrite–chalcocite–bornite–pyrite-gold mineral assemblages typical of porphyry systems may be hosted by vein stockwork and sheeted quartz veins, or as fracture coatings, and as breccia fill. The highest grades are commonly close to the intrusion margin and often extend into the country rocks. Weathering of sulphide-rich porphyries may generate acidic groundwater that leach copper from upper levels of the system to subsequently replace sulphides near and below the base of oxidation to form underlying chalcocite enrichment blankets of higher (1%–2% Cu) metal grades. Copper and gold concentrate separately during weathering and oxidation (secondary) processes. Secondary gold enrichment occurs at near-surface settings, close to and above the base of oxidation.

Gold-rich porphyry and breccia-hosted deposits commonly form in association with highly alkaline intrusions (high potassium and sodium contents) at shallower crustal levels that copper-rich porphyry deposits.

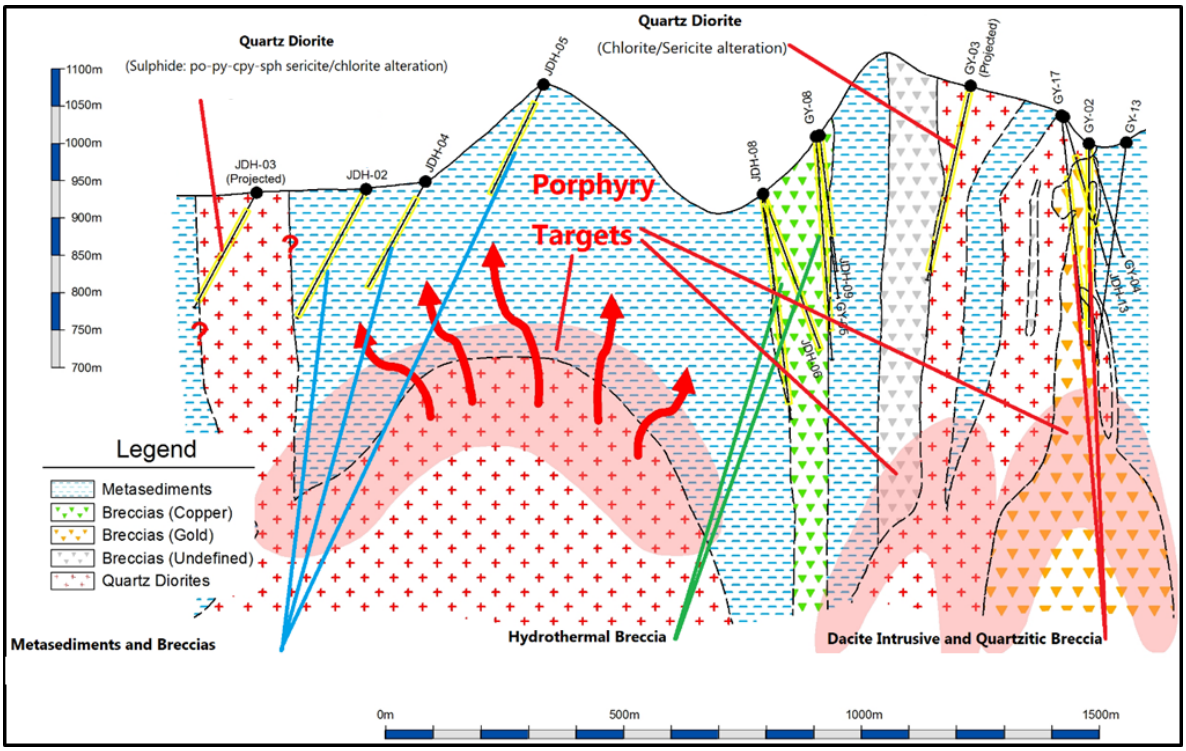

Figure 2-3: Section through the porphyry intrusions with interpretation at depth for the El Guayabo Project

Source: AEP.

2.3.2 Regional geology

At El Guayabo, the host rocks to the intrusive complex is a greenschist facies metamorphic basement of Proterozoic to Palaeozoic age. The intrusive complex is of a similar age to a volcanic sequence which is exposed near the Project. A regional, northwest-striking fault zone lies to the southwest of the Project and is interpreted to represent a bounding structure for the volcanic basin and a regional control on the location of the Oligocene–Miocene intrusions in the region.

The El Guayabo Project is located approximately 10 km southeast of the third-party owned Cangrejos Project and approximately 20 km northwest of the third-party owned Zaruma Prospect.

The Cangrejos Prospect is a gold-copper-silver, porphyry deposit associated with a sequence of breccias and porphyritic dioritic intrusions. The deposit has multiple breccias and mineralisation stages. The currently defined Canadian National Instrument (NI) 43-101 Inferred Mineral Resource for the Cangrejos Prospect is 408 Mt at 0.65 g/t Au, 0.11% Cu and 0.6 g/t Ag (0.35 g/t Au equivalent cut-off, Lumina Gold Corporation, 6 November 2017).

The Cangrejos deposit is located on the northern edge of a large magnetic geophysical anomaly (Figure 2-4), which is interpreted by the project owners to represent an intrusion at depth below the deposit that may be genetically associated with the intrusions and mineralisation at Cangrejos. TMR interprets El Guayabo to be located near the southern edge of the same intrusion, suggesting it may also be related to the deep intrusion and offer similar mineralisation potential.

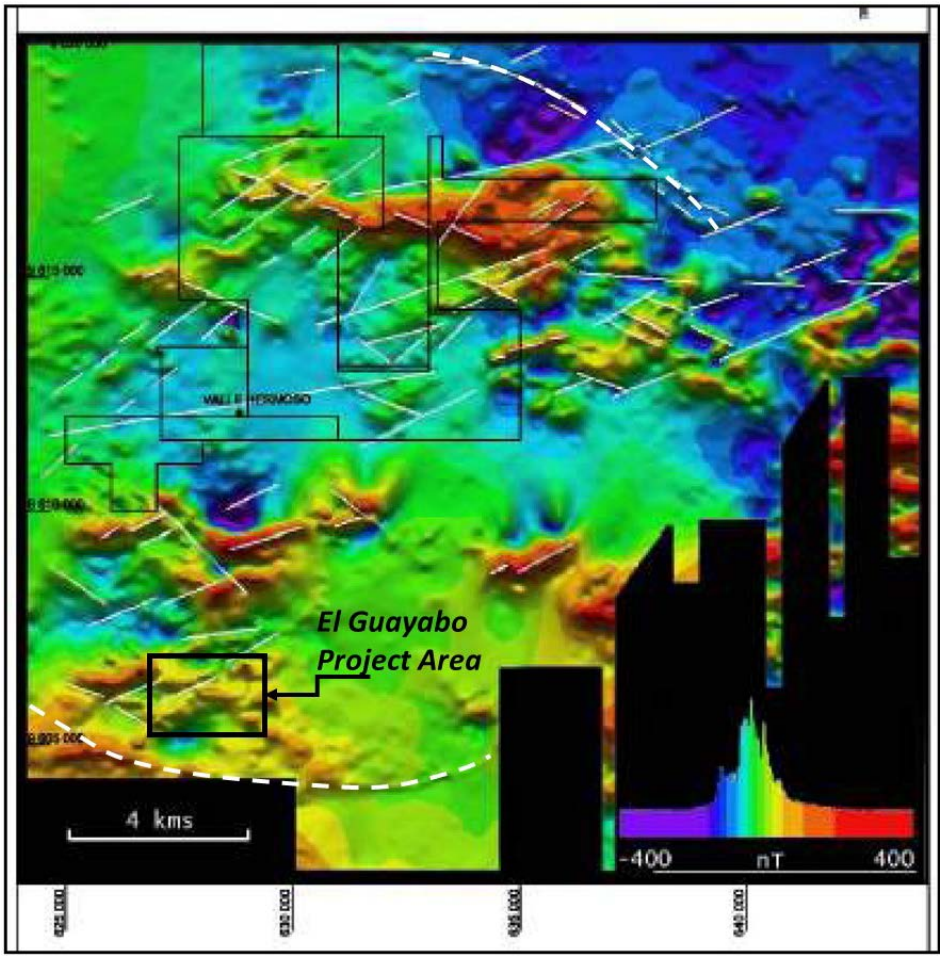

Figure 2-4: Image of total magnetic intensity (normalised reduced to the pole) interpreted circular intrusive centre

Source: Newmont Mining Corporation, 2000 (in Odin Mining and Exploration Limited, Cangrejos Technical Report, 1 December 2010).

Note: Warmer colours in the magnetic image indicate higher residual magnetic field.

2.3.3 Local geology

The metamorphic rocks at El Guayabo predominantly comprise schist with a moderately to steeply dipping foliation (Figure 2-5). The metamorphic rocks are the dominant rock type on the concession but in general are poorly exposed. The drill core is not oriented so the orientation of the foliation and deformation within the metamorphic rocks is not mapped in the mineralised areas.

Figure 2-5: Drill core of schist from JHD09 at 43.6–48.5 m which has been overprinted by late fault movement at silicification

Source: SRK site visit 25 August 2018.

Within the Project, the following key rock types have been recognised:

- Felsic intrusive bodies, typically with quartz and feldspar phenocrysts (porphyry intrusions) described in the core logs as quartz diorite and dacite (Figure 2-6)
- Intrusive-related breccia which is most commonly matrix supported, with clasts composed of the metamorphic host rock, intrusions and pre-existing mineralisation and earlier breccias, which have been re-brecciated (Figure 2-7). At least 10 mineralised breccias have been identified at surface, in workings or drill holes within the licence and immediate surrounds. Some of the breccias contain quartz and tourmaline, indicating they are at least partially intrusive-related. There may be up to twenty intrusive breccias (John King, pers comm, 20 July 2018).

The geology at surface and projected to surface from drilling and underground (mine) exposures is shown in Figure 2-8.

Figure 2-6: Silicified quartz-feldspar porphyry intrusion overprinted by quartz veins and quartz-chalcopyrite-pyrrhotite

Source: SRK site visit 25 August 2018.
Note: Drill core from GY02 at 163.4 m, drilled at the Gold Block.

Figure 2-7: Angular to rounded fragments of intrusion and quartz vein in a breccia with a dark coloured matrix, previously described as quartz-tourmaline-rich

Source: SRK site visit 25 August 2018.
Note: Drill core from JDH12 at 35.2 m.

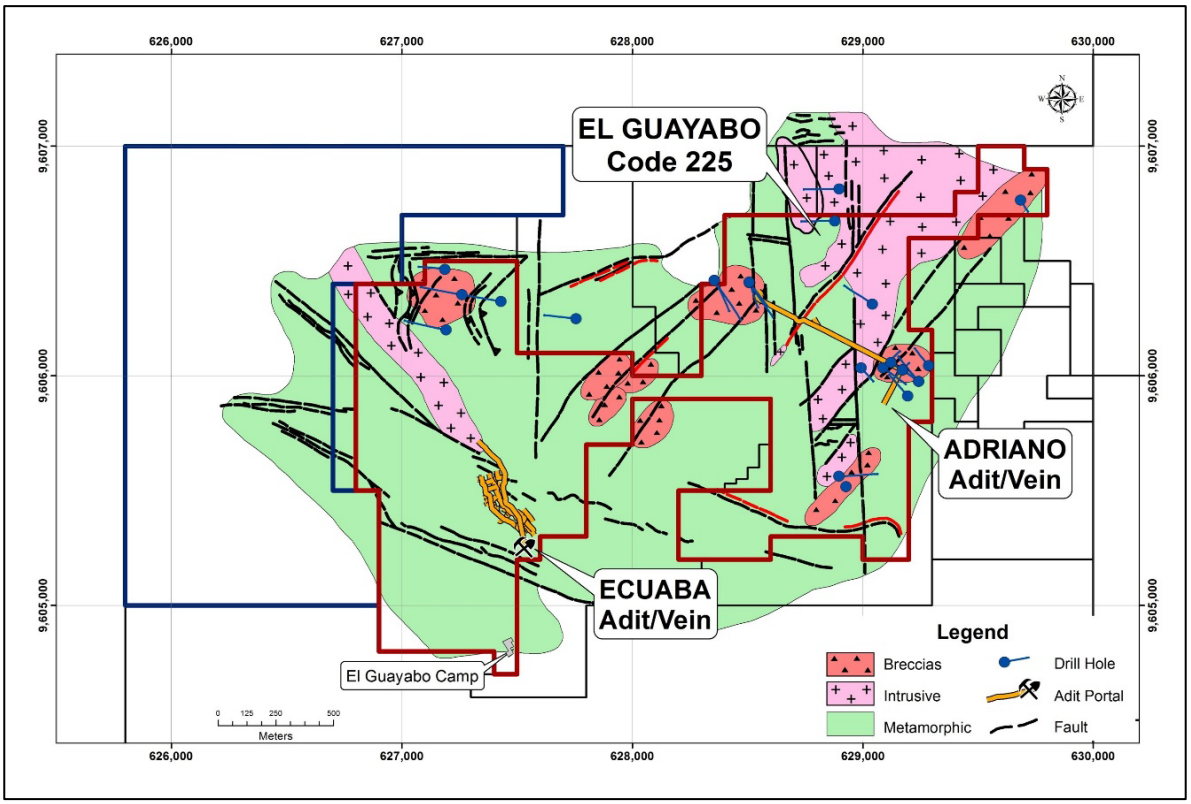

Figure 2-8: Mapped and interpreted surface geology for El Guayabo and neighboring concessions

Source: AEP after Newmont Mining

2.3.4 Mineralisation

Copper and gold mineralisation occurs in the following geological settings:

- Steeply plunging composite intrusive breccias
- Quartz veins and veinlets, including fault-controlled (hosted in shear zones) veins
- Association with disseminated pyrite and pyrrhotite in the intrusions and in the metamorphic host rock near the intrusions.

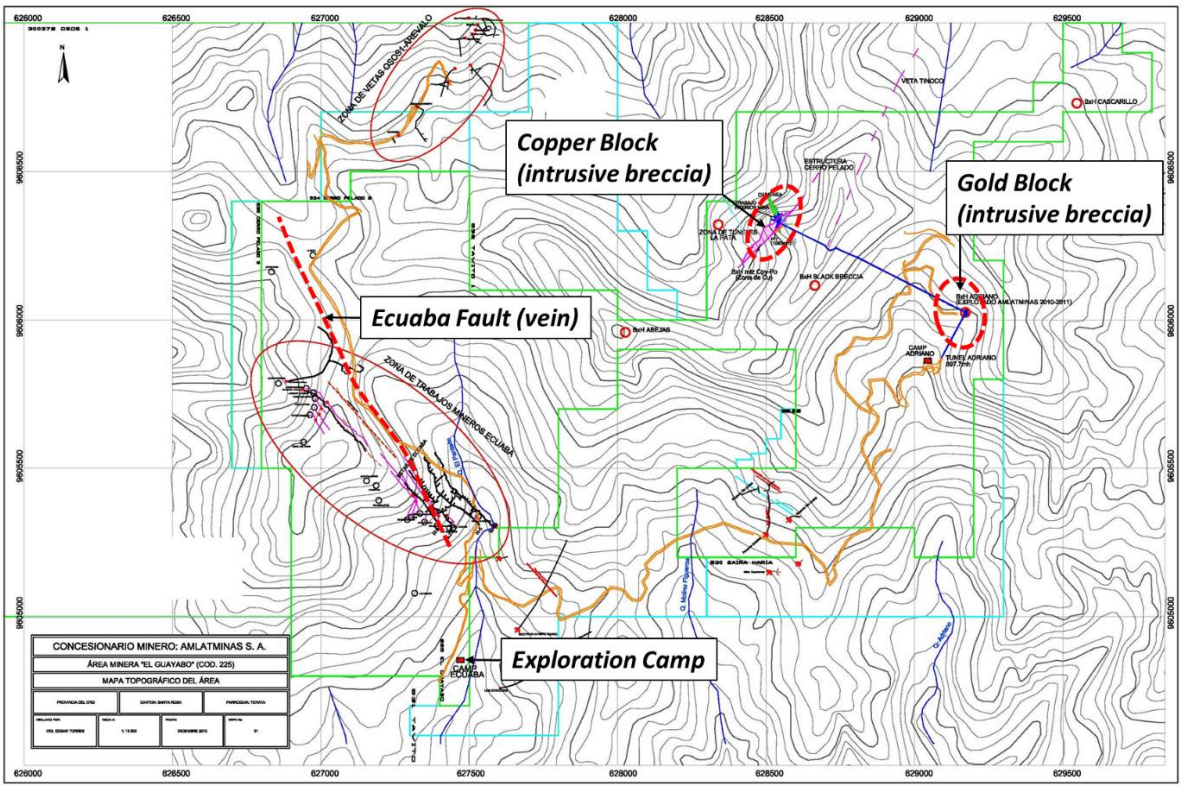

Figure 2-9: Location of key mineralised areas and exploration camp in the El Guayabo concession (green boundary)

Source: AEP.

Re-logging of drill core from 10 holes in the Gold Block and the Copper Block by an expert in porphyry copper systems was completed in 2018. The re-logging and interpretation concluded that the known mineralisation is related to magmatic-hydrothermal brecciation with later vein overprints. An early potassic alteration phase is overprinted by quartz + sericite alteration.

The intrusive breccias are steeply plunging. Where they are mineralised, sulphide (pyrite, pyrrhotite, chalcopyrite) + quartz + sericite occurs in quartz veins and as a matrix to local brecciation. Quartz and sericite alteration is common around the veins and mineralised breccia.

There are two mineralised breccia bodies in the northeastern part of the concession that have previously mined under a tribute agreement – the Bloque de Cobre (Copper Block) and Bloque de Oro (Gold Block), both accessible from a single adit, Adriado's Adit (Figure 2-9). These two breccias have been exploited by the tribute miners following drilling by previous explorers; however, the previous mining volumes remain to be determined and the stopes have not been surveyed. The breccias are located along faults in two principal directions – north-northeast and west-northwest, suggesting their location may be partly influenced by these two fault orientations. Previous tribute mining has extracted the higher-grade core from these two breccias. There is a remnant lower-grade halo (undetermined grade) around both mined breccias. Other mineralised breccias have been mapped at surface, which remain poorly drilled or undrilled, and there is potential for additional breccia bodies to be discovered on the concession.

The Gold Block breccia contains mineralisation in the matrix to the breccia (Figure 2-6) and also in later veins (Figure 2-10). Early-stage breccia is angular to sub-rounded, matrix-supported (quartz and albite) with a variable clast size. Higher gold grades are associated with a later vuggy breccia, with steeply dipping quartz veins and later pyrite-arsenopyrite-quartz veins (Figure 2-10 and Figure 2-11).

The Copper Block contains the early-stage chalcopyrite-chalcocite-pyrite mineralisation in the matrix to the breccia. Alteration is dominated by quartz, magnetite and rare white or pink albite or K-feldspar and magnetite.

Figure 2-10: Intrusive breccia in an underground exposure from the Gold Block overprinted by steeply dipping quartz veins and a later shallowly dipping quartz-pyrite-arsenopyrite vein

Source: SRK site visit 26 August 2018.
Note: Intrusive breccia in an underground exposure from the Gold Block location shown in Figure 2-9.

Figure 2-11: Quartz-arsenopyrite-pyrite vein overprinting earlier quartz veins in silicified feldspar porphyry intrusion

Source: SRK site visit 25 August 2018.
Note: Core from GY13 at 139.2 m.

In addition to the intrusive breccia, high-grade gold is hosted along a northwest-striking shear zone at the Ecuaba vein in the western part of the concession. The Ecuaba vein is currently being exploited by a tribute mining team over a strike extent of approximately 500 m to a depth of 150 m below surface. The vein appears to extend a further 500 m along strike to the northwest towards the edge of the concession (Figure 2-9).

The Ecuaba vein contains quartz, pyrite, arsenopyrite with lesser chalcopyrite and gold. The vein's mineral assemblage is similar to the late-stage veins observed in the Gold Block and Copper Block (Figure 2-11). The vein has been strongly deformed by a fault zone that trends parallel to the vein and is well exposed in the underground workings (Figure 2-12). Fragments of the vein are hosted in silicified fault gouge. These veins were being mined by tribute miners at the time of SRK's site visit.

The similarity of the mineral assemblage between the Ecuaba vein, the Copper Block and Gold Block suggests a common or similar hydrothermal fluid source. This interpretation increases the potential for breccia-hosted mineralisation in the western part of the concession. The first five drill holes completed by Newmont Mining Corporation (Newmont) targeted a breccia and veining north of the Ecuaba vein. All five holes were terminated before reaching the Ecuaba Fault but intersected a breccia with low-grade gold mineralisation over significant intervals, including 77.3 m at 0.5 g/t Au from 146.8 m downhole depth in JDH03 (Table 2-3). All holes were only assayed for gold. No further follow-up of these holes has been carried out by subsequent explorers.

Figure 2-12: Underground exposure of the Ecuaba vein shear zone (fault) dipping shallowly to the northeast in the western part of the concession

Source: SRK site visit 26 August 2018.

2.4 Project history

Most of the previous exploration completed at El Guayabo was undertaken by the Odin Mining and Exploration Ltd (Odin) and Newmont in joint venture between 1992 and 1994.

Between 1992 and 1994, the joint venture completed geological mapping and soil and rock chip geochemical sampling surveys and encountered widespread copper and gold enrichment across the concession area. Soil and rock chip sample data were compiled into spreadsheets for analysis and to guide future exploration (Figure 2-13). Many of the gold and copper geochemical anomalies identified at surface remain to be drill tested.

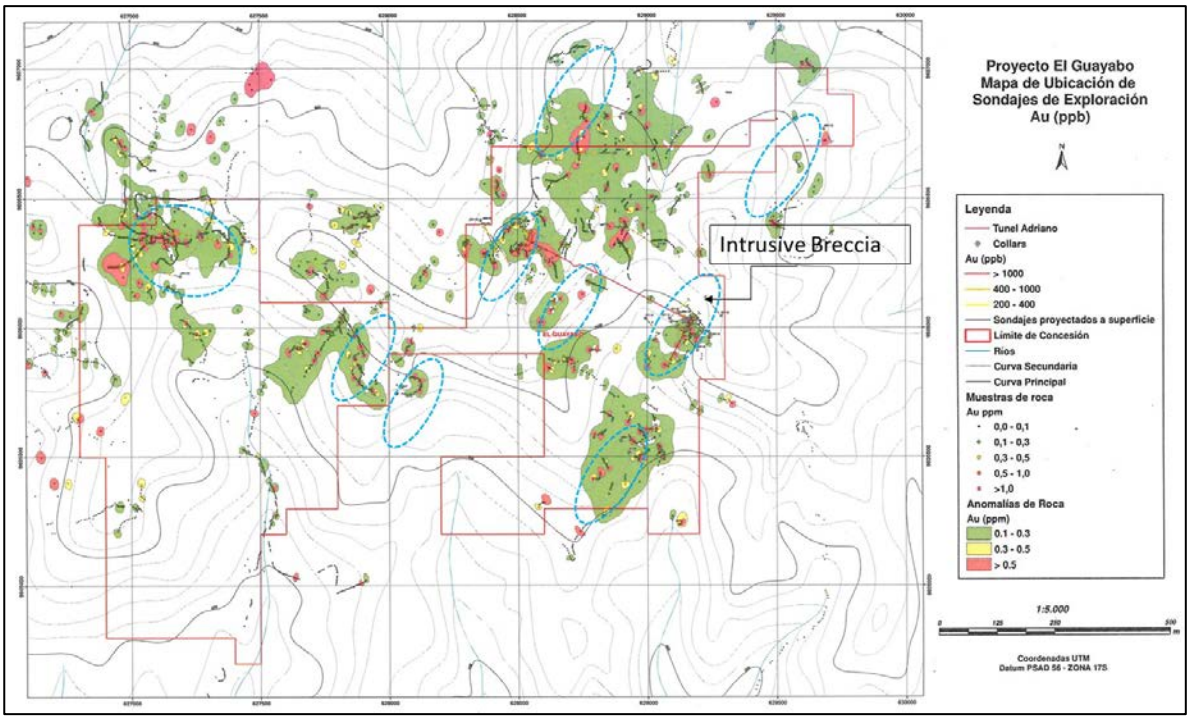

Figure 2-13: Plan of the El Guayabo concession showing drill holes, location of mapped intrusive breccia and contours of rock chip sample gold values

Source: EMPL based on Newmont and Odin sampling; mineralised breccia location from Carlos Moncayo (pers comm, 23 July 2018).

During the period 1992 to 1994, Newmont and Odin also completed a 33-hole DD campaign for a total of 7,605 m drilled.

Newmont drilled 14 DD holes (JDH-001–JDH-014) in an initial drilling campaign. The samples from the first five holes were analysed for gold only. Chalcopyrite was logged in the drill core, but the core was not assayed for copper. One of these holes (JDH05) is drilled outside the current exploration licence. Samples from the remaining nine holes were analysed for Au, Ag, Cu, Zn, Pb and As.

Odin drilled a further 19 holes (DDHGY01–DDHGY19) with samples analysed for Au (screen fire and fire assay), Ag, Cu, Zn, Pb, As and Mo.

A summary of the drilling specifications is shown in Table 2-2. The majority of the drill core is stored on site and available for re-logging and re-sampling. Geological logs for all holes have been prepared and are available for review. The records for lithology, core recovery, samples, assay and magnetic susceptibility are being compiled. A complete drill hole data base with sample quality assurance and quality control (QA/QC) has yet to be compiled into a digital database. Significant intercepts from drill samples are shown in Table 2-3.

Table 2-2: Drill holes completed at EL Guayabo by previous explorers

Hole ID	East (m)	North (m)	Elevation (m ASL)	Direction (° Grid North)	Dip (°)	Depth (m)	Company	Core Stored
JDH01	627,186	9,606,463	933	280	-60	236.89	Newmont	No
JDH02	627,260	9,606,353	922	280	-45	257.62	Newmont	No
JDH03	627,192	9,606,200	953	280	-45	260.97	Newmont	No
JDH04	627,430	9,606,324	934	280	-45	219.00	Newmont	No
JDH05*	627,756	9,606,249	1,066	280	-45	210.37	Newmont	No
JDH06	628,356	9,606,416	912	150	-45	302.74	Newmont	Yes
JDH07	628,356	9,606,416	912	150	-75	105.79	Newmont	Yes
JDH08	628,356	9,606,416	912	150	-60	352.74	Newmont	Yes
JDH09	628,507	9,606,408	990	150	-45	256.70	Newmont	Yes
JDH10*	628,898	9,606,814	986	270	-45	221.64	Newmont	Yes
JDH11	628,879	9,606,674	1,082	270	-45	217.99	Newmont	Yes
JDH12	629,685	9,606,765	993	150	-60	124.08	Newmont	Yes
JDH13	629,123	9,606,058	1,021	125	-60	239.33	Newmont	Yes
JDH14	628,897	9,605,563	853	090	-45	239.32	Newmont	Yes
DDHGY01	628,928	9,605,517	839	360	-90	249.20	Odin	Yes
DDHGY02	629,171	9,606,026	983	360	-90	272.90	Odin	Yes
DDHGY03	629,042	9,606,313	1,063	305	-60	295.94	Odin	Yes
DDHGY04	629,172	9,606,025	983	125	-60	172.21	Odin	Yes
DDHGY05	628,509	9,606,405	990	145	-60	258.27	Odin	Yes
DDHGY06	629,171	9,606,026	983	305	-60	101.94	Odin	Yes
DDHGY07	629,171	9,606,026	983	305	-75	127.00	Odin	Yes
DDHGY08	628,509	9,606,406	990	145	-75	312.32	Odin	Yes
DDHGY09	629,171	9,606,026	983	045	-75	166.25	Odin	Yes
DDHGY10	629,171	9,606,025	983	225	-75	194.47	Odin	Yes
DDHGY11	628,508	9,606,405	990	160	-60	241.57	Odin	Yes
DDHGY12	629,087	9,606,036	997	125	-60	255.70	Odin	Yes
DDHGY13	629,242	9,605,975	997	320	-65	340.86	Odin	Yes
DDHGY14	629,242	9,605,976	997	320	-75	309.14	Odin	Yes
DDHGY15	629,195	9,605,912	977	320	-60	251.07	Odin	Yes
DDHGY16	629,286	9,606,044	1,037	320	-60	195.73	Odin	Yes
DDHGY17	629,122	9,606,059	1,021	125	-82	280.04	Odin	Yes
DDHGY18	628,993	9,606,035	977	140	-60	160.35	Odin	Yes
DDHGY19	629,087	9,606,035	997	045	-53	175.41	Odin	Yes
					Total	**7,605.55**		

Notes:
Grid is UTM, Datum PSAD56, zone 17S. ASL = above sea level.

*JDH05 and JDH10 are drilled outside the El Guayabo concession.

Table 2-3: Significant drill intersections at El Guayabo as previously reported by Challenger

Hole ID	From (m)	Interval (m)	Au (g/t)	Cu (%)	Ag (g/t)
JDH-003	120.4	134.2	0.4	No assay	No assay
JDH-006	164.8	116.2	0.6	0.40	8.9
JDH-007	39.7	44.8	0.3	0.04	1.4
JDH-009	10.3	111.7	0.7	0.58	14.6
JDH-013	89.9	65.0	1.4	0.06	2.8
JDH-014	26.96	48.7	0.4	0.10	5.2
JDH-014	128.52	46.8	0.5	0.08	3.3
GGY-001	139	110.2	0.4	0.06	1.1
GGY-002	9.7	156.3	2.6	0.16	9.7
GGY-002	114	52.0	1.3	0.18	3.3
GGY-005	12	150.0	0.4	0.30	11.0
GGY-005	14	40.0	0.6	0.60	25.5
GGY-007	0.9	40.1	1.1	0.04	2.6
GGY-008	16	255.0	0.1	0.24	6.5
GGY-008	235	36.0	0.4	0.50	11.5
GGY-010	0	69.0	1.6	0.03	2.3
GGY-011	14	215.0	0.2	0.36	9.6
GGY-011	14	83.0	0.2	0.50	14.9
GGY-011	202	27.0	0.4	0.80	15.2
GGY-017	69	115.0	0.5	0.03	2.1

Sources: ASX release, 25 February 2019, supported by JORC Code Table 1 included in that release.

Notes: Cut-off grade of 0.5 g/t Au equivalent (calculated using a price of US$1,300/oz Au, US$15/oz Ag and US$3/lb Cu). Some intersections in the Copper Block and Gold Block have been mined under tribute agreements. The volumes mined have yet to be surveyed.

An airborne magnetic geophysical survey was conducted over the property by Newmont in 2000. Kinross Gold Corporation (Kinross) was active in the district from 2006 to 2009 under a joint venture farm-in agreement with Odin. Kinross also completed a program of geological mapping and soil and rock chip geochemical sampling which is yet to be compiled and re-analysed.

2.5 Conclusions

In SRK's opinion, the El Guayabo Project remains prospective for porphyry-related copper + gold + silver mineralisation across the concession in association with the following:

- Matrix to intrusive breccia
- Vein systems overprinting intrusive-related breccia and porphyry (intermediate alkaline, quartz + feldspar phyric) intrusions
- Fault breccia and fault-hosted veins.

Typically, as with the majority of intrusive-related mineral systems, not all of the breccia and fault zones contain ore-grade mineralisation; however, a single deposit typically has multiple mineralising events. Specific stages in the evolution of the mineral system are responsible for the bulk of the metal deposition. Despite the extended exploration history, past drilling and tribute mining at El Guayabo, some areas in the concession have yet to be drill tested.

This includes:

1 Strike, depth and parallel fault extensions of the Ecuaba fault/ vein.

2 Soil/ rock chip geochemical anomalies to the northeast of the Ecuaba Fault that may be a source for the fault-controlled mineralisation.

3 Soil and rock chip geochemical anomalies in the centre of the concession, south of the Gold Black and north of the Copper Block.

4 Down-dip extensions to the Gold Block and Copper Block.

3 Hualilan Project

The Hualilan Project is a gold-zinc-silver-copper manto/skarn project located on a series of *Minas* (mining leases) and *Demasias* (mining lease extensions), surrounded by an exploration licence application in San Juan Province, Argentina.

Gold and base metal mineralisation has been identified at 19 sites over a 4 km strike length in two zones, the Cerro Norte and Cerro Sur.

3.1 Project setting

3.1.1 Location and access

The Hualilan Project is located at 30° 44.2' S and 68° 57,2" W, approximately 120 km north-northwest of San Juan, the capital of San Juan Province in northwestern Argentina (Figure 3-1) in the eastern foothills of the Andes. There are no population settlements near the Hualilan Project.

The Hualilan Project is accessible via sealed roads to within 500 m of the licence and then by a series of unsealed roads around the project area. From San Juan city, access is to the north via Talacasto on national route 40 for 57 km, then northwesterly via Provincial Route 436 for an additional 63 km. The closest town on the power grid is approximately 40 km further to the north at Bella Vista.

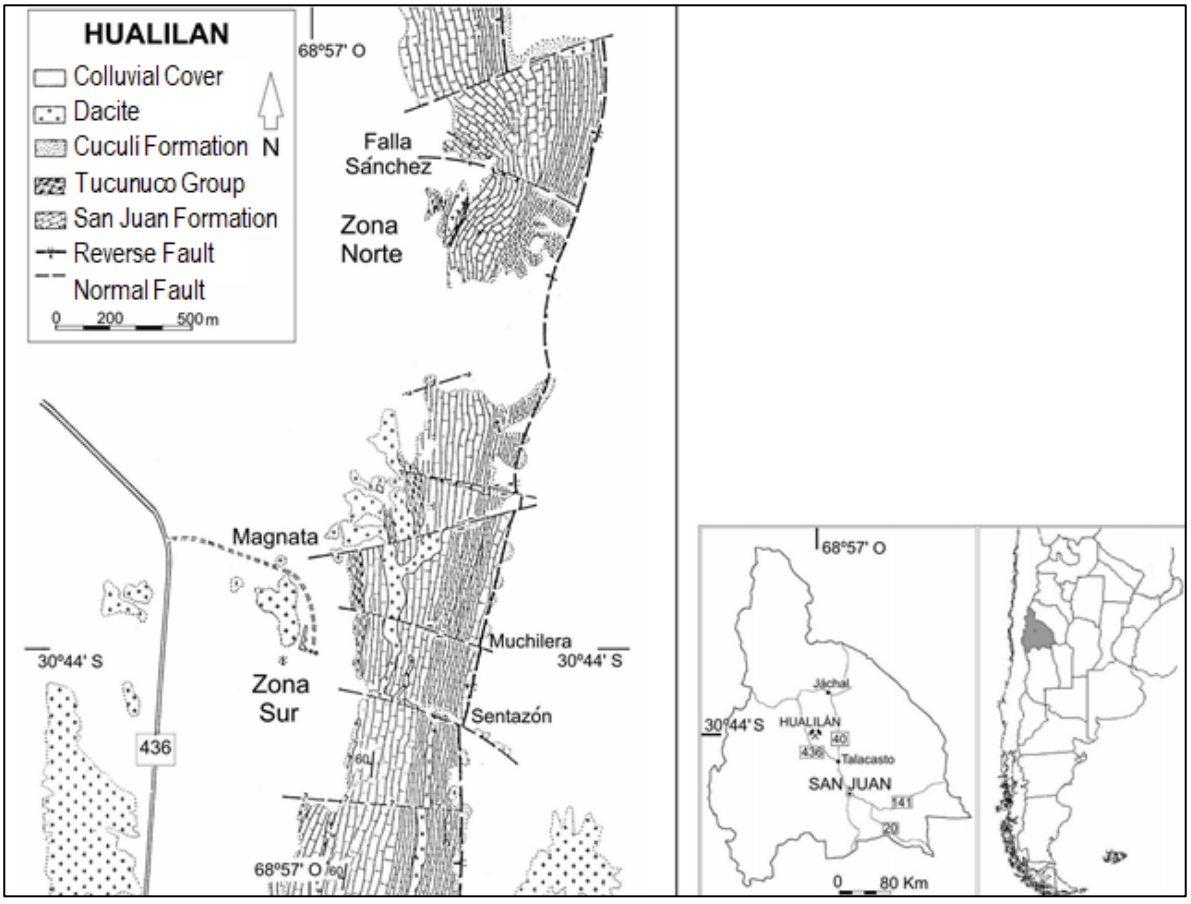

Figure 3-1: Location of the Hualilan Project and local geology

Source: Bengochea and Mas (2006).

3.1.2 Topography, elevation and vegetation

The Hualilan Project has a basin and range style typography, with a range of steep north-striking hills and gently dipping valley floors (Figure 3-2). The average elevation of the plains at the base of the hills is 1,720 m ASL with relief in the order of 210 m above the plain.

Soils are infertile and generally alkaline due to the exposed limestone and calcareous sedimentary rocks. The soil supports sparse growth of grass, cactus, thorny bushes and other hardy species.

Figure 3-2: Steep slopes of the Hualilan Hills rising above the gently east-dipping valley floors

Source: AEP

3.1.3 Climate and length of operating season

The climate is dry, and the area is classified as desert. The area is sparsely populated, vegetation is thin, and geology is well exposed at surface. Rain is most common from December to January, and field operations are possible year-round. Average rainfall is between 100 mm and 200 mm per annum. Average temperatures range between 16°C and 18°C with minimum temperatures to -10°C (June and July) and maximum temperatures to 40°C (December and January). There are no permanent water bodies or courses, although there are alluvial channels draining from the west which pass through the Hualilan Project area.

Groundwater is evident in a number of the old workings on the *Minas*. The water table appears to be approximately 20–40 m below surface on the plains.

Prevailing winds are from the north or the south. The northern wind can be strong and is dominant from September to December, is hot and can generate dense dust clouds. The southern wind is cold, but relatively weak.

3.2 Project tenure

The Hualilan Project consists of 15 mining leases (*Minas Otorgadas*), consisting of eight mining leases at Cerro Sur held by GML and seven mining leases at Cerro Norte over which GML holds farm-in rights (Table 2-1). There are also two mining lease extensions (*Demasias*) that are deemed too small

to be held as *Minas* in their own right (Table 3-2) and one exploration licence application (*Cateos*) held by GML (Table 3-3). The relative location of the *Minas* and *Cateos* is shown in Figure 3-3.

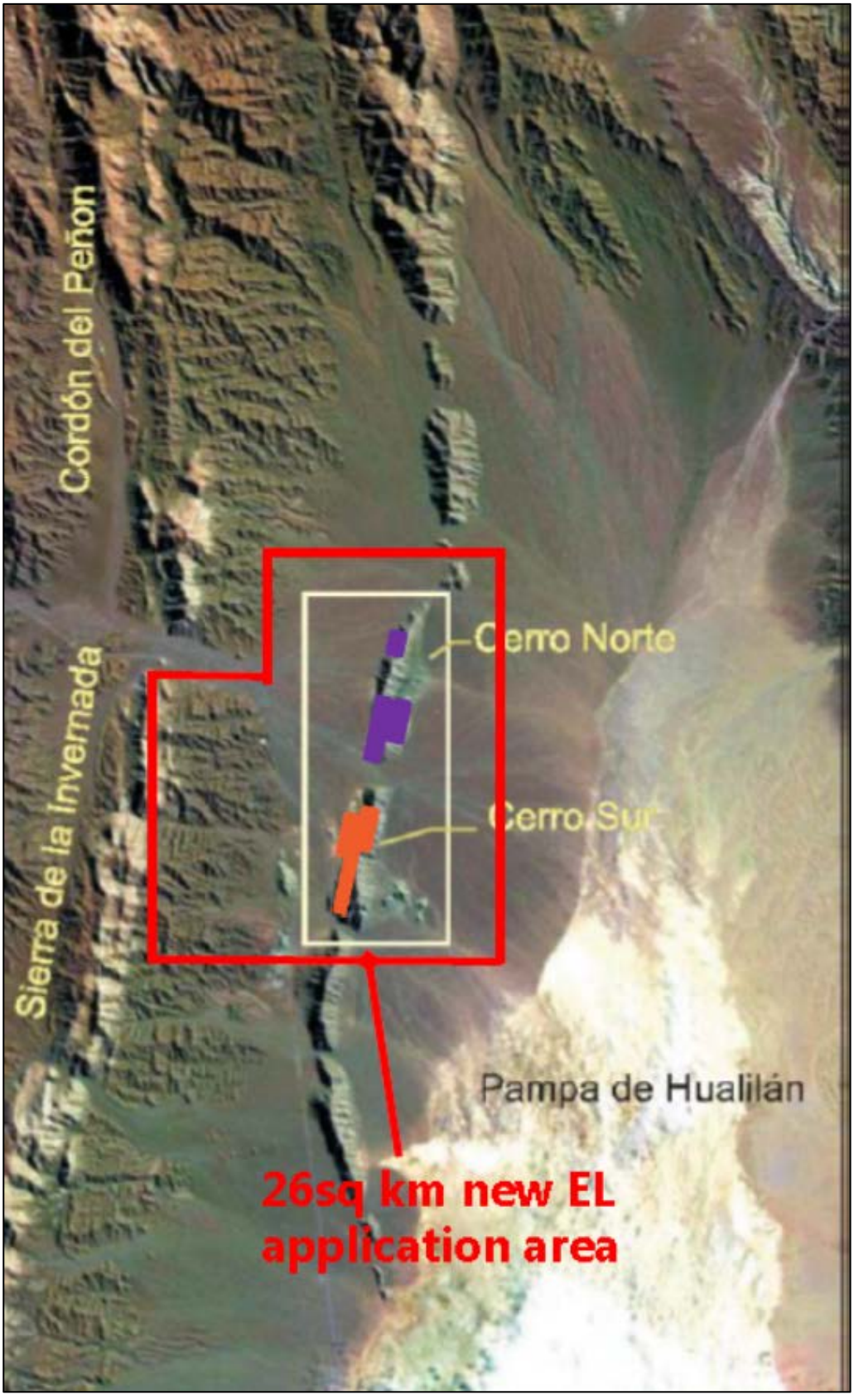

Figure 3-3: Location of the Cerro Sur, Cerro Norte and exploration licence application at the Hualilan Project

Source: AEP.

Table 3-1: Granted mining leases (*Minas Otorgadas*) at the Hualilan Project

Name	Number	Current Owner	Status	Grant date	Area (ha)	Annual rent (US$)
Cerro Sur						
Divisadero	5448-M-1960	Golden Mining S.R.L.	Granted	30/04/2015	6	8
Flor de Hualilan	5448-M-1960	Golden Mining S.R.L.	Granted	30/04/2015	6	8
Pereyra y Aciar	5448-M-1960	Golden Mining S.R.L.	Granted	30/04/2015	6	8
Bicolor	5448-M-1960	Golden Mining S.R.L.	Granted	30/04/2015	6	8
Sentazon	5448-M-1960	Golden Mining S.R.L.	Granted	30/04/2015	6	8
Muchilera	5448-M-1960	Golden Mining S.R.L.	Granted	30/04/2015	6	8
Magnata	5448-M-1960	Golden Mining S.R.L.	Granted	30/04/2015	6	8
Pizarro	5448-M-1960	Golden Mining S.R.L.	Granted	30/04/2015	6	8
Cerro Norte						
La Toro	5448-M-1960	CIA GPL S.R.L.	Granted	30/04/2015	6	8
La Puntilla	5448-M-1960	CIA GPL S.R.L.	Granted	30/04/2015	6	8
Pique de Ortega	5448-M-1960	CIA GPL S.R.L.	Granted	30/04/2015	6	8
Descrubidora	5448-M-1960	CIA GPL S.R.L.	Granted	30/04/2015	6	8
Pardo	5448-M-1960	CIA GPL S.R.L.	Granted	30/04/2015	6	8
Sanchez	5448-M-1960	CIA GPL S.R.L.	Granted	30/04/2015	6	8
Andacollo	5448-M-1960	CIA GPL S.R.L.	Granted	30/04/2015	6	8

Source: Golden Mining S.R.L.

Note: Annual rent is AR$320. No expiry date. There is no set minimum expenditure commitment for the *Minas*.

Table 3-2: Mining Lease extensions (*Demasias*) at the Hualilan Project

Name	Number	Current Owner	Status	Grant date	Area (ha)	Annual rent (US$)
Cerro Sur						
North of "Pizarro" Mine	195-152-C-1981	Golden Mining S.R.L.	Granted	05/12/2014	1.9	8
Cerro Norte						
South of "La Toro" Mine	195-152-C-1981	CIA GPL S.R.L.	Granted	05/12/2014	1.9	8

Source: Golden Mining S.R.L.

Note: Annual rent is AR$320. *Demasias* have no expiry date and no expenditure commitment.

Table 3-3: Exploration licence application surrounding the *Minas* and *Demasias* at the Hualilan Project

Name	Number	Status	Grant Date	Expiry Date *	Area (ha)	Annual Rent (US$)	5 year Expenditure Commitment (US$) *
Josefina	30.591.654	Pending	-	-	2,570	-	5,405,000

Source: Golden Mining S.R.L.

Note: * Expenditure commitment on granting is Year 1 US$255,000, Year 2 US$650,000, Year 3 US$1,500,000, Year 4 and Year 5 US$3,000,000.

Ownership of minerals and non-renewable natural resources in Argentina is vested with the State. Jurisdiction of mining natural resources is administered by the provinces. Hualilan is located in San Juan Province where the *Código de Prodediementos Mineros de San Juan* LEY N° 7199 (MPC) is complementary to the federal mining code and covers the procedural aspects associated with mineral exploration and mining.

Minas (mining leases, Table 3-1) differ from *Cateos* (exploration licences) in that they are real property, governed by the same principles of common property. *Minas* are licensed for an unlimited time period, as long as the owners comply with the administrative rules of maintenance outlined by the Code. The owners of the *Minas* must:

- Pay an annual fee as shown in Table 3-1
- Invest a minimum amount of capital
- Complete of a reasonable level of exploitation.

Demasias (Table 3-2) are any parcels of land between two or more demarkated *Minas* where a regular 200 m by 300 m (0.06 km^2) lease block cannot be formed. The right to acquire ownership of these *Demasias* is exclusively the right of the adjacent *Mina* owners.

State tax is levied on net profit with an allowable 100% deduction exploration, exploitation and development costs. VAT is levied at 21% with return of a fiscal credit for the VAT where levied on exploration investments, 12 months after expenditures took place.

A provincial royalty not exceeding 3% of value at the mine of the extracted mineral.

Effective from 1 January 2019, a temporary export tax (effective until 31 December 2020) at a rate of 12% on all goods exported from the country was imposed by Presidential Decree, capped at four Argentinian pesos (ARS4) per US dollar of the corresponding tax value or official free on-board (FOB) price.

3.2.1 Agreements

The mining leases and the exploration licence application comprising the Hualilan Project are not subject to any royalties other than the statutory government royalties. There is currently no mining or mining agreements in place on the Hualilan leases.

3.3 Geological setting

Hualilan is located within the Central Pre-Cordillera, to the east of the main Cordillera and the Andes Mountains. The area is a fold and thrust belt incorporating shallow marine and terrestrial sedimentary rocks of a lower Palaeozoic back-arc basin with minor volcanic and intrusive rocks. Porphyry intrusive rocks with dacitic and tonalitic composition range in age from 13 Ma to 5 Ma.

The area is flanked to the north, west and south by a diversity of mineral deposits from large tonnage copper and/ or gold porphyries, skarn, manto and Carlin-style replacement deposits and epithermal deposits, as well as vein and breccia-hosted deposits.

3.3.1 Manto/ skarn zinc-lead (gold-copper-silver) deposits

The term “manto” is derived from the Spanish word for “mantle” (or blanket) to describe a style of replacement or distal skarn mineralisation (Table 3-4) which has been described in many locations in South America and Central America. Manto deposits are typically developed as hydrothermal replacement of carbonate-rich, limestone, sandstone, shale units and so are typically formed parallel to stratigraphy. Manto deposits are typically remote from any obvious heat source or intrusion that may have been related to mineralisation and so these deposits are typically considered to the distal

from intrusions. Alteration around manto deposits typically consists of carbonate dissolution (cavities) and addition of silica (jasperoid) and alteration of the host rock to calc-silicate mineral assemblages (epidote, amphibole, garnet and pyroxene).

Manto deposits typically contain elevated Cu, Pb, Zn, Au, Ag, Mo, Bi and Sb. Mineralisation may be parallel to stratigraphy (mantos) or in shoots within the plane of bedding and in veins that are hosted by and replace limestone, dolomite, or other sedimentary rocks. A given district or mine may contain a single deposit or a series of deposits aligned along structural features such as fractures, joints, fold limbs or bedding that controlled the fluid movement during mineralisation.

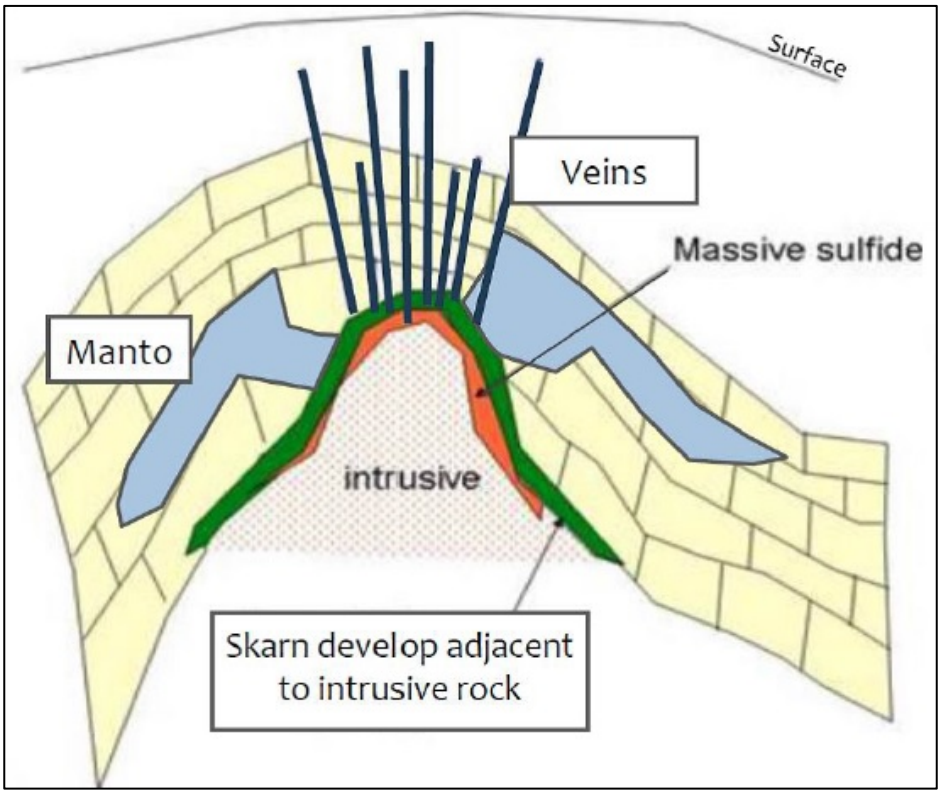

Figure 3-4: Schematic diagram of manto-style mineralisation in carbonate rocks

Source: Inca Minerals Ltd, Breakaway Research note 28 June 2016.

3.3.2 Regional geology

The main host unit to currently defined mineralisation at Hualilan is the Ordovician aged San Juan Limestone, which is overlain by the Silurian aged Tucunuco Formation. The upper part of the Ordovician limestone contains a chert unit, which has attracted bedding parallel fault movement by virtue of the competency contrast between the limestone and chert. The Tucunuco Formation is a conglomerate, sandstone and shale sequence. The host rocks strike north and dip west at 25°–70°. The sequence is folded and there is evidence of thrust faulting. The folding and thrusting are interpreted to have begun in the Silurian to mid-Devonian age and was again folded from late Devonian through late Permian.

The host rocks are intruded, post-folding, by calc-alkaline dactitic stocks, sills and dykes.

3.3.3 Local geology

The Hualilan Project is divided into the Cerro Norte and Cerro Sur areas, separated by a topographic low which may represent an east-northeast-striking fault zone. The topographic low extends for approximately 400 m along strike and separates Cerro Norte from Cerro Sur.

The San Juan Formation Limestone is a predominantly massive detrital sequence that is responsible for the distinctive north-striking Hualilan Hills. A west-dipping thrust fault on the east side of the hills marks the surface contact of the of San Juan Formation with Tertiary age sedimentary rocks to the east. The thickness of the limestone is not known due to the thrust faulting. The upper 240 m of the limestone is exposed at the property. Faulting parallel to bedding was observed at Cerro Sur. The bedding parallel faults have provided pathways for porphyry sills and hydrothermal fluids during mineralisation. The upper part of the limestone is a 20–40 m section that contains black chert as nodules, discontinuous layers and lenses.

Conformably overlying the San Juan Formation limestone is the Silurian Tucunoco Group comprising a thin conglomerate at the base followed upward by siltstone and sandstone (Figure 3-5).

Figure 3-5: West-dipping contact between Ordovician San Juan Formation limestone and siltstone of the Silurian Tucunoco Group

Mid-Miocene aged felsic intrusions occur as small stocks, dykes and sills which are commonly recessive in the valley areas west and east of the Hualilan Hills and within the San Juan Formation limestone. The intrusions are dacitic porphyry intrusions with plagioclase feldspar, potassium feldspar, quartz, hornblende, and biotite (Figure 3-6). Most of the dacitic porphyry occurs in the Cerro Sur area.

Figure 3-6: Dacitic intrusion in the Cerro Sur zone

The depth of surface oxidation (weathering) ranges from 25 m to 50 m below surface and is dependent on fault and fracture location, being deeper around the fault zones.

3.3.4 Mineralisation

Most of the mineralisation present within the Hualilan Project is contained in four mining areas. The Magnata, Muchilera and Sentazon zones occur in the Cerro Sur zone and the Manto Principal occurs in the Cerro Norte zone, although gold and base metal mineralisation has been identified at 19 sites over a 4 km strike length at Cerro Norte and Cerro Sur. Mineralisation occurs in all rock types, but it preferentially replaces limestone and fault zones.

Mineralisation occurs in the following geological settings:

- Steeply dipping, fault-hosted quartz veins striking east-northeast
- Bedding-parallel manto replacement deposits striking north and dipping at 30°–70° to the west
- Quartz veins striking north near intrusion – limestone contacts.

The veins have thicknesses of 1 to 4 m and contain sulphides. The mineralisation commonly contains quartz, actinolite, magnetite, pyrite, pyrrhotite, chalcopyrite, sphalerite and galena. Gold occurs in native form, in tellurides (hessite) and as inclusions with pyrite and chalcopyrite (Figure 3-7).

The intersection between the bedding-parallel mineralisation and the east-striking cross veins seems to be important in localising thicker zones of mineralisation.

Figure 3-7: Massive sulphide (partially oxidised) with quartz from the Sentazon mine, Cerro Sur

A detailed study of hydrothermal fluid inclusions trapped in the dacitic intrusions has shown that two hydrothermal fluids were responsible for mineralisation (Bengochea and Mas, 2006):

1 A high salinity (12 wt% NaCl) fluid at temperatures over 300°C is responsible for the primary sulphide mineralisation, calc-silicate alteration, clay (illite) and adularia mineralisation.

2 A lower temperature, lower salinity fluid (4.5 wt% NaCl), more intense in the northern parts of the deposit is thought responsible for hydrothermal oxidation of the primary mineralisation, formation of silica (jasperoid) veins and retrograde alteration of primary calc-silicate alteration.

The higher salinity fluid may have evolved from a magmatic source distal to the deposit and the lower salinity fluid likely represents evolution to a mixed groundwater and magmatic fluid towards the end of the mineralisation.

3.4 Project history

3.4.1 Previous production

The Hualilan mineralisation may have been exploited during pre-colonial times, although there are no records. Intermittent production occurred from 1561 until 1840 under Spanish administration. During this period, 19 different excavations were worked on the property.

An English company attempted production without success in 1863. In 1872, production was boosted following the installation of new equipment including an amalgamation circuit. The mining suffered from an inability to treat sulphides resulting in mine closure.

In 1875, an English company, Argentina, re-opened the operation and installed additional equipment incorporating a two-furnace roaster circuit to treat the sulphide ore. The company processed a reported 80 tonnes per day and employed a workforce of 160 people. Most of the haulages and underground workings, as well as the stone buildings and foundations date to this period (Figure 3-8).

A cyanidation plant was installed to treat tailings in 1914. The operation also selectively mined oxide material originating from the previous operations. A further attempt to process tails material by cyanidation occurred in 1947.

In 1955, a Merrill-Crowe cyanidation circuit was installed and treated 6–7 kt of ore from underground, 2–3 kt of stockpiled ore and 1 kt of tails.

In the 1960s, Aluvion S.R.L. worked the third level of one of the Cerro Norte workings, but had limited success.

Total historical production would not have exceeded 150 kt (Jenks, 2004).

Figure 3-8: Hualilan Mine processing site and support building ruins from production in the 1870s

Source: SRK site visit, 29 August 2018.

Modern exploration started at Hualilan in 1984, when Compañía Minera Aguilar S.A. (Aguilar) completed an exploration program concentrating on Cerro Norte.

From 1984 to 1990, Lixivia S.A. (Lixivia) treated tailings from historical workings and mined ore from the easily accessible areas of Cerro Norte. An unknown volume of material was processed by a cyanidation and carbon-in-leach plant. Pre-strip development for open pit mining was undertaken, along with exploration pitting and trenching.

In 1990, Lixivia formed Alulix S.A. (Alulix) to bring the Cerro Norte into production. Work included surveying and geology mapping at surface and underground, channel sampling of mineralised zones (over 200 samples), geophysical surveying and 2,040 m of drilling across 16 RC holes (Table 3-4). Most of the work was contracted to Aguilar.

Table 3-4: Drill collars for RC holes completed by Compañía Minera Aguilar S.A.

Hole ID	Type	East (m)	North (m)	Elevation (m ASL)	Direction (° Grid North)	Dip (°)	Depth (m)	Date
AG01	RC	2,504,908.0	6,602,132.3	1,807.6	000	-90	84.5	Jan-84
AG02	RC	2,504,846.5	6,602,041.1	1,803.4	112	-70	60.0	Jan-84
AG03	RC	2,504,794.5	6,601,925.6	1,803.1	080	-55	110.0	Jan-84
AG04	RC	2,504,797.1	6,602,065.5	1,806.6	000	-90	168.0	Jan-84
AG05	RC	2,504,843.5	6,601,820.3	1,798.1	000	-90	121.8	Jan-84
AG06	RC	2,504,781.9	6,601,922.8	1,803.8	000	-90	182.2	Jan-84
AG07	RC	2,504,826.3	6,601,731.0	1,796.9	000	-90	111.5	Jan-84
AG08	RC	2,504,469.8	6,600,673.7	1,779.7	090	-57	80.2	Jan-84
AG09	RC	2,504,455.7	6,600,458.5	1,772.6	000	-90	139.7	Jan-84
AG10	RC	2,504,415.5	6,600,263.9	1,767.7	000	-90	200.8	Jan-84
AG11	RC	2,504,464.8	6,600,566.5	1,775.9	000	-90	141.0	Jan-84
AG12	RC	2,504,847.6	6,602,161.7	1,808.8	000	-90	171.4	Jan-84
AG13	RC	2,504,773.6	6,601,731.3	1,798.7	000	-90	159.5	Jan-84
AG14	RC	2,504,774.7	6,601,818.8	1,801.2	000	-90	150.2	Jan-84
AG15	RC	2,504,770.7	6,601,631.4	1,796.7	000	-90	91.3	Jan-84
AG16	RC	2,504,429.5	6,600,665.8	1,779.8	000	-90	68.8	Jan-84
						Total	**2,040.8**	

Source: Golden Mining S.R.L. Drill collars are located in WGS84, UTM zone 19S.

In 1993, Compañía Minera El Colorado S.A. (CMEC) entered into a purchase option agreement with Alulix. Plata Mining Ltd (Plats), a company listed on the Alberta Stock Exchange, optioned the project from CMEC. In 1995, Plata commissioned an exploration work program at Cerro Norte which was completed by Watts, Griffis & McOuat. Exploration activities included surface mapping, channel sampling of surface trenches and underground workings, 13 RC drill holes for a total of 1,193 m, gold assays of more than 1,500 samples and reporting. Also, in the 1990s, Aerodat Inc. conducted an airborne magnetic, resistivity, electromagnetic and radiometric geophysical survey for Monarch Resources Ltd (Monarch), covering an area of 90 km^2 which includes the Hualilan Project.

Table 3-5: Drill collars for RC holes completed by Plata Mining Ltd (Monarch)

Hole_ID	Type	East (m)	North (m)	Elevation (m ASL)	Direction (° Grid North)	Dip (°)	Depth (m)	Date
MG01	RC	2,504,825.5	6,602,755.4	1,800.0	100	-60	51.0	Jan-95
MG01A	RC	2,504,810.5	6,602,755.4	1,800.0	100	-60	116.0	Jan-95
MG02	RC	2,504,835.5	6,602,805.4	1,800.0	100	-60	90.0	Jan-95
MG03	RC	2,504,853.5	6,602,880.4	1,795.0	100	-60	102.0	Jan-95
MG04	RC	2,504,843.5	6,602,975.4	1,800.0	100	-60	120.0	Jan-95
MG05	RC	2,506,130.5	6,605,055.4	1,750.0	85	-60	96.0	Jan-95
MG06	RC	2,506,005.5	6,605,115.4	1,750.0	100	-60	90.0	Jan-95
MG07	RC	2,506,100.5	6,605,015.4	1,750.0	100	-60	96.0	Jan-95
MG08	RC	2,505,300.5	6,603,070.4	1,740.0	95	-70	66.0	Jan-95
MG09	RC	2,505,285.5	6,603,015.4	1,740.0	0	-90	102.0	Jan-95
MG10	RC	2,505,025.5	6,600,225.4	1,724.0	100	-60	120.0	Jan-95
MG11	RC	2,503,380.5	6,598,560.5	1,740.0	100	-60	78.0	Jan-95
MG12	RC	2,503,270.5	6,597,820.5	1,740.0	100	-60	66.0	Jan-95
						Total	**1,193.0**	

Source: Golden Mining S.R.L. Drill collars are located in WGS84, UTM zone 19S.

In 1998, a Chilean consulting firm, EPROM, conducted detailed exploration of the property for Plata. Exploration included surface geological and structural mapping at 1:10,000 and 1:1,000 scales, underground mapping at 1:500 and 1:800 scales, systematic 3 m interval rock chip channel sampling of many of the known mineralised areas at Cerro Norte, newly discovered structures and adjacent zones as well as the tailings. In total, 585 samples were collected and assayed. Seven bulk metallurgical samples were also collected and analysed at the CIMM Tecnologías y Servicios S.A. (CIMM) laboratory in Chile. EPROM also undertook resource and reserve estimations using a polygonal method. A 320 m long, 4 × 4 m production decline was driven by Plata beneath the Main Manto at Cerro Norte. Two drifts (15 m and 25 m) were excavated from the main decline.

CMEC assumed active management of the Hualilan Project in 1999. CMEC's objective was to better estimate reserves and bring the property into production. To that end, an aggressive program of exploration was completed which included induced polarisation (IP), ground magnetic and electromagnetic geophysical surveys, RC drilling (19 holes for a total of 1,598 m), metallurgical testing of material at Lakefield Laboratories (cyanidation) and CIMM Laboratories (flotation), resource and reserve estimation and mining studies.

Table 3-6: Drill collars for RC holes completed by CMEC

Hole ID	Type	East (m)	North (m)	Elevation (m ASL)	Direction (° Grid North)	Dip (°)	Depth (m)	Date
Hua01	RC	2,504,845.3	6,602,041.2	1,809.7	117	-50	60.0	1999
Hua02	RC	2,504,889.5	6,602,081.1	1,809.7	125	-55	45.0	1999
Hua03	RC	2,505,003.3	6,602,158.6	1,810.7	000	-90	100.0	1999
Hua04	RC	2,504,873.3	6,602,169.1	1,809.7	000	-90	100.0	1999
Hua05	RC	2,505,003.2	6,602,152.6	1,810.7	180	-60	100.0	1999
Hua06	RC	2,505,003.3	6,602,161.6	1,810.7	360	-60	100.0	1999
Hua07	RC	2,504,967.7	6,602,153.2	1,810.2	000	-90	100.0	1999
Hua08	RC	2,504,973.2	6,602,153.7	1,810.2	000	-90	13.0	1999
Hua09	RC	2,504,940.7	6,602,150.3	1,809.7	180	-60	100.0	1999
Hua10	RC	2,504,941.8	6,602,156.8	1,809.7	360	-60	100.0	1999
Hua11	RC	2,504,913.3	6,602,167.4	1,809.7	360	-60	88.0	1999
Hua12	RC	2,504,912.8	6,602,165.9	1,809.7	000	-90	100.0	1999
Hua13	RC	2,504,912.3	6,602,156.9	1,809.7	180	-60	90.0	1999
Hua14	RC	2,504,854.3	6,602,168.2	1,809.7	360	-60	100.0	1999
Hua15	RC	2,504,854.8	6,602,166.2	1,809.7	117	-60	100.0	1999
Hua16	RC	2,504,834.2	6,601,877.8	1,800.7	000	-90	100.0	1999
Hua17	RC	2,504,865.9	6,602,449.8	1,814.1	90	-50	42.0	1999
Hua20	RC	2,504,004.1	6,600,846.4	1,792.7	000	-90	106.0	1999
Hua21	RC	2,504,552.9	6,600,795.0	1,793.9	000	-90	54.0	1999
						Total	**1,598.0**	

Source: Golden Mining S.R.L. Drill collars are located in WGS84, UTM zone 19S.

A total length of 6 km of underground workings passes through mineralised zones. The development is most extensive at the Cerro Norte between the Pique Ortega shaft and the Dona Justa workings which is a strike length of approximately 1 km. Development extends for approximately 100 m vertically with the deposit dipping northwest at 30°–50°. Other workings at Cerro Sur are less well mapped and sampled but are likely to be as well developed in the oxide (weathered) zone nearer surface. Records of the underground geology and sampling that do exist, are currently being check-located and digitised.

In addition to the RC drilling, 107 diamond holes for total of 12,384 m were completed between 1999 and 2005. CMEC drilled 60 diamond holes in 1999–2000 for a total of 4,907.3 m (Table 3-7) and La Mancha Resources Inc. (La Mancha) drilled a further 47 diamond holes (total of 7,477 m) in 2003–2005 (Table 3-8). A section through the Cerro Sur deposit generated from the CMEC drilling is shown in Figure 3-9. No drilling or significant exploration has been completed at the Hualilan Project since that time. The previous drill data, sampling, assay and QA/QC is currently being compiled into a drill hole database.

Table 3-7: Drill collars for diamond drill holes completed by CMEC

Hole ID	Type	East (m)	North (m)	Elevation (m ASL)	Direction (° Grid North)	Dip (°)	Depth (m)	Date
DDH20	DDH	2,504,977.3	6,602,133.3	1,804.8	116	-54	49.1	1999-00
DDH21	DDH	2,504,978.3	6,602,118.3	1,804.8	000	-90	88.6	1999-00
DDH22	DDH	2,504,762.9	6,601,587.1	1,769.8	116	-65	66.0	1999-00
DDH23	DDH	2,504,920.4	6,601,994.3	1,767.9	000	-90	58.8	1999-00
DDH24	DDH	2,504,821.0	6,601,938.8	1,802.0	116	-80	100.3	1999-00
DDH25	DDH	2,504,862.6	6,601,964.5	1,803.7	116	-74	49.2	1999-00
DDH26	DDH	2,504,920.4	6,601,975.3	1,795.0	312	-60	80.3	1999-00
DDH27	DDH	2,504,752.7	6,601,565.1	1,806.6	116	-60	43.2	1999-00
DDH28	DDH	2,505,003.6	6,602,174.3	1,806.6	116	-50	41.7	1999-00
DDH29	DDH	2,504,964.1	6,602,136.6	1,810.0	350	-52	113.5	1999-00
DDH30	DDH	2,505,004.1	6,602,156.3	1,809.3	059	-85	62.1	1999-00
DDH31	DDH	2,504,897.6	6,602,112.7	1,808.1	116	-75	41.4	1999-00
DDH32	DDH	2,504,939.4	6,602,139.2	1,809.1	350	-51	100.7	1999-00
DDH33	DDH	2,504,939.4	6,602,139.2	1,809.1	350	-65	62.9	1999-00
DDH34	DDH	2,504,826.5	6,601,920.2	1,801.3	116	-70	69.4	1999-00
DDH35	DDH	2,505,003.9	6,602,156.7	1,808.8	310	-85	174.6	1999-00
DDH36	DDH	2,504,637.5	6,600,777.3	1,799.9	330	-50	45.5	1999-00
DDH37	DDH	2,504,826.5	6,601,920.2	1,809.4	000	-90	121.0	1999-00
DDH38	DDH	2,504,820.8	6,601,912.2	1,801.1	116	-75	67.7	1999-00
DDH39	DDH	2,504,820.8	6,601,912.2	1,801.1	116	-81	90.7	1999-00
DDH40	DDH	2,504,832.3	6,601,928.1	1,801.7	116	-70	85.7	1999-00
DDH41	DDH	2,504,837.8	6,601,937.5	1,801.6	116	-70	64.2	1999-00
DDH42	DDH	2,504,829.2	6,601,952.5	1,801.8	116	-60	65.1	1999-00
DDH43	DDH	2,504,829.2	6,601,952.5	1,801.8	116	-70	70.8	1999-00
DDH44	DDH	2,504,811.3	6,601,895.1	1,802.0	116	-60	102.2	1999-00
DDH45	DDH	2,504,811.3	6,601,895.1	1,802.0	116	-83	95.3	1999-00
DDH46	DDH	2,504,884.4	6,601,976.3	1,805.9	116	-45	71.6	1999-00
DDH47	DDH	2,504,884.4	6,601,976.3	1,805.9	116	-65	71.0	1999-00
DDH48	DDH	2,504,866.9	6,601,962.7	1,803.1	116	-47	30.7	1999-00
DDH49	DDH	2,504,866.9	6,601,962.7	1,803.1	116	-72	41.9	1999-00
DDH50	DDH	2,504,821.4	6,601,913.9	1,801.1	116	-77	87.5	1999-00
DDH51	DDH	2,504,821.4	6,601,913.9	1,801.1	116	-80	87.5	1999-00
DDH52	DDH	2,504,825.5	6,601,901.1	1,800.9	116	-83	74.0	1999-00
DDH53	DDH	2,504,504.1	6,600,714.0	1,788.7	090	-62	85.7	1999-00
DDH54	DDH	2,504,504.1	6,600,714.0	1,788.7	090	-45	69.1	1999-00

Hole ID	Type	East (m)	North (m)	Elevation (m ASL)	Direction (° Grid North)	Dip (°)	Depth (m)	Date
DDH55	DDH	2,504,997.9	6,602,163.5	1,808.6	360	-53	63.1	1999-00
DDH56	DDH	2,504,943.1	6,602,171.3	1,810.5	360	-75	50.6	1999-00
DDH57	DDH	2,504,943.1	6,602,171.3	1,810.5	000	-90	66.2	1999-00
DDH58	DDH	2,504,970.3	6,602,153.3	1,809.1	360	-71	62.0	1999-00
DDH59	DDH	2,504,970.3	6,602,153.3	1,809.1	000	-90	66.3	1999-00
DDH60	DDH	2,504,997.9	6,602,162.5	1,809.0	360	-67	59.9	1999-00
DDH61	DDH	2,504,997.9	6,602,162.5	1,809.0	000	-90	58.1	1999-00
DDH62	DDH	2,504,751.4	6,601,602.6	1,789.2	170	-45	68.4	1999-00
DDH63	DDH	2,504,751.4	6,601,602.6	1,789.2	170	-70	131.5	1999-00
DDH64	DDH	2,504,776.3	6,601,596.9	1,789.1	170	-45	66.7	1999-00
DDH65	DDH	2,504,552.7	6,600,792.0	1,793.8	194	-45	124.8	1999-00
DDH66	DDH	2,504,552.7	6,600,792.0	1,793.8	194	-57	117.0	1999-00
DDH67	DDH	2,504,552.7	6,600,792.0	1,793.8	194	-66	126.1	1999-00
DDH68	DDH	2,504,623.9	6,600,779.0	1,800.7	000	-90	79.5	1999-00
DDH69	DDH	2,504,623.9	6,600,779.0	1,800.7	194	-60	101.5	1999-00
DDH70	DDH	2,504,595.5	6,600,797.7	1,798.1	190	-81	128.0	1999-00
DDH71	DDH	2,504,631.6	6,600,797.4	1,799.0	194	-63	136.3	1999-00
DDH72	DDH	2,504,547.2	6,600,764.1	1,799.6	194	-45	75.6	1999-00
DDH73	DDH	2,504,593.4	6,600,766.5	1,807.5	190	-57	70.8	1999-00
DDH74	DDH	2,504,598.2	6,600,831.8	1,795.3	190	-62	190.9	1999-00
DDH75	DDH	2,504,731.2	6,600,784.7	1,821.4	194	-45	40.2	1999-00
DDH76	DDH	2,504,731.2	6,600,784.7	1,821.4	180	-60	138.7	1999-00
DDH77	DDH	2,504,734.1	6,600,785.0	1,821.6	000	-90	85.6	1999-00
DDH78	DDH	2,504,731.2	6,600,784.7	1,821.4	180	-75	132.9	1999-00
DDH79	DDH	2,504,721.6	6,600,790.1	1,820.4	060	-70	38.6	1999-00
						Total	**4,907.3**	

Source: Golden Mining S.R.L. Drill collars are located in WGS84, UTM zone 19S.

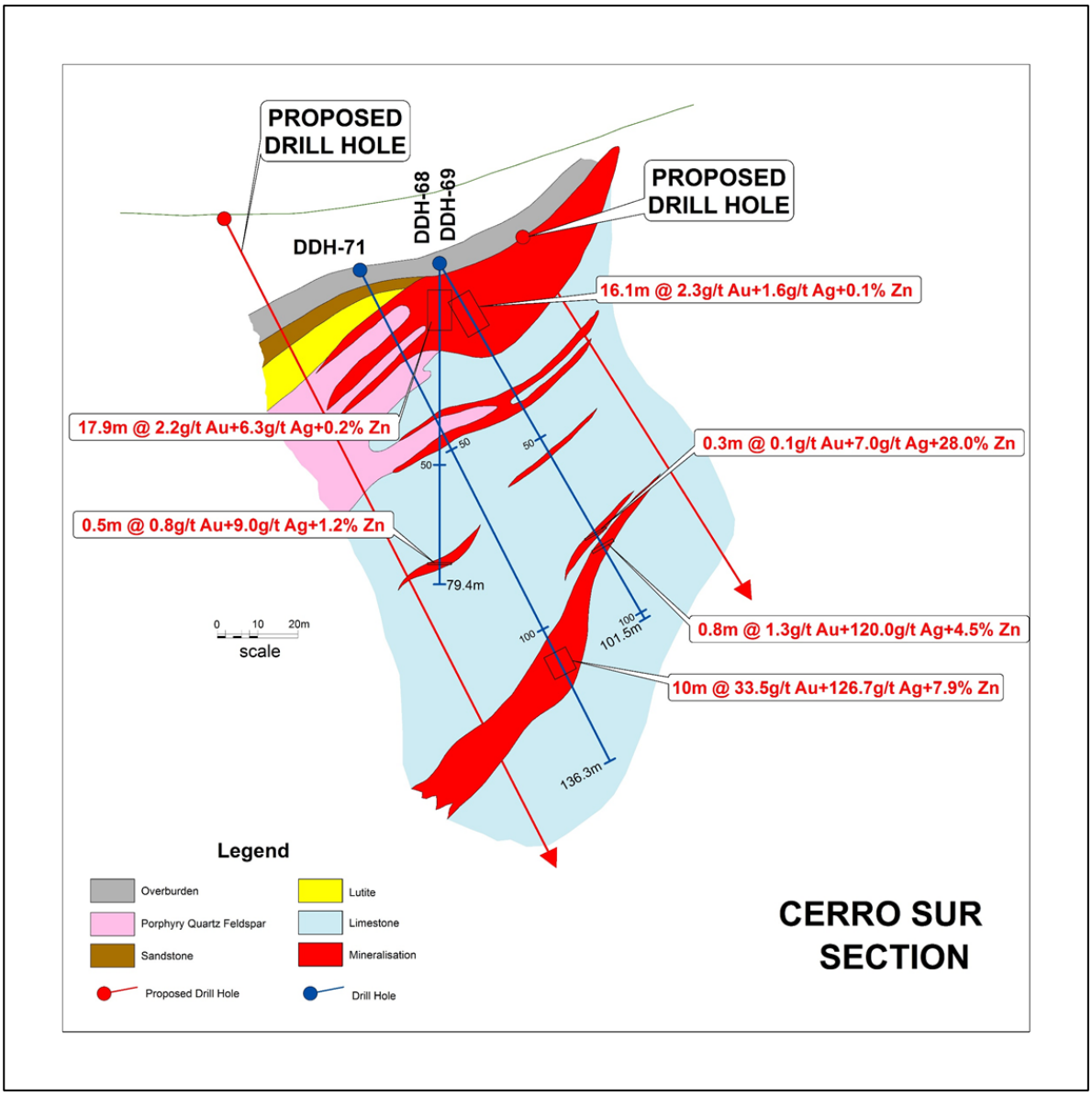

Figure 3-9: Section through the Cerro Sur area at Hualilan from the CMEC drilling

Source: AEP.

Table 3-8: Drill collars for diamond drill holes completed by La Mancha

Hole ID	Type	East (m)	North (m)	Elevation (m ASL)	Direction (° Grid North)	Dip (°)	Depth (m)
03HD01A	DDH	2,504,627.8	6,600,800.1	1,798.4	180	-60	130.2
03HD02	DDH	2,504,457.9	6,600,747.8	1,782.9	180	-60	130.5
03HD03	DDH	2,504,480.1	6,600,448.6	1,774.0	360	-45	100.2
04HD04	DDH	2,504,436.6	6,600,439.3	1,773.4	360	-60	104.6
04HD05	DDH	2,504,420.9	6,600,256.8	1,769.5	110	-68	122.6
04HD06	DDH	2,504,428.6	6,600,236.6	1,768.1	110	-68	136.0
04HD07	DDH	2,504,415.7	6,600,277.7	1,769.0	100	-63	108.2
04HD08	DDH	2,504,826.5	6,601,920.2	1,801.3	116	-70	70.0
04HD09	DDH	2,504,832.3	6,601,928.1	1,801.7	116	-70	75.9
04HD10	DDH	2,504,648.5	6,600,788.9	1,801.5	205	-60	120.0

Hole ID	Type	East (m)	North (m)	Elevation (m ASL)	Direction (° Grid North)	Dip (°)	Depth (m)
04HD11	DDH	2,504,462.0	6,600,428.3	1,773.6	075	-62	95.1
04HD12	DDH	2,504,449.3	6,600,648.9	1,779.6	360	-60	77.4
04HD13	DDH	2,504,434.5	6,600,646.6	1,779.7	360	-60	74.0
04HD14	DDH	2,504,461.1	6,600,748.4	1,783.1	180	-70	130.6
04HD15	DDH	2,504,449.9	6,600,646.2	1,779.6	360	-64	160.0
04HD16C	DDH	2,504,457.1	6,600,311.7	1,770.3	195	-65	225.5
04HD17	DDH	2,504,417.5	6,600,256.6	1,769.5	110	-72	213.2
04HD18	DDH	2,504,528.5	6,600,792.0	1,791.9	170	-50	140.7
04HD19	DDH	2,504,648.5	6,600,788.9	1,801.5	205	-77	120.0
04HD20	DDH	2,504,648.5	6,600,788.9	1,801.5	205	-80	120.0
04HD21	DDH	2,504,648.5	6,600,788.9	1,801.5	205	-60	120.0
04HD23	DDH	2,504,441.0	6,600,456.0	1,772.5	075	-82	499.7
04HD24	DDH	2,504,389.0	6,600,252.0	1,766.5	090	-81	188.2
04HD25	DDH	2,504,456.0	6,600,294.0	1,768.5	155	-84	500.8
04HD26	DDH	2,504,424.0	6,600,409.0	1,771.5	180	-69	464.9
04HD27	DDH	2,504,461.0	6,600,428.0	1,773.0	100	-45	60.0
04HD28	DDH	2,504,461.0	6,600,428.0	1,773.0	100	-60	63.7
04HD29	DDH	2,504,438.0	6,600,087.0	1,764.5	108	-45	265.0
04HD30	DDH	2,504,421.0	6,600,044.0	1,764.0	108	-45	128.2
04HD31	DDH	2,504,687.0	6,601,326.0	1,794.0	045	-60	242.9
04HD32	DDH	2,504,828.0	6,601,916.0	1,801.3	116	-70	68.4
05HD33	DDH	2,505,410.0	6,601,983.0	1,765.0	000	-60	81.4
05HD34	DDH	2,505,451.0	6,602,079.0	1,763.0	273	-60	269.0
05HD35	DDH	2,504,905.0	6,601,689.0	1,794.0	140	-65	350.0
05HD36	DDH	2,504,880.0	6,601,860.0	1,802.0	295	-70	130.0
05HD37	DDH	2,504,866.0	6,601,888.0	1,797.0	295	-70	130.0
05HD38	DDH	2,504,838.0	6,601,937.0	1,796.0	115	-70	70.0
05HD39	DDH	2,504,964.0	6,602,128.0	1,814.0	030	-70	217.5
05HD40	DDH	2,504,964.0	6,602,128.0	1,814.0	030	-50	150.0
05HD41	DDH	2,504,931.0	6,602,125.0	1,812.0	022	-60	142.5
05HD42	DDH	2,504,552.7	6,600,791.5	1,797.0	194	-57	120.0
05HD43	DDH	2,504,552.7	6,600,791.5	1,797.0	194	-45	95.5
05HD44	DDH	2,504,603.0	6,600,799.0	1,798.0	190	-61.5	130.5
05HD45	DDH	2,504,362.0	6,600,710.0	1,767.0	088	-60	121.5
05HD46	DDH	2,504,405.0	6,600,282.0	1,766.0	090	-75	130.7
05HD47	DDH	2,504,212.0	6,599,177.0	1,729.0	065	-45	181.5
05HD48	DDH	2,504,160.0	6,599,164.0	1,728.0	065	-60	100.7
						Total	**7,477.0**

Source: Golden Mining S.R.L. Drill collars are located in WGS84, UTM zone 19S.

A number of significant gold grade intersections have been reported from the drilling (Table 3-9). Higher gold grades evident in the drilling are generally supported by elevated Ag and Zn. Most intersections are relatively narrow, which is consistent with the bedding parallel replacement in permeable units and bedding parallel faults observed in the workings and at surface. Wider intersections are likely to be related to the intersection of faults where both structures are mineralised.

Table 3-9: Significant drill intersections at the Hualilan Project previously reported by Challenger

Hole ID	From (m)	Interval (m)	Au (g/t)	Ag (g/t)	Zn (%)
AG16	38.6	1.2	0.1	28.6	1.7
MG10	108.0	3.0	1.3	No assay	No assay
DDH36	24.7	9.3	1.6	46.3	1.2
DDH53	17.3	1.4	1.0	1.7	0.00
DDH53	24.0	8.9	3.7	239.5	0.03
DDH53	35.7	3.9	3.9	87.8	0.06
DDH53	41.0	3.0	2.6	7.6	0.20
DDH54	20.0	1.1	1.2	0.7	0.00
DDH54	31.1	8.3	3.9	32.1	0.80
DDH65	62.0	8.2	11.0	60.6	1.2
DDH65	82.0	1.0	1.8	33.4	0.30
DDH66	83.1	7.2	23.7	42.9	2.4
DDH66	87.9	2.4	69.9	114.4	2.2
DDH66	104.9	2.8	1.8	29.0	0.10
DDH67	98.7	1.3	0.2	7.8	1.3
DDH68	4.0	17.9	2.2	6.3	0.20
DDH68	73.7	0.5	0.8	9.0	1.2
DDH69	4.0	16.1	2.3	1.6	0.10
DDH69	76.9	0.3	0.1	7.0	28.0
DDH69	79.7	0.8	1.3	120.0	4.5
DDH70	84.0	7.0	5.2	13.5	0.70
DDH71	11.0	2.0	0.5	218.0	0.06
DDH71	39.9	1.0	1.3	6.0	0.03
DDH71	45.5	1.1	0.4	22.8	0.60
DDH71	104.0	10.0	33.5	126.7	7.9
DDH72	26.0	11.7	3.8	14.1	1.3
DDH72	52.7	6.3	1.5	30.4	0.04
DDH73	62.5	3.5	0.5	15.6	0.60
DDH74	119.9	0.5	7.3	98.5	2.6
DDH76	61.3	0.7	4.0	11.1	0.50
DDH76	74.4	4.0	0.8	8.8	0.30
DDH76	84.8	1.2	1.4	10.9	2.0
DDH78	109.1	0.7	1.1	13.4	1.9
03HD01A	90.1	1.7	2.1	37.4	2.4
03HD03	55.0	2.4	2.5	25.6	2.3
04HD05	80.3	2.0	0.9	42.7	0.02
04HD05	97.5	1.8	1.9	35.0	0.04

Hole ID	From (m)	Interval (m)	Au (g/t)	Ag (g/t)	Zn (%)
04HD05	102.0	1.0	1.3	42.1	0.01
04HD05	106.0	1.0	0.7	28.0	0.05
04HD05	108.0	5.6	2.8	19.9	1.2
04HD06	65.4	1.2	46.6	846.0	0.50
04HD06	75.0	1.0	1.0	2.9	0.01
04HD06	104.5	7.6	1.8	5.0	1.2
04HD06	115.1	0.9	16.4	23.1	7.7
04HD07	98.3	2.2	1.4	32.5	0.90
04HD10	44.3	0.2	3.9	81.5	5.6
04HD10	55.5	0.5	1.3	11.5	0.46
04HD10	78.6	1.7	4.8	93.7	2.4
04HD11	28.0	1.0	0.1	9.3	1.4
04HD12	49.3	0.7	1.5	16.1	0.10
04HD13	61.5	1.0	0.8	7.9	0.20
04HD15	103.7	0.3	1.7	32.9	0.80
04HD16C	107.5	6.8	8.6	117.1	9.1
04HD16C	111.8	2.5	7.6	75.6	11.5
04HD16C	144.9	1.9	9.1	31.2	5.5
04HD16C	171.1	0.4	0.5	9.4	1.7
04HD17	134.9	0.7	2.5	14.3	4.1
04HD17	139.1	0.5	10.5	9.4	0.20
04HD17	199.6	0.2	0.8	3.5	5.9
04HD17	202.1	1.9	4.5	1.5	0.70
04HD20	43.2	1.8	0.9	83.9	0.20
04HD21	70.1	0.2	4.8	60.6	6.4
04HD21	141.1	0.6	12.9	105.0	4.8
04HD24	72.0	2.0	2.5	3.2	0.04
04HD24	83.0	2.0	3.1	25.3	0.04
04HD24	94.0	4.2	0.7	21.2	0.10
04HD25	92.0	1.7	2.4	51.5	6.3
04HD26	21.7	2.3	1.5	32.5	3.0
04HD28	42.8	0.4	1.9	4.5	0.10
04HD29	37.0	1.0	0.1	112.0	0.01
05HD42	90.5	1.0	1.9	6.1	0.03
05HD42	115.0	3.0	29.0	103.1	0.20
05HD43	69.0	1.0	1.8	2.3	0.01
05HD43	81.0	3.0	2.8	51.5	0.50
05HD43	90.7	2.3	1.4	29.6	0.30
05HD44	87.5	1.1	3.8	3.4	0.01
05HD44	91.2	1.4	0.0	3.6	2.8

Source: ASX release, 25 February 2019, supported by JORC Code Table 1 included in that release..

Notes: Cut-off grade of 1.0 g/t Au equivalent (calculated using a price of US$1,300/oz for Au, $15/oz for Ag and $2,500/t. for Zn).
Assay data for some drill holes has yet to be found.

It is expected that drilling sample batches would have included standard reference samples and blanks. Check assays are also likely to have been completed. Identifying and compiling the QA/QC samples to assist in validating the results of drilling is currently being carried out for the Hualilan Project.

3.4.2 Historical, foreign resource estimates

There are multiple historic resource estimates for the Hualilan Project, none of which comply with the prevalent reporting standards according to the JORC Code (either 2004 or 2012).

In its ASX announcement dated 25 February 2019, Challenger announced a Foreign Resource Estimate which was completed by La Mancha Resources in 2003 and updated in 2006, but which does not meet the requirements for reporting under the JORC Code (2004). The foreign estimates are relevant and material to Challenger as they demonstrate that the Hualilan Project has the potential to be economically viable. The 2003 resource estimate is summarised in Table 3-10.

Table 3-10: La Mancha Resources 2003 foreign resource estimate for the Hualilan Project

Category	Tonnes (kt)	Gold grade (g/t)	Contained gold (koz)
Measured	218	14.2	100
Indicated	226	14.6	106
Total of Measured & Indicated	**445**	**14.4**	**206**
Inferred	977	13.4	421
Total of Measured, Indicated & Inferred	**1,421**	**13.7**	**627**

Source: La Mancha Resources Toronto Stock Exchange Release dated 14 May 2003 - Independent Report on Gold Resource Estimate. Rounding errors may be present. Troy ounces (oz) tabled here.

The 2006 update to the estimate did not include the east–west mineralised Magnata Vein despite the known mineralisation in the Magnata Vein being drilled on a 25 m by 50 m spacing. The 2003 estimate attributed approximately half of its Measured and Indicated tonnage to the Magnata Vein. The 2006 estimate also included arbitrary tonnage reduction factors of 25% for the Indicated category and 50% for the Inferred category. The La Mancha 2006 resource is summarised in Table 3-11.

Table 3-11: La Mancha Resources 2006 foreign resource estimate for the Hualilan Project (excluding the Magnata Vein)

Category	Tonnes (kt)	Gold grade (g/t)	Contained gold (koz)	Silver grade (g/t)	Contained silver (koz)	Zinc grade (%)	Contained zinc (kt)
Measured	163	12.7	67	52	275	2.5	4.1
Indicated	51	12.5	20	37	60	2.6	1.3
Total of Measured & Indicated	**214**	**12.7**	**87**	**49**	**336**	**2.5**	**5.4**
Inferred	214	11.7	81	46	319	2.3	4.9
Total of Measured, Indicated & Inferred	**428**	**12.2**	**168**	**48**	**655**	**2.4**	**10.3**

Source: La Mancha Resources Toronto Stock Exchange Release dated 7 April 2007 - Interim Financials. Rounding errors may be present. Troy ounces (oz) tabled here.

The source of the foreign estimates are resource reports prepared for La Mancha Resources presented in NI 43-101 Technical Reports dated 12 April 2003 and 30 November 2006. More recent estimates are not available.

The estimates are historical, foreign estimates and are not reported in accordance with the JORC Code. A Competent Person has not completed sufficient work to classify the estimates as Mineral Resources in accordance with the JORC Code. It is uncertain whether further exploration work would enable the estimates to be reportable as a Mineral Resource estimate in accordance with the JORC Code.

The 2006 foreign estimate used four categories of mineralisation namely Measured, Indicated, Inferred and Potential. The Measured, Indicated and Inferred categories are generally similar to the same categories of mineralisation defined in Appendix 5 (JORC Code). In addition to the available drilling, the Foreign Resource estimates use detailed underground channel sampling collected by EPROM, CMEC and La Mancha Resources to guide the estimation. The estimation technique uses a longitudinal section polygonal method, with individual blocks representing weighted averages of sampled underground and/ or drill intersections with zones of influence halfway to adjacent holes. The volume of the blocks ware calculated using AutoCAD directly from the longitudinal sections. Overlying assumptions included a reduction of the calculated grade in each resource block by a factor of 10% to account for possible errors in the analyses.

Challenger proposes to undertake further work in order to bring these Foreign estimates in line with the reporting requirements of the JORC Code (2012).

In SRK's opinion, the 2003 Mineral Resource classification and results appropriately reflect the deposit and the current level of risk associated with the Hualilan Project to date. In addition, a La Mancha Resources Toronto Stock Exchange release of 14 May 2003 describes the historical data supporting the resource estimated with such data described as "both detailed and reliable".

The available assay data correlates well with the geology observed in the field and the geology logged in the drill core.

To verify the Foreign Resource estimates, Challenger intends to design and exploration program to include the following:

- Twinning of previously drilled core holes to compare geology, alteration, structure and assay values
- Additional sample accuracy and precision validation as required (field duplicates, standard reference material, blanks, duplicate assays)
- Detailed interpretation of known mineralised zones
- Geostatistical assessment to determine if an updated estimation from existing data is possible
- Investigate future drilling requirements to upgrade both the historical resource estimate
- Structural interpretation
- Metallurgical testwork
- Complete a resource estimate in accordance to JORC Code (2012) reporting requirements.

3.4.3 Metallurgical testwork

Four bulk samples were collected by CMEC and submitted to Lakefield Research (CIMM Laboratories) in Santiago, Chile in 1999. Sample M-4 is an RC drill sample composite. There are no details regarding the location or drill holes from which the samples were obtained.

Table 3-12: Summary of the samples for metallurgical testwork

Sample	Au (g/t)	Ag (g/t)	Zn (%)	Pb (%)	Cu (%)	Fe (%)	S (%)
M-1: Oxidised	9.3	80	4.3	0.82	0.12	10.5	3.4
M-2: Primary (unoxidised)	19.1	95	5.3	0.21	0.21	14.7	9.4
M-3: Silicified (oxidised)	8.1	50	2.7	0.61	0.23	7.2	0.8
M-4: High Sulphide (unoxidised)	21.0	17	1.4	0.11	0.03	20.9	8.5

Source: CIMM.

Applying a joint process of rougher flotation (20 to 30 minutes) and Knelson concentration of the tailings of the flotation to the oxide and sulphide composites, the global gold recovery to a concentrate is approximately 80%. Flotation had a higher recovery for gold from the sulphide (unoxidised) samples. Zinc recovery was generally low.

Further floatation testwork may need to be considered to optimise recoveries of various sulphide minerals.

Additional testwork at the CIMM Laboratories in 1999 by bottle roll and column cyanidation of six composite samples was also done to determine if the Hualilan material could be successfully processed by heap leaching. None of the details regarding the location of the samples are documented. Two fragment sizes of 3/8 inches (9.5 mm) and 3/4 inches (19 mm) were produced and tested. The testwork indicated gold recovery of approximately 40% for gold and 32% for silver regardless of particle size in a 48-hour bottle roll test. A 70-day column test resulted in 31% recovery for gold and 11% recovery for silver. Consumption of cyanide was reported as high. The results suggest that heap leaching of the Hualian mineralisation would be unviable.

Further testwork of sulphide-dominant material may be required to identify options for future processing. Production of a sulphide concentrate, transport and off-site beneficiation needs to be considered.

3.5 Conclusion

In SRK's opinion, the Hualilan Project is prospective for extensions to the existing skarn and manto gold, silver (zinc, copper, lead) mineralisation that has been partially mined. The existing mine and drill hole data, once verified, would be useful for estimating a resource and drill testing extensions.

Hualilan is prospective for the following:

- Au-Zn-Cu skarn mineralisation close to intrusions
- Manto limestone replacement Au-Ag
- Fault and vein-hosted mesothermal quartz sulphide-Au-Ag.

4 Proposed Exploration Programs

4.1 El Guayabo Project

Challenger's proposed exploration program at the El Guayabo Project initially aims to identify and prioritise drilling targets. The exploration program that has been proposed involves the following:

- Channel sampling of the adits, including Adriado's Adit, the Ecuaba Vein workings and other artisanal workings. It is estimated that there is more than 1 km of underground development that provides good exposure of the geology, alteration and mineralisation, which has not yet been systematically mapped and sampled.
- Sampling of additional breccia bodies at surface. To date, two of the 10 known breccias have been systematically defined and properly sampled.
- Re-assay of approximately 1,100 m of quarter-core drilled by previous explorers. In addition to validating previous assay results (six elements only), a 40-element assay suite will be collected to improve vectoring on the porphyry and breccia targets.
- Undertake a 3D magnetotelluric (MT) geophysical survey (with IP lines) covering 16 km^2. Only widely spaced airborne magnetic geophysical surveying has previously been completed over the El Guayabo Project. The MT survey commenced on 9 February 2019 and is being undertaken by Quantec Geoscience, a global geophysical survey acquisition company. Two lines of direct current resistivity, IP (chargeability) data acquisition will also be collected. The survey has been designed to image the existing breccia bodies (and their depth extensions), new breccia bodies, and to define porphyry targets to a depth of 1.5 km.
- Undertake soil geochemistry and mobile metal ion (MMI) survey covering 16 km^2. This survey is currently in progress.
- Drill testing and evaluation of results.

In SRK's opinion, the proposed exploration program is well suited to the style of mineralisation and the stage of exploration at the El Guayabo Project. It is expected that results of some of the proposed exploration will be available in the first half of 2019.

4.2 Hualilan Project

The exploration proposed for the Hualilan Project aims to organise the vast amount of existing exploration and trial mining data from the project with the objective of updating the Foreign Resource estimate and reporting according to the JORC Code (2012). Following that, the objective is to undertake a PEA and identify extensions to the mineral system that could improve the economics of the Hualilan Project. The proposed work includes:

- Digitising into an operating database, all historical data, including approximately 150 drill holes, shallow open pit data, underground development and numerous phases of underground mapping; this work is proceeding at the date of this report.
- Undertaking a detailed interpretation of known mineralised zones; this work is proceeding at the date of this report.
- Investigating further drilling requirements to upgrade both the unclassified mineralisation and mineralisation in the existing historical resources to meet JORC Code (2012) reporting requirements. Complete twin drill holes to confirm the geology, alteration and mineralisation, check previous assays and validate previous data as required.
- Field mapping, structural interpretation and alteration mapping using high resolution satellite data to better target extensions of known mineralisation.

- Undertaking a geostatistical assessment and update the status of the Foreign Resource Estimate by completing a resource re-estimation.
- Undertaking further metallurgical testwork.

In SRK's opinion, the proposed exploration program is well suited to the style of mineralisation and the stage of exploration at the Hualilan Project.

4.3 Proposed exploration budget

The proposed use of funds from the Public Offer in support of the proposed exploration programs at the El Guayabo and Hualilan projects is shown in Table 4-1.

Table 4-1: Proposed use funds from the capital raising

Project	Description	Year 1 (A$)	Year 2 (A$)
El Guayabo	Mapping, sampling, re-logging	490,000	320,000
	Geophysics (Note: $0.55 million paid prior to IPO)	50,000	Contingent
	Drill testing(#1)	730,000	Contingent
	Site management	350,000	170,000
	Subtotal - El Guayabo	**1,620,000**	**490,000**
Hualilan	Mapping and sampling	210,000	160,000
	Drill testing(#2)	330,000	Contingent
	PEA (including resource estimation and preliminary metallurgical testwork)	350,000	Contingent
	Site management	240,000	140,000
	Subtotal - Hualilan	**1,130,000**	**300,000**
Corporate	Working capital, administration, contingency	550,334	512,659
	Expenses of the offer	397,007	-
	Subtotal - Corporate	**947,341**	**512,659**
	Total	**3,697,341**	**1,302,659**

Notes:

#1: The initial 2,000 m drilling program at El Guayabo is contingent on the results of the geophysics program.
#2: The second 1,000 m drilling program at Hualilan is contingent on results from the initial 1,000 m program.

In SRK's opinion, the use of funds is consistent with the El Guayabo and the Hualilan exploration objectives and the proposed work programs. SRK cautions that the Year 2 work programs are dependent on the results achieved in Year 1 and may be different to that initially proposed.

Project Number: CEL001

Report Title: Independent Geologist's Report on El Guayabo Project and Hualilan Project

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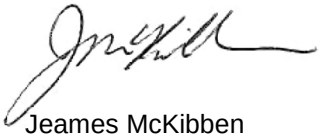

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SRK Report Client Distribution Record

Project Number: CEL001

Report Title: Independent Geologist's Report on the Mineral Assets of Challenger Exploration Limited

Date Issued: 15 May 2019

Name/Title	Company
Robert Willes	Challenger Exploration Limited

Rev No.	Date	Revised By	Revision Details
0	05/04/2019	Stuart Munroe	Draft Report
1	10/04/2019	Stuart Munroe	Final Report
2	16/04/2019	Stuart Munroe	Final Report
3	14/05/2019	Stuart Munroe	Updated Final Report
4	14/05/2019	Stuart Munroe	Updated Final Report
5	15/05/2019	Stuart Munroe	Updated Final Report