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Project Memo

Client:	Challenger Energy Limited	**Date:**	24 July 2018
Attention:	Robert Willes	**From:**	Stuart Munroe
Copy to:	Adrien Wing Anthony Hall Kris Knauer		
Project No:	CEL001	**Revision No:**	1
Project Name:	High level review of the El Guayabo (Ecuador) and Hualilan (Argentina) projects		
Subject:	Stage 1 review		

Summary

El Guayabo Project

The El Guayabo Project is an early stage exploration project which has demonstrated potential to host copper (<0.5%) over intervals >100 m with associated silver and gold. The mineralisation encountered to date comprises intrusive-related, vein-hosted, breccia-hosted and disseminated sulphide. The Projects is located north of a NW-striking fault zone at the edge of an Oligocene to Miocene age volcanic basin of similar age to the intrusive system that is responsible for the mineralisation. The intrusive system and breccia show evidence for multiple deformation and mineralisation events, which is supportive of a long-lived hydrothermal system.

SRK Consulting (Australasia) Pty Ltd (SRK) endorses the recommendations of JRK Consulting to continue to compile and digitise past exploration data and to re-log and re-sample drill core that remains in storage on site to better understand the mineral assemblages, alteration systems and controls on mineralisation.

Much of the past exploration information has yet to be digitised or compiled into coherent digital databases to assist future exploration and three dimensional (3D) geological and structural modelling. Existing drill hole data also has yet to be compiled into a data base. Quality assurance/ quality control (QA/QC) data from the past drilling is not reported, but presumably also exists. The drilling completed to date includes a number of intersections >100 m with breccia-hosted and vein-hosted mineralisation. These need to be compiled with geology onto sections and/or in a 3D model to direct future exploration.

SRK understands that AAR Resources (AAR) holds an option to acquire 100% of the Project. In SRK's opinion, there are no technical fatal flaws to the Project. The data reviewed suggests strong upside potential for a gold-copper-silver resource to be defined through further drilling of the late stage intrusions and immediate host rocks, breccia and veins.

The current 100 tonnes per day (tpd) artisanal mining taking place in three centres across the exploration licence (under a tribute mining agreement) may be a significant contributor to the local community. If the new Project owners want to cease the tribute mining agreement, alternative employment for the artisanal miners may need to be negotiated.

Hualilan Project

The Hualilan Project, in north-west Argentina, is an early stage exploration project focused on gold (zinc, silver, copper, lead) distal carbonate replacement (manto) and vein-hosted mineralisation within an Ordovician age carbonate, chert and shale package. The host rocks have been thrust repeated

and folded prior to mineralisation. SRK understands that AAR has an option to acquire a majority share of part of the southern area (Cerro Sur) on eight separate exploration licences measuring 300 m by 200 m (6 ha) each. This review considers the entire Project as there may be an option to acquire additional adjacent holdings in the future. Certainly, consolidation of the Project tenements would be advantageous. Exploration by La Mancha has attempted to assess the continuity of the mineralisation across the project, but this has yet to be tested by systematic drilling. Attempts to estimate the grade and tonnage of the mineralisation (non-JORC or NI43-101) have been made in 1999 and 2002 by Company Minera El Colorado (CMEC) and in 2004 by La Mancha using polygonal methods. There has been no attempt to validate the input data (geology, domain model and assay data) and there is no alternative method used to verify the estimates. The different polygonal estimation attempts provide different tonnage estimates, although similar grades.

Spreadsheets of drill hole assay data from across the project need to be compiled into a digital database to allow spatial analysis of the geology model and grade continuity. Currently, more than 100 drill holes collars are available in the data provided. Drilling campaigns were completed between 1984 to at least 2004. For many of these campaigns, SRK expects that the drill sampling would have included standard QA/QC materials including reference samples and blanks, although no data was found to support this. It is recommended that QA/QC data and copies of laboratory assay reports be compiled into the database to check and verify the analytical techniques and associated results.

Primary mineralisation was treated with cyanide and has provided relatively low gold recoveries in past mining ventures. Further test work may be required to identify future processing options. Transport and off-site processing options for a concentrate may need to be considered, if the project does not have the tonnage to support on-site beneficiation. At this stage, the likely grade of a sulphide concentrate in unknown.

In SRK's opinion, there are no technical fatal flaws to the Hualilan exploration Project. The replacement style mineralisation at Hualilan is likely to be distal to the causative intrusions and strongly controlled by the local fault network active at the time of mineralisation. Dacite dykes and stocks exposed at the Project may be related to the mineralisation, but are unlikely to be responsible for it. Understanding the hydrothermal fluid pathways and deformation history (carbonate bed porosity, active bedding parallel faults and cross faults) is key to realising the potential of the Project and extending the known mineralisation. In SRK's opinion, there is considerable upside potential. The licences should be consolidated and assessed collectively as far as possible by joining mineralisation between licences and identifying north-striking parallel bedding-parallel faults.

1 El Guayabo Project

The EL Guayabo Project is situated in El Oro Province, in southern Ecuador (Figure 1-1). The Project is located 36 km SE of the provincial capital, Machala which is located on the coast. El Oro Province is named after the historically important gold production which was a significant contributor to the provincial economy. The Project lies in the central to north-central part of the Portovelo-Zaruma gold mining district within the Cangrejos Zaruma intrusive belt.

Access to the project is possible from the town of Santa Rosa (Figure 1-2) by paved road (18 km) and gravel road (5 km). For the purposes of this assignment, SRK did not visit the project site and has based its findings on an initial desktop review.

The "El Guayabo" exploration licence encompasses an area of 2.8 km^2. The status of the exploration licence has not been reviewed by SRK.

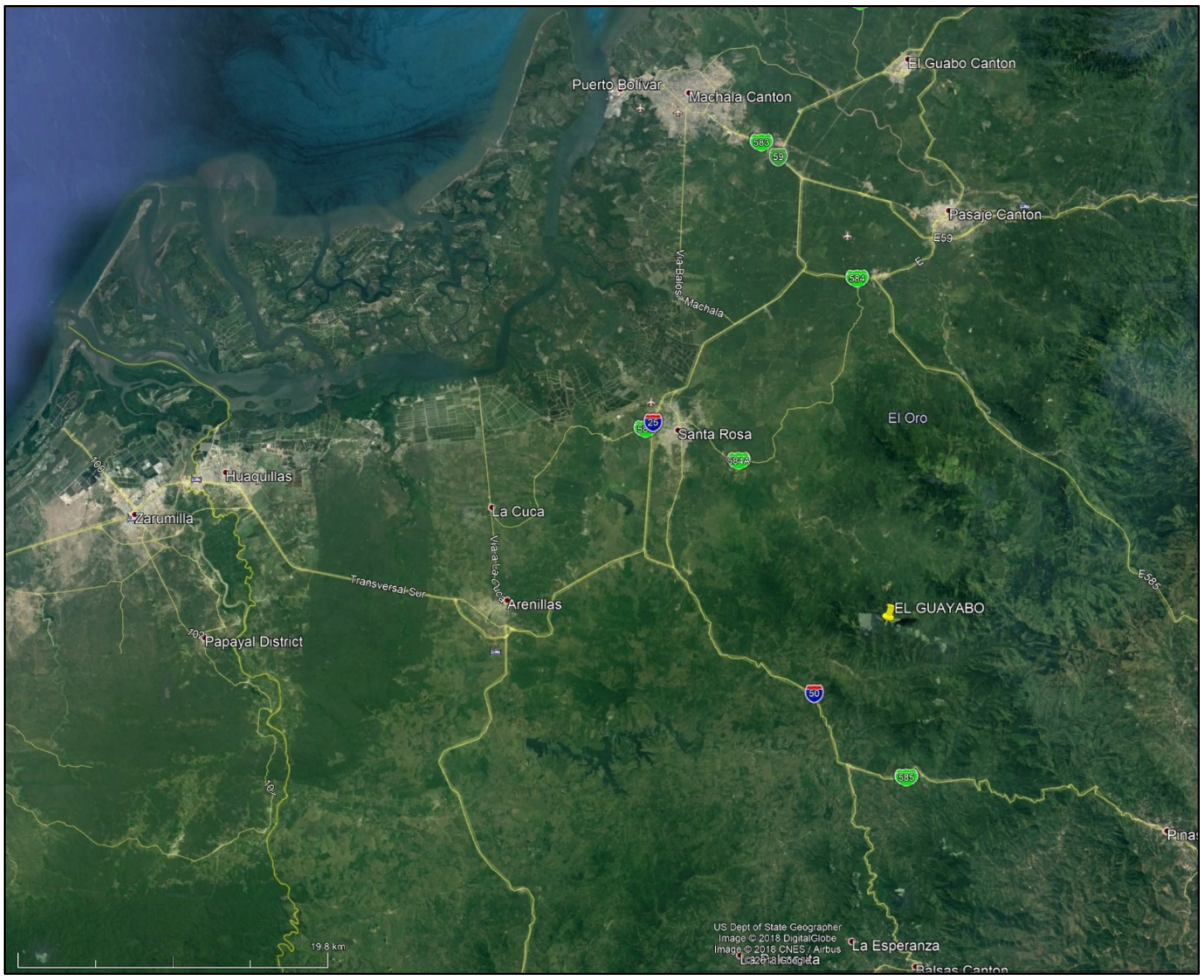


Figure 1-1: Location of the El Guayabo Project in southern Ecuador

Source: Google Earth.

1.1 Geology

The Project is located at the western end of the late Oligocene to Early Miocene Cangrejos Zaruma intermediate alkaline intrusive belt, which is controlled by an NW-striking fault zone. The intrusions range in age from 40 – 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.

The El Guayabo Project is located approximately 10 km SE of the Cangrejos Project and approximately 20 km NW of the Zaruma Prospect.

The Cangrejos Prospect is targeting a gold-copper-silver, porphyry host associated with a sequence of breccias and porphyritic dioritic intrusions. The deposit has multiple breccias and mineralisation stages. The currently defined NI43-101 resource is 423 Mt at 0.65 g/t gold (8.8 moz gold), 0.60 g/t silver, 0.13% copper (JRK Consulting, 2018).

The Zaruma Project contains multiple narrow veins which contain gold and silver. The current resource (Measured, Indicated & Inferred, NI 43-101) is 6.3 Mt at 12.5 g/t gold (2.5 moz gold), (Dynasty Metals 43-101 technical report, Sept 2014).

At El Guayabo, the host rocks for the intrusive complex is metamorphic basement and Oligocene – Mid-Miocene volcanic rocks. This suggests the intrusions are of a similar age to the host volcanic sequence, which also suggests an evolving basement magmatic system. The NW-striking fault zone to the SW of the Project is a bounding structure for the volcanic basin suggesting it may have a regional control on the intrusive complex (Figure 1-2, Figure 1-3).

Intrusions are described in the core logs as quartz diorite and dacite. Mineralisation has been recognised in:

- Steeply plunging breccia bodies and in the metamorphic host rock adjacent to the breccia (up to 200 m in diameter)
- Quartz veins and veinlets
- Disseminated pyrite and pyrrhotite in the intrusions and in the metamorphic host rock near the intrusions.

At least 10 mineralised breccias have been identified at surface, in workings or drill holes within the Licence and immediate surrounds. The breccias are described as quartz tourmaline indicating they are at least partially intrusive-related. The location and number of the breccia bodies may extend to 20 (John King e-mail 20 July). Two breccia bodies that are currently being exploited by artisanal miners, namely the Bloque De Cobre (Copper Block) and Bloque De Oro (Gold Block), (Figure 1-4). The breccias are located on NNE-striking and WNW-striking faults, suggesting their location may be partly influenced by these two fault orientations.

The Gold block breccia is a multi-event breccia. Early stage breccia is described as angular, matrix supported (quartz and albite) with a variable block size. Higher gold grades are associated with a later vuggy breccia stage with shallowly dipping veins and the presence of tourmaline with the copper and gold minerals.

In addition, high-grade gold veins occur in the SW of the exploration licence at Ecuaba vein system. These veins have a NW strike, contain quartz, arsenopyrite, chalcopyrite and gold with values of over 10 g/t. They are being exploited by artisanal mining methods and have been identified over 500 m of strike and down to a depth of 150 m.

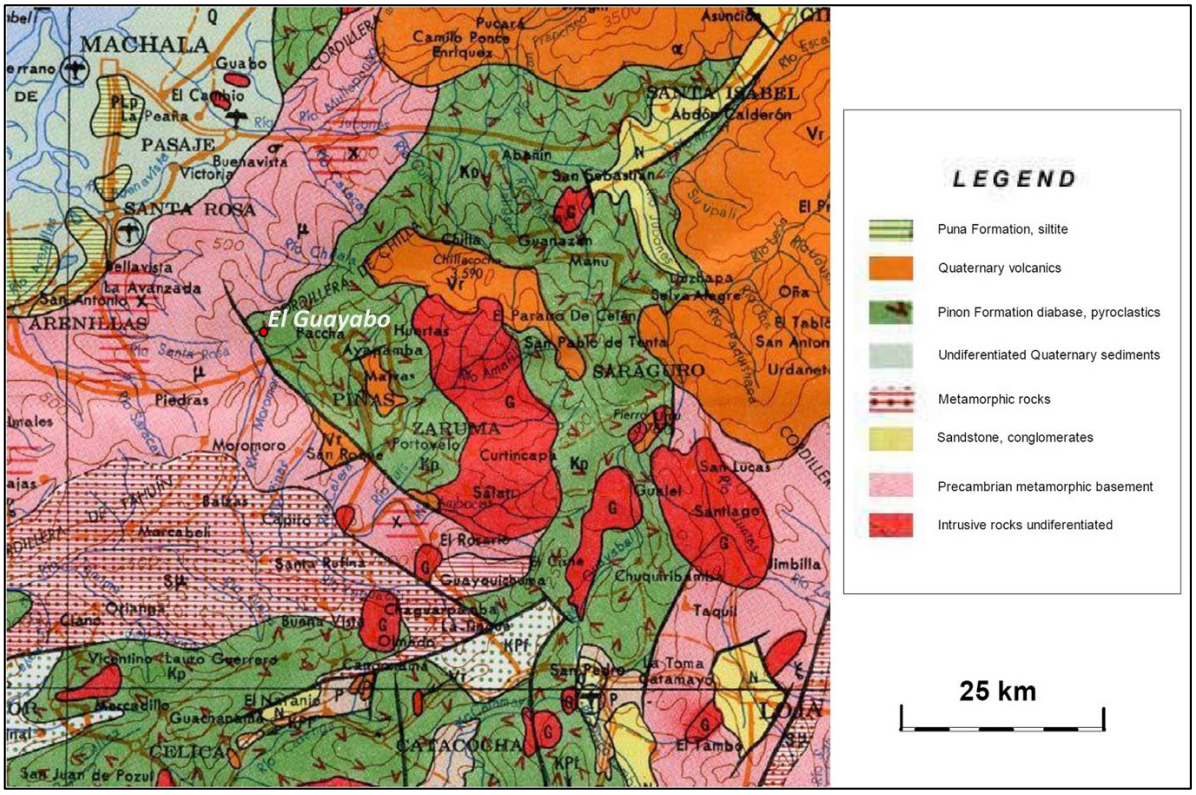


Figure 1-2: Regional geology showing the location of the El Guayabo Project

Source: Geological Map of Ecuador, Governmental Geological Service, 1969.

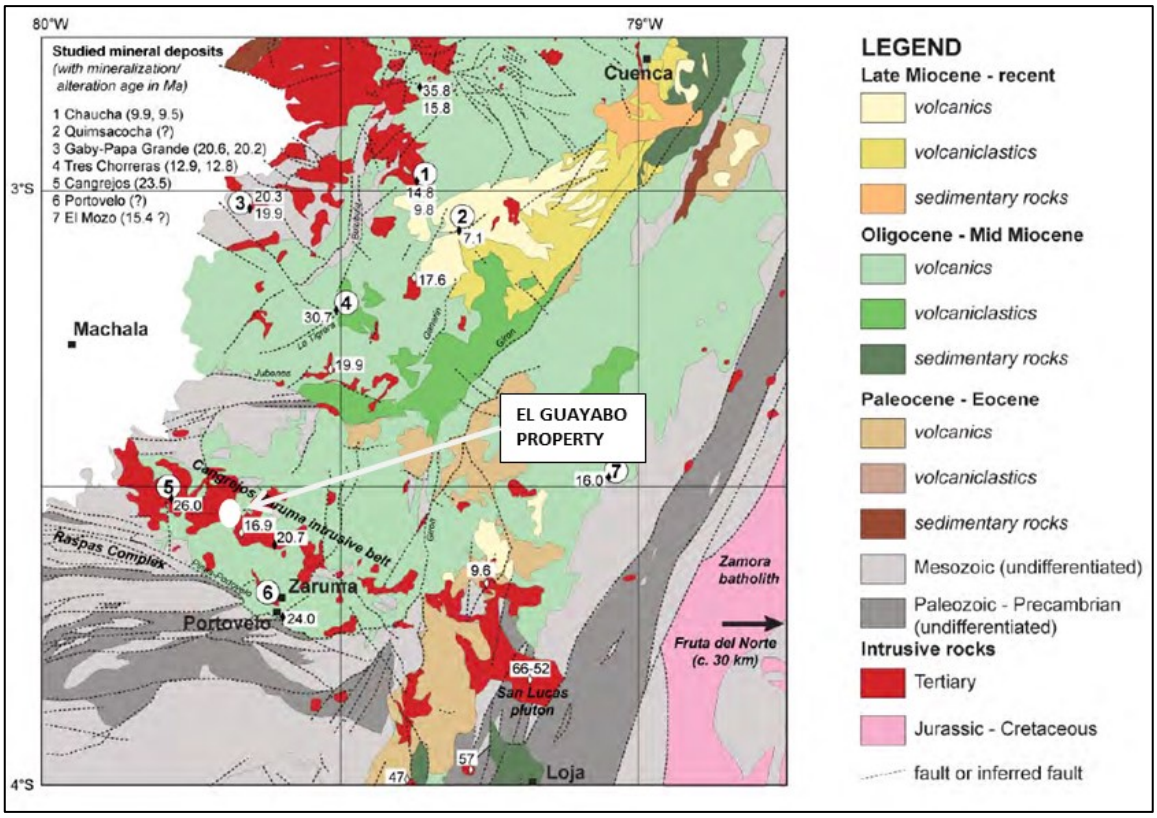


Figure 1-3: District scale geology of El Guayabo Property

Source: JKR Consulting (2018).

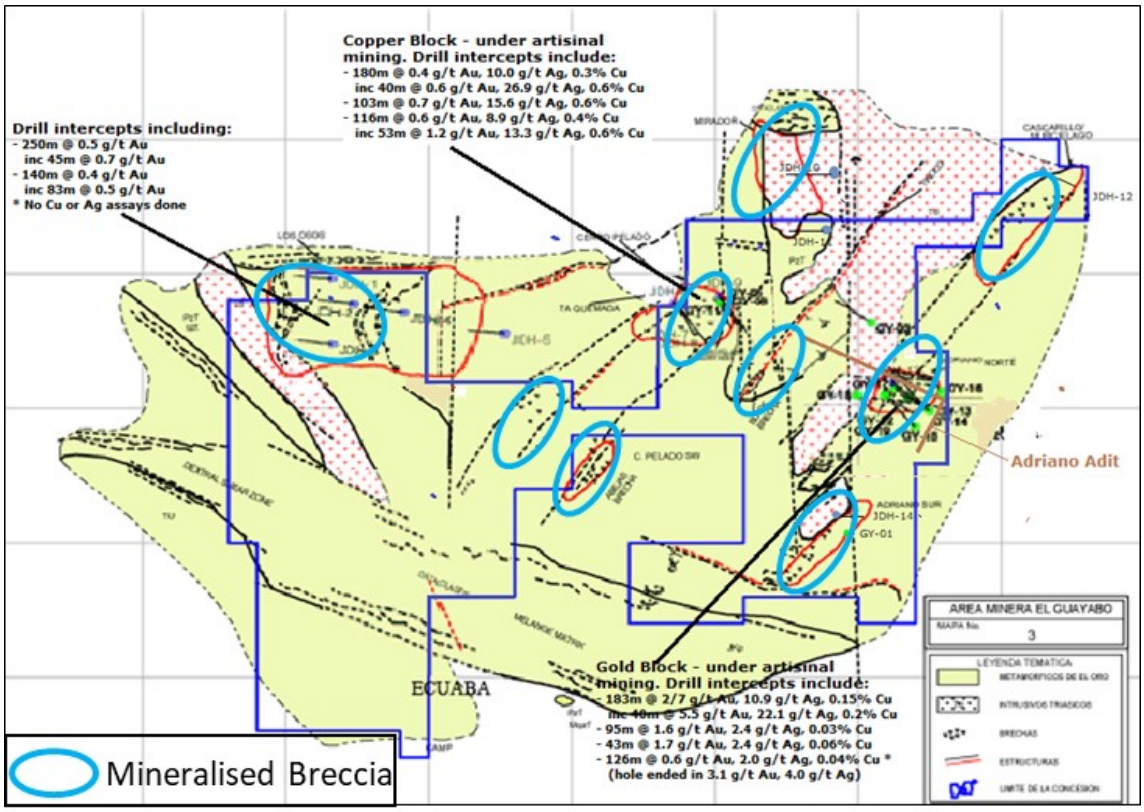


Figure 1-4: Summary surface geology and mineralisation plan for El Guayabo with location of known mineralised breccia highlighted

Source: JKR Consulting (2018). Mineralised breccia location from Carlos Moncayo (e-mail 23 July).

1.2 Exploration

JRK Consulting refer to previous exploration completed by Newmont Mining Corporation and Odin Mining and Exploration Ltd. Geological mapping, as well as soil and rock chip sampling surveys have all been undertaken, however these data have yet to be compiled. A hand drawn diagram of the rock chip samples with drill traces and the location of the Adriano Adit (artisanal) indicates widespread copper enrichment in rock chips >750 ppm over the eastern and western parts of the licence and widespread gold in soil >100 ppb, particularly over the Gold Block, Copper Block and NW parts of the exploration licence (Figure 1-5).

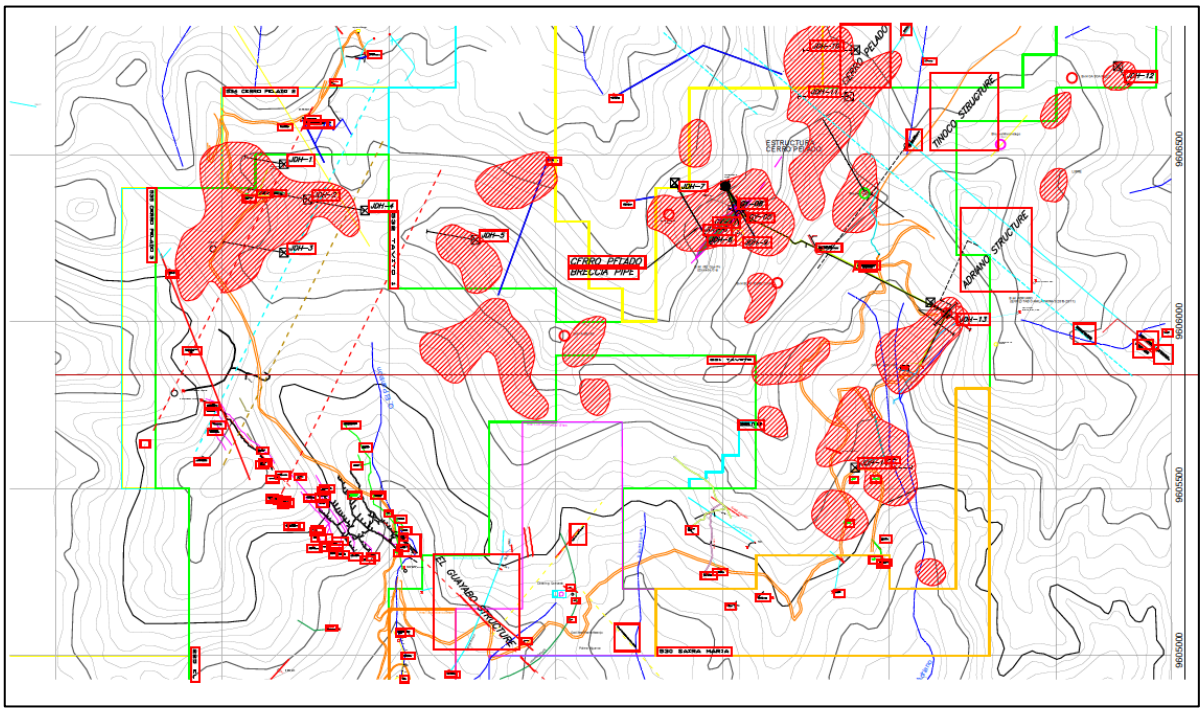


Figure 1-5: Gold in soil >100 ppb

Source: JKR Consulting (2018).

A total of 31 drill holes have been completed at the Project. Drill logs for all holes have been compiled, including logs for lithology, core recovery, samples, assay and magnetic susceptibility. JRK Consulting have generated a list of significant intercepts from the assays reported above unspecified cut off grades. Most holes have a significant intersection suggesting there is considerable potential to extend the known mineralisation.

The drill hole data has yet to be compiled into a digital data base. QA/QC data from the past drilling is not yet compiled. A list of the best intercepts has been compiled but no geological sections or geological model have been created yet to allow interpretation of the results.

Odin Mining and Exploration (Odin) drilled 14 diamond core holes in JV with Newmont (JDH-001 – JDH-014) in an initial drilling campaign. One of these holes (JDH-005) is drilled outside the current exploration licence.

The samples from the first six (6) holes were analysed for gold only. Of these, only JDH-006 has core still available for re-assay and to test for other elements.

The samples from the remaining eight (8) holes were analysed for Au, Ag, Cu, Zn, Pb and As. Of these, five holes still have core stored for check assay and to test for other elements.

Odin drilled further a further 18 holes with samples analysed for Au (screen fire and fire assay), Ag, Cu, Zn, Pb, As and Mo.

JRK Consulting note that alteration, controls on mineralisation and mineral assemblages are not consistently logged and should be re-logged with the core that remains. Newmont's early holes intersected visible chalcopyrite but samples were analysed for gold only. Some holes ended in mineralisation.

1.3 Artisanal Mining

Approximately 100 tonnes per day (tpd) at 2.5 g/t gold and 1% copper is reportedly being recovered from the Ecuaba vein system, Copper Block and Gold Block areas. The tribute mining agreement or ore sample grade have not been reviewed by SRK. JRK Consulting report that the tribute mining agreement can be cancelled on sale of the Project. It may be expected that the new owner would provide employment for the miners if the tribute mining agreement is cancelled. SRK recommends a review of the Project's "social licence" and expectations of the local community for a new owner, if the artisanal mining ceases.

2 Hualilan Project

The Hualilan Project hosts a gold-zinc skarn deposit located approximately 120 km north-northwest of San Juan, the capital of San Juan Province in north-western Argentina (Figure 2-1). The climate is moderate and dry. The area is sparsely populated, vegetation is thin and geology is well exposed at surface. Rain is most common from December to January. Field operations are possible year-round.

The Project is accessible via sealed roads to within 500 metres of the licence and then by a series of unsealed roads around the licence. The closest town on the power grid is approximately 40 km to the north of the Project. SRK did not visit the site as part of this review but relied on previous reports and partially summarised drill hole data.

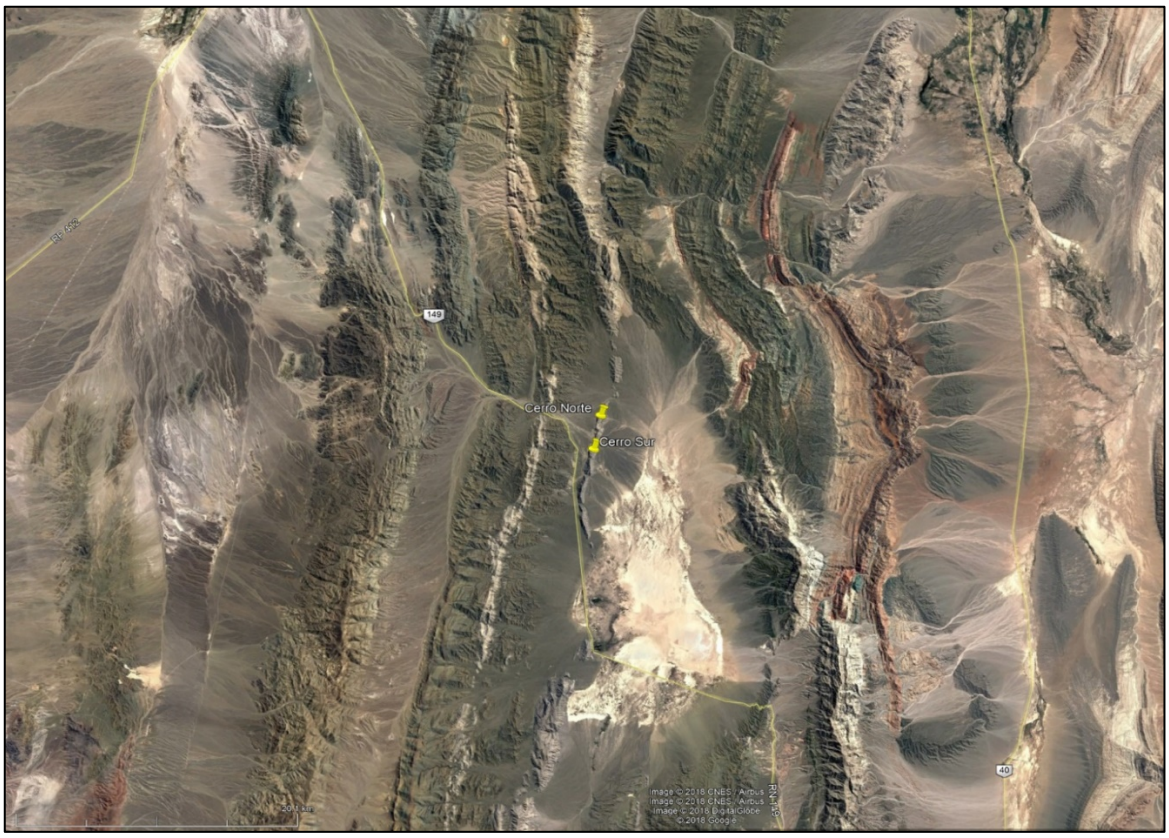


Figure 2-1: Location of Huililan Project (divided into Cerro Norte and Cerro Sur deposits)

Source: Google Earth.

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), separated by a late east-west striking fault.

The Hualilan Project consists of an option to acquire eight mining leases in the Cerro Sur area, each measuring some 300 m by 200 m (6 ha) for a total of 0.48 km^2 (Figure 2-2). The licences are divided into a northern (Cerro Norte) and southern (Cerro Sur) areas respectively and arranged irregularly on the known deposits exposed at surface. These known deposits are Divisadero 1, Flow de Hualilan, Pereyra y Aciar, Bicolor, Sentazon, Muchilera, Magnata and Pizarro (Figure 2-2, Figure 2-3).

Most of the known mineralisation at Cerro Sur is contained within the Magnata, Muchilera and Sentazon licences.

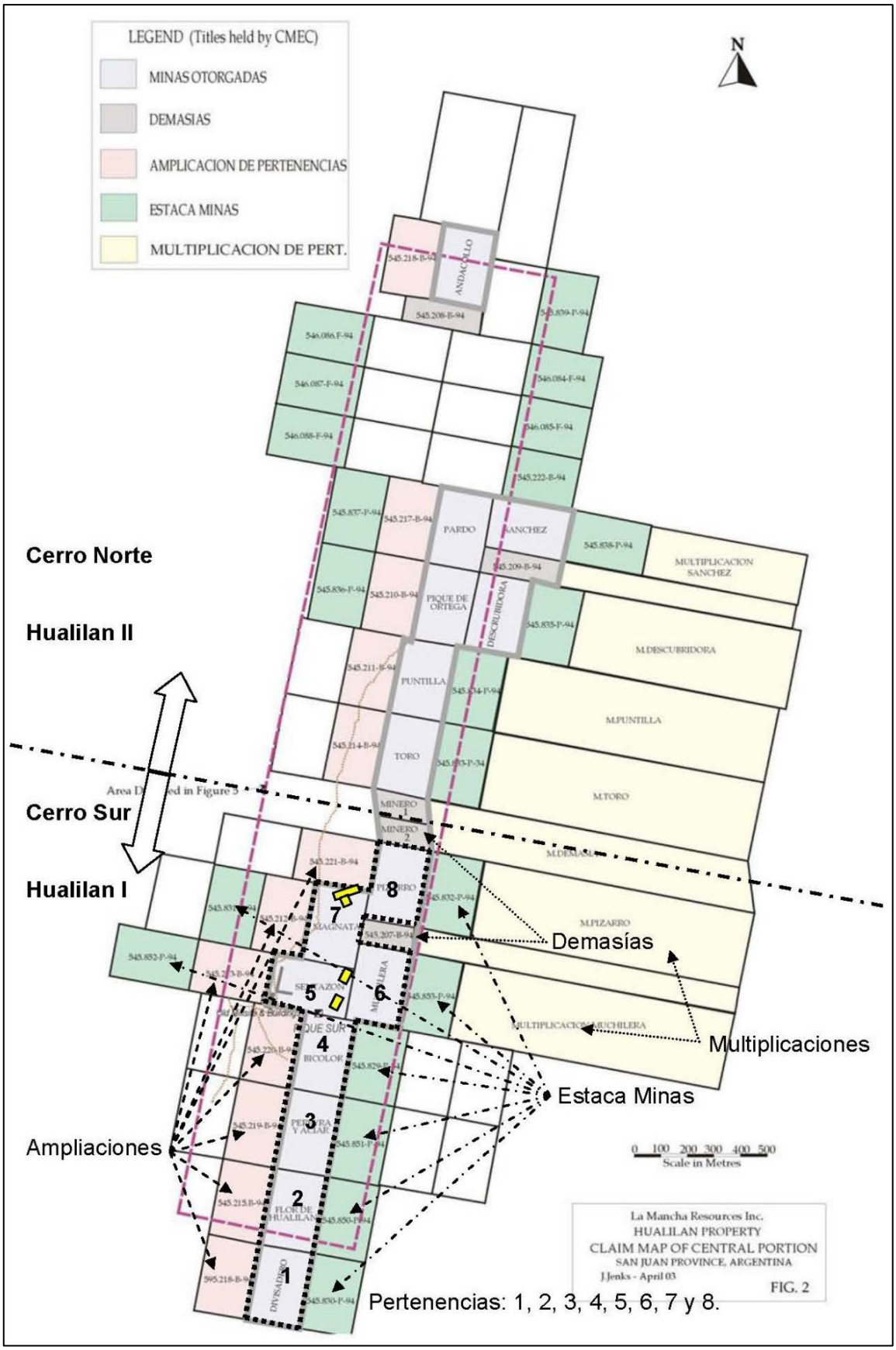


Figure 2-2: Hualilan exploration tenements with the Cerro Sur licences highlighted and numbered 1 to 8

Source: La Mancha Resources Inc.

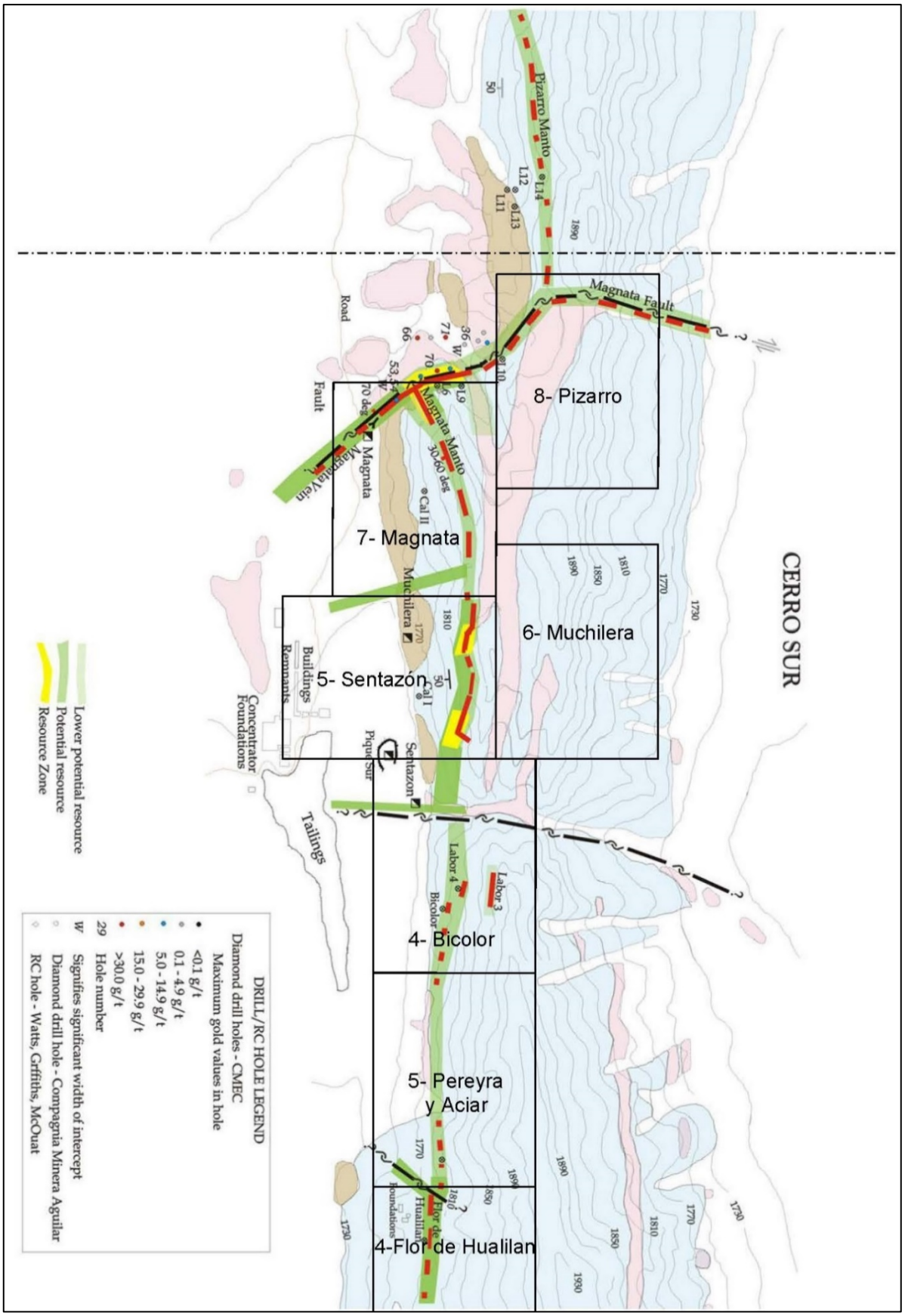


Figure 2-3: Cerro Sur interpretation of the continuity of mineralisation between individual licences

Note: North up the page.
Source: La Mancha Resources Inc. Geology.

The host rocks to the known mineralisation are Ordovician limestone which is overlain by Silurian conglomerate, sandstone and siltstone. The upper part of the Ordovician limestone contains a chert unit which has attracted bedding parallel fault movement by virtue of the competency contract between the limestone and chert. The entire sequence is folded and thrust-repeated, generally north-striking and moderately west dipping. The sedimentary rocks are intruded by mid-Miocene stocks, dykes and sills.

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

2.1 Mineralisation

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), separated by a late east-west striking fault. Mineralisation occurs in all rock types but it preferentially replaces within the limestone and faults.

The mineralisation has been classified as manto-style (distal skarn) with vein-hosted mineralisation. It has been divided into three phases; prograde skarn, retrograde skarn and a late quartz – galena event.

Gold occurs in native form, in tellurides (hessite) and as inclusions with pyrite and chalcopyrite. The mineralisation also commonly contains chalcopyrite, sphalerite and galena.

Mineralisation is either parallel to bedding, in bedding-parallel faults or in east-west striking, steeply dipping quartz-dominated veins that cross the bedding at a high angle. The veins have thicknesses of 1 to 4 m and contain sulphides. The intersection between the bedding parallel mineralisation and the east-striking cross veins seems to be important in localising the mineralisation. For example, the Dona Justa Open Pit at Cerro Norte (outside current option) is located at the intersection between these structures.

At Cerro Sur, mineralisation occurs in three *en-echelon* bedding parallel replacement zones that dip 40° – 70° to the west. The northern most zone links to an east-striking feeder (Figure 2-3).

2.2 Previous exploration and development

In the 1870's, British mining companies produced approximately 80 tpd for several years and later used a roaster to treat sulphide ore and liberate gold. Subsequent operations have recovered gold from tails and higher-grade oxide material. In 1955, a Merrill-Crowe cyanidation circuit was installed and treated 6 to 7 kt of ore from underground, 2 to 3 kt of stockpiled ore and 1 kt of tails at an average grade of 2 to 4 g/t gold. Total historic production is likely to be approximately 150,000 tonnes at 16 to 25 g/t gold (Hualilan Gold Mine Summary, 2004). There is 6 km of underground workings that pass through mineralised zones. Records of the underground geology and sampling are poor.

Poorly located sample data, geological mapping, trench and adit exposures, drill hole results and geophysical surveys exist but have largely not been check located and digitised. In an arid environment it may be possible to re-survey old drill holes to determine precise location.

Drilling in spreadsheet compilations extends to over 100 drill holes which have yet to be compiled into a drill hole database. Although there are spreadsheets containing drill hole assay data available in the data room it is difficult to get a spatial appreciation of the information across the entire deposit. Serial sections and regional plans through some of the mineralised zones were also in the data room. Drilling includes the following campaigns that could be identified from the data provided, although these do not cover all of the drilling completed:

1984 – Compania Minera Aguilar SA – 3 drill holes

1990 – Lixivia SA – 16 drill holes (2,040 m)

1995 – Plata Mining Ltd – 16 RC drill holes (1,432 m)

1999 – Company Minera El Colorado – 15 RC drill holes (1,700 m)

2004 – La Mancha Resources Inc – 10 diamond core (HQ) holes (2,482.13 m).

SRK expects that samples from these drilling campaigns would have included standard reference samples and blanks to be inserted into batches at regular intervals. Check assays are also likely to have been done. Identifying these QA/QC samples would be helpful in validating the results of drilling across the Project.

2.3 Tonnage and Grade Estimation

An initial estimate of the tonnage and grade was completed for the Project in 1999 based on work by EPROM (Chilean consulting group) in 1996 and by estimates prepared by Company Minera El Colorado (CMEC). A (non-JORC Code compliant Measured and Indicated) estimate comprising 444 kt at 14.6 g/t gold and (non-JORC Code compliant Inferred estimate of) estimate of 977 kt at 13.3 g/t gold was made (total 648 koz gold). CMEC completed another tonnage and grade estimate in 2002, which is closer in estimated tonnage and grade to a later estimate by La Mancha. These estimates are not JORC Code or NI-43-101 compliant as the geological model and data behind the estimates has not been able to be verified.

La Mancha completed a tonnage and grade estimate in 2006 that did not include the east-west mineralised veins for unknown reasons. Their (non-JORC Code compliant Measured and Indicated) estimate is 215 kt at 12.6 g/t gold, 49 g/t silver, 0.17% copper, 2.5% zinc and 0.58% lead. The (non-JORC Code compliant Inferred) estimate is a further 214 kt at 11.7 g/t gold, 46 g/t silver, 0.15% copper, 2.3% zinc and 0.58% lead.

The reasons behind the significant difference in tonnage between the estimates is not clear from the reports but likely related to assumptions on the continuity and extensions of the polygons.

2.4 Metallurgical Testing

Metallurgical test work has not been reviewed in detail for this report. Test work by Lakefield Research in 1999 indicated gold recovery by cyanidation of 40% and silver recovery of 31%. Metallurgical test work of a mixed oxide and sulphide sample in 2000 (CMEC) reported 80% recovery to a concentrate for gold and silver and 50% for zinc using floatation and Knelson concentrators for both oxide and sulphide samples.

Cyanidation of primary mineralisation seems to have provided relatively low recoveries in past mining ventures, hence the need for roasting of the sulphide ore. Further test work may be required to identify options for future processing. Transport and off-site beneficiation of a concentrate may need to be considered for the project if it does not have the tonnage to support on site beneficiation.

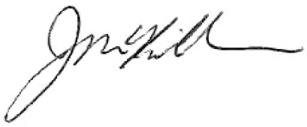
Sincerely,

SRK Consulting (Australasia) Pty Ltd

Signed by:

Stuart Munroe
Principal Consultant
(Project Evaluations)

Signed by:



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