ASX Release
26 July 2019

CEL Receives Exciting First Geophysical Survey Results for El Guayabo Gold and Copper Project

Highlights

- **Initial results received from one of two IP lines completed as part of a 16 km^2 3D MT survey at El Guayabo Gold and Copper Project in Southern Ecuador**
- **Interpretation shows two large targets below the limit of historic drilling (between 300m and 800m beneath surface) which are open at depth**
- **The first target coincides with an identified copper breccia with the target increasing markedly in both intensity and width below the current drilling.**
- **Historical drilling was completed to only 300m beneath surface with drill holes such as JDH-06 (116m @ 0.4% Cu + 0.6 g/t gold + 8.9 g/t silver) and GY-05 (150m @ 0.3% Cu + 0.4 g/t gold + 11.0 g/t silver)**
- **The second target is larger and is located approximately 600m south from the copper breccia**
- **This target is 300-400m wide, has a vertical extent greater than 500 metres, and is open at depth. No drilling or surface exploration has been conducted in the vicinity of this previously undiscovered target.**
- **Measurement of the chargeability properties of the core further support the interpretation that the target's likely relate to breccias carrying gold/copper/silver mineralisation.**

Challenger Exploration Limited (**ASX: CEL**) ("**CEL**" or the "**Company**") is pleased to report early results from a 16 km^2 3D-MT (3D Magneto-Telluric) survey with two DC/IP Test Lines. The company has received the 2D inversion data for the first DC/IP line which was oriented north-south across the copper breccia.

Commenting on the results, CEL Managing Director, Mr Kris Knauer, said

"We are very excited with the initial results of the geophysical campaign at our El Guayabo Gold and Copper Project in Southern Ecuador. Importantly we have identified two large targets.

The first target sits underneath some historic drill holes that confirmed a copper breccia down to 300m with the geophysics suggesting it goes down to at least 800m increasing in size and intensity at depth. It now appears that drill holes such as JDH-09, which intersected 112m @ 0.6% Cu + 0.7 g/t gold + 14.6 g/t silver, only intersected the lower intensity top of the target.

The second target has exactly the same properties as the first copper breccia target but it is larger and there has been no exploration near it. As a result, we have immediately started a field mapping and sampling program in the vicinity of this previously undiscovered target."

SURVEY OVERVIEW

CEL contracted international geophysical company Quantec Geoscience, to conduct a distributed array 3D-MT (3D Magneto-Telluric) covering 16 square kilometres using its Spartan system. Two 2D IP/EMAP test lines were also collected using Quantec's highly acclaimed deep-earth imaging Titan electrical geophysical system. Quantec were contracted by Solgold to undertake 3DIP-MT (3D Induced Polarisation and Magneto-Telluric) survey over their Cascabel project In Ecuador.

Whilst conventional IP systems typically see to depths of around 400m at best, the Titan system can read IP effects to potential depths of 800m and beyond, and Spartan can read resistivity data to potential depths of 2 kilometres and beyond using magneto-telluric measurements.

The Spartan and Titan systems are a very sophisticated survey technique and were designed to image the existing breccia bodies (and their depth extensions), new breccia bodies, and to define porphyry targets to a depth of 2 km. Only widely spaced airborne magnetics has previously been done over the property.

RESULTS

At the date of this announcement, processed data has been received from Quantec, and preliminary interpretation of the chargeability (Figure 1) and resistivity data (Figure 2) has been completed, for the north-south oriented IP test line. (ref to Figure 3 for location).

The IP Chargeability section is shown below In Figure 1. The profile extends 0m (south) to 3300m (north) with coverage extended ~ 800m beyond the concession boundary given sale/farmin approaches from surrounding concession holders. The line was designed to traverse the copper breccia to test for possible extensions at depth.

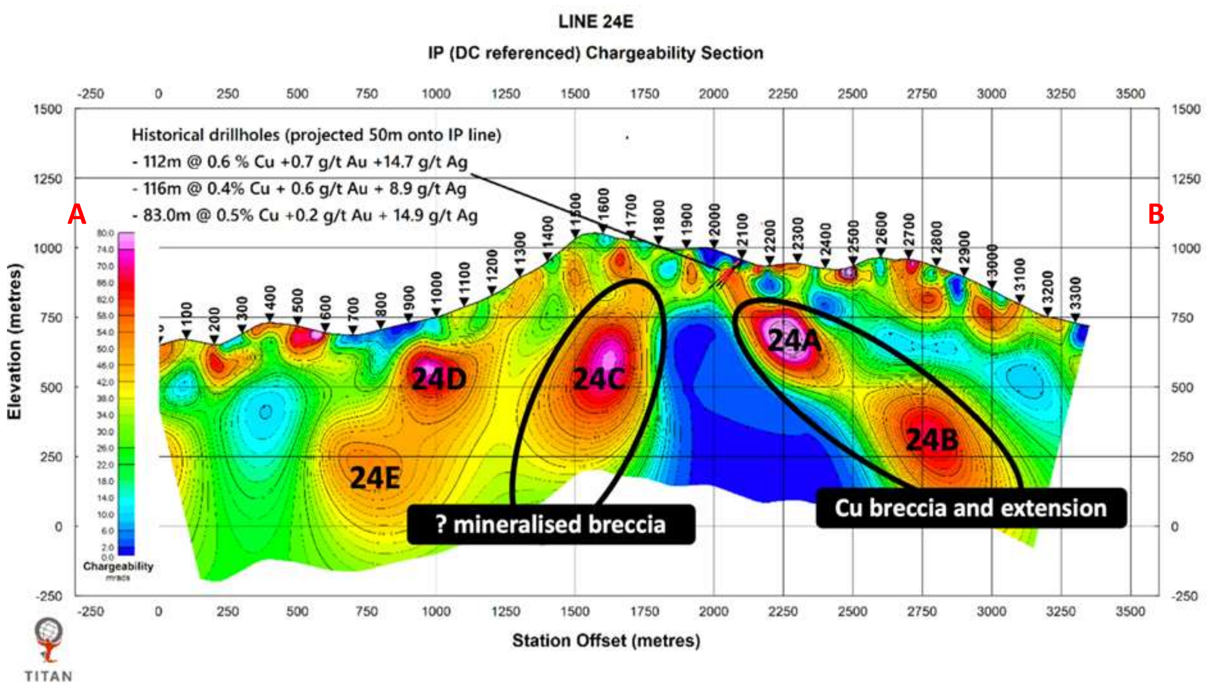

Figure 1 - IP Chargeability model along north-south IP line

The most noticeable feature on the chargeability section is a high chargeability zone starting just below site 2100 and dipping to the north (24A). This zone can be correlated with the copper breccia which was Intersected by 6 drill holes as listed In Table 1. These drill holes and the known copper breccia mineralisation is shown on Figure 1. This chargeability-high Increases In both width and intensity from 250m to 500m subsurface which is below the limit If the deepest drilling. This chargeability high also shows a second higher grade zone (24B) which Is approximately 500m-800m sub surface

The high chargeability response of the mineralised copper breccia, compared to all other known rock types intersected in the core, was confirmed by the program of measurement of chargeability, resistivity and Mag susceptibility response in the core which accompanied the survey. This program also indicated that in the copper breccia higher chargeability response also correlates with higher copper and gold grades.

A second main chargeability-high zone occurs approximately 600m south along strike (24C). This chargeability high looks to be blind (does not reach surface), has a width of approximately 300m and extends at to at least 750m sub-surface. A program of field reconnaissance has commenced to in the projected outcrop of this chargeability anomaly to check for signs of leakage from a mineralised system below. This chargeability high could indicate another mineralised breccia analogous to the copper breccia. Additionally, there are two lower tenor chargeability anomalies further south along strike (24D) and (24E) on Figure 1.

IP resistivity results

The IP Resistivity section Is shown below In Figure 2. Of note Is that the more chargeable zone of the copper breccia (24A) can be correlated with a more conductive zone 24F. Similarly, we can also correlate the more conductive zone 24G observed at 300-600m depth below site 2800N with the more chargeable zone which is interpreted as a deep extension of the copper breccia (24B).

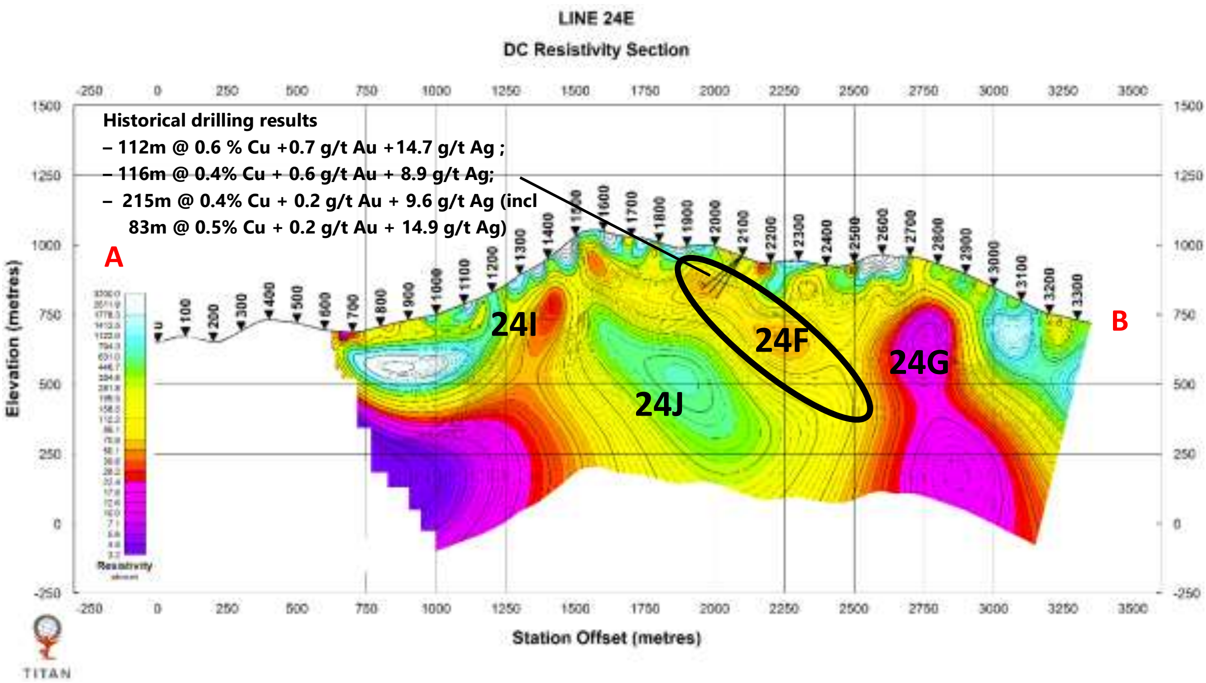

Figure 2 - DC 2D Resistivity model along north-south IP line

A small more conductive feature 24I is identified below site 1400N; that feature might be correlated with the more chargeable zone 24C. Note here that a more resistive zone 24J is located between the two more conductive zones 24F and 24I; that more resistive unit is non-chargeable.

Balance of the survey results and next steps

More detailed Information on the survey Is given In Appendix 1. The final survey results to which will be delivered will consist of :

- Inversion 2D products
  - 2D model sections (for each line) of the DC resistivity model;
  - IP chargeability model using the DC resistivity model as a reference;
  - IP chargeability model using a half-space resistivity model as a reference;
  - MT(EMAP) resistivity model;
  - Joint MT+DC resistivity model; IP chargeability model using the MT+DC resistivity model;
- Inversion 3D products
  - 3D MT model;
  - Cross-sections and Elevation Plan maps of the 3D MT models;

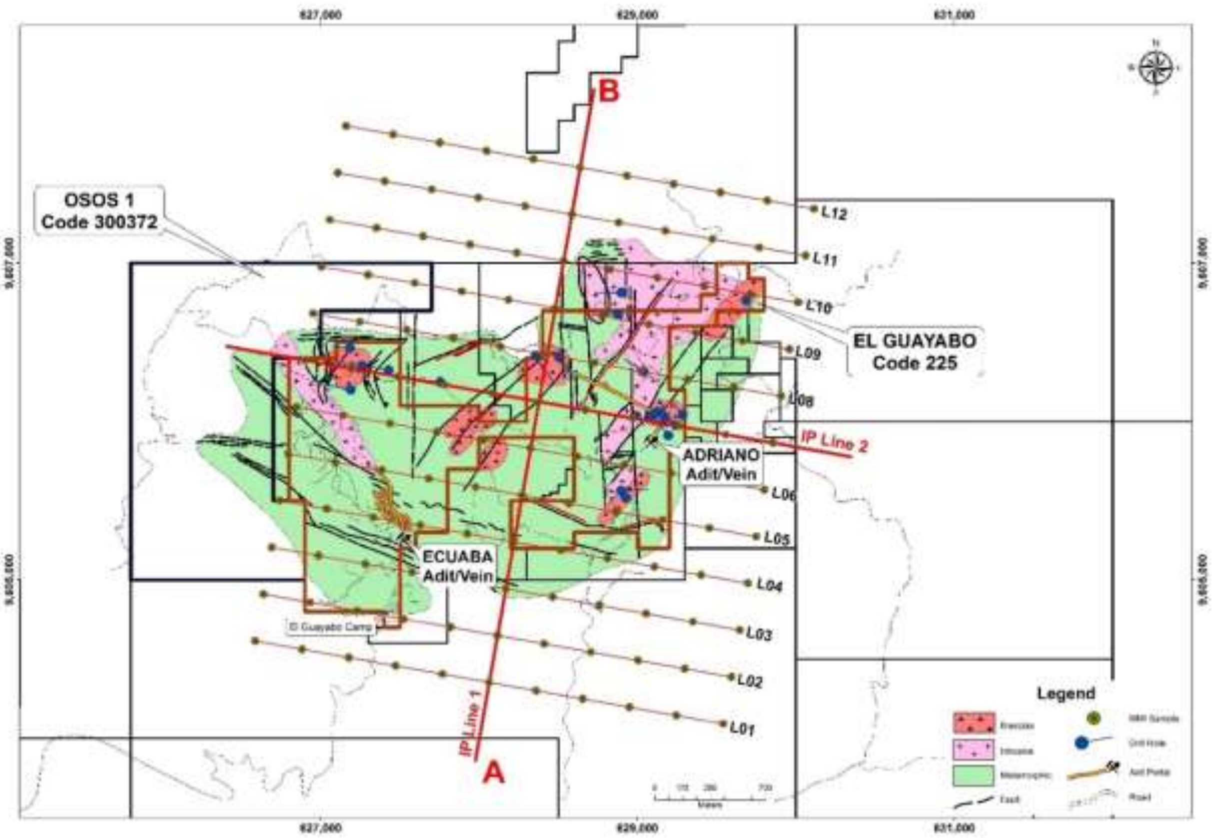

Figure 3 – Plan View Geophysics survey and north-south IP Line (A-B)

CEL anticipates receiving the 2D chargeability and resistivity models and preliminary interpretation for the east-west IP line shortly with the 3D-MT results after this. The company will wait for the complete survey results, but given the success of the IP test line in delineation the breccia targets, the company anticipates it will undertake additional IP lines to better define these two breccia targets.

Drillhole (#)		Mineralised Inte From	To	Total (m)		Gold (g/t)			Ag (g/t)		Cu (%)		Azimuth (deg)	Incl (deg)	TD (m)
JDH-006	from	17.99	89.6	**71.6**	**m @**	**0.2**	**g/t Au**	**+**	**2.0**	**g/t Ag**	**0.10**	**% Cu**	150	-45	302.7
	and	164.8	281	**116.2**	**m @**	**0.6**	**g/t Au**	**+**	**8.9**	**g/t Ag**	**0.40**	**% Cu**			
	inc	227.8	281.09	**53.3**	**m @**	**1.2**	**g/t Au**	**+**	**13.2**	**g/t Ag**	**0.62**	**% Cu**			
JDH-008	from	104.7	136.7	**32.0**	**m @**	**0.1**	**g/t Au**	**+**	**3.6**	**g/t Ag**	**0.13**	**% Cu**	150	-60	352.7
	and	249.08	316.15	**67.1**	**m @**	**0.2**	**g/t Au**	**+**	**5.7**	**g/t Ag**	**0.21**	**% Cu**			
	and	291.76	316.15	**24.4**	**m @**	**0.5**	**g/t Au**	**+**	**9.2**	**g/t Ag**	**0.34**	**% Cu**			
JDH-009	from	10.3	122.03	**111.7**	**m @**	**0.7**	**g/t Au**	**+**	**14.6**	**g/t Ag**	**0.58**	**% Cu**	150	-45	256.7
	inc	34.6	91.54	**56.9**	**m @**	**0.2**	**g/t Au**	**+**	**19.1**	**g/t Ag**	**0.82**	**% Cu**			
	and	201.4	205.4	**4.0**	**m @**	**11.4**	**g/t Au**	**+**	**9.7**	**g/t Ag**	**0.01**	**% Cu**			
	and	255.1	eoh	**1.5**	**m @**	**0.7**	**g/t Au**	**+**	**1.5**	**g/t Ag**	**0.02**	**% Cu**			
GGY-005	from	12	162	**150.0**	**m @**	**0.4**	**g/t Au**	**+**	**11.0**	**g/t Ag**	**0.30**	**% Cu**	145	-60	258.3
	inc	14	54	**40.0**	**m @**	**0.6**	**g/t Au**	**+**	**25.5**	**g/t Ag**	**0.60**	**% Cu**			
	and	180	194	**14.0**	**m @**	**0.2**	**g/t Au**	**+**	**6.1**	**g/t Ag**	**0.22**	**% Cu**			
GGY-008	from	16	271	**255.0**	**m @**	**0.1**	**g/t Au**	**+**	**6.5**	**g/t Ag**	**0.24**	**% Cu**	145	-75	312.3
	inc	235	271	**36.0**	**m @**	**0.4**	**g/t Au**	**+**	**11.5**	**g/t Ag**	**0.50**	**% Cu**			
GGY-011	from	14	229	**215.0**	**m @**	**0.2**	**g/t Au**	**+**	**9.6**	**g/t Ag**	**0.36**	**% Cu**	160	-60	241.6
	inc	14	97	**83.0**	**m @**	**0.2**	**g/t Au**	**+**	**14.9**	**g/t Ag**	**0.50**	**% Cu**			
	inc	202	229	**27.0**	**m @**	**0.4**	**g/t Au**	**+**	**15.2**	**g/t Ag**	**0.80**	**% Cu**			

Table 1 Listing all historical drill holes targeting the copper breccia (Location data provided in JORC Table 1)

Ends

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About Challenger Exploration

Challenger Exploration Limited (ASX: CEL) is developing two key gold/copper projects in South America.

1. **Hualilan Project**, located in San Juan Province Argentina, is a near term development opportunity. It has extensive historical drilling with over 150 drill-holes and a Non-JORC historical resource [(#1)] of >600,000 Oz @ 13.7 g/t gold which remains open in most directions. In the 15 years prior to being acquired by CEL the project was dormant. CEL's focus over the coming 12 months will be to redefine the scope of the Hualilan Project to better determine the best means of development to seek to achieve early cash-flows.
2. **El Guayabo Project** was last drilled by Newmont Mining in 1995 and 1997 targeting gold in hydrothermal breccias. Historical drilling has demonstrated potential to host significant copper and associated gold and silver mineralisation. Historical drilling has returned a number of intersections of plus 100m of intrusion related breccia and vein hosted mineralisation. The Project has multiple targets including breccia hosted mineralization, an extensive flat lying late stage vein system and an underlying porphyry system target neither of which has been drill tested.
3. **Karoo Basin** provides a wildcard exposure to 1 million acres shale gas application in the world class Karoo Basin in South Africa in which Shell is the largest application holder in the basin.

[#1] For details of the foreign non-JORC compliant resource and to ensure compliance with LR 5.12 please refer to the Company's ASX Release dated 22 February 2019. These estimates are foreign estimates and not reported in accordance with the JORC Code. A competent person has not done sufficient work to clarify the foreign estimates as a mineral resource in accordance with the JORC Code. It is uncertain that following evaluation and/or further exploration work that the foreign estimate will be able to be reported as a mineral resource. The company is not in possession of any new information or data relating to the foreign estimates that materially impact on the reliability of the estimates that materially impacts on the reliability of the estimates or CEL's ability to verify the foreign estimates estimate as minimal resources in accordance with Appendix 5A (JORC Code). The company confirms that the supporting information provided in the initial market announcement on February 22 2019 continues to apply and is not materially changed

Competent Person Statement – Exploration results

The information in this release provided under ASX Listing Rules 5.12.2 to 5.12.7 is an accurate representation of the available data and studies for the material mining project. The information that relates to sampling techniques and data, exploration results and geological interpretation has been compiled by Mr John King who is a full-time employee of JRK Consulting Pty Ltd. Mr King is a member of the Mining and Metallurgical Society of America and a senior fellow of the Society for Economic Geologists in the USA. This is a Recognised Professional Organisation (RPO) under the Joint Ore Reserves Committee (JORC) Code.

Mr King has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr King consents to the inclusion in this report of the matters based on information in the form and context in which it appears. The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.

Appendix 1 - Additional Explanation and Inversion Section Plots N-S IP line

DCIP

DCIP is an electrical method that uses the injection of current and the measurement of voltage difference along with its rate of decay to determine subsurface resistivity and chargeability respectively. Depth of investigation is mainly controlled by the array geometry but may also be limited by the received signal (dependent on transmitted current) and ground resistivity. Chargeability is particularly susceptible to data with a low signal-to-noise ratio. The differences in penetration depth between DC resistivity and chargeability are a function of relative property contrasts and relative signal-to-noise levels between the two measurements. A detailed introduction to DCIP is given in Telford, et al. (1976).

The primary tool for evaluating data is through the inversion of the data in two or three dimensions. An inversion model depends not only on the data collected, but also on the associated data errors in the reading and the "model norm". Inversion models are not unique and may contain "artefacts" from the inversion process. The inversion model may not accurately reflect all the information apparent in the actual data. Inversion models must be reviewed in context with the observed data, model fit, and with an understanding of the model norm used.

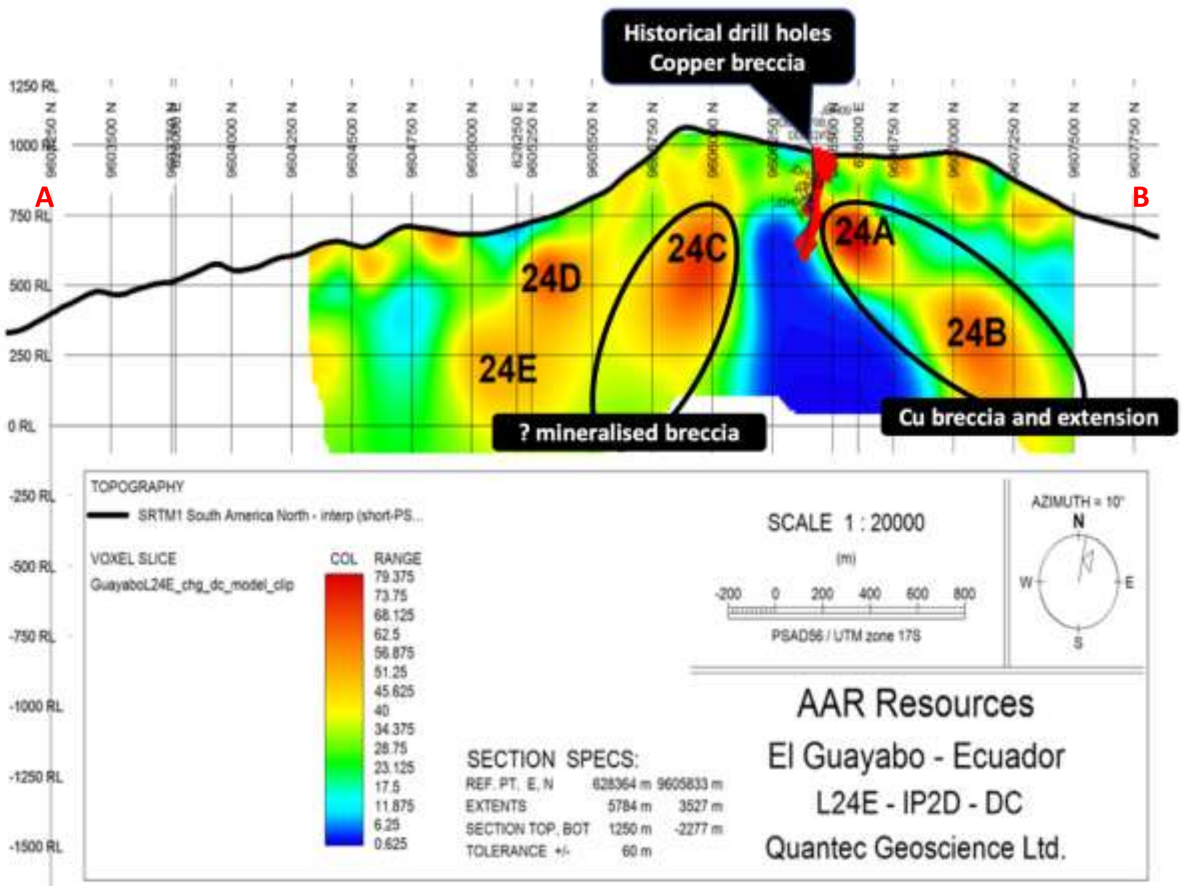


Figure 4 - DC 2D Resistivity model along north-south IP line

Magnetotelluric (MT)

The Magnetotelluric (MT) method is a natural source EM method that measures the variation of both the electric (E) and magnetic (H) field on the surface of the earth to determine the distribution at depth of the resistivity of the underlying rocks. A complete review of the method is presented in Vozoff (1972) and Orange (1989).

The measured MT impedance Z, defined by the ratio between the E and H fields, is a tensor of complex numbers. This tensor is generally represented by an apparent resistivity (a parameter proportional to the modulus of Z) and a phase (argument of Z). The variation of those parameters with frequency relates the variations of the resistivity with depth, the high frequencies sampling the sub-surface and the low frequencies the deeper part of the earth. However, the apparent resistivity and the phase have an opposite behaviour. An increase of the phase indicates a more conductive zone than the host rocks and is associated with a decrease in apparent resistivity. The objective of the inversion of MT data is to compute a distribution of the resistivity of the surface that explains the variations of the MT parameters, i.e. the response of the model that fits the observed data. The solution however is not unique and different inversions must be performed (different programs, different conditions) to test and compare solutions for artefacts versus a target anomaly.

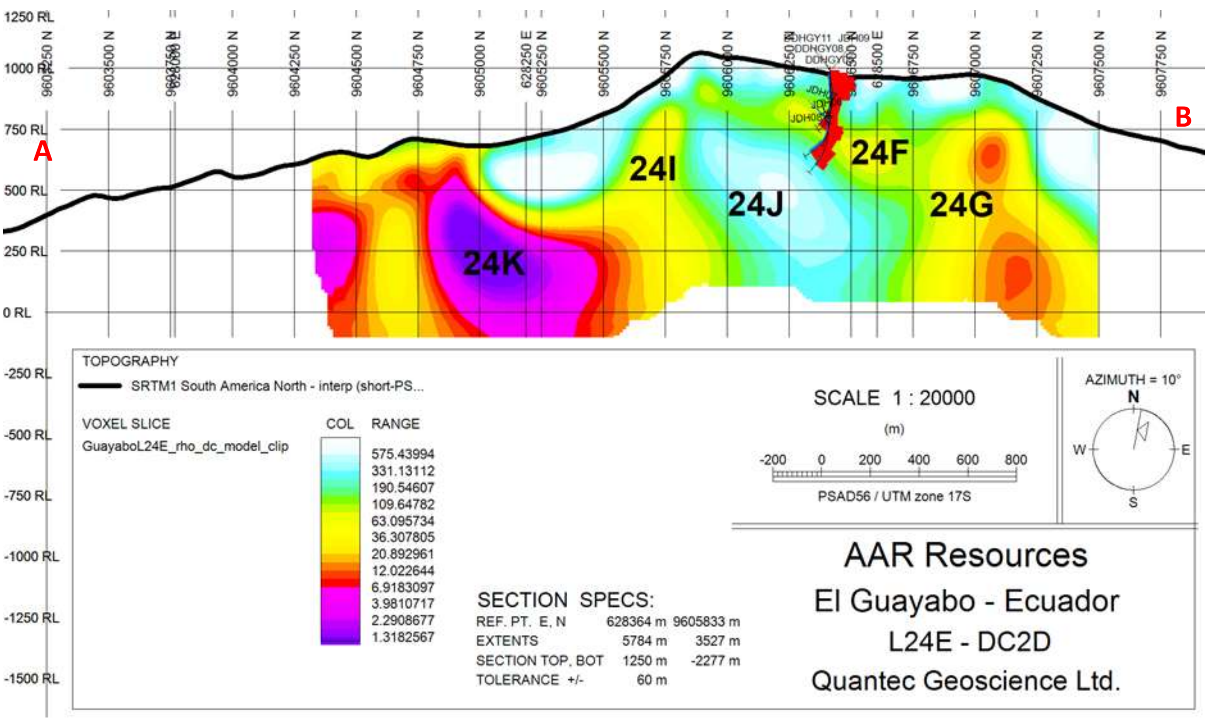


Figure 5 - DC 2D Resistivity model along north-south IP line

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	- *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* - *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* - *Aspects of the determination of mineralisation that are Material to the Public Report.* - *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Newmont Mining Corp (NYSE: NEM) ("**Newmont**") and Odin Mining and Exploration Ltd (TSX: ODN) ("**Odin**") core drilled the property between February 1995 and November 1996 across two drilling campaigns. • The sampling techniques were reviewed as part of a 43-101 Technical report on Cangrejos Property which also included the early results of the El Joven joint venture between Odin and Newmont, under which the work on the El Guayabo project was undertaken. This report is dated 27 May 2004 and found the sampling techniques and intervals to be appropriate with adequate QA/QC and custody procedures, core recoveries generally 100%, and appropriate duplicates and blanks use for determining assay precision and accuracy**.** • Duplicates were prepared by the Laboratory (Bonder Cleg) which used internal standards. Newmont also inserted its own standards at 25 sample intervals as a control on analytical quality • Diamond drilling produced core that was sawed in half with one half sent to the laboratory for assaying per industry standards and the remaining core retained on site. • Cu assays above 2% were not re-assayed using a technique calibrated to higher value Cu results hence the maximum reported assay for copper is 2%. • All core samples were analysed using a standard fire assay with atomic absorption finish on a 30 g charge (30 g FAA). Because of concerns about possible reproducibility problems in the gold values resulting from the presence of coarse gold, the coarse crusher rejects for all samples with results greater than 0.5 g/t were re-assayed using the "blaster" technique - a screen type fire analysis based on a pulverized sample with a mass of about 5 kg. Samples from most of these intersections were also analysed for Cu, Mo, Pb, Zn and Ag.
Drilling techniques	- *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Diamond core drilling HQ size from surface and reducing to NQ size as necessary. The historical records do not indicate if the core was oriented

Criteria	JORC Code explanation	Commentary
Drill sample recovery	- *Method of recording and assessing core and chip sample recoveries and results assessed.* - *Measures taken to maximise sample recovery and ensure representative nature of the samples.* - *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• In a majority of cases core recovery was 100%. • In the historical drill logs where core recoveries were less than 100% the percentage core recovery was noted. • No documentation on the methods to maximise sample recovery was reported in historical reports however inspection of the available core and historical drilling logs indicate that core recoveries were generally 100% with the exception of the top few metres of each drill hole. • No material bias has presently been recognised in core. • Observation of the core from various drill holes indicate that the rock is generally fairly solid even where it has been subjected to intense, pervasive hydrothermal alteration and core recoveries are generally 100%. Consequently, it is expected that the samples obtained were not unduly biased by significant core losses either during the drilling or cutting processes
Logging	- *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* - *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* - *The total length and percentage of the relevant intersections logged.*	• Geological logging was completed at 1-3 m intervals which is appropriate given the exploration was reconnaissance in nature. • All core was logged qualitatively at 1 to 3 m intervals depending on geology intercepted and core was photographed. • Inspections of core and logging have concluded that the logging was representative. • 100% of all core including all relevant intersections were logged
Sub-sampling techniques and sample preparation	- *If core, whether cut or sawn and whether quarter, half or all core taken.* - *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* - *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* - *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* - *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* - *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Core was cut with diamond saw and half core was taken • All drilling was core drilling as such this is not relevant • Sample preparation was appropriate and of good quality. Each 1-3 m sample of half core was dried, crushed to a nominal – 10 mesh (ca 2mm), then 250 g of chips were split out and pulverized. A sub-sample of the pulp was then sent for analysis for gold by standard fire assay on a 30 g charge with an atomic absorption finish with a nominal 5 ppb Au detection limit. • Measures taken to ensure that the sampling is representative of the in situ material collected is not outlined in the historical documentation however a program of re-assaying was undertaken by Odin which demonstrated the repeatability of original assay results • The use of a 1-3 m sample length is appropriate for deposits of finely disseminated mineralisation where long mineralised intersections are to be expected.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	- *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* - *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* - *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• The nature, quality and appropriateness of the assaying and laboratory procedures used by Newmont and Odin are still in line with industry best practice with appropriate QA/QC and chain of custody and are considered appropriate. • Available historical data does not mention details of geophysical tools as such it is believed a geophysical campaign was not completed in parallel with the drilling campaign. • Duplicates were prepared by the Laboratory (Bonder Cleg) which used internal standards. Newmont also inserted its own standards at 25 sample intervals as a control on analytical quality. Later Odin undertook a re-assaying program of the majority of the higher grade sections which confirmed the repeatability. • Given the above, it is considered acceptable levels of accuracy and precision have been established
Verification of sampling and assaying	- *The verification of significant intersections by either independent or alternative company personnel.* - *The use of twinned holes.* - *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* - *Discuss any adjustment to assay data.*	• All intersections with results greater than 0.5 g/t were re-assayed using the "blaster" technique - a screen type fire analysis based on a pulverised sample with a mass of about 5 kg. Additionally Odin re-assayed the many of the higher grade sections with re-assay results demonstrating repeatability of the original results. • Neither Newmont nor Odin attempted to verify intercepts with twinned holes • Data was sourced from scanned copies of original drill logs and in some cases original paper copies of assay sheets are available. This data is currently stored in a drop box data base with the originals held on site. • No adjustments to assay data were made.
Location of data points	- *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* - *Specification of the grid system used.* - *Quality and adequacy of topographic control.*	• Newmont undertook survey to located drill holes in accordance with best practice at the time. No formal check surveying has been undertaken to verify drill collar locations at this stage • Coordinate System: PSAD 1956 UTM Zone 17S Projection: Transverse Mercator Datum: Provisional S American 1956 • Quality of topographic control appears to be+ - 1 meter which is sufficient for the exploration activities undertaken.
Data spacing and distribution	- *Data spacing for reporting of Exploration Results.* - *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* - *Whether sample compositing has been applied.*	• Grid drilling was exploration based and a grid was not considered appropriate at that time. • A JORC compliant Mineral Resource Estimate has not been calculated • Sample compositing was not used
Orientation of data in	- *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known,*	• Estimation bias is not evident. • A sampling bias is not evident.

Criteria	JORC Code explanation	Commentary
relation to geological structure	*considering the deposit type.* - *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	
Sample security	- *The measures taken to ensure sample security.*	• Newmont sent all its field samples to the Bondar Clegg sample preparation facility in Quito for preparation. From there, approximately 100 grams of pulp for each sample was air freighted to the Bondar Clegg laboratory (now absorbed by ALS-Chemex) in Vancouver, for analysis. There is no record of any special steps to monitor the security of the samples during transport either between the field and Quito, or between Quito and Vancouver. However, Newmont did insert its own standards at 25 sample intervals as a control on analytical quality
Audits or reviews	- *The results of any audits or reviews of sampling techniques and data.*	• The sampling techniques were reviewed as part of a 43-101 Technical report on Cangrejos Property which also included the early results of the El Joven joint venture between Odin and Newmont, under which the work on the El Guayabo project was undertaken. This report is dated 27 May 2004 and found the sampling techniques and intervals to be appropriate with adequate QA/QC and custody procedures, core recoveries generally 100%, and appropriate duplicates and blanks use for determining assay precision and accuracy.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	- *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* - *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	- The El Guayabo (Code. 225) mining concession is located within El Oro Province. The concession is held by Torata Mining Resources S.A (TMR S.A) and was granted in compliance with the Mining Act ("MA") in on April 27, 2010. There are no overriding royalties on the project other than normal Ecuadorian government royalties. - The property has no historical sites, wilderness or national park issues. - The mining title grants the owner an exclusive right to perform mining activities, including, exploration, exploitation and processing of minerals over the area covered by the prior title for a period of 25 years, renewable for a further 25 years. Under its option agreement, the owner has been granted a negative pledge (which is broadly equivalent to a fixed and floating charge) over the concession. In addition a duly notarized Irrevocable Promise to Transfer executed by TMR S.A

Criteria	JORC Code explanation	Commentary
		in favor of AEP has been lodged with the Ecuador Mines Department.
Exploration done by other parties	- *Acknowledgment and appraisal of exploration by other parties.*	- Previous exploration on the project has been undertaken by Newmont and Odin from 1994 to 1997. This included surface pit and rock chip geochemistry, followed by the drilling of 33 drill holes for a total of 7605.52 meters) to evaluate the larger geochemical anomalies. - The collection of all exploration data by Newmont and Odin was of a high standard and had appropriate sampling techniques and intervals, adequate QA/QC and custody procedures, and appropriate duplicates and blanks used for determining assay precision and accuracy. - The geological interpretation of this data, including core logging and follow up geology was designed and directed by in-country inexperienced geologists. It appears to have been focused almost exclusively for gold targeting surface gold anomalies or the depth extensions of higher grade gold zones being exploited by the artisanal miners. The geologic logs for all drill holes did not record details that would have been typical, industry standards for porphyry copper exploration at that time. A number of holes which ended in economic mineralisation have never been followed up. - In short, important details which would have allowed the type of target to be better explored were missed which in turn presents an opportunity to the current owner.
Geology	- *Deposit type, geological setting and style of mineralisation.*	- It is believed that the El Guayabo property is a "Low Sulfide" porphyry gold copper system. 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. Intrusions are described in the core logs as quartz diorite and dacite. Mineralisation has been recognized 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.

Drill hole Information

- *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
  - *easting and northing of the drill hole collar*
  - *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
  - *dip and azimuth of the hole*
  - *down hole length and interception depth*
  - *hole length.*
- *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*

Drillhole (#)		Mineralised Inte From	To	Total (m)		Gold (g/t)		Ag (g/t)		Cu (%)		Au Equiv (g/t)	Azimuth (deg)	Incl (deg)	TD (m)
JDH-001	from	183	190.6	**7.6**	**m @**	**0.3**	**g/t Au +**	**not assayed**				n/a	280	-60	236.9
JDH-002	from	7.6	152.9	**145.3**	**m @**	**0.4**	**g/t Au +**	**not assayed**				n/a	280	-45	257.5
	and	199	243	**44.0**	**m @**	**0.4**	**g/t Au +**	**not assayed**				n/a			
JDH-003	from	35.95	71.6	**35.7**	**m @**	**0.5**	**g/t Au +**	**not assayed**				n/a	280	-45	261
	and	120.4	254.6	**134.2**	**m @**	**0.4**	**g/t Au +**	**not assayed**				n/a			
	inc	146.81	224.08	**77.3**	**m @**	**0.5**	**g/t Au +**	**not assayed**				n/a			
JDH-004	from	3.96	21.95	**18.0**	**m @**	**0.4**	**g/t Au +**	**not assayed**				n/a	280	-45	219
	and	79.74	120.42	**40.7**	**m @**	**0.4**	**g/t Au +**	**not assayed**				n/a			
	and	150.9	203.7	**52.8**	**m @**	**0.7**	**g/t Au +**	**not assayed**				n/a			
JDH-005	from	5.2	81.4	**76.2**	**m @**	**0.4**	**g/t Au +**	**not assayed**				n/a	280	-45	210.4
	and	169.7	208.5	**38.8**	**m @**	**0.2**	**g/t Au +**	**not assayed**				n/a			
JDH-006	from	17.99	89.6	**71.6**	**m @**	**0.2**	**g/t Au +**	**2.0**	**g/t Ag +**	**0.10**	**% Cu**	0.42	150	-45	302.7
	and	164.8	281	**116.2**	**m @**	**0.6**	**g/t Au +**	**8.9**	**g/t Ag +**	**0.40**	**% Cu**	1.37			
	inc	227.8	281.09	**53.3**	**m @**	**1.2**	**g/t Au +**	**13.2**	**g/t Ag +**	**0.62**	**% Cu**	2.39			
JDH-007	from	39.7	84.45	**44.8**	**m @**	**0.3**	**g/t Au +**	**1.4**	**g/t Ag +**	**0.04**	**% Cu**	0.38	150	-75	105.8
JDH-008	from	104.7	136.7	**32.0**	**m @**	**0.1**	**g/t Au +**	**3.6**	**g/t Ag +**	**0.13**	**% Cu**	0.41	150	-60	352.7
	and	249.08	316.15	**67.1**	**m @**	**0.2**	**g/t Au +**	**5.7**	**g/t Ag +**	**0.21**	**% Cu**	0.62			
	and	291.76	316.15	**24.4**	**m @**	**0.5**	**g/t Au +**	**9.2**	**g/t Ag +**	**0.34**	**% Cu**	1.13			
JDH-009	from	10.3	122.03	**111.7**	**m @**	**0.7**	**g/t Au +**	**14.6**	**g/t Ag +**	**0.58**	**% Cu**	1.85	150	-45	256.7
	inc	34.6	91.54	**56.9**	**m @**	**0.2**	**g/t Au +**	**19.1**	**g/t Ag +**	**0.82**	**% Cu**	1.80			
	and	201.4	205.4	**4.0**	**m @**	**11.4**	**g/t Au +**	**9.7**	**g/t Ag +**	**0.01**	**% Cu**	11.54			
	and	255.1	eoh	**1.5**	**m @**	**0.7**	**g/t Au +**	**1.5**	**g/t Ag +**	**0.02**	**% Cu**	0.75			
JDH-10	from	1.5	50.9	**49.4**	**m @**	**0.5**	**g/t Au +**	**2.5**	**g/t Ag +**	**0.09**	**% Cu**	0.68	270	-45	221.6
	and	90.54	119	**28.5**	**m @**	**0.2**	**g/t Au +**	**3.0**	**g/t Ag +**	**0.10**	**% Cu**	0.40			
	and	140	203	**81.6**	**m @**	**0.4**	**g/t Au +**	**1.3**	**g/t Ag +**	**0.07**	**% Cu**	0.53			
JDH-011	from	100.7	218	**117.3**	**m @**	**0.4**	**g/t Au +**	**4.6**	**g/t Ag +**	**0.10**	**% Cu**	0.62	270	-45	218.0
JDH-012	from	12.2	53.96	**41.8**	**m @**	**0.6**	**g/t Au +**	**6.5**	**g/t Ag +**	**0.02**	**% Cu**	0.67	150	-60	124.1
JDH-013	from	53.35	69.6	**16.3**	**m @**	**0.5**	**g/t Au +**	**1.2**	**g/t Ag +**	**0.01**	**% Cu**	0.48	150	-60	239.3
	and	89.9	154.9	**65.0**	**m @**	**1.4**	**g/t Au +**	**2.8**	**g/t Ag +**	**0.06**	**% Cu**	1.53			
	inc	114.32	142.76	**28.4**	**m @**	**2.8**	**g/t Au +**	**4.9**	**g/t Ag +**	**0.10**	**% Cu**	3.03			
JDH-014	from	26.96	75.69	**48.7**	**m @**	**0.4**	**g/t Au +**	**5.2**	**g/t Ag +**	**0.10**	**% Cu**	0.63	90	-60	239.4
	and	85.84	116.32	**30.5**	**m @**	**0.2**	**g/t Au +**	**4.2**	**g/t Ag +**	**0.1**	**% Cu**	0.42			
	and	128.52	175.3	**46.8**	**m @**	**0.5**	**g/t Au +**	**3.3**	**g/t Ag +**	**0.08**	**% Cu**	0.63			
	and	179.35	217.98	**38.6**	**m @**	**0.1**	**g/t Au +**	**2.5**	**g/t Ag +**	**0.08**	**% Cu**	0.26			

Drillhole (#)		Mineralised Inte From	To	Total (m)		Gold (g/t)			Ag (g/t)			Cu (%)		Au Equiv (g/t)	Azimuth (deg)	Incl (deg)	TD (m)
GGY-001	from	10	69	59.0	m @	0.2	g/t Au	+	2.8	g/t Ag	+	0.07	% Cu	0.35	360	-90	249.2
	and	139	249.2	110.2	m @	0.4	g/t Au	+	1.1	g/t Ag	+	0.06	% Cu	0.51			
	inc	141	174	33.0	m @	0.6	g/t Au	+	2.0	g/t Ag	+	0.08	% Cu	0.76			
GGY-002	from	9.7	166	156.3	m @	2.6	g/t Au	+	9.7	g/t Ag	+	0.16	% Cu	2.99	360	-90	272.9
	inc	27	102	75.0	m @	4.6	g/t Au	+	19.1	g/t Ag	+	0.22	% Cu	5.21			
	and	114	166	52.0	m @	1.3	g/t Au	+	3.3	g/t Ag	+	0.18	% Cu	1.64			
	plus	244	272.9	28.9	m @	0.3	g/t Au	+	2.4	g/t Ag	+	0.04	% Cu	0.37			
GGY-003	from	40	260.75	220.8	m @	0.2	g/t Au	+	2.9	g/t Ag	+	0.06	% Cu	0.36	305	-60	295.9
GGY-004	from	1	42	41.0	m @	0.5	g/t Au	+	2.3	g/t Ag	+	0.03	% Cu	0.56	125	-60	172.2
GGY-005	from	12	162	150.0	m @	0.4	g/t Au	+	11.0	g/t Ag	+	0.30	% Cu	0.99	145	-60	258.3
	inc	14	54	40.0	m @	0.6	g/t Au	+	25.5	g/t Ag	+	0.60	% Cu	1.95			
	and	180	194	14.0	m @	0.2	g/t Au	+	6.1	g/t Ag	+	0.22	% Cu	0.64			
GGY-006	from	72	101.9	49.0	m @	0.4	g/t Au	+	2.3	g/t Ag	+	0.03	% Cu	0.45	305	-60	101.9
GGY-007	from	0.9	41	40.1	m @	1.1	g/t Au	+	2.6	g/t Ag	+	0.04	% Cu	1.20	305	-75	127
	inc	110	127	17.0	m @	0.9	g/t Au	+	1.2	g/t Ag	+	0.04	% Cu	0.98			
GGY-008	from	16	271	255.0	m @	0.1	g/t Au	+	6.5	g/t Ag	+	0.24	% Cu	0.62	145	-75	312.3
	inc	235	271	36.0	m @	0.4	g/t Au	+	11.5	g/t Ag	+	0.50	% Cu	1.32			
GGY-009	from	1.65	45	43.4	m @	1.7	g/t Au	+	3.0	g/t Ag	+	0.06	% Cu	1.80	45	-75	166.2
GGY-010	from	0	69	69.0	m @	1.6	g/t Au	+	2.3	g/t Ag	+	0.03	% Cu	1.67	225	-75	194.5
	inc	21	50	29.0	m @	2.9	g/t Au	+	2.7	g/t Ag	+	0.03	% Cu	2.98			
	and	75	95	20.0	m @	0.3	g/t Au	+	0.8	g/t Ag	+	0.01	% Cu	0.33			
GGY-011	from	14	229	215.0	m @	0.2	g/t Au	+	9.6	g/t Ag	+	0.36	% Cu	0.89	160	-60	241.6
	inc	14	97	83.0	m @	0.2	g/t Au	+	14.9	g/t Ag	+	0.50	% Cu	1.24			
	inc	202	229	27.0	m @	0.4	g/t Au	+	15.2	g/t Ag	+	0.80	% Cu	1.90			
GGY-012	from	57	192	135.0	m @	0.3	g/t Au	+	2.0	g/t Ag	+	0.06	% Cu	0.39	125	-60	256
	and	156	192	36.0	m @	0.2	g/t Au	+	3.3	g/t Ag	+	0.13	% Cu	0.44			
GGY-013	from	229.7	280	50.3	m @	0.2	g/t Au	+	2.2	g/t Ag	+	0.05	% Cu	0.31	320	-65	340.9
GGY-014				nsi										0.00	320	-75	309.1
GGY-015	from	110	132.4	22.4	m @	0.4	g/t Au	+	0.5	g/t Ag	+	0.03	% Cu	0.41	320	-60	251.1
	and	157	225.5	68.5	m @	0.3	g/t Au	+	1.5	g/t Ag	+	0.10	% Cu	0.45			
GGY-016	from	8	30	22.0	m @	0.2	g/t Au	+	0.7	g/t Ag	+	0.01	% Cu	0.26	320	-60	195.7
	and	42	57	15.0	m @	0.3	g/t Au	+	0.5	g/t Ag	+	0.02	% Cu	0.34			
	and	105	118	13.0	m @	0.2	g/t Au	+	0.7	g/t Ag	+	0.01	% Cu	0.26			
	and	185	188	3.0	m @	1.0	g/t Au	+	0.8	g/t Ag	+	0.02	% Cu	1.04			
GGY-017	from	0	24	24.0	m @	0.5	g/t Au	+	1.3	g/t Ag	+	0.01	% Cu	0.49	125	-82	280.4
	and	69	184	115.0	m @	0.5	g/t Au	+	2.1	g/t Ag	+	0.03	% Cu	0.53			
	inc	125	147	22.0	m @	0.2	g/t Au	+	2.0	g/t Ag	+	0.05	% Cu	0.29			
	and	206	241	35.0	m @	0.3	g/t Au	+	1.7	g/t Ag	+	0.05	% Cu	0.41			
	and	254	277	23.0	m @	0.6	g/t Au	+	1.2	g/t Ag	+	0.04	% Cu	0.63			
GGY-018	from	81	136	55.0	m @	0.2	g/t Au	+	3.5	g/t Ag	+	0.06	% Cu	0.34	140	-60	160.4
GGY-019	from	89	155	66.0	m @	0.3	g/t Au	+	2.0	g/t Ag	+	0.03	% Cu	0.36	45	-53	175.4

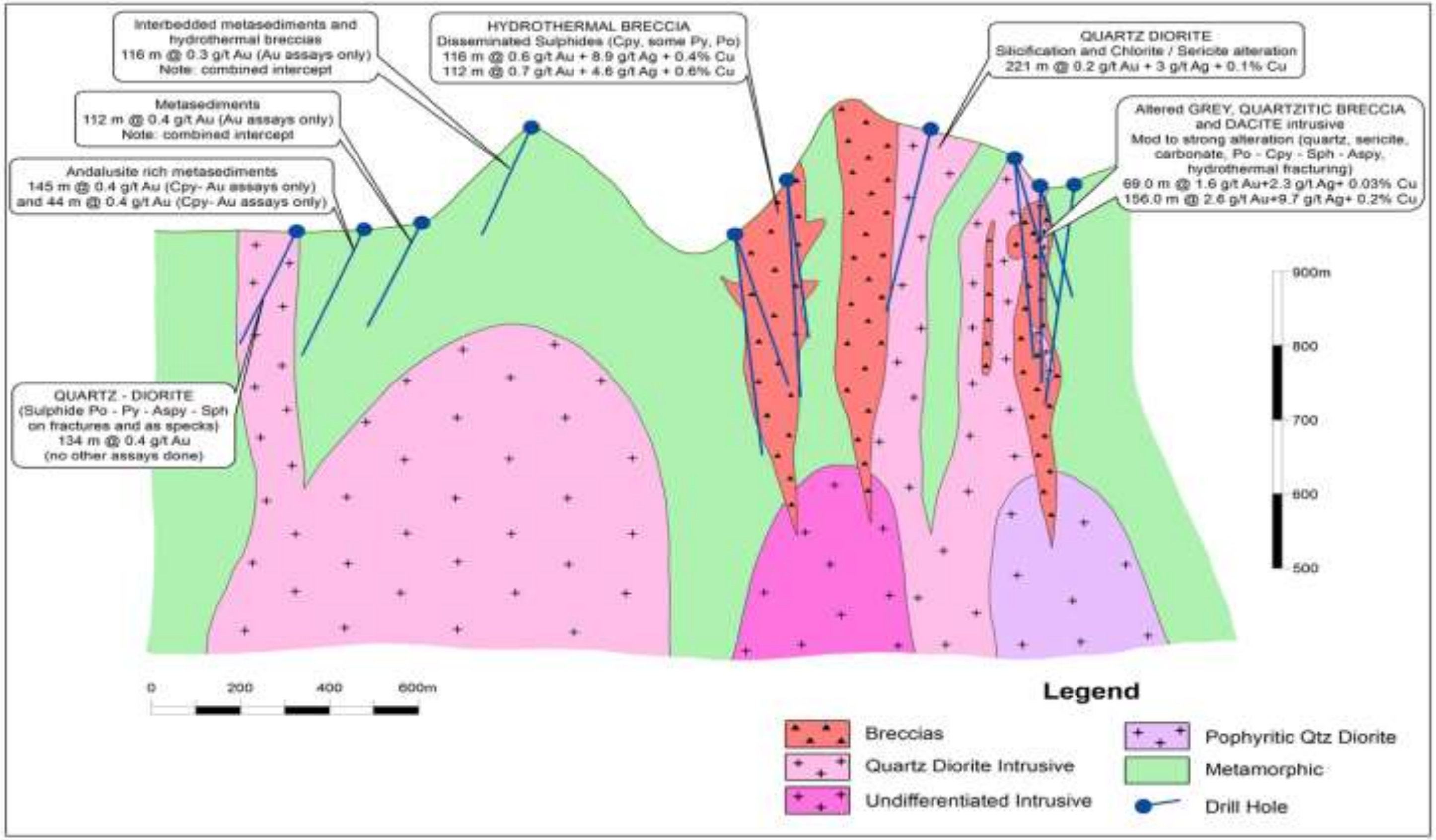
Criteria	JORC Code explanation	Commentary
	-	

DRILLHOLE CODE	EAST (X)	NORTH (N)	ELEVATION (m.a.s.l)	AZIMUTH (°)	DIP (°)	FINAL DEPTHP	DRILLED BY
DDHGY01	628928.09	9605517.20	839.01	360	-90.0	249.20	Odin
DDHGY02	629171.15	9606025.55	983.16	360.0	-90.0	272.90	Odin
DDHGY03	629041.84	9606312.81	1063.37	305.0	-60.0	295.94	Odin
DDHGY04	629171.68	9606025.18	983.2	125.0	-60.0	172.21	Odin
DDHGY05	628509.21	9606405.29	989.87	145.0	-60.0	258.27	Odin
DDHGY06	629170.56	9606025.97	983.11	305.0	-60.0	101.94	Odin
DDHGY07	629170.81	9606025.80	983.16	305.0	-75.0	127.00	Odin
DDHGY08	628508.95	9606405.74	989.86	145.0	-75.0	312.32	Odin
DDHGY09	629171.22	9606025.88	983.22	45.0	-75.0	166.25	Odin
DDHGY10	629170.77	9606025.24	983.12	225.0	-75.0	194.47	Odin
DDHGY11	628507.97	9606405.33	989.83	160.0	-60.0	241.57	Odin
DDHGY12	629087.18	9606035.53	996.98	125.0	-60.0	255.7	Odin
DDHGY13	629242.46	9605975.42	997.292	320.0	-65.0	340.86	Odin
DDHGY14	629242.27	9605975.64	997.285	320.0	-75.0	309.14	Odin
DDHGY15	629194.67	9605912.35	977.001	320.0	-60.0	251.07	Odin
DDHGY16	629285.92	9606044.44	1036.920	320.0	-60.0	195.73	Odin
DDHGY17	629122.31	9606058.64	1021.053	125.0	-82.0	280.04	Odin
DDHGY18	628993.10	9606035.45	977.215	140.0	-60.0	160.35	Odin
DDHGY19	629087.23	9606034.98	997.332	45.0	-53.0	175.41	Odin

Criteria	JORC Code explanation	Commentary
		(drillhole table below)

DRILLHOLE CODE	EAST (X)	NORTH (N)	ELEVATION (m.a.s.l)	AZIMUTH (°)	DIP (°)	FINAL DEPTHP	DRILLED BY
JDH01	627185.78	9606463.27	933.47	280.0	-60.0	236.89	Newmont
JDH02	627260.37	9606353.12	921.56	280.0	-45.0	257.62	Newmont
JDH03	627191.61	9606200.35	952.82	280.0	-45.0	260.97	Newmont
JDH04	627429.81	9606324.00	933.80	280.0	-45.0	219.00	Newmont
JDH05	627755.97	9606248.70	1066.24	280.0	-45.0	210.37	Newmont
JDH06	628356.37	9606416.13	911.58	150.0	-45.0	302.74	Newmont
JDH07	628356.37	9606416.13	911.58	150.0	-75.0	105.79	Newmont
JDH08	628356.37	9606416.13	911.58	150.0	-60.0	352.74	Newmont
JDH09	628507.01	9606408.43	990.18	150.0	-45.0	256.70	Newmont
JDH10	628897.96	9606813.62	985.60	270.0	-45.0	221.64	Newmont
JDH11	628878.64	9606674.39	1081.96	270.0	-45.0	217.99	Newmont
JDH12	629684.61	9606765.31	993.45	150.0	-60.0	124.08	Newmont
JDH13	629122.61	9606058.49	1020.98	125.0	-60.0	239.33	Newmont
JDH14	628897.15	9605562.77	852.59	90.0	-45.0	239.32	Newmont

Criteria	JORC Code explanation	Commentary
Data aggregation methods	- *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* - *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* - *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No weighted averaging techniques or maximum grade truncations were used. • Minimum cut of grade of 0.2 g/t Au Equivalent was used for determining intercepts. - Aggregate intercepts have been reported with higher grade inclusions to demonstrate the impact of aggregation. A bottom cut of 0.5 g/t Au Equiv has been used to determine the higher grade inclusions. Given the generally consistent nature of the mineralisation the impact of the aggregation of high grade results and longer lengths of low grade results does not have a large impact. For example in the intercept of 156m @ 2.6 g.t Au in hole GGY-02: – over half of the intercept comprises gold grades in excess of 1 g/t Au – only 20% of the intercept includes grades between 0.2 and 0.5 g/t Au – over one third includes gold grades in excess of 2 g/t Au. -
Relationship between mineralisation widths and	- *These relationships are particularly important in the reporting of Exploration Results.*	- The owner cautions that the geometry of the breccia hosted mineralisation appears to be predominantly vertical pipes while the geometry of the intrusive hosted mineralisation is not yet clear. The owner cautions that only and only the down hole lengths are reported and the true width of mineralisation is not known. - The preliminary interpretation is that the breccia hosted mineralisation occurs in near vertical breccia pipes. Thus intersections in steeply inclined holes may not be representative of the true width of this breccia hosted mineralisation. The relationship between the drilling orientation and some of the key mineralised structures and possible reporting bias in terms of true width is illustrated in the figure below.

Criteria	JORC Code explanation	Commentary
intercept lengths	- *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* - *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	
Diagrams	- *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	See section above and within the body of this ASX release

Criteria	JORC Code explanation	Commentary
Balanced reporting	- *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	- All drilling results have been reported. - It is suggested that this reporting is fair and representative of what is currently understood of the geology of the project.

Other substantive exploration data	- *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Quantec Geophysical services conducted a SPARTAN Broadband Magnetotelluric and TITAN IP/EMAP surveys completed February 3rd to April 1st, 2019 over the El Guayabo property by Quantec Geoscience Ltd. on behalf of AAR Resources.
		
		The survey covered 16 square kilometersa with data collected on 300m 3D spacing on a gride oriented at 10 degerees and 100 degerees. The grid was moved 10 degrees so the survey could be orineted perpendicu;lar to the main geological srtuctures. The survey involved a total of 205 Magnetotelluric (MT) sites and 2 test TITAN IP/EMAP profiles were surveyed
		
		The final survey results to which will be delivered will consist of :
		
		• Inversion 2D products
		    ▪ 2D model sections (for each line) of the:
		    ▪ DC resistivity model;
		    ▪ IP chargeability model using the DC resistivity model as a reference;
		    ▪ IP chargeability model using a half-space resistivity model as a reference;
		    ▪ MT(EMAP) resistivity model;
		    ▪ Joint MT+DC resistivity model; IP chargeability model using the MT+DC resistivity model;
		• Inversion 3D products
		    ▪ 3D MT model;
		        ▪ Cross-sections and Elevation Plan maps of the 3D MT models;
		
		Figures showing Survey Locations and Results are included in the boidy of this release
		
		DCIP INVERSION PROCEDURES
		
		DCIP is an electrical method that uses the injection of current and the measurement of voltage difference along with its rate of decay to determine subsurface resistivity and chargeability respectively. Depth of investigation is mainly controlled by the array geometry but may also be limited by the received signal (dependent on transmitted current) and ground resistivity. Chargeability is particularly susceptible to data with a low signal-to-noise ratio. The differences in penetration depth between DC

Criteria	JORC Code explanation	Commentary
		resistivity and chargeability are a function of relative property contrasts and relative signal-to-noise levels between the two measurements. A detailed introduction to DCIP is given in Telford, et al. (1976). The primary tool for evaluating data is through the inversion of the data in two or three dimensions. An inversion model depends not only on the data collected, but also on the associated data errors in the reading and the "model norm". Inversion models are not unique and may contain "artefacts" from the inversion process. The inversion model may not accurately reflect all the information apparent in the actual data. Inversion models must be reviewed in context with the observed data, model fit, and with an understanding of the model norm used. The DC and IP inversions use the same mesh. The horizontal mesh is set as 2 cells between electrodes. The vertical mesh is designed with a cell thickness starting from 20 m for the first hundred metres to accommodate the topographic variation along the profiles, and then increases logarithmically with depth. The inversions were generally run for a maximum of 50 iterations. The DC data is inverted using an unconstrained 2D inversion with a homogenous half-space of average input data as starting model. For IP inversions, the apparent chargeability ⍰ is computed by carrying out two DC resistivity forward models with conductivity distributions $\sigma(xi,zj)$ and $(1-\eta)\sigma(xi,zj)$ (Oldenburg and Li, 1994), where (xi,zj) specifies the location in a 2D mesh. The conductivity distributions used in IP inversions can be the inverted DC model or a half space of uniform conductivity. Two IP inversions are then calculated from the same data set and parameters using different reference models. The first inversion of the IP data uses the previously calculated DC model as the reference model and is labelled the IP dcref model. The second IP inversion uses a homogeneous half-space resistivity model as the reference model and is labelled IP hsref model. This model is included to test the validity of chargeability anomalies, and to limit the possibility of inversion artefacts in the IP model due to the use of the DC model as a reference. The results of this second IP inversion are presented on the digital archived attached to this report. **MAGNETOTELLURIC INVERSIONS** The Magnetotelluric (MT) method is a natural source EM method that measures the variation of both the electric (E) and magnetic (H) field on the surface of the earth to determine the distribution at depth of the resistivity of the underlying rocks. A complete review of the method is presented in Vozoff (1972) and Orange (1989). The measured MT impedance Z, defined by the ratio between the E and H fields, is a tensor of complex numbers. This tensor is generally represented by an apparent resistivity (a parameter proportional to the modulus of Z) and a phase (argument of Z). The variation of those parameters with frequency relates the variations of the resistivity with depth, the high frequencies sampling the sub-surface and the low

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		frequencies the deeper part of the earth. However, the apparent resistivity and the phase have an opposite behaviour. An increase of the phase indicates a more conductive zone than the host rocks and is associated with a decrease in apparent resistivity. The objective of the inversion of MT data is to compute a distribution of the resistivity of the surface that explains the variations of the MT parameters, i.e. the response of the model that fits the observed data. The solution however is not unique and different inversions must be performed (different programs, different conditions) to test and compare solutions for artefacts versus a target anomaly. An additional parameter acquired during MT survey is the Tipper. Tipper parameters Tzx and Tzy (complex numbers) represent the transfer function between the vertical magnetic field and the horizontal X (Tzx), and Y (Tzy) magnetic fields respectively (as the impedance Z represent the transfer function between the electric and magnetic fields). This tipper is a 'local' effect, mainly defined by the lateral contrast of the resistivity. Consequently, the tipper can be used to estimate the geological strike direction. Another important use of the tipper is to display its components as vectors, named induction vectors. The induction vectors (defined by the real components of Tzx and Tzy) plotted following the Parkinson-Real-Reverse-Angle convention will point to conductive zones. The tipper is then a good mapping tool to delineate more conductive zones. The depth of investigation is determined primarily by the frequency content of the measurement. Depth estimates from any individual sounding may easily exceed 20 km. However, the data can only be confidently interpreted when the aperture of the array is comparable to the depth of investigation. The inversion model is dependent on the data, but also on the associated data errors and the model norm. The inversion models are not unique, may contain artefacts of the inversion process and may not therefore accurately reflect all the information apparent in the actual data. Inversion models need to be reviewed in context with the observed data, model fit. The user must understand the model norm used and evaluate whether the model is geologically plausible. For this project, 2D inversions were performed on the TITAN/EMAP profiles data. For each profile, we assume the strike direction is perpendicular to the profile for all sites: the TM mode is then defined by the inline E-field (and cross line H-field); no TE mode (crossline E-field) were used in the 2D inversions. The 2D inversions were performed using the TM-mode resistivity and phase data interpolated at 6 frequencies per decade, assuming 10% and 5% error for the resistivity and phase respectively, which is equivalent to 5% error on the impedance component Z. No static shift of the data has been applied on the data.

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		The 3D inversion was carried out using the CGG RLM-3D inversion code. The 3D inversions of the MT data were completed over an area of approximately 5km x 3.5km. All MT sites from this current survey were used for the 3D inversion. The 3D inversion was completed using a sub sample of the MT data with a maximum of 24 frequencies at each site covering the measured data from 10 kHz to 0.01 Hz with a nominal 4 frequencies per decade. At each site, the complete MT complex impedance tensors (Zxx, Zxy, Zyx, and Zyy) were used as input data with an associated error set to 5% on each parameter. The measured tipper data (Tzx, Tzy) were also used as input data with an associated error set to 0.02 on each parameter. A homogenous half space with resistivity of 100 Ohm-m was used as the starting model for this 3D MT inversion. A uniform mesh with 75 m x 75 m cell size was used in horizontal directions in the resistivity model. The vertical mesh was defined to cover the first 4 km. Padding cells were added in each direction to accommodate the inversion for boundary conditions. The 3D inversion was run for a maximum of 50 iterations. In addition a total of 129 samples distributed along 12 holes were analysed to measure the resistivity (Rho (Ohm*m) and chargeability properties (Chargeability M and Susceptibility (SCPT 0.001 SI) . The equipment used for the analyses was the Sample Core IP Tester, manufactured by Instrumentation GDD Inc. It should be noted that these measures should be taken only as first order estimate, and not as “absolute” (true) value as readings by the field crew were not repeated and potentially subject to some errors (i.e. wrong size of the core entered in the equipment).
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Further work	- *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* - *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	- Re-logging and re-assaying core including SWIR/alteration mapping to better vector on the porphyry and breccia targets – available assays 6 elements only, no SWIR, and not logged by porphyry experts. The Company understands that this is complete with assays being waitied on. - Channel sampling of the adit and artisanal workings - > 1km of underground exposure of the system which has never been systematically mapped or sampled. - Sampling of additional breccia bodies – only 2 of the 10 known breccias have been systematically defined and properly sampled. - Complete interpreation of the 3D MT survey (with IP lines) covering 16 sq. This will include integration of all the geological data and constrained inversion modelling - MMI soil survey covering 16 sq kms - The aim of the program above is to define targets for a drilling program