

## CEL Confirms Discovery of Large-Scale Gold System

### Highlights

- Initial assay results confirm the discovery of large-scale gold system in the Colorado V Project in Ecuador with over 250 metres of bulk gold mineralisation encountered in drill hole ZK-02
- The mineralisation contains a significant high-grade core of 134 metres at 1.0 g/t gold and 4.1 g/t silver including 63 metres at 1.6 g/t gold and 5.1 g/t silver
- Drill hole ZK-02 intersected three broad zones of mineralisation starting from near surface including (refer Table 1 for full details):
  - 95 metres at 0.3 g/t gold and 1.7 g/t silver from 13 metres including 33 metres at 0.4 g/t gold and 2.6 g/t silver from 76 metres
  - 20 metres at 0.3 g/t gold and 2.1 g/t silver from 173 metres
  - 151 metres at 0.9 g/t gold and 3.8 g/t silver from 225 metres including 134 metres at 1.0 g/t gold and 4.1 g/t silver from 227 metres including 114 metres at 1.1 g/t gold and 4.3 g/t silver from 227 metres including 63 metres at 1.6 g/t gold and 5.1 g/t silver from 227 metres
- ZK-02 is the first of 56 historical drill holes to be assayed with additional results expected shortly
- Historical drilling targeted high-grade vein hosted gold mineralisation and the holes were not systematically logged or assayed for bulk tonnage gold or base metal mineralisation
- Drill hole ZK-02 is located on the northern end of a 500-metre strike zone defined by small scale underground mine workings
- The main mineralised zone intersected in ZK-02 starts at surface outcropping in a small open pit
- Assay results expected shortly for ZK-01, located 50 metres up-dip, and ZK1-3, located approximately 100 metres along strike

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

*"We are very excited about the initial assay results from our Colorado V Gold Project in Ecuador. We believe that we have a large-scale gold discovery with significant potential.*

*The Company has a very deliberate strategy targeting high-grade gold in Argentina, and large-scale gold in Ecuador. Argentina continues to exceed our expectations and we feel that we have only just started to scratch the surface with these initial results from Ecuador.*

*We continue to log and assay the 56 historic drill cores in Ecuador. Holes drilled along strike from ZK0-2 will now be prioritised in the assaying program in addition to those drill holes in which we have logged potential porphyry mineralisation. We look forward to further results in the weeks to come."*

**Challenger Exploration (ASX: CEL)** (“**CEL**” or the “**Company**”) is pleased to report that results have been received for the first of 3 drill holes submitted for assay to date from the Colorado V Gold Project in Ecuador. Drill hole ZK0-2 encountered over 250 metres of gold mineralisation in three zones as shown in Table 1. Highlights include **151 metres at 0.9 g/t gold and 3.8 g/t silver** from 225 metres containing a higher-grade core of **134 metres at 1.0 g/t gold + 4.1 g/t silver**, including **63 metres at 1.6 g/t gold and 5.1 g/t silver**. ZK-02 is located on the northern end of a 500-metre northwest-southeast trend defined by small scale underground mine workings (Figure 1- section showing ZK0-2).

ZK-02 (and ZK-01) were the first historical holes to be available and thus were logged and sampled on that basis. Only trace to 1% sulphides were logged in drill hole ZK0-2. As shown in Figure 2 (soil geochemistry) drill hole ZK0-2, and the bulk of the historical drilling is not located on the main gold and copper soil anomalies which coincide with the main porphyry targets. However, CEL noted that ZK-02 was located to test directly down-dip of the open pit and underground workings that the current tenement owner is operating to extract narrow high-grade gold and silver in veins.

CEL's priority targets, prior to receiving ZK0-2 assay data, were these main coincident gold, copper and molybdenum soil anomalies (A, B and C in Figure 2). Each gold/copper anomaly covers 1 km<sup>2</sup> and the limited historical drilling only tested the margins of these anomalies. In drill hole SAK0-1A, which drilled the flank of Anomaly B, CEL has logged a zone of over 200 metres of porphyry style mineralisation containing 1-2% sulphides (pyrite and chalcopyrite) in potassically altered diorites within a broader 500 metre zone of mineralisation. CEL has previously announced its geologists have logged significant widths of intrusive breccia-hosted, hydrothermal mineralisation containing 1-3% sulphides in other holes awaiting assay. Based on the results of ZK0-2, CEL will now include a significant number of holes drilled on the trend of the underground workings in the assaying program in addition to those drill holes in which we have logged potential porphyry and intrusive breccia mineralisation.

Drill hole (#)		From (m)	To (m)	Total (m)	Gold (g/t)	Silver (g/t)
ZK0-2	from	13.3	108.2	<b>94.9m</b>	0.3	1.7
	inc	75.7	108.2	<b>32.5m</b>	0.4	2.6
	and	172.7	193.1	<b>20.4m</b>	0.3	2.1
	and	224.6	376.0	<b>151.4m</b>	<b>0.9</b>	<b>3.8</b>
	inc	227.1	361.1	<b>134.0m</b>	<b>1.0</b>	<b>4.1</b>
	inc	227.4	290.5	<b>63.1m</b>	<b>1.6</b>	<b>5.1</b>

**Table 1: Assay results for drill hole ZK0-2**

- (1) Drill collar locations, hole dip and direction are available in this ASX Release see JORC Table 1 Section 1  
 (2) Results are reported using a cut-off of 0.1 g/t gold with up to 10 metres of internal dilution

### Mineralisation in ZK0-2

The main mineralised zone in ZK0-2 was logged as a meta diorite/diorite containing sporadic sulphide veinlets with an overall sulphide content of 1% in the mineralised zones. The dominant sulphide minerals are pyrite, pyrrhotite and lesser chalcopyrite. There is a strong correlation of gold with

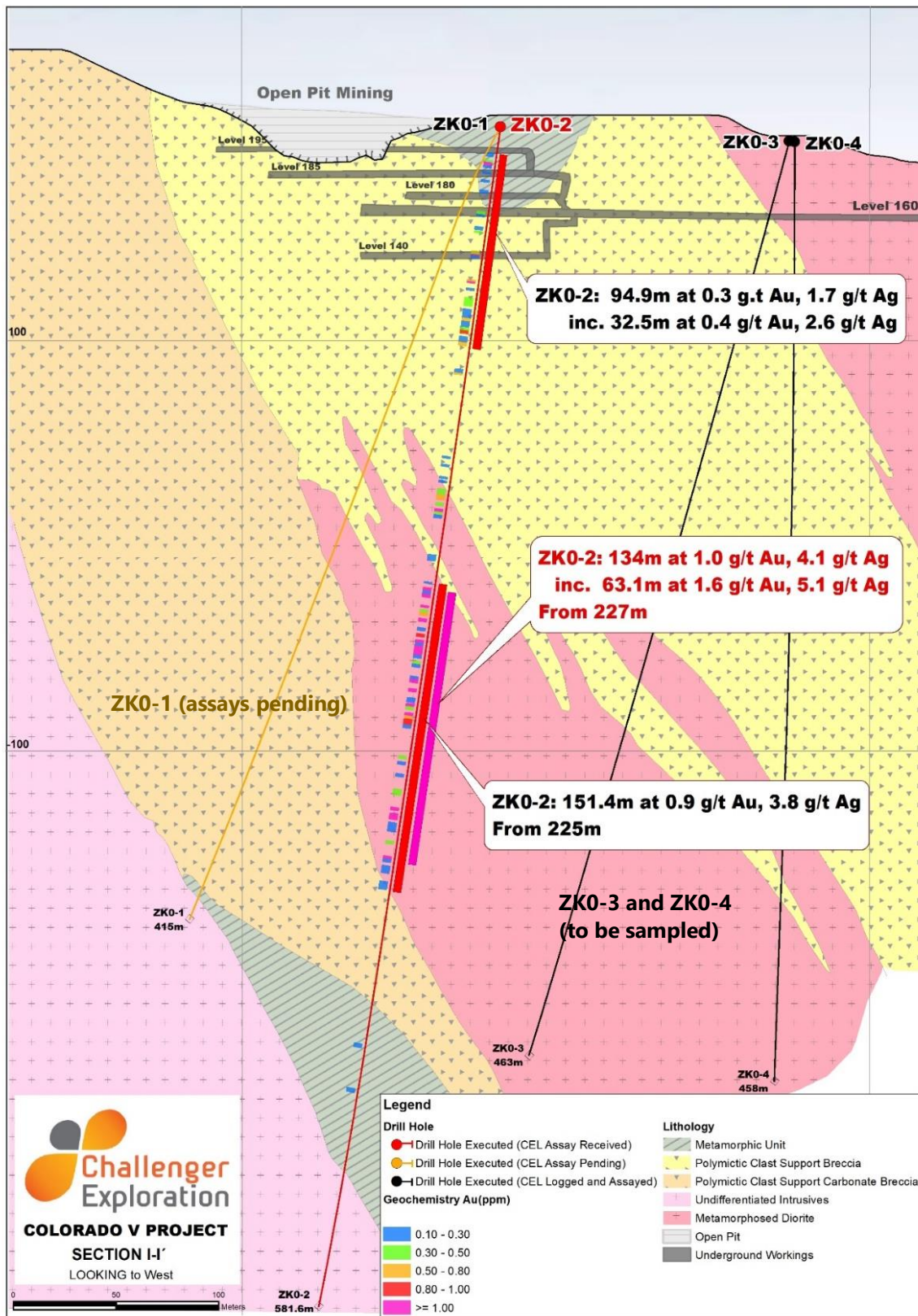


Figure 1 - Cross Section showing ZK0-2 and ZK0-1 (assays pending)

antimony and arsenic, and a lesser but recognisable correlation with bismuth tellurium, tin and tungsten. The core appears highly fractured and is consistent with being located in a major fault zone so it is likely that the mineralisation has a structural control.

This mineral assemblage identified in the ZK-02 core opens the possibility that it is an Intrusion Related Gold System (IRGS) which is a newly recognised mineralising model, possibly explaining why such a broad zone of gold mineralisation was bypassed.

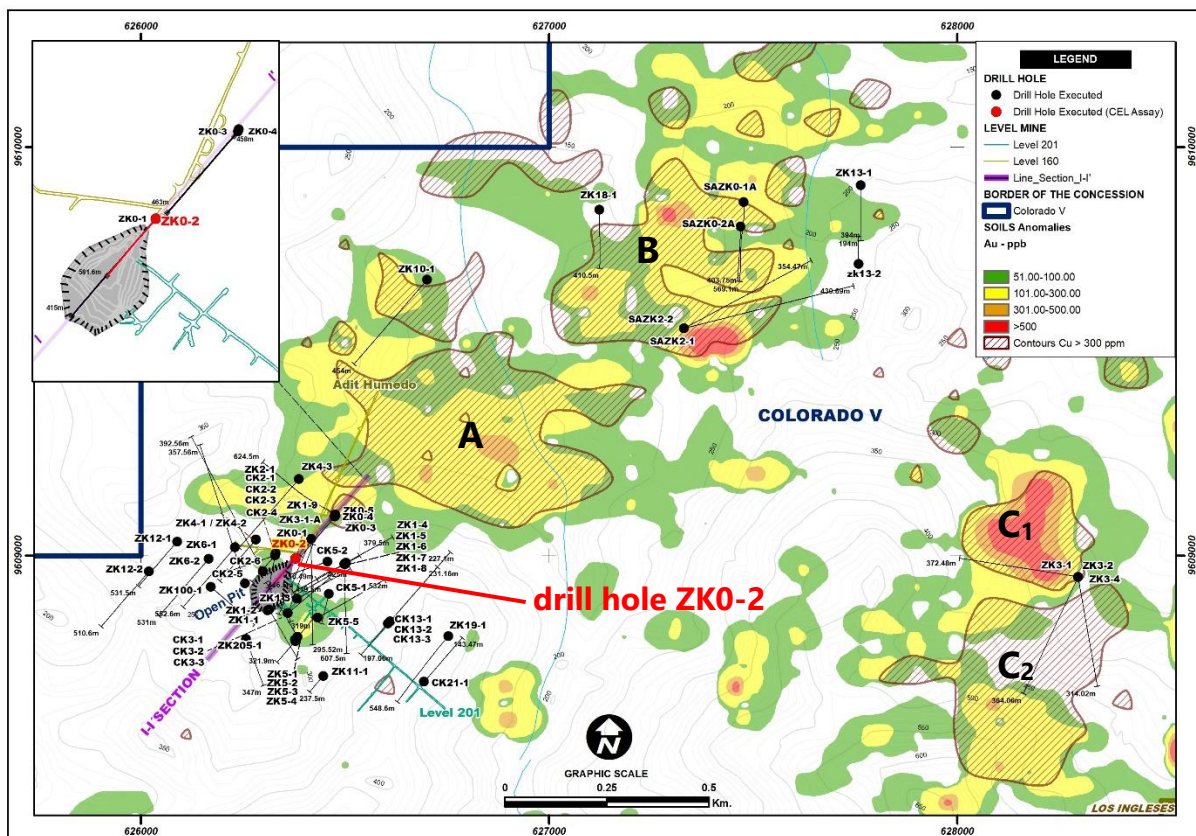


Figure 2 -Colorado V Soil geochemistry and historical drill holes

### About Intrusion Related Gold Systems (IRGS)

Intrusion-Related Gold Systems (IRGS) are a relatively newly defined and economically important type of gold deposit. They typically contain arsenopyrite, pyrrhotite and pyrite and lack magnetite or hematite. They include a metal assemblage combining Au with Bi, Te, W, Mo, As, Sb, a low sulphide content, and form from a reduced mineralising fluid.

The key economic features of IRGS deposits are that they are usually low to modest grade, 0.5 to 2.0 g/t gold (but can be >10.0 g/t), high tonnage, and are amenable to low cost, bulk mining methods. Fort Knox in Alaska, which commenced production in 1996, is a well known example of an IRGS. It has remaining reserves of 314 mt @ 0.43 g/t gold and has produced 4.6 million ounces to date. Kinross expect it to produce an average of 205,000 ounces per annum at an AISC of US\$1005 per ounce until 2030 based on a head grade of 0.37 g/t (source Kinross May 2020 Investor presentation)

### **Colorado V Tenement and Farm-in Agreement**

CEL announced that it had executed an agreement to farm-in to the Colorado V tenement in Ecuador on 8 January 2020 with local Ecuadorian company Goldking Mining SA and received shareholder approval on 17 April 2020. The tenement covers 2,331 hectares (23.3 sq kms) and is located on the northern and eastern margins of the El Guaybo Tenement.

The current Ecuadorian concession owner has undertaken an extensive, and high-quality, exploration program focussed entirely on identifying additional high-grade vein/breccia hosted gold mineralisation to be processed at their plant. This program included a multi element soil geochemistry survey and 21,500 metres of core drilling. The drill core was not systematically logged or sampled for porphyry or bulk gold/base metal mineralisation. Those limited sections of the core which were sampled were assayed for gold only in an on-site non-certified laboratory.

CEL has previously announced that detailed logging of the Colorado V drill core has identified broad zones of potential porphyry and Intrusive breccia hosted mineralisation. Logging is now complete for the first 17 drill holes and CEL geologists continue to recommend the assay of significant zones of the majority of core holes.

Under the terms of the farm-in agreement, CEL will fund all exploration for the first 5 years to earn up to a 50% interest in any discovery it makes on the tenement. CEL and the current owner will then jointly fund a Definitive Feasibility Study and the ongoing development.

### **Hualilan Project Assay Results**

The Company is still awaiting initial Hualilan assay results. It appears that with other companies re-directing assay requests into countries with open laboratories, this has resulted in a significant backlog into North American laboratories.

### **Ends**

This announcement was approved by the board.

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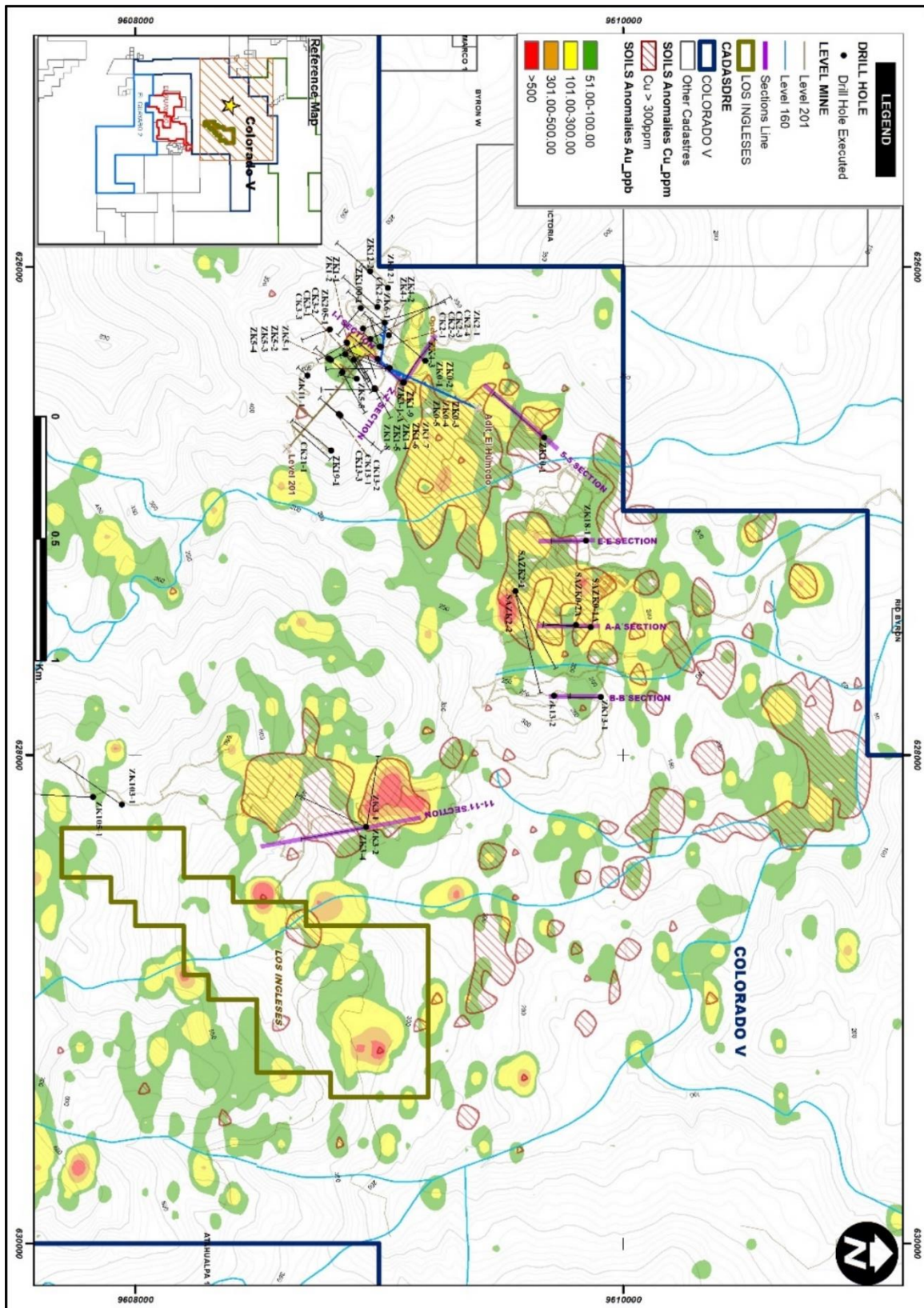


Figure 3 - Regional scale soil geochemistry and historical drill holes

## 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 <sup>(#1)</sup> of 627,000 Oz @ 13.7 g/t gold which remains open in most directions. The project was locked up in a dispute for the past 15 years and as a consequence had seen no modern exploration until CEL acquired the project in 2019. Results from CEL's first drilling program included **6.1m @ 34.6 g/t Au, 21.9 g/t Ag, 2.9% Zn, 6.7m @ 14.3 g/t Au, 140 g/t Ag, 7.3% Zn** and **10.3m @ 10.4 g/t Au, 28 g/t Ag, 4.6% Zn<sup>1</sup>**. This drilling intersected high-grade gold over almost 2 kilometres of strike and extended the known mineralisation along strike and at depth in multiple locations. CEL's 2020 program will include 7,500 metres of drilling, metallurgical test work of key ore types, an initial JORC Compliant Resource which will allow an economic review.
2. **El Guayabo Project** covers 35 sqkms in southern Ecuador and was last drilled by Newmont Mining in 1995 and 1997 targeting gold in hydrothermal breccias. Historical drilling has demonstrated potential to host significant gold and associated copper 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. CEL's first results confirm the discovery of large-scale gold system with over 250 metres of bulk gold mineralisation encountered in drill hole ZK-02 which contains a significant high-grade core **of 134 metres at 1.0 g/t gold and 4.1 g/t silver** including **63 metres at 1.6 g/t gold and 5.1 g/t silver<sup>2</sup>**.

<sup>1</sup>Refer ASX Announcements 16 December 2019 and 30 December 2019. <sup>2</sup>Refer ASX Announcement 25 May 2020.

## Foreign Resource Estimate Hualilan Project

La Mancha Resources 2003 foreign resource estimate for the Hualilan Project <sup>^</sup>			
Category	Tonnes (kt)	Gold Grade (g/t)	Contained Gold (koz)
Measured	218	14.2	100
Indicated	226	14.6	106
<b>Total of Measured &amp; Indicated</b>	<b>445</b>	<b>14.4</b>	<b>206</b>
Inferred	977	13.4	421
<b>Total of Measured, Indicated &amp; Inferred</b>	<b>1,421</b>	<b>13.7</b>	<b>627</b>

<sup>^</sup> 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

<sup>#1</sup> 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 Dr Stuart Munroe, BSc (Hons), PhD (Structural Geology), GDip (AppFin&Inv) who is a full-time employee of the Company. 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).

Dr Munroe 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. Dr Munroe 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.

### **Competent Person Statement – Foreign Resource Estimate**

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## JORC Code, 2012 Edition – Table 1 report template

### Section 1 Sampling Techniques and Data -El Guayabo Project

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>- <i>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.</i></li> <li>- <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>- <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>- <i>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.</i></li> </ul>	<p><b>El Guayabo:</b></p> <ul style="list-style-type: none"> <li>• Newmont Mining Corp (NYSE: NEM) ("<b>Newmont</b>") and Odin Mining and Exploration Ltd (TSX: ODN) ("<b>Odin</b>") core drilled the property between February 1995 and November 1996 across two drilling campaigns.</li> <li>• 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.</li> <li>• 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</li> <li>• 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.</li> <li>• 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%.</li> <li>• 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.</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>• Soil sampling: A database of 4,495 soil analyses has been provided by Goldking Mining Company S.A. (GK) which has yet to be fully evaluated. No information has been provided on the method of sample collection or assay technique. The soil analyses include replicate samples and second split analyses. Pulps have been securely retained by Goldking Mining Company and have been made available to CEL for check assaying. Check assaying is planned, including collection of field duplicates.</li> <li>• Selected intervals of drill core have been cut longitudinally and half core has been submitted for gold determination at GK's on-site laboratory.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>Re-sampling of the core involves taking ¼ core (where the core has previously been sampled) or ½ core (where the core has not previously been sampled). The core is cut longitudinally and sample intervals of 1 – 3 meters have been collected for analysis of gold by fire assay (30g) and other elements by 4 acid digest with ICP-AES finish at SGS del Peru S.A.C..</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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).</li> </ul>	<p><b>EI Guayabo:</b></p> <ul style="list-style-type: none"> <li>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</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>Diamond drilling was done using a rig owned by GK. Core size collected includes HQ, NQ2 and NQ3. There is no indication that oriented core was recovered.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>In a majority of cases core recovery was 100%.</li> <li>In the historical drill logs where core recoveries were less than 100% the percentage core recovery was noted.</li> <li>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.</li> <li>No material bias has presently been recognised in core.</li> <li>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</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>Core from GoldKing has been re-boxed prior to sampling where boxes have deteriorated, otherwise the original boxes have been retained. Core lengths have been measured and compared to the depth tags that are kept in the boxes from the drilling and recovered lengths have been recorded with the logging.</li> <li>Where re-boxing of the core is required, core has been placed in the new boxes, row-by row with care taken to ensure all of the core has been transferred.</li> <li>No relationship has been observed between core recovery and sample assay values.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<p><b>EI Guayabo:</b></p> <ul style="list-style-type: none"> <li>Geological logging was completed at 1-3 m intervals which is appropriate given the exploration was reconnaissance in nature.</li> <li>All core was logged qualitatively at 1 to 3 m intervals depending on geology intercepted and core</li> </ul>

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	<ul style="list-style-type: none"> <li>- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>- The total length and percentage of the relevant intersections logged.</li> </ul>	<p>was photographed.</p> <ul style="list-style-type: none"> <li>• Inspections of core and logging have concluded that the logging was representative.</li> <li>• 100% of all core including all relevant intersections were logged</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>• Sorting, re-boxing and re-logging of available drill core is in progress. Core is being logged for lithology, alteration, mineralisation and structure. Where possible, logging is quantitative.</li> <li>• Progress of Colorado V logging and sampling is summarized below:</li> </ul> <table border="1"> <thead> <tr> <th>Hole_ID</th> <th>Depth (m)</th> <th>Logging Status</th> <th>Core Photograph</th> <th>Sampling Status</th> <th>Total Samples</th> </tr> </thead> <tbody> <tr> <td>ZK0-1</td> <td>415.00</td> <td>Complete</td> <td>Complete</td> <td>Samples Submitted</td> <td>281</td> </tr> <tr> <td>ZK0-2</td> <td>581.60</td> <td>Complete</td> <td>Complete</td> <td>Samples Submitted</td> <td>388</td> </tr> <tr> <td>ZK1-3</td> <td>425.00</td> <td>Complete</td> <td>Complete</td> <td>Samples Submitted</td> <td>279</td> </tr> <tr> <td>ZK0-5</td> <td>624.50</td> <td>Complete</td> <td>In Progress</td> <td></td> <td></td> </tr> <tr> <td>ZK10-1</td> <td>454.00</td> <td>Complete</td> <td>Complete</td> <td>In Progress</td> <td></td> </tr> <tr> <td>SAZK0-1</td> <td>568.75</td> <td>Complete</td> <td>In Progress</td> <td></td> <td></td> </tr> <tr> <td>SAZK0-2</td> <td>403.75</td> <td>Complete</td> <td>In Progress</td> <td></td> <td></td> </tr> <tr> <td>ZK3-4</td> <td>314.02</td> <td>Complete</td> <td>Complete</td> <td>In Progress</td> <td></td> </tr> <tr> <td>CK21-1</td> <td>143.47</td> <td>Complete</td> <td>Complete</td> <td></td> <td></td> </tr> <tr> <td>ZK1-2</td> <td>403.10</td> <td>Complete</td> <td>Complete</td> <td></td> <td></td> </tr> <tr> <td>ZK1-4</td> <td>379.50</td> <td>Complete</td> <td>Complete</td> <td></td> <td></td> </tr> <tr> <td>ZK1-5</td> <td>419.50</td> <td>Complete</td> <td>Complete</td> <td></td> <td></td> </tr> <tr> <td>ZK1-6</td> <td>607.50</td> <td>Complete</td> <td>Complete</td> <td></td> <td></td> </tr> <tr> <td>ZK3-1</td> <td>372.48</td> <td>Complete</td> <td>Complete</td> <td></td> <td></td> </tr> <tr> <td>ZK3-2</td> <td>364.06</td> <td>Complete</td> <td>Complete</td> <td></td> <td></td> </tr> <tr> <td>ZK205-1</td> <td>347.00</td> <td>Complete</td> <td>Complete</td> <td></td> <td></td> </tr> <tr> <td>ZK2-1</td> <td>397.75</td> <td>In Progress</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ZK13-2</td> <td>190.00</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ZK18-1</td> <td>408.25</td> <td>Complete</td> <td>In Progress</td> <td></td> <td></td> </tr> <tr> <td>ZK13-1</td> <td>394.10</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SAZK2-1</td> <td>430.00</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ZK5-1</td> <td>321.90</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="5" style="text-align: right;"><b>8,965.23</b></td> <td style="text-align: right;"><b>948</b></td> </tr> </tbody> </table>					Hole_ID	Depth (m)	Logging Status	Core Photograph	Sampling Status	Total Samples	ZK0-1	415.00	Complete	Complete	Samples Submitted	281	ZK0-2	581.60	Complete	Complete	Samples Submitted	388	ZK1-3	425.00	Complete	Complete	Samples Submitted	279	ZK0-5	624.50	Complete	In Progress			ZK10-1	454.00	Complete	Complete	In Progress		SAZK0-1	568.75	Complete	In Progress			SAZK0-2	403.75	Complete	In Progress			ZK3-4	314.02	Complete	Complete	In Progress		CK21-1	143.47	Complete	Complete			ZK1-2	403.10	Complete	Complete			ZK1-4	379.50	Complete	Complete			ZK1-5	419.50	Complete	Complete			ZK1-6	607.50	Complete	Complete			ZK3-1	372.48	Complete	Complete			ZK3-2	364.06	Complete	Complete			ZK205-1	347.00	Complete	Complete			ZK2-1	397.75	In Progress				ZK13-2	190.00					ZK18-1	408.25	Complete	In Progress			ZK13-1	394.10					SAZK2-1	430.00					ZK5-1	321.90					<b>8,965.23</b>					<b>948</b>
Hole_ID	Depth (m)	Logging Status	Core Photograph	Sampling Status	Total Samples																																																																																																																																																	
ZK0-1	415.00	Complete	Complete	Samples Submitted	281																																																																																																																																																	
ZK0-2	581.60	Complete	Complete	Samples Submitted	388																																																																																																																																																	
ZK1-3	425.00	Complete	Complete	Samples Submitted	279																																																																																																																																																	
ZK0-5	624.50	Complete	In Progress																																																																																																																																																			
ZK10-1	454.00	Complete	Complete	In Progress																																																																																																																																																		
SAZK0-1	568.75	Complete	In Progress																																																																																																																																																			
SAZK0-2	403.75	Complete	In Progress																																																																																																																																																			
ZK3-4	314.02	Complete	Complete	In Progress																																																																																																																																																		
CK21-1	143.47	Complete	Complete																																																																																																																																																			
ZK1-2	403.10	Complete	Complete																																																																																																																																																			
ZK1-4	379.50	Complete	Complete																																																																																																																																																			
ZK1-5	419.50	Complete	Complete																																																																																																																																																			
ZK1-6	607.50	Complete	Complete																																																																																																																																																			
ZK3-1	372.48	Complete	Complete																																																																																																																																																			
ZK3-2	364.06	Complete	Complete																																																																																																																																																			
ZK205-1	347.00	Complete	Complete																																																																																																																																																			
ZK2-1	397.75	In Progress																																																																																																																																																				
ZK13-2	190.00																																																																																																																																																					
ZK18-1	408.25	Complete	In Progress																																																																																																																																																			
ZK13-1	394.10																																																																																																																																																					
SAZK2-1	430.00																																																																																																																																																					
ZK5-1	321.90																																																																																																																																																					
<b>8,965.23</b>					<b>948</b>																																																																																																																																																	

Criteria	JORC Code explanation	Commentary
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>- <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>- <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>- <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>- <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>- <i>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.</i></li> <li>- <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<p><b>EI Guayabo:</b></p> <ul style="list-style-type: none"> <li>• Core was cut with diamond saw and half core was taken</li> <li>• All drilling was core drilling as such this is not relevant</li> <li>• 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.</li> <li>• 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</li> <li>• 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.</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>• No information is available on the method/s that have been used to collect the soil samples.</li> <li>• Selected intervals of drill core have been cut longitudinally using a diamond saw and ½ core has been sampled. Sample intervals range from 0.1m to 4.5m with an average length of 1.35m. The size of the samples is appropriate for the mineralisation observed in the core.</li> <li>• Re-sampling of the core involves cutting of ¼ core (where previously sampled) or ½ core where not previously sampled. ¼ or ½ core over intervals of 1-3 metres provides an adequate sample size for the material being sampled.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>- <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>- <i>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.</i></li> <li>- <i>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.</i></li> </ul>	<p><b>EI Guayabo:</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• Given the above, it is considered acceptable levels of accuracy and precision have been</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>established</p> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>No information is available on the methods used to analyse the soil or drill core samples. Assay results are not provided in this report. Soil samples have been analysed by GK for Au, Cu, Ag, Zn, Pb, As, Mn, Ni, Cr, Mo, Sn, V, Ti, Co, B, Ba, Sb, Bi and Hg. Pulps have been securely retained and check assaying is planned.</li> <li>Drill core was partially assayed for gold only with assays undertaken by Goldking's on site laboratory</li> <li>Core re-sampled by CEL has been analysed for gold by fire assay (30g) and 49 additional elements by 4-acid digest with ICP-AES finish (Al, Ag, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Fe, Ga, Hf, In, K, La, Li, Lu, Mg, Mn, Mo, Na, Nb, Ni, P, Pb Rb, S, Sb, Sc, Se, Sn, Sr, Ta, Tb, Ti, Te, Th, Tl, U, V, W, Y, Yb, Zn, Zr). The samples have had blanks and CRM added to the batched to check sample preparation and analysis.</li> </ul>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<p><b>EI Guayabo:</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>Neither Newmont nor Odin attempted to verify intercepts with twinned holes</li> <li>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.</li> <li>No adjustments to assay data were made.</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>There is no information available on the verification of sample and assay results. No assay data is provided in this report. Soil replicate samples and second split assay results have been provided but not fully analysed at this stage.</li> <li>Of the 4,495 soil samples in the GK database, 166 are replicate samples and 140 are second split re-analyses. 37 samples have no co-ordinates in the database. The remaining 4,152 have analyses for all 19 elements indicated above.</li> <li>Significant intersections have been internally checked against the assay data received. The data received from SGS (Peru) has been archived electronically and a database of all drill information is being developed. There is no adjustment of the assay data.</li> <li>For ZK0-2, assays for Au received by CEL have been checked against assays report to CEL by Goldking from their original sampling. There is a poor correlation between the two data sets (<math>R^2</math> of 0.1) with an average sample interval of 1.4 metres. Not enough</li> </ul>

Criteria	JORC Code explanation	Commentary
		information is available at this stage to determine a cause for the differences.
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>- 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.</li> <li>- Specification of the grid system used.</li> <li>- Quality and adequacy of topographic control.</li> </ul>	<p><b>EI Guayabo:</b></p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Coordinate System: PSAD 1956 UTM Zone 17S Projection: Transverse Mercator Datum: Provisional S American 1956</li> <li>• Quality of topographic control appears to be+ - 1 meter which is sufficient for the exploration activities undertaken.</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>• Coordinate System: PSAD 1956 UTM Zone 17S Projection: Transverse Mercator Datum: Provisional S American 1956</li> <li>• No information is available on the collar and down-hole survey techniques used on the Colorado V concession.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>- Data spacing for reporting of Exploration Results.</li> <li>- 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.</li> <li>- Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• Drilling on both concessions is exploration based and a grid was not considered appropriate at that time.</li> <li>• A JORC compliant Mineral Resource has not been estimated</li> <li>• Sample compositing was not used</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>- Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>- 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.</li> </ul>	<ul style="list-style-type: none"> <li>• A sampling bias is not evident.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>- The measures taken to ensure sample security.</li> </ul>	<p><b>EI Guayabo:</b></p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>• GK analysed samples in an on-site laboratory. It is understood that the samples have remained on site at all times.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>CEL have collected samples at the core shed at El Guayabo and secured the samples in polyweave sacks for transport by courier to SGS Laboratories in Quito for preparation. SGS in Quito courier the prepared sample pulps to SGS in Peru for analysis. Photographs and documentation are retained to demonstrate the chain of custody of the samples at all stages.</li> </ul>
<b>Audits or reviews</b>	- <i>The results of any audits or reviews of sampling techniques and data.</i>	<p><b>El Guayabo:</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>No audits or reviews of sampling techniques and data is known. Goldking did twin two earlier holes with results still being compiled.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>The property has no historical sites, wilderness or national park issues.</li> <li>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 in favor of AEP has been lodged with the Ecuador Mines Department.</li> <li>The Colorado V mining concession (Code No. 3363.1) located in Bellamaria, Santa Rosa,</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>El Oro, Ecuador was granted in compliance with the Mining Act (“MA”) in on July 17, 2001. It is adjacent to El Guayabo concession to the north. The concession is held by Goldking Mining Company S.A. There are no overriding royalties on the project other than normal Ecuadorian government royalties.</p> <ul style="list-style-type: none"> <li>- The concession has no historical sites, wilderness or national park issues.</li> <li>- The El Guayabo 2 Guayabo (Code. 300964) mining concession is located Torata parish, Santa Rosa canton, El Oro province, Ecuador. The concession is held by T Mr. Segundo Ángel Marín Gómez and Mrs. Hermida Adelina Freire Jaramillo and was granted in compliance with the Mining Act (“MA”) on 29 April 29, 2010. There are no overriding royalties on the project other than normal Ecuadorian government royalties.</li> <li>- The property has no historical sites, wilderness or national park issues.</li> </ul>
<b>Exploration done by other parties</b>	- <i>Acknowledgment and appraisal of exploration by other parties.</i>	<p><b>El Guayabo:</b></p> <ul style="list-style-type: none"> <li>- 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.</li> <li>- 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.</li> <li>- 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.</li> <li>- 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.</li> </ul> <p><b>Colorado V:</b></p> <ul style="list-style-type: none"> <li>- All exploration known has been completed by GK. Drilling has been done from 2016 to 2019. 56 drill holes, totaling 21,471.83m have been completed by GK.</li> </ul> <p><b>El Guayabo 2:</b></p> <ul style="list-style-type: none"> <li>- Exploration work undertaken by the previous owner was limited to field mapping and sampling including assaying of a small number of samples for gold, silver, copper, lead and zinc. The report is only available in Spanish and assays were conducted in a local laboratory in Ecuador with the majority of this work undertaken in 2017.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Geology</b>	- <i>Deposit type, geological setting and style of mineralisation.</i>	- It is believed that the El Guayabo, El Guayabo 2, and Colorado V concessions contain a “Low Sulfide” porphyry gold copper system and intrusive-related gold. 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: <ul style="list-style-type: none"> <li>- Steeply plunging breccia bodies and in the metamorphic host rock adjacent to the breccia (up to 200 m in diameter)</li> <li>- Quartz veins and veinlets</li> <li>- Disseminated pyrite and pyrrhotite in the intrusions and in the metamorphic host rock near the intrusions.</li> </ul>
<b>Drill hole Information</b>	- <i>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:</i> <ul style="list-style-type: none"> <li>o <i>easting and northing of the drill hole collar</i></li> <li>o <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>o <i>dip and azimuth of the hole</i></li> <li>o <i>down hole length and interception depth</i></li> <li>o <i>hole length.</i></li> </ul> - <i>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.</i>	El Guayabo and Colorado V Drill results are provided below. Location data for the Colorado V drilling is provided below. Colorado V drill results are currently being compiled. No summary of data is available at this time, and no drill hole assay results have been reported.

Drillhole (#)		Mineralised Inte		Total (m)	Gold (g/t)	Ag (g/t)	Cu (%)	Au Equiv (g/t)	Azimuth (deg)	Incl (deg)	TD (m)
		From	To								
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				

Challenger Exploration Limited  
ACN 123 591 382  
ASX: CEL

Issued Capital  
536.7m shares  
93.6m options  
120m perf shares  
16m perf rights

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Drillhole (#)	Mineralised Inte From	Total To (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	205	241	35.0 m @ 0.3 g/t Au + 1.7 g/t Ag + 0.05 % Cu	0.41				
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	
	and	254	277	23.0 m @ 0.6 g/t Au + 1.2 g/t Ag + 0.04 % Cu	0.63				
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	

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Level 1  
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West Perth WA 6005

Directors  
Mr Kris Tier, MD and CEO  
Mr Scott Fenston, Finance Director  
Mr Fletcher Quinn, Chairman

[www.challengerex.com.au](http://www.challengerex.com.au)

Criteria	JORC Code explanation	Commentary							
-		<b>DRILLHOLE CODE</b>	<b>EAST (X)</b>	<b>NORTH (N)</b>	<b>ELEVATION (m.a.s.l)</b>	<b>AZIMUTH (°)</b>	<b>DIP (°)</b>	<b>FINAL DEPTH</b>	<b>DRILLED BY</b>
		DDHGY 01	628928.09	9605517.20	839.01	360	-90.0	249.20	Odin
		DDHGY 02	629171.15	9606025.55	983.16	360.0	-90.0	272.90	Odin
		DDHGY 03	629041.84	9606312.81	1063.37	305.0	-60.0	295.94	Odin
		DDHGY 04	629171.68	9606025.18	983.2	125.0	-60.0	172.21	Odin
		DDHGY 05	628509.21	9606405.29	989.87	145.0	-60.0	258.27	Odin
		DDHGY 06	629170.56	9606025.97	983.11	305.0	-60.0	101.94	Odin
		DDHGY 07	629170.81	9606025.80	983.16	305.0	-75.0	127.00	Odin
		DDHGY 08	628508.95	9606405.74	989.86	145.0	-75.0	312.32	Odin
		DDHGY 09	629171.22	9606025.88	983.22	45.0	-75.0	166.25	Odin
		DDHGY 10	629170.77	9606025.24	983.12	225.0	-75.0	194.47	Odin
		DDHGY 11	628507.97	9606405.33	989.83	160.0	-60.0	241.57	Odin
		DDHGY 12	629087.18	9606035.53	996.98	125.0	-60.0	255.7	Odin
		DDHGY 13	629242.46	9605975.42	997.292	320.0	-65.0	340.86	Odin
		DDHGY 14	629242.27	9605975.64	997.285	320.0	-75.0	309.14	Odin
		DDHGY 15	629194.67	9605912.35	977.001	320.0	-60.0	251.07	Odin
		DDHGY 16	629285.92	9606044.44	1036.920	320.0	-60.0	195.73	Odin
		DDHGY 17	629122.31	9606058.64	1021.053	125.0	-82.0	280.04	Odin
		DDHGY 18	628993.10	9606035.45	977.215	140.0	-60.0	160.35	Odin
		DDHGY 19	629087.23	9606034.98	997.332	45.0	-53.0	175.41	Odin

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Mr Scott Funston, Finance Director  
Mr Fletcher Quinn, Chairman

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Criteria	JORC Code explanation	Commentary
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DRILLHOLE CODE	EAST (X)	NORTH (N)	ELEVATION (m.a.s.l)	AZIMUTH (°)	DIP (°)	FINAL DEPTH	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

El Guayabo Drill hole information

Colorado V drill hole information:

hole ID	East (m)	North (m)	Elevation	Azimuth (°)	Dip (°)	final depth	Driller
ZK0-1	626378.705	9608992.99	204.452	221	-60	413.6	Shandong Zhaojin Geological Exploration Co Ltd
ZK0-2	626378.705	9608992.99	204.452	221	-82	581.6	Shandong Zhaojin Geological Exploration Co Ltd
ZK5-1	626377.846	9608790.388	273.43	221	-78	321.9	Shandong Zhaojin Geological Exploration Co Ltd
ZK5-2	626377.539	9608793.769	273.542	041	-78	319	Shandong Zhaojin Geological Exploration Co Ltd
ZK5-3	626383.556	9608800.999	273.622	330	-70	446.5	Shandong Zhaojin Geological Exploration Co Ltd
ZK5-4	626383.556	9608800.999	273.622	330	-78	508	Shandong Zhaojin Geological Exploration Co Ltd
ZK5-5	626432.795	9608847.735	242.572	061	-70	532	Shandong Zhaojin Geological Exploration Co Ltd

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	ZK11-1	626446.263	9608705.238	290.028	221	-78	237.5	Shandong Zhaojin Geological Exploration Co Ltd
	ZK205-1	626257.123	9608795.904	243.297	160	-70	346	Shandong Zhaojin Geological Exploration Co Ltd
	ZK1-1	626310.629	9608865.923	226.385	061	-70	514.6	Shandong Zhaojin Geological Exploration Co Ltd
	ZK1-2	626313.901	9608867.727	226.494	150	-70	403.1	Shandong Zhaojin Geological Exploration Co Ltd
	ZK1-3	626382.401	9608894.404	229.272	061	-70	424.5	Shandong Zhaojin Geological Exploration Co Ltd
	ZK6-1	626230.28	9609020.202	260.652	221	-70	552.6	Shandong Zhaojin Geological Exploration Co Ltd
	ZK6-2	626165.623	9608991.594	271.928	221	-70	531	Shandong Zhaojin Geological Exploration Co Ltd
	ZK12-1	626088.326	9609034.197	314.552	221	-70	531.5	Shandong Zhaojin Geological Exploration Co Ltd
	ZK12-2	626019.538	9608961.409	294.649	221	-70	510.6	Shandong Zhaojin Geological Exploration Co Ltd
	ZK1-4	626502.206	9608982.539	227.333	061	-70	379.5	Shandong Zhaojin Geological Exploration Co Ltd
	ZK1-5	626497.992	9608979.449	227.241	241	-70	415	Shandong Zhaojin Geological Exploration Co Ltd
	ZK1-6	626500.813	9608979.367	227.315	180	-70	607	Shandong Zhaojin Geological Exploration Co Ltd
	CK2-1	626328.573	9609000.856	216.798	221	-45	121.64	Shandong Zhaojin Geological Exploration Co Ltd
	CK2-2	626328.573	9609000.856	216.798	251	-45	171.85	Shandong Zhaojin Geological Exploration Co Ltd
	CK2-3	626328.573	9609000.856	216.798	191	-45	116.4	Shandong Zhaojin Geological Exploration Co Ltd
	CK2-4	626328.573	9609000.856	216.798	221	-70	146.12	Shandong Zhaojin Geological Exploration Co Ltd
	ZK1-7	626498.548	9608979.541	227.28	241	-82	456.49	Shandong Zhaojin Geological Exploration Co Ltd
	ZK1-8	626501.094	9608980.929	227.208	061	-85	556	Shandong Zhaojin Geological Exploration Co Ltd
	CK3-1	626359.641	9608859.373	205.96	020	-15	185.09	Shandong Zhaojin Geological Exploration Co Ltd

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Mr Fletcher Quinn, Chairman

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Criteria	JORC Code explanation	Commentary						
	CK3-2	626359.641	9608859.373	205.96	163	-00	21.75	Shandong Zhaojin Geological Exploration Co Ltd
	CK3-3	626359.641	9608859.373	205.96	050	-15	138.02	Shandong Zhaojin Geological Exploration Co Ltd
	ZK19-1	626753.271	9608802.634	386.627	221	-70	548.6	Shandong Zhaojin Geological Exploration Co Ltd
	ZK0-3	626475.236	9609095.444	197.421	221	-75	463	Shandong Zhaojin Geological Exploration Co Ltd
	ZK0-4	626476.119	9609098.075	197.225	221	-90	458	Shandong Zhaojin Geological Exploration Co Ltd
	ZK0-5	626475.372	9609100.909	197.17	300	-70	624.5	Shandong Zhaojin Geological Exploration Co Ltd
	ZK2-1	626329.859	9609005.863	213.226	221	-90	395.5	Shandong Zhaojin Geological Exploration Co Ltd
	SAZK0-1A	627477.062	9609865.618	217.992	180	-70	569.1	Shandong Zhaojin Geological Exploration Co Ltd
	SAZK0-2A	627468.807	9609805.054	213.63	180	-70	403.75	Shandong Zhaojin Geological Exploration Co Ltd
	ZK13-1	627763.877	9609906.484	197.899	180	-70	394	Shandong Zhaojin Geological Exploration Co Ltd
	ZK18-1	627123.327	9609846.268	142.465	180	-70	410.5	Shandong Zhaojin Geological Exploration Co Ltd
	zk13-2	627757.925	9609713.788	234.34	000	-70	194.8	Shandong Zhaojin Geological Exploration Co Ltd
	ZK4-1	626281.066	9609038.75	224.176	221	-90	434	Shandong Zhaojin Geological Exploration Co Ltd
	ZK4-2	626281.066	9609038.75	224.176	221	-70	390.5	Shandong Zhaojin Geological Exploration Co Ltd
	ZK4-3	626386.498	9609186.951	225.517	221	-70	650.66	Shandong Zhaojin Geological Exploration Co Ltd
	ZK100-1	626170.882	9608923.778	251.177	131	-70	415	Shandong Zhaojin Geological Exploration Co Ltd
	ZK3-1	626416.4	9609040.6	202.416	179	-29	295.52	Lee Mining
	ZK1-9	626416.4	9609040.6	202.416	203	-23	218.3	Lee Mining
	SAZK2-1	627330.0126	9609556.466	201.145	076	-05	430.89	Lee Mining
	SAZK2-2	627330.0126	9609556.466	201.145	062	-05	354.47	Lee Mining
	CK5-2	626457.0999	96089.8.4999	202.126	251	-69	273.11	Lee Mining
	CK5-1	626460.1233	9608906.592	202.124	194	-74	273.56	Lee Mining

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Criteria	JORC Code explanation	Commentary																								
	ZK10-1 626700.8538	9609675.002 126.617 221 -53 450.99 Lee Mining																								
	ZK103-1 628203.1453	9607944.85 535.324 215 -53 524.21 Lee Mining																								
	CK13-1 626610.0642	9608838.445 202.556 41 -05 227.1 Lee Mining																								
	CK2-5 626254.4315	9608931.693 190.593 342 -05 357.56 Lee Mining																								
	CK13-2 626610.0642	9608838.445 202.556 041 -40 231.16 Lee Mining																								
	CK13-3 626605.2307	9608833.471 202.556 221 -59 197.06 Lee Mining																								
	CK2-6 626298.1066	9608961.819 203.231 332 -18 392.56 Lee Mining																								
	ZK105-1 628172.5923	9607826.055 541.244 183 -54 404.57 Lee Mining																								
	Colorado V drill hole results from re-sampling of available core:																									
	<table border="1"> <thead> <tr> <th>Hole_id</th> <th>From (m)</th> <th>To (m)</th> <th>Interval (m)</th> <th>Au (g/t)</th> <th>Ag (g/t)</th> </tr> </thead> <tbody> <tr> <td>KZ0-2</td> <td>225.0</td> <td>376.4</td> <td>151.4</td> <td>0.89</td> <td>3.8</td> </tr> <tr> <td>including</td> <td>227.0</td> <td>361.0</td> <td>134.0</td> <td>1.0</td> <td>4.1</td> </tr> <tr> <td>including</td> <td>227.0</td> <td>290.0</td> <td>63.0</td> <td>1.6</td> <td>5.1</td> </tr> </tbody> </table>		Hole_id	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)	KZ0-2	225.0	376.4	151.4	0.89	3.8	including	227.0	361.0	134.0	1.0	4.1	including	227.0	290.0	63.0	1.6	5.1
Hole_id	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)																					
KZ0-2	225.0	376.4	151.4	0.89	3.8																					
including	227.0	361.0	134.0	1.0	4.1																					
including	227.0	290.0	63.0	1.6	5.1																					
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>- 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.</li> <li>- 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.</li> <li>- The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<p><b>El Guayabo:</b> No weighted averaging techniques or maximum grade truncations were used.</p> <ul style="list-style-type: none"> <li>• Minimum cut of grade of 0.2 g/t Au Equivalent was used for determining intercepts.</li> <li>- 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: <ul style="list-style-type: none"> <li>- over half of the intercept comprises gold grades in excess of 1 g/t Au</li> <li>- only 20% of the intercept includes grades between 0.2 and 0.5 g/t Au</li> <li>- over one third includes gold grades in excess of 2 g/t Au.</li> </ul> </li> </ul> <p><b>Colorado V:</b> A cut-off grade of 0.1 g/t Au was used to report the assays of re-samples core with up to 10 metres of internal dilution below cut-off allowable for the reporting of significant intercepts, consistent with a large low grade mineralized system.</p>																								
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>- These relationships are particularly important in the reporting of Exploration Results.</li> <li>- If the geometry of the mineralisation with respect to the drill hole</li> </ul>	<ul style="list-style-type: none"> <li>- 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.</li> <li>- 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.</li> </ul>																								



Criteria	JORC Code explanation	Commentary
	<p>angle is known, its nature should be reported.</p> <ul style="list-style-type: none"> <li>- 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').</li> </ul>	
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>- 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.</li> </ul>	See section above
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>- 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.</li> </ul>	<ul style="list-style-type: none"> <li>- The reporting is fair and representative of what is currently understood of the geology of the project.</li> </ul>

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<b>Other substantive exploration data</b>	<p>- 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.</p>	<p><b>EI Guayabo:</b>  Quantec Geophysical services conducted a SPARTAN Broadband Magnetotelluric and TITAN IP/EMAP surveys completed February 3rd to April 1st, 2019 over the EI Guayabo property by Quantec Geoscience Ltd. on behalf of AAR Resources.  The survey covered 16 square kilometers with data collected on 300m 3D spacing on a grid oriented at 10 degrees and 100 degrees. The grid was moved 10 degrees so the survey could be oriented perpendicular to the main geological structures. 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 :</p> <ul style="list-style-type: none"> <li>• Inversion 2D products <ul style="list-style-type: none"> <li>• 2D model sections (for each line) of the:</li> <li>• DC resistivity model;</li> <li>• IP chargeability model using the DC resistivity model as a reference;</li> <li>• IP chargeability model using a half-space resistivity model as a reference;</li> <li>• MT(EMAP) resistivity model;</li> <li>• Joint MT+DC resistivity model; IP chargeability model using the MT+DC resistivity model;</li> </ul> </li> <li>• Inversion 3D products <ul style="list-style-type: none"> <li>• 3D MT model; <ul style="list-style-type: none"> <li>• Cross-sections and Elevation Plan maps of the 3D MT models;</li> </ul> </li> </ul> </li> </ul> <p>Figures showing Survey Locations and Results are included in the body of this release</p> <p><b>DCIP INVERSION PROCEDURES</b>  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.  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</p>

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		<p>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 <math>\eta</math> is computed by carrying out two DC resistivity forward models with conductivity distributions <math>\sigma(x_i, z_j)</math> and <math>(1-\eta)\sigma(x_i, z_j)</math> (Oldenburg and Li, 1994), where <math>(x_i, z_j)</math> 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.</p> <p><b>MAGNETOTELLURIC INVERSIONS</b></p> <p>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).</p> <p>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.</p> <p>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</p>

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		<p>will point to conductive zones. The tipper is then a good mapping tool to delineate more conductive zones.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p> <p><b>Colorado V:</b></p>

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		No additional substantive work is known.
<b>Further work</b>	<ul style="list-style-type: none"> <li>- <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>- <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<p><b>EI Guaybo Project</b></p> <ul style="list-style-type: none"> <li>- 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 waited on.</li> <li>- Channel sampling of the adit and artisanal workings - &gt; 1km of underground exposure of the system which has never been systematically mapped or sampled.</li> <li>- Sampling of additional breccia bodies – only 2 of the 10 known breccias have been systematically defined and properly sampled.</li> <li>- Complete interpretation of the 3D MT survey (with IP lines) covering 16 sq. This will include integration of all the geological data and constrained inversion modelling</li> <li>- MMI soil survey covering 16 sq kms</li> <li>- The aim of the program above is to define targets for a drilling program</li> </ul> <p><b>Colorado V Project</b></p> <ul style="list-style-type: none"> <li>- Re-logging and re-assaying of drill core where only partial gold assays are available.</li> <li>- Channel sampling of mineralized exposures in the adits and underground workings.</li> <li>- Surface mapping and sampling.</li> <li>- Compile and integrate existing soil survey data with CEL's MMI soil survey covering 16 sq kms.</li> <li>- The aim of the program above is to define targets for a drilling program.</li> </ul>