

## FURTHER COPPER-GOLD PORPHYRY MINERALISATION INTERSECTED FROM SURFACE AT COPPER RIDGE

Titan Minerals Limited (**Titan** or the **Company**) (**ASX:TTM**) is pleased to provide results from the remaining six drill holes from its maiden eight hole diamond drilling campaign at the Copper Ridge Porphyry prospect at the Linderos Project in southern Ecuador.

### Key Highlights include:

- **Additional long intervals of porphyry copper style mineralisation intersected from surface in diamond drilling at Copper Ridge, with significant results including:**
  - **Hole CRDD22-006:**
    - 72m grading 0.4% Cu Eq<sup>1</sup> from 21m, and
    - 51m grading 0.4% Cu Eq from 373m, and
    - 22m grading 0.5% Cu Eq from 524m
    - Within a broader intersection of 558m grading 0.2% Cu Eq from surface to end of hole, ending in mineralisation.
  - **Hole CRDD22-004:**
    - 186m grading 0.3% Cu Eq from 196m, which also contains a gold rich zone of 80m grading 0.4% Cu Eq from 286m
    - Within a broader intersection of 344m grading 0.2% Cu Eq from 38m to end of hole, ending in mineralisation.
  - **Hole CRDD22-007:**
    - 88m grading 0.3% Cu Eq from 266m
    - Within a broader intersection of 172m grading 0.2% Cu Eq from 196m to end of hole, ending in mineralisation.
- **Higher tenor porphyry mineralisation intersected in CRDD22-003 (76m grading 0.5% Cu Eq<sup>2</sup>) and CRDD22-006 (22m grading 0.5% Cu Eq) provide evidence that Copper Ridge has potential to host higher-grade copper and gold mineralisation.**

#### <sup>1</sup> Copper Equivalent (Cu Eq) values – Requirements under the JORC Code

- Assumed commodity prices for the calculation of Copper Equivalent (Cu Eq) is Cu US\$3.00/lb, Au US\$1,700/oz, Mo US\$14/lb and Ag US\$20/oz
- Recoveries are assumed from similar deposits: Cu = 85%, Au = 65%, Ag = 65%, Mo = 80%
- Cu Eq (%) was calculated using the following formula:  $((Cu\% \times Cu \text{ price } 1\% \text{ per tonne} \times Cu \text{ recovery}) + (Au(g/t) \times Au \text{ price per g/t} \times Au \text{ recovery}) + (Mo \text{ ppm} \times Mo \text{ price per g/t} \times Mo \text{ recovery}) + Ag \text{ ppm} \times Ag \text{ price per g/t} \times Ag \text{ recovery}) / (Cu \text{ price } 1\% \text{ per tonne} \times Cu \text{ recovery})$ . **Cu Eq (%) = Cu (%) + (0.54 x Au (g/t)) + (0.00037 x Mo (ppm)) + (0.0063 x Ag (ppm))**
- TTM confirms that it is the Company's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.

<sup>2</sup> Refer to TTM ASX release dated 20 December 2022

**Titan's CEO Melanie Leighton commented:**

*"These results wrap up the first drill program at our Copper Ridge prospect within our Linderos Project where outcropping porphyry copper style mineralisation has been discovered, with drilling now confirming a substantial copper-gold porphyry system from surface."*

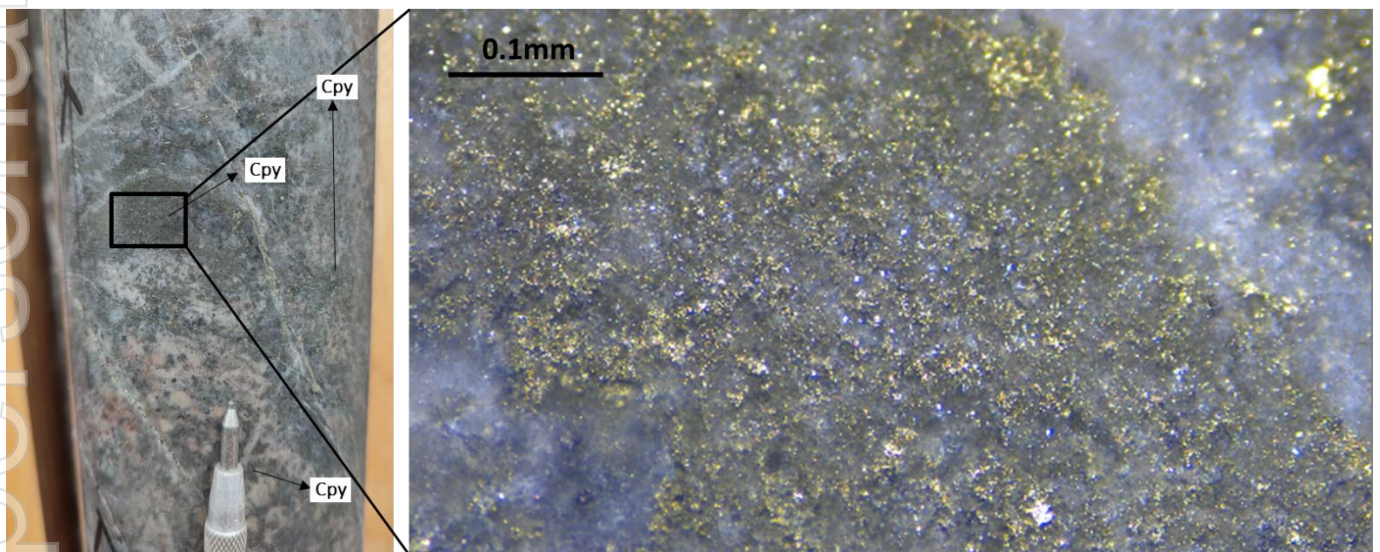
*"This initial of program of eight holes has returned highly encouraging results and our analysis highlights the potential for both lateral and depth extensions, as we vector into what we believe is the core of the porphyry system."*

*"Future drill plans are being designed to intersect the earlier-phase, higher-grade copper-gold porphyry mineralisation and we are excited to soon be underway with our next phase of drilling at Copper Ridge."*

*"It's important to appreciate that copper grades returned from this initial campaign of drilling compare favourably with peer porphyry deposits which are currently advancing through development and earmarked for large-scale production in the near future."*

*"Most notably, SolGold's Alpala porphyry deposit contains a global resource of 3.2Bt grading 0.49% Cu Eq (0.35% Cu, 0.23g/t Au, 1.0g.t Ag) for 9.9Mt of copper, 21.7Moz gold and 92Moz silver, and a proposed mining cut-off grade of 0.21% Cu Eq<sup>3</sup>, with its higher-grade core commencing at a depth of 600m."*

*"Titan shareholders can expect strong news flow in what promises to be a very busy and exciting 2023."*



*Plate 1: CRDD22-006 337m. Diorite porphyry, early potassic (green grey sericite) with overprinting of phyllic alteration, sulphide mineralisation of chalcopyrite (cpy) volume 5%, pyrite (py) volume < 1%.*

<sup>3</sup> Refer to Solgold Investor Presentation dated September 2022 [https://wp-solgold-2021.s3.eu-west-2.amazonaws.com/media/2022/09/2022.09.26\\_Cascabel-Site-Visit-Presentation.pdf](https://wp-solgold-2021.s3.eu-west-2.amazonaws.com/media/2022/09/2022.09.26_Cascabel-Site-Visit-Presentation.pdf)

## Linderos Project– Copper Ridge Porphyry Prospect Remaining Drilling Results

In November 2022, Titan completed a maiden campaign of eight diamond drill holes totalling 3,700m at the Copper Ridge Porphyry prospect (**Copper Ridge**) on its Linderos Project in southern Ecuador. Drilling was designed to target porphyry mineralisation highlighted by surface mapping, soil and channel sample geochemistry, and limited shallow historical drilling undertaken at the prospect.

Assay results have been received for the remaining six diamond drill holes, adding further wide intersections of disseminated and vein hosted copper-molybdenum±gold±silver mineralisation from surface to approximately 500 metres vertical.

Mineralisation is hosted within a diorite porphyry, with vein hosted and disseminated chalcopyrite-pyrite-pyrrhotite-molybdenite, and secondary biotite plus green-grey sericite and pervasive quartz-alkali feldspar defining an early to transitional potassic alteration.

Pleasingly, six out of the eight diamond drillholes were mineralised to the end of hole, highlighting strong potential for lateral and depth extensions.

Evidence that the Copper Ridge porphyry has the potential to host higher-grade copper and gold mineralisation is supported by intersections including **76m grading 0.5% Cu Eq** from 132m in CRDD22-003 and **22m grading 0.5% Cu Eq** from 524m in CRDD22-006.

New significant intersections for Copper Ridge are detailed in Table 1 and below:

- **Hole CRDD22-006:**
  - **72m grading 0.4% Cu Eq<sup>4</sup> from 21m, and**
  - **51m grading 0.4% Cu Eq from 373m, and**
  - **22m grading 0.5% Cu Eq from 524m**
  - **Within a broader intersection of 558m grading 0.2% Cu Eq from surface to end of hole, ending in mineralisation.**
- **Hole CRDD22-004:**
  - **186m grading 0.3% Cu Eq from 196m, which also contains a gold rich zone of 80m grading 0.4% Cu Eq from 286m**
  - **Within a broader intersection of 344m grading 0.2% Cu Eq from 38m to end of hole, ending in mineralisation.**
- **Hole CRDD22-007:**
  - **88m grading 0.3% Cu Eq from 266m**
  - **Within a broader intersection of 172m grading 0.2% Cu Eq from 196m to end of hole, ending in mineralisation.**
- **Hole CRDD22-005:**
  - **122m grading 0.2% Cu Eq from 74m to end of hole, ending in mineralisation.**

#### <sup>4</sup> Copper Equivalent (Cu Eq) values – Requirements under the JORC Code

- Assumed commodity prices for the calculation of Copper Equivalent (Cu Eq) is Cu US\$3.00/lb, Au US\$1,700/oz, Mo US\$14/lb and Ag US\$20/oz
- Recoveries are assumed from similar deposits: Cu = 85%, Au = 65%, Ag = 65%, Mo = 80%
- Cu Eq (%) was calculated using the following formula:  $((Cu\% \times Cu \text{ price } 1\% \text{ per tonne} \times Cu \text{ recovery}) + (Au(g/t) \times Au \text{ price per g/t} \times Au \text{ recovery}) + (Mo \text{ ppm} \times Mo \text{ price per g/t} \times Mo \text{ recovery}) + Ag \text{ ppm} \times Ag \text{ price per g/t} \times Ag \text{ recovery}) / (Cu \text{ price } 1\% \text{ per tonne} \times Cu \text{ recovery})$ . **Cu Eq (%) = Cu (%) + (0.54 x Au (g/t)) + (0.00037 x Mo (ppm)) + (0.0063 x Ag (ppm))**
- TTM confirms that it is the Company's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.

Table 1. Significant Intersections returned from Copper Ridge Diamond Drilling

Hole ID	EOH Depth (m)	From (m)	To (m)	Width (m)	Cu (%)	Au (g/t)	Ag (ppm)	Mo (ppm)	Cu Eq (%) <sup>1</sup>	Comments
CRDD22-002	604	72	190	118	0.20	0.03	0.73	43.01	0.2	
		<b>and</b>								
		356	402	46	0.14	0.02	0.64	49.03	0.2	
CRDD22-004	382	38	382	344	0.14	0.08	0.48	27.79	0.2	mineralised to EOH
		<i>including:</i>								
		<b>196</b>	<b>382</b>	<b>186</b>	<b>0.17</b>	<b>0.13</b>	<b>0.65</b>	<b>30.72</b>	<b>0.3</b>	
		<i>which also includes a higher-grade zone of:</i>								
		<b>286</b>	<b>366</b>	<b>80</b>	<b>0.22</b>	<b>0.23</b>	<b>0.83</b>	<b>24.69</b>	<b>0.4</b>	
CRDD22-005	196	74	196	122	0.18	0.04	0.69	8.26	0.2	mineralised to EOH
CRDD22-006	558	1	557.6	557	0.19	0.06	0.90	49.39	0.2	mineralised to EOH
		<i>including:</i>								
		<b>21</b>	<b>93</b>	<b>72</b>	<b>0.30</b>	<b>0.16</b>	<b>1.22</b>	<b>36.84</b>	<b>0.4</b>	
		<i>and including:</i>								
		<b>373</b>	<b>424</b>	<b>51</b>	<b>0.28</b>	<b>0.07</b>	<b>1.62</b>	<b>60.02</b>	<b>0.4</b>	
		<i>and including:</i>								
		<b>472</b>	<b>488</b>	<b>16</b>	<b>0.31</b>	<b>0.10</b>	<b>0.76</b>	<b>33.54</b>	<b>0.4</b>	
<i>and including:</i>										
		<b>524</b>	<b>546</b>	<b>22</b>	<b>0.36</b>	<b>0.14</b>	<b>1.67</b>	<b>31.75</b>	<b>0.5</b>	
CRDD22-007	368	196	368	172	0.17	0.04	0.64	69.5	0.2	mineralised to EOH
		<i>including:</i>								
		<b>266</b>	<b>354</b>	<b>88</b>	<b>0.21</b>	<b>0.05</b>	<b>0.76</b>	<b>86.7</b>	<b>0.3</b>	
CRDD22-008	489	94	106	12	0.20	0.05	0.57	72.88	0.3	
		188	264	76	0.17	0.01	0.90	66.10	0.2	
		314	370	56	0.19	0.03	1.16	35.33	0.2	
		418	489	71	0.16	0.03	0.81	103.1	0.2	mineralised to EOH

NB. Refer to JORC Table 1 for full details on Copper Equivalent (Cu Eq) calculation assumptions.

## Copper Ridge Mineralisation Observations

The better tenor mineralisation is hosted within an early-stage intra-mineral diorite porphyry, composed of phenocrysts of plagioclase and hornblende, and crosscut by several later stage dykes of intra-mineral porphyry.

The diorite porphyry exhibits characteristics required to develop higher-grade copper-gold mineralisation, such as A-type quartz veinlets, high amounts of mafic minerals (interpreted as a hydrous and oxidized magma) altered to secondary biotite and green-grey sericite. The relatively low total sulphide mineralisation observed in drilling to date implies that we have not yet tested the core of the mineralisation porphyry system.

It is proposed that untested magnetic anomalies which occur at depth at Copper Ridge are potentially related to a magnetite-bornite nucleus, as can be found in other copper-gold porphyry deposits, for example Reko Diq and Grasberg. These magnetic anomalies will be targeted in future drilling campaigns at Copper Ridge.

Although the cross-cutting younger intra-mineral porphyry contains a slightly lower tenor of mineralisation, it also has the potential to host good copper-molybdenum mineralisation at depth due to the higher presence of hornblende phenocrysts, characteristic of a fertile and water-rich magma. This potential has been given further support by the latest results, with CRDD22-006 intersecting strong porphyry mineralisation of **0.36% Cu, 0.14g/t Au, 1.6g/t Ag and 31.75ppm Mo** from 524-546m.

Sulphide mineralisation including chalcopyrite, pyrite, molybdenite and minor pyrrhotite is disseminated in groundmass and within quartz veinlets. Disseminated chalcopyrite is observed to replace mafic minerals. Molybdenite is disseminated in the groundmass and is also present in the margins of B-type quartz veinlets, and in minor cases as sutures. Pyrrhotite is disseminated and is observed to replace mafic minerals in zones of potassic alteration. Magnetite is disseminated and observed to be overprinting/ replacing mafic minerals, such as hornblende.

Potassic alteration (biotite-green grey sericite-quartz-chlorite±magnetite) is pervasive and overprints both diorite porphyry intrusions and andesitic country rock. Phyllic alteration (quartz-sericite-pyrite) is observed to overprint potassic alteration. Intermediate argillic alteration (chlorite-smectite-illite±carbonates), is pervasive and occurs as veins, overprinting earlier potassic and phyllic alteration.

Vein styles are described below, with higher grade mineralisation closely associated with B-type quartz veinlets and sulphide veinlets.

- A-type quartz veinlets, usually as stockwork arrays
- B-type quartz veinlets, isolated veinlets filled by quartz, molybdenum on edges, chalcopyrite and pyrite in sutures
- Stockworks of coarse milky quartz veinlets
- Isolated sulphide veinlets composed of variable amounts of pyrite and chalcopyrite.
- D-type quartz veinlets, isolated and sheeted arrays filled by pyrite, quartz, carbonates, with sericite-chlorite halos

### Bringing the World Experts to Guide Us

Titan is very pleased to have engaged the highly credentialed porphyry expert, Dr Steve Garwin in a technical consultant role. Dr Garwin has been instrumental in the guidance of SolGold's exploration efforts at their Cascabel Project in Ecuador, and the Company looks forward to his valuable input.

The technical team in Ecuador are preparing for Dr Garwin's arrival at the Linderos Project in early March 2023, where he will provide mentoring and training to the geologists on site to ensure that the most important data is being collected in a systematic manner, and that drill future targeting is optimised to ensure success.

The Company is also pleased to continue its close working relationship with renowned geochemist Dr Scott Halley, who is currently reviewing the Copper Ridge geochemistry. Dr Halley's extensive experience provides invaluable insight into the geochemistry of porphyry mineral systems which will aid in identifying vectors towards higher grade copper-gold mineralisation.

### Copper Ridge Next Steps

- Three-dimensional geological modelling to improve understanding of mineralisation controls and facilitate Phase 2 drill targeting.

- Geochemical and spectral data is currently being interpreted by Dr Scott Halley with the aim of understanding and vectoring towards higher grade copper-gold phases of mineralisation.
- Assess the amenability of an Induced Polarisation (IP) geophysical survey for mapping sub-surface mineralisation at Copper Ridge.
- Petrographic analysis is being undertaken to determine alteration mineralogy and its relationship with associated sulphide occurrences.
- Selection of representative samples will be sent for age dating to determine ages of porphyry intrusions and mineralisation events to build a geochronological model.
- Preliminary metallurgical testwork soon to commence to provide indicative recoveries for copper-gold-silver-molybdenum mineralisation.

### Upcoming News flow

The Company anticipates strong newsflow in the coming weeks and months ahead and looks forward to releasing a series of announcements including the following:

1. **Linderos Project Meseta Gold prospect Drilling Results**- assay results from Titan's maiden drilling campaign completed late Q3 2022 anticipated to be received in early February.
2. **Linderos Project Next Steps**- preparations advancing for Phase 2 drilling program at Copper Ridge Porphyry and Meseta Gold prospects.
3. **Dynasty Project Exploration Activities Update**- significant advancement on generative work programs at Dynasty including detailed surface mapping, soil and stream sediment geochemical sampling and geological understanding.
4. **Dynasty Project Next Steps**- preparations underway to drill test high grade epithermal gold extensions at the Cerro Verde (Brecha-Comanche) prospect and porphyry mineralisation at the Kaliman gold-copper prospect in the coming months.
5. **Copper Duke Project Exploration Activities Update**- significant advancement on generative work programs at Copper Duke including detailed surface mapping, soil and stream sediment geochemical sampling and geological understanding.
6. **Copper Duke Next Steps**- preparations underway to drill test several high priority targets at Copper Duke in the 2023.

# ASX ANNOUNCEMENT

6 February 2023

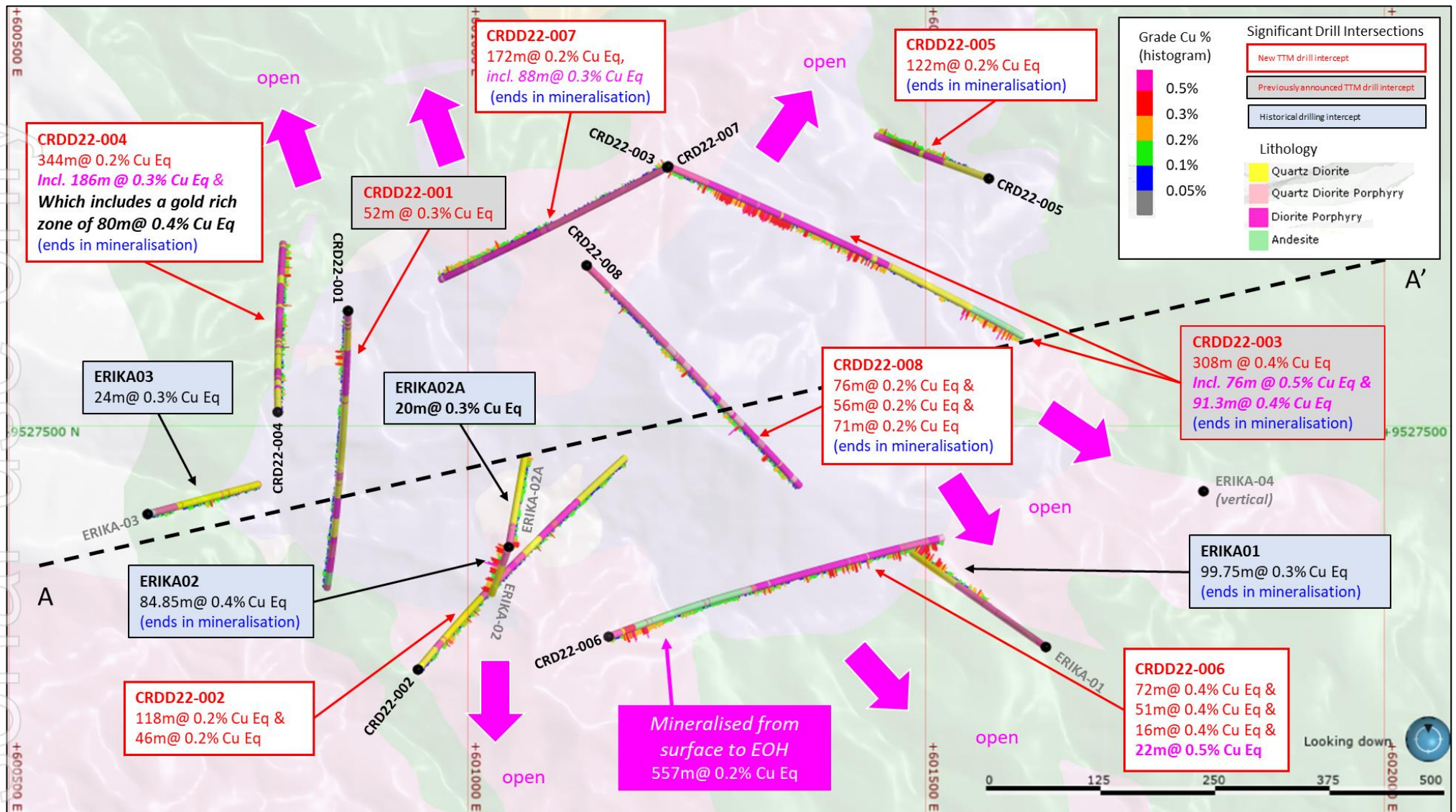


Figure 1: Copper Ridge plan view displaying interpreted geology and drilling displaying geology on drill trace and copper histogram on left, and significant intersections- new and previously announced.

# ASX ANNOUNCEMENT

6 February 2023

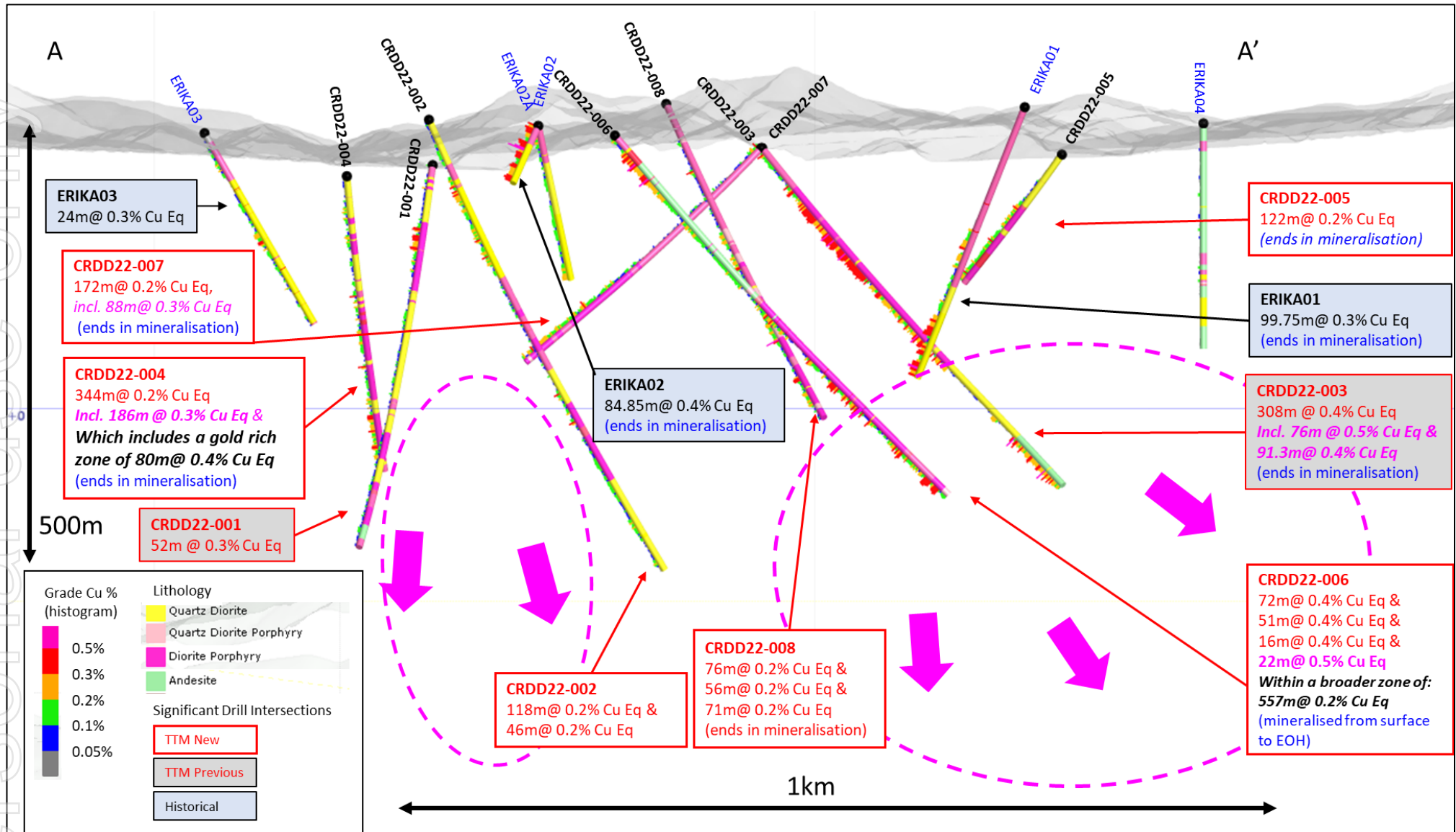


Figure 2: Copper Ridge Long Section looking NNW displaying all drilling and significant intersections including new and historical results



# ASX ANNOUNCEMENT

6 February 2023



## About The Linderos Project

The Linderos project is located 20km southwest of the Company's flagship Dynasty Gold Project and is comprised of four contiguous concessions totalling over 143km<sup>2</sup> located near the Peruvian border in southern Ecuador's Loja Province.

Located in a major flexure of the Andean Terrane, the Linderos Project is situated within a corridor of mineralisation extending from Peru through northern Ecuador that is associated with early to late Miocene aged intrusions. The majority of porphyry copper and epithermal gold deposits in southern Ecuador are associated with magmatism in this age range, with a number of these younger intrusions located along the margin of the extensive Cretaceous aged Tanguila Batholith forming a favourable structural and metallogenic corridor for intrusion activity where Titan minerals holds a significant land position in southern Ecuador.



Figure 3: Titan Minerals Southern Ecuador Projects in relation to porphyry tracts and neighbouring deposits

## ASX ANNOUNCEMENT

6 February 2023



### Competent Person's Statements

The information in this report that relates to Exploration Results is based on and fairly represents information compiled by Ms Melanie Leighton, who is an experienced geologist and a Member of The Australian Institute of Geoscientists. Ms Leighton is a Consulting Geologist for the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the JORC 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources, and Ore Reserves'. Ms Leighton consents to their inclusion in the report of the matters based on this information in the form and context in which it appears.

### ENDS-

Released with the authority of the Board.

For further information on the company and our projects, please visit: [www.titanminerals.com.au](http://www.titanminerals.com.au)

### Contact details:

#### Investor Relations: Australia

**Melanie Leighton – Chief Executive Officer**

**E:** [melanie@titanminerals.com.au](mailto:melanie@titanminerals.com.au)

**Ph:** +61 8 6375 2700

#### Investor Relations: North America

**Tamara Brown – Non-Executive Director**

**E:** [tamara.brown@titanminerals.com.au](mailto:tamara.brown@titanminerals.com.au)

# ASX ANNOUNCEMENT

6 February 2023



## Appendix 1.

Table 1. Copper Ridge Diamond Drillhole details

Hole_ID	Easting	Northing	Elevation (m)	Azimuth (°)	Dip (°)	Depth (m)
CRDD22-001	600870	9527624	277	180	-60	530.00
CRDD22-002	600946	9527233	321	040	-60	604.27
CRDD22-003	601219	9527782	296	112	-45	575.30
CRDD22-004	600793	9527514	264	000	-65	381.36
CRDD22-006	601154	9527269	310	070	-48	557.62
CRDD22-005	601585	9527778	295	290	-50	196.33
CRDD22-007	601218	9527780	296	242	-45	368.07
CRDD22-008	601130	9527674	346	135	-50	488.97

Note. All drill hole coordinates are in WGS84 Zone 17 south and all drill holes are diamond core from surface

Table 2. Historical significant drilling intersections reported as Copper Equivalent in this release

Hole ID	From (m)	To (m)	Width (m)	Cu (%)	Au (g/t)	Ag (ppm)	Mo (ppm)	Cu Eq (%) <sup>1</sup>
ERIKA01	255.55	354.65	99.1	0.26	0.06	0.55	20.12	0.3
ERIKA02	0	85	85	0.32	0.054	1.19	42.97	0.4
ERIKA02A	0	28.5	28.5	0.25	0.02	1.55	7.00	0.3
ERIKA03	126	150	24	0.23	0.02	0.84	43.83	0.3

Table 3. Significant Channel Samples reported as Copper Equivalent

Hole ID	From (m)	To (m)	Width (m)	Cu (%)	Au (g/t)	Ag (ppm)	Mo (ppm)	Cu Eq (%) <sup>1</sup>
CRC003	18	108	90	0.27	0.13	1.02	8.29	0.3
CHRC002	0	90	90	0.21	0.05	0.95	8.79	0.2

### <sup>1</sup> Copper Equivalent (Cu Eq) values – Requirements under the JORC Code

- Assumed commodity prices for the calculation of Copper Equivalent (Cu Eq) is Cu US\$3.00/lb, Au US\$1,700/oz, Mo US\$14/lb and Ag US\$20/oz
- Recoveries are assumed from similar deposits: Cu = 85%, Au = 65%, Ag = 65%, Mo = 80%
- Cu Eq (%) was calculated using the following formula:  $((\text{Cu}\% \times \text{Cu price 1\% per tonne} \times \text{Cu recovery}) + (\text{Au(g/t)} \times \text{Au price per g/t} \times \text{Au recovery}) + (\text{Mo ppm} \times \text{Mo price per g/t} \times \text{Mo recovery}) + \text{Ag ppm} \times \text{Ag price per g/t} \times \text{Ag recovery}) / (\text{Cu price 1\% per tonne} \times \text{Cu recovery})$ . **Cu Eq (%) = Cu (%) + (0.54 x Au (g/t)) + (0.00037 x Mo (ppm)) + (0.0063 x Ag (ppm))**
- TTM confirms that it is the Company's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.

## Linderos Project - 2012 JORC Table 1

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. <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>	<ul style="list-style-type: none"> <li>Diamond drilling method was used to obtain HTW and NTW core (71.4/56.23 mm diameter respectively) for density and chemical analyses. ½ or ¼ core was submitted for analysis.</li> <li>Downhole survey and core orientation tools are used, Diamond core is halved with a diamond saw to ensure a representative sample.</li> <li>Channel sampling is completed as representative cut samples across measured intervals cut with hammer or hammer and chisel techniques.</li> <li>Samples were crushed to better than 70% passing a 2mm mesh and split to produce a 250g charge pulverised to 200 mesh to form a pulp sample.</li> <li>50g charges were split from each pulp for fire assay for Au with an atomic absorption (AA) finish and samples exceeding 10g/t Au (upper limit) have a separate 30g charge split and analysed by fire assay with a gravimetric finish. Samples returning &gt;10ppm Au from the AA finish technique are re-analysed by 30g fire assay for Au with a gravimetric finish.</li> <li>An additional charge is split from sample for four acid digests with ICP-MS reporting a 48-element suite.</li> <li>Within the 48 elements suite, overlimit analyses of a 5-element suite are performed with an ore grade technique (ICP-AES) if any one element for Ag, Pb, Zn, Cu, Mo exceeds detection limits in the ICP-MS method.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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>	<ul style="list-style-type: none"> <li>Channel sampling completed on road cuts and other exposures cleared by mechanized equipment and channels dug by hand including exposures at several artisanal workings within the project area.</li> <li>Drilling HTW diameter core with standard tube core barrels retrieved by wire line, reducing to NTW diameter core as required at depth. Drill core is oriented by Reflex ACT III and True Core tools,</li> <li>Core is oriented with the Devicore device putting the orientation mark in the bottom of hole. Reliable oriented core is defined once at least two runs in a row have less than 10mm in rotation offset at HTW diameter and less than 8mm in NTW.</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>Diamond sample recovery is recorded on a run-by-run basis during drilling with measurements of recovered material measured against drill advance.</li> <li>Diamond core is split in weathered material, and in competent unweathered/fresh rock is cut by a diamond saw to maintain a representative sample for the length of the sample interval.</li> <li>No correlation between sample recovery and grade is observed.</li> </ul>

# ASX ANNOUNCEMENT

06 February 2023



Criteria	JORC Code explanation	Commentary
<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> <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>	<ul style="list-style-type: none"> <li>No data acquisition has commenced at the current stage of the project in support of mining or metallurgical studies.</li> <li>Diamond core samples are logged in detail, with descriptions and coded lithology for modelling purposes, with additional logging comprised of alteration, geotechnical, recovery, and structural logs including measurements based on core orientation marks generated from a Reflex ACTIII downhole survey tool.</li> <li>Logging is recorded for all sampled and mapped intervals with qualitative logging completed for lithological composition, texture, colour, structures, veining, alteration, and quantitative logging for observed mineralogy, and estimated mineral content of quartz sulphide minerals.</li> <li>All sampled intercepts in this report are logged for geology and alteration.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Diamond core is split or cut in weathered profile depending on hardness and competency of the core and cut with a diamond saw in fresh rock. Weathered, faulted, and fractured diamond core, prior to cutting, are docked, and covered with packing tape to ensure a representative half sample is taken.</li> <li>A cutline on core is systematically applied for cutting and portion of core collected for analysis is systematic within each hole. Diamond core sample recovery are reported as being completed in accordance with best practices for the time of acquisition and considered to be appropriate and of good quality.</li> <li>Sample size studies have not been conducted but sample size and length used are typical of methods used for other porphyry deposits of similar mineralisation styles.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All reported results are submitted to an accredited independent laboratory and are analysed by methods considered 'near total' assay techniques as outlined in previous sections of this table.</li> <li>No geophysical tools used in reported channel sampling.</li> <li>Quality control and quality assurance procedures ("QAQC") are defined in Titan sampling procedure documents and for the reported results QAQC for reported channel sampling work is comprised of 4.8% blanks, 4% field duplicates, and 3.4% certified reference material (standards) for an aggregate 12% of QAQC independent of the laboratories in-house QAQC.</li> <li>All results are checked before upload to the digital database to confirm they are performing as expected.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Reported intersections are logged by professional geologists in Ecuador and data validated by a senior geologist in Australia.</li> <li>Twin holes have not been used in the reported exploration results.</li> <li>Original laboratory data files in CSV and locked PDF formats are stored together with the merged data.</li> <li>Field data is captured on both hard copy and digital formats, and transmitted to the database management team for validation and upload to a managed Access and MX deposits database controlled by the database manager.</li> <li>No adjustment to data is made in the reported results</li> </ul>

# ASX ANNOUNCEMENT

06 February 2023



Criteria	JORC Code explanation	Commentary
<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>	<ul style="list-style-type: none"> <li>Drill collars are surveyed by handheld GPS. Surveys are accurate to +/- 5m in horizontal precision.</li> <li>All surveyed data is collected and stored in WGS84 datum Zone 17 south.</li> <li>Topographic control is based on LiDAR survey completed in August, 2022. The acquired data was from Copper Ridge and Meseta Gold prospects, covering an area of 12.8km<sup>2</sup>. The minimum information density was 5 points per square metre, the flight altitude path was at 300m, with an average velocity of 70 knots. The overlap per flight pass was 42%, considering 16 flight lines.</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>Early-stage exploration drilling has been conducted from available constructed drill platforms, with drilling designed to test targets defined by surface mapping, channel sampling and historical drilling.</li> <li>Drilling to date does not have adequate spacing or distribution sufficient to establish continuity of mineralisation or underpin a mineral resource estimation, and further systematic exploration and drilling is required to facilitate a Mineral Resource Estimate.</li> <li>Sample compositing has been applied in reported results, with average composite length being 2 metres.</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>Geometry of the mineralisation identified in drilling has not been outlined with adequate sample density to comment on potential for bias in sampling.</li> <li>Relationship between drill orientation and orientation of key mineralised structures/ controls is not yet defined and requires further drilling to assess.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Samples were collected by Titan Minerals geologists and held in a secured yard at Macara prior to being transported by a company vehicle to the Celica exploration office where laboratory and dispatched paperwork is processed. Samples are enclosed in polyweave sacks for delivery to the laboratory and weighed individually prior to shipment and upon arrival at the laboratory. Sample shipment is completed through a commercial transport company with closed stowage area for transport.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No independent audit of project data or umpire laboratory checks have been undertaken by Titan for the reported results.</li> </ul>

## Section 2 - Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>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.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Titan Minerals Ltd, through its indirect wholly owned Ecuadorian subsidiaries holds a portfolio of exploration properties in the Loja and Zamora-Chinchipe Provinces of Ecuador. The Linderos project is comprised of four concessions in the Loja Province with Titan holding 100% interest in the Linderos E, Naranjo, Dynasty 1, and Chorrera, concessions totalling an area of 143km<sup>2</sup>.</li> <li>Mineral concessions in Ecuador are subject to government royalty, the amount of which varies from 3% to 5% depending on scale of operations and for large scale operations (&gt;1,000tpd underground or &gt;3,000tpd open pit) is subject to negotiation of a mineral/mining agreement.</li> <li>Mineral concessions require the holder to (i) pay an annual conservation fee per hectare, (ii) provide an annual environmental update report for the concessions including details of the environmental protection works program to be adhered to for the following year submitted to the Environmental Department of the Ministry of Energy and Mines. These works do not need approval; and (iii) an annual report on the previous year's exploration and production activity. Mineral Concessions are renewable by the Ministry of Energy and Mines in accordance with the Mining Law on such terms and conditions as defined in the Mining Law.</li> <li>The Company is not aware of any social, cultural, or environmental impediments to obtaining a license to operate in the area at the time of this report beyond the scope of regular permitting requirements as required under Ecuadorian Law.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Linderos Project:</li> <li>1974, The United Nations completes a 9-hole drilling program following a regional scale geochemical survey.</li> <li>1978, the DGGM and Mission Espanola complete a 2-hole program totalling just over 400m drilled.</li> <li>2004 until 2005 Dynasty Mining and Metals (later Core Gold Inc.) completed mapping, limited ground geophysical surveys and exploration sampling activity including 5 diamond drill holes totalling 1,146m drilled and 2,033 rock channel samples were taken from 1,161m of surface trenches</li> <li>2007 to 2008, a Joint Venture arrangement with Mariana Resource Ltd ("Mariana") completed soil surveys and 8 diamond drill holes, of which six holes totalling 858m drilled are located within the Linderos Project's Chorrera concession.</li> <li>2017-19, Core Gold Inc. (formerly Dynasty Metals and Mining Inc.) completed a series of 5m spaced trenches over a 100 x 150m area of artisanal mining operations to define a small zone of high-grade gold mineralisation and followed-up in 2018 with 11 diamond drill holes from 5 platforms testing the mineralisation at surface and ~1km east of outcropping surface mineralisation.</li> </ul>

# ASX ANNOUNCEMENT

06 February 2023



Criteria	JORC Code explanation	Commentary
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>Regionally, the Linderos project lies within the compressional Inter-Andean Graben that is bounded by regional scale faults. The graben is composed of multiple Miocene aged intrusions within thick Oligocene to Miocene aged volcano- sedimentary sequences overlying the Cretaceous aged Tangula Batholith that extends for over 80km from northern Peru into southern Ecuador. Local volcanic rocks cover the Chaucha, Amotape and Guamote terrains. This structural zone hosts several significant epithermal, porphyry, mesothermal, S-type granitoid, VHMS and ultramafic/ophiolite precious metal and base metal mineral deposits.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>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:                             <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material</li> <li>and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>A summary of drillhole information has been included in the body of this release.</li> <li>No information has been excluded from this report.</li> </ul>
<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 (e.g., 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>	<ul style="list-style-type: none"> <li>No high-grade assay cut was applied to reported exploration results. A lower cut-off of 0.1% copper equivalent was used to determine significant intercepts.</li> <li>Where higher grade copper is located within reported mineralised intervals at a 0.1% copper cut-off, locally an additional intercept is provided as “including” within the reported intercepts at a 0.2% copper cut-off.</li> <li>Metal equivalent reporting is applicable to this announcement and the assumptions and inputs are detailed here:</li> <li>Assumed commodity prices for the calculation of Copper Equivalent (Cu Eq) is Cu US\$3.00/lb, Au US\$1,700/oz, Mo US\$14/lb and Ag US\$20/oz</li> <li>Recoveries are assumed from similar deposits: Cu = 85%, Au = 65%, Ag = 65%, Mo = 80%</li> <li>Cu Eq (%) was calculated using the following formula: <math>((Cu\% \times Cu\ price\ 1\% \ per\ tonne \times Cu\ recovery) + (Au(g/t) \times Au\ price\ per\ g/t \times Au\ recovery) + (Mo\ ppm \times Mo\ price\ per\ g/t \times Mo\ recovery) + Ag\ ppm \times Ag\ price\ per\ g/t \times Ag\ recovery) / (Cu\ price\ 1\% \ per\ tonne \times Cu\ recovery)</math>. <b>Cu Eq (%) = Cu (%) + (0.54 x Au (g/t)) + (0.00037 x Mo (ppm)) + (0.0063 x Ag (ppm))</b></li> <li>TTM confirms that it is the Company’s opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.</li> <li>Copper Equivalent values have been rounded to one decimal place to reflect lower confidence level in these calculated values.</li> <li>Peer Deposits used for comparison are tabled below:</li> </ul>



# ASX ANNOUNCEMENT

06 February 2023



Criteria		JORC Code explanation		Commentary															
				Company		Deposit		Deposit Type	Contained Metals	Recoveries %				Prices (USD)					
				Cu	Au	Mo	Ag	Au (oz)	Cu (lb)	Mo (lb)	Ag (oz)								
		Titan Minerals	Copper Ridge	porphyry	Cu-Au-Mo-Ag	-	-	-	-	\$ 1,700	\$ 3.00	\$ 14	\$ 20						
		Hot Chili	Cortadera	porphyry	Cu-Au-Mo-Ag	82	55	82	37	\$ 1,700	\$ 3.00	\$ 14	\$ 20						
		SolGold	Alpala	porphyry	Cu-Au	93	85			\$ 1,400	\$ 3.40								
		Copper Mountain	New Ingerbelle	porphyry	Cu-Au-Ag	85	71		65	\$ 1,599	\$ 3.35		\$ 21						
		Solaris	Warintza	porphyry	Cu-Mo-Au	80	65	-	70	\$ 1,500	\$ 3.00	\$ 10							
		Sunstone	Bramaderos	porphyry	Au-Cu	86	89	-	-	\$ 1,770	\$ 4.42								
		Challenger	Colorado V	porphyry	Au-Cu-Ag-Mo	-	-	-	-	\$ 1,780	\$ 4.38	\$ 18	\$ 22						
		<b>Peers Average</b>				<b>85</b>	<b>73</b>	<b>82</b>	<b>57</b>	<b>\$ 1,625</b>	<b>\$ 3.59</b>	<b>\$ 14</b>	<b>\$ 21</b>						
<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 angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>All reported intersections are measured sample lengths and are not to be interpreted as true thickness. Exploration to date is not sufficient to define geometry or continuity of mineralisation reported.</li> <li>True widths to be estimated with completion of more advance exploration and commencement of both oriented core drilling and commencement of 3D visualisation and modelling work with project advancing to a scoping stage.</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>	<ul style="list-style-type: none"> <li>Included in body of report as deemed appropriate by the competent person.</li> </ul>																	
<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>All material exploration results are included in this report, and location of all results are included in their entirety in the figures provided.</li> </ul>																	
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Geological interpretation and summary of previously reported geochemical survey results included in figures.</li> <li>No other available datasets are considered relevant to reported exploration results.</li> <li>No metallurgical test results, bulk density, or groundwater tests have been completed on areas related to the exploration results.</li> <li>A preliminary metallurgical testwork program is planned to be undertaken in Q1/Q2 2023.</li> </ul>																	
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Included in body of report.</li> <li>Included in body of report as deemed appropriate by the competent person.</li> </ul>																	