Copper Duke Geophysics Delineates Corridor of Copper-Gold Porphyry Exploration Targets

Highlights

- **Geophysics confirms and extends a corridor hosting multiple clusters of intrusive centers**
- **Coincident high-grade gold and copper geochemistry at surface associated with outcropping porphyry style mineralisation is enhanced with geophysical results**
- **Characteristics similar to many major porphyry districts in the world that host tier 1 assets**

Titan Minerals Limited (ASX: TTM) (**Titan** or the **Company**) is pleased to provide an update on the progress of geology interpretation work following completion of a high resolution airborne geophysical survey on the Copper Duke Project located in southern Ecuador which has delivered similar indications to many major porphyry districts in the world with tier 1 assets.

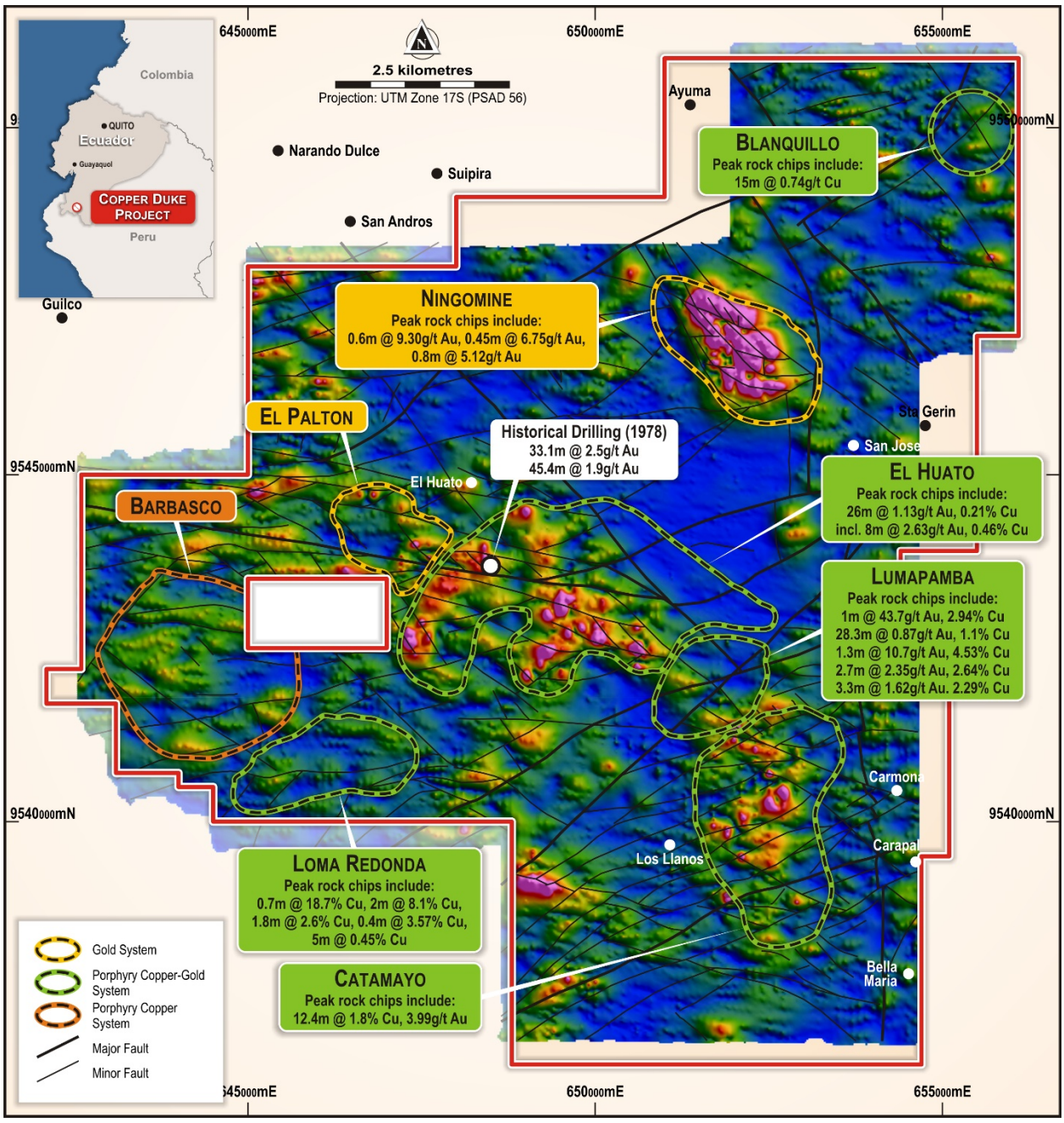

Figure 1: Copper Duke Prospect locations over Geophysical product with an Analytical Signal filter

Copper Duke Geophysics Interpretation

The Copper Duke area hosts several mineralised porphyry style systems confirmed in surface geochemistry and mapping work to date. Significant gold and copper values at surface (refer to Figures 2 & 3) associated with both disseminated style mineralisation and quartz hosted veining and stockworks are observed across a contiguous corridor of target areas comprised of the El Huato, Lumapamba, and Catamayo Propsects. To the north of the contiguous trend of prospects hosting multiple clusters of intrusion centers, the underexplored Ningomine Prospect has the largest footprint of geophysical anomalism featuring vein hosted gold and copper mineralisation across several scattered outcrop areas. Geophysical results are interpreted to be associated with magnetite alteration often corresponding with broad zones of high tenor surface geochemistry previously reported (refer to ASX releases dated 25 May 2020 and 21 January 2021). Better results from trench and channel sampling at surface include:

- 28.3m @ 0.87g/t gold, 1.1% copper and
- 1m @ 43.7g/t gold, 2.94% copper and
- 1.3m @ 10.7g/t gold, 4.53% Cu within the Lumapamba Prospect
- 15.3m @ 1.32g/t gold with 13m @ 0.46% copper and,
- 8m @ 2.63g/t gold, 0.46% copper at the El Huato Prospect
- 12.4m @ 3.04g/t gold, 1.8% copper at the Catamayo Prospect
- 0.8m @ 5.12g/t gold, 0.44% copper and
- 1.9m @ 0.30g/t gold, 4.11% copper within the Ningomine Prospect

The recently completed high resolution airborne survey has further enhanced targeting at the El Huato prospect and identified additional clusters of intrusion centers at the El Huato and Catamayo Prospects defined from multiple discrete magnetic anomalies (refer to Figure 1) within and adjacent to the known geochemical footprint.

Geophysical survey results define an extensive corridor hosting porphyry related features. Multiple clusters of intrusive centers in an 9km long by up to 2 km wide arcuate trend are coincident with outcropping porphyry style mineralisation confirmed at surface. Existing high tenor gold and copper surface mineralisation from trench and channel sample activity (refer to ASX releases dated 25 May 2020 and 21 January 2021) is associated with several of the geophysical anomalies reported, and several additional magnetic anomalies in the extended corridor require follow-up field work in this underexplored porphyry field.

Commenting on the geophysics results at Copper Duke, Titan Minerals Managing Director, Laurie Marsland said:

"We are cautious not to overstate the potential of Copper Duke. It is an exceptional copper gold porphyry exploration project, one that would be attractive to any major mining company and we think results to date support our view.

Our work has identified clusters of intrusion related anomalism over an area of greater than 12km^2, on par with many tier one deposits around the world. And when considering scale, geometry, and geophysical anomalism, in our opinion, Copper Duke is similar to many major porphyry districts in the world. Comparisons to projects such as Cero Casale and Reko Diq are being made.

We are very excited to own the Copper Duke Project and about its potential to create value for our shareholders as our understanding of the asset unfolds."

The scale, geometry and extent of geophysical anomalism identified at the Copper Duke Project is similar to many major porphyry districts in the world, including Cerro Casale and Reko Diq. The total endowment and tenor of mineralisation varies across all porphyry projects in relation to a number of factors, including emplacement setting and erosional level exposing the porphyry system. The geophysical results show clusters of intrusion related anomalism over an area greater than 12km^2, on par with many tier one deposits around the world. Supported by a relatively high tenor of geochemical anomalism outcropping at surface which is exposed through several hundred meters of vertical relief across the project area.

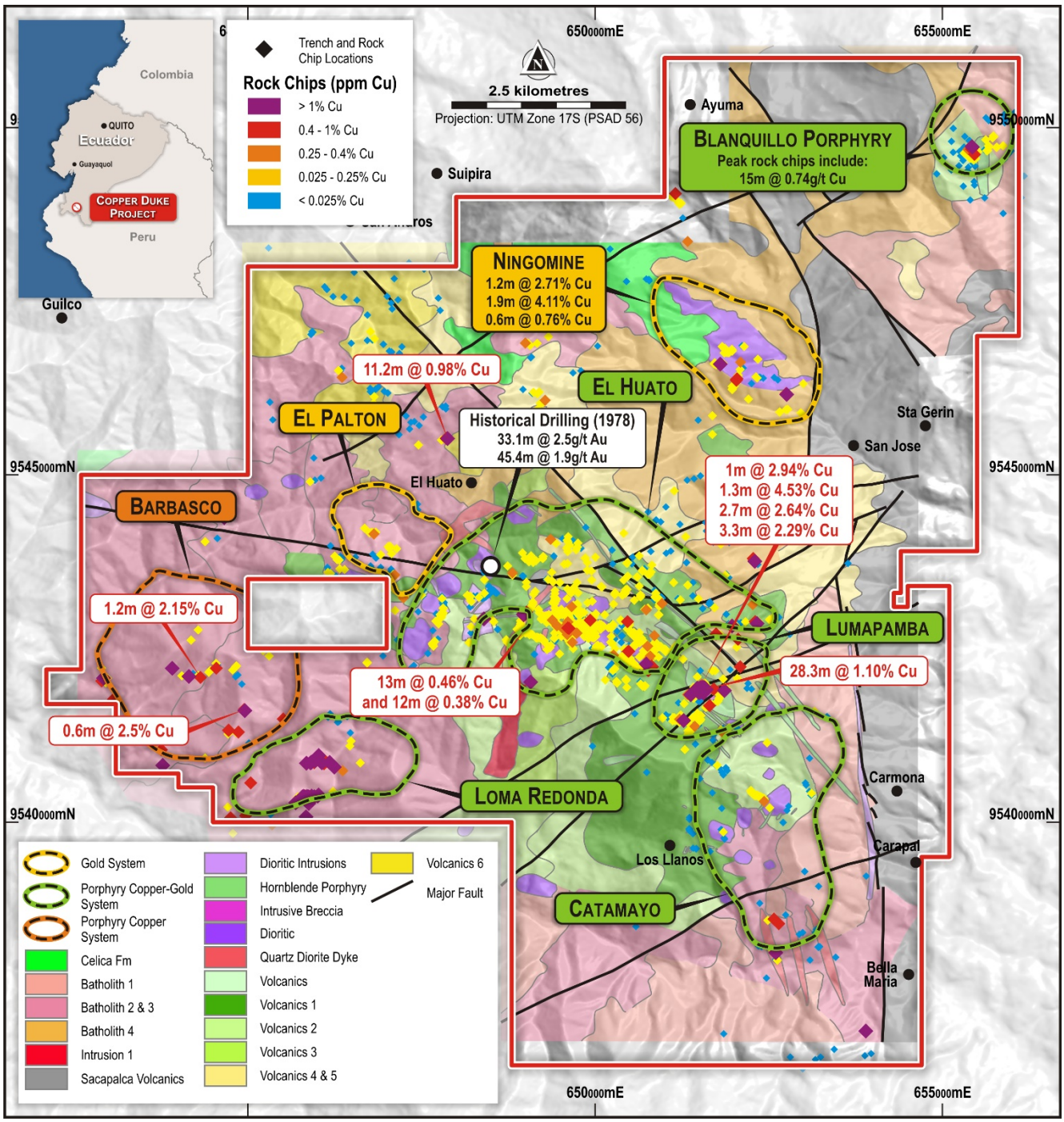

Figure 2: Surface sample locations with copper assay results on revised geology interpretation following interpretations of high resolution airborne geophysics datasets

Integrated Geological Interpretation – Surface geology, Structure and Interpreted intrusions

Data has been interpreted by Terra Resources to produce an interpretive surface geology map. Surface geology is compiled using all available datasets with an emphasis on the radiometric data which highlights surface geology. The radiometric dataset reported resulted in a substantially revised geologic map for the Copper Duke Project (refer to Figures 2 & 3).

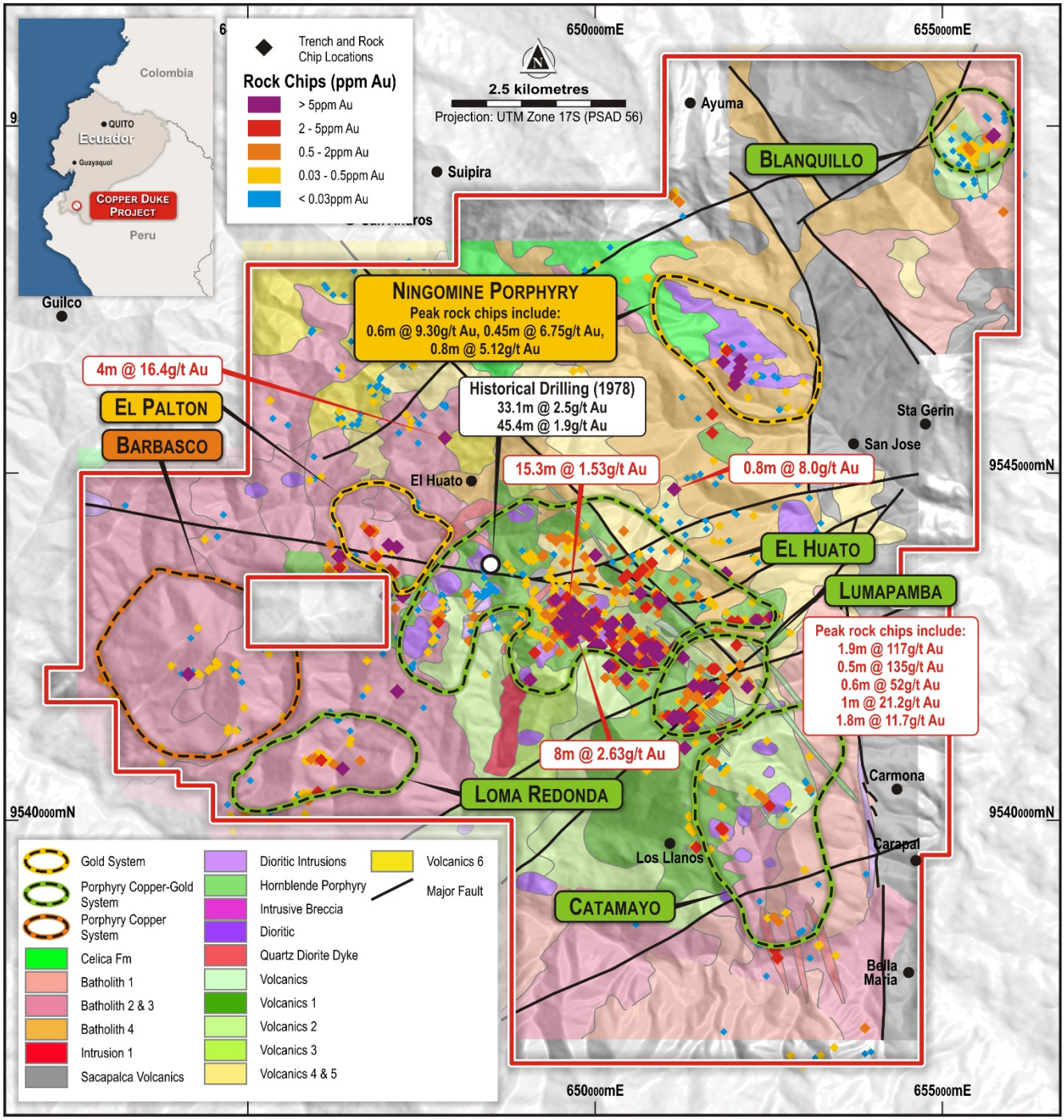

Figure 3: Surface sample locations with gold assay results on revised geology interpretation following interpretations of high resolution airborne geophysics datasets

The magnetic datasets are integrated with the radiometric and geochemical data to detail multiple clusters of intrusion centers. The geophysical interpretation is strongly supported by mapped porphyry style alteration and mineralisation at the Copper Duke Project where several discrete magnetic highs are coincident with favourable surface geochemistry, and mapped magnetite alteration. The magnetite alteration generates several analogous

targets outside the existing high tenor surface geochemical footprint to be targeted across the project area, in addition to those already mapped at surface.

The updated geology interpretation for the project suggests significantly more lithologic and structural complexity within the project area, which are highly favourable attributes for large scale mineralizing systems. Further follow-up field activity has already commenced to confirm the interpreted results and rank the multiple targets generated in this highly prospective porphyry field.

Copper Duke Project Summary and Work Programme

Copper Duke is an early-stage exploration project located approximately 18km east of the Company's flagship Dynasty Gold Project. Comprised of thirteen concessions totaling 130km^2 in the Loja Province of southern Ecuador, Copper Duke is host to multiple porphyry intrusions associated with extensive copper-gold anomalism and quartz hosted gold veining outcropping at surface.

The high resolution airborne survey completed is the first significant catalyst in advancement of the Copper Duke Project since exploration activity ceased in 2007, leaving significant un-drilled potential at Copper Duke across multiple outcropping high grade geochemical anomalies.

Titan is currently advancing a surface sampling and mapping campaign in follow-up to the announced geophysical results. Results of ongoing exploration activities will support a ranking of numerous drill ready targets for maiden drill testing budgeted for 2021.

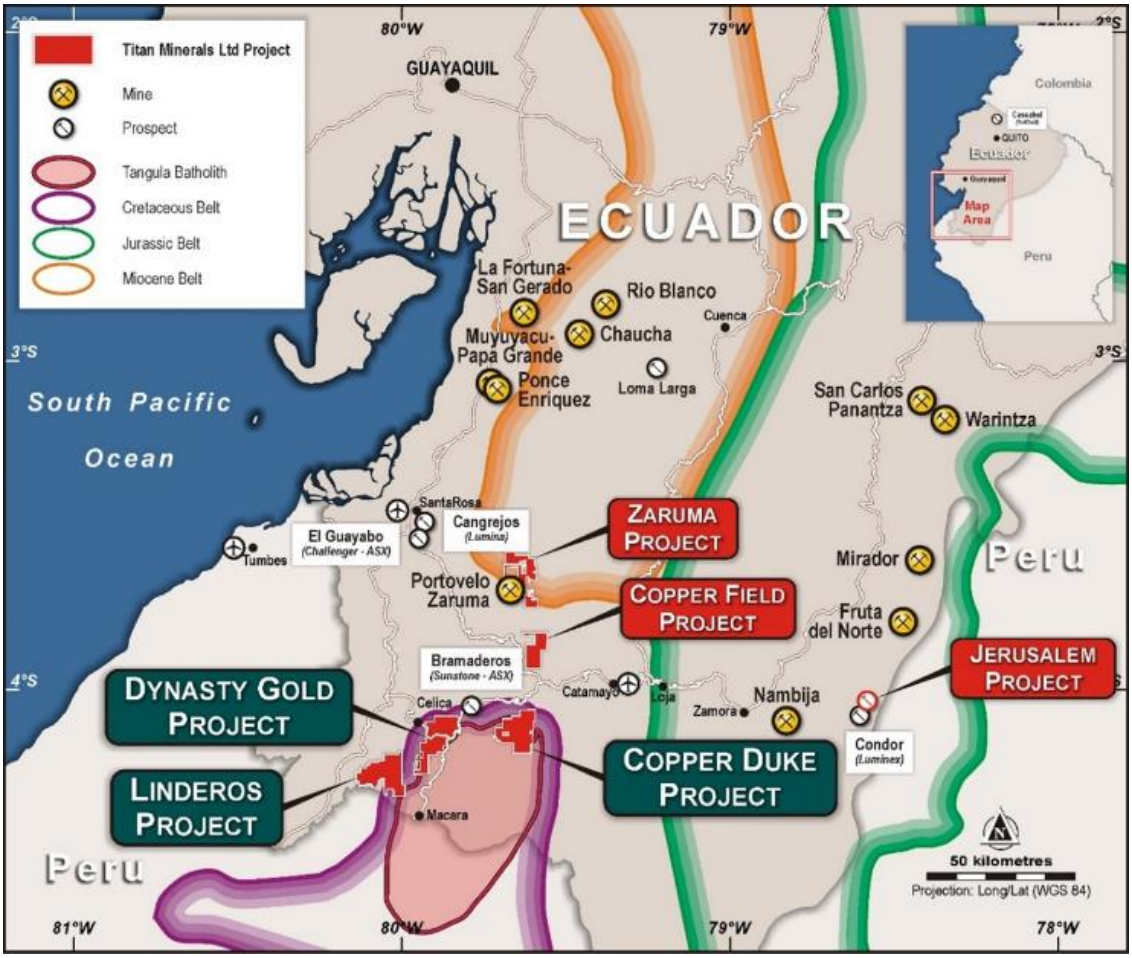

Figure 4: Location of Titan Minerals Projects in Southern Ecuador

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Released with the authority of the Board.

For further information on the company and our projects, please visit: **www.titanminerals.com.au**

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Competent Person's Statements

The information in this report that relates to Geophysical Exploration Results is based on information compiled by Mr Barry Bourne, who is employed as a Consultant to the Company through geophysical consultancy Terra Resources Pty Ltd. Mr Bourne is a fellow of the Australian Institute of Geoscientists and a member of the Australian Society of Exploration Geophysicists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Bourne consents to the inclusion in the report of matters based on information in the form and context in which it appears.

The information in this report that relates to Geochemical Exploration Results is based on information compiled by Mr Travis Schwertfeger, who is a Member of The Australian Institute of Geoscientists. Mr Schwertfeger is the Chief 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 he 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'. Mr Schwertfeger consents to their inclusion in the report of the matters based on his information in the form and context in which it appears.

APPENDIX A

Dynasty Gold Project - 2012 JORC Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used* • *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Helicopter-borne survey measuring passive magnetic and radiometric physicial properties of the project area. • Specifications for the Copper Duke airborne survey are: ○ 100m line spacing ○ 000-180° (north-south) line direction ○ 80m nominal terrain clearance ○ 119km2 survey area for 1,363 survey km flown
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Not applicable to the reported geophysical results
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Not applicable to the reported geophysical results
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Not applicable to the reported geophysical results
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Not applicable to the reported geophysical results
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• Not applicable to the reported geophysical results No geophysical tools used in relation to the reported exploration results.

APPENDIX A

Criteria	JORC Code explanation	Commentary

	• *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.*	• Survey was flown with a Eurocopter AS350B2 Helicopter
		• Onboard Survey Equipment included
		  ○ Laser Altimeter, 10 /sec sampling rate
		  ○ Scintrex CS-3 high resolution cesium split-beam total-field magnetometer, which was installed in a forward mounted stinger. The sampling rate was twenty (20) times per second with an in-flight sensitivity of 0.002 nanoTesla (nT)
		  ○ A Radiation Solution RSX-5 multi-channel gamma-ray spectrometer with 33.6 litres "downward looking" NaI sensor, and 8.4 litres "upward looking" NaI sensor
		  ○ A Hemisphere R330 L1/L2 GPS navigation system input to a navigation computer and Pilot Guidance Unit (PGU) provided navigation control

	• *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.*	• For Quality control, monitoring and recording diurnal variations of the Earth's magnetic field was completed continuously throughout the airborne data acquisition with a GEM Systems GSM-19TW Overhauser magnetometer with onboard GPS for post processing of airborne data was utilized. The base station magnetometer was set up at the base of operations for the respective survey area. •
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Data was transmitted on a regular basis and reviewed by an independent geophysicist to confirm data acquisition was in required tolerances. • Not applicable to the reported geophysical results. • A Pico-Envirotec Airborne Geophysical Information System (AGIS) PC Based Data Acquisition System (DAS) was used to record the geophysical and navigation survey data on a portable media flashcard • Adjustment to assay data is not applicable to the reported geophysical results
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used* • *Quality and adequacy of topographic control.*	• Not applicable to the reported geophysical results • All surveyed data was collected and reported in WGS84 Datum. • Topographic data acquired on 100m line spacing for adequate reporting of terrain clearance.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Data spacing is considered high resolution survey quality for the reported results and fit for purpose of the early-stage exploration methodology • Reported Geophysicial survey results will not be utilised in a mineral resource estimation. • Sample Compositing is Not applicable to the reported geophysical results
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Not applicable to the reported geophysical results • Not applicable to the reported geophysical results

Criteria	JORC Code explanation	Commentary
Sample security	• *The measures taken to ensure sample security.*	• Data confidentiality was maintained through the use of secure password protected data sites for data transfer.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Data was audited by Terra Resources, a Perth based Geophysical and Geological consulting company with Qualified/Competent Staff in the Survey methods undertaken

Section 2 - Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Titan Minerals Ltd, through its indirect wholly owned subsidiaries, holds a portfolio of exploration properties in the Loja Province of Ecuador. Amongst these, Titan holds a 100% interest in the following concessions comprising the Copper Duke Project: BARBASCO / BARBASCO 4 COLANGA / LUMAPAMBA BARBASCO 1 / LUMAPAMBA 1 BARBASCO 2 / GONZA 1 GLORIA / CAROL GLORIA 1 / CATACOCHA COLANGA 2 • Mineral concessions in Ecuador are subject to government royalty, the amount of which varies from 3% to 8% depending on scale of operations and for large scale operations (>1,000tpd underground or >3,000tpd open pit) is subject to negotiation of a mineral/mining agreement. • The Copper Duke concessions are currently issued under the small scale mining and exploration regime in Ecuador. 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 followed for the following year. 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 Ecuadorian Ministry of Oil, Mining and Energy in accordance with the Mining Law on such terms and conditions as defined in the Mining Law. • The Company is not aware of any social, cultural, or environmental impediments to obtaining a licence to operate in the area at the time of this report beyond the scope of regular permitting requirements as required under Ecuadorian Law..
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Copper Duke Project • Early 1970's a United Nations Survey was completed on the El Huato and Santa Rita Sectors with a systematic soil survey and additional rock sampling assayed for base metals. An base metal anomaly of approximately 14sq km in the El Huato area was defined. • 1975 to 1976 the Spanish Geological Mission completed a survey of south Ecuador, and in 1976 a geophysical study resulted with a coincident anomaly at El Huato (however geophysical results have not been located)

		• 1978, the Spanish government company Adaro drilled two diamond core holes at the El Huato anomaly each to 220m drill depth. • 2003 through 2019 Dynasty Mining and Metals (later Core Gold) completed mapping, limited ground geophysical surveys and exploration sampling activity including 201 drill holes totalling 26,733.5m and 2,033 rock channel samples were taken from 1,161 surface trenches at Cerro Verde, Iguana Este, Trapichillo and Papayal in support of a maiden resource estimation. • 2000-2001 Iamgold Corporation sampled ridgeline soils in an extensive geochemical program where it obtained 527 soil samples and 103 rock samples. Results ranged from <20ppb Au to peak assay of 1,665ppb Au, and peak base metal results of 1,310 (0.13%) Cu and 19ppm Mo were found in the soil samples and up to 7,134ppb Au; 0.22% Cu and 40ppm Mo in rock samples, obtaining a similar anomaly to the UN program
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Regionally, the Copper Duke Project lies within the Occidental Andean Cordillera volcanic terrain in Southern Ecuador. The Project area is dominated by andesitic volcanic and sedimentary lithologies of the Cretaceous Celica formation and plutonic granodiorite-diorite of the multi-phase Cretaceous Tangula batholith • At the project scale, gold-silver bearing quartz veins are hosted in the intermediate volcanics located proximal to the Cretaceous Tangula Batholith that extends north from Peru. The Tangula Batholith is a multiphase intrusive body consisting of diorites, tonalites and granodiorites. Sporadic hornblende-plagioclase porphyries intrude both the intermediate volcanics and the Tangula batholith. A quartz-diorite intrusion is emergent near the boundary of the volcanics and the Tangula Batholith. It occupies an area of about four square kilometres and is interpreted as a control for Porphyry intrusion style mineralisation hosting copper, gold, silver and other base metal mineralization which has also been mapped at several areas within the Copper Duke project area. • Copper occurs in various forms of Cu oxide minerals at surface and as disseminated style chalcopyrite observed in shallow excavations at several locations within the project area..

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

Data aggregation methods	• *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* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not applicable to the reported geophysical results • *No metal equivalent reporting is applicable to this announcement*

Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').*	• Not applicable to the reported geophysical results
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• *Included in body of report as deemed appropriate by the competent person*
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All geophysical results utilised in the reported geology interpretation results. Field based fact checking to confirm results of the interpreted data based on geophysical response integrated with other existing datasets is in progress. Results subject to change with further exploration results.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• *Historical exploration results integrated into generating the reported results outlined in Titan release to ASX dated 25 May 2020* • *No bulk density, or groundwater tests have been completed on areas related to the reported exploration results.*
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• *Mapping, soils and drilling planned to better define mineralisation and assess economically viable resource potential within the project area.* • *Included in body of report as deemed appropriate by the competent person*