

**AIM Announcement**

**1 November 2022**

## **Exploration Update – Brunton Pass Project, Nevada, USA**

Tertiary Minerals plc is pleased to provide the following update on its summer exploration campaign at the Brunton Pass Copper-Gold Project in Nevada, USA.

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### **Highlights**

- The programme included trenching, sampling, geochemical analysis, petrological evaluation and field follow up.
- Six trenches (T1, T2, T7, T8, T10 and T11) were completed for a combined length of 386m to further evaluate previously reported copper, mercury and arsenic anomalies in soil and surface rock chip samples.

### **Copper Targets**

- Wide intervals of low-grade copper observed in trenches T7 and T8:
  - 27.4m grading 1,010ppm copper (0.1% Cu) in T7, open to the east.
  - 77.7m grading 473ppm copper in T8 open to the east.
- Petrological evaluation has confirmed the copper is associated with widespread garnet-pyroxene skarn alteration adjacent to diorite intrusives.
- These wide low-grade copper intervals are a possible halo to more significant mineralisation and suggest the possible presence of a deeper porphyry copper target.

### **Gold Target**

- Two trenches (T1 & T11) testing the north and south ends of a 1.2km long zone of mercury-arsenic soil anomalies intersected substantial widths of hydrothermally altered rock with approximately 1,000 times background content of the gold indicator elements, arsenic and mercury:
  - 9.1m grading 1,930ppm arsenic and 102 ppm mercury in T1
  - 32m grading 1,622ppm arsenic and 110ppm mercury T11
- T2, located between T1 and T11, intersected 2.65g/t gold over 2.7m.
- The north trending zone tested by T1, T2 and T11 will now be drill tested for epithermal gold mineralisation at deeper levels.

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**Commenting today, Executive Chairman Patrick Cheetham said:** *"We are pleased to be reporting a successful summer programme at our Brunton Pass Project in Nevada."*

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*The occurrence of substantial widths of clay altered rock with up to 1,000x background values for mercury and antimony at two locations 900m apart and with gold values up to 2.65g/t gold suggests these trenches may be in the upper levels of a high sulphidation epithermal gold deposit. Similar deposits occur in the area including the Paradise Peak deposit, 25km to the southeast, which produced over 1.6 million ounces of gold and over 44 million ounces of silver before closing in 1993.*

*This epithermal alteration is superimposed on a large area of skarn alteration prospective for copper and may also suggest the presence of a larger porphyry copper target nearby.*

*We will now move forward with drill planning at Brunton Pass and look forward to reporting back on progress.”*

**For more information please contact:**

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**Tertiary Minerals plc**

Patrick Cheetham, Executive Chairman

**Tel: +44 (0)1625 838 679**

**S P Angel Corporate Finance LLP**

**Nominated Adviser & Broker**

Richard Morrison/Caroline Rowe

**Tel: +44 (0)203 470 0470**

**Peterhouse Capital Limited**

**Joint Broker**

Lucy Williams/Duncan Vasey

**Tel: +44 (0)207 469 0930**

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### **Market Abuse Regulation (MAR) Disclosure**

The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014 which forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 ('MAR'). Upon the publication of this announcement via Regulatory Information Service ('RIS'), this inside information is now considered to be in the public domain.

### **Note to Editors**

Tertiary Minerals plc (LON: TYM) is an AIM traded mineral exploration and development company whose strategic focus is on energy transition metals. The Company's projects are located in stable and democratic, geologically prospective, mining-friendly jurisdictions. Tertiary's current principal activities are the discovery and development of mineral resources in Nevada, USA and in Zambia.

### **Detailed Information**

#### **Background**

The Brunton Pass Project is located in central Nevada and was acquired in 2021 after sampling of prospector small-scale surface workings revealed high copper values. Reconnaissance rock chip sampling and mapping were subsequently carried out throughout the claim block returning values up to 6.84% copper and 1.75 g/t gold in separate samples as well as anomalous silver values.

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A drone magnetic and photogrammetric survey was also carried out in 2021 and the data was subsequently processed using magnetic vector inversion modelling.

Mineralisation at Brunton Pass is closely associated with hornfels and skarn alteration of a mixed sequence of Triassic aged carbonate and clastic sediments that form a 1.8km x 0.75km, uplifted “window” (horst block) in fault contact within younger Tertiary-age volcanic rocks. The magnetic inversion model suggests that the Triassic sediments may be underlain at shallow depth by a large intrusive body that could be the source of the alteration and mineralisation. Evidence for this underlying body is found in surface outcrops of granite/granodiorite and at least two phases of diorite intrusion.

Following initial prospecting a total of 485 soil samples were collected at 50m spacing on lines 100m apart over the main window and on a 100m by 100m offset grid over the remainder of the project area.

Several copper-in-soil anomalies<sup>1</sup> with individual grades of up to 953ppm copper were delineated based on this sampling. The largest of these anomalies in the southwest quadrant of the property has dimensions of 340m x 310m and they are mainly coincident with areas where rock grab samples contain percent-level copper values in small prospecting pits.

Two large mercury and arsenic in soil anomalies<sup>1</sup> were also defined in the eastern half of the property in a north trending zone with values up to 52 ppm mercury with the largest of these extending over an area approximately 500m x 500m. These anomalies are centred on a north trending zone of structural dislocation with a strike length of at least 1.2km entirely within the project area.

### **Summer 2022 Trenching Programme**

In late July 2022, Tertiary contracted Legarza Exploration LLC (“Legarza”) to conduct a trenching programme at the Brunton Pass Copper Project under the supervision of contract geologist Ivan Johnson.

Six trenches were excavated for a total of 386.2 metres over the zones of anomalous copper arsenic and mercury anomalies. All trenches were geologically mapped and sampled throughout at 10ft (3m) intervals. The trenches were numbered according to a provisional plan and as not all planned trenches were dug, trench numbers described below do not run sequentially.

Trenches T1, T2 and T11 were excavated in the eastern half of the project area in the area of the mercury-arsenic anomalies, whilst trenches T7, T8 and T10 targeted the copper soil anomalies in the southwest quadrant of the project.

Trench walls were photographed and samples sent to Paragon Geochemical Laboratories, Reno for sample preparation and analysis. Samples were analysed via method FSAu-25, an aqua regia digest multi-element analysis which includes gold. Laboratory QA/QC samples were inserted into the sample run.

Multiple rock samples from trenches and outcrop were sent for thin section, polished thin section and XRD evaluation to evaluate the styles of mineralisation and so provide context for trench sampling analytical results.

**Trench 1** (67m long) targeted the northern extent of the mercury-arsenic anomaly in the north part of the project area where previous rock chip sampling yielded values of up to 0.1% copper in a silicious jasperoid. T1 cut through a 30m wide carbonate sequence which is in fault contact on its east side with Tertiary volcanics and on the west side with a 12m wide fault sliver of granitic rock that lies along the eastern contact with Tertiary volcanics.

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All of the rock units in T1 display intense argillic alteration containing smectite (-illite), quartz and opal/cristobalite.

The clay altered sediments adjacent to the granite also contain hematite and goethite and geochemical analysis shows high arsenic (As) and mercury (Hg) values with **a 9.1m section containing 1,930ppm As and 102ppm Hg.**

These values are similar to the wider As-Hg zone described for Trench 11 approximately 875m further south (see below) and are approx. **1,000 times the geochemical background** levels found in other areas of the project.

**Trench 2** (33.5m long) was excavated in hornfels towards the centre of the same mercury-arsenic anomaly tested in T1. The hornfels contains bands of andradite garnet and diopside and is not as altered as in 1 and T11, most likely due to lower permeability of the hornfels to hydrothermal fluids.

T2 intersected **2.7 metres grading 2.65 g/t gold** in a north trending shear zone that parallels the strike of the soil anomaly. Gold may have been remobilised into this structure from a deeper level (see concluding remarks below).

**Trench 7** (109.7m long) was designed to cut across one of the peak copper-in-soil geochemical anomalies in the southwest quadrant of the project area and to continue to the western contact of the sediments with the Tertiary volcanics on the west side of the window.

From east to west Trench 7 intersected a sequence of skarn and variably altered sediments in fault contact with a 20m wide sliver of quartz diorite which is itself in fault contact with Tertiary volcanics at the east end of the trench.

Beneath the peak soil anomaly T7 cut **27.4m grading 1,010ppm copper (0.1% Cu)** within a **45.7m wide intersection grading 814ppm copper** which is highly anomalous. This zone is also open to the east.

The sequence is variably silicified and altered with significant smectite (nontronite), illite quartz and opal in places. Potassic alteration (K-feldspar) is also evident in thin section examination.

**Trench 8** (77.7 m long) is located 40m south of, and was excavated roughly parallel to, T7.

T8 intersected a much thicker zone of diorite in fault contact with the Tertiary volcanics on the west side of the window. The diorite also contains fault slivers of hornfels and xenoliths of altered skarn. The remainder of the trench intersected strong skarn alteration.

The whole trench, **77.7m, averaged 473ppm copper**, which is again highly anomalous. T8 also illustrates the spotty nature of the higher-grade copper mineralisation near surface with corresponding samples on the opposite wall of the trench for one particular 10ft interval grading 4.85% copper on the south wall side and less than 1,000ppm copper on the north side.

**Trench 10** (63.1m long) was designed to excavate across a weakly mineralised occurrence of jasperoid (BR4) where a grab sample assayed 0.3% copper that occurs within the same broader copper soil anomaly tested by T7 and T8.

T10 intersected a magnesian pyroxene-phlogopite skarn within a broader zone of calc-silicate hornfels and sandstone containing lower copper values than in T7 and T8.

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The trench was notable however for a 7m wide section of fault bounded Tertiary volcanics, west of which the last 11m of the trench is heavily stained by iron oxides most likely due to a high content of garnet skarn as massive garnet skarn outcrops just south of T10.

**Trench 11** (32m long) was excavated to test across the central part of the southern 500m long arsenic-mercury soil anomaly where previous mapping rock samples were also anomalous in As and Hg.

The trench cut through a sequence of strongly clay altered sediments (sandstone and siltstone) and the entire trench was anomalous in arsenic and mercury with **32m grading 1622ppm As and 110ppm Hg** (approx. 1,000x background). XRD analysis on assay pulps from two sample intervals contained 46-55% smectite whilst one of the samples contained 28% garnet and the other 18% opaline quartz/cristobalite.

As with T2, these petrological and geochemical characteristics define a zone of argillic alteration characteristic of the upper levels of an epithermal hydrothermal system superimposed on an earlier phase of skarn alteration.

### Concluding Remarks

Regionally the Brunton Pass deposit sits on the north-east side of a large granite batholith around which there are a number of epithermal gold and porphyry copper-gold deposits including the high sulphidation Paradise Peak gold deposit, 25km southwest of Brunton Pass, that produced over *1.6 million ounces of gold and over 44 million ounces of silver and at least 457 tons of mercury* and which exhibits the similar argillic alteration assemblages (smectite+quartz+/-opal ) seen in T1 and T11.

The work undertaken during this field season suggest the possible presence of a porphyry copper target and epithermal gold mineralisation at deeper levels and the Company believes that drill testing of these copper and gold targets is now warranted.

A map showing Brunton Pass Project soil sampling anomalies and trenching is available on the Company's website at:

[https://www.tertiaryminerals.com/filemanager/BruntonPass/Soil\\_sampling\\_anomalies\\_and\\_trenching\\_map.jpg](https://www.tertiaryminerals.com/filemanager/BruntonPass/Soil_sampling_anomalies_and_trenching_map.jpg)

### Notes:

- 1. Anomalous soil samples are defined in this case by the 90<sup>th</sup> percentile values of the soil value population, being 55 parts per million copper and 740 parts per billion mercury.*
  - 2. The information in this release has been compiled and reviewed by Mr. Patrick Cheetham (MIMMM, MAusIMM) who is a qualified person for the purposes of the AIM Note for Mining and Oil & Gas Companies. Mr. Cheetham is a Member of the Institute of Materials, Minerals & Mining and also a member of the Australasian Institute of Mining & Metallurgy.*
  - 3. The news release may contain certain statements and expressions of belief, expectation or opinion which are forward looking statements, and which relate, inter alia, to the Company's proposed strategy, plans and objectives or to the expectations or intentions of the Company's directors. Such forward-looking statements involve known and unknown risks, uncertainties, and other important factors beyond the control of the Company that could cause the actual performance or achievements of the Company to be materially different from such forward-looking statements. Accordingly, you should not rely on any forward-looking statements and save as required by the AIM Rules for Companies or by law, the Company does not accept any obligation to disseminate any updates or revisions to such forward-looking statements.*
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