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# <u>Tertiary Minerals plc</u> ("Tertiary" or the "Company")

# Project Focus: Mushima North copper-zinc-silver Project, Zambia

Tertiary Minerals plc (AIM: TYM) is pleased to provide the following project summary highlighting its Mushima North Project ("Mushima North" or the "Project"), one of five prospective projects Tertiary currently holds within key locations in Zambia and targeting copper and associated metals (silver, zinc, cobalt).

### **Highlights:**

- Large licence located in the Iron-Oxide-Copper-Gold ("IOCG") region of northwestern Zambia. Highly
  prospective for IOCG and sedimentary copper and polymetallic replacement occurrences.
- Located only 20km east of the historic Kalengwa copper-silver mine, currently being re-developed by Moxico Resources plc.
- Extensive, historic regional datasets including exploration undertaken by BHP Billiton and First Quantum Minerals ("FQM") from the 2000s onwards.
- The Project is part of a technical cooperation agreement with FQM allowing Tertiary access to FQM's extensive dataset and technical expertise.
- Multiple targets identified based on re-interpretation of historic geochemistry and geophysical datasets and confirmed by recent exploration work undertaken by Tertiary.
- Promising initial drilling confirms Tertiary's approach and exploration model. Current priority, targeting near surface, polymetallic silver-copper-zinc at the A1 target.

## Richard Belcher, Managing Director of Tertiary Minerals plc, commented:

"The Mushima North Project hosts several drill-ready exploration targets defined by a combination of regional geochemical and geophysical surveys. Initial, low-cost exploration by Tertiary has returned promising results, including the identification of polymetallic silver-copper-zinc mineralisation at the A1 target. This mineralisation remains open-ended, both along strike and down dip, and has several geological similarities to the nearby Kalengwa copper-silver deposit, located approximately 20km to the west.

"This Project is clearly highly prospective and will form the focus of our planned exploration for the upcoming field season, in addition to our projects being advanced by our joint venture partners.

"Mushima North forms one of several prospective exploration projects within our pipeline which are at the drill-ready stage and have the potential to generate near-term positive catalysts for our share price."

## **Project Summary**

The Project (Licence 27068-HQ-LEL) is approximately 350km<sup>2</sup> in size and is located within northwest Zambia. It is held through Group company Copernicus Minerals Limited ("Copernicus"), which is 90% owned by Tertiary Minerals (Zambia) Limited (which in turn is 96% owned by Tertiary Minerals plc) and 10% by local partner, Mwashia Resources Limited.

The Project is under a technical cooperation agreement with First Quantum Minerals Limited ("FQM"), which allows Tertiary to benefit from FQM's historic exploration data in the area, as well as FQM's geological team's extensive experience and understanding of the area's geology. The agreement is non-binding to any further agreement and there are no commercial restrictions for Tertiary, nor does FQM have a right of first refusal over the Project. Further details can be found in the news release of 15 September 2022.

#### Geological Setting

The licence is underlain by early Palaeozoic metasediments (sandstones, shales, carbonate rocks) of the Nguba Group (Katanga Supergroup). These rocks were subject to regional metamorphism and deformation during the Lufilian Orogeny and intruded by the Musondweji granite, part of the wider Pan-African-aged, syn- to post-tectonic Hook Granite intrusive complex (Figure 1). Localised ferruginous alteration (magnetite-haematite) is present in the conglomerates and ironstones that outcrop around the granite margin, particularly in the south and southeast.

The Project lies within a broad region considered prospective for IOCG-style mineralisation. However, sedimentary-hosted copper occurrences and also polymetallic massive sulphide, carbonate-hosted/replacement occurrences have also been identified regionally. For example, the Project lies 20km to the east of the Kalengwa copper mine (historic, non-compliant resource estimated at approximately 4Mt @ 5.2% Cu and 40-80 g/t Ag), one of the highest-grade copper deposits ever to be mined in Zambia. In the 1970s, high-grade ore, in excess of 26% copper, was trucked for direct smelting at other mines in the Copperbelt. The Kalengwa mine is currently under redevelopment by Moxico Resources plc and is expected to produce 15,000 tonnes of copper annually.

## **Exploration Undertaken To-date**

The Project benefits from extensive historic, regional datasets, including:

- Historic soil geochemistry and 2 boreholes (1960-70s), regional airborne magnetic & radiometric surveys by African Minerals Ltd/lvanhoe (1990s).
- Regional exploration by BHP Billiton: airborne magnetics and gravity (2000-early 2010s).
- Regional exploration by FQM: airborne VTEM & magnetic survey, regional soil geochemistry (2010s).

Tertiary re-assayed the historic hole (RKN800) to confirm copper mineralisation, returning values of: 33m grading 0.24% copper from 122m-155m downhole. The hole ended in mineralisation grading 0.19% copper from 154-155m (EOH).

Soil sampling over the initial highest priority targets (A1, A2, C1) was conducted by Tertiary to confirm the historic copper-in-soil anomalies (further information is provided below).

An initial drilling programme was undertaken by Tertiary in late 2024 with the aim being to test two of the high priority areas (A1 and C1 targets). Drilling was primarily undertaken using the Air Core ("AC") method and, where the desired hole depth could not be reached (blade refusal at depth), the hole was completed using Reverse Circulation ("RC") drilling.

A total of 24 holes for a total of 1,486m were drilled using a 4.5-inch bit. The maximum hole length was 112m. Drilling was primarily focused on target A1 with limited drilling at C1 and both cases primarily targeted the copper-in-soil anomalies.

Sampling, Analysis and QAQC Sampling was on 1m intervals and two subsamples were collected using a riffle splitter: one for potential laboratory analysis, the other for future reference, these were stored at the company's storage facility. Samples were initially analysed on site using a portable X-Ray Fluorescence ("pXRF") analyser. Analysis protocol included multiple point analyses per sample and the inclusion of Certified Reference Material and duplicate samples. No significant issues were identified with the QAQC data. Selected check samples for the pXRF analysis were sent to ALS Global in South Africa for analysis for a range of elements using an aqua regia digestion and mass spectrometry finish (method code: ME-MS41). Additional assaying was completed using a four-acid digest, method code ME-ICP61.

QAQC samples (Certified Reference Material, duplicates, blanks) were inserted as part of the protocol. All standard, blanks and duplicates have been reviewed and no significant issues with the data have been identified. Reported drill hole intersection thicknesses are down-hole thicknesses and true thicknesses are unknown. Intersections are weighted averages based on silver, using a cut-off grade of 10 g/t Ag with up to 3m internal dilution.

# **Exploration Target Summary**

Several prospective targets have been defined thus far within the Project based on reviews of historic geochemical and geophysical survey data against the current exploration model developed by Tertiary. These include:

## A1 & A2 Targets:

These targets are located along the southeastern margin of the intrusion within metasediments and are spatially associated with a regional NE-SW structure. Iron alteration is prevalent within the area seen as magnetite-haematite enrichment of the host rocks. The A1 target is associated with a copper-in-soil anomaly some 3.1km by 1.7km in size (copper values up to 350ppm via pXRF analyser). This anomaly is also associated with a 1.7km by 0.5km zinc- and a 1.3km by 0.36km silver-in-soil anomaly (Figure 2). Target A2 is associated with a 1km by 1km copper-in-soil anomaly and is situated to the southwest of A1 target. Several electromagnetic conductor anomalies are identified from the airborne survey and are spatially associated with the fault near the A1 target.

Initial shallow drilling of the soil anomaly at the A1 target intersected near surface, wide (over 250m) and thick (40-60m intersects) of low-grade polymetallic mineralisation, with many of the holes ending in mineralisation. Results include:

- 65m at 23 g/t Ag, 0.14% Cu, 0.27% Zn from 9m downhole (24TMNAC-005).
  - o Including: 5m at 73 g/t Ag, 0.16% Cu, 0.31% Zn from 69m downhole.
- 66m at 26 g/t Ag, 0.13% Cu, 0.26% Zn from 13m downhole (24TMNAC-006P).
  - o Including: 20m at 40 g/t Ag, 0.21% Cu, 0.40% Zn from 23m downhole.

- 57m at 25 g/t Ag, 0.2% Cu, 0.16% Zn from 14m downhole (24TMNAC-004).
  - o Including: 26m at 36 g/t Ag, 0.20% Cu, 0.20% Zn from 45m downhole.

Elevated bismuth (up to 991 g/t), antimony (up to 824 g/t) and gallium (up to 40 g/t) are also recorded from the drilling.

Only one drill line has been completed so far over the silver-in-soil anomaly and approximately 1km of strike is untested and drilling is only to a depth of less than 100m vertically. Copper and silver equivalent grades, while only illustrative at this stage, hold the potential for an open-cast, low-grade polymetallic target model. In addition, the electromagnetic anomalies at depth to the west, could represent additional, proximal drill targets.

#### B1, B2, B3 Targets:

The B1 and B2 targets are similar to the A1 and A2 targets being located along the eastern margin of the intrusion and are defined by a series of copper-in-soil and electromagnetic anomalies. Target B3 is associated with a regional E-W fault and an electromagnetic anomaly towards the north of the Project.

No further exploration has been undertaken on these targets yet.

#### C1 Target:

The C1 target is located along the northeast margin of the intrusion associated with a larger copper-insoil anomalies some 4km by 1.25km. This is also associated with a large gravity anomaly and was previously identified by BHP Billiton as a potential IOCG target. A borehole was drilled in the 1960s (RKN800) targeting part of the copper-in-soil soil anomaly (but located off the gravity anomaly). Stringer sulphide mineralisation (pyrite, chalcopyrite) hosted in metamorphosed shales was observed in the core and resampling and assaying of the core by Tertiary returned:

• 33m grading 0.24% copper from 122m-155m downhole. The hole also ended in mineralisation (0.19% copper from 154-155m).

Limited shallow drilling (7 holes, maximum hole length was 50m) confirmed the copper-in-soil anomaly but was too shallow to test the gravity anomaly or mineralisation intersection in the historic hole. Drill results include (down hole, not true widths):

- 3m @ 0.11% Cu from 29m (24TMNAC-016)
- 3m @ 0.12% Cu from 28m (24TMNAC-017)
- 2m @ 0.10% Cu from 28m (24TMNAC-018)

This target remains a prospective IOCG target with the historic drilling intersecting the upper boundary of the gravity anomaly (interpreted to be from approximately 150m below surface to a depth exceeding 1.5km).

**Table 1.** Summary of assay results from the initial drilling programme at the A1 and C1 targets. Equivalent grades are for illustrative purposes only.

Hole ID	Interval (m)	Ag (g/t)	Cu (%)	Zn (%)	CuEq (%)	AgEq (%)	From (m)	To (m)	"gram metres" (An)	Comment
Target A1: Line 1										
24TMN AC-003	13	11	0.08	0.08	0.22	21	16	29	143	Hole ended in
	36	17	0.09	0.27	0.34	33	33	69	607	mineralisation
Incl:	7	24	0.09	0.39	0.44	42	62	69	165	(EOH = 69m)
24TMN AC-004*	57	25	0.20	0.16	0.50	48	14	71	1425	Hole ended in
Incl.	26	36	0.20	0.20	0.63	61	45	71	936	mineralisation (EOH = 71m)
24TMN AC-005	65	23	0.14	0.27	0.45	44	9	74	1495	Hole ended in
Incl.	17	46	0.18	0.31	0.74	72	57	74	777	mineralisation
Incl.	5	73	0.16	0.31	1.00	97	69	74	365	(EOH = 74m)
24TMN AC-006P*	66	26	0.13	0.26	0.47	45	13	79	1716	
Incl.	20	40	0.21	0.40	0.73	71	23	43	800	Hole ended in mineralisation (EOH = 79m)
Incl.	27	26	0.10	0.19	0.42	41	52	79	702	
Incl.	10	38	0.12	0.17	0.56	54	69	79	380	
24TMN AC-008P	37	24	0.11	0.34	0.45	44	46	83	888	Hole ended in
Incl.	19	27	0.09	0.16	0.41	40	64	83	513	mineralisation (EOH = 83m)
24TMN AC-011					No Sign	ificant Silve	er Results		1	
24TMN AC-015	63	14	0.15	0.11	0.33	31	7	70	882	Hole ended in mineralisation (EOH = 70m)
24TMN AC-023	44	16	0.07	0.01	0.25	24	11	55	715	EOH 112m
24TMN AC-024	24TMN AC -024 No Significant Silver Results									
	Target C1: Line 1									
24TMN AC-016			No	Significar	nt Silver Re	sults				

#### Note:

- Calculated intersections (down hole, true width unknown) are weighted averages based on silver, using a cut-off grade of 10 g/t Ag with up to 3m internal dilution.
- · Silver values rounded to whole numbers.
- "gramme metres" is the silver grade (g/t) multiplied by the interval (m).

CuEq(%) and AgEq(g/t) are the copper and silver equivalent grades, respectively. These are for illustrative
purposes only. Calculations are based on commodity prices of Cu: US 4.5 lb, Ag: US 32 oz, Zn: US 1.23 lb
and 100% recovery. No information on beneficiation recoveries is available at this stage.

#### **Further Information:**

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### **Competent Persons Statement**

The technical information in this release has been compiled and reviewed by Dr. Richard Belcher (CGeol, EurGeol) who is a qualified person for the purposes of the AlM Note for Mining and Oil & Gas Companies. Dr. Belcher is a charted fellow of the Geological Society of London and holds the European Geologist title with the European Federation of Geologists.

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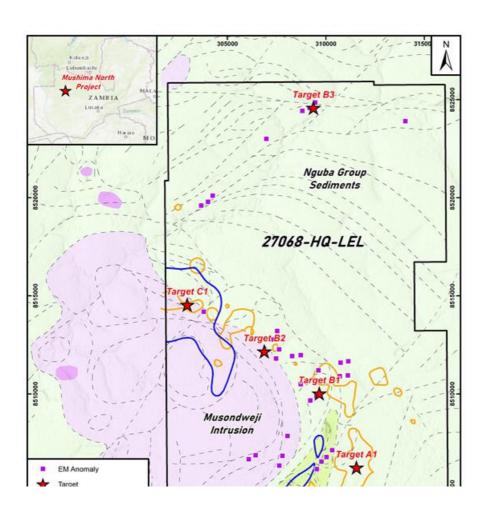
# **About Tertiary Minerals plc**

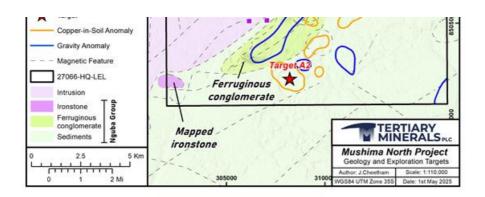
Tertiary Minerals plc (AIM: TYM) is an AIM-traded mineral exploration and development company whose strategic focus is on energy transition metals. The Company's projects are all located in stable and democratic, geologically prospective, mining-friendly jurisdictions. Tertiary's current principal activities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

#### Glossary of Terms

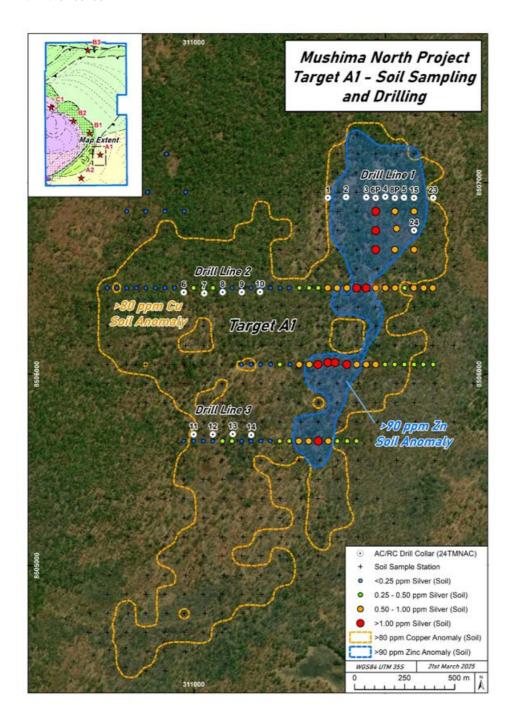
AC	Air Core drilling		
Ag	chemical symbol for silver		
Cu	chemical symbol for copper		
g/t	grammes per tonne		
EOH	End of hole		
IOCG	Iron-Oxide-Copper-Gold style of mineralisation		
km	kilometres		
m	metres		
ppm	parts per million		
рXRF	portable X-Ray Fluorescence		
OAOC	Quality Assurance and Quality Control		

whac	Quality Assulation and Quality Control
Qualified Person	person that has the education, skills and professional credentials to act as a qualified person under AIM Note for Mining and Oil and Gas companies
Zn	chemical symbol for zinc
%	symbol for percentage

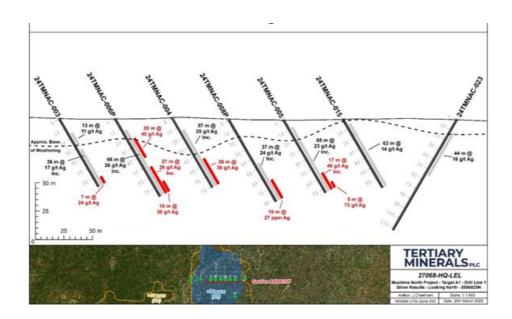




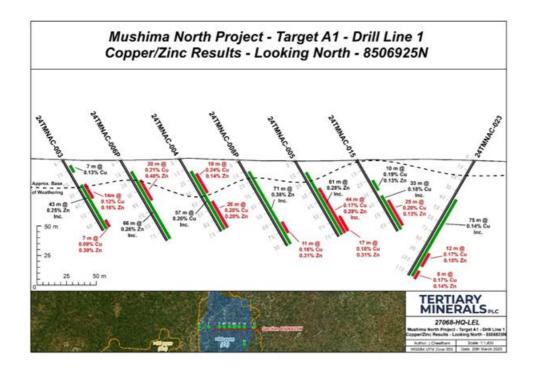
**Figure 1.** Geological map of the Mushima North Project showing the locations of the priority targets within the licence.



**Figure 2.** Location map of the A! target showing soil sample results for copper, zinc and silver (only limited samples were assayed for silver) and the collar locations for the drilling programme.



**Figure 3.** Drill cross-section (Drill Line 1; location on Figure 1) showing assay results for Silver. See Table 1 Notes for further information.



**Figure 4.** Drill cross-section (Drill Line 1; location on Figure 1) showing assay results for copper and zinc based on the reported silver intersections. See Table 1 notes for further information.

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