



TERTIARY MINERALS PLC

Exploring for copper in Zambia and Nevada

Company Presentation
February 2024



Copper mineralisation in drill core, Jacks Copper Project

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An experienced Board with expertise in mineral exploration, resource development and financing and public company management...



Patrick Cheetham, *Group Chairman & Chairman of the Nomination Committee*

- Geologist and founder of the Company
- 39 years' experience in mineral exploration
- 34 years' experience in public company management
- Founder of Dragon Mining Ltd, Archaean Gold NL and Sunrise Resources plc



Donald McAlister, *Non-Executive Director & Chairman of the Audit Committee*

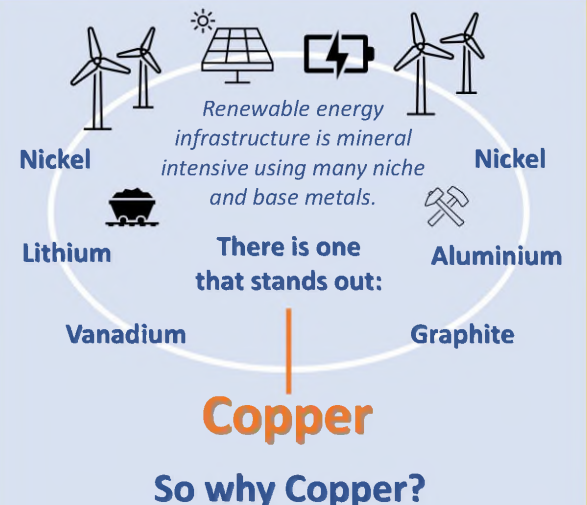
- Accountant and founding Director
- Previously: Finance Director at Mwana Africa plc, Ridge Mining plc and Reunion Mining plc.
- 26 years' experience in all financial aspects of the resource industry, including metal hedging, tax planning, economic modelling/evaluation, project finance and IPO's



Dr. Mike Armitage, *Non-Executive Director & Chairman of the Remuneration Committee*

- 30 years' experience producing resource estimates, competent persons reports and feasibility studies with SRK Consulting
- Previously Managing Director and Chairman of the SRK UK, Director of SRK's Exploration Services, and SRK Group Chairman
- Chair of the Applied Earth Science Division of IMMM, Chair of the Geological Society Business Forum and Honorary Chair of the Critical Minerals Association

Copper - The No.1 Clean Energy Transition Metal



So why Copper?

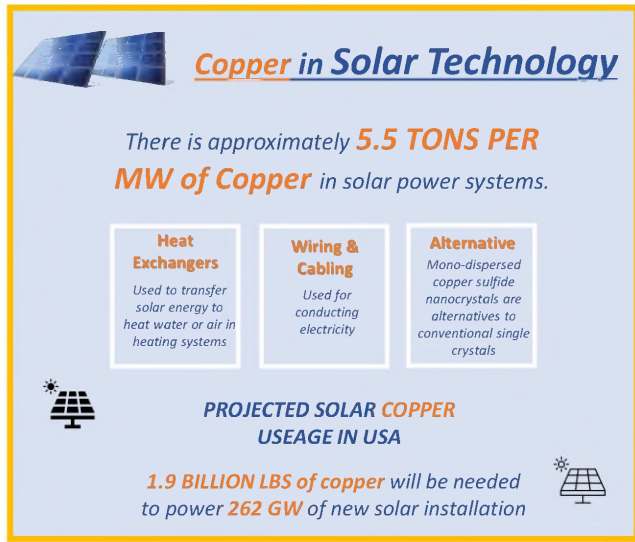
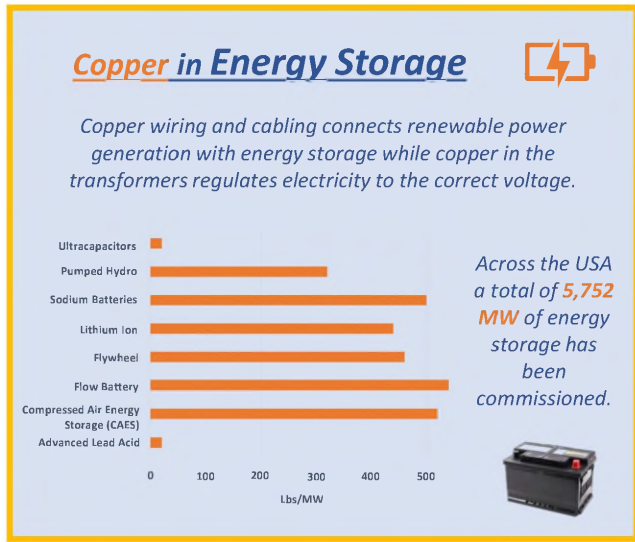
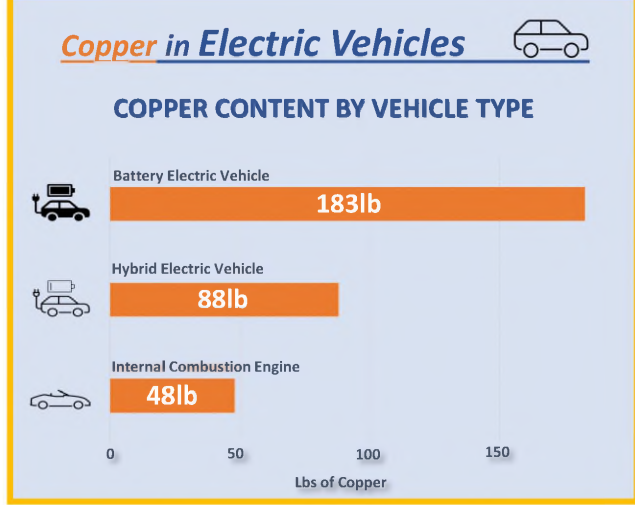
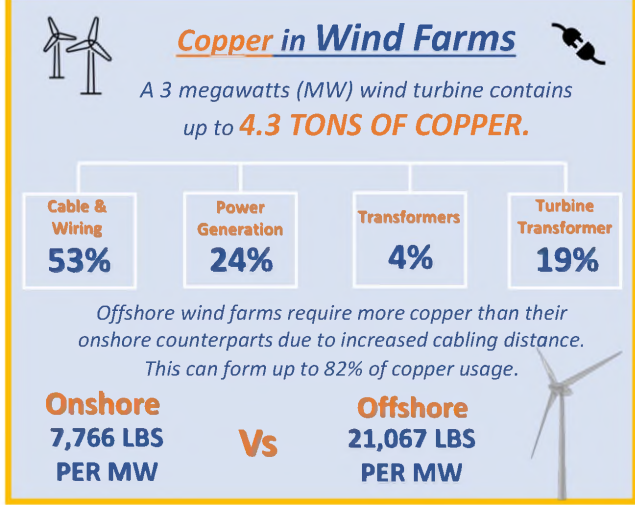
Copper has superior properties that allow it to be used in renewable energy.

- Conductivity**
Low resistance to electron flow meaning it is a good thermal and electrical conductor.
- Ductility**
Copper's high ductility allows it to be bent and stretched into wires and sheets for electrical uses.
- Efficiency**
To achieve the same equipment electrical efficiency other conductors would require 20% more materials.
- Recyclability**
Copper is 100% recyclable and easily recoverable so can be reused without losing its superior properties.

These properties make copper a critical material for the transition to a clean energy economy



The generation of clean energy from wind and solar requires 4-6 times more copper than fossil fuels.

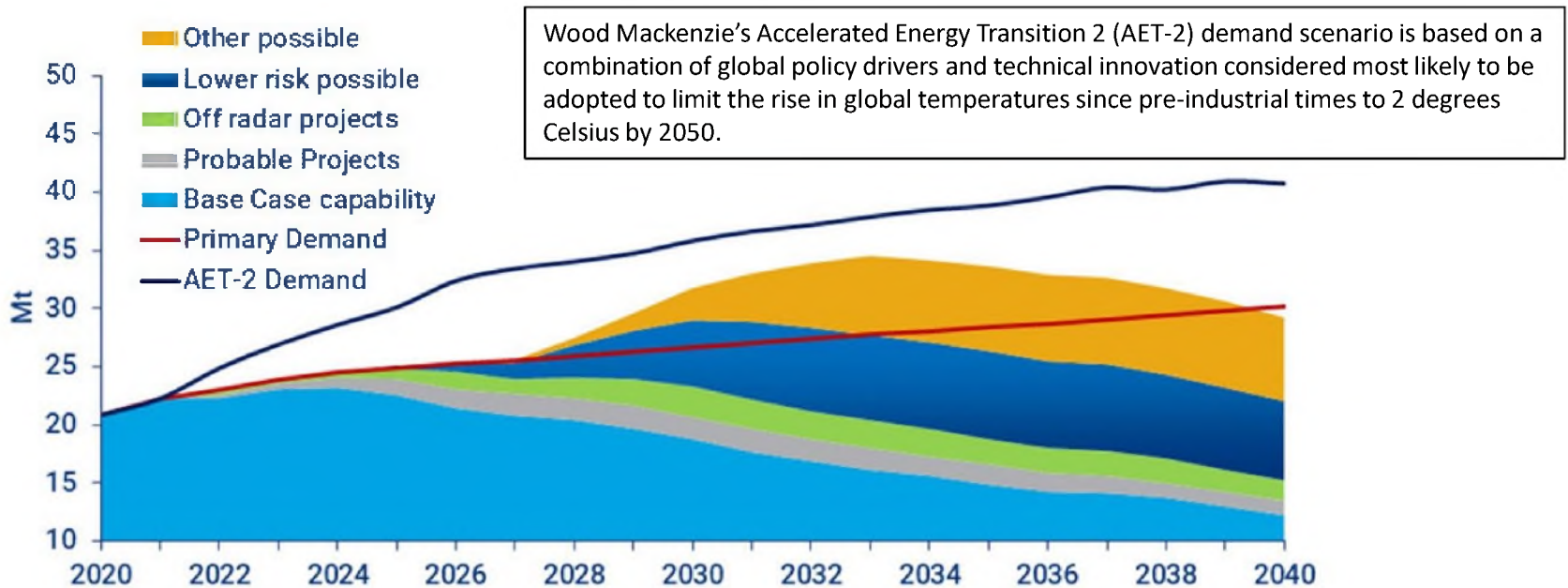


Copper - The Supply Problem



The Copper Problem – insufficient supply to meet projected demand, even with projected new mine developments.

Primary copper demand scenarios versus mine supply potential



Source: Wood Mackenzie

BHP CEO, Mike Henry: "The world is going to need two times more copper in the next 30 years than the last 30 years."

Why Zambia?



- Host, with DRC, to the Central African Copperbelt - the world's largest sediment-hosted stratiform copper province.
- Zambian Copperbelt contains multiple world-class deposits - Sentinel, Kansanshi, Lumwana, Konkola, Mufulira, Mopani, Chambishi and others which together produced over 760,000 tonnes of copper in 2022.
- The UPND government is rationalising the mining tax regime to attract investment and has stated goals to boost copper production to 3 million tonnes by 2032.
- Government has re-introduced the deductibility of mineral royalties against corporate income tax and amended royalty rates.
- Tertiary anticipates that the fiscal environment for mining and exploration will continue to improve and re-establish Zambia as a primary destination for investors focused on copper, the key energy transition metal.



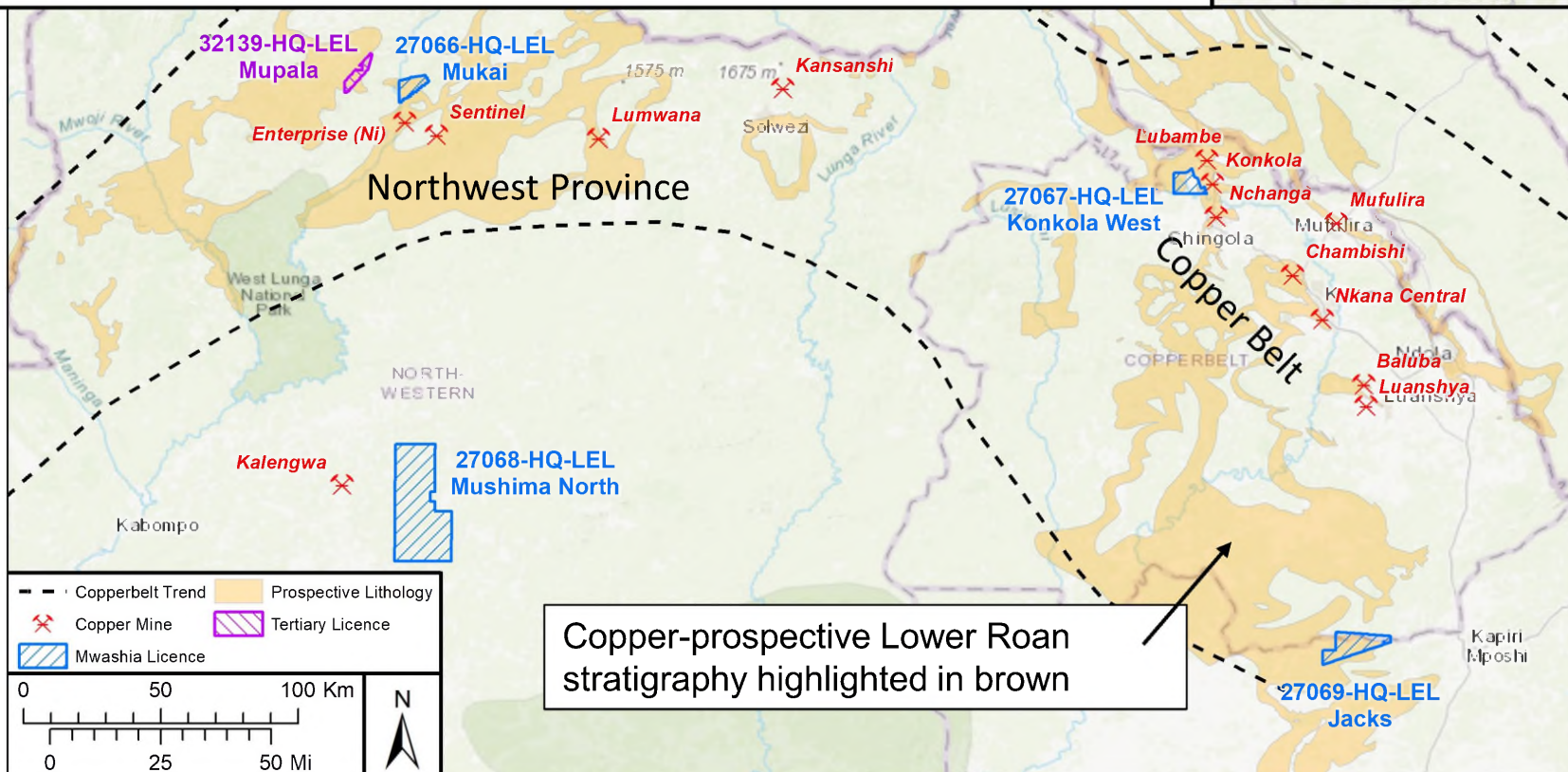
Industry is responding to the projected copper supply deficit and Zambia's fiscal initiatives with new investment:

- US\$2.1 billion in the Sentinel copper mine (First Quantum Minerals)
- US\$1.25 billion to expand its Kansanshi copper mine (First Quantum Minerals)
- US\$2 billion to expand the Lumwana copper mine (Barrick Gold Corporation)
- US\$1.3 billion investment in NFC Africa Mining/Chambishi mine (China Non-Ferrous Metals Mining Corp)
- US\$1 billion investment into Konkola copper mine (Vedanta)
- US\$1 billion investment in Mopani (several bidding groups)
- US\$88.5 million investment in JV with arc Minerals (Anglo American)
- US\$150 million investment into Mingomba deposit (KoBold Metals)
- US\$100 million investment in expansion of Mimbula mine (Moxico Resources)

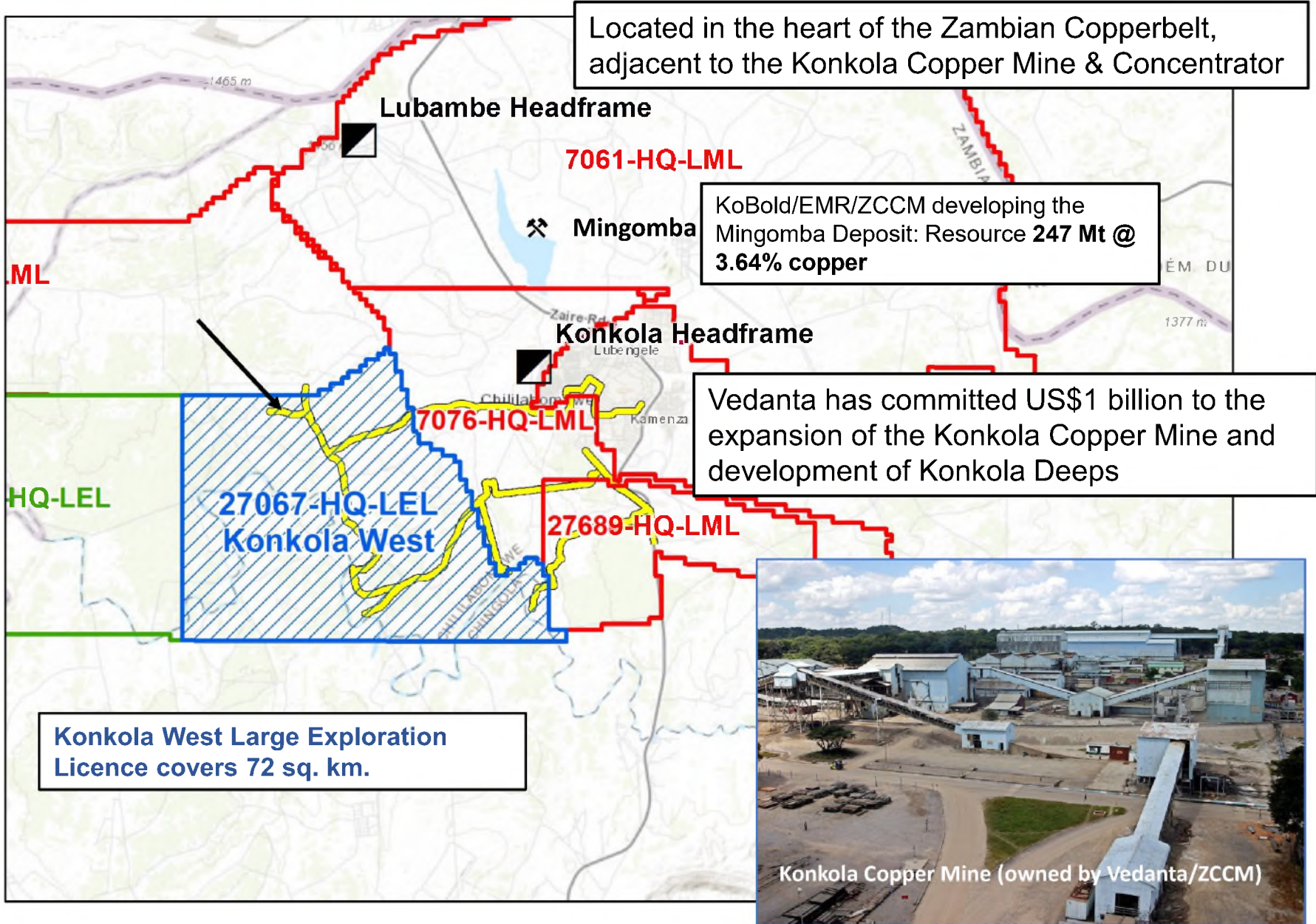
Zambia Licence Interests



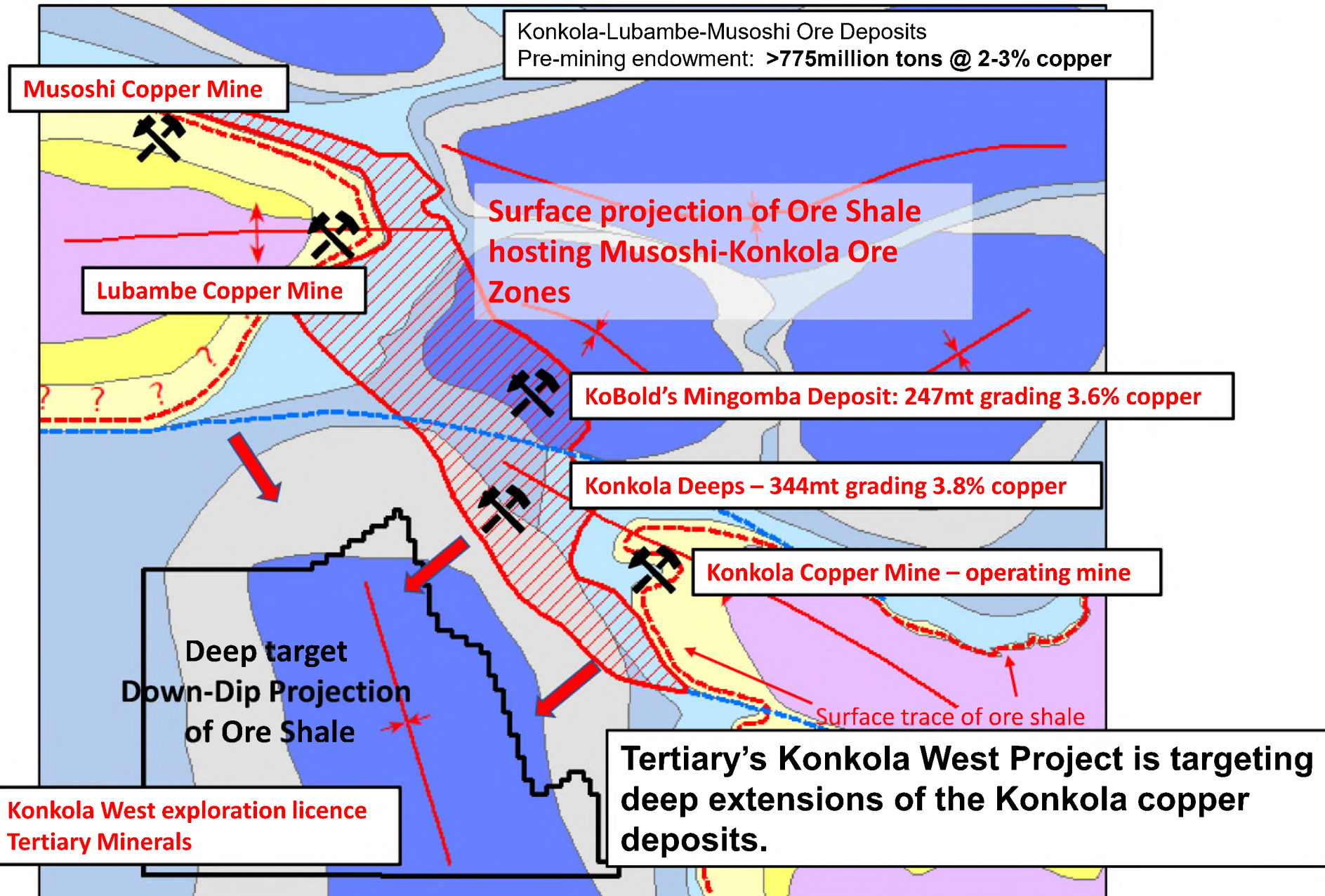
- Tertiary Minerals (Zambia) Limited holds interest in five exploration projects covering a total area of 1,240km² in and around the Central African Copperbelt.
- It has earned the right to 90% interest in Jacks Copper Project and is earning up to 90% interest in three other Large-scale Exploration Licences with local partner Mwashia Resources Ltd.
- KoBold Metals funding c. US\$2 million drill programme at Konkola West in the next few months (Tertiary cost estimate).
- A new 100% owned licence, Mupala, was granted in 2023.



Konkola West - In the Shadow of the Headframe



Konkola West - Large High-Grade Target



Konkola West - KoBold Metals Earn-in



Tertiary Minerals plc and local partner Mwashia Resources Ltd have concluded an earn-in agreement with US billionaire backed KoBold Metals at Konkola West .

KoBold Metals:

- a US-based, privately held, mineral exploration company that couples geoscience, data science, machine learning and artificial intelligence to search for the critical minerals needed for the clean energy transition.
- backed by technology investors including Breakthrough Energy Ventures (initiated by Bill Gates and includes Jeff Bezos, Andrew Forrest and Ray Dalio as investors) and Silicon Valley venture capital firm Andreessen Horowitz, as well as institutional investors such as T. Rowe Price and Canadian Pension Plan Investment Board.
- has 100 scientists working collaboratively, including alumni from Google, NASA, Exxon, BHP, Apple, Barrick Gold, Meta, Ivanhoe, Falconbridge, Vale, Rio Tinto, SilaNano, etc.
- spent US\$100 million in exploration and R&D in 2023 alone.
- is using artificial intelligence and cutting-edge technology to model the sub-surface and explore at depth and in ways beyond the reach of conventional techniques.



Earn In Agreement:

- The objective of the Earn-In Agreement (EIA) is to carry out deep drilling to explore for projected extensions of the high-grade copper ore-shale exploited on adjacent mining leases at the Konkola, Lubambe, and Musoshi mines.
- KoBold is currently developing the Mingomba deposit, one of the largest undeveloped copper deposits in the world, which lies on the adjacent leases between the Konkola and Lubambe mines.
- KoBold is committed to completing at least two deep drill holes (for at least 2,000m of drilling) within 14 months, with **drilling currently scheduled to start in March 2024 and contractually bound to start no later than May 2024**. KoBold's planning of the Stage 1 drill programme is well advanced with **the first drill site selected and estimated spend is c. US\$2 million, funded 100% by KoBold**.
- KoBold may earn up to 70% in Stage 2 of the EIA Agreement through sole funding a cumulative expenditure of **US\$6 million on exploration** within 4 years after which Tertiary will hold a 20% interest, and Mwashia will continue to hold a 10% carried interest in the JVC.

“KoBold looks forward to working with Tertiary and Mwashia on the Konkola West project. The Zambian Copperbelt has historically seen little exploration at depth, and the Konkola West licence is a great prospect to see if ore systems like those at Konkola or Mingomba also occur at depth within this licence. We will be able to use the equipment, experienced team, and data-science tools that we’ve assembled while drilling the nearby Mingomba deposit to improve our chance of success at Konkola West. We look forward to starting drilling as soon as practical.”

Mfikeyi Makayi, Chief Executive Officer, KoBold Metals Zambia



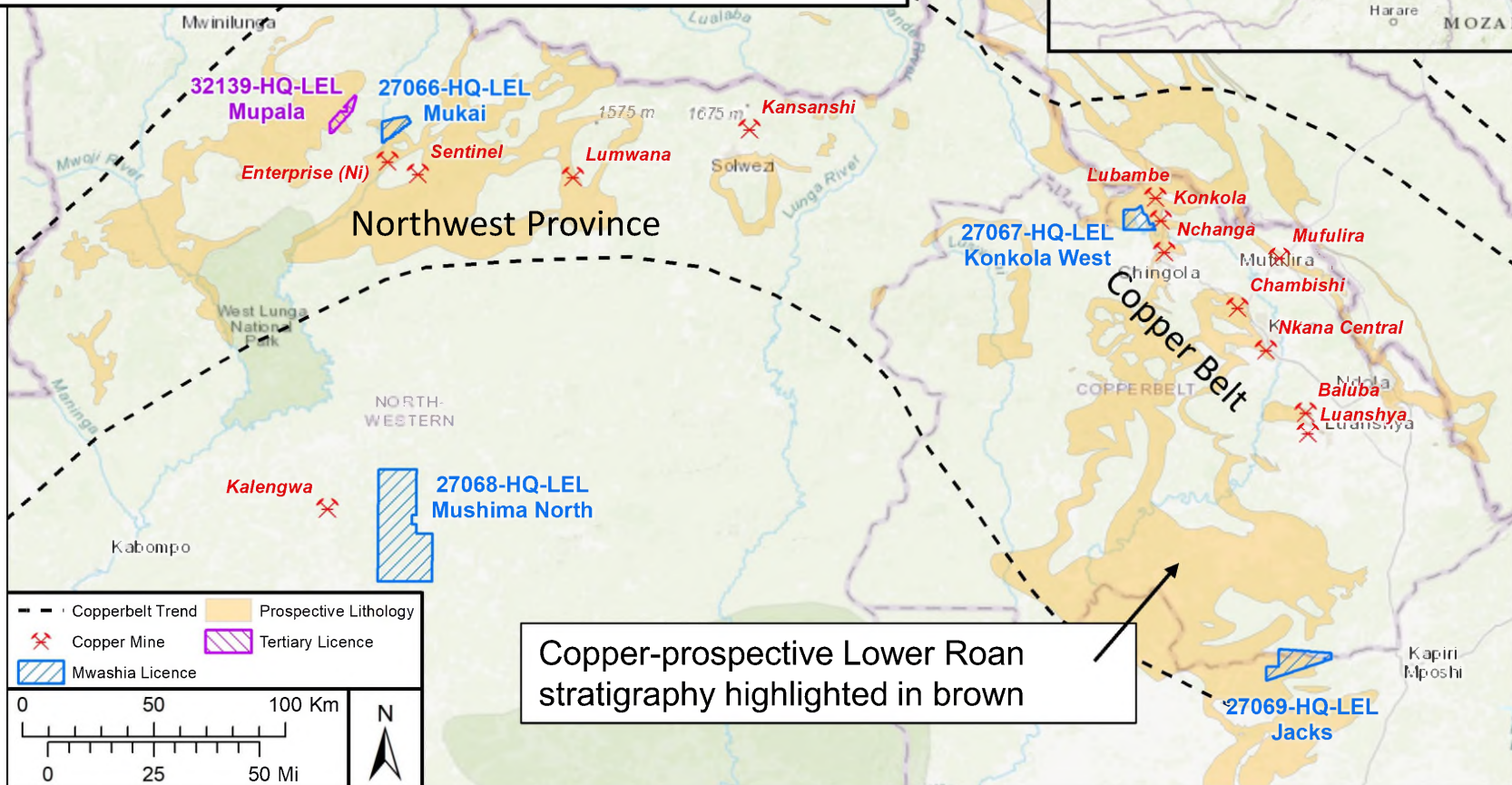
Drilling at Mingomba

Zambia - Foundations Laid for Discovery in 2024



Our mission in 2023 has been to complete fieldwork and soil sampling at all licences held by local partner Mwashia Resources and to define drill targets for new copper discoveries in 2024 .

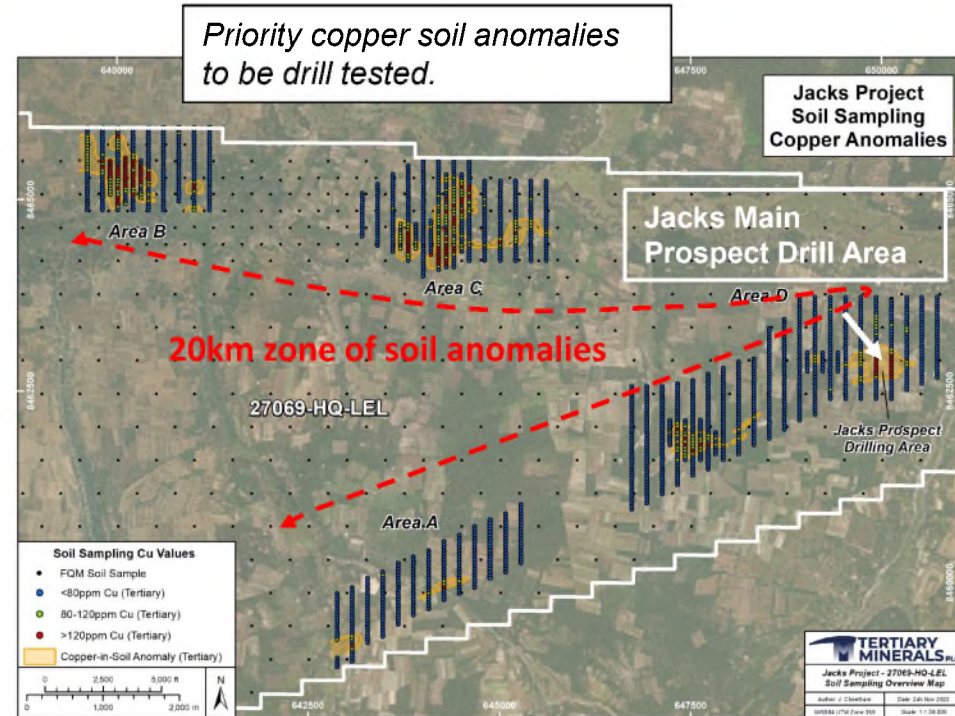
Over 4,000 samples collected. Mission accomplished.



Jacks Copper Project - Overview



- Successful Phase 1 Drill Programme completed in 2022 at the Jacks main prospect. Copper mineralisation now intersected in two horizons over a 350m strike length, both open along strike and at depth.
- Soil sampling has defined multiple copper-in-soil anomalies within a 20km strike length of prospective Lower Roan stratigraphy, host to the major copper deposits across the Central African Copperbelt.
- The soil anomalies compare favourably with soil anomalies present over current and past producing mines on the Copperbelt with similar Cu-Sc ratios indicative of sulphide copper mineralisation.
- Tertiary has earned the right to 90% interest in Jacks Copper Prospect.
- Drill testing of copper-in soil anomalies planned in 2024.

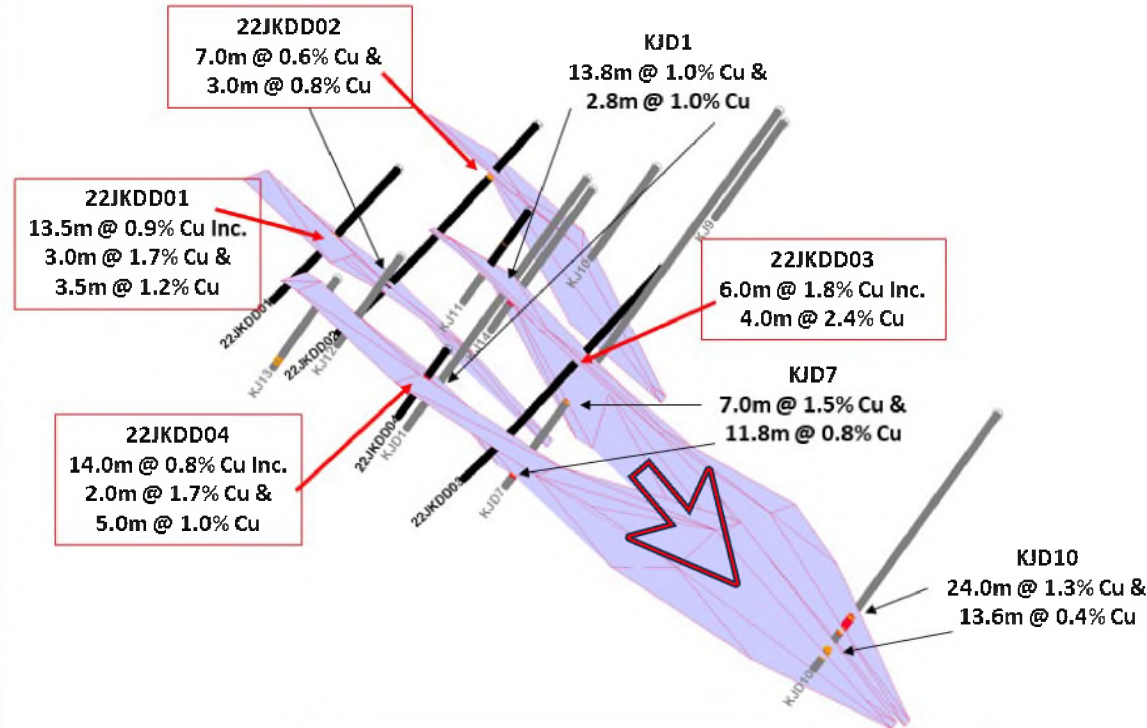
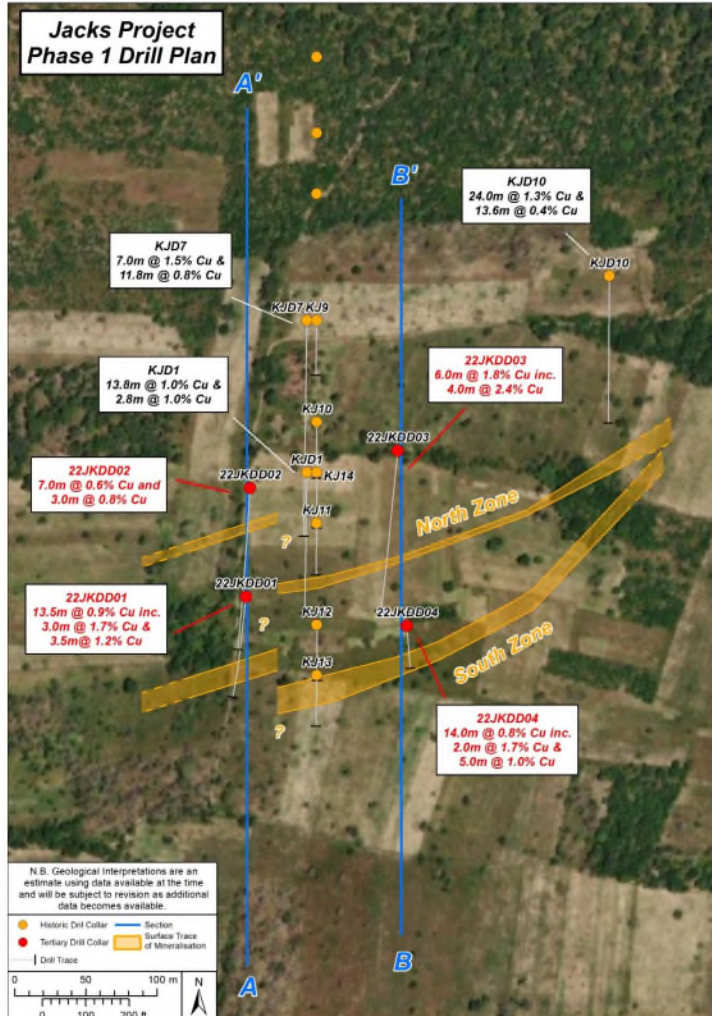


Jacks - Tertiary Phase 1 Drill Programme



Drill holes prefixed:
 KJD: Cyprus Amax (1990s)
 22KJDD: Tertiary Minerals plc (2022)

Drilling – Jacks Main Prospect



Phase 2 drill target – increased thickness of mineralisation to east & down plunge towards and around KJD10

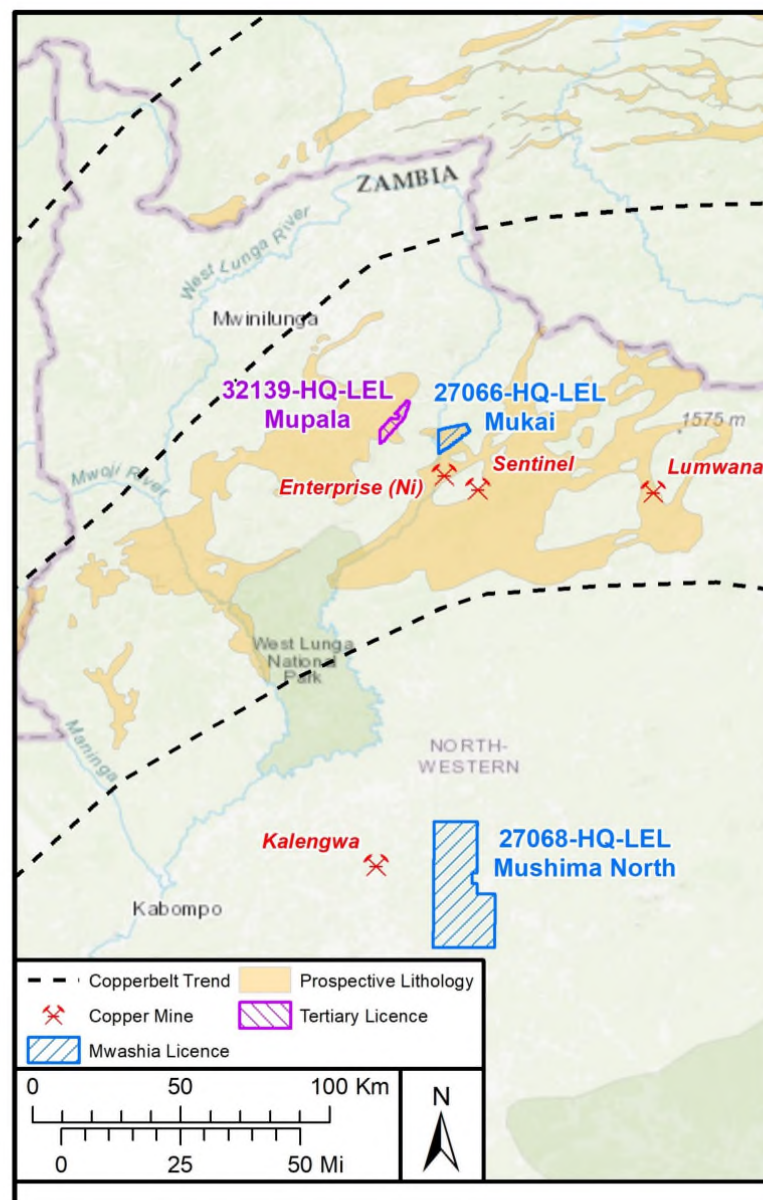
Agreement with First Quantum Minerals



First Quantum Minerals (“FQM”) is Zambia’s largest copper producer from the Sentinel and Kansanshi Mines.

Tertiary has signed a *Data Sharing & Technical Cooperation Agreement* for Mukai and Mushima North projects in the Northwestern Province whereby:

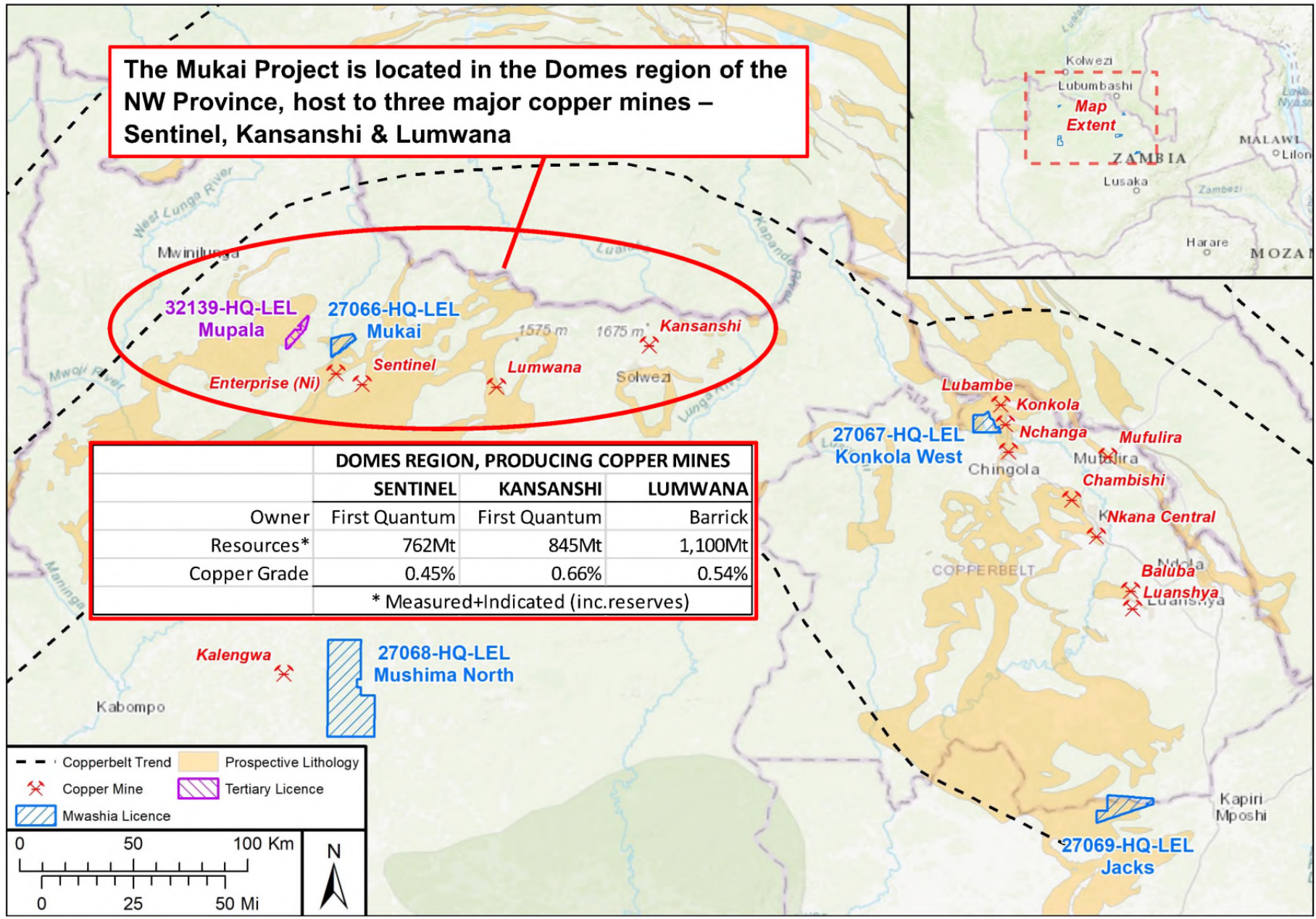
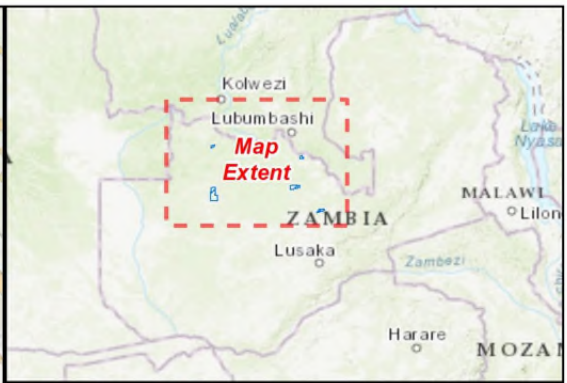
- FQM & Tertiary have established a Technical Committee with the objective to work collaboratively with respect to advancing exploration and development of the Projects.
- FQM has provided Tertiary with all of its historical exploration data for the two licence areas and Tertiary will submit its exploration results to the Technical Committee on an ongoing basis.
- The Technical Committee will advise and assist Tertiary in relation to all technical matters relating to the projects.



Mukai Project - Located in Prolific “Domes” Region



The Mukai Project is located in the Domes region of the NW Province, host to three major copper mines – Sentinel, Kansanshi & Lumwana



DOMES REGION, PRODUCING COPPER MINES			
	SENTINEL	KANSANSHI	LUMWANA
Owner	First Quantum	First Quantum	Barrick
Resources*	762Mt	845Mt	1,100Mt
Copper Grade	0.45%	0.66%	0.54%
* Measured+Indicated (inc.reserves)			

Copperbelt Trend
 Prospective Lithology
✕ Copper Mine
 Tertiary Licence
 Mwashia Licence

0 50 100 Km
 0 25 50 Mi

N

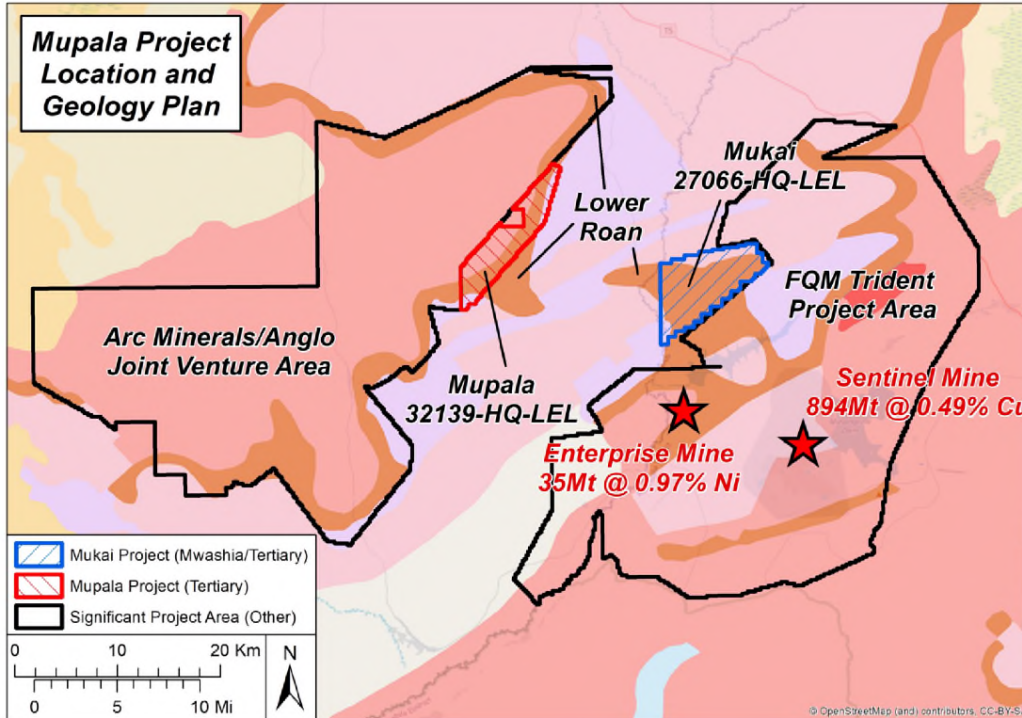
Mukai Project - The Right Address



Mukai Project is located centrally between:

- **First Quantum Minerals Trident Mining Complex** (Sentinel Copper Mine & Enterprise Nickel Mine)
- **Arc Minerals Zambia Copper Project** where Anglo-American has the right to earn 70% for US\$88.5M.

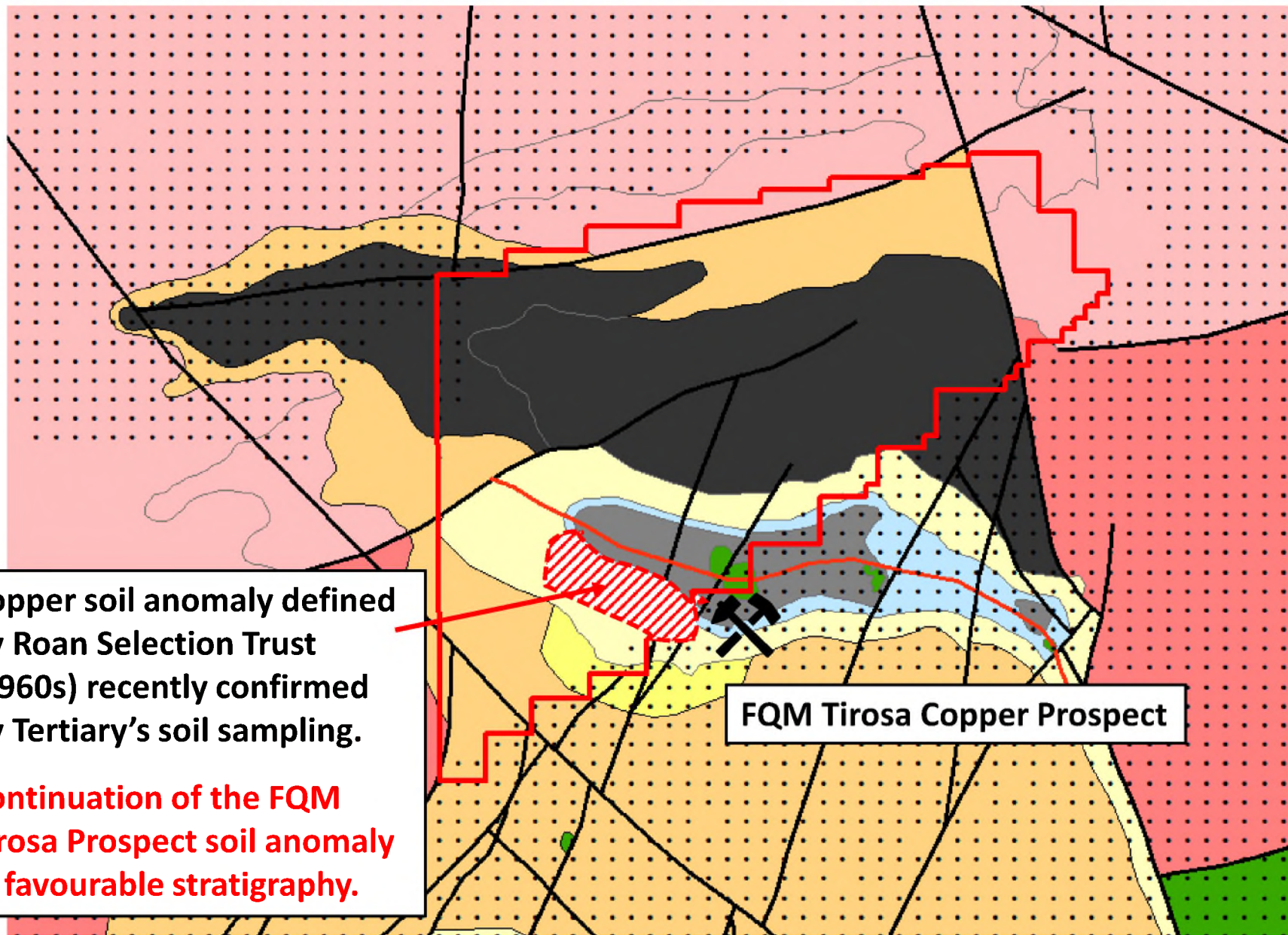
Contain same prospective stratigraphy as that hosting the orebodies at Sentinel and Enterprise.



First Quantum Minerals Sentinel Copper Mine & Processing Plant



Mukai Project - Priority Drill Target

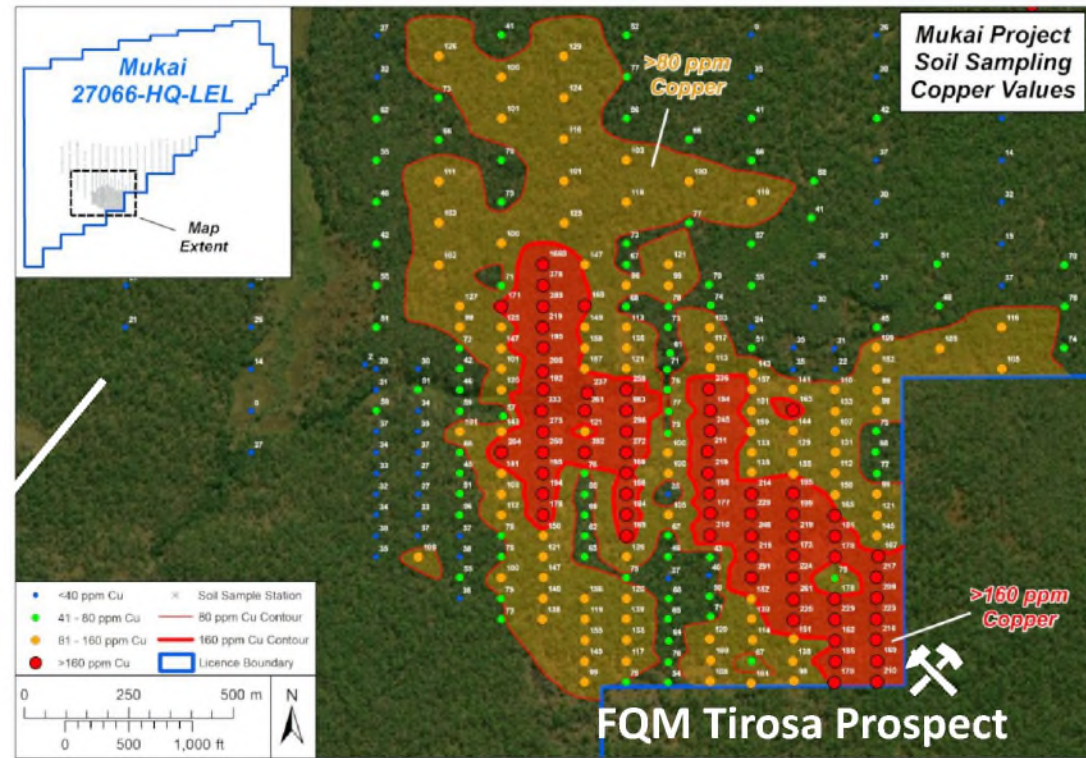


Mukai Project - Priority Drill Target Defined



Copper soil anomaly defined as a continuation of the FQM Tirosa Prospect soil anomaly in favourable stratigraphy.

- A total of 526 samples were collected on a 300m x 100m grid infilled up to 100m x 50m and analysed in the field using a portable XRF instrument (“pXRF”).
- A large high-grade copper-in-soil anomaly is defined with **values in excess of a 160ppm copper over an area of approximately 1,300m by 400m** with a peak soil value of 1,660ppm copper (0.16%) and soil values averaging 252ppm (average of 63 samples).
- This high-grade anomaly is part of broader copper-in-soil anomaly defined by 162 samples containing greater than 80ppm copper and **averaging 173ppm copper over an area of approximately 1,800m by 800m**.
- Soil anomalies from past producing mines on the Copperbelt typically have thresholds in the range 50 to 150ppm copper, averaging 80ppm copper and peak values in the range 100-450ppm copper and averaging 210ppm copper.



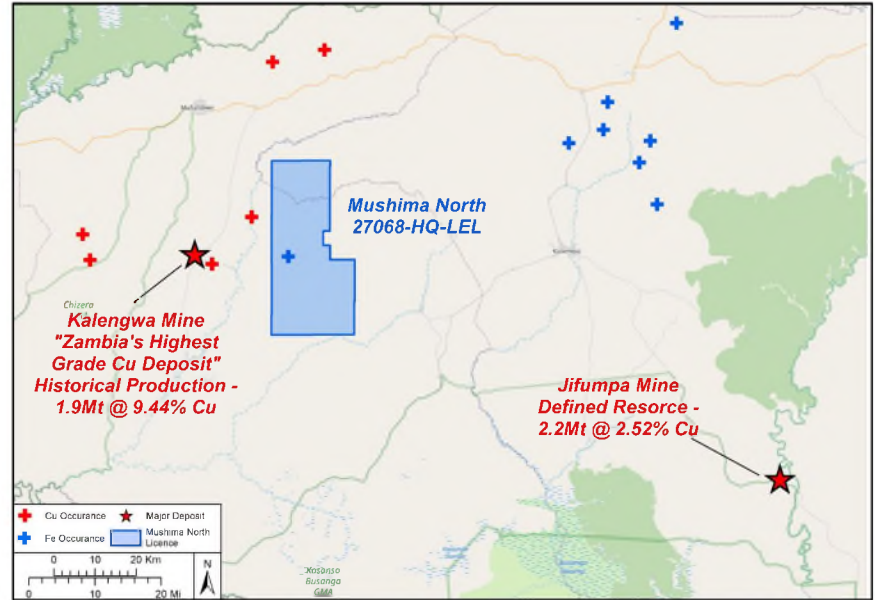
FQM's Tirosa Prospect Targeted Copper & Nickel Soil anomalies. Drill intersections on property boundary Include:

- 0.6% copper over 23m
- 0.15% copper over 11m

Mushima North Project



- The Mushima North Project is prospective for
 - Iron-Oxide-Copper-Gold (“IOCG”) deposits, exemplified by the giant Olympic Dam project in Australia.
 - Copperbelt style stratiform copper deposits.
- Part of the data sharing & technical cooperation agreement with FQM.
- Located 10km east of the past producing Kalengwa Mine - highest grade copper producer in Zambia.
- Historical hole RKN800 drilled by Roan Selection Trust (“RST”) was re-assayed returning 33m grading 0.24% copper from 122m, including: 9m grading 0.43% copper from 140m, copper mineralisation to the end of hole.
- RKN800 ended in copper mineralisation grading 0.19% at a depth of 155m and lies on the edge of a gravity anomaly defined and targeted by BHP for IOCG mineralisation, which was never drill tested.
- Detailed Interpretation and Targeting Report completed by JAW Consulting, with six high priority targets now defined.



Sulphide mineralised core from 1960s drill hole RKN800

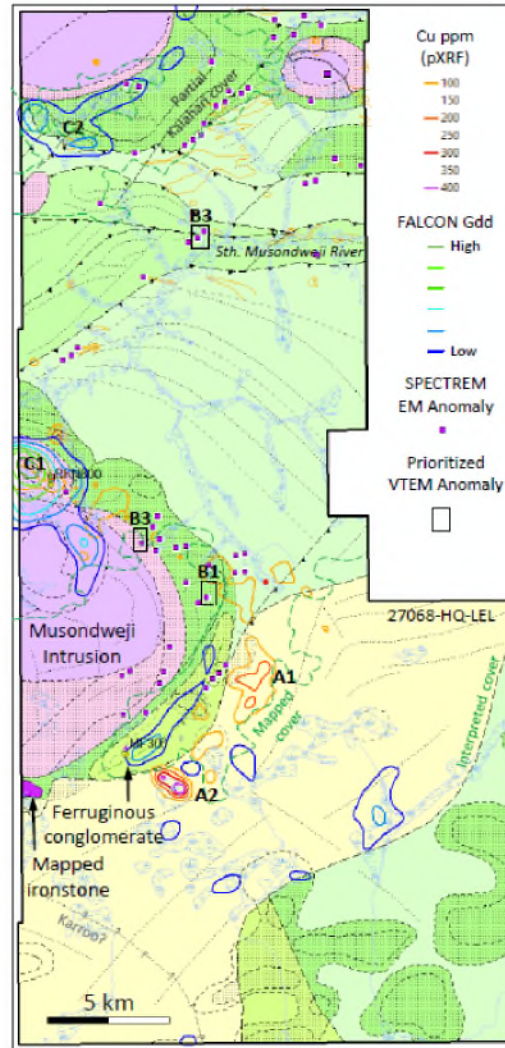
Mushima North Project - Exploration Targets



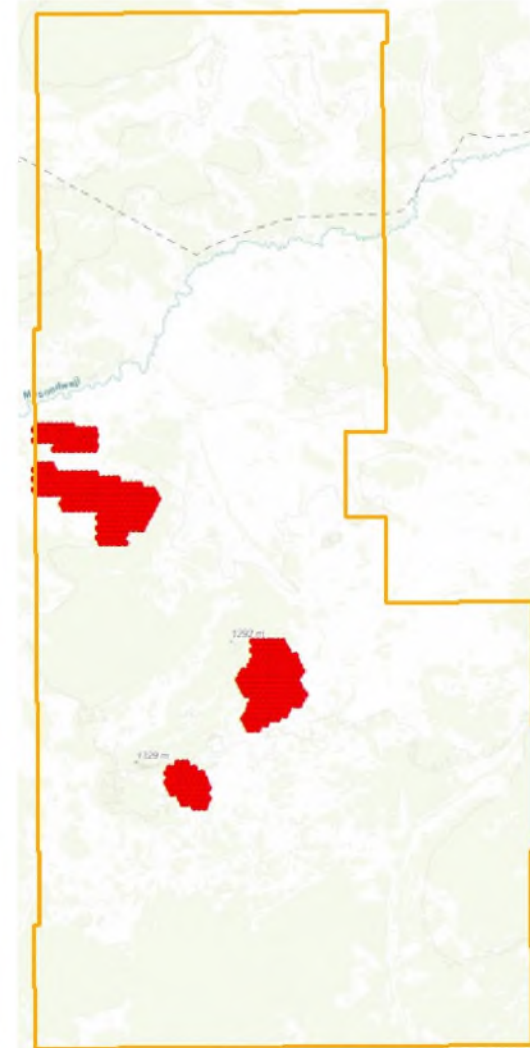
Several key targets identified, in order of priority:

- **Target C1** (Multiple data sources) Prominent gravity high associated with soil anomaly and wide low-grade intersection of copper mineralisation recently announced from resampling 1970s drill hole RKN800. This target, and a similar feature in the northwest of the property [C2], are potential IOCG systems previously targeted by BHP Billiton (2012).
- **Target A1** (FQM data) 1.7km long pXRF copper soil anomaly defined on 500m sample spacing. Enhanced by coincident arsenic and zinc anomalies.
- **Target B3** (FQM Data and SPECTREM data) Discrete strong EM conductor in favourable structural setting.
- **Target A2** (FQM data) Small high magnitude copper anomaly [A2].
- **Targets B1 and B2** (FQM data) Electromagnetic targets coincident with intrusive rocks or their margins.

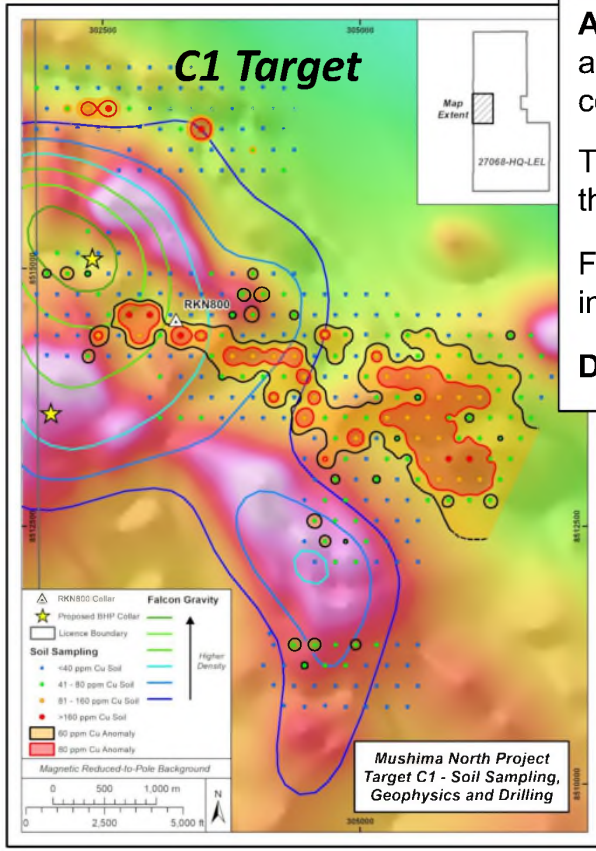
Soil sampling completed with an initial focus on Targets C1, A1, A2.



Interpreted geology with potential targets.



Mushima North Project - Drilling Planned in 2024



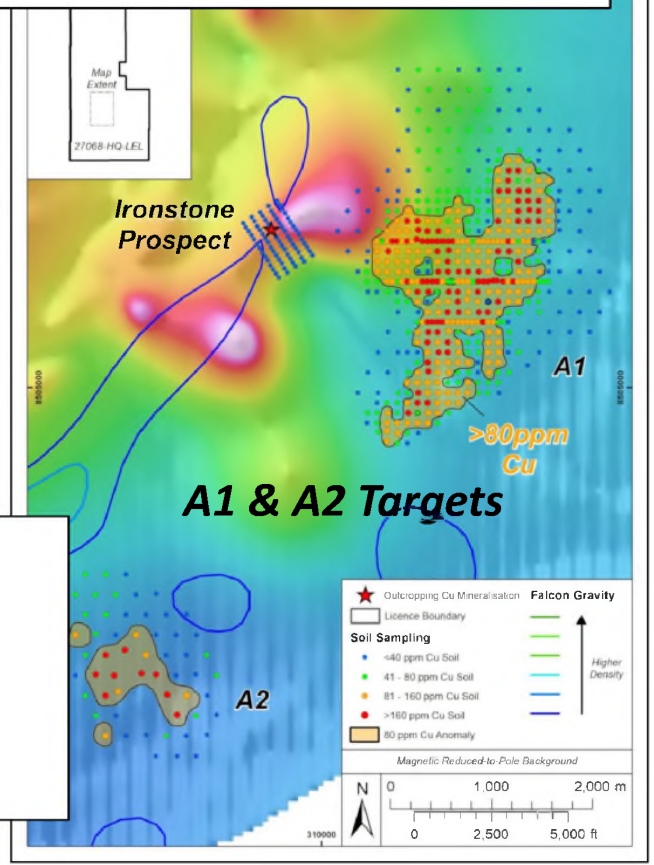
At the C1 target a significant open-ended copper anomaly has been defined, above 60ppm, covering an area of 4km x 1.25km, with peak value of 211ppm copper.

The highest copper-in-soil values are coincident with the highest arsenic values in the pXRF analysis, located close to arsenic anomalous drill hole RKN800.

Follows a zone of low magnetic amplitude – demagnetisation or inlier of sediments in Musondweji syenite.

Drill testing planned in 2024.

Tertiary has completed an initial soil sampling programme over the Project, which has defined two copper-in-soil anomalies based on a total of 953 soil samples collected and analysed in the field using a portable XRF (“pXRF”) instrument.

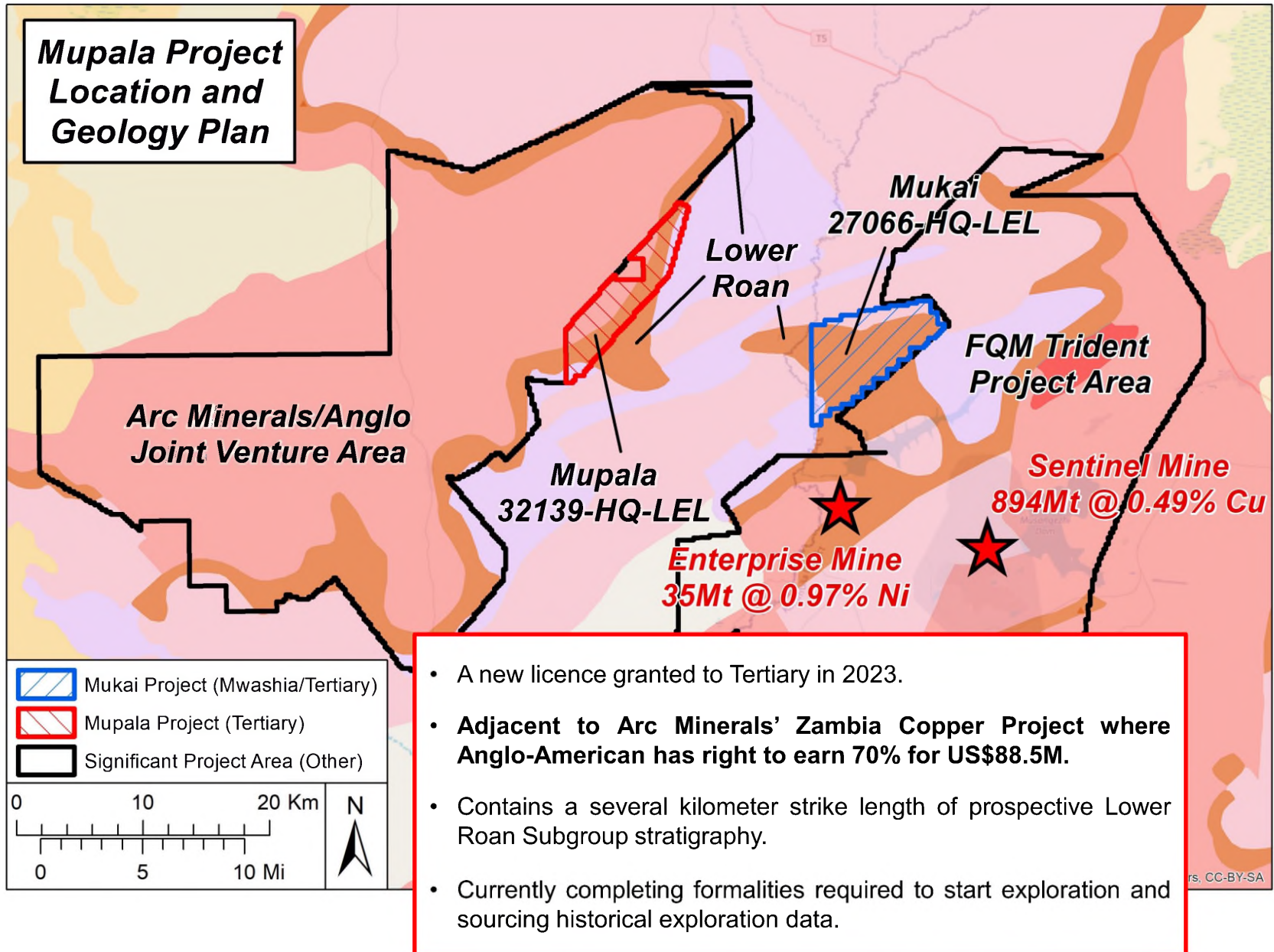


At target A1, a high-grade copper-in-soil anomaly has been defined covering an area of approximately 3km x 1.5km based on a threshold 80ppm. Max 280ppm copper.

Drill testing planned in 2024.

A soil anomaly at A2 is likely hydromorphic in origin as associated with a Dambo.

Mupala Project



Why Nevada?



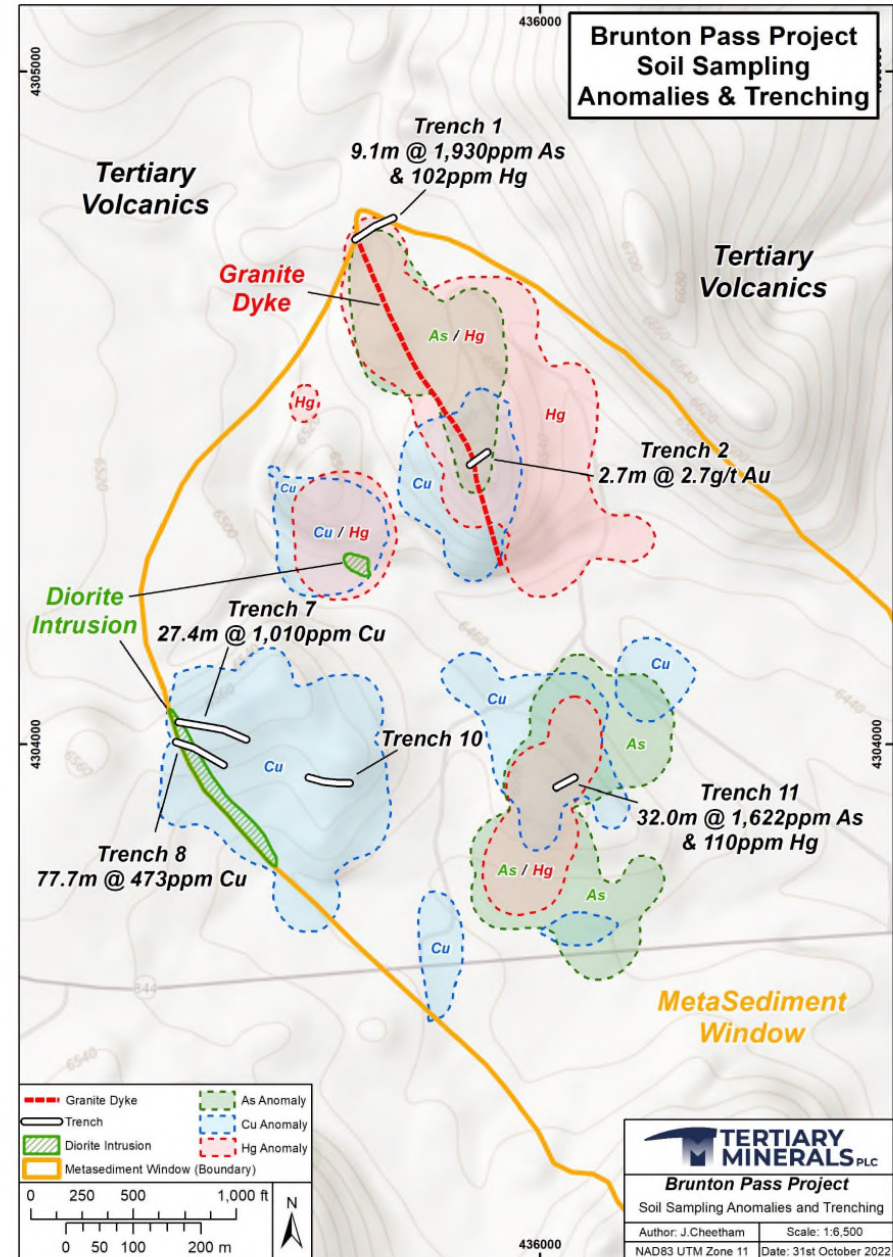
- Ranked 1st in the world as a mining jurisdiction by the Frazer Institute.
- 4th highest global gold producer.
- 2nd in the US for silver production.
- Significant copper and industrial mineral production.
- Majority of land is Federally owned and open to claim staking.
- Well defined and largely transparent mine permitting process.
- Major mining companies well established inc. Newmont, Barrick, Anglo-Gold, RioTinto, Kinross & Hecla.
- Tertiary holds several exploration projects in Nevada for copper and precious metals.
- Priority drill targets generated at the Brunton Pass Copper Project.



Brunton Pass Copper Project



- Located in Walker Lane Mineral Belt which hosts several world class epithermal gold-silver (Tonopah, Comstock), copper-gold porphyry (Yerington) and iron-oxide-copper-gold (Pumpkin Hollow) deposits.
- Copper mineralisation spread over a 1km x 0.6km target area.
- Soil sampling defined multiple copper, arsenic and mercury soil anomalies.
- Follow up trenching has defined large areas of skarn containing low grade copper and alteration styles similar to KHGM's producing Robinson Mine - possible halo to a copper skarn deposit and porphyry copper target:
 - Trench 7 intersected 45.7m grading 814ppm copper.
 - Trench 8 intersected 77.7m grading 473ppm copper.
- Trenching across >1km zone of coincident arsenic and mercury anomalies revealed similar epithermal argillic alteration assemblages (smectite+quartz+/-opal) and geochemical indicators as Paradise Peak Mine (>1.6 million ounces gold past production):
 - Trench 1 intersected a 9.1m section containing 1,930ppm As and 102ppm Hg.
 - Trench 2 intersected 2.7m grading 2.65 g/t gold.
 - Trench 11 intersected 32m grading 1622ppm As and 110ppm Hg (approx. 1,000x background).



Strong News Flow to Continue



Zambia

- KoBold's planning advanced for start of drilling in mid-March 2024.
- Further drilling programmes planned to test key targets generated in 2023 at multiple projects.
- Continued cooperation with FQM to advance exploration planning and data sharing in Zambia.

Nevada

- Brunton Pass (Nevada, copper) – drill testing of epithermal and skarn copper targets planned.

Jeff Currie head of Global Commodities, Goldman Sachs "We stand by the view that copper is the single best position over the next year, because copper is the new oil."

(Information current at 30 January 2024)

Share Structure	
Listing	AIM:TYM
Shares in issue	2,106,085,049
Warrants (0.12p-1.5p)	288,789,285
Market Cap (undiluted)	£2.0 million
Share Price – 52 week Range	0.09-0.19p

Directors' Shareholdings	Shares	%
Patrick L Cheetham*	21,465,000	1.02
Donald McAlister	2,937,609	0.14
Dr Mike Armitage	8,823,529	0.42
* includes 2,843,625 held by K E Cheetham		

Peer group valuations (as at 30 January 2024)				
Company	Market	Locations	Market Cap (£)	Partners
Tertiary Minerals	AIM	Zambia/Nevada	2.1	JV With KoBold, Cooperation with FQM
Castillo Copper	ASX	Zambia and Others	4.2	
Koryx Copper	TSX-V	Zambia and Namibia	8.9	
African Pioneer	LSE	Namibia, Botswana, and Zambia	4.9	Joint Venture with FQM
Cobre	ASX	Botswana and Others	9.9	
Kavango Resources	LSE	Botswana and Others	8.5	
BeMetals Corp.	TSX-V	Zambia and Japen	8.9	Joint Venture with JOGMEC
Galileo Resources	AIM	Zambia	12.6	
Midnight Sun Mining	TSX-V	Zambia	16.6	
ARC Minerals	AIM	Zambia and Botswana	37.8	Joint Venture with Anglo

Tertiary Minerals plc is substantially undervalued compared to other exploration companies operating in the Zambian or Botswana Copperbelts.



Soil sampling field crew



Thank you for your attention