

www.tertiaryminerals.com

27 October 2005

# QUARTERLY REPORT ON ACTIVITIES FOR THE PERIOD ENDED 30 SEPTEMBER 2005

#### **INTRODUCTION**

This report gives details of corporate developments, the results of exploration and development work carried out by Tertiary Minerals plc ("Tertiary Minerals" or "the Company") and significant developments reported by its associate Sunrise Diamonds plc ("Sunrise Diamonds") during the quarter ended 30 September 2005 and up to the date of this report.

## **CORPORATE**

#### **Sunrise Diamonds plc**

Associated company Sunrise Diamonds continues to report good progress from its Kuusamo diamond exploration project in Finland. Since the date of the last quarterly report Sunrise Diamonds has made two announcements advising:

- The discovery of two new kimberlites in the Kuusamo project whilst drill testing Anomalies 45 and 47
- The recovery of 5 micro-diamonds from a 23kg sample of the kimberlite discovered at Anomaly 45

Sunrise Diamonds shares continue to trade at a premium to the issue price at the time of Admission to trading on AIM. Tertiary Minerals currently holds 20,000,000 ordinary shares in Sunrise Diamonds (26.53% of the issued capital).

Sunrise Diamonds shares management and office facilities with Tertiary Minerals plc for the time being. This provides cost advantages to both companies.

#### **TANTALUM PROJECTS**

The Company has recently presented a paper at the Tantalum and Niobium World Symposium in Thailand organised by the Tantalum and Niobium International Study Centre (TIC).

The abstract of this paper entitled "The giant Ghurayyah tantalum-niobium deposit, Saudi Arabia – a future source of raw materials" is appended to this report and a complete copy of the Company's presentation can be found on the Company's website www.tertiaryminerals.com.

#### **Tantalum Market**

Participation in the TIC Symposium allows the Company to update shareholders on current tantalum market conditions and developments.

Presentations made at the Tantalum and Niobium World Symposium confirm that the market for tantalum has now recovered to the record volumes of the year 2000 volumes following the bursting of the "tech" bubble in 2000/2001. Demand for tantalum raw materials is currently running at 6 million pounds (lbs) per annum  $Ta_2O_5$ .

After a strong recovery last year, anecdotal evidence suggests that the rise in spot prices for tantalum has stalled in recent months whilst processor inventories remain above normal levels. Spot prices account for a relatively small percentage of overall tantalum raw material sales with most sales being made on long-term take-or-pay contracts at higher than current spot prices.

The structure of the raw material processing industry (i.e. the customers for the Company's future tantalum production) continues to evolve, with increasing demand from China for tantalum raw materials as its domestic processing and electronics industries develop. Most Chinese raw material demand is met by the spot market and is mainly sourced from Africa, often from organised artisanal mining activities on alluvial or soft, weathered-rock tantalum and niobium deposits. These sources have natural supply and expansion limitations. The major Western raw material processors currently source the majority of their raw material supply on long-term contracts from Sons of Gwalia's Australian higher cost hard-rock mining operations in Australia. A significant supply of raw material, the US Defence Logistics Agency (DLA) stockpile, which traditionally supplies approximately 500,000 lbs per annum of  $Ta_2O_5$  in concentrates, will be depleted within 12 months at current disposal rates.

The market for tantalum has historically grown at 8% per annum and whilst the current growth-rate is unclear, the mid-range estimate presented by Sons of Gwalia suggests 5% per annum at present. Tantalum's main use is in the manufacture of capacitors where the trend to smaller case sizes has led to reduced tantalum consumption per capacitor unit. However this reduction in unit consumption is offset by the need for an increased number of capacitor units in each operating device (e.g. mobile phones and gaming platforms) to deliver their ever-increasing functionality. Strong growth for tantalum is also coming from the semiconductor chip manufacturing industry where the trend to substitute copper for aluminium in wiring lines requires a tantalum coating. Another strong growth market for tantalum is for use in medical applications.

The market for niobium, another important component of the Company's Ghurayyah ore, continues to grow strongly on the back of strong demand for ferro-niobium use in steel, the dominant market for niobium. Annual niobium demand is currently 120,000,000 lbs per annum and raw material prices remain stable.

#### Ghurayyah – Tantalum

Saudi Arabia – Tertiary Minerals 100%

During the quarter work commenced on the Preliminary Feasibility Study for Ghurayyah. This study will include metallurgical testwork designed to optimise the process flow sheet, resource upgrading and further financial, technical and marketing studies.

Seven tonnes of representative mineralised material from previous drilling programmes has been assembled in Jeddah for shipment to selected metallurgical laboratories for further metallurgical testwork.

The full scope of further preliminary and bankable feasibility studies is being finalised by St. Barbara Consulting. SRK Consulting has designed a programme of further drilling and sampling to upgrade the current large Inferred Mineral Resource of 385 million tonnes to Indicated Resource Status and to allow 20 years of reserves to be established on finalisation of a feasibility study.

The current market dynamics in the tantalum industry are considered by the Company to be very positive for the orderly development of the Ghurayyah project:

- Manufacturers of electronic circuitry are concerned that there is no long-term stable supply
  of tantalum. These fears lead directly to the tantalum price bubbles including that in the
  year 2000. Ghurayyah has a projected mine life of over 200 years at the scoping study level
  of production.
- The need for further diversity in the raw material supply chain is heightened by the fact that Sons of Gwalia remains in Administration.
- The long-term growth in the market for tantalum and the depletion of a significant raw material source in the DLA stockpiles provides an opening for new producers to enter the market without creating an oversupply in the short term.

Further meetings and negotiations have been taking place in the UK and in Saudi Arabia with parties interested in funding the further feasibility studies on the Company's world-class Ghurayyah tantalum-niobium project. These discussions have been positive and we are hopeful of concluding an attractive joint venture agreement.

#### **BASE METAL PROJECTS**

#### **Notträsk Nickel Project**

Sweden – Tertiary Minerals 100%

Last quarter it was reported that a drill programme to test possible sulphide conductors for nickel-copper mineralisation was curtailed after preliminary assays from the first drill hole, which intersected multiple narrow (10cm and less) bands of massive sulphides within a 50m wide zone, returned only low nickel and copper values (but elevated values in platinum and gold).

More comprehensive assaying of this massive sulphide zone has now been completed. The dominant sulphide is pyrrhotite and assay results for nickel and copper were uniformly low and no higher values in gold or platinum were found.

Based on detailed core logging it is now considered that the new zone of sulphide mineralisation discovered by the recent drilling is the result of assimilation of barren sulphide-bearing sedimentary rocks into the interior of the Notträsk intrusion. No further work is planned for this zone.

## **OTHER PROJECTS**

No work was carried out on the Company's other base metal and gold projects during the quarter but further work programmes are planned.

#### Patrick Cheetham

27 October 2005

**Executive Chairman** 

For further information please contact:

Patrick Cheetham, Executive Chairman, Tertiary Minerals plc. Tel:+44 (0)1625-626203 Ron Marshman/John Greenhalgh, City of London PR Limited. Tel:+44 (0)20-7628-5518

# The Giant Ghurayyah tantalum-niobium deposit, Saudi Arabia - a future source of raw materials.

#### **ABSTRACT**

Tertiary Minerals plc's Ghurayyah Ta-Nb–Zr-U-REE deposit is located in NW Saudi Arabia close to the Red Sea. An Inferred Mineral Resource of nearly 400 million tonnes grading 245 grammes/tonne of Ta<sub>2</sub>O<sub>5</sub> and 2,840 grammes/tonne of Nb<sub>2</sub>O<sub>5</sub> is defined by drilling of a 900m wide plug of mineralised granite, open at depth. The deposit exhibits remarkable grade continuity, no internal waste, and can be extracted by cheap open-pit mining methods. The fine-grained Ta and Nb containing ore-minerals can be concentrated by flotation with good recoveries with subsequent magnetic separation of a zircon by-product. A number of different processing routes have been considered for production of marketable products, including a Fe-Nb-Ta alloy. A detailed economic and technical scoping study suggests the deposit has commercial potential as a future source of supply of Ta, Nb and zircon raw materials and a mine life of over 200 years. Significant contents of U and REE have yet to be evaluated. The project-financing regime in Saudi Arabia is very favourable with Government funding and a new mining code supporting the development of the project if feasibility studies, now in progress, are positive.

\_\_\_\_\_