



CARBINE TUNGSTEN

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## LOW GRADE STOCKPILE UPDATE, MT CARBINE TO INDICATED RESOURCE STATUS

The Board of Carbine Tungsten Limited (ASX:CNQ) is pleased to announce the upgrade of the low grade stockpile at Mt Carbine tungsten mine to **Indicated Resource** status.

### Highlights:

- The Feasibility Study (ASX announcement 28 August 2012) based on a minimum 15 year project life, estimates an IRR 60%, NPV \$161 million using a discount rate of 8%, and payback of 1.5 years based on a project commencing with the processing of the low grade stockpile followed within 18 months of the commencement by blending of stockpile material with ore from the open pit mine.
- The low grade stockpile was not included in the resource estimate upgrade. The ASX announcement 30 August 2012 advised an Indicated Resource of 18.1 million tonnes at 0.14% WO<sub>3</sub>, tungsten trioxide, including Probable Ore Reserve 18 million tonnes at 0.14% WO<sub>3</sub>, Inferred Resource 29.3 million tonnes at 0.12% WO<sub>3</sub>.
- Based on historical mine records the low grade stockpile comprises of approximately 12 million tonnes of broken rock from previous mining operations.
- The global average grade of the stockpile, estimated by two separate estimation approaches, is 0.07% WO<sub>3</sub> and following large-scale pre-concentration trials over a 10 week period, underpinned by cost estimates obtained for the recently completed feasibility study, the stockpile is **upgraded to an Indicated Resource**.
- The stockpile processing will comprise crushing, screening, and X-ray pre-concentration at a planned feed rate of 3 million tonnes per year to the X-ray sorter. X-ray sorting is expected to result in a 6-fold pre-concentration of tungsten mineralisation and reject of 90% of feed material as un-mineralised (refer to the ASX announcement on 23 March 2011).
- X-ray sorter pre-concentrate, anticipated to be approximately 300,000 tonnes per year, to be milled and processed in a conventional gravity mill. The gravity mill will include the present fines recovery circuit being used for the re-treatment of tailings (fines/slimes).
- The X-ray sorter feed from the stockpile is to be augmented by ore from the proposed open pit commencing 18 months from project start-up, in order to achieve increased production rates.
- Target production from processing material from the stockpile Indicated Resource is 160,000 metric tonne units per year of WO<sub>3</sub> in concentrate.

Carbine Tungsten Limited  
ACN 115 009 106



Carbine Tungsten is pleased to provide the following additional information relating to the proposed treatment of the low grade stockpile at its Mt Carbine mine site and inclusion of the stockpile as an Indicated Resource in the resource inventory at Mt Carbine as follows:

<b>Indicated Mineral Resource</b>	<b>Inferred Resource</b>
18.1 million Tonnes at 0.14% WO <sub>3</sub> , in situ hard rock. 12 million Tonnes at 0.07% WO <sub>3</sub> in low grade stockpile (mineralised rock stockpiled from previous mining operation)	29.3 million tonnes at 0.12 % WO <sub>3</sub>

The in situ, hard rock Indicated Mineral Resource includes a **Probable Ore Reserve of 18 million tonnes at 0.14% WO<sub>3</sub>**.

The Feasibility Study assessed a project which will commence by processing material from the Indicated Resource in the low grade stockpile at a rate of 3 million tonnes per year. Within 18 months of commencing stockpile processing it is planned to start open pit mining from the in situ hard rock Probable Ore Reserve. The ore, estimated to be approximately twice the grade of the stockpile material, will be progressively blended with stockpile material with the aim of achieving a target production rate of 230,000 metric tonne units of WO<sub>3</sub> per year by 2017 from 3 million tonnes per year plant feed.

#### **THE LOW GRADE STOCKPILE**

The low grade stockpile is comprised of mineralised rock extracted during open pit mining operations between 1974 and 1987. Grade control practice during this open pit mining discriminated between ore sent for processing, and mineralised rock deemed at the time to be too low a grade to justify treatment. This mineralised rock was stacked on the low grade stockpile, and from historical mine records there is approximately 12 million tonnes of broken rock in the stockpile.

The low grade stockpile has been bulk sampled (22,000 tonnes), the sample assayed and subjected to extensive sorting trials with a pilot-scale X-ray sorter (CNQ (III) announcement 23 March 2011). The sorter trials indicated that the low grade material could be pre-concentrated by sorting with an optimum 8 times upgrade. The grade of the bulk sample was 0.075% WO<sub>3</sub>. This compares very favourably with a back-calculation from historic mine records of production and mill recovery, and based on the recent resource estimate which took account of the resource mined during the previous open pit operation, of a global average grade of 0.07% WO<sub>3</sub> for the low grade stockpile.



Following the X-ray sorter trials previously announced and the costings determined in the Feasibility Study, CNQ has sufficient confidence in the tonnage and global average grade of the stockpile to justify its inclusion in the resource inventory at Mt Carbine as an Indicated Resource.

Trials indicated that at optimum settings, the X-ray sorter pre-concentrate product has a grade of approximately 0.6% WO<sub>3</sub>, and approximately 90% of the material fed to the sorter was rejected as waste. The loss of WO<sub>3</sub> to waste in this sorting process was only 7% of the total tungsten in the sorter feed.

- It is important to emphasise that the low grade stockpile does not form part of the resource and reserve estimate announced on 30 August 2012. CNQ does not intend to attempt a further definition of the possible grade and tonnage of mineralised rock in the low grade stockpile, beyond the sampling, assaying and sorter trials already carried out, because of the physical impracticality of attempting to do so.
- Local grade distribution within the stockpile is expected to vary and has not been quantified.

The plant comprising the X-ray sorter and mill to treat the stockpile material will be the same plant to process ore from the open pit.

Based on the sampling, assaying and trial processing carried out on the low grade stockpile, CNQ anticipates a production target for the processing of low grade stockpile material alone of 160,000 metric tonne units of WO<sub>3</sub> in concentrate per year. This target assumes a processing rate of 3 million tonnes per year to the X-ray sorter, an accept rate from the X-ray sorters of 90%, a milling rate of X-ray sorter accept of approximately 300,000 tonnes per year, and, based on extensive test work and the results from the Tailings Re-treatment Plant presently in production, an overall recovery of 80% WO<sub>3</sub>.

### **Carbine Tungsten Limited**

**A James Morgan**  
Managing Director

### **General Enquiries:**

Contact Jim Morgan on 0487 144 834



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### **COMPETENT PERSONS' STATEMENT**

*This announcement contains certain forward-looking statements which have not been based solely on historical facts but, rather, on CNQ current expectations about future events and on a number of assumptions which are subject to significant uncertainties and contingencies many of which are outside the control of CNQ and its directors, officers and advisers.*

*The information in this announcement that relates to Exploration Results, Mineral Resources, Production Targets and Ore Reserves is based on information compiled by Dr Andrew White, who is a Fellow of the Australian Institute of Geoscientists and a Director of CNQ. Dr White has sufficient experience relevant to the style of mineralisation, mining and processing the type of deposit under consideration to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr White consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.*