# **Quarterly Activities Report**

# For the Quarter Ended 30 September 2016



Carbine Tungsten Limited ACN 115 009 106

Registered Office: Level 2, 420 Collins Street, Melbourne VIC 3000; Tel +61 3 8687 2176

Principal Place of Business: 6888 Mulligan Highway, Mt Carbine QLD 4872; Tel: +61 7 4094 3072; Fax: +61 7 4094 3036 (ASX: CNQ)



## **HIGHLIGHTS**

- Carbine Tungsten Limited ("Carbine" or "the Company") announced on 14 September 2016 that it is currently exploring an exciting new mineral processing technology. Further information can be found at: http://www.atomexchangetechnology.com/
- As part of its diversification strategy the Company announced on 22 September 2016 that it had acquired two gold prospects located within New South Wales being EL8024 Panama Hat and EL6648 Crow Mt.
- A detailed soil survey was carried out within the Iron Duke Prospect (EPM 14872, Mt Carbine) during September 2016 along with a Self Potential Survey of a historic gossan north of Carbine Hill to determine whether there is any geophysical reason for further examination of this prospect.
- Carbine also commenced prospecting for lithium brines in the modern rift systems in South America. Preliminary surface sampling results have been very encouraging and applications for exploration tenements are currently being prepared.
- Carbine's 2016 Annual General Meeting ("AGM") will be held on Thursday 24 November 2016 at the Rydges Melbourne, 186 Exhibition Street, Melbourne commencing at 11.00 am AEST.

# **EXECUTIVE SUMMARY**

As outlined in the Company's 2016 Annual Report Carbine is actively working towards the diversification of its interests.

The Company has recently acquired gold prospects and is undertaking lithium exploration work. Carbine is also maintaining its interest in its world class tungsten project at Mt Carbine in Far North Queensland.

Carbine is also undertaking test work and developing its knowledge and association with an exciting and revolutionary minerals processing technology which has the potential to dramatically decrease the operating costs and environmental impact of processing the above metals as well as a number of others.

Carbine is looking to rapidly target and realistically develop the areas advised to broaden and improve the Company's current and near-future prospects. The Company is pleased to be conducting these logical and progressive diversifications at a time that the commodities market in general is showing some promising and early stages of a potential resources market recovery.



# EXPLORATION, DEVELOPMENT AND CORPORATE ACTIVITIES QUARTER ENDED 30 SEPTEMBER 2016

#### **EXPLORATION**

#### **TUNGSTEN ACTIVITIES**

#### MT CARBINE EPM 14872

Carbine holds EPM 14872 which surrounds the northern side of ML 4867.

#### Iron Duke Scheelite Prospect

Previous announcements have provided reports on the Iron Duke scheelite prospect that extends from ML 4867 1.3km north. The prospect has been covered by a ground magnetometer survey, the results of which are presently being re-processed and during the quarter a detailed soil survey was completed over the prospect in EPM 14872. Results are still being processed but it is clear that soil tungsten values confirm that tungsten mineralisation continues the full 1.3km length of the mapped extent of the rocks hosting the mineralisation. Tungsten mineralisation is associated with skarn alteration of discontinuous pillowed basalt lenses and a continuous brecciated radiolarian chert breccia horizon adjacent to the basalts.

#### "Gossan" Prospect

A gossan exposed north of Carbine Hill was covered by ~50,000 tonnes of rock waste in the early 1980's. No sample of the gossan was taken prior to this and detailed surface examination has failed to find float derived from this concealed gossan.

A trial Self Potential ("SP") survey was carried out over the area around where the gossan was covered up in order to determine whether there was any geophysical reason for further examination of this prospect. The SP method is cheap, effective and out of fashion, mainly because of repeatability of results owing to lack of careful attention to field techniques.

The SP method relies on "the naturally occurring electrical potential of the Earth resulting from geological, geochemical and hydrologic interactions that causes electrical potentials to exist in the earth in the vicinity of the measuring point" (Zonge Geophysics, 1983). Strong SP differences often characterise sulphide mineralisation or conductors in the subsurface from siliceous or carbonate rocks.





#### Geology:

The host metasediments belong to the Siluro-Devonian Hodgkinson Formation and consist of strongly foliated schists, radiolarian chert horizons and lenses of pillowed submarine basalt lava piles. Just west of the supposed gossan area, calcareous black shales, now chevron folded and strongly foliated, also occur.

Several small copper-zinc deposits in similar geological context have been mined in the region in the past. For example, the Dianne, Mt Molloy and OK copper mines, all characterised by high to very high supergene enriched grades of copper.

The final presentation of results is still being prepared, but the survey revealed a zone of strong discontinuous SP (dipole) differences over a total distance of 160m along a north-east trend, discordant to the local foliation and bedding strike of around 340 degrees. Intense silicification was recorded during the survey in exposures of the supposed footwall area of the SP anomaly.

#### **GOLD ACTIVITIES**

#### **CARBINE ACQUIRES GOLD PROSPECTS**

As part of its diversification strategy Carbine was pleased to announce on 22 September 2016 that it had acquired two gold prospects from Frontier Capital Group Ltd. Both properties are located in NSW, one being the Crow Mt Exploration Licence 6648 and the other Panama Hat Exploration Licence 8024.

#### Crow Mountain EL 6648

EL6648 lies approximately 20km south east of Barraba in northern NSW, and straddles part of the Peel Fault, a major structure that geologically separates the New England Province from the Tamworth Trough to the west. Within EL6648, over an area of approximately 9 km<sup>2</sup>, there are numerous historical shallow gold workings dating from 1868 with historical records indicating that high to bonanza grade gold occurred in quartz veins up to 38cm wide and 12m long. In modern times the licence has been partly investigated by 3D-IP survey, drilling and surface sampling.

This licence was previously held by CNQ's precursor company, Icon Resources Ltd, who drilled three holes in the Magnesite Hill target in 2010, with the following results:

Drill hole	From (m)	To (m)	Interval (m)	Au g/t
ICK 001	76.3	78.45	2.15	1.85
	117.4	172	54	0.45
Including	140	148	8	1.27
ICK 002	113.4	119.4	6	0.67
Including	119	121	2	1.19
	137	151	14	1
Including	139	141	2	3.69
ICK 003	113.6	117	3.4	1.2

(See table below for drill hole details.)

The licence was a key component of a proposed listing of Icon's prior gold prospects that it reluctantly sold in 2011. Carbine is very pleased to have been able to re-acquire the tenement as it still strongly believes that it holds significant exploration potential.



CNQ's plan for exploration of the tenement is based around the concept that high to bonanza grade small vein quartz occurrences, together with background low grade gold mineralisation, may constitute a bulk-mineable resource.



Location of EL 6648, showing historical gold workings (yellow triangles) adjacent to the Peel Fault



Hole No	Azimuth	Dip	Easting	Southing	RL	Total depth	Hole size
ICK 001	235 <sup>0</sup> mag	55 <sup>0</sup>	284491m	6627615m	582m	344.5m	NQ2
ICK 002	235 <sup>0</sup> mag	60 <sup>0</sup>	284541m	6627507m	585m	190.3m	NQ2
ICK 003	235 <sup>0</sup> mag	60 <sup>0</sup>	284590m	6627413m	582m	149.6m	NQ2

Table 2. Drill hole details, Icon Resources drill holes.

#### Panama Hat EL 8024

The Panama Hat EL 8024 covers 80% of the historical gold workings in the Broken Hill district, about 30km south east of Broken Hill (see map below). The workings mostly date from 1931-1935, and occur along an arcuate line of quartz veining with associated iron oxides. Sericitic alteration of the host metamorphic rocks accompanies the quartz veining. The iron oxides are interpreted to result from weathering of sulphide mineralisation at depth. Hand-picked iron oxide-bearing quartz samples were recorded as assaying up to 34g/t, and this has been confirmed by recent sampling as part of a due diligence study of the licence by CNQ. Previous exploration in modern times includes an MMR/EIP geophysical survey and several percussion drill holes, but CNQ's opinion is that the licence area is underexplored.

The following map shows maximum gold values obtained by rock chip or mineralised rocks by previous explorers.



CNQ's exploration objective is to determine the extent of oxide gold mineralisation, with the intent of establishing an open pit mineable resource in the weathered zone, in the first instance, and secondly to determine gold mineralisation and grade in the primary zone below the historical workings.

#### LITHIUM ACTIVITIES

Lithium is sourced mostly from one of two geological deposit types: hard rock deposits found mostly in ancient (Proterozoic) regimes and sub-surface brines that occur in modern continental rift systems. As Carbine's link with the AXT process (Refer June 2016 Quarterly Activities Report) holds the potential to produce lithium metal directly from brines, and because lithium-bearing brines offer potentially lower production costs of lithium carbonate, the Company has commenced prospecting for brines of appropriate chemistry in modern rift systems in South America.



Preliminary surface sampling results have been very encouraging and applications for exploration tenements are in preparation. Once these are granted the Company intends to follow up with a shallow drilling program to sample brines in selected areas.

#### DEVELOPMENT

#### CARBINE EXPLORES EXCITING NEW MINERAL PROCESSING TECHNOLOGY OPPORTUNITY

Carbine announced on 14 September 2016 that it had engaged a specialist minerals technology provider to conduct a preliminary testwork program on tungsten scheelite concentrate samples provided from its Mt Carbine mine project for testing using a novel and unique processing technology route, which may present significant cost and environmental advantages to the Company and its current tungsten project.

As previously advised in the Company's last two quarterly reports it has been reviewing this technology to assess its suitability for potential future use by the Company.

Carbine is exploring opportunities with the technology provider to hold agency rights for the distribution of the technology within Australia, New Zealand and Papua New Guinea in relation to other potential advantages it offers in the extraction and production of copper and gold.

Carbine is also seeking to co-operate with the technology provider to include certain aspects of the technology's development into its ongoing research and development programs.

Further information on this very exciting technology can be found at: http://www.atomexchangetechnology.com/.

#### CORPORATE

#### SINCE QUARTER END

#### ANNUAL GENERAL MEETING

On 19 October 2016 Carbine distributed its Notice of Annual General Meeting and Proxy Form to shareholders advising that this year's AGM would be held on Thursday 24 November 2016 at Rydges Melbourne, 186 Exhibition Street, Melbourne commencing at 11.00 am Melbourne time.

#### **MT CARBINE QUARRY**

Carbine advised in its 2016 Annual Report that as outlined at last year's AGM, your Company declared its intention to pursue the purchase of the Mt Carbine Quarry. To this end the Company commenced a due diligence program; however to-date this program remains incomplete due to the inability or lack of desire on behalf of the quarry owner to provide proper information in relation to this business. We will persist in our efforts to complete this transaction however shareholders must realise we can only advance this matter to the extent to which we are provided with the relevant information.

Carbine has also been unable to resolve a number of sublease condition issues with the quarry owner and mining leaseholder. Carbine has initiated a dispute conciliation process under its sublease with the quarry and mining leaseholder to attempt to resolve these matters.



#### **TENEMENT INFORMATION REQUIRED UNDER LISTING RULE 5.3.3**

In accordance with Listing Rule 5.3.3 the following information is submitted with respect to the tenements held by Carbine and its wholly owned subsidiaries:-

Tenement Number	Tenement Location			
Queensland				
EPM 14871	Mt Carbine			
EPM 14872	Mt Carbine			
ML 4867	Mt Carbine (Sub-lease)			
ML 4919	Mt Carbine (Sub-lease)			
New South Wales				
EL 6648	Armidale			
EL 8024	Broken Hill			

During the period no farm-in or farm-out agreements were entered into nor were any mining tenements acquired.

JIM MORGAN CEO & MANAGING DIRECTOR

#### COMPETENT PERSON'S STATEMENT

The information in this report that relates to Exploration Results and Mineral Resources and Ore Reserves is based on information compiled by Dr Andrew White, who is a Fellow of the Australian Institute of Geoscientists and a consultant to Carbine. 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 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr White consents to the inclusion of the matters based on his information in the form and context in which it appears.



### **CARBINE TUNGSTEN LIMITED AT A GLANCE**

#### Directors

Mr R.H. (Russell) Krause, Non-Executive Chairman Mr A.J. (Jim) Morgan, Managing Director Mr R.W. (Rolly) Nice, Non-Executive Director

#### **Company Secretary**

Mr David Clark

#### **Registered Office**

Level 2, 420 Collins Street, Melbourne VIC 3000 Telephone: +61 3 8687 2176

#### **Principal Place of Business**

6888 Mulligan Highway, Mt Carbine QLD 4871 Telephone: +61 7 4094 3072 | Fax: +61 7 4094 3036

#### Website and Emails

Please visit Carbine's website for the latest announcements and news: **www.carbinetungsten.com.au**. To receive Carbine's announcements by email, email to: info@carbinetungsten.com.au

#### **General Enquiries**

Contact Mr Jim Morgan on (03) 8687 2176

#### **Issued Capital and Market Capitalisation**

At 20 October 2016 Carbine's issued capital was 418,876,418 ordinary shares and 8,000,000 unlisted options exercisable at 20 cents. At a share price of \$0.023 on 20 October 2016 the market capitalisation was \$9.63 million.

#### Number of Shareholders and Major Shareholders

At 20 October 2016 Carbine had 1,154 shareholders. The share register records the following as major shareholders at 20 October 2016 accounting for 47.59% of the issued shares:

%
19.84
8.59
3.82
3.78
3.27
1.32
1.31
1.25
1.22
1.18
1.01
1.00

#### **Cash Balance**

At 30 September 2016 Carbine's cash balance was approximately \$631,000.

#### **Shareholder Enquiries**

Matters relating to shares held and changes of address should be directed to the share registry:

Computershare Investor Services Pty Limited Yarra Falls, 452 Johnston Street, Abbotsford VIC 3067 Telephone (within Australia): 1300 850 505 Telephone (international): +61 3 9415 4000

#### **ASX Listing Code**

The Company's ASX listing code is CNQ (Carbine North Queensland)