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#### June 24, 2021

# COMPANY SNAPSHOT

Stock code:	EQR AU
Price:	A\$0.024
Market cap:	A\$31.5m
Average daily turnover:	A\$0.04m
Shares outstanding:	1,313.4m

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Analyst(s) own shares in the following stock(s) mentioned in this report:

– EQ Resources

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# **EQ** Resources

# Producing Tungsten – a strategic metal

- EQ Resources, in conjunction with German-headquartered metals producer/recycler/ trader CRONIMET Group, is recommissioning the tungsten mine at Mt Carbine, 50km north of Mareeba, north Queensland, where all infrastructure is in place. Tungsten is a strategic and critical mineral with production dominated (+80% of supply) by China.
- An X-ray transmission (XRT) sorter is operating ahead of conventional gravity processing to re-treat tailings, supplemented by feed from the 12Mt stockpile. CRONIMET has installed and operated similar sorters in Europe and Africa.
- EQR is exposed to commodity price and A\$/US\$ exchange rate risk, with tungsten concentrate commonly sold in US dollars. Funding and delivering the production expansion and ongoing operations remain risks.

## A profitable history of production

Production in the 1971-1986 phase was from an open pit, mining ~1 Mtpy, with processing through a primitive photometric ore sorter followed by conventional processing, to deliver a nominal 150,000 metric ton unit (mtu – 10kg) of tungsten concentrate per year. This generated 2Mt of tailings with a grade of 0.1% WO<sub>3</sub> and a 12Mt stockpile at 0.075% WO<sub>3</sub> over the mine life. This is currently being processed by EQR and its 50/50 JV partner, CRONIMET Group.

### An un-mined resource to JORC Code (2012) standards

• An unmined hard-rock resource of 47Mt at 0.13% WO<sub>3</sub> was defined to JORC Code (2012) standards by previous operators, with 2 open pit benches defined below the current open pit, and a decline commenced for underground operations. EQR holds a 100% interest in the hard rock resources and surrounding exploration potential.

### Processing confirms the performance of the XRT

EQR's processing to date confirms that the XRT sorter performs better than the photometric sorter, enhanced by the dramatic advance in computing power since the mid-1970s. Processing by EQR has delivered an upgrade of up to 28 times under test conditions, and a tenfold upgrade (X10) in plant feed grade could be conservatively anticipated in commercial operation, compared with the 3-4 times upgrade historically, leading to capital and unit operating cost reductions.

## **Re-commencing open pit mining**

The Mt Carbine resource incorporates mineralisation in planned, but un-mined benches beneath the existing open pit, and is open along strike and at depth. The previous operators evaluated an underground mine beneath the deeper planned pit. Drilling in the current half year beneath the planned open pit continues to confirm the continuity and planarity of the known mineralised structures, and is (from the 3 holes reported to date) reporting higher grades than anticipated. This drilling also suggests that the Iron Duke mineralisation, previously excluded from the formerly proposed open cut envelope, may contribute to future production.

## Risks

- Funding the proposed US\$20m initial expansion to a mining rate of 1Mtpy and successfully delivering the expansion on time and budget are the initial risks. The mine and processing will be subject to the usual operational risks, although the 13-year history of operations would indicate that this risk is low.
- With tungsten concentrate sales denominated in US dollars, movements in the A\$/US\$ exchange rate and the concentrate price to achieve sales are ongoing risks.

# **Mt Carbine**

# What's new

Mt Carbine previously reported a hard rock resource to JORC Code (2012) standards of  $47Mt @ 0.13\% WO_3$  with two benches proposed beneath the existing open cut - see Figure 1 below - prior to going underground. This is on top of the 2Mt of tailings and 12Mt of stockpile ore, which are subject to the JV with CRONIMET, and currently being processed.

EQR's drilling now confirms the continuity and planar nature of the zones, and has reported higher grades than were previously anticipated. This drilling is ongoing to upgrade the quality of the resource, and to better understand the distribution of higher-grade material within the mineralised zones. Deeper holes are expected to provide a better understanding of the relationship between the Iron Duke and the mineralisation in the open pit.

The three holes reported in this release (EQ001, 002 and 006) have "average" mineralised grades of 0.64%, 0.34% and 0.77% WO<sub>3</sub>, compared with the established resource grade of 0.13%. Those numbers are interpreted – at a preliminary stage – to suggest that the grade may be increasing to depth.

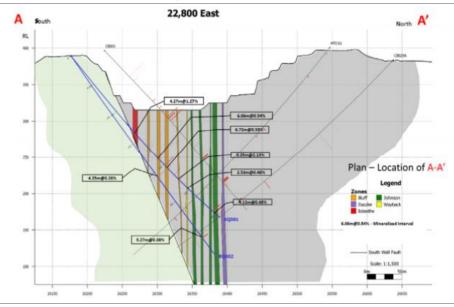


Figure 1: Mt Carbine Cross Section 22,800 East

Source: EQ Resources – ASX Release June 2021

# The EQR/CRONIMET JV for tailings and stockpile processing

While EQR holds a 100% interest in the Mt Carbine tenements, under the 50/50 joint venture (JV) agreement CRONIMET has commissioned a XRT pilot plant to upgrade the stockpile material for further processing at the JV's tailings retreatment plant. A 2.5% royalty to EQR is being paid on the value of minerals extracted from the tailings and stockpile on the leases. The royalty and JV only apply to tailings and stockpile treatment, with hard rock mining and processing entirely to EQR's account, with the JV operation to optimise the sorting and processing operations.

The upside value for EQR shareholders lies in the re-start of hard rock mining and processing of ore.

The 50/50 JV will enable EQR to sell concentrate while optimising the process route ahead of re-starting the whollyowned open pit mining and processing of tungsten ore



# **Current production**

Current production from treating the tailings and stockpile is a concentrate grading  $\approx$ 50% WO<sub>3</sub>. Processing effectively recovers WO<sub>3</sub> from the >45µ fraction, with poor to nil recovery from finer material. With historic production of concentrate at a +68% grade, Arsenic and Pyrite were removed by a small flotation cell, but processing to 50% the penalty doesn't warrant further processing. The current - and proposed - processing uses only process water, and doesn't create any acid-forming waste.

EQR is currently processing tailings and stockpile material to better understand the grade distribution within the resource and to optimise sorter and processing options. Reject material from the stockpile is sold as aggregate and used extensively in road construction in the region, generating a positive cashflow and significantly reducing the site's environmental footprint. Concentrate grade and consistency is critical, and product is currently sold on commercial terms to CRONIMET Group, and sold to major producers in Europe, Asia and the Americas.

# Exploration – Mining Lease and Regional

The Iron Duke lies within the envelope of the proposed hard rock development. It was not explored by the previous operators as it has a higher proportion of scheelite than the existing open pit ore, and was not amenable to upgrade with the Photometric ore sorter. The 6 holes drilled into Iron Duke by previous owners average 8m in width over a strike length of approximately 250m at an average grade of 0.32% WO<sub>3</sub>, while the surface expression of the Iron Duke extends over 2.2km.

## Figure 2: Mt Carbine operations



Source: EQ Resources - Presentation March 2021

The Petersen's lodes are 2km southeast from the Mt Carbine open pit. Historic production at a grade of 0.6% WO<sub>3</sub> resulted in production of 950t - 95,000 mtu – of scheelite concentrate. The mineralised zone at Petersen's is approximately 10m wide, and extends 1.3km along strike at surface.



# Key risks

In terms of significant risk exposure, the Mt Carbine project is exposed to commodity price risk and A\$/US\$ exchange rate risk, with tungsten concentrate commonly sold in US dollars. Funding the projected expansion will be another risk, although an estimated cost of US\$50-100m would be comfortably within EQR's funding envelope.

Given the production and processing history, coupled with the current tailings retreatment results and relative simplicity of the plant we see little risk in plant construction, commissioning and operation, and little risk in product quality and market risk, other than price risk. Given that the current leases supported an open pit operation for 13 years at a rate up to 2Mtpy, and EQR has now received approval to lift production from 100,000tpy to 1Mtpy, we see little risk with securing administrative, development and operating approvals.

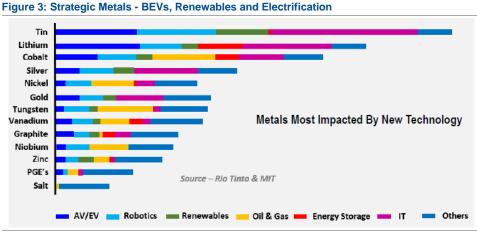
# **Board and Management**

CEO Kevin MacNeill has a 33 year history in project development, specialty metals and mining waste processing, and in XRT sorter development. He has relocated to Australia for the Mt Carbine re-development. Chairman Oliver Kleinhempel, formerly with Outotec and Ferrostaal Group, is currently an Executive Director of CRONIMET Holding GmbH and has experience in project development financing and commodity trading. Both have direct shareholdings in EQR.

## Industry overview

## **Industry size**

The current market for tungsten was 84,000t in 2020, with China responsible for 82% of supply (USGS), China is responsible for approximately 32% of usage. The USGS identifies China (~60%) and Russia (~12%) as having the largest known reserves.



Source: Elementos Limited – Presentation May 2021

At the projected rate of production of 150,000mtu per year Mt Carbine would supply less than 2% of world production.



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