

# Mt Thirsty Metallurgical testwork continues to yield positive results

# **Highlights**

- Results from ALS Metallurgy testwork using Sulphur Dioxide leaching have continued to yield positive results.
- Bench scale testwork using 5kg samples has returned recoveries of >80% Cobalt and >25% Nickel under low temperature/atmospheric pressure conditions.
- The results confirm the project's potential as a low CAPEX/low OPEX producer using low cost reagents.
- Scoping Study remains on track for completion in late August/early September 2017.

Barra Resources Limited (ASX:BAR) is pleased to report recent results from metallurgical test work undertaken on samples from the Mt Thirsty Cobalt Project in Western Australia. This work is part of the soon to be completed Scoping Study being carried out in conjunction with Joint Venture partner Conico Limited (ASX:CNJ) (CNJ: 50% BAR: 50%).

## Metallurgical Testwork Results

	Metal Extraction											
Based on Metal in Solution vs Calculated Head												
Time Hours	Al %	Co %	Fe %	Mg %	Mn %	Ni %	S %	Si %				
0	0.00	0.00	0.00	0.00	0.00	0.00	/0	0.00				
1	2.03	38.69	0.41	5.29	41.28	13.19		0.37				
2	2.67	56.80	0.63	5.75	61.92	17.77		0.38				
4	3.24	66.09	1.01	5.73	72.45	20.15		0.37				
6	3.48	71.69	1.34	5.91	80.17	22.01		0.36				
8	3.71	74.58	1.48	6.14	80.26	23.43		0.36				
16	4.28	78.94	2.62	6.39	84.38	25.65		0.34				
24	3.71	80.72	3.01	6.52	86.64	26.59		0.26				

Table 1: Metallurgical extraction of various metals including Co and Ni at 70°C and atmospheric pressure (source: ALS Metallurgy, technical report, 4 August 2017).

Table 1 shows the recent leaching tests conducted at the Perth laboratories of ALS Metallurgy using 54kg per tonne of SO<sub>2</sub> (Sulphur Dioxide) and 25kg per tonne of H<sub>2</sub>SO<sub>4</sub> (Sulphuric Acid) at 70°C and atmospheric pressure over a 24-hour residence period yielded recoveries for test HY5350 of 80.7% Cobalt and 26.6% Nickel. Figure 1 also shows a plot of recoveries versus residence time. This testwork has shown encouraging levels of repeatability on a 5kg sample (bench scale test) and further optimisation work will take place as part of future prefeasibility/feasibility studies.



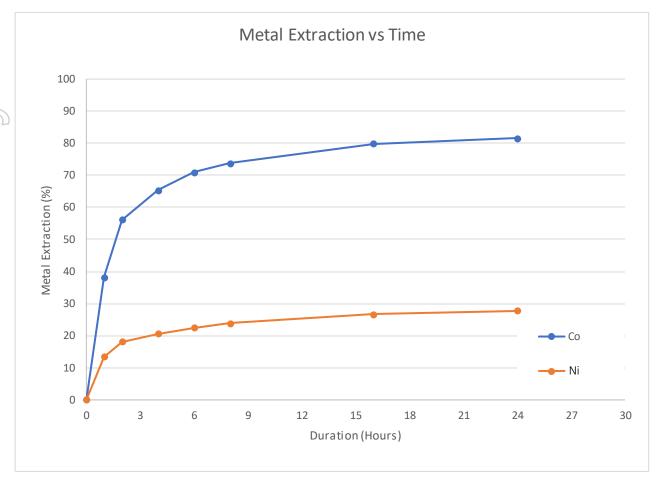


Figure 1: Graph of nickel and cobalt recoveries based on residence times for test HY5350 at 70°C and atmospheric pressure (source: ALS Metallurgy, technical report, 4 August 2017).

The low temperature and atmospheric pressure leach also lends itself to low intensity plant and equipment, in the process doing away with the need for expensive autoclaves (used in high-pressure acid leach plants) and speciality alloy or brick lined leaching tanks.

As the process engineering component of the study (which includes metallurgical testwork) is one of the key project drivers, the Mt Thirsty Joint Venture is confident of a positive study result that will justify advancing the project to the next stage.

The Scoping Study is being managed by Provide Advantage, with engineering and test work management support from consultant engineers CPC Project Design, metallurgical support from ALS Metallurgy and open pit optimisation and mine scheduling by CSA Global. This report is due later in August or early September 2017.

#### **Diggers & Dealers Presentation**

The Mt Thirsty Joint Venture is also pleased to advise that it will be making a presentation on the project at Lot 35 Bar, 193 Hannan Street, Kalgoorlie, WA, 6430 on Tuesday 8<sup>th</sup> August 2017 from 6.30pm.



## **Background on Mt Thirsty Cobalt Project**

Mineral Resource Category	Tonnes	Cobalt (Co) (%)	Nickel (Ni) (%)	Manganese (Mn) (%)
Indicated	16,600,000	0.14	0.60	0.98
Inferred	15,340,000	0.11	0.51	0.73
Total Mineral Resource	31,940,000	0.13	0.55	0.86

The Mt Thirsty Cobalt Oxide Deposit mineral resource was prepared and first reported in accordance with the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported; refer to ASX announcement 8th March 2011: "Resource Upgrade Mt Thirsty Cobalt-Nickel Oxide Deposit": available to view at <a href="https://www.conico.com.au">www.conico.com.au</a>). The Company is not aware of any new information or data that materially affects the information included in the previous announcement and that all of the previous assumptions and technical parameters underpinning the estimates in the announcement dated 8th March 2011 have not materially changed.

Mt Thirsty is one of Australia's largest known stand-alone cobalt resources at 32 million tonnes with approximately 40,000 tonnes of contained cobalt. The great advantages of Mt Thirsty compared to other potential cobalt miners is the nature of the resource, being a flat lying, continuous and thick deposit starting from near surface to around 70 metres depth. Due to intense oxidation, the deposit is very soft, fine grained and low in silica. As most of the cobalt is attached to manganese oxides, initial test work has indicated that an agitated leach process at around 40°C and atmospheric pressure will be sufficient to extract a significant portion of the cobalt. The very nature of the deposit and leaching process being pursued has the potential to translate to a very low CAPEX/OPEX operation.

Given Mt Thirsty's ideal positioning in the Southern Goldfields of Western Australia close to infrastructure including power and port access, the Joint Venture remains confident Mt Thirsty has the potential to become a major supplier to the burgeoning battery supply chain.

"The MTJV is extremely pleased with the met results now defining a pathway to the next stage of development. As well, Barra is also focussing on developing our high quality gold assets. Our dual strategy of developing our cobalt and gold assets gives the Board great confidence of delivering shareholder gains, both near and longer term."

**Gary Berrell** 

Chairman & CEO

Barra Resources Limited



#### Disclaimer

The interpretations and conclusions reached in this report are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for complete certainty. Any economic decisions that might be taken on the basis of interpretations or conclusions contained in this report will therefore carry an element of risk. It should not be assumed that the reported Exploration Results will result, with further exploration, in the definition of a Mineral Resource.

#### Competent Persons Statement

The information in this announcement that relates to Exploration Targets, Exploration Results and Mineral Resources is based on and fairly represents information compiled by Michael J Glasson, a Competent Person who is a member of the Australian Institute of Geoscientists.

Mr Glasson is an employee of Tasman Resources Ltd and in this capacity, acts as a part time consultant to Conico Ltd. Mr Glasson hold shares in Conico Ltd.

Mr Glasson has sufficient experience which is relevant to the style of mineralisation and type of the deposit under consideration and to the activity being undertaking 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. Mr Glasson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

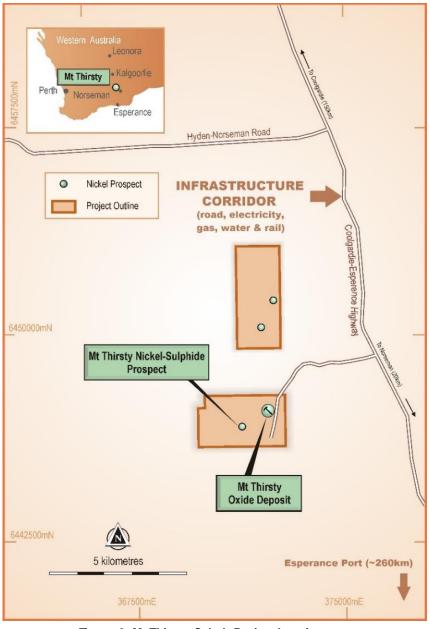


Figure 2: Mt Thirsty Cobalt Project location map



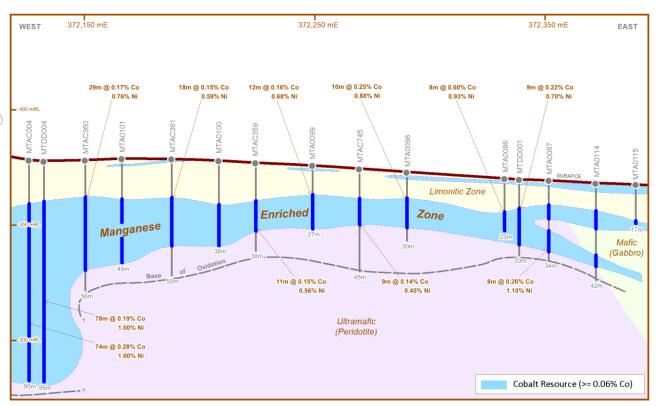


Figure 3: Representative schematic cross-section through the Mt Thirsty Cobalt - Nickel Oxide Deposit