

## EXCELLENT COBALT LEACH EXTRACTION AND IMPROVED FLOTATION RESULTS AT OPUWO

### HIGHLIGHTS

- Closed circuit floatation recoveries of 80% at a concentrate grade of up to 1.5% Cobalt.
- Leach extractions of over 95% Cobalt and 94% Copper.
- Modest leach temperature of 115 degrees Celsius, at relatively low total pressures of below 1.0 Mpa(g).
- Simple mineralogy confirmed; cobalt is present as linnaeite and copper as chalcopyrite.
- High leach extractions of copper and cobalt in a sulfuric acid medium permit production of cobalt sulfate and copper metal using standard processes.

Celsius Resources Limited ("Celsius" or "the Company") is pleased to provide an update on metallurgical test results from its 95% owned Opuwo Cobalt Project ("Project") in Namibia.

#### Floatation Testwork

The latest results with optimized floatation parameters now show recoveries of up to **62.7%** at **1.84%** Cobalt grade with open circuit tests. This compares to previous results reported on 30 November 2017 of 64.2% recovery at 1.11% Cobalt grade.

Using common modeling to predict closed circuit performance, indications are that **80%** Cobalt recovery at **1.5%** can be achieved. Further work will be required to established economical optimised floatation parameters, which will consider grinding costs and downstream leach processing requirements.

#### Leaching Testwork

Employing an approximately 1.0% Cobalt grade floatation concentrate, 8 different leach regimes were explored, ranging from 95°C (atmospheric leach) to 200°C (pressure leach).

**Cobalt extractions** in all autoclave oxidative leaches were typically **greater than 95%** at autoclave temperatures of 115, 135 and 155°C, and **800 kPa** oxygen pressure. These consistent leach results indicate that high extractions could be achieved at an autoclave temperature lower than 115°C (to be demonstrated with further testing).

**Copper extractions** in these leaches were simultaneously high, and typically **greater than 94%**.

Leach extraction for an oxidative leach test at 95°C indicated that long leach times (+24 hours) achieved a yield extraction in the 70-75% range, whereas an autoclave oxidative process had significantly shorter leach retention with much higher recoveries.

Sulfuric acid consumption was modest. Further optimisation of leach reagents parameters will be carried out, and requirements calculated for integrated closed circuit conditions.

Celsius is extremely satisfied with the excellent floatation recoveries and leach extractions achieved thus far for both cobalt and copper. The data confirms that the mineralisation is amenable to very good extractions of the two major value metals.

Demonstrated high leach extraction of both cobalt and copper in a sulfuric acid medium suggests that the classical processes of **copper SX-EW (Solvent extraction, electrowinning)** and **cobalt sulfate crystallisation** can be employed to produce saleable products.

Recently completed metallurgical test work will form the basis for the Process and Engineering design required to complete an initial Scoping Study during Q2 of 2018, supported by a maiden JORC Mineral Resource.

### About the Opuwo Cobalt Project

Celsius is aiming to define a long life, reliable source of cobalt at Opuwo. The Company considers the Project to have the following advantages:

- Large scale.
- Favourable mineralogy: cobalt and copper sulphide minerals.
- Low in deleterious elements: notably arsenic, cadmium and uranium.
- Mining friendly, politically stable and safe location with excellent infrastructure.
- Cobalt: best exposure to lithium ion battery boom.

The Opuwo Cobalt Project is located in northwestern Namibia, approximately 800 km by road from the capital, Windhoek, and approximately 750 km from the port at Walvis Bay (Figure 1). The Project has excellent infrastructure, with the regional capital of Opuwo approximately 30 km to the south, where services such as accommodation, fuel, supplies, and an airport and hospital are available. Good quality bitumen roads connect Opuwo to Windhoek and Walvis Bay. The Ruacana hydro power station (320 MW), which supplies the majority of Namibia's power, is located nearby, and a 66 kV transmission line passes through the eastern boundary of the Project.

The Opuwo Project consists of four Exclusive Prospecting Licences covering approximately 1,470 km<sup>2</sup>.

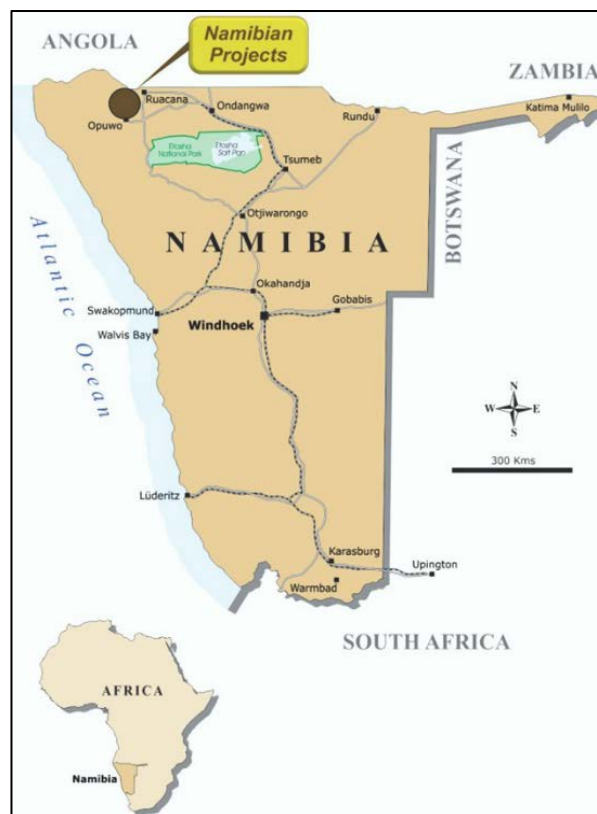


Figure 1: Location of the Opuwo Cobalt Project, Namibia

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## Competent Persons Statement

*Information in this report relating to Exploration Results and Exploration Targets is based on information reviewed by Mr. Brendan Borg, who is a Member of the Australasian Institute of Mining and Metallurgy and Managing Director of Celsius Resources. Mr. Borg has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Borg consents to the inclusion of the data in the form and context in which it appears.*