

ASX announcement

8 July 2021

Nyungu Copper-Cobalt Drilling to Commence in July 2021 – Field Preparations Underway

Argonaut Resources NL (ASX: ARE) (*Argonaut* or the *Company*) is pleased to announce that field operations have commenced in preparation for commencement of drilling at the Nyungu copper-cobalt deposit in North-western Zambia during July 2021.

The Nyungu copper-cobalt deposit is part of Argonaut's 90% held Lumwana West project, located between Barrick Gold's Lumwana mine and First Quantum Mineral's Sentinel mine in Zambia (Figure 1).

Highlights

- A drilling program targeting copper and cobalt mineralisation will commence during July 2021.
- The Nyungu deposit is confirmed by 50+ drill holes.
- The deposit has a 1,700m strike length and is open to the north and south (Figure 3).
- The drilling program is designed to expand the scale of the Nyungu deposit and to provide data for resource estimation and metallurgical testing purposes of the shallow copper-cobalt oxide of the deposit.
- Earthmoving contractors have commenced the construction of an all-weather road for drilling rig access to the Nyungu copper-cobalt deposit.
- The shallower portions of the Nyungu deposit offer potential for low cap-ex, near-term heap leach operation followed by long-term production of copper concentrate.

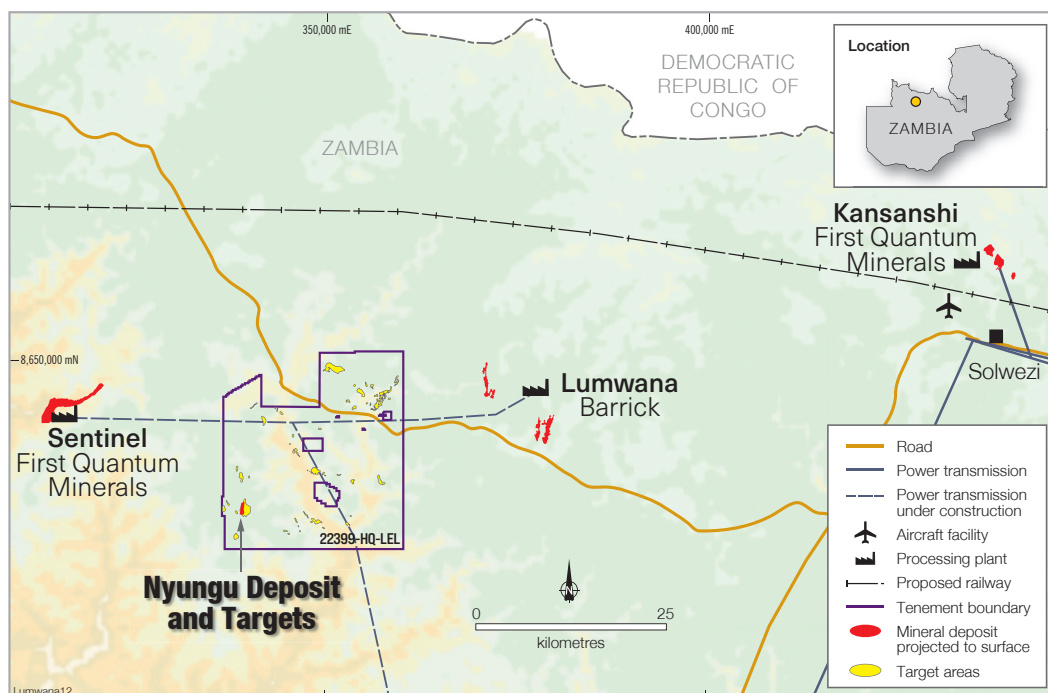


Figure 1 The Nyungu deposit is located near several major copper mines and relevant infrastructure.

Resource Drilling with Exploration Upside

“The 2021 Nyungu deposit drilling program will have a dual-purpose: exploration drilling that aims to uncover significant new zones of copper and cobalt mineralisation, and infill drilling for Resource estimation purposes.

Argonaut has defined two exploration drilling targets that have the potential to materially increase the Resource-base at Nyungu.” Argonaut Director and CEO, Lindsay Owler.

Exploration Drilling

Nyungu Central

The Nyungu Central deposit is open along-strike to the north and south (Figure 3). Argonaut plans to test these potential extensions to known mineralisation with a view to increasing tonnages for future Resource estimation.

Nyungu South

The Nyungu South deposit (Figure 2) sits in a location where a copper soil anomaly and an IP geophysical anomaly (i.e. a zone that may contain disseminated sulphide minerals) are coincident. The IP anomaly continues to the northwards from the soil anomaly over a significant area. This extension to the IP anomaly is untested and will be drilled by Argonaut in 2021.

Resource Drilling

Indicated JORC Resource

Existing drilling by Argonaut at Nyungu Central and Nyungu South (Figure 3) was conducted using a drill-traverse spacing of 200m. This drilling revealed excellent grade and geometry continuity between traverses at Nyungu Central but was too widely spaced to facilitate the conversion to Indicated Resource category. The drilling of infill traverses spaced approximately 100m apart are expected to allow Argonaut to estimate the tonnage and grades at Nyungu to JORC Resource standards.

Oxide-Zone Resource

The earlier drilling by Argonaut at Nyungu targeted fresh copper sulphide mineralisation at depth via angled drilling. No early drill holes targeted near-surface oxide mineralisation. This has left a gap in the Company’s understanding of the oxide zone and affected its ability to progress metallurgical testwork on potentially significant parcel of copper ore. The 2021 drilling program aims to address these matters by specially targeting drilling in interpreted near-surface oxide zones (Figure 4). Results from this program and metallurgical leach testwork that will follow will affect the economics of production in first 5 to ten years.

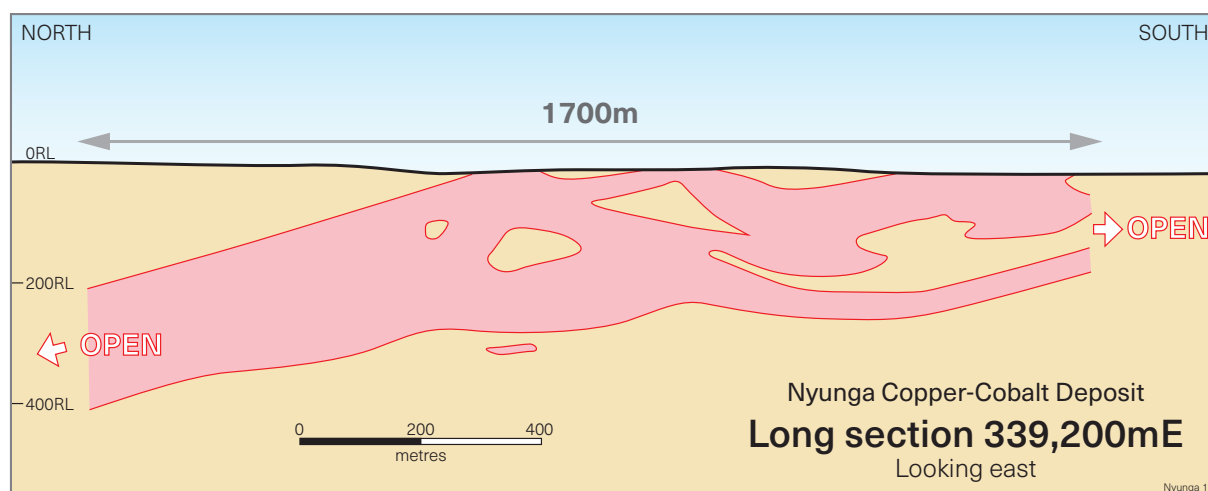


Figure 2 Nyungu Central long section showing copper mineralisation.

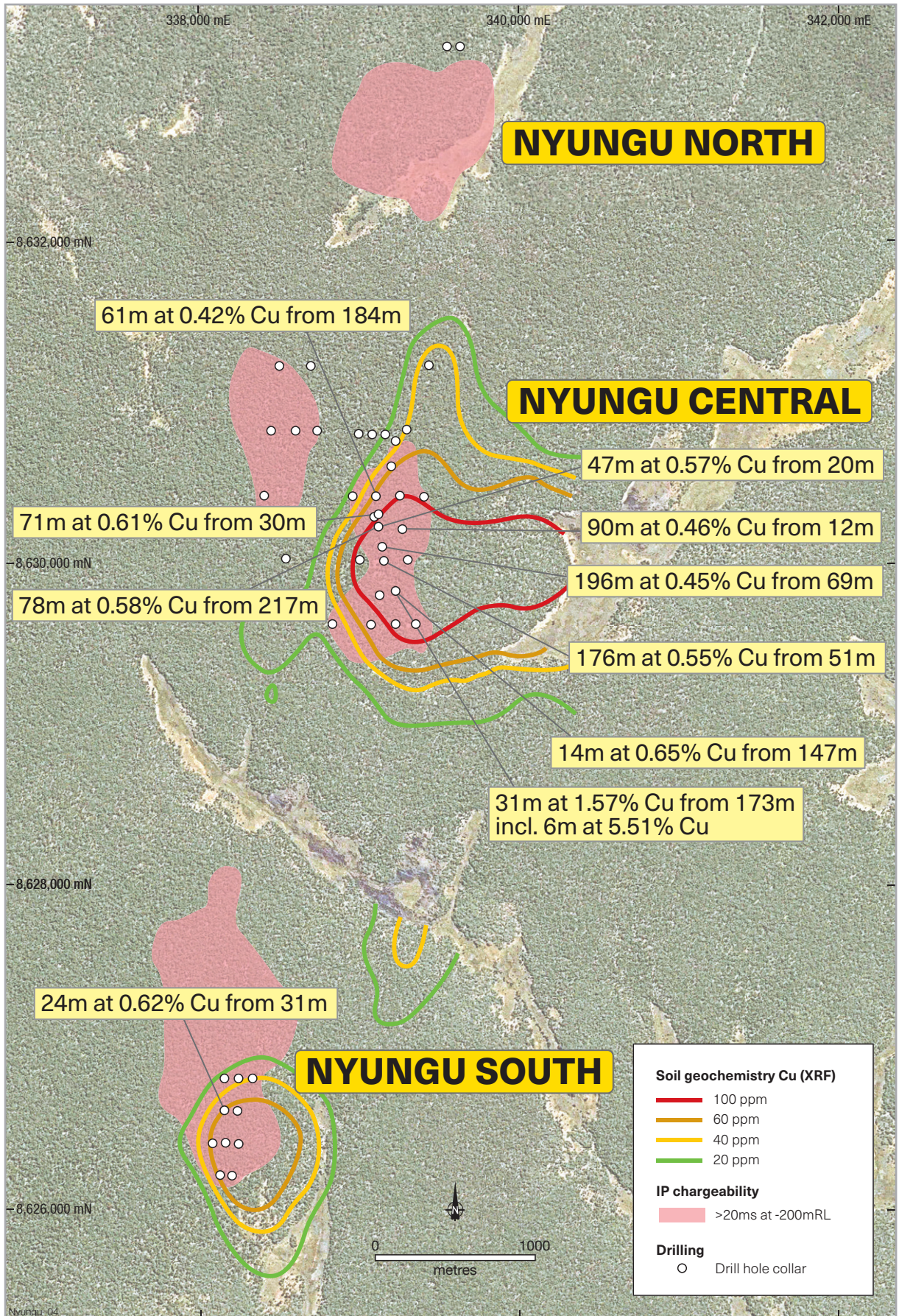


Figure 3 The Nyungu Central and Nyungu South deposits are defined by broad copper intercepts.

Drilling Program

The exploration drilling program will initially involve 1,600m of diamond drilling targeting the extension to Nyungu Central and Nyungu South mentioned above.

The Resource drilling program will involve 1,200m of diamond drilling initially targeting near-surface oxide material. This drilling will provide metallurgical sample for imminent testwork.

The 2021 drilling program is budgeted to cost A\$2,000,000.

The drilling program will be jointly managed by African Mining Consultants (AMC), Thomas Rogers and Argonaut Resources' staff based in Adelaide, Australia. Thomas Rogers jointly received the prestigious Thayer Lindsley Award in 2015 from the Prospectors & Developers Association of Canada (PDAC) for the discovery of the Kamoa Copper Deposit in the Democratic Republic of Congo (DRC).

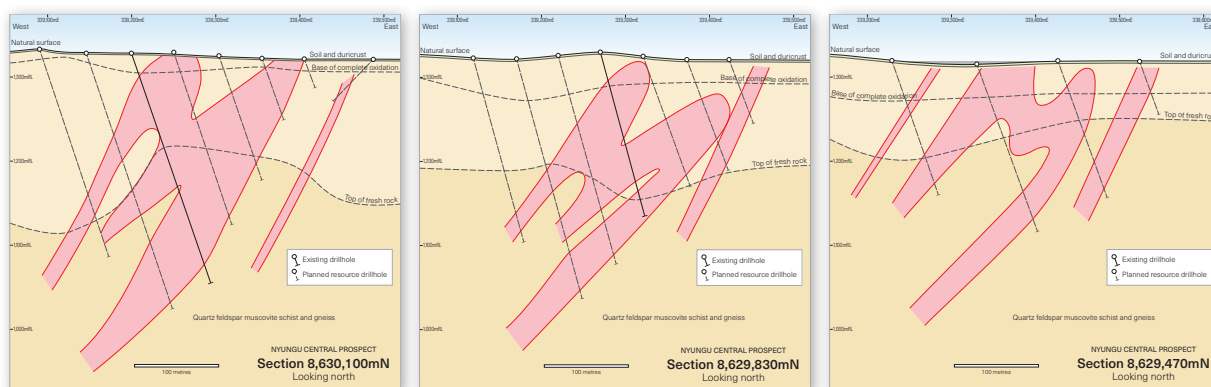


Figure 4 Nyungu Central cross sections showing existing and planned drill holes.

Copper and Cobalt Exploration Targets

Argonaut has previously estimated Exploration Targets for both copper and cobalt mineralisation at Nyungu using an independent consultancy. These estimations are shown below in Table 1.

Table 1 Nyungu Exploration Target

Commodity	Tonnage Range (Mt)	Grade Range (%)	Contained Metal Range (kt)
Copper*	130 to 180	0.45 to 0.65	580 to 1,150
Cobalt^	15 to 20	0.08 to 0.12	12 to 24

* Copper Exploration Target announced to the ASX by Argonaut on 9 April 2013.

^ Cobalt Exploration Target announced to the ASX by Argonaut on 27 March 2017.

Both Exploration Targets are estimated to JORC standards.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Earthworks

Previous drilling campaigns at Nyungu were undertaken during the Zambian dry season (May to November). Upgrades to the drilling access track being made in June and July 2021 include the installation of box culverts at major creek crossings and the sheeting of the track using laterite. These upgrades will improve access conditions in both the dry and wet seasons in the event Argonaut elects to continue drilling past the commencement of rains in November 2021.

Metallurgical Testwork

Argonaut has been testing the metallurgical properties of oxide, transitional zone and fresh (sulphide) ores for the past 18 months. This information is driving the development of process flowsheets and scoping economic studies into the various processing options.

The metallurgical testwork program is extensive. Argonaut has completed testing of the following properties: mineralogy, comminution, flotation and oxidation (including both roast/leach and Albion process). The Company is currently completing a suite of orientation leach tests on small samples of oxide and transitional ores. Future tests will include large-scale leach tests and solvent extraction/electrowinning (SX/EW) tests.

Mining Study

A preliminary open pit optimisation study was conducted for the Nyungu Central and Nyungu South deposits. The modelling was for copper production only, using costs from similar mines. The results were highly encouraging.

Modelling shows excellent deposit geometry via a very low stripping ratio (Figure 5).

- **Stripping ratio of 1.5 to 1** for the optimum pit at the current copper price; and
- Stripping ratio of 2.3 to 1 for depths greater than 300m at 150% of the current copper price, indicating the deposit has a low sensitivity to stripping ratio.

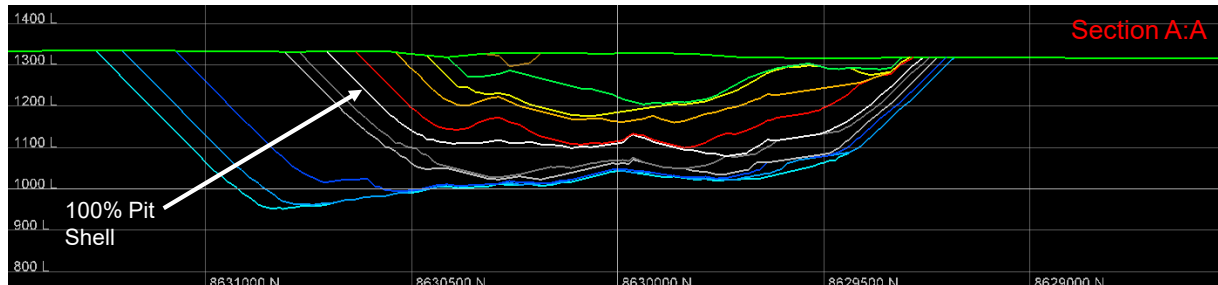


Figure 5 Nyungu Central long-section, looking east. Preliminary pit optimisation open pit shells. White shell has a stripping ratio of 1.5 to 1 and reflects the optimisation at US\$7,151. The light blue shell has a stripping ratio of 2.3 to 1 and is economic at 150% of that price.

Mineral Processing

The conceptual mineral processing flowsheets for a two-stage operation are shown below. Stage one involves oxide and transitional zone ores. Stage two involves the fresh, predominantly chalcopyrite ore in the deeper primary zone. Two alternative processes are shown for the second stage. One involves the production of copper metal and cobalt hydroxide and the other involves the sale of copper concentrate to local smelters.

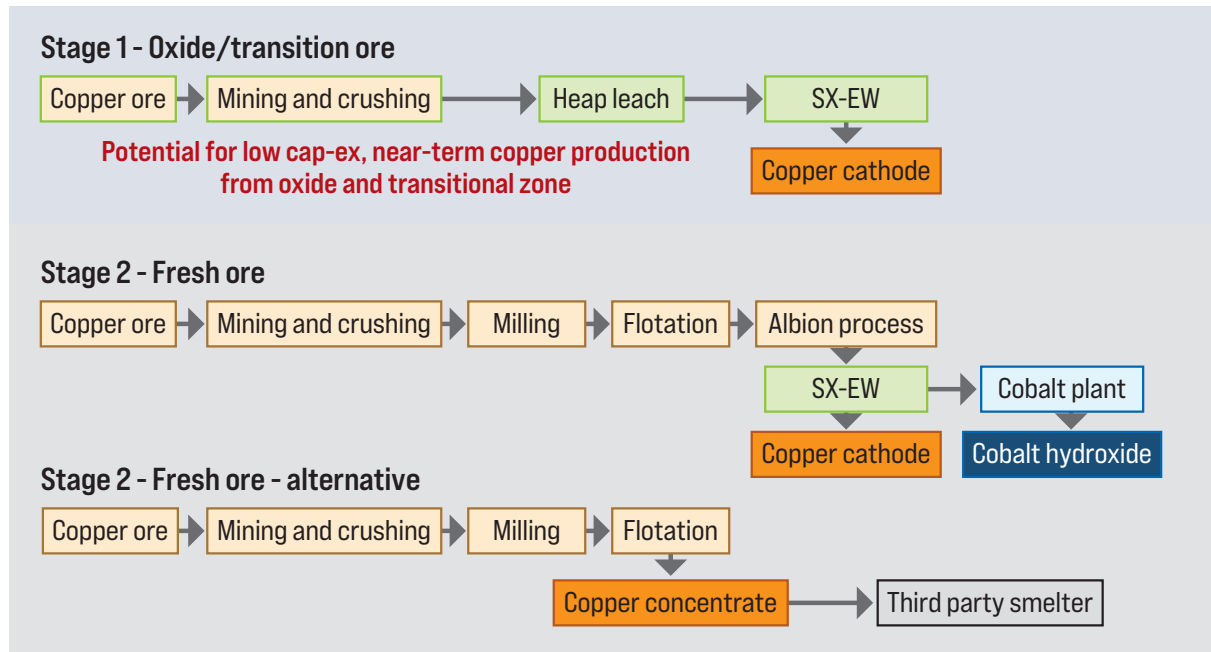


Figure 6 Conceptual mineral processing flowsheet for a two-stage operation at Nyungu.

Cobalt Production Impediments – why Zambia?

Recent battery-related demand for cobalt has exposed the fragile nature of cobalt supply. Over 70% of the world's cobalt is coming from the DRC, one of the world's riskiest and most opaquely administered mining jurisdictions.

There are two main reasons why the majority of the world's cobalt supply comes from the DRC: mineral endowment and favourable metallurgy.

Southern DRC and North-western Zambia (including the Zambian Copperbelt) cover the geological domain known as the Central African Copperbelt. Deposits in both countries commonly contain cobalt.

Of the 190 countries assessed for 'ease of doing business' by the World Bank in 2019, Zambia ranked 85. DRC ranked near the bottom at 183. Zambia is a far safer and lower-risk jurisdiction that benefits from political stability, robust mining law and functioning courts.

Other countries with significant cobalt endowment include Australia (nickel-cobalt laterites) and Canada (polymetallic copper-nickel-cobalt). The main reason cobalt production lags in these countries is metallurgy. The processing of cobalt in Australia and Canada is either metallurgically complex or prohibitively expensive (or both).

Zambia represents a blend of lower political risk, excellent mineral endowment and favourable metallurgy.

About Argonaut

Argonaut Resources NL is an Australian Securities Exchange listed exploration and development company focused on the Murdie copper project in South Australia and copper development at the Nyungu copper-cobalt deposit at the Lumwana West project in North-western Zambia.

Authorised for release by:

Lindsay Owler

Director and CEO

ARGONAUT RESOURCES NL

Sections of information contained in this report that relate to Exploration Results were compiled or supervised by Mr Lindsay Owler BSc, MAusIMM who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Argonaut Resources NL. Mr Owler holds shares and options in Argonaut Resources NL, details of which are disclosed in the Company's 2020 Annual Report. Mr Owler has sufficient experience which is relevant to the style of mineral deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr Owler consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.