

Wingellina Advances Metallurgical Testwork

Nico Resources Limited (“**Nico**” or the “**Company**”) (ASX: NC1) is pleased to provide an update on its current metallurgical testwork program. The latest works are part of a definitive program of Metallurgical Engineering aimed at underpinning a Definitive Feasibility Study (“**DFS**”) for development of the world-class Wingellina Nickel-Cobalt Project (“**Wingellina**” or the “**Project**”) located in Western Australia.

Wingellina is a world-class oxide-type nickel cobalt deposit which hosts an initial reserve of 1.56 million tonnes of contained nickel capable of producing approximately 40,000t of nickel and 3,000t of cobalt in a Mixed Hydroxide Precipitate (“**MHP**”) for at least 42 years. A detailed pre-feasibility study¹ (“**PFS**”) completed on the Project in December 2022 confirmed a globally significant Tier 1 asset, characterised by its long life, low cost and high operating margins.

The results received from this comprehensive testwork program continue to confirm all previous metallurgical testwork and show that Wingellina ore has characteristics that are particularly well suited to processing by High Pressure Acid Leach (“**HPAL**”) which results in high metallurgical recoveries and low reagent usage. Moreover, the recent technological advancements in HPAL technology and the additional testwork completed confirms that additional operating benefits are likely available which can provide a reduction in both operating and capital costs.

Due to the current depressed capital market conditions, the Company has stopped short of commencing the intended start of a continuous pilot testwork program. This program will be reconsidered following the completion of the current bench scale metallurgical testwork program.

The Company notes green shoots appearing in the nickel market and considers that prices have begun to recover to levels where large scale, long life and low cost projects such as Wingellina provide relevant economic returns and appeal as dependable projects for stable nickel supply.

Highlights

Additional bench scale metallurgical testwork has continued to confirm the technical viability of utilising the HPAL process to produce MHP from the Wingellina deposit, including relatively low rates of acid consumption and excellent leaching kinetics.

- Bulk HPAL slurry was produced to investigate the conditions required downstream for successful nickel and cobalt recovery from the liquor.
- Primary neutralisation (“**PN**”) conditions with nickel losses of less than 1% can be achieved.
- Neutralised leach residue thickening achieved up to 50 wt% solids which is at the higher end of similar nickeliferous oxide-type deposits. This will result in a continuous counter-current decantation

¹ See ASX Announcement 22 December 2022 “PFS confirms Wingellina as a Tier 1 project capable of supplying decades on Nickel and Cobalt”.

("CCD") train with high nickel recoveries and accordingly will have a modest positive impact on capital and operating costs.

- First-Stage Secondary Neutralisation ("SN1") conditions with less than 2% nickel losses can be achieved while removing iron and aluminium impurities.
- A bench scale test work program has commenced to assess the beneficiation and leaching potential of transitional ore for potential incorporation into the process flowsheet. This testwork, if successful, will provide additional metal units and neutralisation capacity which will have an additional positive impact on production and costs.

The Current Metallurgical Program

During the second half of 2023 Nico embarked on a testwork program with the objective of generating sufficient data to underpin a DFS level flowsheet and engineering design for the Project. The Wingellina deposit is a large nickel-cobalt reserve² with predominantly high-iron limonite ore, which is ideally suited for processing by HPAL. The processing flowsheet consists of ore scrubbing and beneficiation, HPAL, neutralization, CCD, two-stage secondary neutralisation for iron and aluminium impurity removal, MHP precipitation, tailings neutralization and storage. The initial sample preparation and bench scale test programs commenced in September 2023 with the objective of confirming the flowsheet and process design criteria for a pilot plant campaign on a bulk sample. The main test program is being undertaken at the ALS Metallurgy laboratories in Perth.

Samples for testwork

Samples for limonite testwork were sourced from a Bauer drilling campaign conducted in 2013. During this campaign four 30 metre holes were drilled to generate bulk samples for metallurgical testwork. Holes three and four were selected as sources for the current program since they represented areas of the deposit that were identified for early processing during prefeasibility studies.

Representative samples from the nearby Lewis calcrete deposit were collected from Reverse Circulation ("RC") drilling pulps. The representative composite assayed 64% CaCO₃.

Outcomes

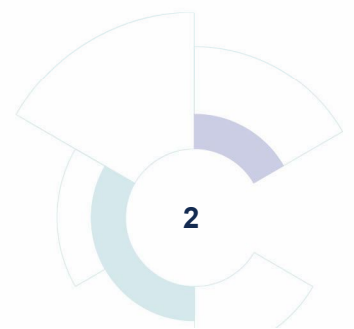
Salient results of the testwork recently conducted are presented below and are in addition to the previous announcement "Wingellina Metallurgical Testwork Update" released to the ASX on 23 January 2024.

Hydrometallurgical Bench Scale test work

On-going programme of batch HPAL leaches has been undertaken to confirm acid addition, temperature, and kinetic parameters:

- Leaching temperatures in the range of 245 °C to 260 °C.
- Nickel and cobalt extractions of 95% or higher were achieved.
- The addition of minor amounts of sulphur was successful in reducing chromium extraction.

² Ore reserves of 168.4 million tonnes at 0.93% Nickel and 0.07% Cobalt.



- Acid requirements are typically at the lower end of expectations (see Figures 1 and 2) and below that assumed in the PFS.
- Additional analysis to determine the optimum leaching temperature is on-going but is expected to be in the range of 250 °C to 260 °C.

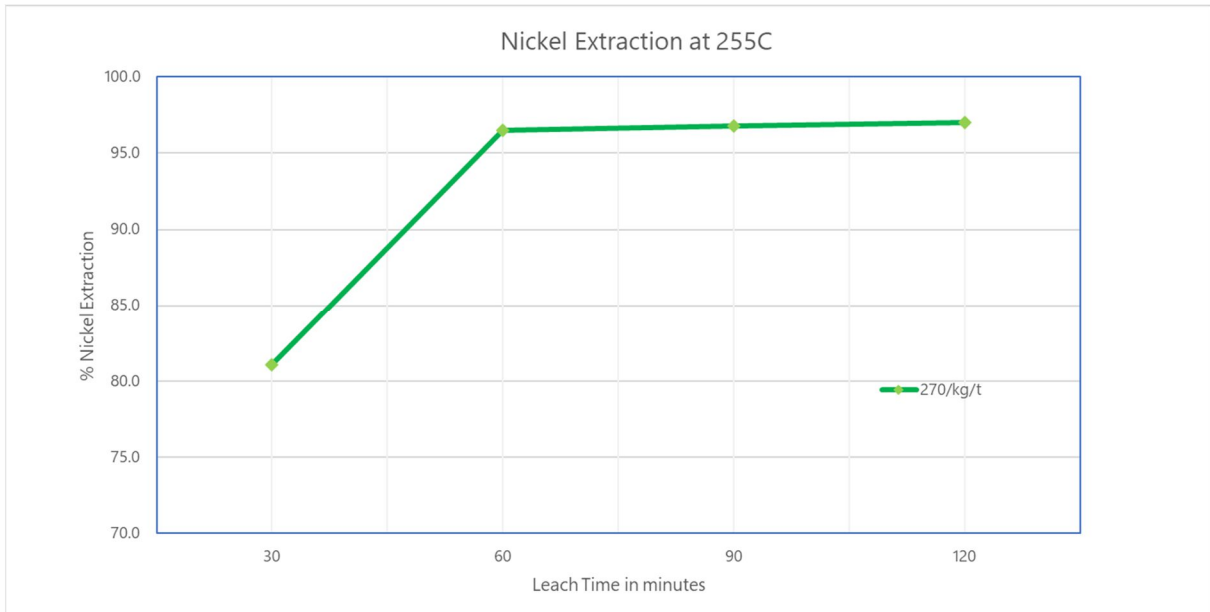


Figure 1: Typical Nickel Extractions at 255 °C and 270 kg/t acid

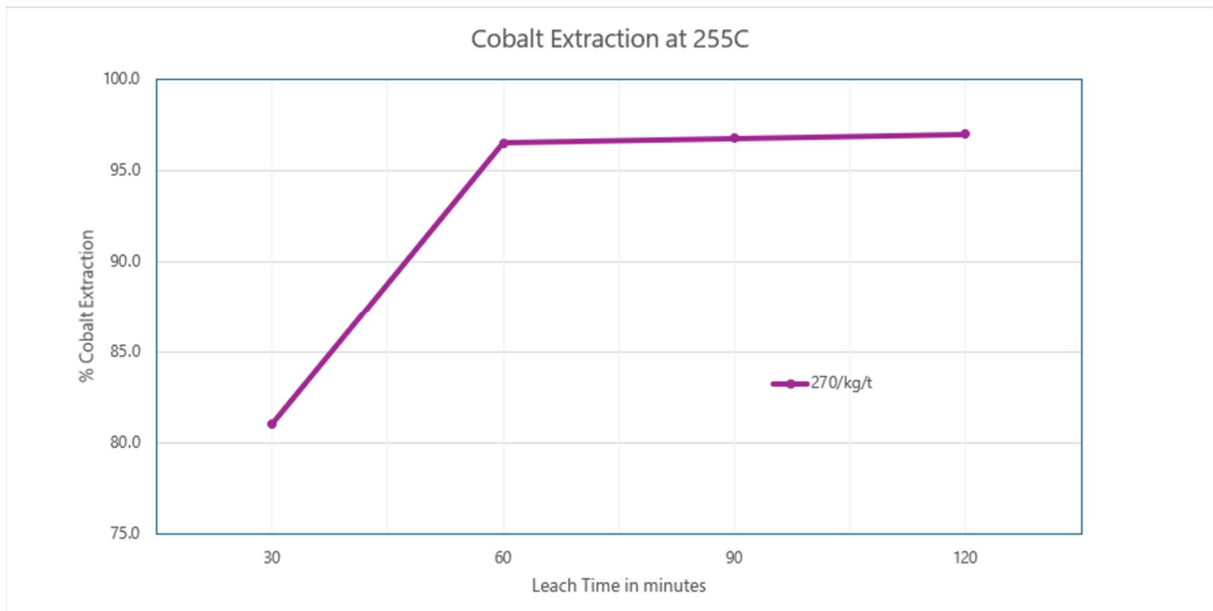


Figure 2: Typical Cobalt Extractions at 255 °C and 270 kg/t acid

Sufficient bulk HPAL leaches have been conducted to generate slurry for downstream testing. Current ongoing testing includes verification of the performance criteria for PN, CCD, SN, MHP precipitation, nickel and cobalt scavenging and manganese removal.

Material from the Lewis calcrete resource, located around 30 kilometres from Wingellina, was used in all neutralisation testwork. The results from the use of Lewis calcrete have further confirmed the viability of its use in the proposed HPAL circuit at Wingellina. This is a major advantage of the project to have a large resource of neutralising material located in very close proximity to the proposed plant.

Testwork downstream of HPAL included:

- PN metal precipitation vs pH.
- PN kinetic tests to select the optimal reaction time and pH, to remove iron and aluminium from the liquor with nickel losses of less than 1%.
- Rheological testing of PN discharge slurry:
- The slurry yield stress at 50% solids is less than 100 Pa and comfortably within the operating range of centrifugal pumps.
- CCD1 flocculant screening tests were successfully completed. Optimum flocculant types and dosage was typical for an oxide-type deposit.
- SN metal precipitation vs pH test completed.
- SN1 kinetic tests completed. Results achieved assist in the selection of an appropriate reaction time and pH that maximises aluminium precipitation while minimising nickel losses to less than 2%.
- SN1 bulk test completed to confirm performance at selected pH condition and to produce solids for further testing.
- SN1 conditions used resulted in aluminium precipitation of 83% and <1% nickel loss.
- SN2 kinetic test completed. Results assist in the selection of a reaction time and pH for complete aluminium removal and ensure that a pure liquor progresses to Mixed Hydroxide precipitation.
- SN2 bulk test completed to confirm performance at selected pH conditions and to produce solids for further testing.
- Future tests will leach SN2 precipitate under recycle re-leach conditions.

Transitional Ore

Transitional ores form a minor component of the Wingellina resource and represent around 5% of the total Wingellina resource³. A bench scale test work program has commenced to assess the beneficiation and leaching potential of transitional ore for potential incorporation into the process flowsheet. The overall feed contribution of transitional ores would be minor but would provide additional metal units and neutralising capacity.

- Transitional ore samples were successfully separated by size, to produce a fine fraction, suitable as HPAL feed, and a coarse fraction with useful neutralising properties.
- HPAL tests successfully completed on 3 samples which resulted in nickel and cobalt extractions of around 95%. Results will be used to optimise transitional ore feed into the HPAL circuit.
- Acid neutralisation test completed on 10 oversize samples to determine ability to minimise calcrete addition. Results as anticipated, with acid neutralised capacity of course material typically in excess of 500 kg H₂SO₄ /t.

³ Total mineral resource of 182.6 million tonnes at 0.92% Nickel and 0.07% Cobalt.



Calcrete and Quicklime from Lewis Calcrete Deposit

As a neutralising agent is critical to the metallurgical process and comprises a material cost for processing, significant effort was previously undertaken to delineate a nearby source of appropriate material. The Lewis Calcrete Deposit is a substantial calcrete resource located approximately 30 kilometres north of Wingellina and appears of sufficient size and quality to supply calcrete to the project for the life of mine. The use of Lewis Calcrete enables significant savings in the purchase of calcium carbonate and transport of calcium carbonate minerals such as limestone to the processing plant.

The following testwork was undertaken to establish the viability of using Lewis Calcrete as a neutralising agent and as a source of material that can be converted to quicklime (Lewis Quicklime).

- Lewis calcrete was utilised in acid neutralisation capacity (“**ANC**”) tests simulating neutralisation conditions and resulted in an acid neutralisation capacity of 642 kg H₂SO₄ / tonne of calcrete. This result is consistent with the calcium and magnesium carbonate contained within the calcrete.
- ALS conducted slaking tests on pilot plant generated quicklime, which confirmed the bench scale results generated at Simulus Laboratories in previous testwork.
- ANC tests on slaked lime generated at pilot plant scale confirmed previous results produced during bench scale tests.
- The Lewis Quicklime has been proven to be a viable alternative to commercially produced quicklime and results in substantial operating cost benefits for the project.
- Rheology tests for Lewis Quicklime slaked and screened at 106 micron were conducted, producing rheology results equivalent to commercially produced quicklime.
- Following the successful tests on Lewis Quicklime, slaked lime was produced for use in nickel and cobalt scavenging, and manganese removal.

Ongoing Works

Ore Preparation

Small scale scrubbing tests have highlighted the presence of agglomerates in some samples. Tests using 50 kg samples of the high agglomerate containing material have been successful in reducing the agglomerate content to less than 1% of ore feed mass. Additional batch scrubbing tests will be conducted to further reduce agglomerate content.

The results will be used to design a continuous ore preparation pilot plant, which will provide feed material for the HPAL pilot plant. Data from the continuous ore preparation plant will be used for the final plant design.

Recycle Releach

Secondary Neutralisation produces a precipitate that contains modest quantities of co-precipitated nickel and cobalt. To improve overall metal recovery, this precipitate will be re-leached in acidic slurry exiting the HPAL circuit. Tests will be conducted to determine the efficiency of this process.



Primary Neutralisation Stress Test

PN tests will be conducted on slurries spiked with aluminium to collect data on neutralisation of high aluminium liquors within the PN system, to simulate solution build-up due to processing recycle streams. This will ensure the PN system has the capacity to handle recycle streams containing aluminium.

Mixed Hydroxide Precipitation Test Work

In the current quarter the purified Secondary Neutralisation liquor will be treated with caustic calcined magnesia, to precipitate a mixture of nickel, cobalt, and manganese as MHP. The objective of the testwork is to determine the conditions required to produce a saleable Mixed Hydroxide Product.

Scavenger Precipitation Test Work

MHP discharge liquor will be treated with slaked lime produced from Lewis calcrete, to precipitate the remaining nickel and cobalt. The objectives of the testwork are to determine the conditions required to maximise nickel and cobalt precipitation while optimising manganese co-precipitation.

Manganese Removal Test Work

Nickel free liquor from the MHP testwork will be treated with Lewis slaked lime, to precipitate manganese from the liquor, prior to its use as wash water in the CCD train.

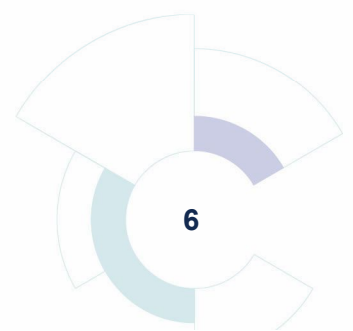
Pilot Plant testing

Organisation of hydrometallurgical piloting and bulk sample preparation was scheduled to commence on completion of the bench scale testwork. As previously stated, this pilot plant campaign will be delayed.

Jonathan Shellabear, Nico's Managing Director commented:

"We are pleased with these outstanding outcomes and their importance in continuing to advance Wingellina to be a development ready project. We know from the PFS that if Wingellina was developed and operational prior to the recent nickel price rout, the Project still would have generated robust free cash at the market lows.

This is a great stress test for a project of this magnitude and scale. We continue to press forward in readiness for the next phase. We have to be patient, but we do so in the belief that Wingellina is world class in size and grade, has a long life in excess of 40 years and it remains one of very few major undeveloped oxide-type nickel-cobalt deposits in the world. These deposit types have now become the most dominant contributor of nickel supply to assist in the long-term global energy transition."



Forward-looking statements:

This announcement contains certain forward-looking statements. Forward-looking statements are statements that are not historical and consist primarily of projections — statements regarding future plans, expectations and developments. Words such as “expects”, “intends”, “plans”, “may”, “could”, “potential”, “should”, “anticipates”, “likely”, and “believes” and words of similar import tend to identify forward-looking statements. All statements other than those of historical facts included in this announcement are forward-looking statements, including, without limitation, statements regarding plans, strategies and objectives, anticipated production and expected costs and projections and estimates of ore reserves and mineral resources. Indications of, and guidance on future earnings, cash flows, costs, financial position and performance are also forward-looking statements.

Forward-looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to, exploration, development and operational risks. No independent third party has reviewed the reasonableness of any such statements or assumptions. None of the Company, their related bodies corporate and their respective officers, directors, employees, or advisers represent or warrant that such Forward Statements will be achieved or will prove to be correct or gives any warranty, express or implied, as to the accuracy, completeness, likelihood of achievement or reasonableness of any Forward Statement contained in this release.

The Company does not undertake any obligation to release publicly any revisions to any forward-looking statement to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws. Recipients should form their own views as to these matters and any assumptions on which any of the Forward Statements are based and not place undue reliance on such statements.

This announcement has been authorised for release by the Board.

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