



ASX Announcement

LAKE JOHNSTON ENGINEERING SCOPING STUDY COMPLETED

27 January 2022

HIGHLIGHTS

- Lake Johnston processing circuit and associated infrastructure could be refurbished for an estimated cost of \$31 million
- The operating cost for the process facility is estimated at approximately \$36 per tonne based on a throughput rate of 0.9 million tonnes per annum
- The refurbishment is estimated to take approximately seven months to complete

Poseidon Nickel (ASX: POS, “the Company”) is pleased to report the outcomes from the Scoping Study on the estimated capital and operating costs for the refurbishment and operation of the Lake Johnston processing plant and associated infrastructure by GR Engineering Services Limited (“GRES”) (ASX Code GNG).

Managing Director and CEO, Peter Harold, commented: *“The results from the Scoping Study demonstrate that the Lake Johnston plant could be refurbished for a very modest \$31 million over a seven month period. Similar to the Black Swan Project, the estimated refurbishment costs and time are a fraction of what it would take to build a new processing plant and the associated infrastructure such as the 200 person village, tailings dam, airstrip, etc.*

We see Lake Johnston as our next nickel sulphide mining and processing operation which could come on stream sometime after we recommence operations at Black Swan. If we can get both Black Swan and Lake Johnston back into production we could achieve one of our stated corporate objectives of producing at least 15,000 tonnes per annum of nickel in concentrate.”

DETAILS

Background

GRES has provided Poseidon with capital and operating cost estimates for the refurbishment and operation of the ore treatment circuit and associated infrastructure at Lake Johnston to a +/- 20% level of accuracy. GRES was chosen to undertake the Scoping Study due to their experience in the construction and refurbishment of these type of plants and their work for the Company on previous studies. To assist with their work on the Scoping Study, GRES conducted a site visit over three days in October 2021 to evaluate the condition of the plant and associated infrastructure.

The plant started operating in 1998 with the original Lake Johnston concentrator treating ore from the Emily Ann underground nickel mine. In total 1.5 million tonnes of ore was mined and processed from Emily Ann at an

average grade of 3.8% nickel delivering 57,000 tonnes of contained nickel between 1998 and 2007. There have been a number of expansions since then with the most recent being a major expansion to 1.5 million tonnes per annum throughput capacity in 2006 to treat ore from the Maggie Hays underground mine. The Maggie Hays deposit was brought online in 2007 with a resource of 12.3 million tonnes at 1.5% nickel for 182,000 contained nickel and mined and processed between 2008 and 2013. The plant was refurbished in 2011 before being placed on care and maintenance in 2013.

In 2017, all infrastructure was removed from the Maggie Hays mine and the workings were allowed to flood. The water is currently ~60 metres from surface. In 2020, mining consultants Entech generated a plan and costing of dewatering the workings, rehabilitation of submerged ground support and reinstallation of required infrastructure. The estimated capital cost is \$26.4 million, and the expected duration of these works is 22 months.

Based on previous mining studies undertaken on mining the remaining Maggie Hays orebody the GRES Scoping Study was based on a maximum throughput of 0.9 million tonnes per annum.



Figure 1 – Lake Johnston Primary Mill

Capital cost estimates

GRES estimated that the cost to refurbish the plant and associated infrastructure (including engineering, procurement, construction and management costs) to be approximately \$31 million. Estimated refurbishment schedule is seven months, which assumes power supply (historically diesel generators owned and operated by an external provider) can be supplied and installed within this period.

The following is a list of exclusions from the capital cost estimate:

- Power supply
- Conveyor covers

- Painting - blast and prime only

Operating cost estimates

An operating cost estimate of \$36.04 per tonne was determined by GRES at a processing capacity of 0.9 million tonnes per annum. Ore will be treated through the existing crushing, grinding and flotation circuit of the Lake Johnston plant to produce a nickel concentrate. A breakdown of operating costs is detailed below:

Cost Centre	Cost Estimate A\$ per tonne
Power	15.43
Maintenance Spares & Consumables	1.17
Operating Consumables	4.56
Labour	11.05
Other	3.83
Total	36.04

Table 1 – Lake Johnston Estimated Operating Costs

Discussion

While the Company is focused on restarting the Black Swan Project, Lake Johnston could be restarted once Black Swan is in operation. Before this occurs, exploration activities are planned to grow Lake Johnston's mineral resource and reserve, supporting a recommencement of operations. By developing a second processing hub the Company can expand its nickel production and achieve its strategic production target of at least 15,000 tonnes per annum nickel in concentrate.

NEXT STEPS

The Company will review the previous studies on mining the remaining Maggie Hays resource and start an aggressive exploration program aimed at increasing the resource base at Lake Johnston.

Following completion of NewExco's exploration targeting review (*refer to Announcement "Quarterly Report 30 September 2021" released on the 29 October 2021 for further details*), the Company has appointed a Senior Exploration Geologist and lodged a Program of Work (PoW) with the Department of Mines, Industry Regulation and Safety (DMIRS), for the recommencement of exploration activities at Lake Johnston.

The initial exploration program will consist of up to 250 holes on 43 lines, drilling up to 15,000 metres targeting the high priority Western Ultramafic unit.



Peter Harold
Managing Director & CEO
 27 January 2022

For further information contact Peter Harold: + 61 (0)8 6167 6600

The announcement was authorised for lodgement by the board of Poseidon Nickel Limited.

FORWARD LOOKING STATEMENTS:

This release contains certain forward looking statements including capex and opex estimates. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “except”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production and expected costs. Indications of, and guidance on future earnings, cash flows, costs, financial position and performance are also forward looking statements.

Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change, without notice, as are statements about market and industry trends, which are based on interpretation of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance.

Forward looking statements may be affected by a range of variables that could cause actual results or trends to differ materially. These variations, if materially adverse, may affect the timing or the feasibility and potential development of the Golden Swan underground mine.

About Poseidon Nickel Limited

Poseidon Nickel Limited (ASX Code: POS) is a nickel sulphide exploration and development company with three projects located within a radius of 300km from Kalgoorlie in the Goldfields region of Western Australia and a resource base of around 400,000 tonnes of nickel and 180,000 ounces of gold.

Poseidon’s strategy is focused on the exploration and eventual restart of its established nickel operations in Western Australia where project risk capital and operating costs are low. A critical element of this strategy has been to acquire projects and operations with high levels of geological prospectivity likely to lead to resource increases through the application of modern exploration techniques.

Poseidon owns the Windarra, Black Swan and the Lake Johnston Nickel Projects. In addition to the mines and infrastructure including concentrators at Black Swan and Lake Johnston, these projects have significant exploration opportunities demonstrated by the discovery of the Abi Rose deposit at Lake Johnston and the recent discovery of the Golden Swan mineralisation at Black Swan. The Company has recently completed a Definitive Feasibility Study on retreating the gold tailings at Windarra and Lancefield given the strength of the A\$ gold price.

For persons