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POSEIDON NICKEL

ASX Announcement

21 February 2022

ASX Market Announcements
Company Announcements Office
ASX Limited

AMENDMENT AND RE-LODGEMENT OF ANNOUNCEMENT

On 27 January 2022, Poseidon Nickel Limited (**Poseidon**, the **Company**) (ASX:POS) released an announcement titled *Lake Johnston Engineering Scoping Study Completed* (**Announcement**).

The Announcement was to inform the market of a recently completed Plant Capital and Operating Cost Estimates Report for the Lake Johnston project, however it was erroneously titled and referred to as an "Engineering Scoping Study".

The Company has subsequently amended the announcement and advises the following changes:

- Removing the reference to "Scoping Study" in the title of the announcement and within the body of the announcement
- Providing clarity that the study completed was not a scoping study nor a feasibility study
- Reference to sources for historical data for previous production data
- Inclusion of the Mineral Resource Statement and Competent Person Statement

The amended announcement is attached.

Yours faithfully,

Andrea Betti
Company Secretary

This announcement was authorised for release by Andrea Betti, Company Secretary of Poseidon Nickel Ltd.

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LAKE JOHNSTON PLANT CAPITAL AND OPERATING COST ESTIMATES

21 February 2022

HIGHLIGHTS

- Lake Johnston processing plant and associated infrastructure could be refurbished for an estimated cost of $31 million
- The operating cost for the process plant is estimated at approximately $36 per tonne of ore 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 capital and operating cost estimates for the refurbishment and operation of the Lake Johnston processing plant and associated infrastructure. The estimates were provided within an Engineering Study completed by GR Engineering Services Limited ("GRES") (ASX Code GNG).

Note that the Engineering Study completed by GRES is not a scoping study nor a feasibility study for restarting the Lake Johnston project. The primary outcomes from the study are capital and operating cost estimates which the Company will use for internal purposes to make strategic decisions on the future of the project.

Managing Director and CEO, Peter Harold, commented: *"The results from the Engineering Study show 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 Engineering 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, 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. Based on historical operating data received when the asset was acquired from Norilsk Nickel Australia in November 2014, 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. Further noted from information received when Lake Johnston was acquired 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, certain pieces of infrastructure were removed from the Maggie Hay's 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 the submerged ground support and reinstallation of required infrastructure. The estimated capital cost for this work was estimated by Entech to be $26.4 million in 2017, and the expected duration of these works was 22 months.

Based on previous mining studies undertaken by the Company on mining the remaining Maggie Hays orebody the GRES Engineering Study was based on a maximum throughput of 0.9 million tonnes per annum. The estimated throughput aligns with potential constraints on mining the Maggie Hays resource.

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 estimated 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[1,2].

Recommencement of operations at Lake Johnston would be subject to further feasibility studies, including mining and metallurgy. Funding the refurbishment of Lake Johnston would be considered at the timing of feasibility studies with possible financing from equity and/or debt. The Company has not commenced feasibility studies on a recommencement of operation at Lake Johnston as we focus on exploration efforts, at noted above.

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[1] The Company's 15,000t nickel production target is as per the Company's corporate strategy announced in our Annual Report 2021 (refer to Announcement "Annual Report to Shareholders" released 29 October 2021) and 2021 AGM Presentation (refer to Announcement "2021 AGM Presentation" released 23 November 2021). The Company is not aware of any new information or data that materially affects the information in the relevant market announcements. All material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

[2] 15,000t nickel production target is based on previously announced estimated annual nickel production from Black Swan of 8,000t nickel (refer to Announcement "Black Swan & Silver Swan – Feasibility Study Supports Project Restart" released 18 July 2018) and previously announced estimated annual nickel production from Lake Johnston of 8,000t nickel (refer to Announcement "Lake Johnston – Bankable Feasibility Report Supports Project Restart" released 18 May 2015). Refer to these announcements for material assumptions on which the production target is based. The Company is not aware of any new information or data that materially affects the information in the relevant market announcements. All material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

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.

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

Peter Harold
Managing Director & CEO
21 February 2022

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

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.

COMPETENT PERSON STATEMENTS:

The information in this report that relates to Exploration Targeting and Results is based on, and fairly represents, information compiled and reviewed by Mr Andrew Pearce, who is an employee of Poseidon Nickel, and is a Member of The Australian Institute of Geoscientists.

The information in this report which relates to the Black Swan Mineral Resource is based on, and fairly represents, information compiled by Mr David Reid who is a full-time employee of Golder Associates Pty Ltd and who is a Fellow of the Australasian Institute of Mining and Metallurgy. The information in this report which relates to the Black Swan Ore Reserve is based on, and fairly represents, information compiled by Mr Francois Bezin who is a full-time employee of IMC Mining and is a Member of the Australasian Institute of Mining and Metallurgy.

The information in this report which relates to the Silver Swan Mineral Resource is based on, and fairly represents, information compiled by Mr Steve Warriner, who was a full-time employee at Poseidon Nickel, and is a Member of The Australian Institute of Geoscientists and Mr Kahan Cervoj who is a full-time employee of Optiro Pty Ltd and is a Fellow of the Australasian Institute of Mining and Metallurgy. The information in this report which relates to the Silver Swan Ore Reserve is based on, and fairly represents, information compiled by Mr Matthew Keenan who is a full-time employee of Entech Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy.

The information in this report which relates to the Lake Johnston Mineral Resource is based on, and fairly represents, information compiled by Mr Steve Warriner, who was a full-time employee at Poseidon Nickel, and is a Member of The Australian Institute of Geoscientists and Mr David Reid who is a full-time employee of Golder Associates Pty Ltd and is a Fellow of the Australasian Institute of Mining and Metallurgy. The information in this report which relates to the Lake Johnston Ore Reserves Project is based on, and fairly represents, information compiled by Mr Matthew Keenan who is a full-time employee of Entech Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy.

The information in this report that relates to Mineral Resources at the Windarra Nickel Project and Gold Tailings Project is based on, and fairly represents, information compiled by Mr Steve Warriner, who was a full-time employee at Poseidon Nickel, and is a Member of The Australian Institute of Geoscientists and Mr Ian Glacken who is a full-time employee of Optiro Pty Ltd and is a Fellow of the Australasian Institute of Mining and Metallurgy. The Windarra Project contains Mineral Resources which are reported under JORC 2004 Guidelines as there has been no Material Change or Re-estimation of the Mineral Resource since the introduction of the JORC 2012 Codes. Future estimations will be completed to JORC 2012 Guidelines.

Mr Pearce, Mr Warriner, Mr Cervoj, Mr Reid, Mr Glacken and Mr Keenan all have sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which they are 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' (the JORC Code 2012). Mr Warriner, Mr Cervoj, Mr Weeks, Mr Glacken and Mr Keenan have consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.

FORWARD LOOKING STATEMENT – INFERRED RESOURCE STATEMENTS:

The Company notes that an Inferred Resource has a lower level of confidence than an Indicated Resource and that the JORC Codes, 2012 advises that to be an Inferred Resource it is reasonable to expect that the majority of the Inferred Resource would be upgraded to an Indicated Resource with continued exploration. Based on advice from relevant competent Persons, the Company has a high degree of confidence that the Inferred Resource for the Silver Swan deposit will upgrade to an Indicated Resource with further exploration work.

The Company believes it has a reasonable basis for making the forward looking statement in this announcement, including with respect to any production targets, based on the information contained in this announcement and in particular, the JORC Code, 2012 Mineral Resource for Silver Swan as of May 2016, together with independent geotechnical studies, determination of production targets, mine design and scheduling, metallurgical testwork, external commodity price and exchange rate forecasts and worldwide operating cost data.

FORWARD LOOKING STATEMENTS:

This release contains certain forward looking statements including nickel production targets. 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.

Appendix 1: MINERAL RESOURCE STATEMENT

Table 1: Nickel Projects Mineral Resource Statement

Nickel Sulphide Resources	JORC Compliance	Cut Off Grade	MINERAL RESOURCE CATEGORY												
			INDICATED			INFERRED			TOTAL						
			Tonnes (Kt)	Ni% Grade	Ni Metal (t)	Tonnes (Kt)	Ni% Grade	Ni Metal (t)	Tonnes (Kt)	Ni% Grade	Ni Metal (t)	Co% Grade	Co Metal (t)	Cu% Grade	Cu Metal (t)
BLACK SWAN PROJECT															
Black Swan	2012	0.40%	9,600	0.68	65,000	21,100	0.54	114,000	30,700	0.58	179,000	0.01	4,200	NA	-
Silver Swan	2012	4.50%	108	9.4	10,130	61	9.7	5,900	169	9.5	16,030	0.19	316	0.4	679
Golden Swan	2012	1.00%	111.6	4.7	5,200	48.4	2.2	1050	160	3.9	6250	0.08	123	0.3	480
LAKE JOHNSTON PROJECT															
Maggie Hays	2012	0.80%	2,600	1.60	41,900	900	1.17	10,100	3,500	1.49	52,000	0.05	1,800	0.10	3,400
WINDARRA PROJECT															
Mt Windarra	2012	0.90%	922	1.56	14,000	3,436	1.66	57,500	4,358	1.64	71,500	0.03	1,200	0.13	5,700
South Windarra	2004	0.80%	772	0.98	8,000	-	-	-	772	0.98	8,000	NA	-	NA	-
Cerberus	2004	0.75%	2,773	1.25	35,000	1,778	1.91	34,000	4,551	1.51	69,000	NA	-	0.08	3,600
TOTAL															
Total Ni, Co, Cu Resources	2004 & 2012	-	**16,887**	**1.04**	**179,230**	**27,275**	**0.81**	**222,550**	**44,209**	**0.91**	**401,480**	**0.02**	**7,639**	**0.03**	**13,859**

Zone	Table 2B. Silver Swan Tailings Resource - December 2021									
	Measured									
	Tonnes	Ni%	Ni t	Cu%	Co ppm	Fe%	MgO%	As%	S%	Density
1	280,600	0.75	2118	0.02	283	16.7	8.81	0.04	7.56	2.84
2	394,365	1.04	4082	0.06	967	26.1	4.71	0.17	13.56	3.09
Total	674,964	0.92	6200	0.04	683	22.2	6.42	0.11	11.06	2.98

Note: totals may not sum exactly due to rounding. NA = information Not Available from reported resource model. The Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserves.

***Black Swan Resource** as at 22 July 2014 (see ASX announcement "Poseidon Announces Black Swan Mineral Resource" released 4th August 2014)*

***Silver Swan Resource** as at 5 August 2019 (see ASX announcement "Silver Swan Resource Upgrade" released 5th August 2019)*

***Golden Swan Resource** as at 12 November 2021 (see ASX announcement "Golden Swan Maiden Resource – Additional Information released 12th November 2021)*

***Maggie Hays Resource** as at 17 March 2015 (see ASC announcement "50% Increase in Indicated Resources at Lake Johnston" released 17th March 2015)*

***Mt Windarra Resource** as at 7 November 2014 (see ASX announcement "Poseidon Announces Revised Mt Windarra Resource" released 7th November 2014)*

***South Windarra and Cerberus Resource** as at 30 April 2013 (see ASX announcement "Resource Increase of 25% at Windarra Nickel Project" released 1st December 2011)*

***Silver Swan Tailings Resource** as at 15 September 2021 (ASX Announcement "Silver Swan Tailings – Maiden Resource Estimate" 15 September 2021)*

The Company is not aware of any new information or data that materially affects the information in the relevant market announcements. All material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.