

BLACK SWAN UPDATE & EXPLORATION PLANS

KEY POINTS

Black Swan Restart

- Significant progress made towards the Black Swan restart
- Offtake and project debt financing well advanced with draft documentation received from shortlisted parties and being negotiated
- Environmental Works Approval obtained and regulatory approval for the Mining Proposal anticipated late in 2023
- Western Power has advised grid power will be available from late 2024
- Additional metallurgical testwork will be conducted to confirm recovery assumptions for the disseminated serpentinite ore
- Decision made to defer the restart of Black Swan due to project related factors and external market conditions

Black Swan Expansion Project – 2.2Mtpa throughput

- Recent Resource update could increase contained nickel in the mining inventory
- The prefeasibility study is on track to be completed late in 2023
- Concentrate samples sent to potential customers to confirm suitability as a feed source to their hydrometallurgical processes (existing HPAL circuits and/or proposed new POX circuits)

Black Swan Exploration – high priority massive sulphide targets to be tested

- Electromagnetic anomalies in close vicinity to the high-grade Silver Swan channel to be drilled

Lake Johnston Exploration – further drilling along the Western Ultramafic

- Initial drill program on the Western Ultramafic identified a potential open-ended channel up to 400m wide at Maggie Hays West
- Plan to drill test six additional targets along the 14km strike identified from the initial program
- The recent exploration success and new targets identified highlights the significant potential to grow the resource base

Poseidon Nickel Ltd (ASX: POS, “Poseidon” or “the Company”) wishes to provide an update on the restart activities for the Black Swan project as detailed in the November 2022 Bankable Feasibility Study (*refer to ASX announcement “Positive Black Swan Feasibility Study” dated 21 November 2022*), the Black Swan Expansion Project prefeasibility study and the planned exploration drilling at both Black Swan and Lake Johnston.

Managing Director and CEO, Peter Harold commented: *“The offtake and project debt financing work streams continue to progress well, together with obtaining all the necessary approvals for the Black Swan restart. While the team has made solid progress advancing the project towards the restart, we have been advised that grid power will not be available at site until late 2024. In addition, we have determined from the recent confirmatory drilling and updated resource model that further metallurgical testwork is required to confirm the recoveries used in the feasibility study for the disseminated open pit ore.*

These project related factors together with the continuing tightness in the WA labour market, the lack of the availability of Kalgoorlie FIFO accommodation and the increased volatility in global commodity and equity markets have resulted in us deferring the Black Swan restart decision. We expect the volatility in global markets to start to abate into 2024 providing a more favourable environment for project development. We will constantly monitor the project related factors and together with external market conditions. Our primary aim remains to restart Black Swan as soon as it is feasible to do so.

In the meantime, we will continue to add value for shareholders by completing the Black Swan Expansion Project prefeasibility study and undertake further exploration drilling at both Black Swan and Lake Johnston targeting high-grade mineralisation.”

BLACK SWAN PROJECT

Workstreams for the Restart

The main workstreams that have been progressing are as follows:

- Pre-works at Black Swan
 - Resource update – completed and reported in early June 2023
 - Processing plant – contract for plant refurbishment being negotiated with GR Engineering Services Limited (GRES)
 - Approvals – most approvals are in place for a project restart, with an updated Works Approval received for the next lift of the tailings storage facility and stockpiling of the Silver Swan Tailings (SST) for processing. Final approvals being sort are for the Mining Proposal for reclamation of the SST, the next stage lift of the tailings storage facility and amendments to the Mine Closure Plan.
 - Accommodation – continuing to progress securing an option over 150 rooms in Kalgoorlie
 - Power – Western Power have confirmed grid power would be available late CY 2024
 - Offtake and project debt financing (see separate section)
 - Metallurgical Testwork (see separate section)

Offtake and Debt Financing

The Company has been negotiating separate offtake and project debt financing agreements with two larger international groups who have provided the most attractive offtake debt terms. Both groups have provided their draft offtake and financing agreements which the Company has reviewed together with our concentrate marketing consultant and lawyers. Negotiation of these documents is well advanced.

Metallurgy

The results from locked-cycle flotation testwork on the open pit disseminated serpentinite ore that underpinned the Black Swan Bankable Feasibility Study (BFS) November 2022 predicted a nickel recovery that also aligned with the recovery reported in the production data from when the project last operated in 2008/09. After a detailed review of the non-sulphide nickel and sulphur to nickel (S:Ni) ratio in the most recent Disseminated Mineral Resource Block Model (updated in June 2023), the technical team has determined that the samples utilised for the Black Swan BFS testwork program had a lower non-sulphide nickel content and a higher S:Ni ratio.

The implications of this are that the samples utilised for the Black Swan BFS, while representative of the ore mined and processed in 2008/09, may not suitably represent the Black Swan BFS mine plan which includes ore from below the base of the previous open pit.

Consequently, additional samples are required to ensure there is appropriate representation of the life of mine plan, even though the previous metallurgical samples were taken from the area within the mine plan. These samples will be tested through a confirmatory locked-cycle flotation program. Three distinct ore zones have been identified by the metallurgical team after reviewing the updated Mineral Resource Block Model (i.e., Main zone, Footwall zone and Hangingwall zone). These three ore zones will be sampled and tested separately, to optimise nickel recoveries. Planning of the diamond drilling program to be conducted from the bottom of the open pit is well underway with a drill rig scheduled to be on site during August 2023. This testwork program (drilling and metallurgical) will take approximately four months to complete.

Restart decision deferred

Solid headway has been made to progress the project to its current advanced stage which is a credit to the management team and our consultants. Notwithstanding, the decision to restart Black Swan has been deferred due to the later availability of grid power, the need to complete additional metallurgical testwork on the open pit ore, together with the continuing tightness in the labour market, accommodation availability in Kalgoorlie for FIFO workers and the volatility in global commodity and equity markets. The Company expects a more favourable environment for project development into 2024. The primary aim of the Company remains to restart Black Swan as soon as it is feasible to do so.

Expansion Project

Work continues on the Expansion Project which is based on treating 2.2Mtpa of mill feed and producing a rougher concentrate. This project incorporates the talc carbonate material which represents approximately 50% of the potential mill feed. The rougher concentrate product has a lower nickel grade (5-6% Ni) and higher magnesium oxide content than conventional smelter feed and is more attractive as a feed for either pressure oxidation (POX) or high-pressure acid leach (HPAL) plants rather than a conventional nickel smelter.

Metallurgical studies are continuing to determine the optimal rougher concentrate grade and metallurgical recovery and typical specifications to allow for potential offtakers to provide indicative terms. These terms will be a key component in determining the economics of the Expansion Project. Concentrate samples have been supplied to potential customers for testwork and results are expected during the September 2023 quarter.

The June 2023 Black Swan Resource Update (*refer ASX announcement "Updated Resource provides more Nickel at Black Swan", dated 7 June 2023*) resulted in a 48% increase in Measured and Indicated Resources and a 14% increase in the average nickel grade. Preliminary mine design reviews indicate that an increase in nickel contained in the mining inventory is possible given the higher average grades reported. The quantum is yet to be confirmed and once finalised will be incorporated into the prefeasibility study, which is due to be delivered late in CY2023.

BLACK SWAN EXPLORATION

Background

Work undertaken by our exploration team in conjunction with geological consultants Newexco Exploration Pty Ltd (Newexco) identified ten exploration targets that require follow up (priority targets are displayed in Figure 1). One in particular, Target 5, is a series of unexplained electromagnetic anomalies to the north of the high-grade Silver Swan channel and is considered a priority target which can be drilled from underground.

Plan to drill test near mine, potential high-grade Target 5

In 2006 on the northern margin of the high-grade Silver Swan corridor, the previous owner (Norilsk Nickel) drilled a hole (SUD2664A) that drilled through the felsic footwall into the overlying ultramafic sequence at 129m before intersecting felsic lithologies again from 318m to 380m and then going back into the ultramafic. The subsequent downhole electromagnetics (DHEM) of SUD2664A identified a series of low to moderate electromagnetic anomalies associated with these felsic and ultramafic lithologies.

This geology and associated EM responses recorded are similar to the Southern Terrace area to the south of Silver Swan, which is host to both the Gosling and Golden Swan deposits.

Target 5 justifies following up as it lies below the current depth of surface holes and associated DHEM anomalies that were not followed up at the time of identification in 2006.

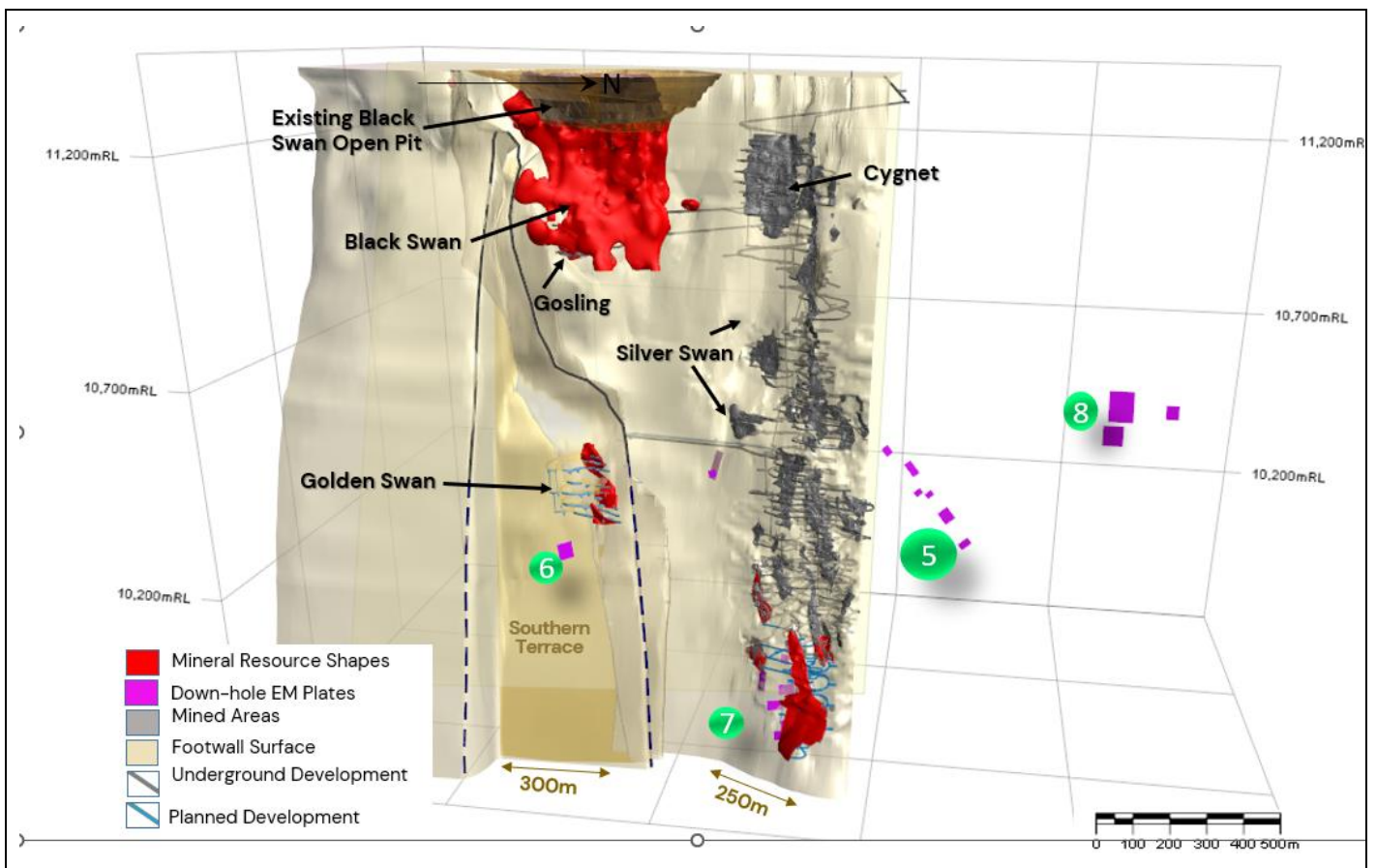


FIGURE 1: BLACK SWAN – PRIORITY DRILL TARGETS IN THE VICINITY OF THE SILVER SWAN HIGH-GRADE CHANNEL

Next drill program

Target 5 can be drilled from either the Silver Swan 410-Level stockpile or from the Silver Swan decline. Planning to drill test this anomaly is underway with drilling contractors advising a rig could be available as early as August this year.

LAKE JOHNSTON

Background

The Lake Johnston Project is located 190km south-west of Kalgoorlie in Western Australia and contains two historical underground nickel sulphide mines, Emily Ann and Maggie Hays, along with a 1.5Mtpa processing plant, 200-person village and associated infrastructure. The existing deposits are hosted within the Central Ultramafic Unit (CUU), which has been the focus of extensive exploration by previous owners.

The Western Ultramafic Unit (WUU) overlies the regionally persistent Banded Iron Formation (BIF) sequence and is interpreted to have been emplaced as a series of extruded ultramafic flows by the CUU magmas breaching through the BIF sequence. Therefore, the basal contact of the WUU is considered a high priority target for potential economic nickel sulphide mineralisation by Poseidon that has been historically overlooked.

Highlights from the May 2023 Drill Program

The WUU structure has been identified along 17km of strike. An initial program of shallow air core (AC) and reverse circulation (RC) drilling to delineate 14km of the interpreted overturned basal contact of the WUU was completed in May 2023. Refer ASX release dated 3 July 2023 titled *Exciting Greenfields Nickel Intersections at Lake Johnston*.

Assay results from the drilling along the WUU returned coincident nickel sulphide pathfinder (Ni:Co:Cu) anomalous zones within the weathering profile at seven separate prospects, including Round Top, Raggedy Ann, Johnny Turk, Maggie Hays North, Maggie Hays West, Windy Hill and Jaymee Ruth.

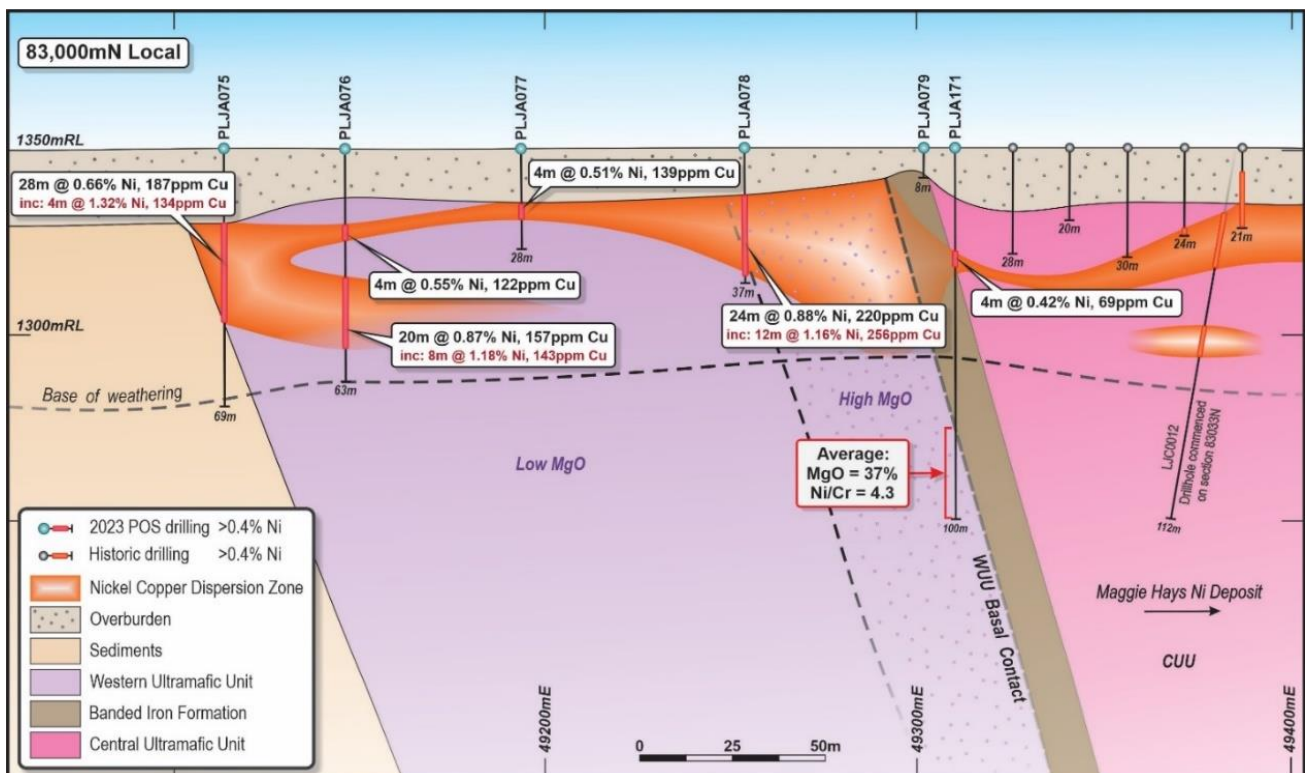


FIGURE 2. MAGGIE HAYS WEST - SECTION 83 000N (LOCAL GRID), SHOWING RECENT AND HISTORIC DRILLING WITH >0.4% NI INTERSECTIONS, NI:CU DISPERSION AND HIGH MGO BASAL FLOW

MAGGIE HAYS WEST

The May 2023 drill program has enhanced the prospectivity at Maggie Hays West by confirming the Ni:Cu regolith anomalism up dip from isolated historic nickel sulphide drill intersections. The drilling has also confirmed the thickening of the WUU to 300 metres on drill line 82700N (local grid) and the development of an embayed contact due to a possible channel feature.

One of the RC drillholes (PLJA171) was drilled through the basal contact at Maggie Hays West returning MgO values averaging 37% (max. 41 % MgO) and Ni:Cr ratios averaging 4.3 which is indicative of fertile channel facies ultramafic cumulate rocks at the base of the thickened WUU (refer Figure 2).

The drilling has led to the hypothesis that a possible, open ended mineralised channel target can be inferred at the Maggie Hays West Prospect that is up to 400m wide and corresponds to a discrete magnetic feature (refer Figure 3). The interpretation presents a compelling high priority target for follow up drilling.

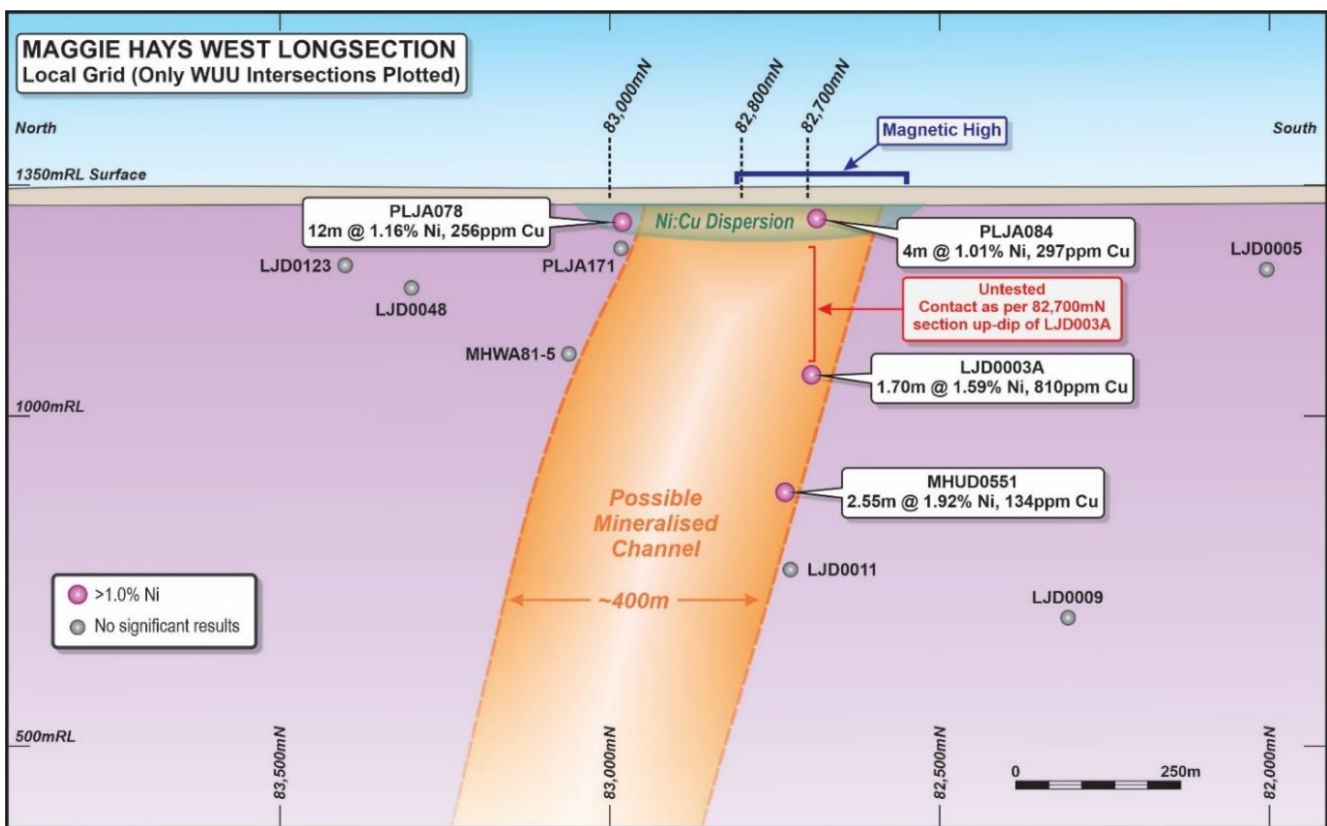


FIGURE 3. MAGGIE HAYS WEST LONG SECTION WITH WUU BASAL CONTACT INTERCEPTS PLOTTED ONLY. NOTE THE INFERRED MINERALISED CHANNEL OPPORTUNITY IS LARGELY UNTESTED.

Regional Targets

The May 2023 drilling also defined six other targets for follow up with anomalous nickel present near the basal WUU contact. This includes the newly identified Windy Hill and Jaymee Ruth prospects together with the Round Top, Raggedy Ann, Johnny Turk and Maggie Hays North prospects.

Next drill program

Further assays of the anomalous zones from the first drill program on the one metre splits will be conducted to delineate the anomalous intervals and will include analysis for PGEs. This will aid planning for infill and follow up drilling at the identified prospects.

Given the prospectivity of the WUU further drilling is now being planned at the identified prospects, along with testing of the further southern 4km extension of the WUU. The Company anticipates undertaking the next drill program during the second half of CY2023, pending approvals.

WINDARRA

Gold Tailings

The Binding Heads of Agreement with Green Gold Projects Pte Ltd has been terminated after Green Gold advised the Company that one of the Conditions Precedent had not been satisfied. While we are disappointed Green Gold did not progress with the Windarra gold tailings project a regional resources company has expressed a strong interest in processing the Lancefield gold tailings and potentially the Windarra gold tailings and also accessing the considerable water resource in the South Windarra pit. Indicative terms have been presented by the interested party, data has been exchanged and a formal Term Sheet is currently being drafted.

WEBINAR

The Company will be hosting a webinar from 8am WST/10am EST on Wednesday 19 July 2023 for management to present the latest corporate presentation and for shareholders to be briefed on information in this announcement. Details of the Webinar have been released separately in ASX announcement 'Webcast Details' dated 17 July 2023.

The Company encourages shareholders to participate in the webcast.

This announcement was authorised for lodgement by the Board of Poseidon Nickel Limited.



Peter Harold
Managing Director & CEO

17 July 2023

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 with the aim of being a +15,000tpa nickel producer. A critical element of this strategy has been to acquire projects and operations with significant existing infrastructure, large nickel resources and geological prospectivity likely to lead to resource growth 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 Golden Swan Resource at Black Swan, the Abi Rose and more recently the Maggies Hays West mineralisation at Lake Johnston.

The Company completed a Bankable Feasibility Study on Black Swan in November 2022 which will be the first project to restart. This could be followed by Lake Johnston and then Windarra, subject to favourable Feasibility Studies, appropriate project financing structures being achieved, the outlook for the nickel price remaining positive and all necessary approvals being obtained.

A Definitive Feasibility Study on retreating the gold tailings at Windarra and Lancefield was completed in mid-2022. A planned collaboration with Green Gold Projects has recently been terminated. A new potential partner is currently conducting due diligence on the Lancefield gold tailings and accessing the water in the South Windarra pit.

COMPETENT PERSON STATEMENTS:

The information contained within this announcement is extracted from the reports titled:

- "Exciting Greenfields Nickel Intersections at Lake Johnston" released 3 July 2023
- "Updated Black Swan Disseminated Resource provides more nickel supporting restart" released 7 June 2023
- "Positive Black Swan Feasibility Study" released 21 November 2022
- "More Nickel in Updated Black Swan Mineral Resource" released 4 July 2022
- "Silver Swan Resource Update" released 27 April 2022
- "Golden Swan Maiden Resource" released 27 October 2021
- "Silver Swan Tailings – Maiden Resource Estimate" released 15 September 2021
- "Gold Tailings Resource at Windarra updated to JORC 2012 Indicated" 22 Jun 2020

which are available to view on www.poseidon-nickel.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original announcement and, in the case of Minerals Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not materially modified from the original market announcement. The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.

FORWARD LOOKING STATEMENTS:

This release contains certain forward looking statements including nickel production targets matters that may involve risks or uncertainties and may involve significant items of subjective judgement and assumptions of future events that may or may not eventuate (Forward Statements). 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. 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. Except as required by law or regulation, the Company assumes no obligation to release updates or revisions to Forward Statements to reflect any changes. 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 reliance on such statements.

Nickel Sulphide Resources	JORC Compliance	Cut Off Grade	MINERAL RESOURCE CATEGORY															
			MEASURED			INDICATED			INFERRED			TOTAL						
			Tonnes (kt)	Ni% Grade	Ni Metal (t)	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	0.4%	800	0.78	7,000	15,100	0.73	111,000	10,400	0.69	71,000	26,300	0.72	189,000	0.02	4,000	0.03	7,900
Silver Swan	2012	1.0%	-	-	-	138	9.00	12,450	8	6.00	490	146	8.80	12,940	0.16	240	0.36	530
Golden Swan	2012	1.0%	-	-	-	112	4.70	5,200	48	2.20	1,050	160	3.90	6,250	0.08	120	0.30	480
Silver Swan Tailings	2012	NA	675	0.92	6,200	-	-	-	-	-	-	675	0.92	6,200	0.07	460	0.04	270
Stockpiles	2012	0.4%	-	-	-	1,200	0.49	5,900	400	0.53	1,900	1,600	0.50	7,800	NA	NA	NA	NA
LAKE JOHNSTON PROJECT																		
Maggie Hays	2012	0.8%	-	-	-	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	0.9%	-	-	-	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	0.8%	-	-	-	722	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	-	NA	-
TOTAL																		
Total Ni, Co, Cu Resources	2004 & 2012		1,475	0.84	13,200	23,600	0.98	233,500	17,000	1.03	176,000	42,100	1.00	422,700	0.02	7,800	0.05	18,300

Note: totals may not sum exactly due to rounding. NA = Information Not Available from reported resource model.

- **Black Swan Resource** as at 7 June 2023 (see ASX announcement “Updated Resource provides more Nickel at Black Swan” released 7 June 2023)
- **Silver Swan Resource** as at 27 April 2022 (see ASX announcement “Updated Silver Swan Resource underpins significant increase in high-grade Indicated resource base” released 27 April 2022)
- **Golden Swan Resource** as at 27 October 2021 (see ASX announcement “Golden Swan Maiden Resource” released 27 October 2021).
- **Silver Swan Tailings Resource** as at 15 September 2021 (see ASX announcement “Silver Swan Tailings – Maiden Resource Estimate” released 15 September 2021)
- **Stockpile Resource** as at 22 July 2014 (see ASX announcement “Poseidon Announces Black Swan Mineral Resource” released 4 August 2014)
- **Maggie Hays Resource** as at 17 March 2015 (see ASC announcement “50% Increase in Indicated Resources at Lake Johnston” released 17 March 2015)
- **Mt Windarra Resource** as at 7 November 2014 (see ASX announcement “Poseidon Announces Revised Mt Windarra Resource” released 7 November 2014)
- **South Windarra and Cerberus Resource** as at 30 April 2013 (see ASX announcement “Resource Increase of 25% at Windarra Nickel Project” released 1 December 2011)

Nickel Sulphide Reserves	JORC Compliance	BLACK SWAN PROJECT							
		Proved/Probable	Tonnes (Kt)	Ni% Grade	Ni Metal (t)	Co % Grade	Co Metal (t)	Cu % Grade	Cu Metal (t)
Black Swan	2012	Proved	579	0.7	4.2	NA	NA	NA	NA
		Probable	2,608	0.7	17.7	NA	NA	NA	NA
Silver Swan	2012	Proved	-	-	-	NA	NA	NA	NA
		Probable	179	5.0	9.0	NA	NA	NA	NA
Golden Swan	2012	Proved	-	-	-	NA	NA	NA	NA
		Probable	100	4.0	4.0	NA	NA	NA	NA
Total Ni Reserves	2012	Proved	579	0.7	4.2	NA	NA	NA	NA
		Probable	2,887	1.1	30.7	NA	NA	NA	NA
		Total	3,466	1.0	34.9	NA	NA	NA	NA

Note: totals may not sum exactly due to rounding. NA = Information Not Available from reported resource model.

- Black Swan Reserve, Silver Swan Reserve and Golden Swan Reserve as at 21 November 2022 (see ASX announcement "Positive Black Swan Feasibility Study" released 21 November 2022)

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.