



# A Nickel Powered Future

2022 AGM Presentation

24 November 2022

Peter Harold

CEO & Managing Director

# DISCLAIMER



This presentation is for information purposes only. It has been prepared for the purpose of providing general information about Poseidon Nickel Limited ("Poseidon"). It should not be considered as an offer, invitation, solicitation or recommendation to subscribe for or purchase any securities in Poseidon in any jurisdiction. It is not recommended that any person makes an investment decision in relation to Poseidon in reliance on this presentation material. This presentation does not constitute financial product advice and has been prepared without taking into account the recipient's investment objectives, financial circumstances or particular needs and the opinions and recommendations in this presentation are not intended to represent recommendations of particular investments to particular persons. Recipients should seek professional advice when deciding if an investment is appropriate. All securities transactions involve risks, which include (among others) the risk of adverse or unanticipated market, financial or political developments.

This presentation contains forecasts and forward-looking statements. Such statements are predictions only based on available data which may be unreliable and is subject to inherent risks and uncertainties. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein, which could cause actual values, results, performances or achievements to differ materially from those expressed, implied or projected in this presentation.

This overview does not purport to be all-inclusive or to contain all information which its recipients may require in order to make an informed assessment of the project prospects. Each of Poseidon, its officers, employees and advisers expressly disclaims any responsibility for the accuracy or completeness of the material contained in this presentation and excludes all liability, direct, indirect or consequential for any loss or damage which may be suffered by any person as a consequence of any information in this presentation or any error or omission therefrom. Poseidon accepts no responsibility to update any person regarding any inaccuracy, omission or change in information in this presentation.

## COMPETENT PERSON STATEMENTS

The information in this presentation that relates to Geology and Mineral Resources is based on information compiled and/or reviewed by Mr John Hicks, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Hicks has sufficient experience which is relevant to the style of mineralisation and the deposit 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 Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mr Hicks is Chief Geological Consultant of the Company. Mr Hicks is taking responsibility for the quality of the resource estimation data and the collection and processing of the 2022 resource estimation data. Details for the Competent Persons responsible for the individual Mineral Resource estimates are disclosed in the respective Mineral Resource estimates contained in the report.

The information in this presentation that relates to metallurgical testwork, process opex and process plant capex is based on information compiled and/or reviewed by Mr Peter Allen, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Allen has sufficient experience which is relevant to the metallurgy and processing method under consideration, to qualify as a Competent Person as defined in the JORC Code. Mr Allen is a full-time employee of GR Engineering Services Limited. Mr Allen has consented to the inclusion in the report of the matters based on his information in the form and context, which it appears.

The information in this presentation that relates to open pit mining methods and open pit Ore Reserve is based on information compiled and/or reviewed by Mr Craig Mann, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Mann has sufficient experience which is relevant to the mining methods and modifying factors under consideration, to qualify as a Competent Person as defined in the JORC Code. Mr Mann is a full-time employee of Entech Pty Ltd. Mr Mann has consented to the inclusion in the report of the matters based on his information in the form and context, which it appears.

The information in this presentation that relates to underground mining methods and underground Ore Reserves for Silver Swan and Golden Swan is based on information compiled and/or reviewed by Mr Charles Walker, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Walker has sufficient experience which is relevant to the mining methods and modifying factors under consideration, to qualify as a Competent Person as defined in the JORC Code. Mr Walker is a full-time employee of

Entech Pty Ltd. Mr Walker has consented to the inclusion in the report of the matters based on his information in the form and context, which it appears.

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, Chief Geologist, 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. Steve Warriner and David Reid have sufficient experience which is relevant to the style of mineralisation and the deposit 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). Mr Warriner and Mr Reid consented to the inclusion in the report of the matters based on his information in the form and context, which it appears.

The information in the updated Gold Tailings Project which relates to Mineral Resources is based upon details compiled by Ian Glacken, who is a Fellow of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Ian Glacken is an employee of Optiro Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and the deposit 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 Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mr Glacken consented to the inclusion in the report of the matters based on his information in the form and context, which it appears.

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.

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. 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.

# THE OLD DAYS





# TODAY – THE EV REVOLUTION

General Motors plans to completely phase out vehicles using internal combustion engines by 2035, Chairman and Chief Executive Officer Mary Barra announced in January 2021. The automaker will go completely carbon neutral at all facilities worldwide by 2035.

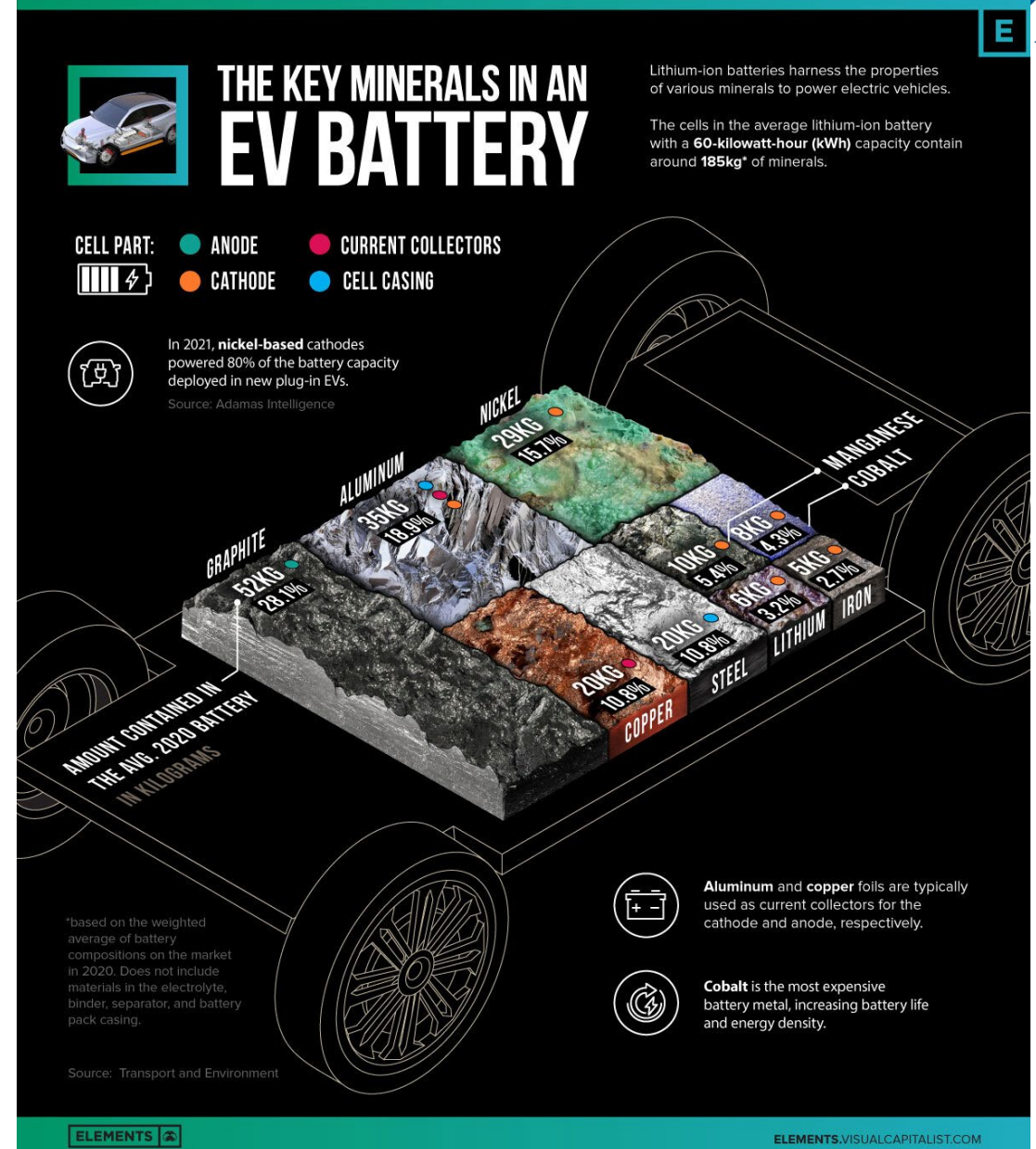


The 2022 GMC HUMMER EV is a first-of-its-kind supertruck developed with zero emissions.

# EV REVOLUTION – NICKEL IS A KEY INGREDIENT

Average lithium ion battery contains:

- 52kg Graphite
- 35kg Aluminium
- **29kg Nickel**
- 20kg Copper
- 10kg Manganese
- 8kg Cobalt
- 6kg Lithium
- 5kg Iron





# NICKEL – CRITICALLY IMPORTANT



EV batteries are the largest growth sector for nickel

Expected to contribute 30% of demand by 2030

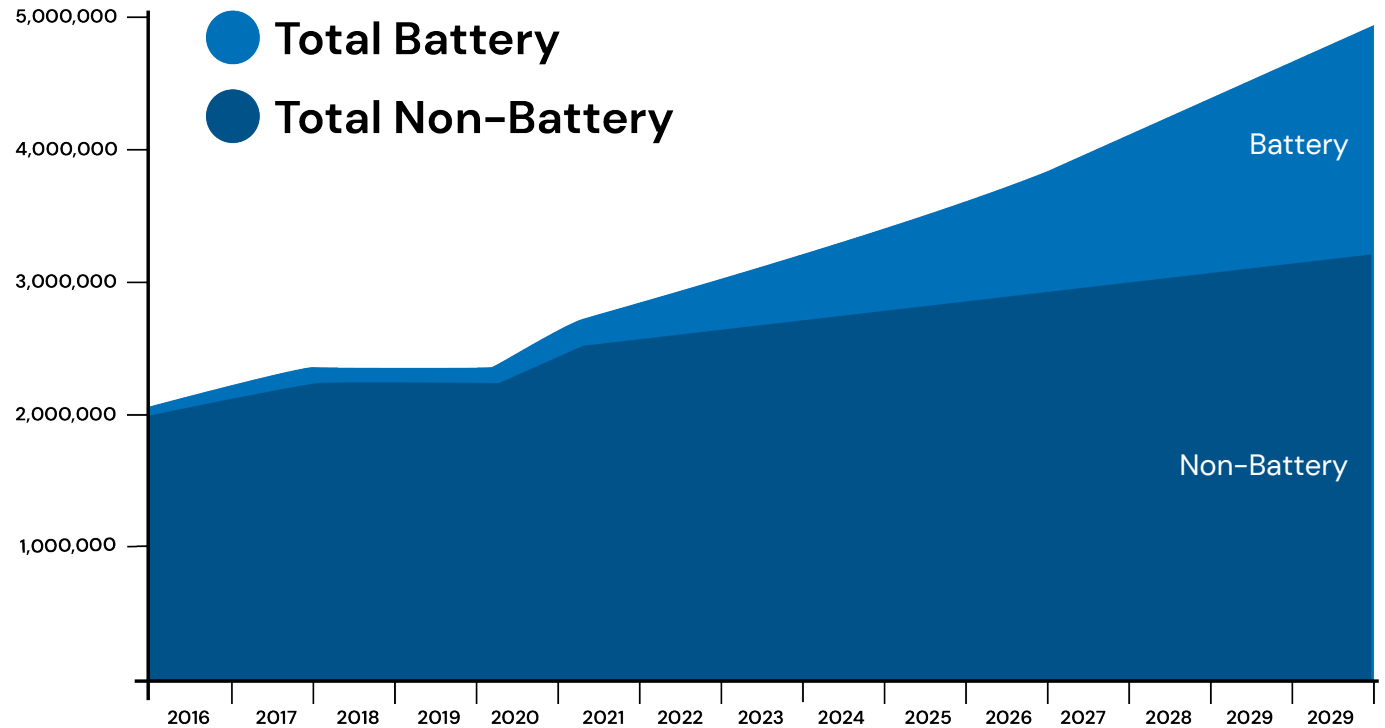
## EV Nickel Usage Growth

53,400 tonnes

**1,700,000 tonnes**

Nickel deployed globally in 2020 H2

Forecast annual nickel EV usage by 2030



SOURCE: BENCHMARK NICKEL FORECAST

# CORPORATE STRUCTURE

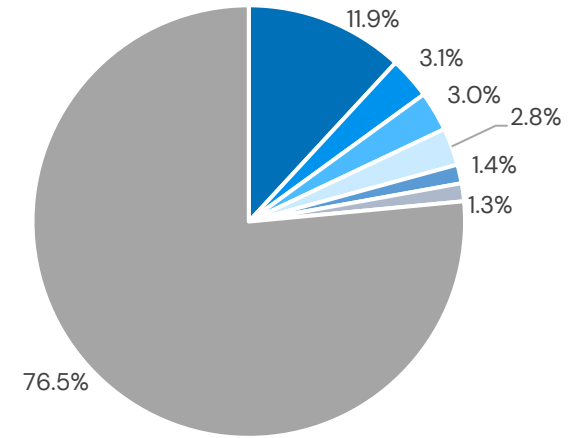


## Capital Structure/Enterprise Value

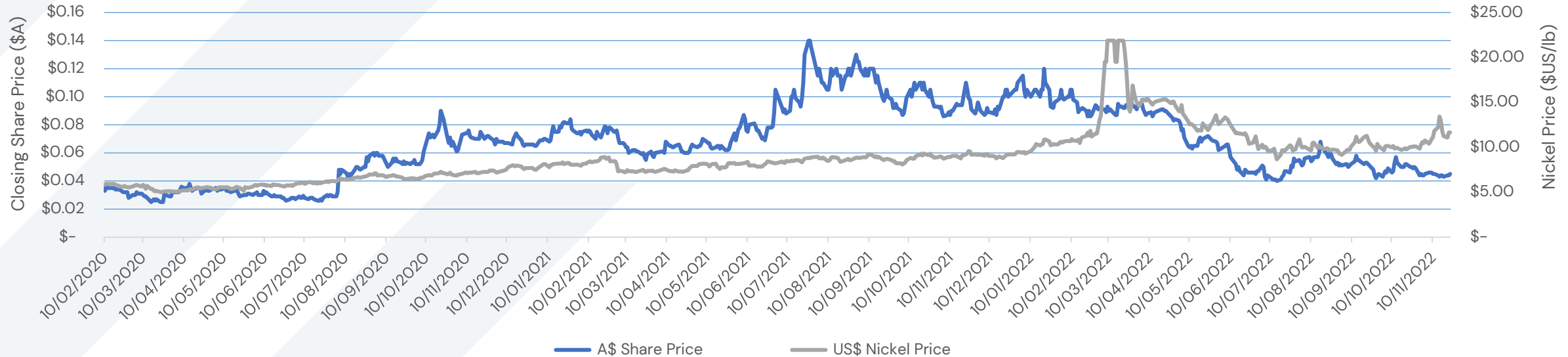
ASX Code	POS
Shares on Issue	3.064B
Share Price (23 November 2022)	\$0.044
Market Cap	~\$148M
Cash (30 September 2022)	~\$7.4M

## Significant Shareholders

- Black Mountain Metals
- Wyloo Metals
- Private Investor
- Citicorp Nominees
- HSBC Custody Nominees
- BNP Paribas Nominees
- Remaining Shareholders



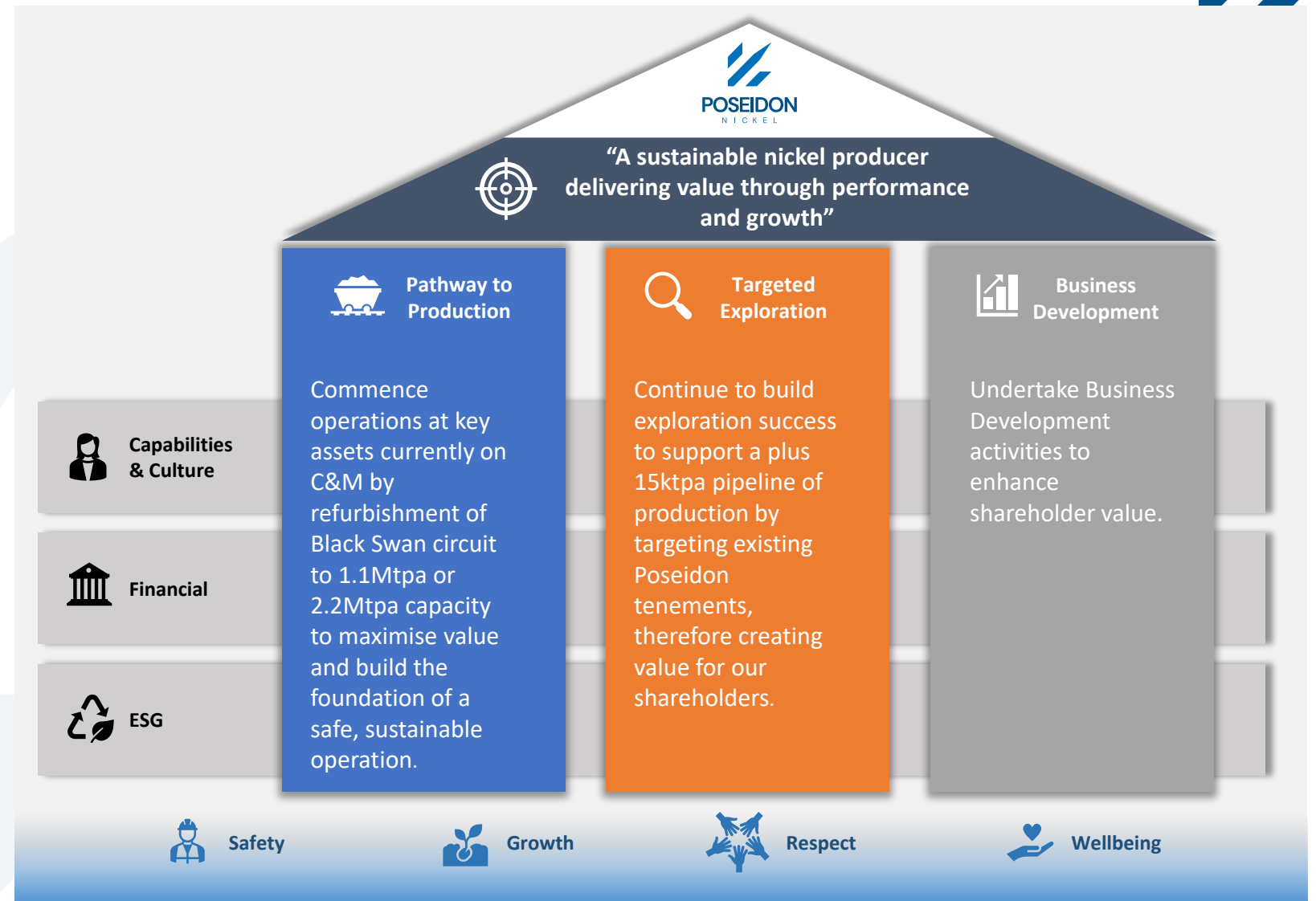
## Share Price Performance



Our Vision is to build a **sustainable nickel producer delivering value through performance and growth**

Completion of the Black Swan BFS is a key milestone to Poseidon's corporate strategy. The Black Swan restart is the basis to achieving our first strategic pillar "Pathway to Production"

"Fill the Mill" is the first step towards becoming a +15ktpa nickel producer







## **Completed Black Swan 1.1Mtpa Bankable Feasibility Study<sup>1</sup>**

The study highlighted a robust project with an NPV of \$248M and IRR of 103% at spot A\$ Ni



## **Mineral Resource growth at Black Swan →Converted into Reserve<sup>1</sup>**

Combined total Mineral Reserves now 3.5Mt averaging 1.0%Ni for 35kt Ni contained



## **Metallurgical Breakthroughs<sup>1</sup>**

Regrind circuit and addition of Silver Swan tailings significantly reduces MgO levels and improves Fe:MgO ratio to >5:1



## **Path to market for high MgO ore types<sup>1</sup>**

Producing a rougher concentrate to sell to the PBT POX hub or HPAL plant has the potential to allow the processing of high MgO ore types



## **Windarra Gold Tailings partnership entered into with Green Gold Projects**

Green Gold specialises in developing and operating tailings projects



## BLACK SWAN NICKEL PROJECT

- Open pit and underground mineral resources
- Significant established mining and processing infrastructure
- 1.1Mtpa smelter grade concentrate Bankable Feasibility Study delivered, 2.2Mtpa rougher concentrate BFS underway

## LAKE JOHNSTON NICKEL PROJECT

- Strong exploration potential
- Significant established mining and processing infrastructure
- Previous mining studies being reviewed

## WINDARRA NICKEL/GOLD PROJECTS

- Significant nickel mineral resource
- Potential to mine nickel ore and process at Black Swan
- Gold tailings resource with BFS, partner found



# BLACK SWAN – BANKABLE FEASIBILITY STUDY<sup>1</sup>



- **Robust project economics** – NPV<sub>g</sub> of \$248M, free cashflow of \$333M and an IRR of 103% at spot Ni and FX
- **Low pre-production capital** – \$50M capital including ~\$38M for the refurbishment
- **Plant capacity** – 1.1Mtpa with the ability to upgrade to nameplate of 2.2Mtpa
- **Construction period** – 46 weeks for plant refurbishment
- **High-grade nickel concentrate** – 15% Ni, < 6% MgO and Fe:MgO ratio of 5:1 which is **highly desirable for conventional nickel smelters**
- **ESG focus** – carbon emissions reduced compared to 2018 Feasibility Study by using grid power





# BLACK SWAN – RESOURCES OVERVIEW



## Silver Swan Tailings

September 2021 Mineral Resources: 6.2kt Ni

## Golden Swan

October 2021 Mineral Resources: 6.3kt Ni

## Golden Swan Reserve

100kt @ 4.0% Ni for 4.0kt Ni

## Existing Surface Stockpiles

August 2014 Mineral Resources: 7.8Kt Ni

## Black Swan

Pit Production: 5.9Mt @ 0.7% Ni for 41kt Ni

July 2022 Mineral Resources: 181kt Ni

## Black Swan Reserve

3,187kt @ 0.69% Ni for 21.9kt Ni

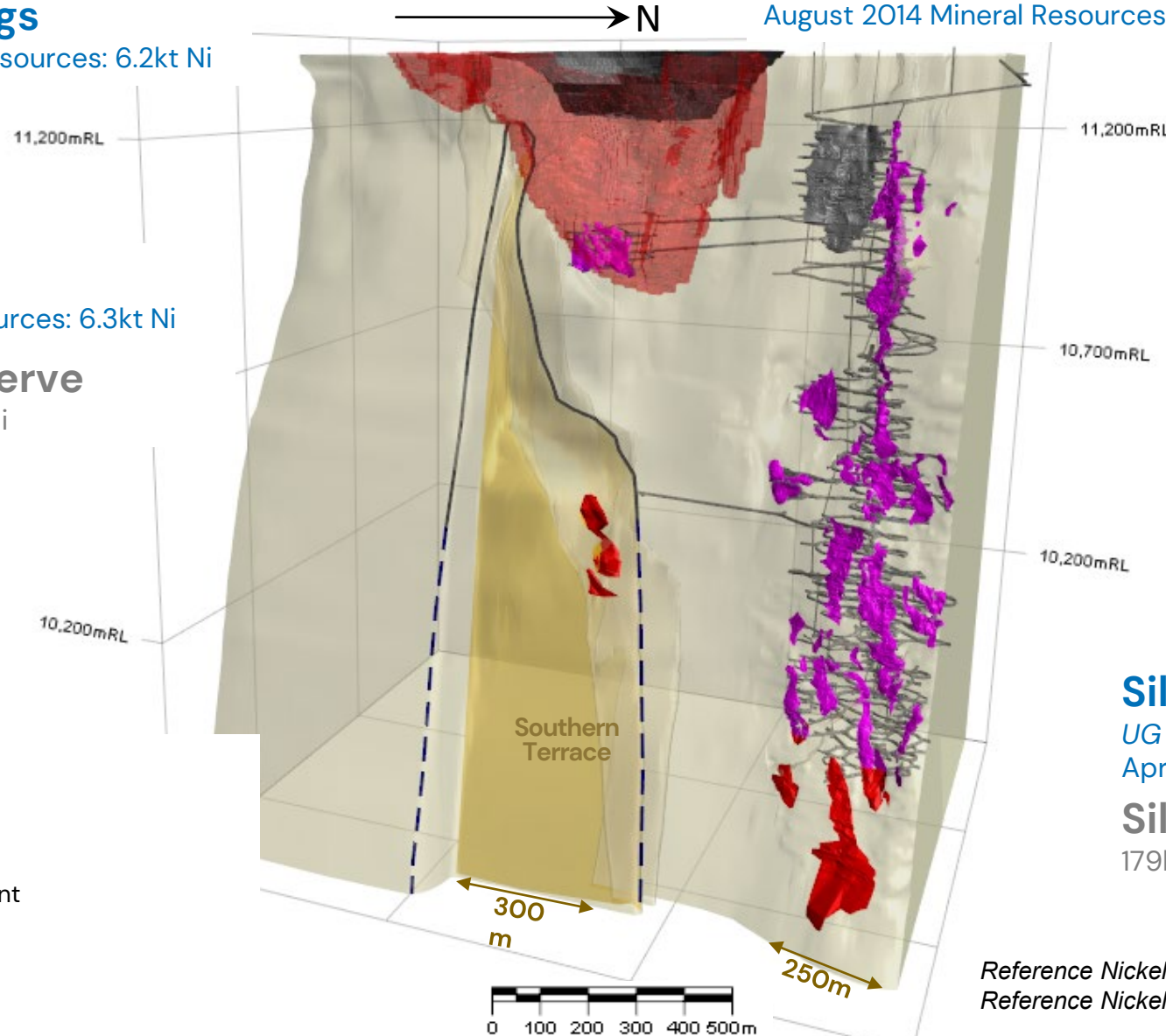
## Silver Swan

UG Production: 2.7Mt @ 5.1% Ni for 137.5kt Ni

April 2022 Mineral Resources: 12.9kt Ni

## Silver Swan Reserve

179kt @ 5.0% Ni for 9.0kt Ni



- Mineral Resource Shapes
- Mined Areas
- Footwall Surface
- Underground Development



Nickel Sulphide Reserves					
	JORC		Tonnes (kt)	Ni% Grade	Ni Metal (kt)
Black Swan	2012	Proved	579	0.7	4.2
		Probable	2,608	0.7	17.7
Silver Swan	2012	Proved	-	-	-
		Probable	179	5.0	9.0
Golden Swan	2012	Proved	-	-	-
		Probable	100	4.0	4.0
Total Ni Reserves	2012	<b>Proved</b>	<b>579</b>	<b>0.7</b>	<b>4.2</b>
		<b>Probable</b>	<b>2,887</b>	<b>1.1</b>	<b>30.7</b>
		<b>Total</b>	<b>3,466</b>	<b>1.0</b>	<b>34.9</b>

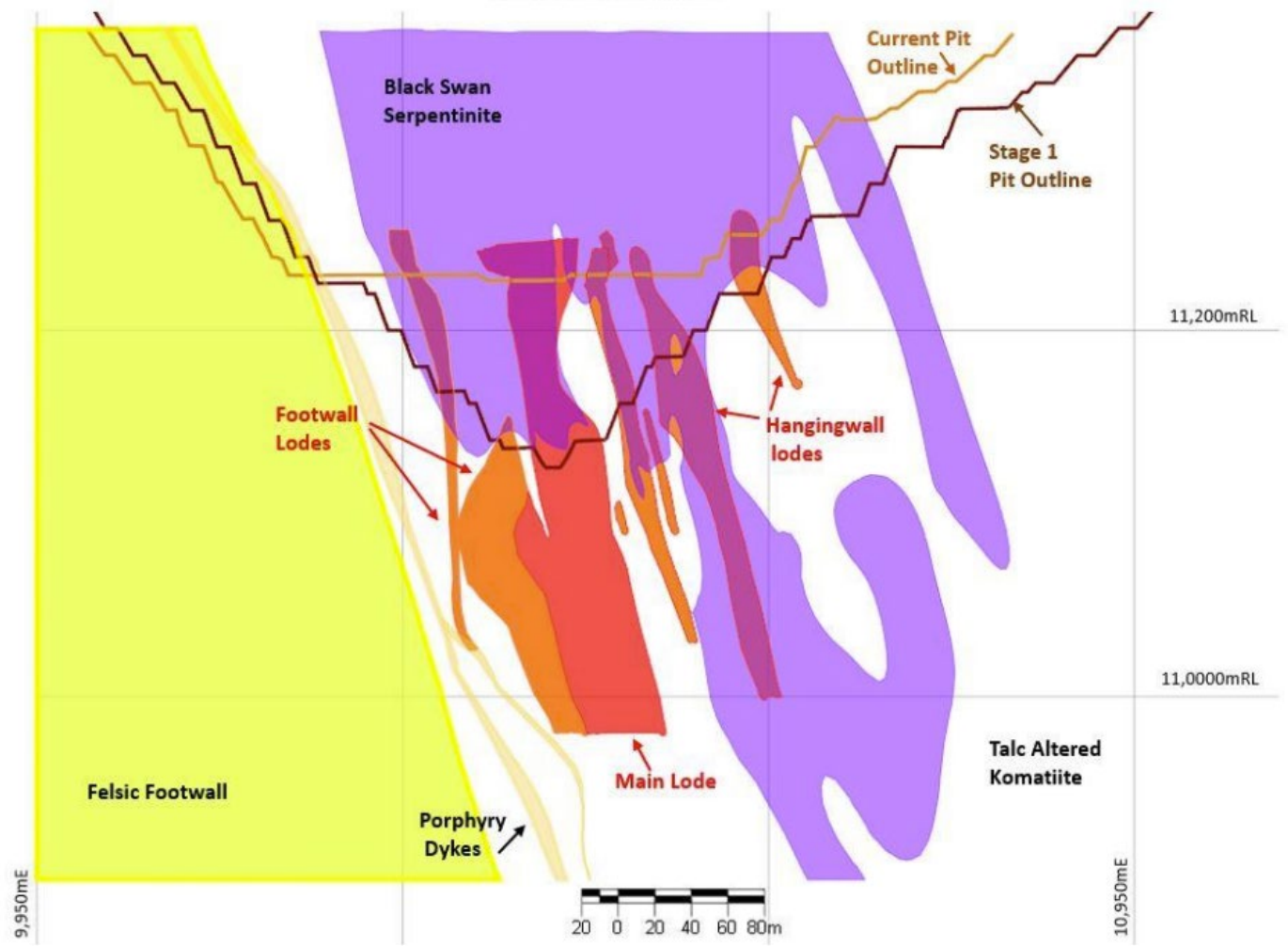
## Key Points<sup>1</sup>

- Combined Black Swan Ore Reserves are **3.5Mt averaging 1.0% Ni for ~35kt Ni contained nickel**
- Metal contained in Mineral Reserve has **increased 40%** since the 2018 Feasibility Study
- Portion of Black Swan Disseminated (BSD) Resource not included in the Mineral Reserves is subject to the ongoing 2.2Mtpa rougher grade concentrate Feasibility Study
- 10,000m RC drilling program from bottom of dewatered open pit planned to commence in mid December 2022 – aim of drilling is to convert a larger amount of the BSD Resource to Reserves for the 2.2Mtpa scenario

# BLACK SWAN – OPEN PIT MINING

- Optimised pit shell to be mined using a conventional drill, blast, load and haul method
- Ore in existing pit floor concurrently mined with pit cut back

Open pit dewatering progress as at 23/11



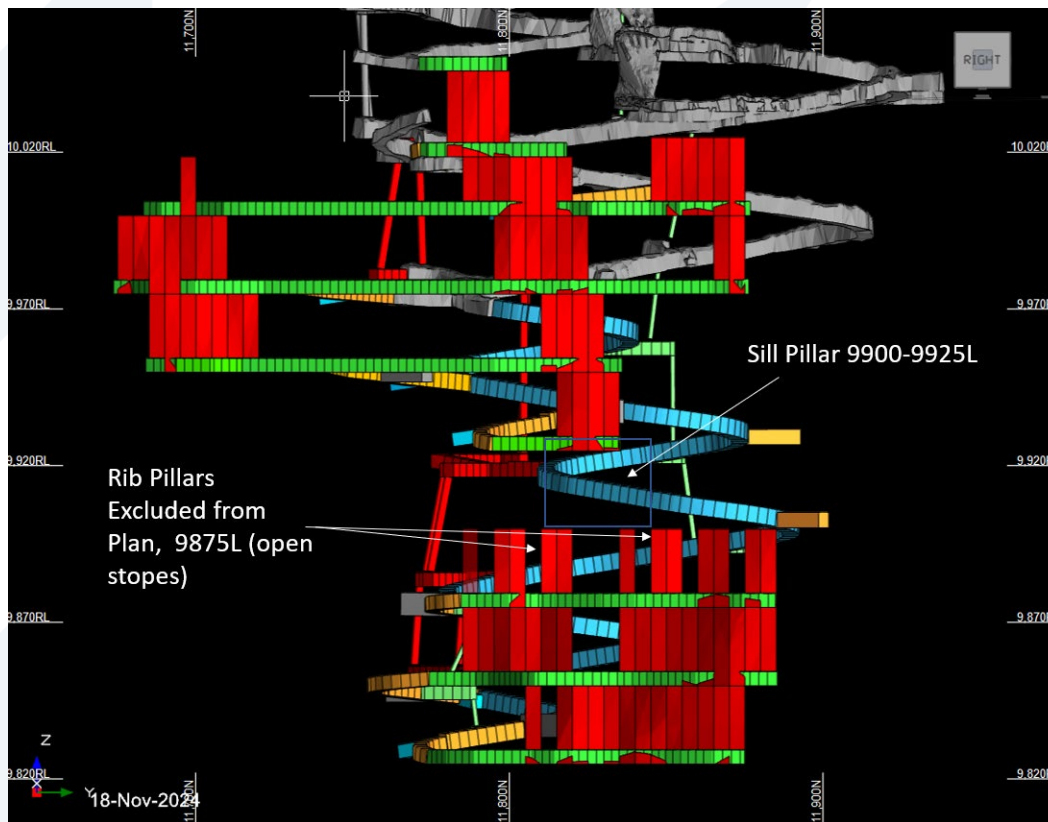
Black Swan open pit geological cross-section 11,320N



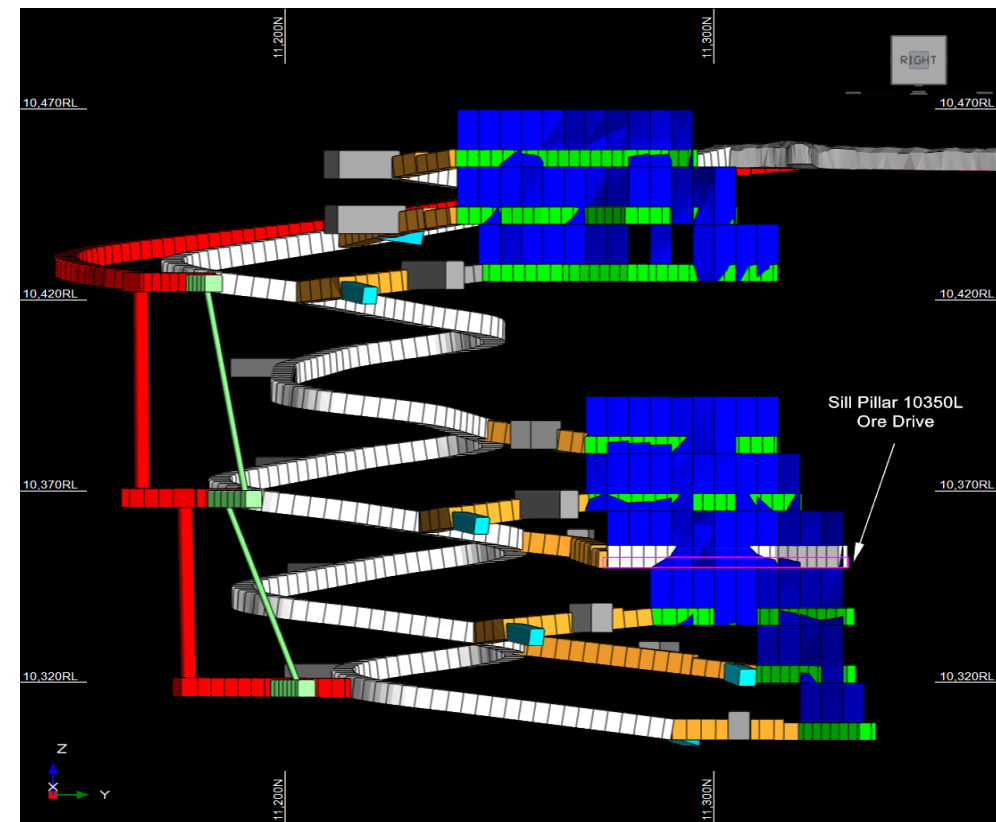
# BLACK SWAN – UNDERGROUND MINING



- Mining using mechanised bottom-up longhole stoping with continuous cemented rockfill on 15–25 metre vertical sub-levels
- Minimal pre-production works required on ventilation system



Silver Swan Underground

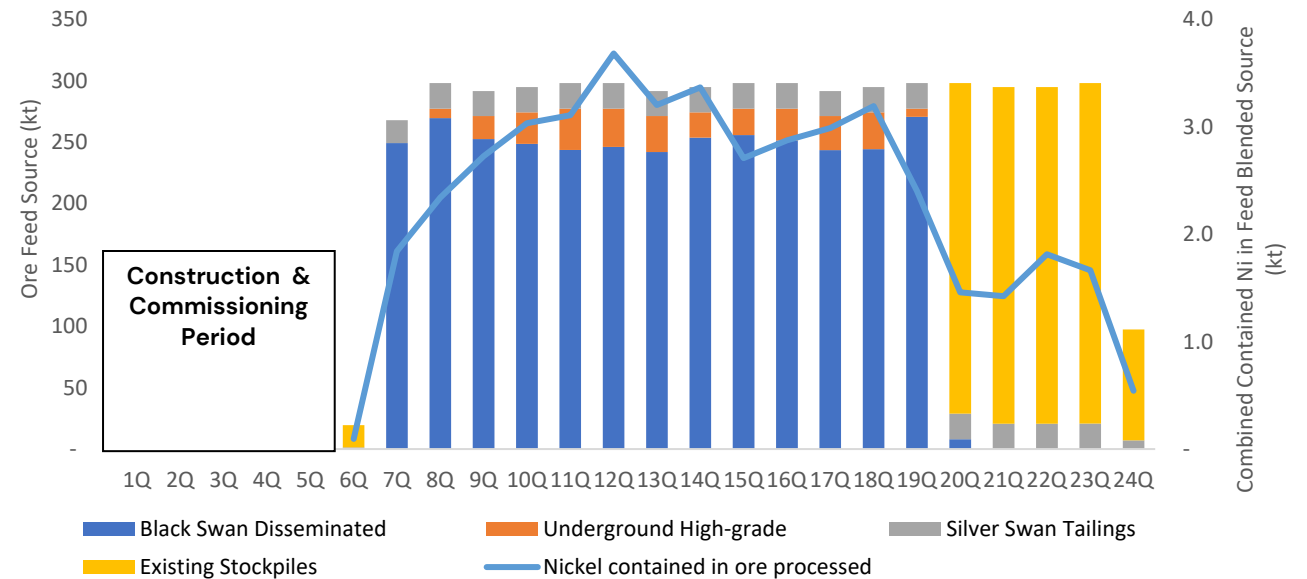


Golden Swan Underground

# BLACK SWAN – FEED SOURCES

Mill Feed Sources	Feed Tonnage (Mt)	Nickel Grade	Contained Nickel (kt)
Black Swan Disseminated	3.3	0.7%	22.1
Silver Swan	0.2	5.0%	9.0
Golden Swan	0.1	4.0%	4.0
Feed sourced from Ore Reserves	3.6	1.0%	35.1
Silver Swan Tailings	0.4	0.9%	3.2
Indicated Surface Stockpiles	0.6	0.5%	3.2
Inferred Surface Stockpiles	0.4	0.5%	2.0
Feed sourced from Mineral Resources	1.4	0.6%	8.4
<b>Total feed sources</b>	<b>5.0</b>	<b>0.9%</b>	<b>43.5</b>

## Quarterly Mill Feed Sources



- **LOM Plan** – front ended with high-grade underground ore and Black Swan disseminated ore to feed concentrator with optimal feed source blend to maximise early cash flows
- Includes 30.8% of Mineral Resources not included in the Ore Reserves, being the Silver Swan Tailings Measured Resource and existing surface stockpiles Indicated and Inferred Resources
- Only 7.7% of Inferred material in total mill feed, being off-ROM BSD surface stockpiles

\*Mineral resources and mineral reserves as per ASX announcement "Positive Black Swan Feasibility Study", 21 November 2022



## Simple flowsheet, all equipment existing

- Single stage crushing with coarse ore bin storage
- Single stage SAG mill with a flash flotation circuit
- Flotation with rougher, rougher-scavenger, cleaner, cleaner-scavenger, cleaner 2 and cleaner 3 stages
- **New Step – Regrinding of rougher 2, rougher-scavenger and cleaner-scavenger concentrates – improves concentrate quality**
- Concentrate thickening and filtration



Black Swan Grinding Circuit and Flash Flotation





## Significant improvement in concentrate quality (improved Fe:MgO ratio)

- Existing Silver Swan mill can be utilised as a regrind mill to treat rougher concentrate stream
- Silver Swan Tailings added to the overall feed blend to significantly increase Fe content of the concentrate plus additional Ni units at very low cost
- Sufficient Silver Swan tailings available for 1.1Mtpa project life

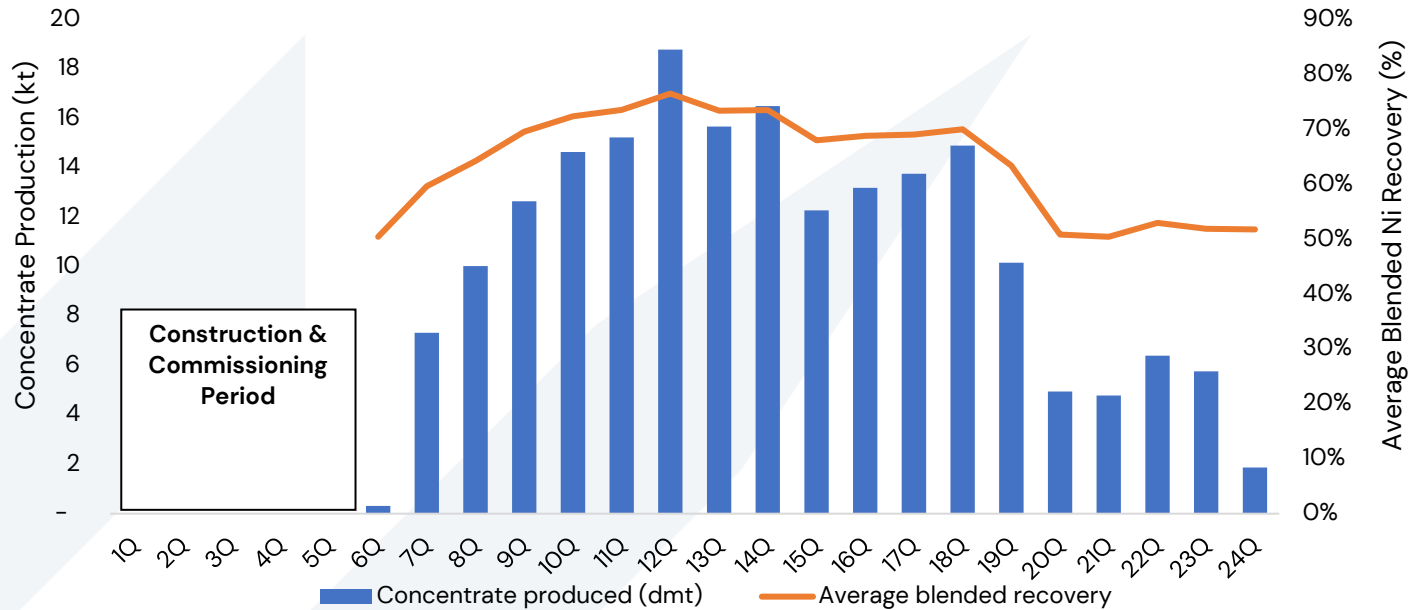


Proposed Regrind Mill

# BLACK SWAN – CONCENTRATE PRODUCTION & QUALITY



## Quarterly Concentrate Production<sup>1</sup>



- ~200kt of concentrate produced
- ~30kt of Ni contained
- 15% nickel grade, MgO<6%, Fe:MgO >5:1
- Strong interest from smelter companies and traders
- Multiple Indicative offers received

### Concentrate Specifications

Element	Unit	BSD feed only	BSD + 7.5% Silver Swan Tailings + 5% Silver Swan
Ni	%	17.1	15.0
Cu	%	0.6	0.6
Co	%	0.5	0.4
MgO	%	5.7	4.4
Fe	%	25.9	29.6
Fe:MgO	ratio	4.5	6.7
As	ppm	3,400	3,800
S	%	38.4	36.2

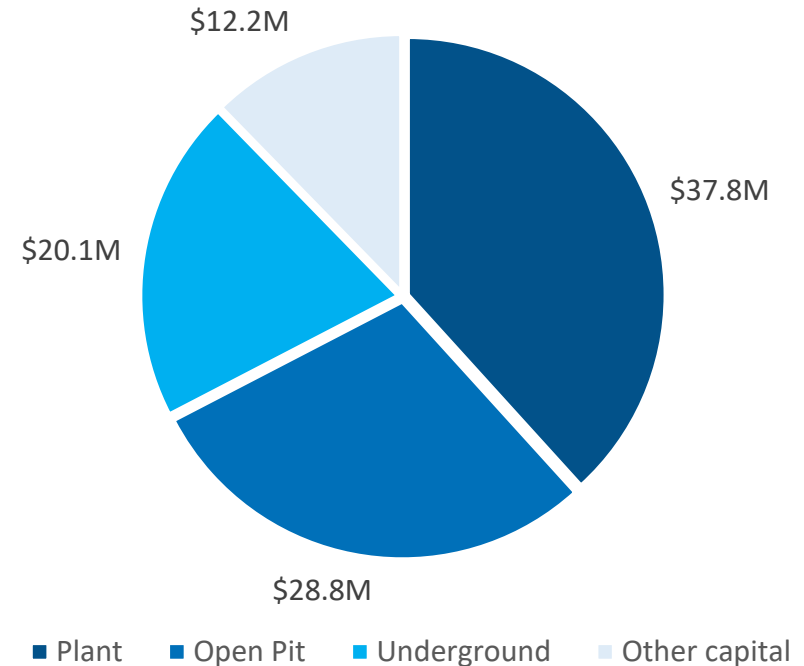


## Total LOM capital costs of \$99M

- Refurbishment of the concentrator for ~\$38M
- ~\$29M for the Black Swan disseminated open pit cut-back and mine development over the life of the project
- Silver Swan underground mine re-entry and mine development of ~\$20M (note capital development during ore production period included in opex)
- Other capital items of ~\$12M over the course of the project

**This represents a low cost alternative to other projects which will need to build mines and plants from scratch**

## Capital Expenditure Mix





# BLACK SWAN – OPERATING COSTS



Estimated operating costs have been determined for the key cost centres as follows:

- **Black Swan open pit** – estimates provided by a Kalgoorlie based open pit mining contractor
- **Underground mining** – based on a Contractor Operating Model with costings generated via a Request-for-Quotation process undertaken by Entech
- **Processing and G&A** – majority provided by GR Engineering Services with a number of minor items provided by Poseidon
- **Concentrate Transport** – the costs associated with hauling the concentrate from Black Swan to Esperance and ocean freight to Lianyungang, China are based on indicative costings provided by Qube Bulk and Hudson Shipping

Cost Description	C1 unit cost (US\$/lb)	C1 unit cost (A\$/lb)
Open pit mining	\$0.9	\$1.3
Underground mining	\$1.6	\$2.4
Tailings & stockpile reclaim	\$0.0	\$0.1
Processing	\$1.5	\$2.2
Transport	\$0.5	\$0.7
G&A	\$0.3	\$0.4
By-product credits (cobalt)	-\$0.2	-\$0.3
<b>Total C1 cost</b>	<b>\$4.6</b>	<b>\$6.7</b>

\*C1 costs as per ASX announcement "Positive Black Swan Feasibility Study", 21 November 2022

# BLACK SWAN – ECONOMIC OUTCOMES



## Economic Summary

Description	Base	Spot	Upside
Revenue	\$809M	<b>\$919M</b>	\$1,207M
Net Cash Flow	\$227M	<b>\$333M</b>	\$610M
Pre-tax NPV <sub>8</sub> <sup>1</sup>	\$167M	<b>\$248M</b>	\$470M
IRR	86%	<b>103%</b>	188%
Payback Period <sup>2</sup>	1.3	<b>1.4</b>	1.0
C1 Cash Cost <sup>3</sup>	US\$4.56/lb	<b>US\$4.52/lb</b>	US\$4.36/lb
AISC Cash Cost <sup>4</sup>	US\$4.90/lb	<b>US\$4.89/lb</b>	US\$4.81/lb
Ni price	US\$11.60/lb	<b>US\$11.80/lb</b>	US\$15.00/lb
FX (USD/AUD)	0.69 USD:AUD	<b>0.67 USD:AUD</b>	0.65 USD:AUD

1. NPV is based on real cash flow forecasts and represents value as at projected start date of concentrator refurbishment being 1 July 2023.

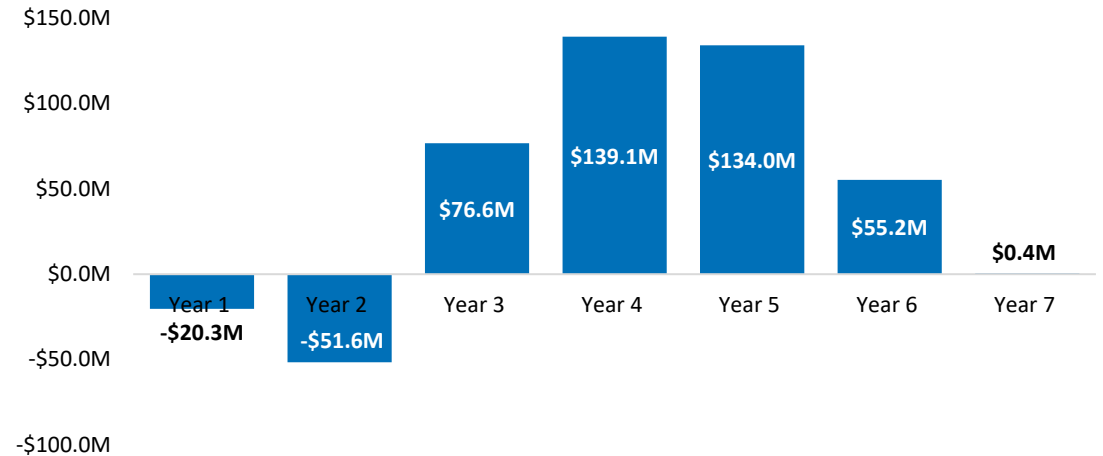
2. Period post completion of concentrator refurbishment.

3. C1 cash costs include operating cash costs including mining, processing, geology, OHSE, site G&A, concentrate transport, less by-product divided by nickel in concentrate produced (100% basis before smelter deductions). Excludes development and sustaining capex, pre-production costs and royalties.

4. AISC - are C1 cash costs plus royalties and sustaining capital. Excludes development capital and preproduction costs.

5. Refer to ASX Announcement, "Positive Black Swan Feasibility Study", 21 November 2022

## Annual Free Cashflow



- **Attractive NPV** – \$248M NPV<sub>8</sub> at spot Ni price and FX rate
- **High IRR** – 103% IRR at spot Ni price and FX rate
- **Low Capital Cost** – \$99M capital cost
- **Payback period** – relatively short payback period due to low capex requirements
- **C1 Costs** – based on 100% of contained nickel – confidential Ni payability assumptions based on indicative offers received



# BLACK SWAN – EXISTING INFRASTRUCTURE







## Poseidon aims to become a sustainable nickel producer, supplying the nickel the world needs to transition to a low-carbon economy

- In relation to the Black Swan project, the Company recognises the importance of understanding and taking action to reduce its greenhouse gas (GHG) emissions
- The Company intends to source power from the local grid. Grid power supply will reduce the Project's carbon emissions compared to diesel fired power generation
- Now that the BFS is completed, the Company will undertake a detailed assessment of the proposed Black Swan operations to understand the projected GHG emissions, and to identify possible decarbonisation opportunities





## The following environmental approvals are current for the Project:

- **Works Approval** – current for mining and treatment of the underground and open pit. An amendment required to recover and treat the Silver Swan Tailings and the next tailings storage facility lift
- **Mine Closure Plan** – A mine closure plan in respect of the Project was approved by DMIRS in 2018. A revised plan was lodged with DMIRS in 2021 and is yet to be assessed
- **Environmental Licence** – current licence allows processing of up to 3Mtpa of ore and dewatering of up to 450,000tpa of mine water
- **Groundwater** – the existing Groundwater Licence allows access to water from the Federal pit, Black Swan pit, Silver Swan underground and the Black Swan borefield, providing a total annual entitlement of 2.7 GL. The Company entered into a 5-year water access agreement with Norton Gold Fields Pty Ltd to take up to 3,600m<sup>3</sup> per day (1.3 GL per year) from the Federal pit in August of 2021
- **Clearing Permits** – no current native vegetation clearing permits are held. Up to 10 hectares per tenement per year can be cleared without a permit, if the activities requiring the clearing are approved via the approved Mining Proposals

# BLACK SWAN – PROGRESS SINCE THE 2018 STUDY



## 2018 Feasibility Study

## November 2022 Feasibility Study

<b>Resource Base</b>	BSD – 30.7Mt @ 0.58% Ni for 179kt Ni Silver Swan – 136kt @ 9.0% Ni for 12.4kt Ni No Golden Swan / Silver Swan Tailings in Mineral Resource	Following resource drilling programs and Mineral Resource updates, current combined Black Swan Mineral Resource is now <b>31.5Mt @ 0.68% Ni for 214kt Ni</b>
<b>Marketable Product</b>	2018 Study did not include mitigating factors to address MgO issues or include indicative terms from potential offtakers based on assumed concentrate product specifications	Regrind circuit and addition of Silver Swan tailings significantly reduces MgO levels and improved the Fe:MgO ratio to >5:1 (well above smelter rejection limits)
<b>Pre-production Works</b>	None of the pre-production works identified in the 2018 Study had commenced	Completed or commenced a number of pre-production projects – underground ladderways, rehabilitation of decline, pump station upgrades and dewatering, access drive for Golden Swan, communications upgrade & pit dewatering
<b>Process Water</b>	No committed water source for the project	5-year water access agreement executed with Norton Goldfields, supplemented with Black Swan borefield to be used as a back-up water source
<b>Power Source</b>	Assumed on-site diesel fire power station	Grid power allocation from Western Power sufficient for 1.1Mtpa, significantly reducing operating costs and carbon emissions





- **Offtake** – continue discussions with potential customers to agree definitive terms ahead of signing an offtake agreement
- **Mill Refurbishment & Operations** – commence discussions with potential contractors:
  - for the refurbishment of the Black Swan concentrator and associated infrastructure
  - for mining and feed processing operations
- **Increase Measured and Indicated** – complete 10,000m resource drilling program in the open pit to convert more BSD Inferred Resources to Indicated and grow the Measured and Indicated resource base
- Assess additional feed opportunities from Windarra and third parties
- **2.2Mtpa BFS** – complete the study on the rougher concentrate project which presents an opportunity to significantly increase contained Ni production and enhance project economics
- **Project Financing** – continue discussions with selected project finance partners to secure appropriate funding for the restart
- **Financial Investment Decision** – make FID during first half 2023, whether based on a 1.1Mtpa or 2.2Mtpa operation so production of concentrate could commence in early 2024





## A FEW TRUTHS ON THE BLACK SWAN PROJECT

### MYTH

### TRUTH

- 1 Black Swan is a walk up operations restart. Why can't Poseidon just 'Start It Up'?
- 2 Black Swan previously operated producing (and selling) nickel concentrate, why does the Company need to study product specifications?
- 3 There was no requirement for further Feasibility Study works beyond the 2018 study
- 4 The nickel price is above the US\$7.70/lb input assumption from the 2018 study, we can start producing

Detailed metallurgical testwork required, mining complexities of deep underground and remediating open pit wall slip, conversion of inferred to indicated classification

The previous producer, Norlisk, was investigating ways of producing a better quality concentrate prior to closure

The Concentrate produced in the 2018 study would have been difficult to sell to conventional smelters  
The 2018 study had not undertaken a marketing assessment of received indicative offers

Operating and capital costs have increased +30% since the 2018 study was completed



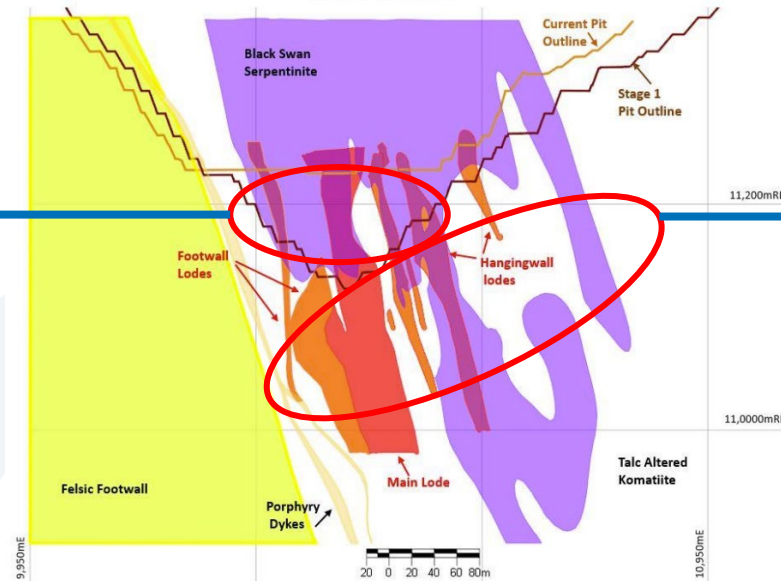
# BLACK SWAN – DEVELOPMENT OPTIONS



## Smelter Option

Smelter Grade Concentrate  
1.1Mtpa ore feed

- BFS released 21 November 2022
- 5.0Mt feed for processing over 4 year LOM
- 200kt concentrate production containing 30kt nickel
- FCF \$333M, NPV<sub>8</sub> \$248M, IRR 103% at current spot nickel price
- Options to extend mine life



## POX/HPAL Option

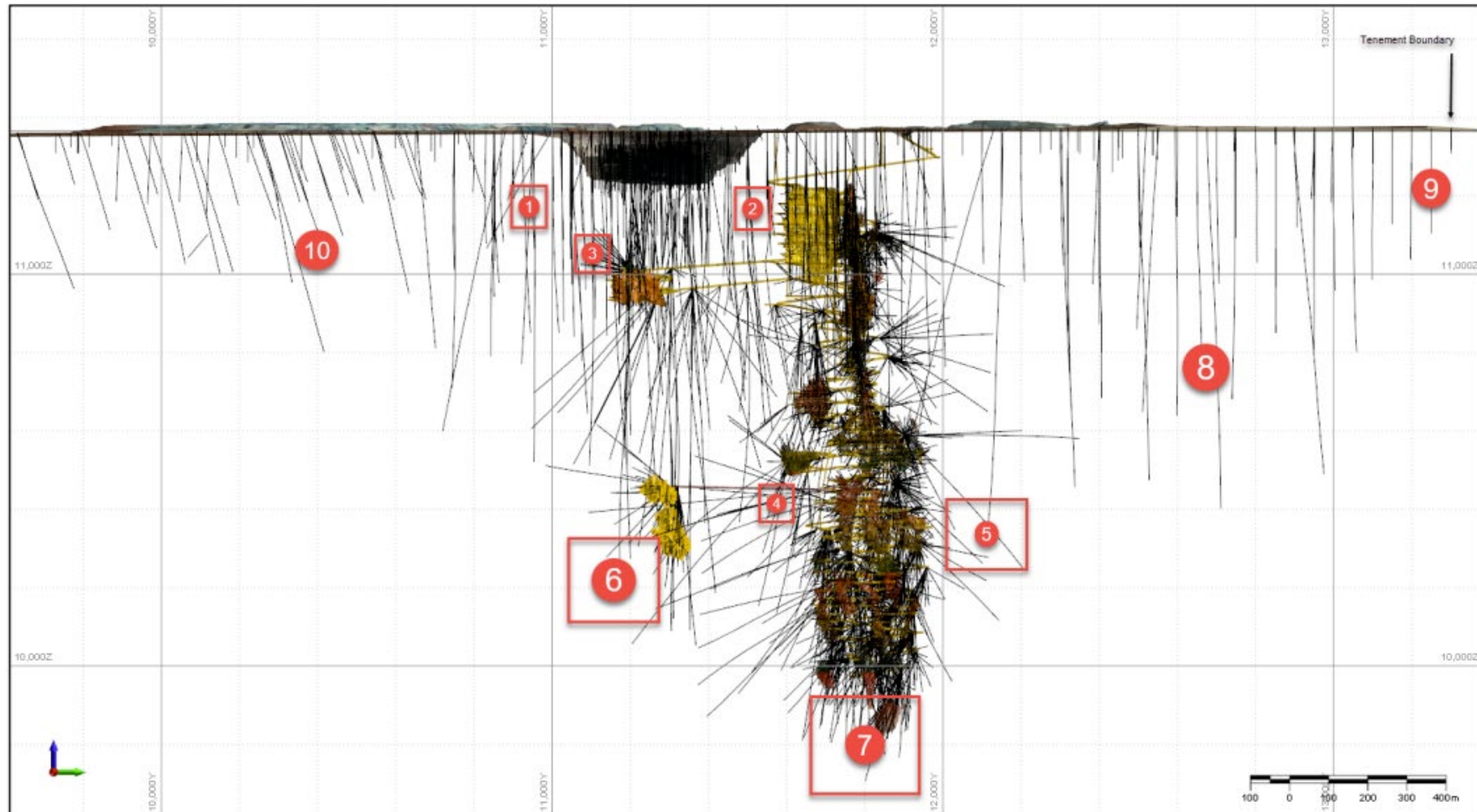
Rougher Concentrator  
2.2Mtpa ore feed

- Can process both higher talc content serpentinite and talc-carbonate disseminated ores
- Doubles processing capacity, potential to significantly grow production profile
- Potentially longer project life
- Target customer/s local downstream processing in Western Australia (i.e. Pure Battery Technologies)

# BLACK SWAN – EXPLORATION POTENTIAL, NEWEXCO REVIEW



Black Swan Exploration Potential Review :





# LAKE JOHNSTON – PROJECT OVERVIEW



## HISTORY

Emily Ann – 1.5Mt @ 3.5% Ni mined / processed between 2001-2007

Maggie Hays – initial Resource of 12.3Mt @ 1.5%Ni, mined and processed between 2008-2013

**11.5Mt ore mined and processed to produce +100kt Ni\***

## CURRENT RESOURCES & INFRASTRUCTURE

Maggie Hays – 3.5Mt @ 1.5% Ni for 52kt Ni<sup>1</sup>

1.5Mtpa process plant (on C&M)

GR Engineering plant refurb estimate of \$31M<sup>2</sup> and opex of \$36/t<sup>2</sup>

## MOVING FORWARD

**NewExco exploration targeting completed, 1st phase drilling program of 15,000m POW approved, planned for early 2023**

Update mining study on Maggie Hays

Undertake Feasibility Study

*\*Contained Ni metal*

*<sup>1</sup> Reference Nickel Mineral Resources Statement Table 1 attached.*

*<sup>2</sup> Refer to ASX Announcement "Lake Johnston GR Engineering Study Completed" dated 27 January 2022.*

*Capex and opex estimates to +/-20% accuracy.*



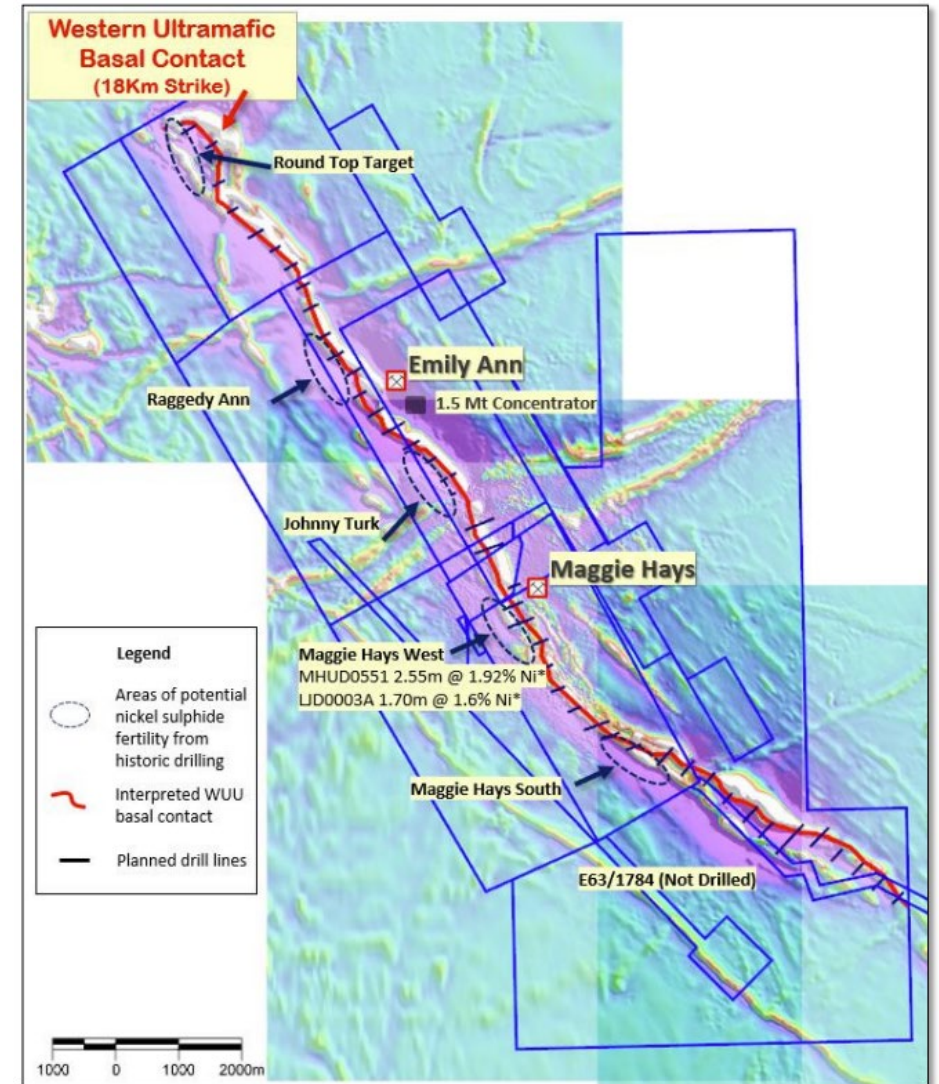
# LAKE JOHNSTON – NEWEXCO REVIEW OF EXPLORATION TARGETS

## WORK UNDERTAKEN BY NEWEXCO

- NewExco reviewed prior studies on the exploration potential at Lake Johnston and identified advanced targets

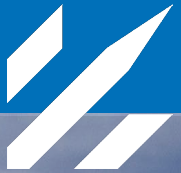
## TARGETS IDENTIFIED

- Western Komatiite/Roundtop – a valid target in an underexplored area with high prospectivity. RC Drilling is expected to commence in early 2023
- Abi Rose extension drilling
- Maggie Hays drilling for Resource expansion – based on the reopening of the Maggie Hay underground operation
- Emily Ann/Abi Rose type intrusions – relogging to identify and locate parts of the ultramafic intrusive system that may have been overlooked
- Vision/Spielers – Surface EM/drilling – these areas have encountered nickel sulphides in the past, proving the prospectivity of the area





# MT WINDARRA – PROJECT OVERVIEW



## HISTORY

Discovered in 1969, Mined from 1974–1983

**8Mt mined / processed to produce 84kt Ni\***

## CURRENT RESOURCES & INFRASTRUCTURE

Mt Windarra 71.5kt Ni\* (grade – 1.64%)<sup>1</sup>

Cerberus Nickel 69.0kt Ni\* (grade – 1.51%)<sup>1</sup>

South Windarra 8.0kt Ni\* (grade – 0.98%)<sup>1</sup>

Gold Tailings contains ~180,000 oz/Au Resource<sup>2</sup>

July 2021 DFS on Gold Tailings Project<sup>3</sup> – confirmed low risk, low capex & opex

State Agreement – Terminated to allow for gold tailings to be process on site

## FUTURE ACTIVITIES – GOLD TAILINGS & NICKEL PRODUCTION FOCUS

### Gold

DFS completed July 2021<sup>3</sup> – 53koz recoverable, free cash \$30.6M, IRR ~50%

Green Gold Projects currently undergoing testwork program to be completed in next weeks

### Nickel

Update studies on mining Mt Windarra and trucking to Black Swan

*\*Contained Ni metal*

*<sup>1</sup> Reference Nickel Mineral Resources Statement Table 1 attached.*

*<sup>2</sup> Reference to Gold Mineral Resources Statement Table 3 attached.*

*<sup>3</sup> Refer to Poseidon Nickel ASX announcement 23 July 2021*





## AUSTRALIA'S NEXT NICKEL CONCENTRATE PRODUCER



Advanced nickel sulphide projects in Tier 1 jurisdiction, 11 months from FID to production



Significant infrastructure advantage over peers at multiple locations



Management with significant experience in financing, building & operating nickel projects



## Peter Harold Managing Director & CEO

- T: +61 (0) 6167 6600
- E: [admin@poseidon-nickel.com.au](mailto:admin@poseidon-nickel.com.au)
- W: [poseidon-nickel.com.au](http://poseidon-nickel.com.au)
- ASX: POS



# Nickel Mineral Resources



**Table 1: Nickel Projects Resources Statement**

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)
<b>BLACK SWAN PROJECT</b>																		
Black Swan	2012	0.40%	10,700	0.75	80,000	-	-	-	18,200	0.55	101,000	28,900	0.63	181,000	0.01	4,500	0.02	5,800
Silver Swan	2012	1.00%	138	9	12,450	-	-	-	8	6	490	146	8.80	12,940	0.16	240	0.36	530
Golden Swan	2012	1.00%	112	4.7	5,200	-	-	-	48	2.2	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	0.40%	1,200	0.49	5,900	-	-	-	400	0.53	1,900	1,600	0.49	7,800	NA	NA	NA	NA
<b>LAKE JOHNSTON PROJECT</b>																		
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
<b>WINDARRA PROJECT</b>																		
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%	-	-	-	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
<b>TOTAL</b>																		
Total Ni, Co, Cu Resources	2004 & 2012		12,825	0.86	109,750	7,067	1.40	98,900	24,770	0.83	206,040	44,662	0.93	414,690	0.02	8,320	0.04	19,780

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

•**Black Swan Resource** as at 4 July 2022 (see ASX announcement "More Nickel in Updated Black Swan Mineral Resource" released 4 July 2022)

•**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 Resources** 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)

•**Black Swan Surface Stockpiles** as at 4 August 2014 (see announcement "Poseidon Announces Black Swan Mineral Resource" including surface stockpiles 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)

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.



# Nickel Mineral Reserves



**Table 2: Nickel Projects Reserves Statement**

Nickel Sulphide Reserves	JORC Compliance	BLACK SWAN PROJECT							
		Proven/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	Proven	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.*

# Gold Mineral Resources



**Table 3: Gold Projects Resources Statement**

Windarra Gold Tailings – South and North Dams (JORC 2012)							
INDICATED							
	Tonnes (t)	AU (g/t)	Au (oz)	Ag (g/t)	As (ppm)	CU (ppm)	Ni (ppm)
North Dam	3,902,000	0.78	98,000	1.9	1,805	365	975
South Dam	850,000	0.50	14,000	0.6	645	355	2,533
Total	4,752,000	0.73	112,000	1.7	1,600	363	1,250

Windarra Gold Tailings – Central Dam (JORC 2012)							
INDICATED							
	Tonnes (t)	AU (g/t)	Au (oz)	As (ppm)	CU (ppm)	Ni (%)	
Central Dam	6,198,000	0.37	74,000	435.0	270	0.3	

Lancefield Gold Tailings (JORC 2012)							
INDICATED & INFERRED							
	Tonnes (t)	AU (g/t)	Au (oz)	Ag (g/t)	As (ppm)	CU (ppm)	Ni (ppm)
Indicated	1,210,084	1.27	49,278	3.61	2,789	314	70
Inferred	337,964	1.20	13,063	3.48	2,951	269	57
Total	1,548,048	1.23	62,341	3.58	2,824	304	67

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

**Windarra Gold Tailings North and South Dams Resource:** no cut-off grade has been used to report the resource, as potential mining method dictates removal of the entire dams. a dry bulk in situ density of 1.6 t/m<sup>3</sup> has been used to derive tonnages. resource numbers in the above table may not sum exactly due to rounding.

**Windarra Gold Tailings central Dam Resource:** No cut-off grade has been used to report the resource, as the potential mining method dictates removal of the entire dam down to a specified elevation. The mineralisation has been reported above a flat elevation of 446 mRL; there are tailings below this level but these have been shown by drilling to contain no gold, and it is anticipated that the proposed mining method will not treat material below this elevation. A dry bulk in situ density of 1.6 t/m<sup>3</sup> has been used to derive tonnages. Resource totals may not sum exactly due to rounding.

**Windarra Gold Tailings Resource as at 22 June 2020** (see ASX announcement "Gold Tailings Resource at Windarra updated to JORC 2012 Indicated" 22 Jun 2020).

**Lancefield Gold Tailings Resources as at 23 July 2021** (see ASX Announcement "Windarra Gold Tailings DFS Highlights Robust Project" 23 July 2021).