



# A Nickel Powered Future

Australian Nickel Conference

5 October 2022

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CEO & Managing Director

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#### COMPETENT PERSON STATEMENTS

The information in this report that relates to Exploration Results is based on, and fairly represents, information compiled and reviewed by Mr Andrew Pearce, who was 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 Golden Swan Mineral Resource is based on, and fairly represents, information compiled by Mr Andrew Pearce, Exploration Manager, 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 information in this report which relates to the Silver Swan 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 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, 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. 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 presentation which relates to the Silver Swan Tailings Mineral Resource 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).

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).

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.

Mr Pearce, Mr Warriner, Mr Cervoj, Mr Glacken Mr Reid, Mr Bezin 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 Pearce, Mr Warriner, Mr Cervoj, 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

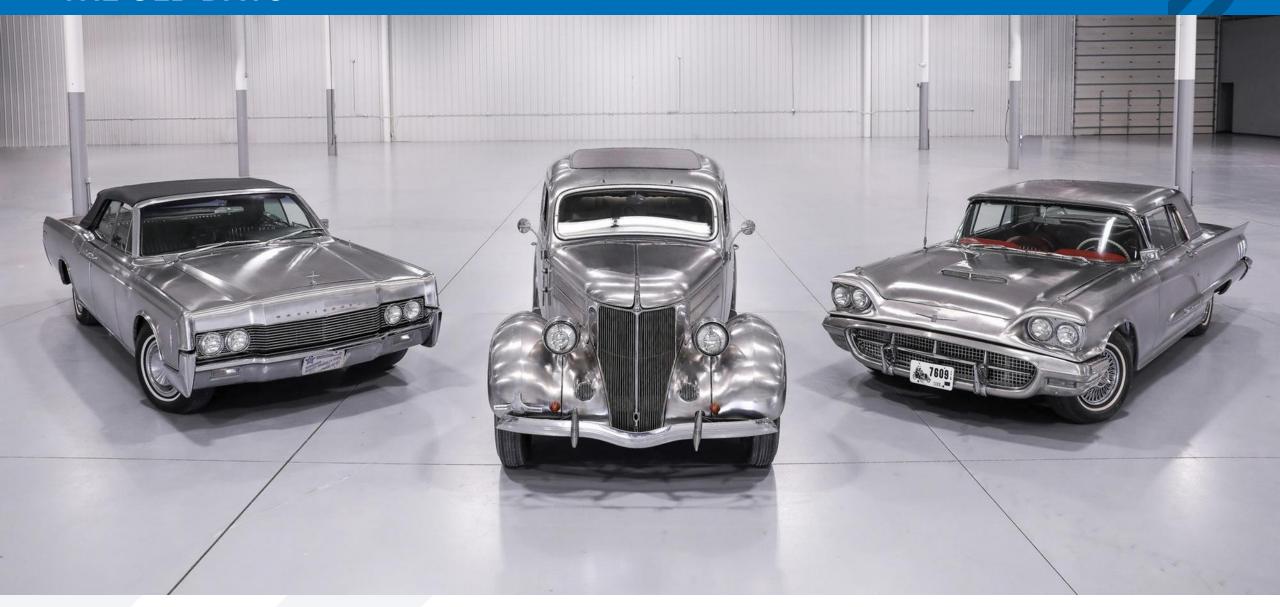
#### FORWARD LOOKING STATEMENTS

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.

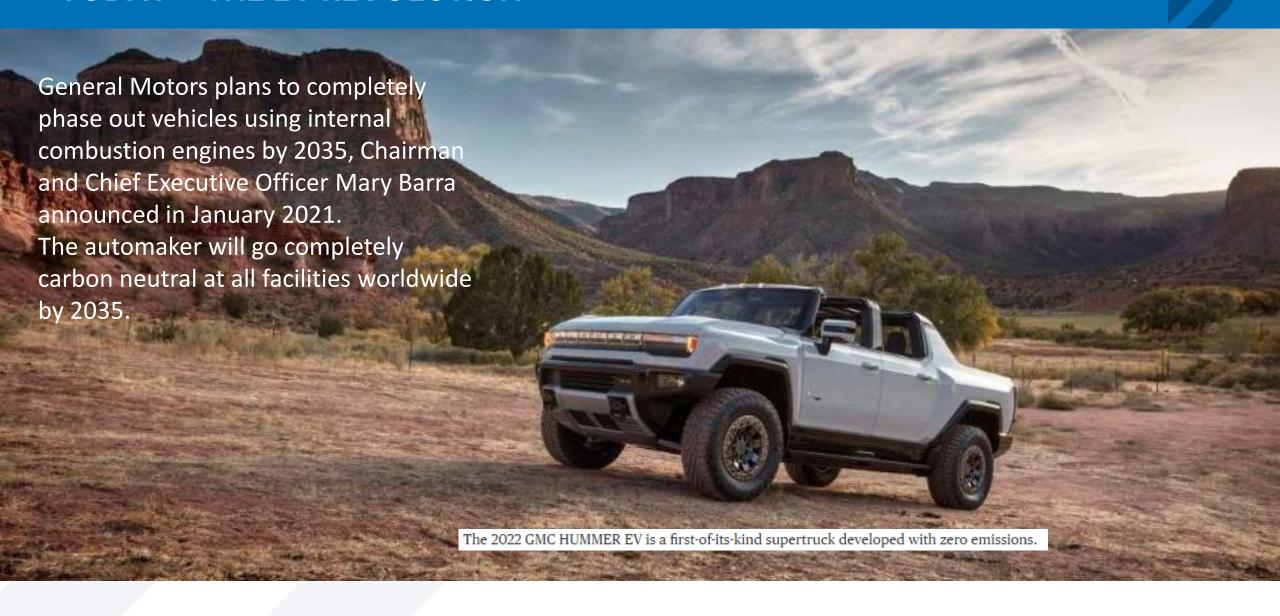
Forward looking statements may be affected by a range of variables that could cause actual results or trends to differ materially. These variations, if materially adverse, may affect the timing or the feasibility and potential development of the Golden Swan underground mine.

# THE OLD DAYS



POSEIDON NICKEL STATE OF THE POSEIDON NICKEL

### **TODAY – THE EV REVOLUTION**

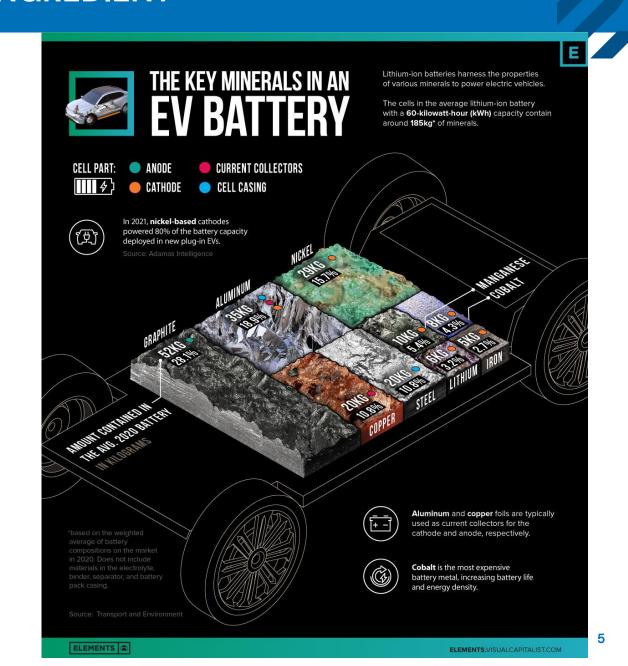


### **EV REVOLUTION - NICKEL IS A KEY INGREDIENT**

# Average lithium ion battery contains:

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

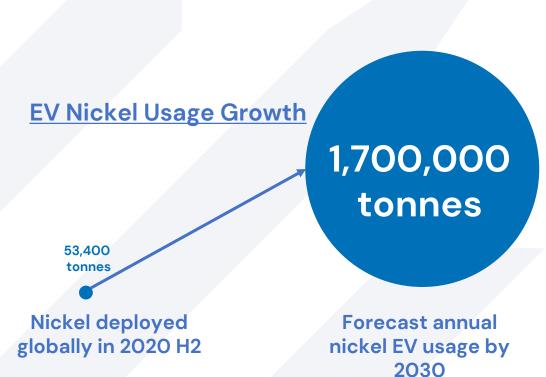
"Nickel ion battery"

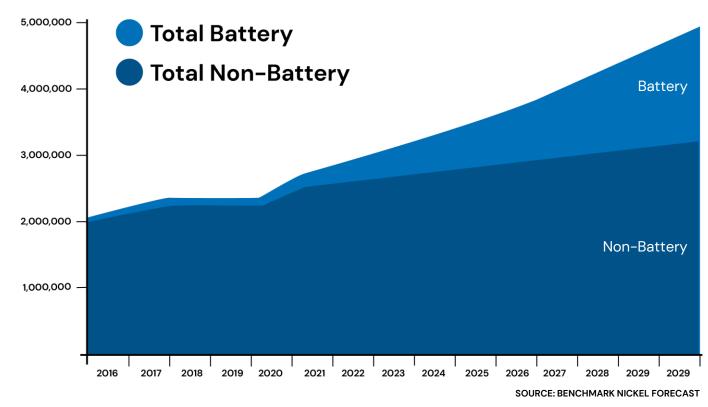


### **NICKEL – CRITICALLY IMPORTANT**

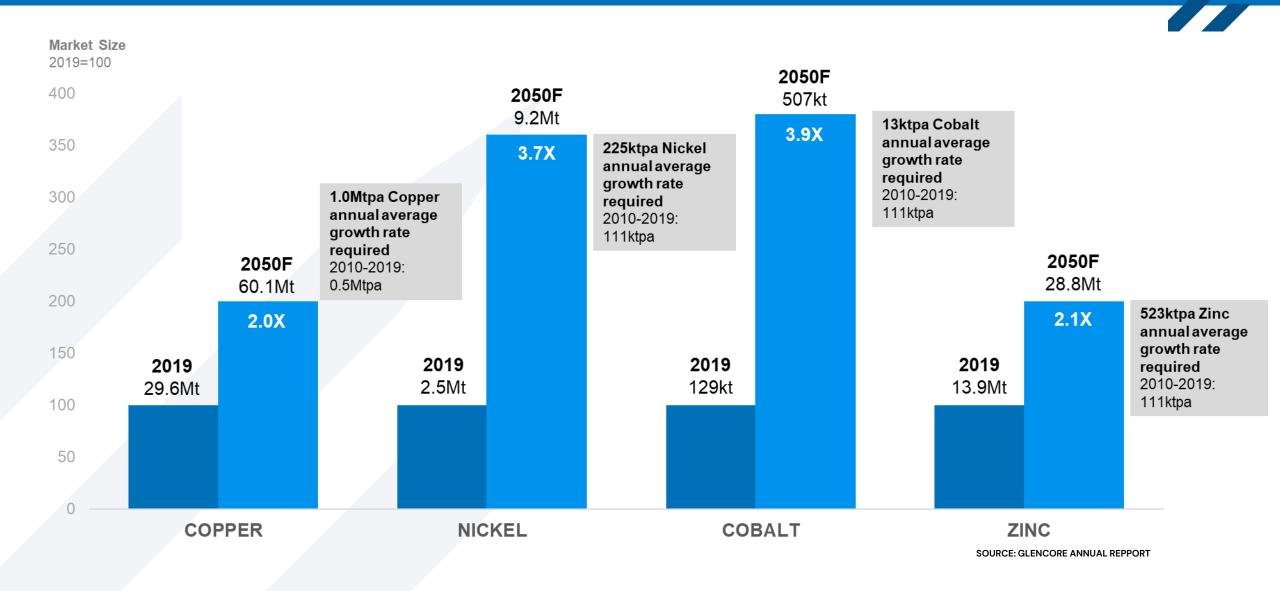
EV batteries are the largest growth sector for nickel

Expected to contribute 30% of demand by 2030





### EVS DRIVING MASSIVE INCREASE IN BASE METAL DEMAND



### **NEW NICKEL PRODUCTION REQUIRED**

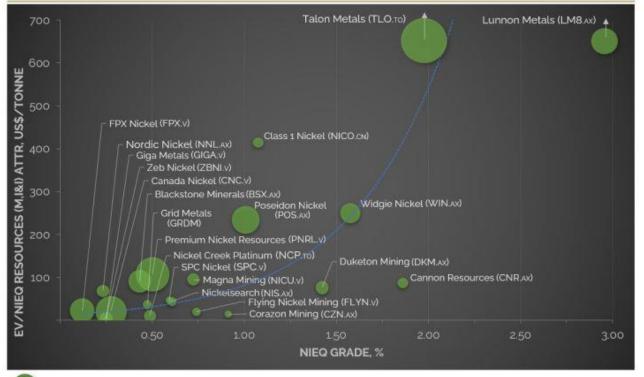
- 1.45 billion cars on the road in the world today
- If all were EVs with "nickel ion" battery then:
- 1.45 billion x 29kg = 42Mt Ni
- Primary nickel production in 2022 ~3.0Mt
- We need more nickel

9 September 2022



#### Nickel Sulphide Explorers & Developers

NiEq Grade vs EV/NiEq Resources (M,I&I) and Market Capitalization



US\$100

Bubble size - Market Capitalization (in USS) as of g Sep 2022

-- NiEq Grade vs EV/NiEq Resources (M,I&I) Trendline (exponential)

Source: Corporate reports and disclosures, Yahoo Finance, ASX, TSXV, LME, IAMetalsResearch

NEg calculated using prices of US\$21,753/t Ni, US\$7,811/t Cu, US\$5,195/t Co, US\$3,128/t Zn, US\$874/oz Pt, US\$2,088/oz Pd, US\$1,718/oz Au Measured, Indicated and Inferred resources are JORC-compliant for BSX.AX, NNL.AX, NIS.AX, CNR.AX, WIN.AX, DKM.AX, LM8.AX, POS.AX, ESR.AX, CZN.AX CIM./Ni 43-101-compliant for CNC.V, GIGA V, ZBNIV, FPX.V, NCP.TO, TLO.TO, SPC.V, FLYN.V, GRDM, NICU.V, NICO.CN JORC/SAMREC-compliant historical estimates for PNRL V

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### POSEIDON HAS PLENTY OF NICKEL

### **BLACK SWAN NICKEL PROJECT**

- Open pit and underground mineral resources
- Significant established mining and processing infrastructure
- Bankable Feasibility Study 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 - PROJECT OVERVIEW**

#### HISTORY

- Black Swan Production 5.9Mt @ 0.7% Ni for 41kt Ni
- Silver Swan Production 2.7Mt @ 5.1% Ni for 137.5kt Ni
- Total production 178.5kpta Ni in concentrate

#### EXISTING RESOURCES & INFRASTRUCTURE

- Black Swan disseminated -181kt Ni\* (grade 0.63%)<sup>1</sup>
- Silver Swan underground 12.9kt Ni\* (grade 9.5%)<sup>1</sup>
- Golden Swan underground 6.3kt Ni\* (grade 3.9%)¹
- Silver Swan Tailings 6.2kt Ni\* (grade 0.92%)<sup>1</sup>
- 2.2 Mtpa processing plant and associated infrastructure

#### CURRENT FOCUS – FILL THE MILL

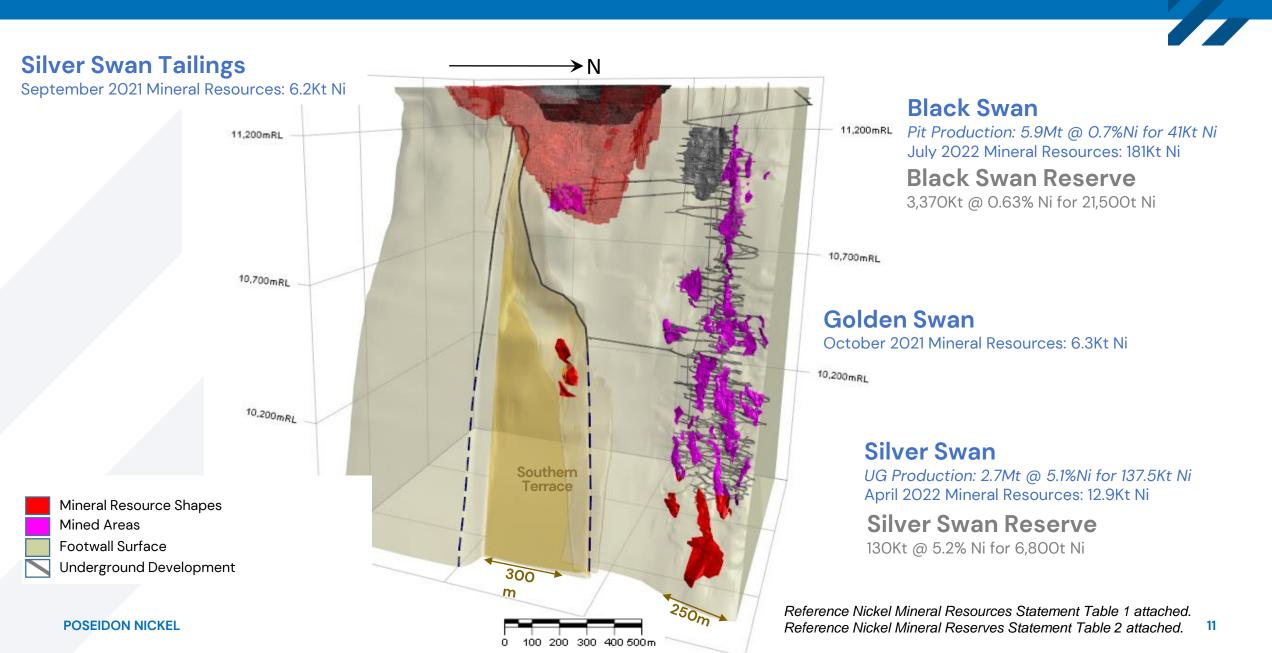
- BFS underway on two production scenarios
  - 1.1Mtpa ore smelter grade concentrate, ~5 years
  - 2.2Mtpa ore rougher concentrate for POX/HPAL, +5 years

<sup>&</sup>lt;sup>1</sup> Reference Nickel Mineral Resources Statement Table 1 attached.

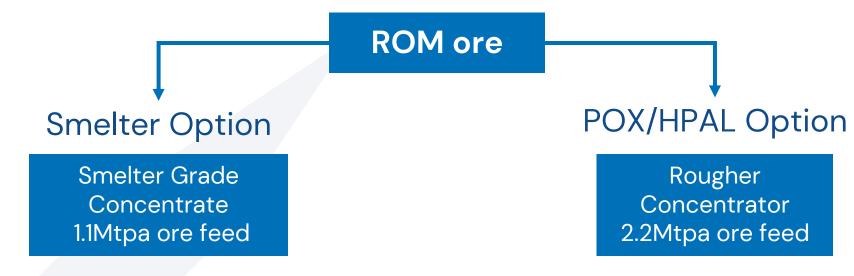


<sup>\*</sup> Contained Ni Metal

### **BLACK SWAN – RESOURCES OVERVIEW**



### **BLACK SWAN – DEVELOPMENT OPTIONS**

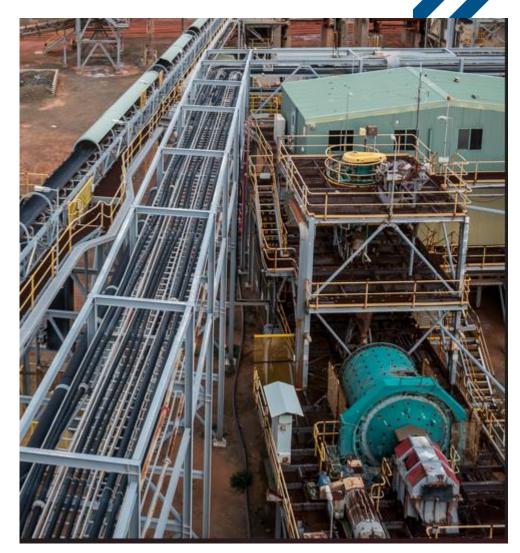


- Only serpentinite (low talc) ore can be processed to smelter grade concentrate
- Likely <5 year project life</li>
- Low start-up capital
- Improved Ni payabilities in recent years

- Can process both higher talc content serpentinite and talc-carbonate disseminated ores
- Rougher concentrate processed to MHP via pressure oxidisation
- Longer project life (>5 year)
- Potential for local downstream processing in Western Australia (i.e. Pure Battery Technologies)

### **BLACK SWAN – BFS UPDATE**

- **Breakthrough** improvement in concentrate quality and saleability by utilising the existing Silver Swan ball mill to add a rougher concentrate regrind step in the processing circuit
- High Ni/low MgO locked-cycle flotation tests incorporating the regrind demonstrate production of a smelter grade concentrate with ~17% Ni, MgO below 6% and a Fe:MgO ratio of approximately 5:1
- Best Terms additional metallurgical testwork incorporating the regrind is underway to optimise the concentrate nickel grade versus recovery and to maximise the nickel payability
- Understand ore types The talc distribution has been incorporated into the Black Swan Disseminated Resource model allowing for a more accurate delineation of the serpentinite ore, which is required to produce smelter grade concentrate
- Costs Capital expenditure and operating cost estimates received
- 1.1Mtpa smelter concentrate scenario feasibility study to be completed during 4Q 2022
- 2.2Mtpa rougher concentrate scenario feasibility study advancing and discussions ongoing with potential customers including Pure Battery Technologies



### **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 CY2023

Update mining study on Maggie Hays

**Undertake BFS** 



<sup>\*</sup>Contained Ni metal

<sup>&</sup>lt;sup>1</sup> Reference Nickel Mineral Resources Statement Table 1 attached.

<sup>&</sup>lt;sup>2</sup> Refer to ASX Announcement "Lake Johnston GR Engineering Study Completed" dated 27 January 2022. Capex and opex estimates to +/-20% accuracy.

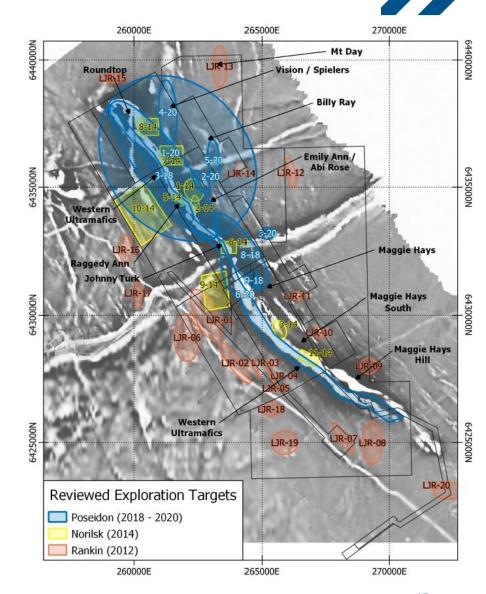
### **LAKE JOHNSTON – NEWEXCO REVIEW OF EXPLORATION TARGETS**

#### **WORK UNDERTAKEN BY NEWEXCO**

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

#### **TARGETS IDENTIFIED**

- 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
- Western Komatiite/Roundtop Surface sampling/drilling a valid target in an underexplored area with high prospectivity



### 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%)1

South Windarra 8.0kt Ni\* (grade - 0.98%)1

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 Technologies to develop the project, subject to CPs, POS 8% free carry

#### Nickel

Update studies on mining Mt Windarra and trucking to Black Swan

\*Contained Ni metal



<sup>&</sup>lt;sup>1</sup> Reference Nickel Mineral Resources Statement Table 1 attached.

<sup>&</sup>lt;sup>2</sup> Reference to Gold Mineral Resources Statement Table 3 attached.

<sup>&</sup>lt;sup>3</sup> Refer to Poseidon Nickel ASX announcement 23 July 2021

### WHY INVEST IN POSEIDON?





Advanced nickel sulphide projects in Tier 1 jurisdiction, short timeframe from FID to production

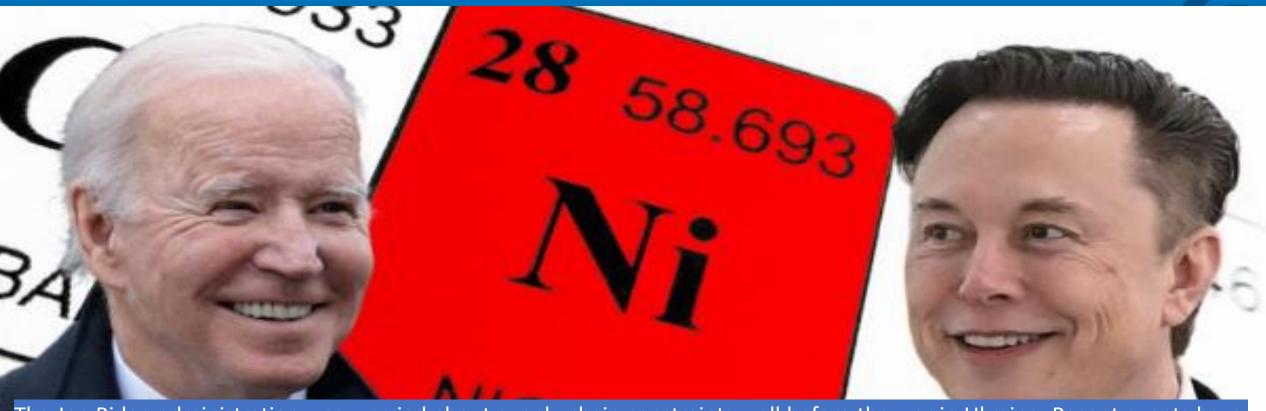


Significant infrastructure advantage over peers at multiple locations



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

### **EVERYONE WANTS MORE NICKEL**



The Joe Biden administration was worried about supply-chain constraints well before the war in Ukraine. Recent events have only sharpened the White House's thinking, highlighting — among other deficits — that the U.S. accounts for only 0.64% of all global nickel production.

As a result, at the end of March, it invoked the Defense Production Act to boost domestic production of critical materials used in electric vehicles. Among the means to be used include "environmentally responsible domestic mining and processing."





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### **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)
BLACK SWAN PROJECT																		
Black Swan	2012	0.4%	800	0.76	6,000	9,900	0.75	74,000	18,200	0.62	101,000	28,900	0.63	181,000	0.01	4,500	0.02	5,800
Silver Swan	2012	4.5%	-	-	-	138	9.00	12,450	8	6.00	490	146	9.50	12,940	0.16	240	NA	-
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	450	0.04	250
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%	-	-	-	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		1,475	0.83	12,200	17,217	1.11	190,550	24,370	0.84	204,140	43,062	0.94	406,890	0.02	8,310	0.04	19,230

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)
- •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	Probable										
		Tonnes (Kt)	Ni% Grade	ade Ni Metal (t) Co % Grad		Co Metal (t)	Cu % Grade	Cu Metal (t)				
BLACK SWAN PROJECT												
Silver Swan	2012	130	5.2	181,000	NA	NA	NA	NA				
Black Swan 2012		3,370	0.63	21,500	NA	NA	NA	NA				
Total Ni, Co, Cu Reserves	2012	3,500	0.81	28,300	NA	NA	NA	NA				

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

•Black Swan Reserve as at 6 November 2014 (see ASX announcement "Black Swan Ore Reserve" released 6 November 2014)

•Silver Swan Reserve as at 26 May 2017 (see ASX announcement "Silver Swan Definitive Feasibility Study" released 26 May 2017)

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### **Gold Mineral Resources**

#### **Table 3: Gold Projects Resources Statement**

Windarra Gold Tailings											
INDICATED											
	Tonnes (t)	AU (g/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	
INDICATED											
	Tonnes (t)	AU (g/t)		Au (oz)		As (ppm)		CU (ppm)		Ni (%)	
Central Dam	6,198,000 0.37			74,00			435.0		270	0.3	

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/m3 has been used to derive tonnages. resource numbers in Table 3A 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/m3 has been used to derive tonnages. Resource totals may not sum exactly due to rounding.

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

North and South Dam Resource as at 23 July 2021 (see ASX announcement "Windarra Gold Tailings Feasibility Study Highlights Robust Project" 23 Jul 2021).

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