

# POSEIDON

NICKEL

## Fill the Mill Strategy

Australian Nickel Conference  
Peter Harold MD/CEO  
5 October 2021



# Disclaimer and Competent Person Statement



## Disclaimer

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## Competent Person Statement

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 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 Andrew Weeks who is a full-time employee of Golder Associates Pty Ltd. The information in this report which relates to the Black Swan Ore Reserve is based on, and fairly represents, information compiled by Mr Andrew Weeks who is a full-time employee of Golder Associates Pty Ltd and who is a Members 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 Andrew Weeks who is a full-time employee of Golder Associates 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 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 Updated Gold Tailings Project Mineral Resource Statement 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 Weeks, 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 Pearce, 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 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.

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**POSEIDON**

N I C K E L

# COMPANY OVERVIEW

# The Poseidon Story

Western Australian  
focused



Combined Nickel  
Resources  
~400kt Ni



2Mtpa processing plant  
at Black Swan  
  
1.5Mtpa processing  
plant at Lake Johnston  
(both on C&M)



Gold Tailings Project  
containing 180koz Au +  
option to treat another  
62koz Au  
BFS completed



Targeting nickel  
production in 2022

Experienced  
exploration and  
development team



Golden Swan and  
Silver Swan  
**Ultra high-grade  
nickel**



Golden Swan  
High-grade nickel  
discovery



Multiple production  
scenarios given two  
strategically located  
processing plants



Progressing toward  
generating revenue in  
2022

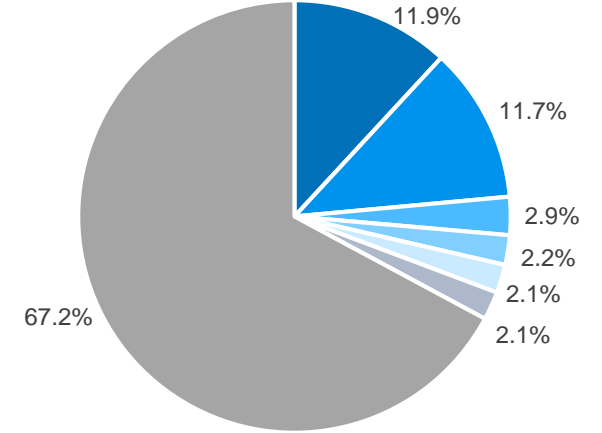
Three quality  
nickel sulphide  
assets

Significant  
exploration  
upside

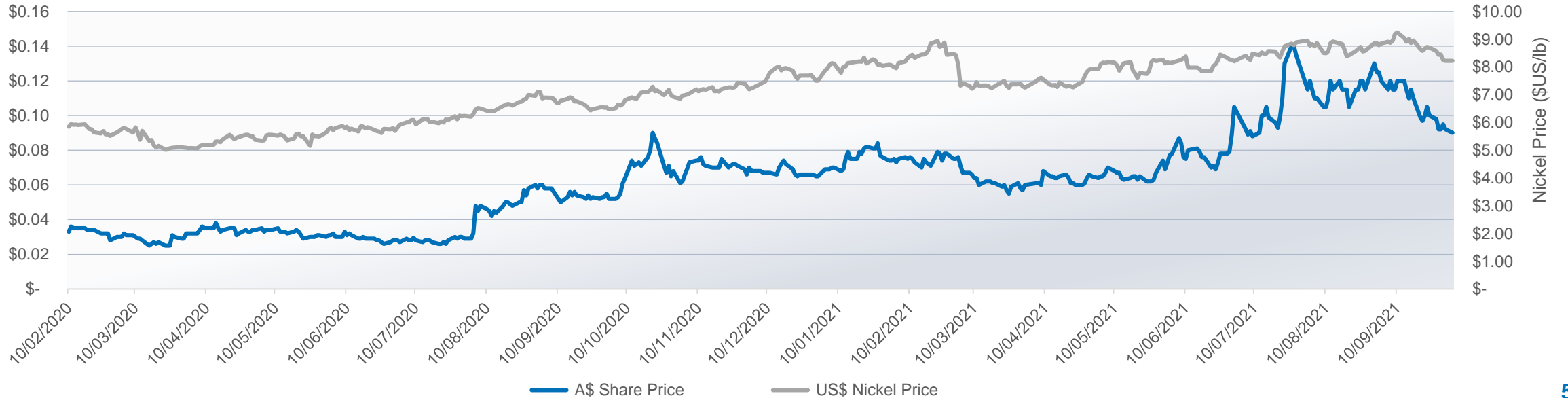
Capital Structure/Enterprise Value	
ASX Code	POS
Shares on Issue	3.064B
Share Price (4 October 2021)	\$0.09
Market Cap	~\$276M
Cash (4 October 2021)	~\$29M

## Significant Shareholders

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



## Share Price Performance



# Experienced Board and Executive Team



**Derek La Ferla**

**Non-Executive Chair**

Derek La Ferla is an experienced corporate lawyer and company director with over 30 years of experience working in corporate and commercial law. Derek is on the National Board of the AICD, a member of its WA Council and a fellow since 2010. He is also a partner (part time) at large independent WA law firm, Lavan and the Chairman of Sandfire Resources Ltd.



**Peter Harold**

**Managing Director and CEO**

Peter Harold is a process engineer with over 30 years corporate experience in the minerals industry, specialising in financing, marketing, business development and general corporate activities. Prior to joining Poseidon, Peter was the Managing Director of Panoramic Resources for 18 years which developed and operated the Savannah and Lanfranchi nickel sulphide underground mines.



**Dean Hildebrand**

**Non-Executive Director**

Dean Hildebrand is a Director and Chief Financial Officer of Black Mountain Metals, a global battery metals mining company. He is a corporate finance professional with experience in capital markets, mergers and acquisitions, and project financing within the natural resources sectors. Dean is the nominee Director for Black Mountain Metals Pty Ltd, a significant shareholder of the Company.



**Felicity Gooding**

**Non-Executive Director**

Felicity Gooding is the Deputy Chief Executive Officer of Munderoo, encompassing the philanthropic holdings of Andrew and Nicola Forrest. Felicity has held senior positions at PwC, Diageo Plc and Fortescue Metals Group Ltd where she was instrumental in the raising of over \$5bn expansion financing. Prior to joining Munderoo, Felicity was an executive at potash development company Sirius Minerals Plc. Exploration Companies Inc.



**Peter Muccilli**

**Non-Executive Director**

Peter Muccilli is a geologist with more than 30 years of extensive exploration, development, operational experience in the resources sector, particularly nickel, gold, zinc and lead. He has proven experience in mine geology, exploration and resource estimation and was the former Managing Director and Chief Executive Officer for Mincor Resources NL. Peter is also the Technical Director for Constellation Resources Ltd.



**Brendan Shalders**

**CFO & Joint Co Sec**

Brendan Shalders is a Chartered Accountant having commenced his career at KPMG. Most recently he was Managing Director at FTI Consulting for nearly 3 years. Having held senior finance roles in both advisory and corporate settings, he has over 16 years' experience in corporate finance, accounting, risk management and business development, predominantly within the mining and mining services industries.



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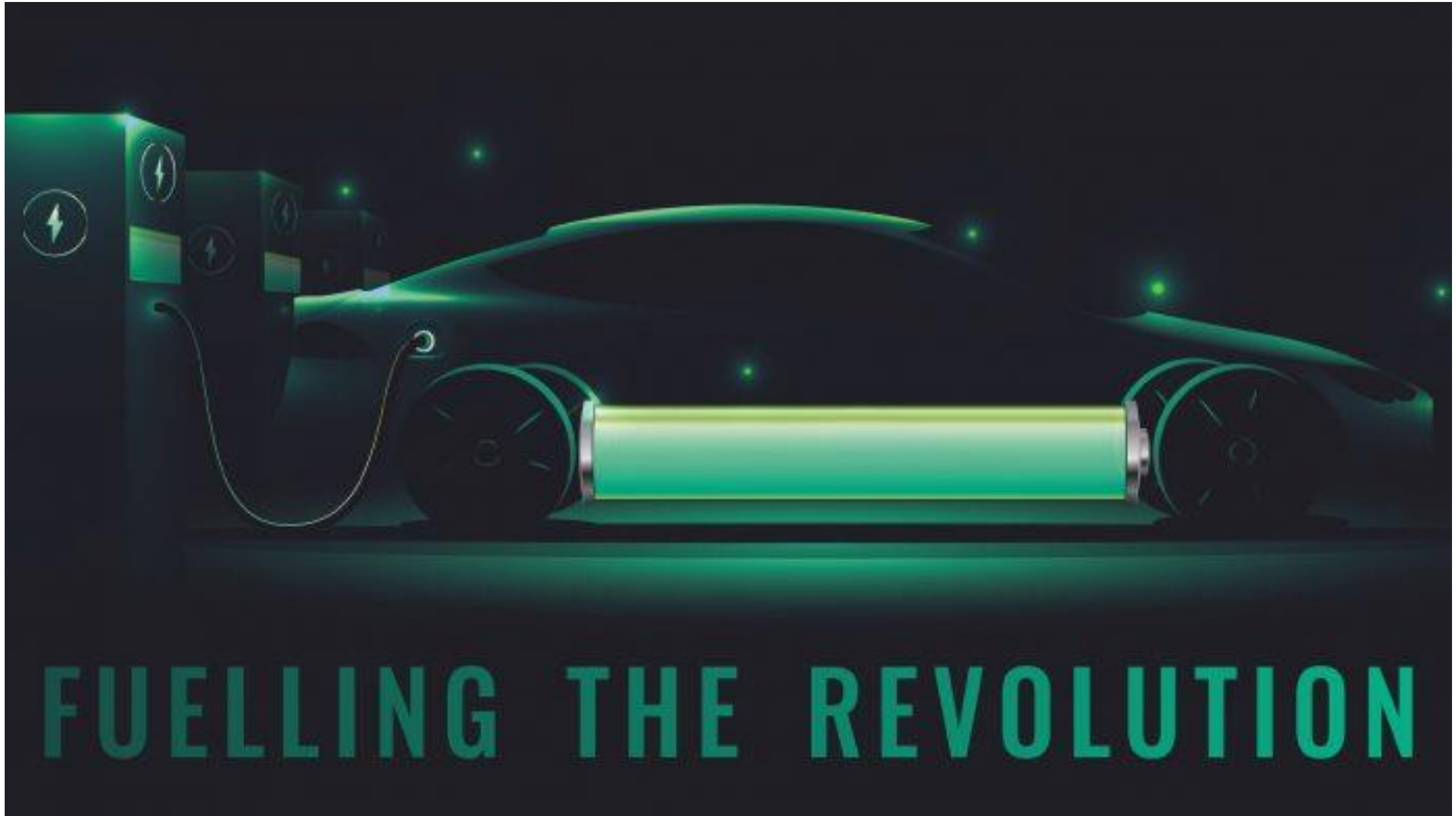
N I C K E L

**NICKEL MARKET**

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# Electric Vehicles to drive massive nickel demand growth

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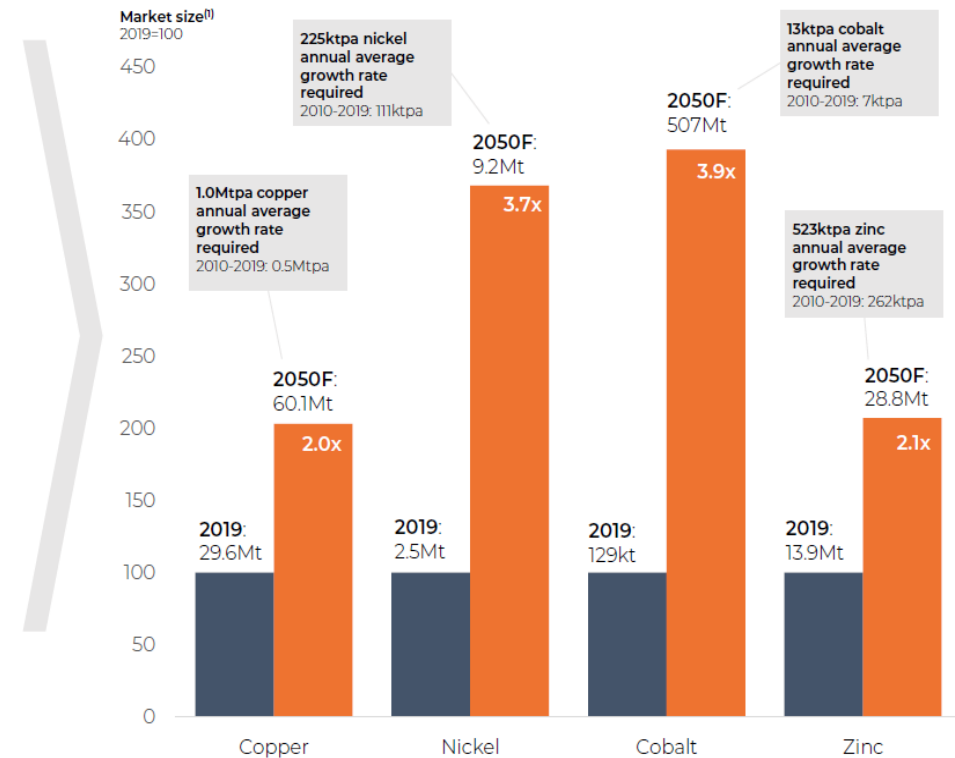
## Electric Vehicles (EVs) drive nickel demand

- Significant investment by car manufacturers in electrification
- Traditional car makers, i.e. VW, showing they can build EVs cost efficiently with their ID.3 model UBS, March 2021
- Battery manufacturers adopting battery chemistries with higher nickel content Trafigura research, SMM, CIAP
- These batteries projected to hold 63% of EV market in six years
- Supply deficits in nickel forming over the decade
- **Prices expected to rise to incentivise new production capacity**

## Projected Base Metal Demand Growth

... needs significant metals supply growth ...

Forecast commodity demand under a Rapid Transition 1.5°C pathway



Glencore 2020 Preliminary results

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# POSEIDON

N I C K E L



Western  
Australia

 MT WINDARRA

 BLACK SWAN  
SILVER SWAN

Kalgoorlie ●

Perth ●

LAKE  
JOHNSTON 

Esperance ●

# OUR NICKEL PROJECTS

# Black Swan Project



Aerial view of Black Swan concentrator

## 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

- Silver Swan underground - 16kt Ni\* (grade - 9.5%)<sup>1</sup>
- Silver Swan Tailings<sup>2</sup> – 6.2kt Ni & 460t Co
- Black Swan open pit & stockpiles -179kt Ni\* (grade - 0.6%)<sup>1</sup>
- 2.2 Mtpa processing plant and associated infrastructure

## Current Focus – FILL THE MILL

- BFS on 1.1Mtpa processing circuit and ore feed sources
- Ore sources – Black Swan pit, Silver Swan tailings, high grade Golden Swan and Silver Swan
- Resource & Reserve for Golden Swan, upgrade Silver Swan Resource & Reserve
- Continue to explore the Southern Terrace for more high grade



**Black Swan 2.2Mtpa milling circuit  
Plans to refurbish and de-rate to  
1.1Mtpa throughput**

\* Contained Ni Metal

<sup>1</sup> Mineral Resources Statement Table 1 attached.

<sup>2</sup> see ASX release 15 Sept 2021

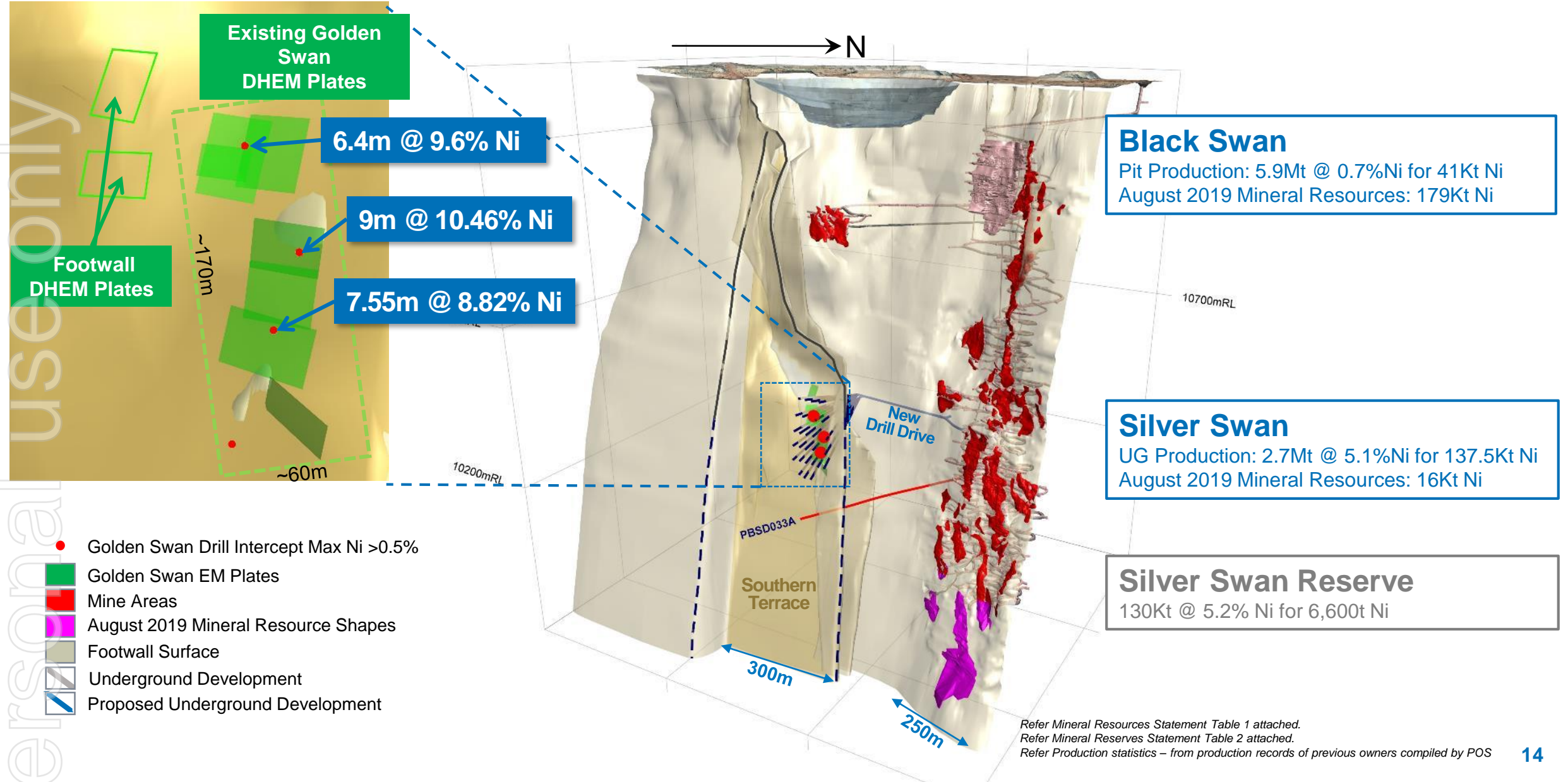
# Black Swan Project

## Silver Swan Discovery - 1995



**Maiden Resource 440,000 tonnes @ 14% Ni  
for approximately 62,000 tonnes of Ni<sup>1</sup>**

# Golden Swan High Grade Discovery & Southern Terrace Prospectivity



Refer Mineral Resources Statement Table 1 attached.  
 Refer Mineral Reserves Statement Table 2 attached.  
 Refer Production statistics – from production records of previous owners compiled by POS

# Golden Swan, Silver Swan & Southern Terrace – Future Activities

## Golden Swan

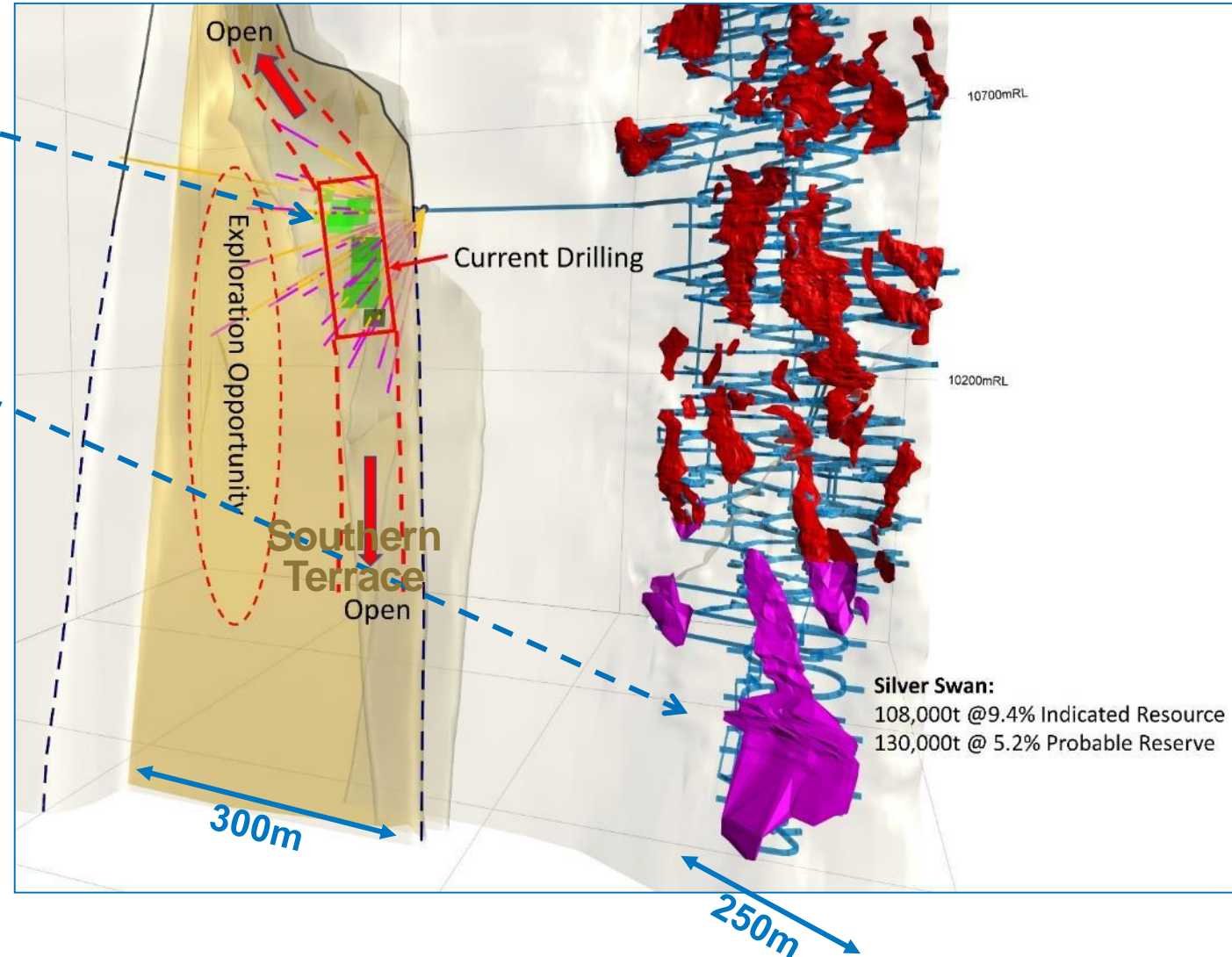
- Resource drilling - 15,000m program completed
- Maiden Resource - mid October
- Mining Inventory - late November

## Silver Swan

- Reserve upgrade drilling - underway
- Resource extension drilling - underway

## Southern Terrace

- Further drill testing from Gosling drill position underway
- EM surveys ongoing



# Fill the Big Mill – New Initiative

## GR Engineering Scoping Study July 2021<sup>1</sup>

- 150ktpa and 1.1Mtpa circuits studied
- capex and opex estimates to +/-20% accuracy
- each option estimated to take 6 months to refurbish

## 1.1Mtpa circuit now the Base Case<sup>1</sup>

- Capex - \$22.1M
- Opex - \$29.40/t

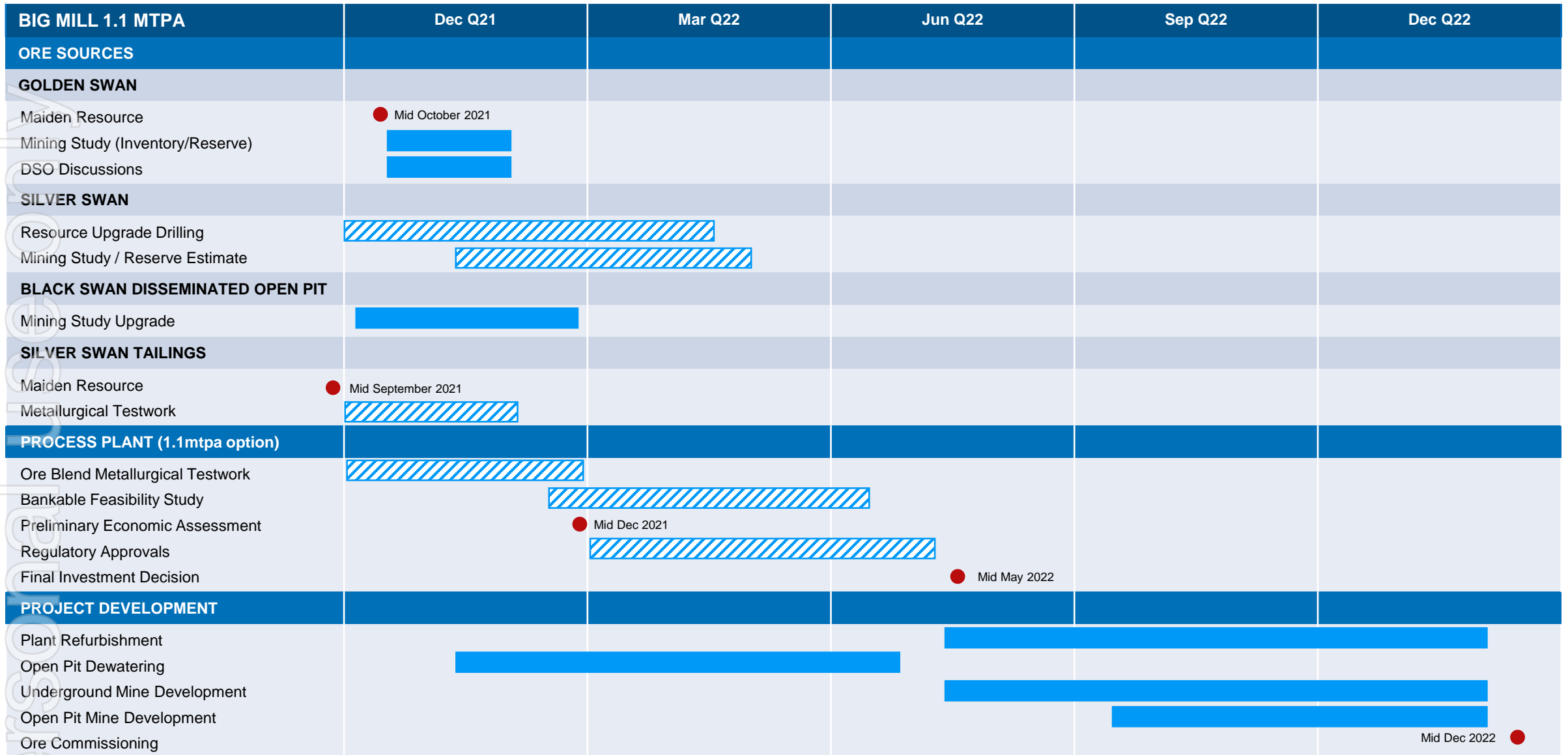
## Ore sources

- Black Swan open pit
- Golden Swan and Silver Swan underground high grade
- Silver Swan tailings (improves Fe:MgO)
- Stockpiles
- Windarra (future)
- 3<sup>rd</sup> party feed (future)





# FILL THE BIG MILL TIMETABLE



Note: proposed timeline could change subject due to delays in completing proposed workstreams, factors outside the control of the Company or marco economic considerations like commodity prices and exchange rates.

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Lake Johnston processing plant

## History

- Emily Ann - 1.5Mt @ 3.5% Ni mined and processed between 2001-2007
- Maggie Hays - 10Mt @ 0.6%Ni mined and processed between 2008-2014
- **11.5Mt ore mined and processed to produce +100kt Ni\***

## Current resources & infrastructure

- Maggie Hay - 3.5Mt @ 1.5% Ni for 52kt Ni<sup>1</sup>
- 1.5Mtpa process plant (on C&M)

## Exploration & Development Potential – current activities

- Review all geological data – completed by NewExco
- Update restart study on Maggie Hays mine and refurb of processing
- Test geological theory
  - More Kambalda-style deposits
  - Intrusive model - follow up Abi Rose Ni discovery<sup>2</sup>



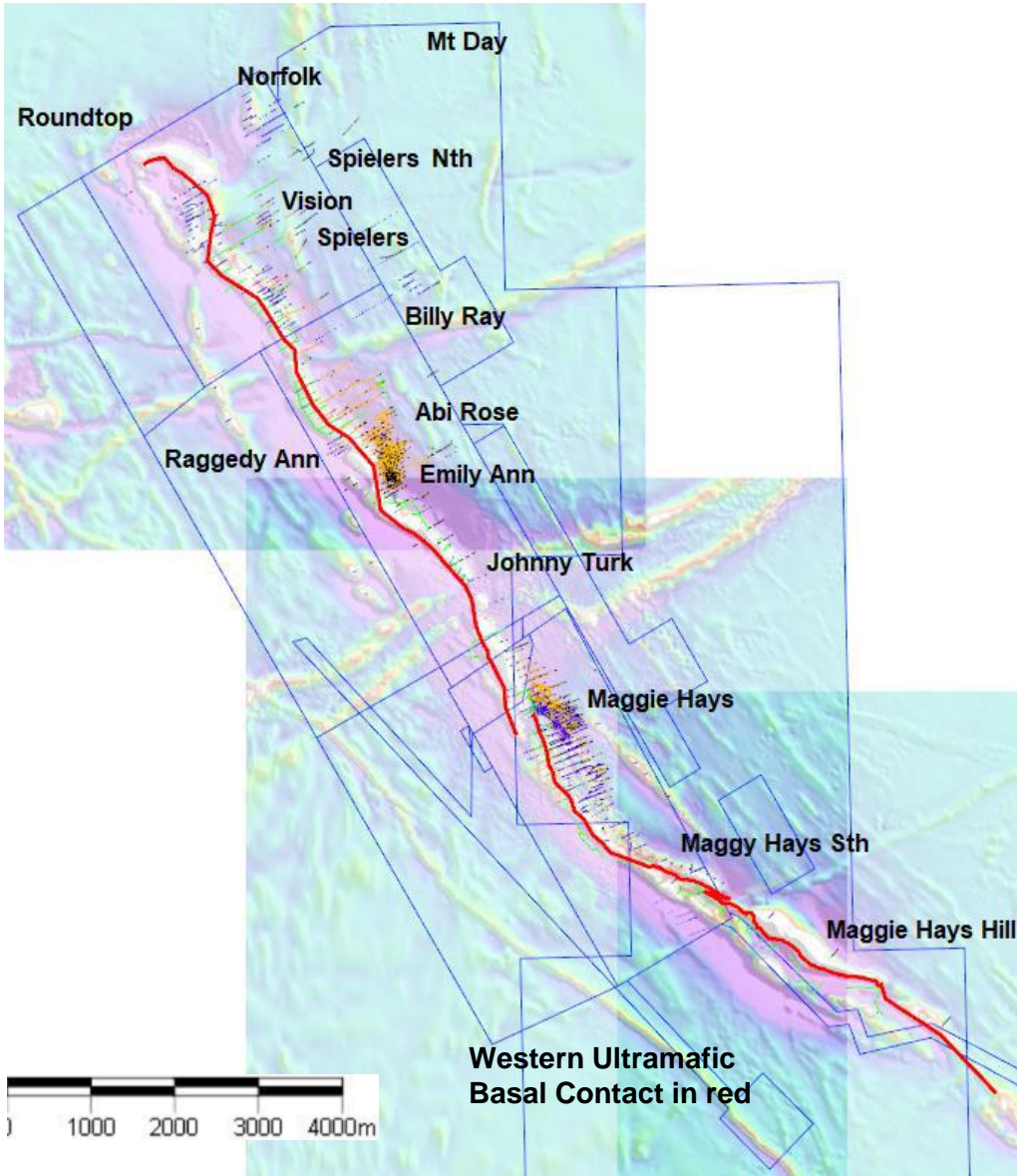
Lake Johnston processing plant

\*Contained Ni metal

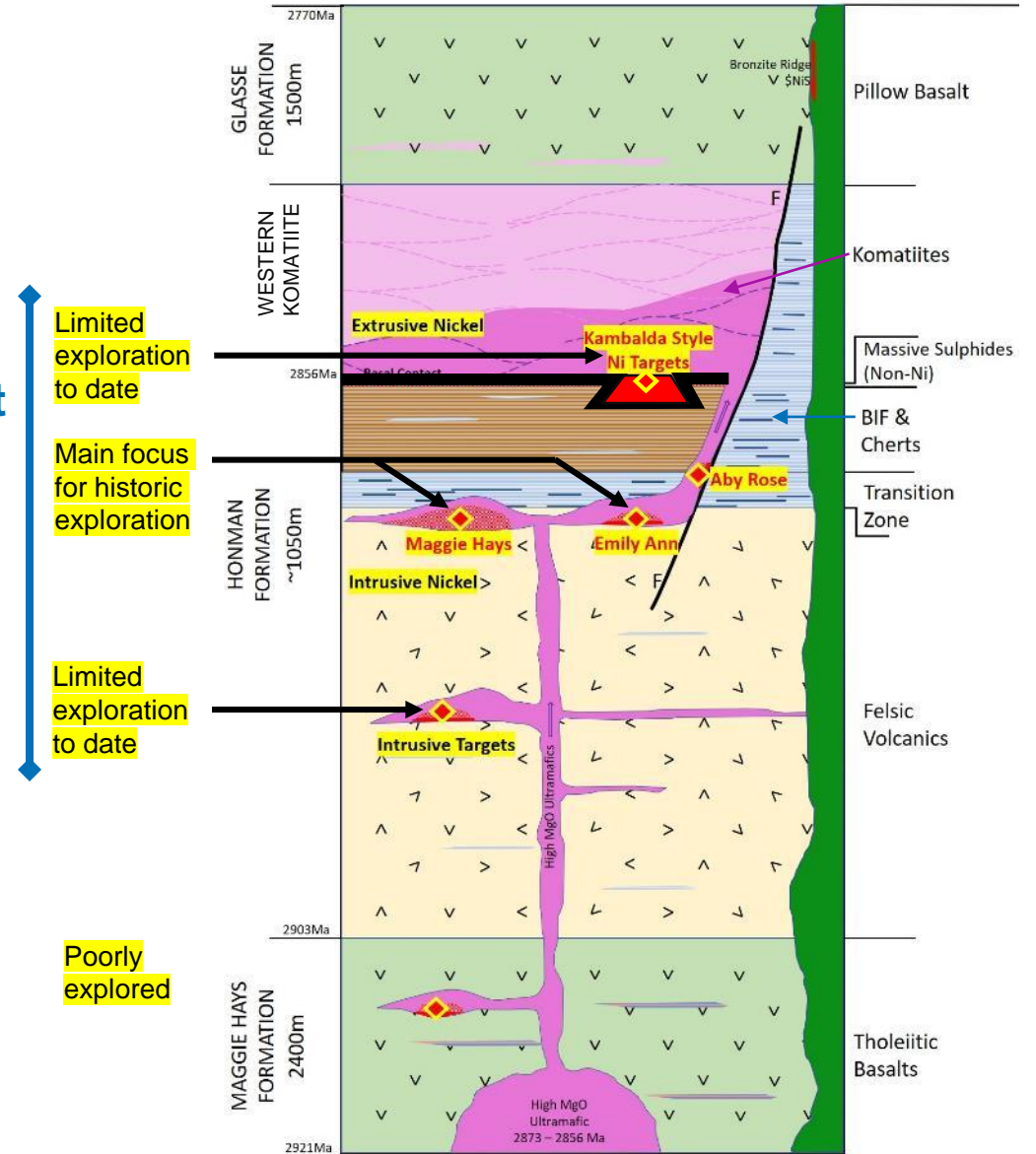
<sup>1</sup> Reference Mineral Resources Statement Table 1 attached

<sup>2</sup> ASX Announcement Successful Drill Program at Abi Rose Concluded with all three diamond holes intersecting Massive Nickel-Copper sulphides" dated 21 November 2018

# Stratigraphy, Nickel Targets and Regional Magnetics



Lake Johnston Stratigraphy and Nickel Targets



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The old milling circuit at Windarra

## History

- Discovered in 1969 and mined from 1974-1983
- **8Mt mined and processed to produce 84kt Ni\***

## Current resources & infrastructure

- Mt Windarra 71.5kt Ni\* (grade - 1.64%)<sup>1</sup>
- Cerberus Nickel 69kt Ni\* (grade - 1.5%)<sup>1</sup>
- South Windarra 8kt Ni\* (grade - 0.98%)<sup>1</sup>
- Gold Tailings contains ~180,000 oz/Au Resource<sup>2</sup>
- July 2021 BFS on Gold Tailings Project<sup>2</sup> – confirmed low risk, low capex & opex

## Future activities – Gold tailings & nickel production focus

### Gold

- DFS completed July 2021<sup>2</sup> – 53koz recoverable, free cash \$30.6M, IRR 50%
- Discussing potential partnerships to fast-track development and monetise asset

### Nickel

- Update studies on mining Windarra and/or Cerberus ore and trucking to Black Swan or Leinster

\*Contained Ni metal

<sup>1</sup> Refer Mineral Resource Statement attached Table 2

<sup>2</sup> Refer ASX Announcement “Robust BFS completed for Windarra Gold tailings Project” dated 23 July 2021

<sup>3</sup> Refer ASX Announcement “Poseidon to acquire rights to treat Lancefield gold tailings” dated 17 August 2020

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**The Future**

## Black Swan

- Deliver maiden Golden Swan Resource and Reserve
- Convert more Silver Swan Resource into Reserve
- Continue to drill test the Southern Terrace
- Complete BFS on 1.1Mtpa processing plant fed from combination of open pit, underground, Silver Swan tailings and stockpiles
- FID by May 2022 latest & commissioning of mill during December 2022

## Mt Windarra

- Study option of trucking ore to Black Swan or Leinster
- Fast track development of gold tailings asset with a suitable partner

## Lake Johnston

- Review and prioritise all exploration targets & start drilling
- Update mining and processing studies on Maggie Hays orebody and 1.5Mtpa mill



# POSEIDON

N I C K E L

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# Mineral Resource and Reserve Statement Tables



**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)
<b>BLACK SWAN PROJECT</b>															
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	168	9.5	16,030	0.19	316	0.4	679
<b>LAKE JOHNSTON PROJECT</b>															
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
<b>WINDARRA PROJECT</b>															
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
<b>TOTAL</b>															
Total Ni, Co, Cu Resources	2004 & 2012		16,775	1.04	174,030	27,275	0.81	221,500	44,049	0.90	395,530	0.02	7,516	0.03	13,379

**Table 1 – Nickel Resource Table**

Black Swan Resource as at 22 Jul 2014 (ASX announcement “Poseidon Announces Black Swan Mineral Resource” 4 Aug 2014)  
 Silver Swan Resource as at 5 Aug 2019 (ASX announcement “Silver Swan Resource Upgrade...” 5 Aug 2019)  
 Maggie Hays Resource as at 17 Mar 2015 (ASX announcement “50% Increase in Indicated Resources at Lake Johnston” 17 Mar 2015)  
 Mt Windarra Resource as at Nov 2014 (ASX announcement “Poseidon Announces Revised Mt Windarra Resource” 7 Nov 2014)  
 South Windarra and Cerberus Resource as at 30 Apr 2013 (ASX announcement “Resource Increase of 25% at Windarra Nickel Project” 1 Dec 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.  
**Table 1B – Silver Swan Tailings Resource**  
 Silver Swan Tailings Resources as at 15 September 2021 (ASX Announcement “Silver Swan Tailings – Maiden Resource Estimate” 15 September 2021)

**Table 2.1 Windarra Gold Tailings Project JORC2012 Mineral Resource**

The Windarra Tailings estimate for North and South Dams has been reported based on the following:  
 •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 Table 2.1 may not sum exactly due to rounding.

**Table 2.2 Windarra Central Dam JORC2012 Mineral Resource**

The Windarra Tailings estimate for the Central Dam has been reported based on the following:  
 •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). 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.

**Table 3 – Nickel Reserve Table**

Silver Swan Underground Reserve as at 26 May 2017 (ASX announcement “Silver Swan Definitive Feasibility Study” 26 May 2017).  
 Black Swan Open Pit Reserve as at 5 Nov 2014 (ASX announcement “Poseidon Announces Black Swan Ore Reserve” 5 Nov 2014).  
 The Company completed an upgrade to the Silver Swan Indicated Resource in 2019 which was based upon the 2015 Silver Swan Resource Estimate (refer Table 1 above). At this point it is not known the impact the updated to the Silver Swan Resource will have on the Silver Swan Reserve.  
 The Company is not aware of any other new information or data that materially affects the information in the relevant market announcements for the Black Swan Open Pit Reserve. All material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

**Table 2: Gold Tailings Project Mineral Resource Statement**

Table 2.1 Windarra Gold Tailings Project North and South Dams Mineral Resource – JORC 2012 Tabulation							
Zone	INDICATED						
	Tonnes (t)	AU (g/t)	Au (oz)	Ag (g/t)	As (ppm)	CU (ppm)	Ni (%)
North Dam	3,624,000	0.78	91,000	1.9	1,770	360	0.10
South Dam	923,000	0.48	14,000	0.6	630	369	0.26
Total	4,547,000	0.72	105,000	1.6	1,540	360	0.13
Table 2.2 Windarra Gold Tailings Project Central Dam Mineral Resource – JORC 2012 Tabulation							
Zone	INDICATED						
	Tonnes (t)	AU (g/t)	Au (oz)	As (ppm)	CU (ppm)	Ni (%)	
Central	6,198,000	0.37	74,000	435.0	270	0.3	

**Table 3: Nickel Project Ore Reserve Statement**

Nickel Sulphide Reserves	JORC Compliance	ORE RESERVE CATEGORY		
		PROBABLE		
		Tonnes (kt)	Ni % Grade	Ni Metal (t)
<b>Silver Swan Project</b>				
Silver Swan Underground	2012	130	5.2	6,800
Silver Swan Open Pit	2012	3,370	0.63	21,500
Total Ni Reserves	2012	3,500	0.81	28,300