# **POSEIDON NICKEL**

**Corporate Update** 

6 May 2020

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### **Corporate profile**

- ASX listed, nickel focussed company with three nickel sulphide projects in Western Australia
- Owner of three previously operated mines Black Swan, Lake Johnston and Windarra
- Combined Resources of 395,530 tonnes Ni\*
- Black Swan 196kt Ni<sup>\*\*</sup> in Resources, 2Mtpa processing plant on C&M, recent exploration success, Golden Swan high grade Ni intersection, further exploration underway
- Lake Johnston 52kt Ni\*\* in Resource and 1.5Mtpa processing plant on C&M
- Windarra ~150kt Ni in Resource\*\* (Cerberus 69kt Ni\*\* in Resource Mt Windarra/South Windarra 79.5kt Ni\*\* in Resource) +180,000oz Au\*\*\* in tailings

\* Contained Ni metal

\*\*Reference Mineral Resources Statement Table 1 attached

\*\*\*Reference Mineral Resources Statement Table 2 attached

POS
2.64bn
~\$0.033
~\$87.0M
~\$48.65M
\$US\$17.5 (~AU\$27M)
~20%
~18%

#### **Board & Key Executives**

Derek La Ferla	Non-Executive Chairman
Peter Harold	Managing Director and CEO
Felicity Gooding	Non-Executive Director
Karl Paganin	Non-Executive Director
Geoff Brayshaw	Non-Executive Director
Brendan Shalders	CFO & Joint Co Sec
Andrea Betti	Joint Co Sec
Steve Warriner	Chief Geologist
David Riekie	Corporate Development Consultant

## Nickel treasury: 395kt nickel\*

#### Black Swan\*\*

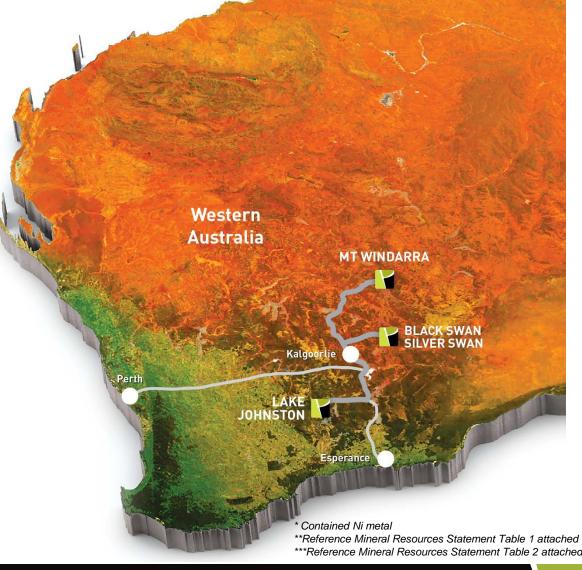
- Silver Swan underground 16kt Ni\* (grade 9.5%)\*\*
- Black Swan open pit & stockpiles 179kt Ni\* (grade 0.6%)\*\*
- 2.2Mtpa process plant capacity (restart option @1.1mtpa)
- Exploration upside emerging (Golden Swan high grade)

#### Lake Johnston\*\*

- Maggie Hays Ni Mine 52kt Ni\* (grade 1.5%)\*\*
- Recent Abi Rose Ni discovery New geological model
- 1.5Mtpa process plant
- Exploration upside potential

#### Windarra Nickel \*\*

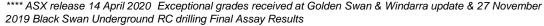
- Mt Windarra & underground Ni 71.5kt Ni\* (grade 1.64%)\*\*
- Cerberus Nickel deposit 69kt Ni\* (grade 1.5%)\*\*
- Potential to upgrade and process ore at Black Swan
- Gold Tailings Au 183koz & Ag 670koz\*\*\*



### A robust and integrated nickel portfolio

- **Good location** Poseidon owns a highly desirable suite of nickel assets in WA's southern sulphide nickel provinces
- 100% owned all assets and underlying resources are 100% owned by Poseidon
- Production ready Black Swan had BFS completed in 2018 and is ready for a quick restart when Ni price is consistently >US\$8/lb\*\*\*
- Significant Resource base Black Swan +Lake Johnston + Windarra = 395kt\* Ni \*\*
- Exploration upside identified targets and excellent prospectivity \*\*\*\*
- Strategy become a significant Ni sulphide miner

<sup>\*\*\*</sup>ASX release Black Swan Nickel Operations Feasibility Study 18 July 2018





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

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

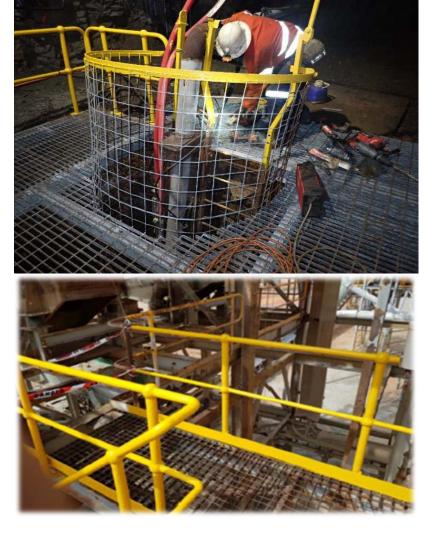
## **Black Swan**

# Key restart metrics from July 2018 BFS\*:

- ~1.1Mtpa mine feed
- ~7,500tpa Ni in concentrate
- Initial 3.5 year mine life
- Low-cost start-up
  - Capital cost ~AU\$30M
  - Working capital ~AU\$25M

#### **Recent activities**

- Safety works on processing facility completed in Feb 2020
- Ladderway rehabilitation in Silver Swan 70% complete (suspended temporarily due to COVID19)





## **Black Swan - emerging and existing potential**

#### **Exploration opportunities at the Black Swan:**

- 1. Golden Swan Massive Sulphide
  - Maiden hole discovers high grade Ni\*

#### 2. Black Swan Disseminated

 Opportunity exists below the current open pit Reserve to identify high grade mineralisation that could be accessed from the existing Gosling development\*\*

#### 3. Cygnet Disseminated

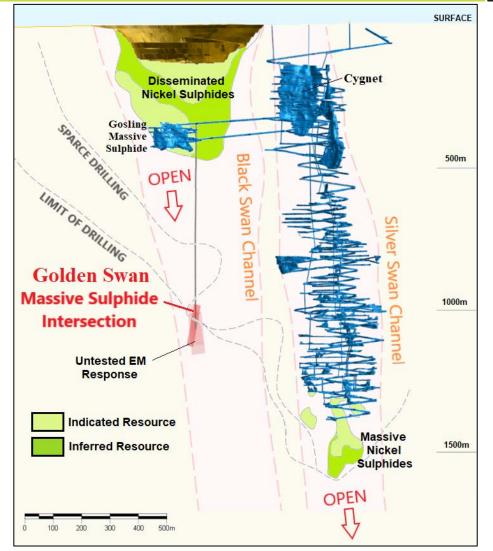
• Scope in medium-term opportunity to access disseminated sulphide mineralisation left over from earlier mining

#### 4. Silver Swan Massive Sulphide

High-grade orebody remains open at depth\*\*\*

\*\* ASX Release 27 November 2019 Black Swan Underground RC drilling Final Assay Results

\*\*\* ASX Release 6 March 2020 106% Upgrade of Nickel Reserve at Silver Swan

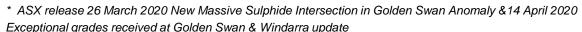


#### **Proximity of Significant Nickel Opportunities**

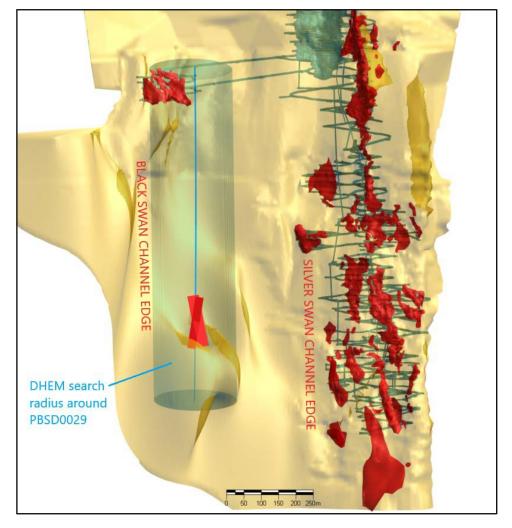
<sup>\*</sup> ASX release 26 March 2020 New Massive Sulphide Intersection in Golden Swan Anomaly &14 April 2020 Exceptional grades received at Golden Swan & Windarra update

## **Golden Swan - intersection and area of focus**

- Down Hole Electromagnetic (DHEM) highlighted potential within the Black Swan channel
- Maiden hole discovered high grade massive Ni sulphides
- Composite assays for PBSD0029A\*:
  - 7.6m @ 8.8% Ni (true width 4.3m) including 2.1m @ 15.9% Ni (true width 1.2m)
  - Total interval 23.1m @ 4.0% Ni & 0.4% Cu (true width 13.3m)
- Surface and underground Electromagnetic survey underway\*\*
- Next phase of underground drilling planned for mid-May\*\*



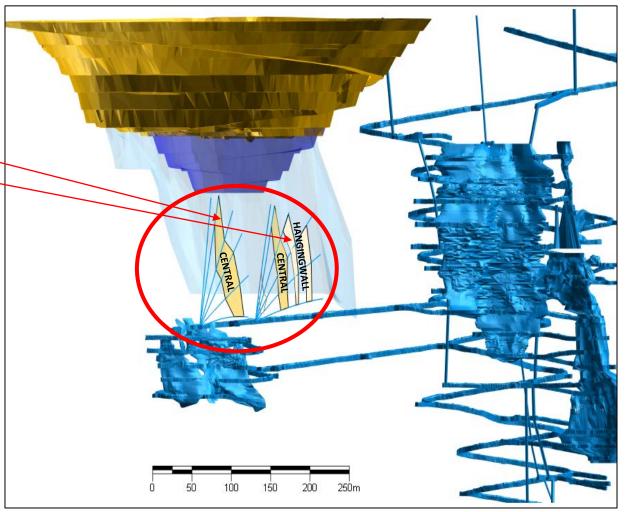
\*\* ASX Release 14 April 2020 Exceptional grades received at Golden Swan & Windarra update & ASX Release28 April 2020 Quarterly Report 31 March 2020



#### Search DHEM radius around PBSD0029

## **Black Swan Disseminated (BSD)**

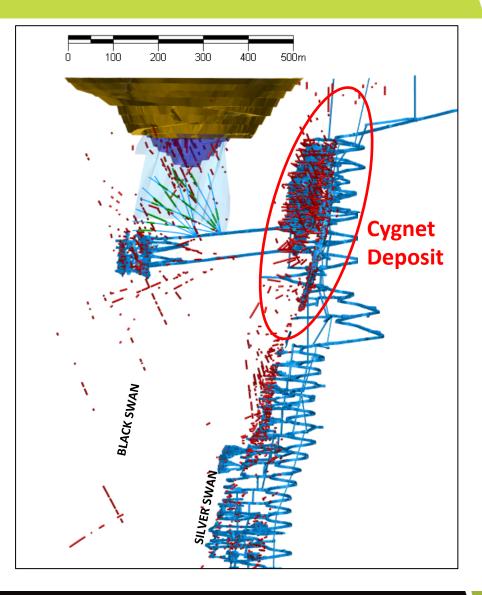
- Planned 14-hole (2,481m) underground RC trial drilling program completed
- Significant width of mineralisation intersected\*
  - Multiple higher grade zones >1%Ni contained within
  - Additional mineralisation encountered in the hangingwall
- Excellent up-hole drilling R&D milestones achieved\*
  - Full sample recovery on longest up-hole of 237m (PBSC009)
  - Continuous up-hole gyro survey to 200m
  - Lower "nugget effect" observed in assays
- Historical data suggests the BSD mineralisation is continuous from the open pit floor to Poseidon's RC drilling 200m below\*



Trial Underground RC drill fans from the Gosling Access Drive, 200m below the Black Swan Open Pit

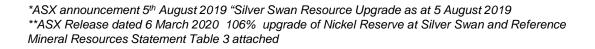
## **Cygnet Disseminated Deposit (CD)**

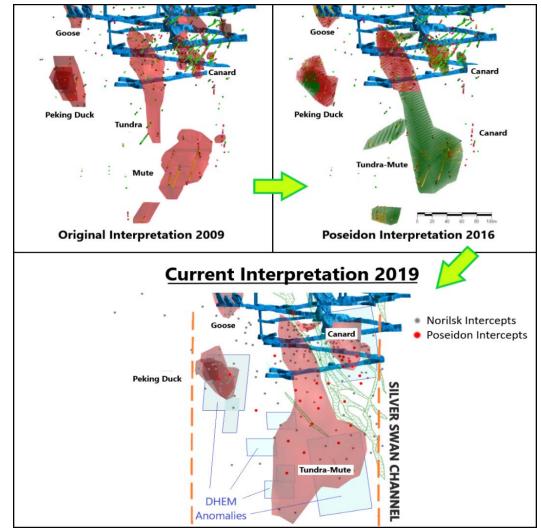
- Cygnet massive sulphide mined by MPI
- Significant amount of disseminated in stope hangingwall
- Mine placed on care and maintenance prior to implementation of mining activities
- Poseidon to investigate the opportunity to include Cygnet mineralisation into the next resource calculation



## Silver Swan Massive Sulphide (SS)

- 2019 drilling program (3,662m) increased Silver Swan Resource by 30% (3,630 Ni tonnes) to 168,000t @ 9.5% Ni for 16,030 Ni tonnes\*
- The SS deposit is high-grade and open at depth
- Drilling intersected high grade massive nickel sulphides\*:
  - Improved confidence in continuity
  - Increased overall grade and width of resource
  - Less anticipated dilution and structural complexity
- 2019 results important in BS restart
- 106% Increase in Nickel Reserve increased contained Nickel metal to 6,800 Ni tonnes (130,000t @5.2% Ni)\*\*

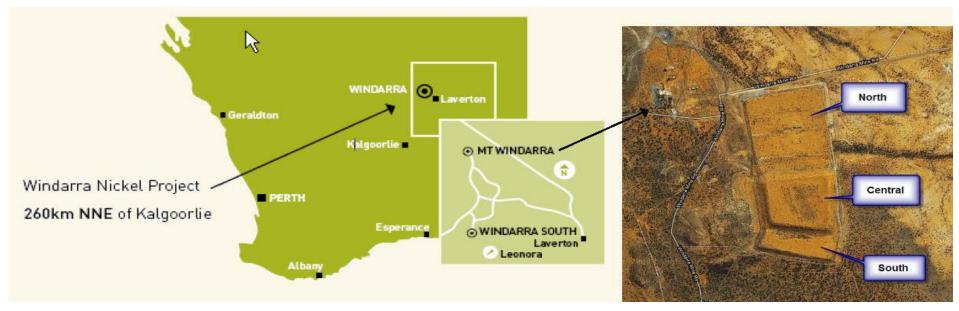




Evolution of the Silver Swan Resource under Poseidon

## Windarra Gold Tailings Project – 183,000 oz gold\*

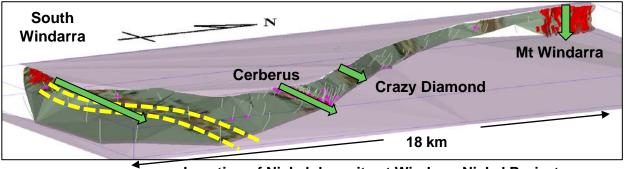
- Scoping Study underway delivery scheduled for mid May 2020
- Focus on recovering gold from North and South Dams only
- Simple hydraulic mining techniques, on site processing to produce loaded carbon or dore
- Conversion of resource to JORC 2012 compliance underway
- Some approvals already in place, balance proceeding



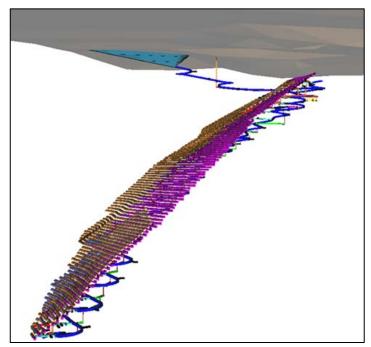
Windarra gold tailings project

## Windarra Nickel Project

- Mt Windarra and South Windarra discovered in 1969 and mined 1974-1983. Cerberus discovered by Poseidon in 2008
  - 8Mt mined and processed to produce 84kt Ni\*
- Mt Windarra Underground mine remnant resources
  - 4.36Mt @1.64% Ni for 71,500t Ni\*\*
  - Mine decline partially refurbished in 2011
- Cerberus deposit 4.55Mt @1.51% Ni for 69,000t Ni\*\*
  - Mine development plan completed
- Exploration potential confirmed
- RC Drilling at Crazy Diamond highlights \*\*\*
  - PNRC0309 intersects 5m @ 0.75% Ni from 12m (ex sulphides) including 1m @ 1.38% (approx. 0.8m true width)
  - Anomalous gold mineralisation up to 0.5 g/t Au



Location of Nickel deposits at Windarra Nickel Project



**Cerberus Conceptual mine design** 

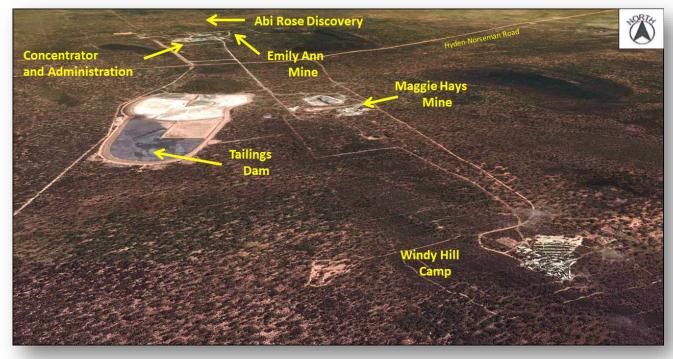
## Lake Johnston – history

#### Maggie Hays

- Historical production of 10Mt @ 0.6%Ni between 2008 - 2014
- Remaining resource of 3.5Mt @ 1.5% Ni \*\* for 52kt Ni\*

#### **Emily Ann**

- Historical production of 1.5Mt @ 3.5%Ni between 2001 - 2007
- Recent Abi Rose Ni discovery new geological model \*\*\*
- Drilling confirmed mineralisation continues outside limits of historical exploration
- 1.5Mtpa process plant (on care and maintenance)
- Infrastructure including camp and airstrip



Lake Johnston Operations

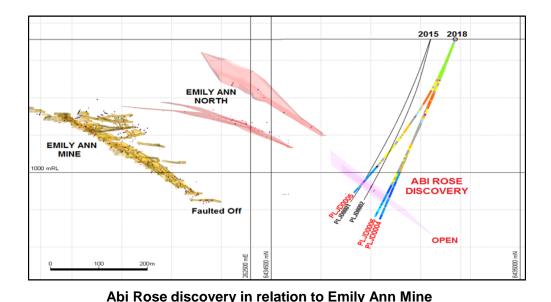
\*Contained Ni metal

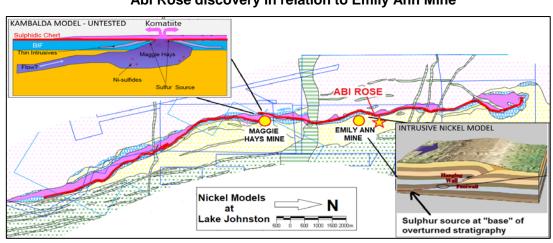
\*\*\* ASX Release 21 November 2018 Successful Drill Program at Abi Rose Concluded with all three diamond holes intersecting Massive Nickel-Copper sulphides

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

## **Abi Rose Discovery & Exploration**

- Confirmation of intrusive nickel-copper style model not traditional komatiite hosted model leading to Abi Rose discovery
- Current geological review outcomes
  - scope for continuity of mineralisation
  - a new intrusive nickel-copper model
  - best intersection 10.48m @ 3.2% Ni\*
  - indicates scope for larger scale potential
- Geochemical/geophysical programs underway
- Approvals in place for next phase of exploration drilling; surveys being progressed for expanded exploration activities

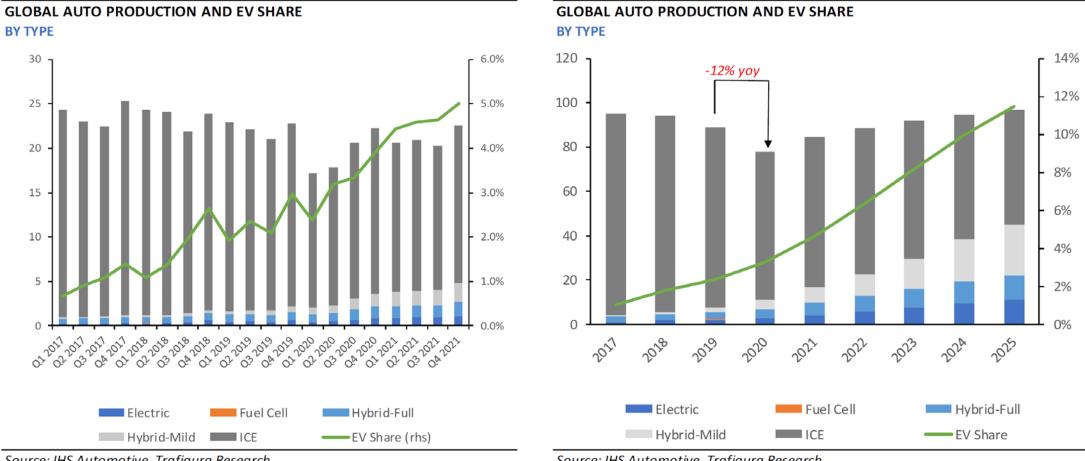




Intrusive and Komatiite models evident at Lake Johnston

## Nickel Market – short term pain, long term gain

#### GLOBAL AUTO PRODUCTION EXPECTED TO FALL SHARPLY IN 2020, YET EV SALES ARE EXPECTED TO GROW BY >20%, WITH LONG TERM PROSPECTS UNAFFECTED BY HEADWINDS FROM COVID-19

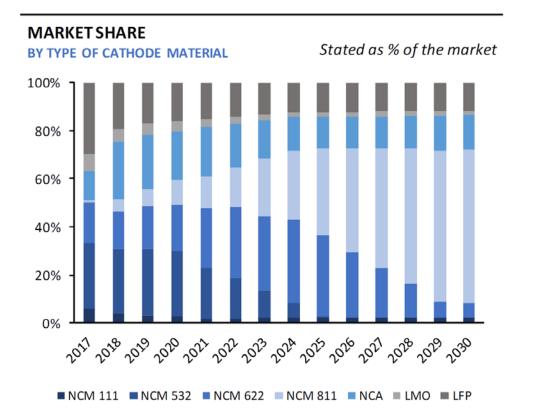


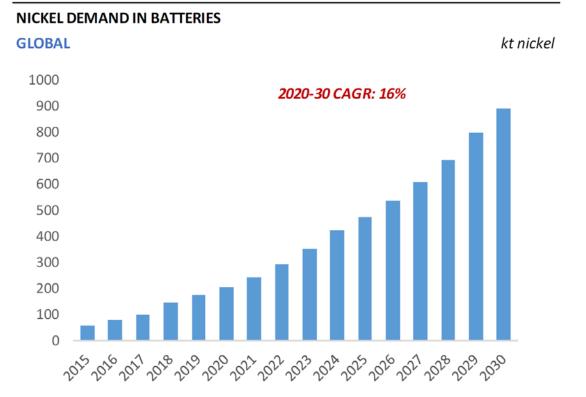
Source: IHS Automotive, Trafigura Research

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### Nickel Market – its all about EVs

# WITH THE LONG-TERM EV FORECAST INTACT NICKEL DEMAND IN BATTERIES EXPECTED TO CONTINUE GROWING AT DOUBLE DIGITS TO REACH 500KT IN 2025





Source: Trafigura Research, SMM, CIAP

## Road to cashflow and share price appreciation

- 100% ownership of three strategic and integrated WA nickel assets and BFS on Black Swan
- Recent exploration success at Golden Swan
- Windarra gold tailings scoping study underway
- Lake Johnston and Windarra provide significant exploration and resource growth upside
- Robust Balance Sheet substantial cash balance
- Supportive cornerstone shareholders (Squadron and Black Mountain Metals)
- Experienced Board and management team to transition Poseidon into producer status



Black Swan Open Pit



Contact: Peter Harold Managing Director & CEO T: +61 (0)8 6167 6600 E: admin@poseidon-nickel.com.au

### **Mineral Resource Statement**

#### **Table 1: Nickel Projects Mineral Resource Statement**

		JORC Cut Off compliance Grade	MINERAL RESOURCE CATEGORY												
	JORC Compliance		INDICATED		INFERRED			TOTAL							
			Tonnes (Kt)	Ni% Grade	Ni Metal (t)	Tonnes (Kt)	Ni% Grade	Ni Metal (t)	Tonnes (Kt)	Ni% Grade	Ni Metal (t)	Co% Grade	Co Metal (t)	Cu% Grade	Cu Metal (t)
BLACK SW	BLACK SWAN PROJECT														
Black Swan	2012	0.40%	9,600	0.68	65,000	21,100	0.54	114,000	30,700	0.58	179,000	0.01	4,200	NA	-
Silver Swan	2012	4.50%	108	9.4	10,130	61	9.7	5,900	168	9.5	16,030	0.19	316	0.4	679
LAKE JOHN	LAKE JOHNSTON PROJECT														
Maggie Hays	2012	0.80%	2,600	1.60	41,900	900	1.17	10,100	3,500	1.49	52,000	0.05	1,800	0.10	3,400
WINDARR	A PROJECT														
Mt Windarra	2012	0.90%	922	1.56	14,000	3,436	1.66	57,500	4,358	1.64	71,500	0.03	1,200	0.13	5,700
South Windarra	2004	0.80%	772	0.98	8,000	-	-	-	772	0.98	8,000	NA	-	NA	-
Cerberus	2004	0.75%	2,773	1.25	35,000	1,778	1.91	34,000	4,551	1.51	69,000	NA	-	0.08	3,600
TOTAL	TOTAL														
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

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

Silver Swan Resource as at 5 August 2019 (see ASX announcement "Silver Swan Resource Upgrade..." released 5<sup>th</sup> August 2019)

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

*Mt Windarra Resource as at t November 2014 (see ASX announcement "Poseidon Announces Revised Mt Windarra Resource" released 7<sup>th</sup> 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<sup>st</sup> 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.

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

### **Mineral Resource statement**

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

			MINERAL RESOURCE CATEGORY										
		Cut Off Grade		INDICATED		INFERRED			TOTAL				
			Tonnes (Kt)	Grade (g/t)	Au (oz)	Tonnes (Kt)	Grade (g/t)	Au (oz)	Tonnes (Kt)	Grade (g/t)	Au (oz)		
WINDARRA GOLD TAILINGS PROJECT													
Gold Tailings	2004	NA	11,000	0.52	183,000	-	-	-	11,000	0.52	183,000		
TOTAL													
Total Au Resources	2004		11,000	0.52	183,000	-	-	-	11,000	0.52	183,000		

Note: totals may not sum exactly due to rounding.

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

		ORE RESERVE CATEGORY						
Nickel Sulphide Reserves	JORC Compliance	PROBABLE						
		Tonnes (Kt)	Ni% Grade	Ni Metal (t)				
SILVER SWAN PROJECT								
Silver Swan Underground	2012	130	5.2	6,800				
Black Swan Open pit	2012	3,370	0.63	21,500				
TOTAL								
Total Ni Reserves	2012	3,500	0.81	28,300				

Note: Calculations have been rounded to the nearest 10,000 t of ore, 0.01 % Ni grade 100 t Ni metal and 10t of cobalt metal.

Windarra Gold Tailings Resource as at 30 April 2013 (see ASX announcement "Windarra Definitive Feasibility Study Supports Low Cost, Long Life Nickel Operation" released 30<sup>th</sup> April 2013).

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.

**Cautionary Note:** The reference to the Windarra gold tailings resource has been reported in accordance with the 2004 JORC Code and so not reported in accordance with the 2012 JORC Code. Currently a competent person has not done sufficient work to classify this historical estimate as a mineral resource in accordance with the 2012 JORC Code. Work is underway to convert this historical resource to a 2012 JORC standard, however currently, it is not certain that this historical estimate will be able to be reported as a mineral resource in accordance with the 2012 JORC Code.

Co & Cu grades and metal content for Black Swan require additional modelling prior to estimation.

Silver Swan Underground Reserve as at 26 May 2017 (see ASX announcement "Silver Swan Definitive Feasibility Study" released 26<sup>th</sup> May 2017)

Black Swan Open Pit Reserve as at 5 November 2014 (see ASX announcement "Poseidon Announces Black Swan Ore Reserve" dated 5<sup>th</sup> November 2014).

The Company is aware that the 2019 upgrade to the Silver Swan Indicated Resource will materially affect the Silver Swan Reserve above which was based upon the 2015 Silver Swan Resource Estimate (refer to Table 1 above for the new Silver Swan Resource estimate). Such information is based on the information complied by the Company's Geologists and the Competent Persons as listed below in the Competent Person Statements.

The Company is not aware of any 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.

### **Competent persons statement**

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

Mr 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 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**

#### FORWARD LOOKING STATEMENT - INFERRED RESOURCE STATEMENTS:

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

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

#### FORWARD LOOKING STATEMENTS:

This release contains certain forward-looking statements including nickel production targets. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "except", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production and expected costs. Indications of, and guidance on future earnings, cash flows, costs, financial position and performance are also forward-looking statements.

Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change, without notice, as are statements about market and industry trends, which are based on interpretation of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance.

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