

29<sup>th</sup> January 2015

## Major Resource upgrade at Lake Johnston Underway

### *Highlights*

- **Major geological work programme underway at Lake Johnston likely to lead to a substantial increase in the indicated mineral resources**
- **Circa 100 additional underground drill holes have been added into the resource database**
- **27 underground drill holes with incomplete data are currently being re-assayed and will be released to the market when completed**
- **Geological face mapping from lateral drives into the North Shoot zone are being included into the resource database**
- **Survey errors on drill holes have been identified and corrected**
- **New resource model expected to be completed within 4 weeks**
- **Poseidon now ramping up activity to undertake mine planning work based on the anticipated new resource model**
- **Concentrate processing facilities have been recommissioned and saleable concentrate is now being processed**
- **Poseidon has received offers for nickel concentrate offtake for Lake Johnston and is in discussion with various parties**

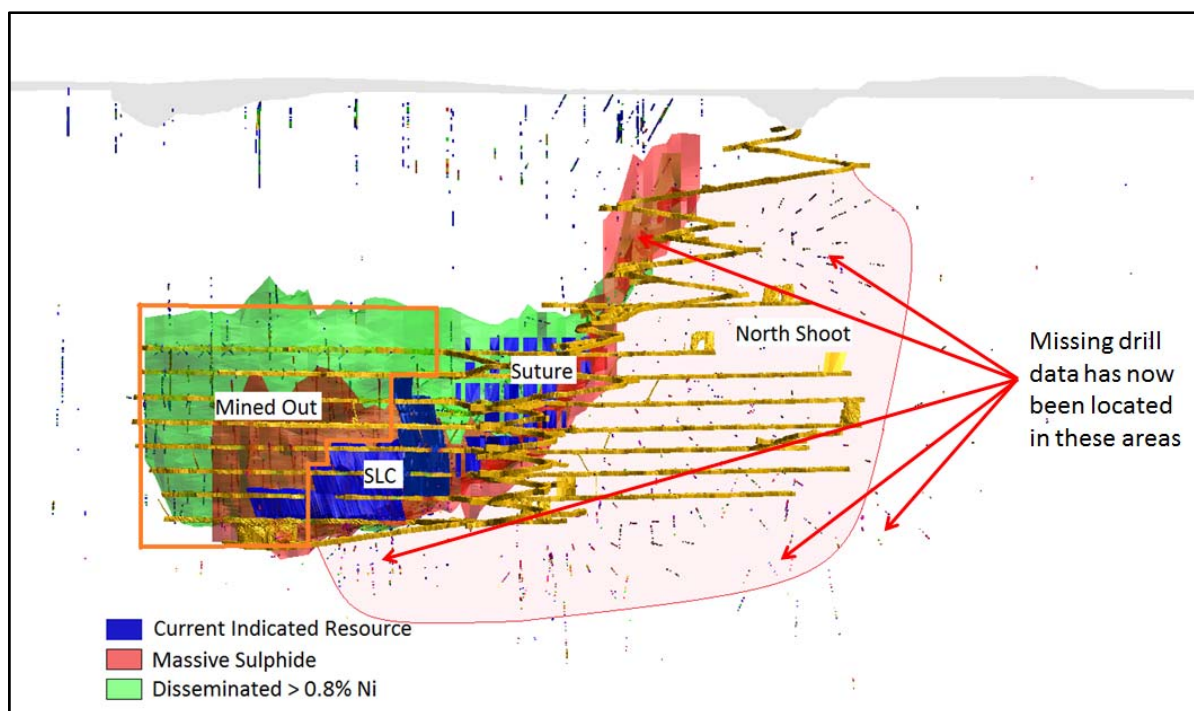
Poseidon Nickel Limited (ASX:POS or the Company) is pleased to provide this update to its activities at Lake Johnston following the acquisition of the project in November 2014 and publication of the interim Definitive Feasibility Study (DFS) in December 2014.

The work underway is likely to lead to a major upgrade of the resource classification at Lake Johnston which will be published in the coming weeks. Poseidon's expectation is that as part of the upgrade, a much higher proportion of the resources will be converted to the indicated JORC category and therefore available for potential conversion to mining reserves.

David Singleton, Managing Director and CEO said, "We have committed to completing a full DFS on Lake Johnston and much of that was published in December last year. The key now is the resource and reserve modelling which is well underway. Whilst we can't yet comment on the likely outcome, things are moving very positively."

## Resource Model Update

A number of resource database issues meant that Poseidon was unable to produce an updated mining model for Lake Johnston in time for the planned DFS publication. As a result, an intensive programme of work was initiated after the acquisition of the project in November and continued through the Christmas period with the aim of producing a new JORC compliant resource model. A review of the drill database identified that a number of drill holes had been completed but that these had not been included in the resource models. In total circa 100 drill holes were identified and have now been included. These drill holes are in the southern area of the Sub Level Cave, the Suture Zone and the North Shoot Extension (see Figure 1).



**Figure 1:** Maggie Hays long section showing location of mineralisation, infrastructure, drilling and areas of additional data which has now been located and merged into the drill hole database.

In Figure 1 it can be seen that the North Shoot was being mined predominantly by pushing 4.5m square ore drives through the mineralised zone. These drives have allowed for the ore body to be sampled every 3 metres along each of the 8 levels providing a very detailed geological understanding of the North Shoot resource. This very high level of sampling has allowed Poseidon to demonstrate the structural and geological control of the mineralisation which should allow a much larger proportion of the inferred resources in this area to be upgraded to indicated resources.

The inclusion of the face mapping into the geological model has revealed that a number of the holes in the drill hole database have been incorrectly positioned due to survey errors which led to a lower confidence Inferred resource model. These errors have now been corrected which adds further clarity and confidence to the new resource model.

## Mine Planning and Scheduling

Poseidon's aim is to produce a new updated mine plan for Lake Johnston within the next 3 months using the revised resource model currently under development. This modelling aided by the knowledge of recent mine activities should allow for an accurate prediction of the current mine life (excluding further drilling activities), throughput levels and costs of production. Poseidon expects shortly to announce a new General Manager for Lake Johnston to lead this activity. Initial mine surveys and geotechnical assessments necessary for the mine planning have already been completed.

Poseidon believes that there are potential opportunities to modify the mining methodologies used at Lake Johnston to improve ore recovery levels, particularly in the Suture Zone and the North Shoot. If proven, this could add several years to the initial project life.

### Production of Concentrate

Since acquisition in November 2014, Poseidon has been recommissioning the concentrate processing facilities on site to recover concentrate stored in the process water dam (see Picture 1) and left over from previous operations. These facilities include the Counter Current Decantation (CCD) (see Picture 2), Larox filter (see Picture 3), Citect control system and concentrate storage shed and bagging station (see Picture 4). These units have now been commissioned and will start to recover the stored concentrate into a saleable form. It is not yet possible to predict accurately the total amount of concentrate to be recovered but an update will be provided when available.



**Picture 1: Process Water Dam  
& Concentrate Storage Shed**



**Picture 2: CCD**



**Picture 3: Larox Filter**



**Picture 4: Concentrate Storage Shed  
& Bagging Station**

### Offtake Negotiations

Poseidon has issued tenders and received a number of offers for the nickel sulphide concentrate which is to be produced at Lake Johnston. Negotiations for offtake are underway and are likely to be concluded within the next 3 months.

## MINERAL RESOURCE STATEMENT

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
<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
South Windarra	2004	0.80%	772	0.98	8,000	-	-	-	772	0.98	8,000
Cerberus	2004	0.75%	2,773	1.25	35,000	1,778	1.91	34,000	4,551	1.51	69,000
<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
<b>LAKE JOHNSTON PROJECT</b>											
Maggie Hays	2012	0.80%	2,000	1.40	27,900	1,800	1.43	25,200	3,800	1.41	53,100
<b>TOTAL</b>											
Total Ni Resources	2004 & 2012		16,067	0.93	149,900	28,114	0.82	230,700	44,181	0.86	380,600

Note: totals may not sum exactly due to rounding

Table 2: Gold Tailings Project Mineral Resource Statement

Gold Tailings Resources	JORC Compliance	Cut Off Grade	Mineral Resource Category								
			Indicated			Inferred			TOTAL		
			Tonnes (Kt)	Grade (g/t)	Au (oz)	Tonnes (Kt)	Grade (g/t)	Au (oz)	Tonnes (Kt)	Grade (g/t)	Au (oz)
<b>WINDARRA GOLD TAILINGS PROJECT</b>											
Gold Tailings	2004	NA	11,000	0.52	183,000	-	-	-	11,000	0.52	183,000
<b>TOTAL</b>											
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.

## ORE RESERVE STATEMENT

Table 3: Nickel Project Ore Reserve Statement

Nickel Sulphide Reserves	JORC Compliance	Ore Reserve Category		
		Probable		
		Tonnes (Kt)	Ni% Grade	Ni Metal t
<b>WINDARRA PROJECT</b>				
Mt Windarra	2004	498	1.78	9,000
Cerberus	2004	1,221	1.30	16,000
<b>BLACK SWAN PROJECT</b>				
Black Swan	2012	3,370	0.63	21,500
<b>TOTAL</b>				
Total Ni Reserves	2004 & 2012	5,089	0.91	46,500

Note: totals may not sum exactly due to rounding.

Notes

*The information in this report that relates to the Windarra Nickel Project, Mineral Resources is based on information compiled by Neil Hutchison, General Manager of Geology at Poseidon Nickel, who is a Member of The Australian Institute of Geoscientists and 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 that relates to Ore Reserves at the Windarra Nickel Project is based on information compiled by Denis Grubic, who is a Member of The Australasian Institute of Mining and Metallurgy as well as a full time employee of Rock Team Pty Ltd.*

*The information in this report which relates to the Black Swan Mineral Resource and Ore Reserves is based on information compiled by Andrew Weeks who is a full-time employee of Golder Associates Pty Ltd and Francois Bazin of IMC Mining Pty Ltd who are both Members of the Australasian Institute of Mining and Metallurgy.*

*Mr Hutchison, Mr Glacken, Mr Weeks, Mr Bazin and Mr Grubic 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 Hutchison, Mr Glacken, Mr Weeks, Mr Bazin and Mr Grubic have consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*This document contains Mineral Resources and Ore Reserves which are reported under JORC 2004 Guidelines as there has been no Material Change or Re-estimation of the Mineral Resource or Ore Reserves since the introduction of the JORC 2012 Codes. Future estimations will be completed to JORC 2012 Guidelines.*

*The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.*

## **CORPORATE DIRECTORY**

### **Director / Senior Management**

David Singleton	Managing Director & Chief Executive Officer
Chris Indermaur	Non-Executive Chairman
Geoff Brayshaw	Non-Executive Director
Robert Dennis	Non-Executive Director
Ross Kestel	Company Secretary

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### **Home Exchange**

The Company's shares are listed on the Australian Securities Exchange and the home exchange is Perth  
ASX code: POS