POSEIDONNICKEL

3rd June 2016

Silver Swan Resource Update

Highlights

- **Silver Swan Indicated Resource contained nickel has increased by 180%**
- **Updated Resource estimate for Silver Swan Nickel Deposit 136,000 tonnes at 9.08% nickel for 12,400 tonnes of contained metal**
- **New data included from core sampling completed by Poseidon Nickel**
- **Geological reinterpretation and new data underpins the increase in Indicated Nickel Resource**
- **Resource definition of high grade mineralisation completed to progress life of mine (LOM) schedule and finalise the Silver Swan Reserve Estimate**

Poseidon Nickel Limited (ASX:POS) ("Poseidon") is pleased to announce a 180% increase in the JORC 2012 compliant Silver Swan Indicated Resource Estimate recently prepared by Optiro Pty Ltd (Optiro). The Company previously announced that Poseidon had completed new geological interpretations and wireframes which were supplied to Optiro for Resource Estimation.

Tundra and Mute orebodies had been interpreted as separate zones by Norilsk Nickel. The lower end of Tundra was defined by two drill hole intercepts at depth with no supportive drilling. Norilsk had completed numerous drill holes during 2008/2009 into the Lower Tundra/Upper Mute areas to define this historic interpretation (see Figure1). Due to the termination of mining and the operations placed on care & maintenance in 2009, all assay work was terminated and pending data was not added to the database. Poseidon identified these issues and located a number of the raw assay files that were added to the database.

Drill holes with missing assays were resampled by Poseidon and submitted for assaying. These results were also included into the database providing a more comprehensive data set for interpretation work and holes that were previously removed from the estimation process were validated and included in the resource model.

3D modelling of the added drill holes provided sufficient support to demonstrate that Tunda and Mute orebodies are on the same basal contact position and have been reinterpreted to be linked via a section of thinner mineralisation. The inclusion of the additional drill core samples into the resource model database resulted in a substantial increase to the Silver Swan Indicated Resource Estimate (see Figure 2).

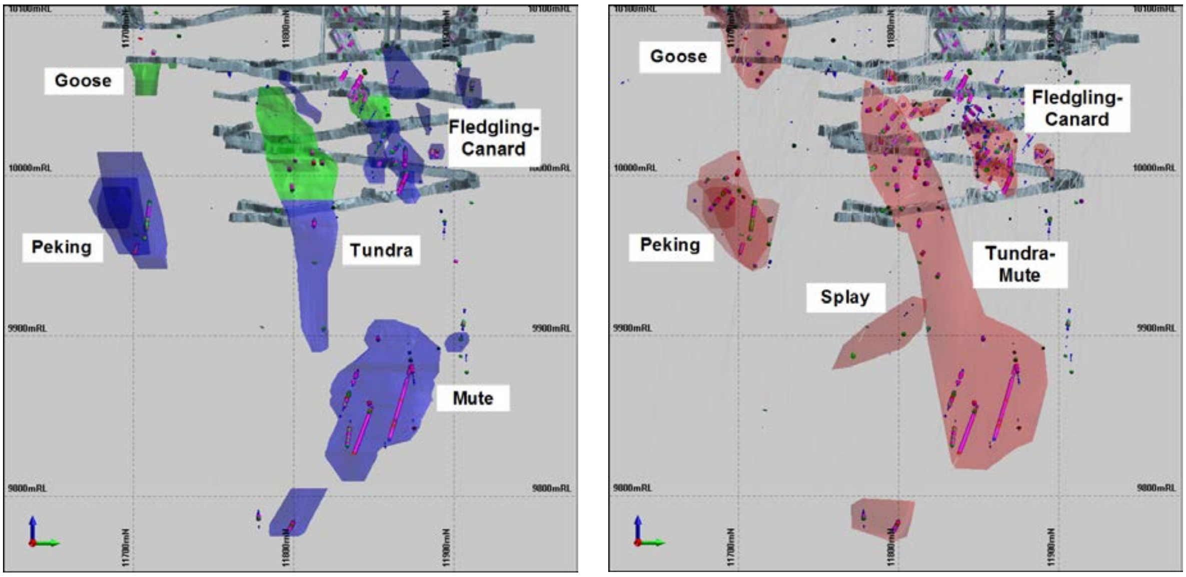

Figure 1: Changes between the September 2015 Model (left) and the May 2016 Model (right) in the Tundra-Mute area

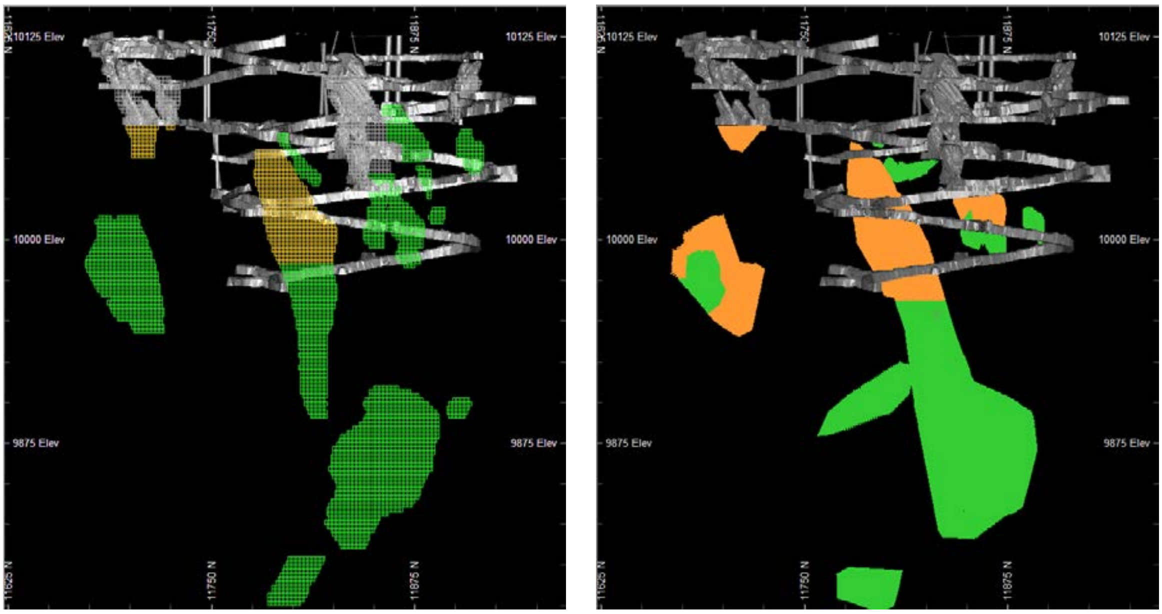

Figure 2: Long section looking west showing previous model (left) compared to the May 2016 Mineral Resource classification (right)

The unmined resource estimate for the Silver Swan Project below the 10075mRL level (see Figure 3) is **136Kt @ 9.08% Ni for 12,400t of contained nickel metal**. This brings Poseidon's total nickel inventory over the company's 3 projects to **392kt of total contained nickel metal.**

The mineral Resource estimate was classified in accordance with guidelines provided in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012). The classification was based principally on geological confidence, drill hole spacing, grade continuity from available drilling data and historical mining reconciliation data.

Table 1 below details the Mineral Resource by lodes for the Silver Swan nickel sulphide deposits. The mineralisation models and block reporting cut-off grades used in the *in situ* resource estimate for Silver Swan is 4.5% Ni. For mine planning purposes, ore loss and dilution should be considered.

MINERAL RESOURCE STATEMENT

Table 1: Silver Swan Underground Mineral Resources as at 30th May 2016

Nickel sulphide resource	Mineral Resource category								
	Indicated			Inferred			TOTAL		
	Tonnes (Kt)	Grade Ni (%)	Ni metal (t)	Tonnes (Kt)	Grade Ni (%)	Ni metal (t)	Tonnes (Kt)	Grade Ni (%)	Ni metal (t)
SILVER SWAN PROJECT									
Tundra-Mute	24.0	9.20	2,200	73.3	8.85	6,480	97.2	8.94	8,690
Peking Duck	20.7	8.79	1,820	8.0	10.20	820	28.7	9.18	2,640
Fledgling-Canard	5.8	10.36	600	2.9	9.81	280	8.7	10.18	880
Goose	1.5	10.04	150	-	-	-	1.5	10.04	150
TOTAL									
Total Ni resource	**52**	**9.19**	**4,800**	**84**	**9.01**	**7,600**	**136**	**9.08**	**12,400**

Note: Totals may not sum exactly due to rounding. JORC 2012 compliant, reported using a cut off of 4.5 % Ni, depleted to 25th August 2015.

The 2015 Resource Estimate as well as the models historically produced by Norilsk Nickel used an Accumulation Method to estimate the resources (estimation of grade multiplied by true thickness). This method used by Norilsk is not an industry standard method as there is a tendency to over-estimate nickel grades particularly when drilling is parallel to the mineralisation. The updated mineral resource estimation has applied Ordinary Kriging within the re-interpreted wireframes, a standard industry approach. The net effect is an increase in resource tonnage and a reduction in the resource estimate grade from 12.20% to 9.08% nickel.

The aim of this work was to generate a new, more robust Mineral Resource Estimate suitable for Ore Reserve Estimation and completion of a Bankable Feasibility Study (BFS) for the Silver Swan restart.

Poseidon's core nickel assets are 5 mines and 2 concentrators and the Company strategy is focussed on preparing our nickel assets for relaunch when the nickel market improves. We anticipate Silver Swan will be the first nickel asset to return to production as it remains the world's highest grade nickel mine. Internal scoping studies have confirmed that Silver

Swan is profitable at US$5/lb-Ni pricing at current monetary exchange rates. Figure 3 below highlights a long section through the Silver Swan underground high grade mineralisation with the key lodes included in the resource estimate update.

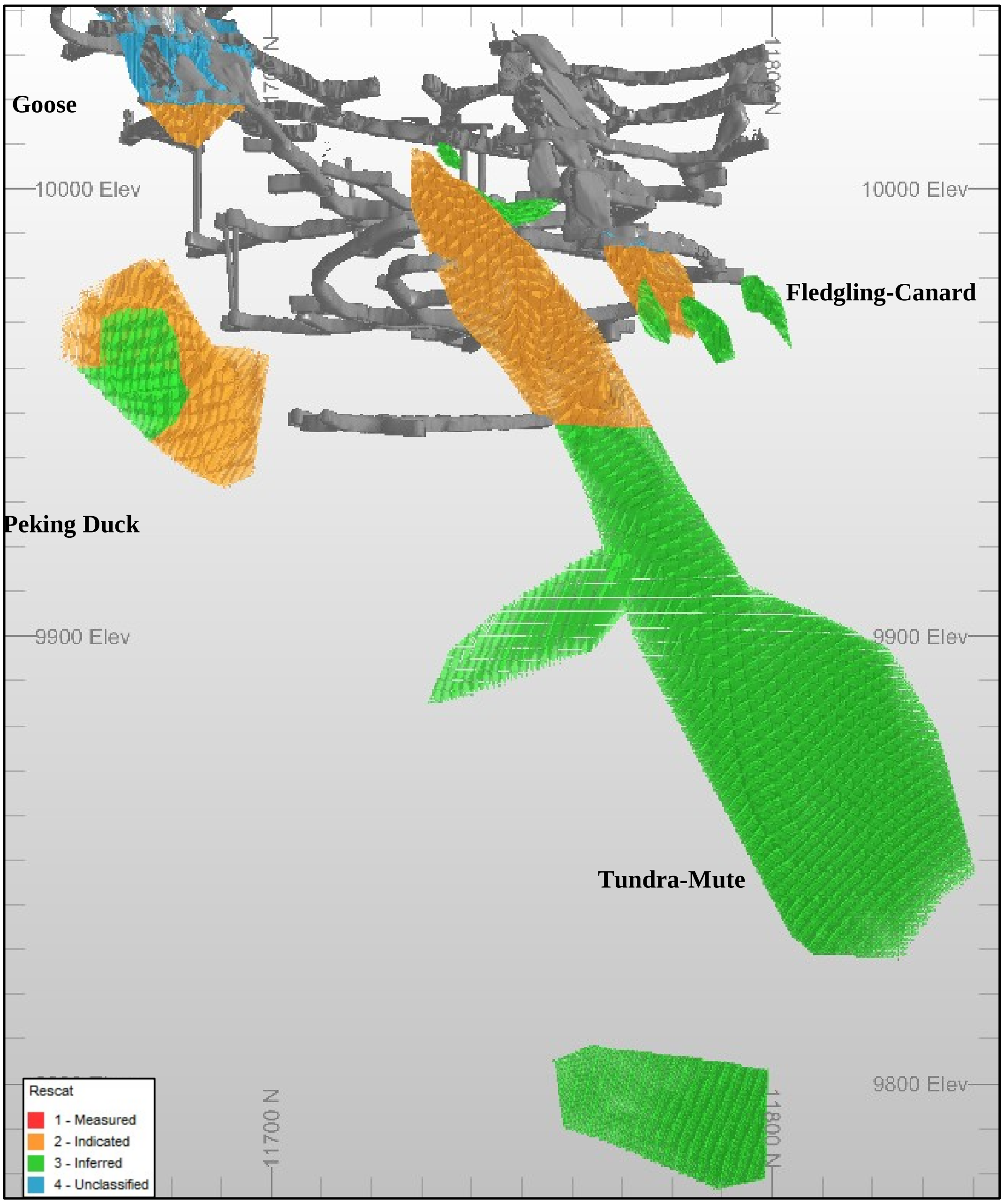

Figure 3: Long section (looking NW) of the May 2016 Silver Swan Mineral Resource (Goose, Peking Duck, Tundra-Mute and Fledgling-Canard) showing location of JORC 2012 Mineral Resources (orange=Indicated, green=Inferred, blue=Unclassified/Depleted) and existing mining infrastructure (grey) below the 10250 mRL including lateral development and stopes

Tsingshan retain the off-take agreement with Silver Swan with favourable terms offered for the direct shipment of nickel ore reducing the restart capital requirement and an overall improvement in nickel recovery through to metal. The contract covers the first 2.5 years of nickel produced at Silver Swan.

The mine infrastructure remains in good condition and the ore bodies can be accessed from the existing decline. Poseidon is currently progressing outstanding regulatory approvals, geotechnical studies, mine engineering and LOM planning to complete a BFS for Silver Swan.

SILVER SWAN MINERAL RESOURCE ESTIMATION

Optiro has completed a Mineral Resource estimate for the Silver Swan Deposit located within the Black Swan Nickel Project, Western Australia, using all available assay data as of 10th November 2015. The Mineral Resource estimate was classified in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012). Poseidon's Competent Person has consented to the release of the attached mineral resource statement (Table 1) and Attachment A as required under the JORC 2012 code.

ASSUMPTIONS AND METHODOLOGY

This Mineral Resource estimate for the Silver Swan prospect is based upon a number of factors and assumptions:

- A selection of the available drilling data as of 10th November 2015 was used for the Mineral Resource estimate. The data was restricted to underground drilling below the 10,250 mRL level within the Silver Swan Mine. The drilling data was collected over several decades by numerous operating companies as detailed in Appendix A – JORC Table 1.
- Mineralisation outlines were interpreted using sectional views of the downhole geology above a grade threshold of 1.2-1.4 % Ni.
- Statistical and geostatistical analyses were carried out on drilling data composited to 1m downhole intervals. This included variography to model the spatial continuity of the grades within the mineralised domains.
- Ordinary Kriging estimation was used to estimate Ni (%), As (ppm), Co (ppm), Cu (ppm), Fe (%), MgO (%) and S (%) using variogram parameters defined from the drilling data.
- Top cuts were applied during the estimation to Ni (21%), As (25,000 ppm), Co (5,000 ppm) and Cu (20,000 ppm) after analysis of the domain grade distributions and statistical review.
- The Mineral Resource has been depleted using a 3D void model of current underground development and stopes dated 25th August 2015.
- The Mineral Resource estimation parameters assume that mining will take place using a combination of single boom jumbo and narrow vein airleg mining methods.
- Mineral Resource classification was based principally on geological confidence, drillhole spacing, grade continuity from available drilling data and historical mining reconciliation data.

Geology & Geological Interpretation

Silver Swan is located within the Boorara Domain of the Kalgoorlie Terrane. There are two main lithological associations recognised; the Morelands and Gindalbie Formations. The Gindalbie Formation is of a felsic metasedimentary rock association and contains the Black Swan Komatiite Complex (BSKC). It also hosts the Kanowna Belle gold mine 25 km to the south of Black Swan. The Black Swan area is in the upper greenschist, lower amphibolite facies Boorara Domain. The major structural feature of this domain is the Kanowna–Scotia anticline, which has the BSKC on its east facing, east dipping limb. To the east of Black Swan, the Boorara Domain is separated from the Kurnalpi Terrane by the Mt Monger – Moriarty Shear and to the west it is separated from the Kambalda Domain by the Boorara Shear.

Nickel sulphide mineralisation at Black Swan is hosted by the Black Swan Komatiite Complex (BSKC), a 3.5 km long by 0.6 km thick arcuate lens of olivine cumulate and spinifex-textured komatiite flows. The complex is enclosed within a broad NE dipping sequence of intermediate felsic lavas and associated volcaniclastics. Graphitic black shales have been recognised in the enclosing felsic sequence approximately 700 m above and below the BSKC. The BSKC and enclosing felsic volcanic sequence face and dip steeply towards the NE. Except for several small areas of sub-outcrop, a thin veneer of lateritic red soil covers the BSKC.

Mineralisation at Black Swan occurs within the complex as massive, semi massive and disseminated nickel sulphides developed on and adjacent to the basal contact.

The Silver Swan massive-sulphide nickel deposit consists of a series of steeply dipping lens-shaped shoots of mineralisation situated on the basal contact of the BSKC. Individual shoots include Silver Swan, White Swan, Goose, Fledgling, Canard, Odette, Trumpeter and Mute Swan. This mineralisation plunges steeply towards the north along the southern flank of a substrate topographical high, the Silver Swan footwall dome.

Sampling and Sub-Sampling Techniques

Underground diamond drilling has been used to obtain core samples. Sampling is a mixture of full core, and half core sampling. In general, 1 m samples or smaller have been used for exploration and grade control drilling.

Samples have been obtained from drilling carried out from underground drilling by LionOre and Norilsk Nickel Australia below the 10100mRL level. The drilling database and block model above this RL have been cut from the resource estimate data set as these have been mined out and are not reported in this document. Only drilling completed between 2006 and 2009 are included in the resource estimate.

Diamond drilling sampling protocol has followed accepted industry practice, with all mineralised core sampled and intervals selected by geologists to ensure samples did not cross geological or lithological contacts. Core was halved, with a half sent for assay and the remaining core retained for geological reference.

The entire deeper drill core used in this estimation was either full core or cut using a core saw, with half core used for sampling. Resource and grade control drilling was crushed to <3 mm and then split to 3 kg lots, then pulverised. This is appropriate given the sample interval and mass.

Drilling Techniques

Underground diamond drilling is the method by which drilling has been conducted into the ore zones below the 10100mRL level of the mine.

The entire diamond core below the reported 10100mRL is of NQ size. Core orientation was carried out using the EzyMark system.

All core trays are digitally photographed to maintain a permanent record of core prior to any sampling operations. Hard copy photographs exist for core photographed before the advent of digital photography.

Criteria Used for Classification

Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).

The classification of Mineral Resources was completed by Poseidon based on geological confidence, drill hole spacing, data density and grade continuity. The Competent Person is satisfied that the result appropriately reflects his view of the deposit.

Continuous zones meeting the following criteria were used to define the resource class:

<u>Measured Resource</u>

- Measured Mineral Resources consist of the high confidence material which has been grade control drilled (10x15m) and sill development has been completed both above and below.
- No material is categorised as Measured in this resource estimation

<u>Indicated Resource</u>

- The Indicated Mineral Resources reflects moderate confidence material with good data density.
- Reflects a nominal drill spacing of less than 25m x 25m resource definition drilling, through to grade control drilling (10 x 15m spacing), but no ore drives.

<u>Inferred Resource</u>

- The Inferred Mineral Resource reflects uncertainty in continuity of the massive sulphides confirmed by drill intersection with poor data density.
- Blocks that were estimated with samples with an average of less than 50 m distance from blocks.
- Limited number of drill holes.

Sample Analysis Method

All assaying since March 2004 has been carried out by Kalgoorlie Assay Laboratories (Kalassay) using ICP-OES on a 4 acid digest using standard laboratory practices. Resampleing completed by Poseidon was carried out by SGS Laboratories in Perth. Both independent and laboratory internal QAQC were used.

Estimation Methodology

Mineralisation within the 14 modelled domains was selected and composited to 1 m composites using s best fit approach. Top cuts were applied to Ni (21%), As (25,000), Co (5,000 ppm) and Cu (20,000 ppm) after population disintegration analysis and consideration of the domain statistics.

Traditional variograms were used to model the variography of all grade variables with the exception of copper where a normal scores transformation was used. Variogram analysis was completed in Supervisor using the combined 1 m composited data due to the small domain populations. Variogram ranges for each variable ranged from 15 to 79 in the Major direction, 18 to 47 in the Semi-Major direction and 4 to 10 in the Minor direction. The nugget values were derived from the downhole variograms and were generally low (<5%), with the exception of As and Co, which were 35%. As expected, the variogram orientations approximated the orientation of the mineralisation (~NNE strike, E 70° dip).
A 3D block model was generated in Datamine Studio 3 using a block size of 2 m (X) by 5 m (Y) by 10 m (Z). The variable sub-block size was set to 0.25 m (X) by 0.5 m (Y) by 0.5 m (Z). This degree of sub-blocking is used because of the narrow and variable shoot geometry. Prior to estimation the block model was coded using domain wireframes (ore, dilution and waste domains). Mined out volumes and resource categories were also coded into the block model post estimation.

Ordinary Kriging was used to estimate block grades for the following variables; Ni (%),As (ppm), Co (ppm), Cu (ppm), Fe (%), MgO (%) and S (%). Three estimation passes were used for each domain and hard estimation boundaries were used. Search parameters based on the results of the nickel variogram analysis and kriging neighborhood analysis (KNA) were used. The orientations of search ellipses were set to mirror the orientation of each orebody lens. The first search pass was 25m E by 25 m N by 4 m RL using a minimum of 10 samples and a maximum of 24. The second pass was multiplied by a factor of 1.5 utilising the same min and max sample numbers. The third pass was factored by 5, and the minimum samples required was lowered to 4. A total of 79% of the resource was filled in the first estimation pass for nickel. Block discretisation points used were X:4, Y:10, Z:10. Un-estimated blocks were attributed the block domain averages.

A dilution skin model estimating Ni and As only was created by expanding the mineralised wireframe by 1 m. Drillholes were selected and composited as being outside the main ore zone, and within the 1 m dilution skin. A hard estimation boundary between the mineralisation and the dilution skin was used. Three estimation passes were used. The first search was restricted to 15m by 15m by 2m, the second to 22.5m by 22.5m by 3m and the final search was expanded to 75m by 75m by 10 m to estimate any remaining blocks. All searches used a minimum of 6 and a maximum of 24 samples.

Cut-off Grade and Basis for Selected Cut-off Grade

The resource model is constrained by assumptions about economic cut-off grades. The Mineral Resource was modelled using a 1.2-1.4% Ni wireframe threshold and reported using a cut-off grade of 4.5% Ni which was applied on a block by block basis.

Mining and Metallurgical Methods, Parameters and Other Material Modifying Factors

The following assumptions have been factored regarding possible mining methods;

- A mining dilution of 25% has been applied to stopes.
- 50% dilution has been applied to the 3.5m x 3.5m development ore drives.
- Single boom jumbos are used for development ore drives.
- Airleg flatback mining using 2m x 2.5m ore stoping is applied.
- A mining recovery of 91% ore extraction has been used due to pillars.
- Stopes are backfilled with development waste.

Other Information

As the project has previously been mined, there are existing waste storage facilities and environmental considerations are not expected to pose any issues to the resumption of mining activity. Metallurgical recovery of nickel was assigned based on data calculated by the Black Swan mill whilst mining operations were in progress.

MINERAL RESOURCE STATEMENT

Table 2: 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
WINDARRA PROJECT											
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
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
Silver Swan	2012	4.50%	52	9.19	4,800	84	9.01	7,600	136	9.08	12,400
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
TOTAL											
Total Ni Resources	2004 & 2012		**16,720**	**1.01**	**168,700**	**27,300**	**0.82**	**223,200**	**44,020**	**0.89**	**391,900**

Note: totals may not sum exactly due to rounding

Table 3: 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)
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.

ORE RESERVE STATEMENT

Table 4: Nickel Project Ore Reserve Statement

Nickel Sulphide Reserves	JORC Compliance	Ore Reserve Category		
		Probable		
		Tonnes (Mt)	Ni% Grade	Ni Metal (Kt)
LAKE JOHNSTON PROJECT				
Maggie Hays	2012	1.9	1.19	22.6
BLACK SWAN PROJECT				
Black Swan	2012	3.4	0.63	21.5
WINDARRA PROJECT				
Mt Windarra	2012	0.6	1.70	9.6
Cerberus	2004	1.2	1.30	16.0
Windarra Sub Total		**1.8**	**1.42**	**25.6**
TOTAL				
Total Ni Reserves	2004 & 2012	**7.1**	**0.98**	**69.7**

Note: totals may not sum exactly due to rounding.
Calculations have been rounded to the nearest 100,000 t of ore, 0.01 % Ni grade and 100 t Ni metal.

Notes

The information in this report that relates to Exploration Results is based on information compiled and reviewed by Mr N Hutchison, General Manager of Geology 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 Lake Johnston Mineral Resource 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 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 information compiled by Matt 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 Silver Swan Mineral Resource 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.

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.as well as Francois Bazin of IMC Mining Pty Ltd. Both are Members of the Australasian Institute of Mining and Metallurgy.

The information in this report that relates to Mineral Resources at the Windarra Nickel Project 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 Reserve at the Windarra Nickel Project is based on information compiled Leanne Cureton and Andrew Law who are both full time employees of Optiro Pty Ltd and are a Member and a Fellow of the Australasian Institute of Mining and Metallurgy respectively.

Mr Hutchison, Mr Glacken, Mr Keenan, Mr Weeks, Mr Bazin, Mr Law & Ms Cureton 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 Keenan, Mr Weeks, Mr Bazin, Mr Law & Ms Cureton 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

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David Singleton	Non-Executive Director
Geoff Brayshaw	Non-Executive Director
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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

Appendix A

JORC 2012 TABLE 1

SILVER SWAN RESOURCE ESTIMATE - MAY 2016

SECTION 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

JORC Code explanation	Commentary
Sampling techniques	
Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	Underground diamond drilling has been used to obtain core samples. Sampling is a mixture of full core, and half core sampling. In general, 1 m samples or smaller have been used for exploration and grade control drilling. Samples have been obtained from drilling carried out from underground drilling by LionOre and Norilsk Nickel Australia below the 10100mRL level. The drilling database and block model above this RL have been cut from the resource estimate data set as these have been mined out and are not reported in this document. Only drilling completed between 2006 and 2008 are included in the resource estimate. Diamond drilling sampling protocol has followed accepted industry practice, with all mineralised core sampled and intervals selected by geologists to ensure samples did not cross geological or lithological contacts. Core was halved, with a half sent for assay and the remaining core retained for geological reference.
Drilling techniques	
Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	Underground diamond drilling is the method by which drilling has been conducted into the ore zones below the 10100mRL level of the mine. All of the diamond core below the reported 10100mRL is of NQ size. Core orientation was carried out using the EzyMark system. All core trays are digitally photographed to maintain a permanent record of core prior to any sampling operations. Hard copy photographs exist for core photographed before the advent of digital photography.
Drill sample recovery	
Method of recording and assessing core and chip sample recoveries and results assessed. *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Core recovery and presentation has been documented as being good to excellent and inspection of core trays by Poseidon geologists has confirmed the quality of core recovery. Due to the good to excellent core recovery, Poseidon has no reason to believe that there is bias due to either sample recovery or loss/gain of core.
Logging	
Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* *The total length and percentage of the relevant intersections logged.*	Much of the drill core has been oriented prior to the core being logged. Drilling data and geological logging was electronically captured and uploaded in to the site Acquire® geology SQL database. This has been exported to an Access database which has been converted to Surpac format for modelling. The entire length of the drillholes have been logged geologically and entered into the digital database.

Sub-sampling techniques and sample preparation	
If core, whether cut or sawn and whether quarter, half or all core taken. *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	All of the deeper drill core used in this estimation was either full core or cut using a core saw, with half core used for sampling. Resource and grade control drilling was crushed to <3 mm and then split to 3 kg lots, then pulverised. This is appropriate given the sample interval and mass.
Quality of assay data and laboratory tests	
The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	All assaying since March 2004 has been carried out by Kalgoorlie Assay Laboratories (Kalassay, now Bureau Veritas) using ICP-OES on a 4 acid digest using standard laboratory practices. Both independent and laboratory internal QAQC were used. Site specific standards were derived from two RC drillholes specifically designed for the purpose and prepared by ORE Pty Ltd in Melbourne. Analysis for these standards was for Ni, As, Fe and Mg. The following QA/QC measures were adopted during the sampling and assaying of underground diamond drill core and include: • Blank inserted in 1:25 samples • Certified standards inserted in 1:25 samples • Sizing analysis of 1:20 samples • Duplicate analysis of quarter core for 1:25 holes • Analysis of laboratory QAQC. Repeat analysis completed by laboratory on 5% of samples • Monthly reporting of QAQC • Six monthly temporal and spatial analysis of the erroneous standards and blanks. The quality of the data received from the laboratory appears to be good, with no major issues being highlighted. Standard samples have a well-defined margin of error suitable for the deposit. No external laboratory checks were conducted on the drill samples.
Verification of sampling and assaying	
The verification of significant intersections by either independent or alternative company personnel. *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	Logging and assay data is electronically captured and up loaded in to the site Acquire® geology SQL database which was handed over to Poseidon following the sale transaction. This has been exported to an Access database which has been converted to Surpac format for modelling.

Location of data points	
Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. *Specification of the grid system used.* *Quality and adequacy of topographic control.*	All collar surveys were completed to an accuracy of ±10 mm and recorded by the underground surveyor. A local grid based on seven known AMG_84 references was created. The Department of Land Information (formerly the Department of Land Administration) benchmark UO51 on the Yarri Road opposite 14 Mile Dam was used to tie the survey control stations to the Australian Height Datum (AHD). A height datum of AHD + 1000 m was adopted for the Black Swan project. A local mine grid was established and used throughout the operation. Poseidon has also converted surveys to the current MGA_94 grid format. All Silver Swan diamond drillholes have been routinely surveyed downhole. All underground diamond drillholes have been surveyed using either Eastman Single Shot down hole survey instruments or Reflex Gyro instruments.
Data spacing and distribution	
Data spacing for reporting of Exploration Results. *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* *Whether sample compositing has been applied.*	Underground drilling used a maximum spacing of 10 m x 10 m for Indicated category resources and approximately 10m x 20m and 20 m x 40m for Inferred resources. Sample data was composited to 1 m.
Orientation of data in relation to geological structure	
Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	Drillhole orientation was dominantly between 20^0-60^o to geological continuity as the mineralisation is drilled form underground workings in the footwall of the deposit which dips 80^0 to grid east. The angle of intersection is factored into the resource shape interpretations and is well understood as it is verified by mining and reconciliation of the ore zones to a depth of 1300m below surface. The sampling and interpretations meets the requirements of the resource estimation.
Sample security	
The measures taken to ensure sample security.	There are no documented details available regarding sample security. As the mine is not precious metals and the drilling consists of visually observable massive nickel sulphide mineralisation, security is not considered to have been compromised.
Audits or reviews	
The results of any audits or reviews of sampling techniques and data.	Examination of duplicate, blank and standard data does not highlight any material bias or systematic error. The drillhole intersections correlate well with the block model results.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Section 2: Reporting of Exploration Results	
Mineral Tenement and Land Tenure Status	
Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Silver Swan underground mine is located in the Kalgoorlie District within M27/200. Silver Swan mine is part of the Black Swan Operation which is located 42.5km NE of Kalgoorlie. M27/200 is registered to MPI Nickel PTY Ltd which is a 100% subsidiary of OJSC MMC Norilsk Nickel. Following the purchase of the assets from Norilsk, the tenement is currently in the process of being transferred to Poseidon Nickel Limited. All operating licences are in place and are currently being renewed and transferred to Poseidon Nickel. Historical royalties of 3% NSR exist over the minerals produced.
Exploration Done by Other Parties	
Acknowledgment and appraisal of exploration by other parties.	The Silver Swan Mine was discovered by MPI Mines Ltd, then was acquired by LionOre in 2004. Much of the exploration drilling and development was completed by these 2 companies. In turn LionOre was taken over by Norilsk in 2007 and continued mining and developing the underground mine at Silver Swan. Poseidon Nickel purchased the operation from Norilsk in late 2014.
Geology	
Deposit type, geological setting and style of mineralisation.	The Silver Swan deposit is a Kambalda style komatiite hosted nickel deposit.
Drillhole Information	
	No new Exploration Results have been reported.
Data Aggregation Methods	
	No new Exploration Results have been reported.
Relationship Between Mineralisation Widths and Intercept Lengths	
	No new Exploration Results have been reported.
Diagrams	
	No new Exploration Results have been reported.
Balance Reporting	
	No new Exploration Results have been reported.
Other Substantive Exploration Data	
	No new Exploration Results have been reported.
Further work	
	Poseidon expects to undertake further resource definition and grade control drilling at Silver Swan to convert Inferred resources to Indicated resources.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

JORC Code explanation	Commentary
Database integrity	
Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. *Data validation procedures used.*	Logging and assay data has been electronically captured and uploaded in to the site Acquire® geology SQL database. Data was exported to csv and imported into Datamine Studio 3 for the resource estimation. The database has been previously reviewed by Golder Associates and was found to be in excellent condition. It is very clean and contains few errors, but does not contain sample and assay quality control information. Both Golder & Poseidon have conducted visual validation checks on the drillhole data, with holes not relevant to the estimation (above the 10100mRL) removed from the dataset.
Site visits	
Comment on any site visits undertaken by the Competent Person and the outcome of those visits. *If no site visits have been undertaken indicate why this is the case.*	Mr Neil Hutchison, the General Manger-Geology and Competent Person for Poseidon, has visited the Black Swan site and Silver Swan underground mine on numerous occasions within the last 18 months. Underground inspections of access and ore development drives relevant to this resource estimate have been verified by Mr Hutchison on several visits. Black Swan has a long history of exploration and has been an operating mine, with both open pit and underground mining operations taking place.
Geological interpretation	
Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. *Nature of the data used and of any assumptions made.* *The effect, if any, of alternative interpretations on Mineral Resource estimation.* *The use of geology in guiding and controlling Mineral Resource estimation.* *The factors affecting continuity both of grade and geology.*	The geological interpretation is validated by drill and mining activity, as well as face mapping by the previous owners. Estimation has been restricted to lithologies controlling and surrounding mineralisation. The geological domaining is based on 3D wireframes created from sectional interpretation in Surpac. A grade threshold of between 1.2 and 1.4% Ni was used to model the mineralisation. Grade proximal to these wireframes has been modelled using a 1 m dilution skin model which is unclassified and not reported. A total of 14 mineralised domains were interpreted and include the Goose, Fledgling-Canard, Peking Duck and Tundra-Mute ore bodies. The interpretation for this Mineral Resource estimate relies solely upon data from drilling below the 10250mRL, and not on mapping or face sampling. The Tundra-Mute has previously been modelled as two individual ore bodies, plunging at opposite directions. Re-evaluation of the drill information and geology, including the addition of assay information acquired through reconnaissance of data collection in progress at the time of the mine being put under care and maintenance (circa 2008).
Dimensions	
The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The mineralisation associated with the Silver Swan mine has a width of approximately 375 m striking grid north-south and has been defined to a down dip length of 1550 m plunging towards the east. Individual sulphide lenses are typically 3-5 m in thickness. Drilling has intercepted Ni mineralisation down to a depth of 1600 m below surface and is still open down plunge.

Estimation and modelling techniques	
The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* *The assumptions made regarding recovery of by-products.* *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* *Any assumptions behind modelling of selective mining units.* *Any assumptions about correlation between variables.* *Description of how the geological interpretation was used to control the resource estimates.* *Discussion of basis for using or not using grade cutting or capping.* *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	Mineralisation within the 14 modelled domains was selected and composited to 1 m composites using s best fit approach. Top cuts were applied to Ni (21%), As (25,000), Co (5,000 ppm) and Cu (20,000 ppm) after population disintegration analysis and consideration of the domain statistics. Traditional variograms were used to model the variography of all grade variables with the exception of copper where a normal scores transformation was used. Variogram analysis was completed in Supervisor using the combined 1 m composited data due to the small domain populations. Variogram ranges for each variable ranged from 15 to 79 in the Major direction, 18 to 47 in the Semi-Major direction and 4 to 10 in the Minor direction. The nugget values were derived from the downhole variograms and were generally low (<5%), with the exception of As and Co, which were 35%. As expected, the variogram orientations approximated the orientation of the mineralisation (~NNE strike, E 70° dip). A 3D block model was generated in Datamine Studio 3 using a block size of 2 m (X) by 5 m (Y) by 10 m (Z). The variable sub-block size was set to 0.25 m (X) by 0.5 m (Y) by 0.5 m (Z). This degree of sub-blocking is used because of the narrow and variable shoot geometry. Prior to estimation the block model was coded using domain wireframes (ore, dilution and waste domains). Mined out volumes and resource categories were also coded into the block model post estimation. Ordinary Kriging was used to estimate block grades for the following variables; Ni (%),As (ppm), Co (ppm), Cu (ppm), Fe (%), MgO (%) and S (%). Three estimation passes were used for each domain and hard estimation boundaries were used. Search parameters based on the results of the nickel variogram analysis and kriging neighbourhood analaysis (KNA) were used. The orientations of search ellipses were set to mirror the orientation of each orebody lens. The first search pass was 25m E by 25 m N by 4 m RL using a minimum of 10 samples and a maximum of 24. The second pass was multiplied by a factor of 1.5 utilising the same min and max sample numbers. The third pass was factored by 5, and the minimum samples required was lowered to 4. A total of 79% of the resource was filled in the first estimation pass for nickel. Block discretisation points used were X:4, Y:10, Z:10. Un-estimated blocks were attributed the block domain averages. A dilution skin model estimating Ni and As only was created by expanding the mineralised wireframe by 1 m. Drillholes were selected and composited as being outside the main ore zone, and within the 1 m dilution skin. A hard estimation boundary between the mineralisation and the dilution skin was used. Three estimation passes were used. The first search was restricted to 15m by 15m by 2m, the second to 22.5m by 22.5m by 3m and the final search was expanded to 75m by 75m by 10 m to estimate any remaining blocks. All searches used a minimum of 6 and a maximum of 24 samples.
Moisture	
Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Density measurements were performed using the immersion technique. The density was calculated as a wet density. The core from underground is fresh, dense and non-porous therefore moisture content is not considered to be an issue.
Cut-off parameters	
The basis of the adopted cut-off grade(s) or quality parameters applied.	The resource model is constrained by assumptions about economic cut-off grades. The Mineral Resource was modelled using a 1.2-1.4% Ni wireframe threshold and reported using a cut-off grade of 4.5% Ni which was applied on a block by block basis.

Mining factors or assumptions	
Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The following assumptions have been factored regarding possible mining methods; • A mining dilution of 25% has been applied to stopes. • 50% dilution has been applied to the 3.5m x 3.5m development ore drives. • Single boom jumbos are used for development ore drives. • Airleg flatback mining using 2m x 2.5m ore stoping is applied. • A mining recovery of 91% ore extraction has been used due to pillars. • Stopes are backfilled with development waste.
Metallurgical factors or assumptions	
The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical recovery of nickel was assigned based on data calculated by the Black Swan mill whilst mining operations were in progress.
Environmental factors or assumptions	
Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	As the project has previously been mined, there are existing waste storage facilities and environmental considerations are not expected to pose any issues to the resumption of mining activity.
Bulk density	
Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Bulk density measurements were routinely collected for all underground drill core submitted for analysis. The majority of measurements have been made using the water immersion method where the weight of selected pieces of core is measured in both air and water. All weights were measured using an electronic balance. The bulk density measurements were used to determine a regression calculation that was used with the estimated nickel values to determine the SG. SGs above a value of 5 were top cut.

Classification	
The basis for the classification of the Mineral Resources into varying confidence categories. *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). The classification of Mineral Resources was completed by Optiro and Poseidon based on geological confidence, drillhole spacing, data density and grade continuity. The Competent Person is satisfied that the result appropriately reflects his view of the deposit. Continuous zones meeting the following criteria were used to define the resource class: <ins>Measured Resource</ins> • Measured Mineral Resources consist of the high confidence material which has been grade control drilled (15x15m) and sill development has been completed both above and below. • No material is categorised as Measured in this resource estimation <ins>Indicated Resource</ins> • The Indicated Mineral Resources reflects moderate confidence material with good data density. • Consistent strike and dip orientation and geological and grade continuity between drill intercepts. • Reflects a nominal drill spacing of less than 25m x 25m resource definition drilling, through to grade control drilling (10 x 15m spacing), but not intersected by ore drive development. <ins>Inferred Resource</ins> • The Inferred Mineral Resource reflects uncertainty in continuity of the massive sulphides confirmed by drill intersection with poor data density or drilled at a high angle to the mineralisation. • Uncertainty in geological and grade continuity between drill intercepts.
Audits or reviews	
The results of any audits or reviews of Mineral Resource estimates.	This Mineral Resource estimate has been compared with previous non-JORC resource estimates completed by Poseidon and Norilsk Nickel Pty Ltd. Previous estimates used an accumulation model estimating Ni x "T", As x "T" and SG x "T" (where "T" is true thickness). Little correlation exists between true thickness and nickel grade at depth and consequently an OK modelling approach was adopted. The 2016 model also used a higher nominal grade threshold for interpretation of the mineralisation (1.2-1.4% compared to the previous 0.4%). The Tundra-Mute areas has also been significantly remodelled. The May 2016 is reporting the Mineral Resource is reporting more tonnes at a lower grade, for approximately the same amount of metal. No other audits or reviews have been completed.
Discussion of relative accuracy/confidence	
Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The relative accuracy is reflected in the resource classification discussed above that is in line with industry acceptable standards. This is a Mineral Resource estimate that includes knowledge gained from mining and milling recovery data during production.