

## Corporate Directory

ASX Code: POS  
Shares on Issue: 2.6M  
Share price \$0.030  
Market Cap: ~\$80M  
Cash & equivalents at 31 March 2020  
\$48.6M

## Board of Directors

Non-Executive Chairman  
Derek La Ferla

Non-Executive Directors  
Felicity Gooding  
Karl Paganin  
Geoffrey Brayshaw

Managing Director & CEO  
Peter Harold

CFO & Joint Company Secretary  
Brendan Shalders

Joint Company Secretary  
Andrea Betti

## Key Shareholders

Black Mountain Metals: 20.8%  
Squadron Resources: 17.1%

## Nickel Assets (100%)

Black Swan/Silver Swan  
Lake Johnston  
Windarra

## Principal & Registered Office

Unit 8 Churchill Court  
331-335 Hay Street  
Subiaco 6008  
Western Australia

T: +61 8 6167 6600  
F: +61 8 6167 6649  
E: admin@poseidon-nickel.com.au  
W: www.poseidon-nickel.com.au

## ROBUST PRE-FEASIBILITY STUDY COMPLETED FOR WINDARRA GOLD TAILINGS PROJECT

22 JUNE 2020

## HIGHLIGHTS

- Windarra gold tailings could produce approximately 44,000 oz gold based on processing North and South Tailings Dams Low technical risk project, utilising low-cost hydraulic mining and a new conventional 1.5 Mtpa cyanidation-leach processing facility
- Net operating cashflows of \$30 million (based on A\$2,500/oz gold price)
- Attractive AISC for Project life of A\$1,291/oz recovered
- Net Present Value (NPV<sub>8</sub>) of \$23 million and IRR of 62%
- Modest development capital of \$25 million, payback 15 months
- A Definitive Feasibility Study has been approved by the Board

Poseidon Nickel Limited (“Company” or “Poseidon”) (ASX: POS) is pleased to deliver the Pre-Feasibility Study (“PFS”) for the Company’s 100% owned Windarra Gold Tailings Project (the “Project”).

**Managing Director Peter Harold commented:** “We are looking at the opportunity to capitalise on the strong A\$ gold price environment and unlock the value of the in-situ gold tailings Resource at Windarra.

*Given the proximity of the existing infrastructure at Windarra we have evaluated the gold tailings project on the basis of utilising low cost hydraulic mining, combined with a straightforward cyanidation-leaching processing flowsheet to produce gold dore on site. Collectively these factors result in a low technical risk, low capital and operating cost framework, that demonstrates attractive project economics.*

*These positive outcomes have allowed us to expedite the next step of completing a Definitive Feasibility Study (“DFS”), which we expect to finalise early in the fourth calendar quarter of 2020.*

*By monetising the gold resource, we could unlock value and provide a low risk platform that supports our broader corporate goal of returning Poseidon to nickel production.*

*Given the generic nature of the processing equipment used for the gold tailings, we expect that the gold plant could be re-purposed for nickel tails leaching at Windarra and/or Black Swan, after completion of the project.”*

## **Cautionary Statements**

The production profile referred to in this release is based on 100% Indicated Resources for the life of operation. The Company has not used Inferred Resources as part of the proposed production scenario.

The study is based on the material assumptions described elsewhere in this announcement. While the Company considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the study will be achieved. To achieve the potential mine development outcomes indicated in the study, additional funding will be required as well as regulatory approvals, particular to Windarra and the existing State Nickel Agreement. Investors should note that there is no certainty that the Company will be able to raise funding when needed and secure the short-term approval to extract gold. However, the Company has concluded that it has a reasonable basis for providing the forward-looking statements included in this announcement and believes it has "reasonable basis" to expect it will be able to fund and obtain approval for the development of the Project.

## **Forward Looking Statements**

Some of the statements contained in this report are forward looking statements. Forward looking statements include, but are not limited to, statements concerning estimates of tonnages, expected costs, statements relating to the continued advancement of Poseidon's project and other statements that are not historical facts. When used in this report, and on other published information of Poseidon, the words such as 'aim', 'could', 'estimate', 'expect', 'intend', 'may', 'potential', 'should' and similar expressions are forward looking statements.

Although Poseidon believes that the expectations reflected in the forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that the actual results will be consistent with these forward-looking statements. Various factors could cause actual results to differ from these forward-looking statements including the potential that the Project may experience technical, geological, metallurgical and mechanical problems, changes in gold and nickel price and other risks not anticipated by Poseidon. Poseidon considers that this summary of the study is presented in a fair and balanced way and believes that it has a reasonable basis for making the forward-looking statements in this announcement, including with respect to any mining of mineralised material, modifying factors, production targets and operating cost estimates. This announcement has been compiled by Poseidon from the information provided by the various contributors to the announcement.

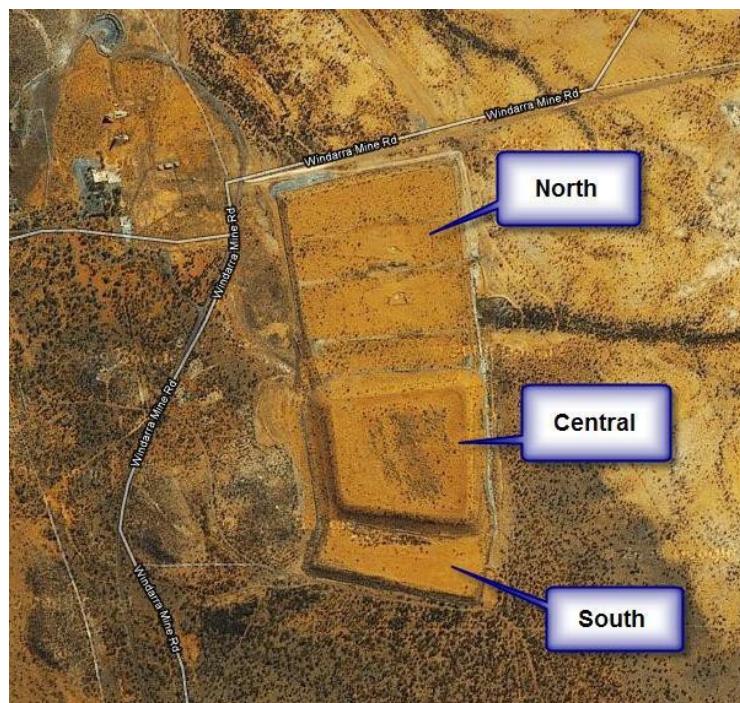
## PRE-FEASIBILITY SUMMARY

### 1. Introduction

The Project Mineral Resource comprises approximately 4.55 million tonnes of gold tailings averaging 0.72 g/t gold and 1.6 g/t silver. The Project assumes both the North and South tailings Dams at Windarra form the basis of the June 2020 Prefeasibility Study (“Gold PFS”) (see Figure 1). The updated Mineral Resource was released to ASX on 22 June 2020.<sup>1</sup>

Poseidon engaged two well recognised and independent, Western Australian based engineering companies to provide capital and operating cost estimates for an on-site processing plant for the Project.

Experienced hydraulic mining contractors were also consulted to provide an independent assessment of capital and operating costs specific to the hydraulic mining of the tailings Dams.



**Figure 1: Configuration of the Tailings Dams at Windarra**

Poseidon previously investigated the feasibility of developing the Windarra Nickel Project in 2011 incorporating the gold tailings retreatment. The Gold PFS considers design concepts from the previous studies undertaken to re-evaluate the Project at a treatment rate of 1.5 Mtpa and is restricted to processing material from the North and South tailings dams.

The Gold PFS is based on a processing facility producing gold dore on site as a base case, with the alternative option of stripping carbon and regeneration of carbon off site.

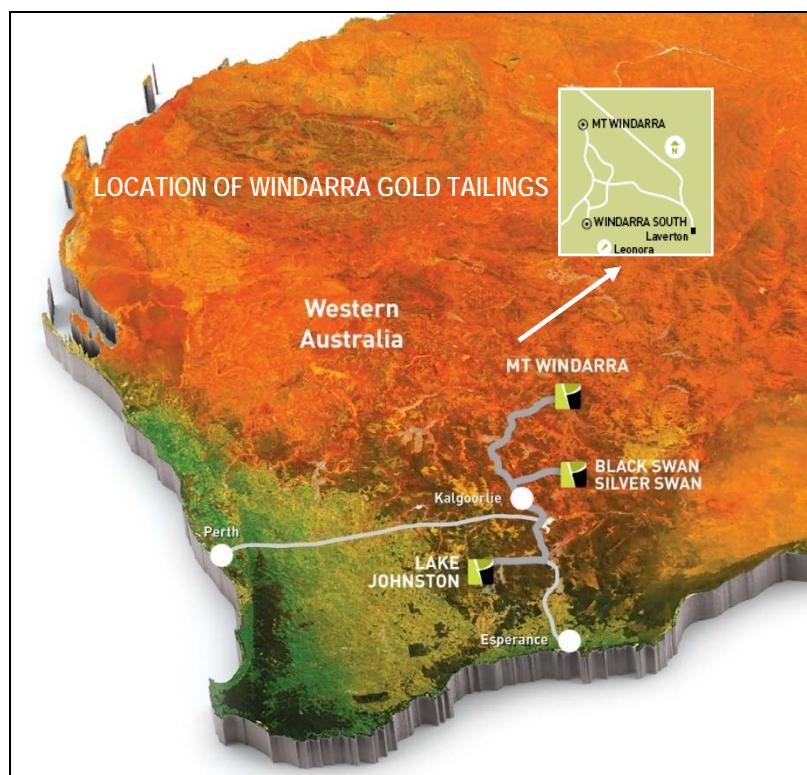
*1. Reference ASX release “Gold Tailings Resource at Windarra updated to JORC 2012 Indicated” dated 22 June 2020. Additional details regarding the estimated Mineral Resources are shown in the Mineral Resource Statement (Table 2) of this release and should be read in conjunction with the cautionary comments and disclosures provided by the Competent Person.*

The design and engineering for the Gold PFS has been conducted in sufficient detail to support a level of accuracy of  $\pm 25\%$ .

Collectively these inputs have enabled the Company to prepare a detailed financial model which supports the decision to proceed to Definitive Feasibility Study (“DFS”), anticipated to take approximately three to four months. During this period, management will commence the necessary regulatory approvals required for the Project.

## Location

The Project is located 720 km northeast of Perth, 260 km north northeast of the major mining town of Kalgoorlie, and about 18 km northwest of Laverton. It is serviced by sealed roads from Kalgoorlie via Leonora to Laverton (See Figure 2).



**Figure 2: Location of Windarra Gold Tailings Project site**

## 2. Resource

Optiro Pty Limited (“Optiro”) was commissioned to evaluate the previously completed 2011 and 2012 resource estimates and has also compiled the revised JORC 2012 Mineral Resource estimate of 4.55 Mt at a gold grade of 0.72 g/t for the North and South tailings Dams<sup>1</sup>

The North and South tailings Dams represent tailings from the gold operations historically conducted at Beasley Creek and Lancefield by Western Mining Corporation (“WMC”).

*1. Reference ASX release “Gold Tailings Resource at Windarra updated to JORC 2012 Indicated” dated 22 June 2020. Additional details regarding the estimated Mineral Resources are shown in the Mineral Resource Statement Table 2 of this release and should be read in conjunction with the cautionary comments and disclosures provided by the Competent Person.*

The Mineral Resource estimate for the North and South tailings Dams is presented in Table 1.

Windarra Gold Tailings Project North and South Dams Mineral Resource - JORC 2012 tabulation							
	INDICATED						
	Tonnes (t)	Au (g/t)	Au (oz)	Ag (g/t)	As (ppm)	Cu (ppm)	Ni (%)
North Dam	3,624,000	0.78	91,000	1.9	1,770	360	0.10
South Dam	923,000	0.48	14,000	0.6	630	369	0.26
Total	<b>4,547,000</b>	<b>0.72</b>	<b>105,000</b>	<b>1.6</b>	<b>1,540</b>	<b>360</b>	<b>0.13</b>

**Table 1: Windarra Gold Tailings Project Mineral Resource Tabulation**

The Windarra gold tailings estimate in Table 1 has been reported on the following basis:

- no cut-off grade has been used to report the resource, as the potential mining method dictates removal of the entire Dams;
- a dry bulk in situ density of 1.6 t/m<sup>3</sup> has been used to derive tonnages; and
- resource numbers in Table 1 may not sum exactly due to rounding.

The Mineral Resource estimate for the Central Dam is presented in Table 2.

Windarra Gold Tailings Project Central Dam Mineral Resource - JORC 2012 tabulation						
	INDICATED					
	Tonnes (t)	Au (g/t)	Au (oz)	As (ppm)	Cu (ppm)	Ni (%)
Central Dam	6,198,000	0.37	74,000	435.0	270	0.3

**Table 2: Windarra Central Dam Mineral Resource**

The Windarra gold tailings estimate in Table 2 has been reported on the following basis:

- no cut-off grade has been used to report the resource, as the potential mining method dictates removal of the entire dam down to a specified elevation;
- the mineralisation has been reported above a flat elevation of 446 mRL (there are tailings below this level but these have been shown by drilling to contain no gold, and it is anticipated that the proposed mining method will not treat material below this elevation);
- a dry bulk in situ density of 1.6 t/m<sup>3</sup> has been used to derive tonnages; and
- resource numbers in Table 2 may not sum exactly due to rounding.

The Gold PFS has not considered mining any material from the Central Dam however, this Resource could be processed at the completion of the North and South Dams, subject to favorable economics.

Additional details regarding the estimated Mineral Resources are shown in the Mineral Resource Statement (Table 2) of this release and should be read in conjunction with the cautionary comments and disclosures provided by the Competent Person.

### 3. Mining

Poseidon considered both conventional load and haul mining and hydraulic mining methods to reclaim the tailings at Windarra. Hydraulic mining provides a more cost-effective and lower geotechnical risk option to reclaim and reprocess the contained gold and silver. The Gold PFS assumes the hydraulic mining method will be used to recover 100% of the gold contained in North and South Tailings Dams and as reported the Mineral Resource Statement Table 2.

An independent hydraulic mining contractor has designed a mining system that utilises high-pressure water cannons on the tailings for onsite collection and transmission of the slurry, via a pipeline, to the tailings processing facility. The total number of people required for contract hydraulic mining is estimated at twelve.

The mine operations will be a phased approach, with the North tailings dam (higher grade gold and greater volume) mined first followed by the South tailings dam, as shown in Figure 3.



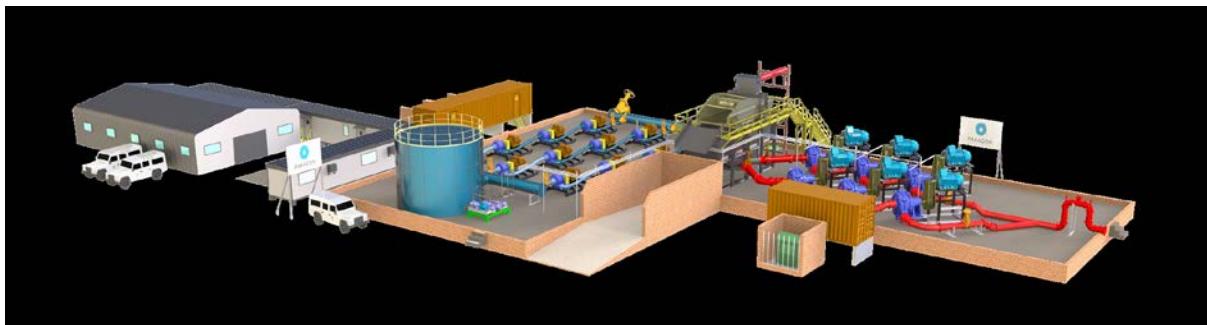
**Figure 3\*: Overview of the proposed mining phased approach and equipment to be used**

\*Cautionary Note. These images are for illustration purposes only and are indicative of the type of equipment anticipated to be used to hydraulically mine the gold tailings. The final configuration and type of equipment will be confirmed as part of the DFS.

The water used for the hydraulic mining (and for processing) will be sourced from the South Windarra open pit mine, which is a disused open pit mine, located approximately 17km to the south of the tailings dams. The South Windarra open pit mine forms part of Poseidon's tenement holdings and contains approximately 23 ML of free-standing (moderately saline) water, which is more than six times the quantity of process water required for the life of the Project.

The total mining operating costs are estimated to be A\$3.31/tonne ore mined (including power consumption).

Capital costs include site mobilisation and demobilisation and the specific capital equipment and is summarised in the capital expenditure costs. Examples of hydraulic mining equipment are outlined in Figures 4 and 5.



**Figure 4\***: Proposed layout of Slurry transfer station



**Figure 5\***: Water cannon typically used for hydraulic mining

\*Cautionary Note. These images are for illustration purposes only and are indicative of the type of equipment anticipated to be used to hydraulically mine the gold tailings. The final configuration and type of equipment will be confirmed as part of the DFS.

#### 4. Metallurgy

Poseidon has drawn on several metallurgical test work programs that were completed on the Windarra gold tailings by previous owners and the Company. These studies were considered by the engineering companies undertaking the Gold PFS to assist in determining the optimal process flowsheet.

Metallurgical data was used from the following test programs:

- Oretest completed 61 leach tests on 32 samples in 1996 for WMC;
- SGS completed leach tests in 2012 for Poseidon Nickel; and
- ALS conducted leach tests in 2017 for GTI Resources.

The available kinetic leach test data was used from three test programs to evaluate the gold recovery based on tank circuit capacities with a residence time of 8, 16 and 24 hours. The average extraction results from the kinetic leach tests are summarised in Table 3.

	Average calc gold head grade (g/t)	Average 24hr leach extraction
Oretest 1996	0.85	34.7%
SGS 2012	0.97	48.5%
ALS 2017	0.76	39.7%

**Table 3: Windarra Gold Tailings average gold extraction**

These previous studies exhibited a high degree of variation between each of the test programs, a feature possibly due to oxidation that will have occurred during the years since the initial leach test work by WMC which was undertaken in 1996.

The Company has prepared the Gold PFS based on a recovery rate of 42.3%. The estimate for recovery was originally assessed and concluded independently in 2012. This estimated recovery of 42.3% is supported by an independent assessment of the available metallurgical test work completed as part of the Gold PFS.

Additional leach tests have been commissioned to determine whether the oxidation levels will equate to an overall improvement in recovery. These tests will include the use of enhanced technology for gold leaching utilising a leach reactor that recirculates the gold tailings slurry at high velocity, imposing high shear rates to the slurry to improve the oxygen dissolution and improve the rate and extent of gold leaching. This test work will form part of the DFS.

## 5. Processing

The Windarra tailings treatment plant has been designed based on a throughput of 1.5 million tonnes per annum at a design availability of 95% and a processing rate of 180tph.

The processing circuit includes the following major areas:

- Pre-leach thickener
- Leach and adsorption
- Carbon elution
- Carbon regeneration
- Services and reagents
- Tailing storage and water supply (South Windarra open pit)



**Figure 6: Proposed style and layout of processing facility (for illustrative purposes only)**

Power to the process plant will be supplied from an on-site Build-Own-Operate (BOO) 1.75 MW power station. Power will be distributed from the power station to the process plant 415V Motor Control Room ("MCC") and the hydraulic mining contractor's 415V MCC.

Process water will be sourced from the South Windarra open pit and pumped to the hydraulic tailings reclaim water supply tank and the process water tank at the plant using a single pipeline.

Overflow water from the pre-leach thickener will be utilised to supplement the demand required for hydraulic mining.

The processing labour workforce is estimated to total fifteen personnel.

The total processing operating costs are estimated to be A\$6.48/tonne ore processed (includes refining and power consumption, excludes maintenance and G&A).

## 6. Economic Analysis

Poseidon has developed a detailed financial model supporting the Gold PFS based on detailed capital and operating cost estimates provided by the engineering companies and the hydraulic mining contractor.

The key physical and economic metrics from the Project, including the cost assumptions (calculated in Australian Dollars (A\$)) are summarised in Table 4.

Project physicals and key economic metrics	
Contained gold in resource	105,000oz
Metallurgical recovery	42.3%
Gold production target <sup>1</sup>	44,400oz
Revenue <sup>2</sup>	\$112.3M
Development capital cost	\$24.6M
Max cash drawdown	\$25.3M
Net cash flow	\$30.4M
Pre-tax NPV <sub>8</sub>	\$22.8M
IRR	62.4%
Payback period (from commencement of production)	15 months
Unit cost analysis	
C1 cash cost <sup>3</sup>	\$1,209/oz recovered
AISC cash cost <sup>4</sup>	\$1,291/oz recovered
Breakeven cost <sup>5</sup>	\$1,846/oz recovered

Table 4: Key Project Metrics

### Key Assumptions

1. Target Gold Production – assumes 100% mining recovery of Mineral Resource under the hydraulic mining scenario.
2. A gold price of US\$1,625/oz has been assumed and an exchange rate of A\$:US\$ of 0.65. Revenue includes \$1.4M of assumed silver credits which is produced as a by-product of the gold tailings retreatment process.
3. C1 cash costs mean operating cash costs including mining, processing, geology, OHSE, project G&A, smelter and refining, divided by gold produced. Excludes development and sustaining capex, royalties and corporate overheads.
4. All-in-sustaining cash costs are C1 cash costs plus royalties and sustaining capital. Excludes development capital and corporate overheads.
5. Includes AISC plus development capital.

## 7. Project Assumptions

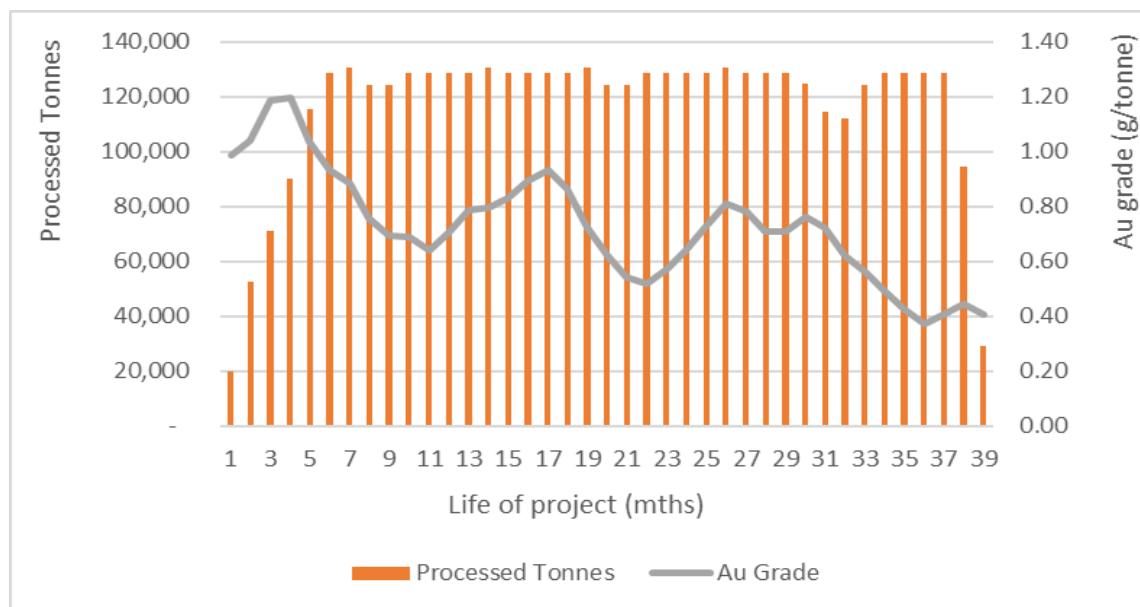
The following assumptions have been applied to the financial model for the Project:

- Gold price US\$1,625/oz for full period of operation;
- A\$/US\$ exchange rate of 0.65 for the full period of operation);
- Discount factor 8% (reflecting low operational risk of the Project);
- Project capital costs totaling \$24.6m (including a contingency of \$3.2M); and
- State royalties of 2.5%.

Revenue assumptions are calculated in US\$ and converted to A\$ using the assumed exchange rate. The model is shown in Real dollar terms and no inflation, cost or revenue escalation has been applied to the financial model.

The mine production has been scheduled based on the phased approach outlined in Section 3 of the Gold PFS. The mining and processing are undertaken over a 39-month period and assumes a metallurgical recovery of 42.3% to generate total gold production of 44,378oz over the Project life.

The production target is summarised in Figure 7.



**Figure 7: Production profile gold tailings project**

The estimated mineral resource underpinning the production target has been prepared by a competent person in accordance with the requirements of Appendix 5A (JORC code).

## 8. Revenue

Revenue is based on the anticipated production profile and underlying A\$/US\$ exchange price assumption and US\$1,625 gold price for the 39-month period. Detailed sensitivity analysis has considered variations to the assumed gold price and foreign exchange rate (see Figure 8).

## 9. Estimated Operating and Capital Costs

Poseidon engaged two well recognised and independent, Western Australian based engineering companies to assist with the investigations and feasibility of developing a processing operation for the Project. These two engineering companies provided capital and operating cost assumptions for constructing and operating a processing facility at Windarra.

Mining capital and operating costs were provided by contractor quotations from experienced hydraulic mining operators who provided an assessment of cost estimates specific to the hydraulic mining of the tailings dams and transport via a slurry pipeline to the proposed Windarra processing facility. Further mining cost estimates were provided by the two engineering companies for power consumption and infrastructure requirements to support the hydraulic mining operations.

Processing cost estimates were developed from first principals using contractor/supplier quotations and the respective engineering companies experience with comparable operations. Consumption rates of reagents and consumables are as per design criteria, with key reagent consumptions based on metallurgical test work results, and consumables pricing sourced from price enquiries specifically for the Project.

Maintenance costs include the cost of spare parts, maintenance consumables and maintenance contracts to maintain the processing plant. The maintenance cost has been applied as a percentage of the plant area installed capital cost.

The workforce required to operate and maintain the operations were determined from manning levels for similar operations. Staff costs estimates were developed in consultation with mining industry recruitment agencies.

Administration costs were developed from operating requirements for comparable operations, with catering and fly in/fly out costs sourced from reputable providers.

Key costs by cost centre are shown in Table 5.

Operating Cost Summary		
	Total cost (A\$ millions)	Unit cost (A\$/oz produced)
Mining Costs	15.1	340
Processing Costs (inc Refining)	23.7	530
Power	5.8	131
G&A/Maintenance	9.1	205
<b>Total operating expenditure (C1 costs)</b>	<b>53.7</b>	<b>1,209</b>
Royalty	2.8	63
Sustaining capital	0.8	18
<b>All-in sustaining costs (AISC costs)</b>	<b>57.3</b>	<b>1,291</b>

Table 5: Estimated Operating Cost Summary

## 10. Estimated Capital Development Costs

Capital costs were compiled from estimates for similar projects considered by the engineering firms engaged for the Gold PFS. The costs assume all new equipment purchases.

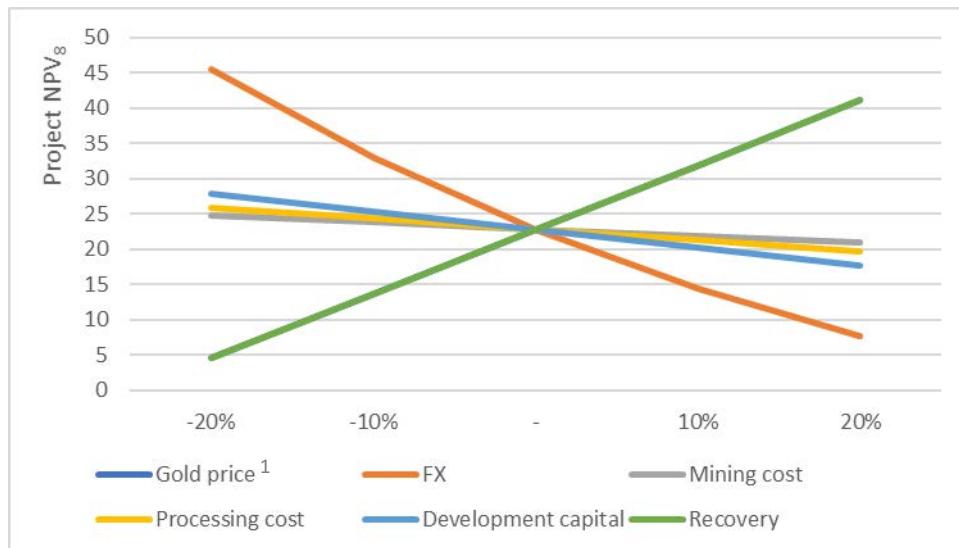
The development capital costs can be summarised in Table 6.

Capital cost Summary (A\$ millions)	
Processing facility	15.1
Carbon stripping / gold room	3.1
Other	
Tailings facility	3.4
First fills, warehousing & critical spares	0.7
Hydraulic mining equipment	1.4
Pre-strip mining	0.6
Owners costs	0.3
<b>Total capital cost</b>	<b>24.6</b>

Table 6: Estimated Capital Development Cost

## 11. Project Sensitivities

The Project is most sensitive to gold recovery, gold price and A\$/US\$ exchange rate fluctuations. Capital and operating cost sensitivities present a relatively lower impact on project economics. Project sensitivities are presented in Figure 8.



**Note:** Gold price and recovery sensitivities are closely aligned on impact to project NPV.  
Gold price sensitivity sits behind the recovery sensitivity in the chart

Figure 8: Project Sensitivities

## 12. Project Funding

Poseidon cash holdings as at 31 March 2020 totaled \$48.6 million. The Company will explore various debt financing options for the gold project that may be available as part of the DFS process, with an aim to maintain a reasonable cash balance.

The Company is also currently assessing various options for the financing of the BMM convertible bond which is due on 30 September 2020.

## **13. Summary Project Timeline**

The project timeline will be refined and outlined in the DFS. The DFS has already been approved by the Board and is expected to take approximately three to four months to complete. During this study greater detail will be provided on critical lead time for equipment and regulatory approvals.

## **14. Business Risks and Opportunities**

The Company has undertaken risk management review associated with the Project and has identified the key business and operational risks and developed strategies to mitigate and control these risks.

The key cost areas identified are processing, hydraulic mining and royalties.

- Processing costs, including reagent consumption will be regularly monitored and, where possible, mitigated by establishing fit for purpose management monitoring and maintenance systems.
- The hydraulic mining method used is low cost/simple and proven to be effective for tailings reclamation and delivery to the processing facility.
- Royalties are fixed via the WA State government

The Project presents low marketing risk as gold production will be sold to the Perth Mint. Revenue is exposed to commodity price and foreign exchange risk; the Company will consider de-risking the project via hedging instruments nearer to Project commencement.

Metallurgical recovery presents a risk and opportunity to the Project. Additional testing regimes based on technological advancements have been commenced that will test the potential improvements to the gold recovery of 42.3%.

The capital cost assumptions outlined in the Gold PFS, assume that Poseidon will purchase new equipment. The Company will explore the use of existing equipment, where possible, and of the potential to utilise generic spares and equipment from Company's extensive inventory as well and secondhand equipment to reduce the overall capital cost.

Mitigating actions to address business risks will be further refined during the DFS phase. During the DFS phase the Company will assess opportunities to optimise the Project and improve Project metrics where possible.

## **15. Approvals/State Agreement**

The Windarra tenements on which the gold tailings reside is located on Special Mining Lease MSA261 granted pursuant to the Poseidon Nickel Agreement 1971, under a State Agreement.

The State Agreement is an Act of the Western Australia Parliament that prescribes the legislative processes and requirements for approval and development of a mining project at Windarra. As part of the DFS, Poseidon will work with the State Government and other regulatory authorities to determine the most appropriate approval pathway to develop the Gold Tailings project.

The Company has recently secured a 3-year extension (to June 2023) to an environmental works approval for the Project. This approval was originally granted in 2012 by the relevant department for a combined gold/nickel project. At that time, the approval permitted the sub-aerial deposition of gold and nickel tailings into the South Windarra open pit, with the concurrent extraction of raw water required for processing. The Company is engaging with the relevant government departments to obtain an amendment to the works approval in order to reflect the deposition of gold tailings only.

This announcement has been authorised for release by the Board of Directors of Poseidon Nickel Limited.



**Peter Harold**  
Managing Director and CEO

**For further information contact Peter Harold: + 61 (0)8 6167 6600.**

### ***About Poseidon Nickel Limited***

*Poseidon Nickel Limited (ASX Code: POS) is a nickel sulphide development and exploration company with three projects located within a radius of 300km from Kalgoorlie in the Goldfields region of Western Australia and a resource base of around 400,000 tonnes of nickel and over 180,000 ounces of gold.*

*Poseidon's strategy is focused on the exploration and eventual restart of its established nickel operations in Western Australia where project risk capital and operating costs are low. A critical element of this strategy has been to acquire projects and operations with high levels of geological prospectivity likely to lead to potential substantial extension of the operation's life through the application of modern exploration techniques.*

*Poseidon owns the Windarra Nickel Project, the Black Swan Nickel Operations and the Lake Johnston Nickel Operations. In addition to the mines and infrastructure including concentrators at Black Swan and Lake Johnston, the operations have significant exploration opportunities demonstrated by the discovery of the Abi Rose deposit at Lake Johnston and the recent discovery of the Golden Swan mineralisation at Black Swan. Management is also reviewing the economics of retreating the gold tailings at Windarra given the strength of that A\$ gold price.*

## 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)	Co% Grade	Co Metal (t)	Cu% Grade	Cu Metal (t)
<b>BLACK SWAN PROJECT</b>															
Black Swan	2012	0.40%	9,600	0.68	65,000	21,100	0.54	114,000	30,700	0.58	179,000	0.01	4,200	NA	-
Silver Swan	2012	4.50%	108	9.4	10,130	61	9.7	5,900	168	9.5	16,030	0.19	316	0.4	679
<b>LAKE JOHNSTON PROJECT</b>															
Maggie Hays	2012	0.80%	2,600	1.60	41,900	900	1.17	10,100	3,500	1.49	52,000	0.05	1,800	0.10	3,400
<b>WINDARRA PROJECT</b>															
Mt Windarra	2012	0.90%	922	1.56	14,000	3,436	1.66	57,500	4,358	1.64	71,500	0.03	1,200	0.13	5,700
South Windarra	2004	0.80%	772	0.98	8,000	-	-	-	772	0.98	8,000	NA	-	NA	-
Cerberus	2004	0.75%	2,773	1.25	35,000	1,778	1.91	34,000	4,551	1.51	69,000	NA	-	0.08	3,600
<b>TOTAL</b>															
Total Ni, Co, Cu Resources	2004 & 2012		16,775	1.04	174,030	27,275	0.81	221,500	44,049	0.90	395,530	0.02	7,516	0.03	13,379

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.

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

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

Maggie Hays Resource as of 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 7 November 2014 (see ASX announcement "Poseidon Announces Revised Mt Windarra Resource" released 7<sup>th</sup> November 2014)

South Windarra and Cerberus Resource as of 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.

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

Windarra Gold Tailings Project North and South Dams Mineral Resource - JORC 2012 tabulation							
	INDICATED						
	Tonnes (t)	Au (g/t)	Au (oz)	Ag (g/t)	As (ppm)	Cu (ppm)	Ni (%)
North Dam	3,624,000	0.78	91,000	1.9	1,770	360	0.10
South Dam	923,000	0.48	14,000	0.6	630	369	0.26
Total	4,547,000	0.72	105,000	1.6	1,540	360	0.13

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

The Windarra Tailings estimate for North and South Dams has been reported based on the following:

- no cut-off grade has been used to report the resource, as the potential mining method dictates removal of the entire dams.
- a dry bulk in situ density of 1.6 t/m<sup>3</sup> has been used to derive tonnages.
- resource numbers in Table 2.1 may not sum exactly due to rounding.

Windarra Gold Tailings Project Central Dam Mineral Resource - JORC 2012 tabulation						
	INDICATED					
	Tonnes (t)	Au (g/t)	Au (oz)	As (ppm)	Cu (ppm)	Ni (%)
<b>Central Dam</b>	6,198,000	0.37	74,000	435.0	270	0.3

Table 2.2 Windarra Central Dam JORC2012 Mineral Resource

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

- No cut-off grade has been used to report the resource, as the potential mining method dictates removal of the entire dam down to a specified elevation.
- The mineralisation has been reported above a flat elevation of 446 mRL; there are tailings below this level but these have been shown by drilling to contain no gold, and it is anticipated that the proposed mining method will not treat material below this elevation.
- A dry bulk in situ density of 1.6 t/m<sup>3</sup> has been used to derive tonnages.
- Resource totals may not sum exactly due to rounding.

Windarra Gold Tailings Resource as at 22 June 2020 (see ASX announcement “Gold Tailings Resource at Windarra updated to JORC 2012 Indicated” dated 22 June 2020)

#### COMPETENT PERSON DECLARATION

The information in this **Updated Gold Tailings Project Mineral Resource Statement** which relates to Mineral Resources is based upon details compiled by Ian Glacken, who is a Fellow of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Ian Glacken is an employee of Optiro Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and the deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code).

The Company is not aware of any new information or data that materially affects the information in the relevant market announcements. All material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

#### ORE RESERVE STATEMENT

Table 3: Nickel Projects Ore Reserve Statement

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

Silver Swan Underground Reserve as of 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 compiled 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 PERSON STATEMENTS:**

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 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, 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 Cervo 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 Project Ore Reserves 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 Mineral Resources at the Windarra Nickel Project are based on, and fairly represent, 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. The Windarra Nickel Project Resources have been compiled to JORC 2004 standards and have undergone no material change since compilation in 2012. The Resources will be compiled to JORC 2012 standard when the nickel project is progressed further.

The information in this report that relates to Mineral Resources at the Windarra Gold Tailings Project, is based upon details compiled by Ian Glacken, who is a Fellow of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and a full-time employee of Optiro Pty Ltd.

Mr Warriner, Mr Cervo, 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 Cervo, 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 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.