

November 28, 2022

## SPECULATIVE BUY (no change)

Stock code:	POS AU
Price:	A\$0.042
12-month target price:	A\$0.11
Previous target price:	A\$0.13
Up/downside to target price:	161.9%
Dividend yield:	0.0%
12-month TSR*:	161.9%
Market cap:	A\$128.7m
Average daily turnover:	A\$0.37m
Index inclusion:	ALL ORDINARIES

\* Total stock return – Up/downside to target price + 12-month forward dividend yield.

### Price performance

(%)	1M	3M	12M	3Y
Absolute	-16	-28.8	-57.2	-16
Rel ASX/S&P200	-22.8	-31.8	-55.2	-23.8



### Financial summary

	Jun-22A	Jun-23F	Jun-24F	Jun-25F
Revenue (A\$m)	0.0	0.0	1.3	181.7
EBITDA Norm (A\$m)	-11.35	-3.12	-9.03	73.53
Net Profit (A\$m)	-11.28	-3.12	-15.83	60.05
EPS Norm (A\$)	-0.004	-0.001	-0.005	0.020
EPS Growth Norm (%)		-73%	407%	
P/E Norm (x)	NA	NA	NA	2.14
DPS (A\$)	0.000	0.000	0.000	0.000
Dividend Yield (%)	0%	0%	0%	0%
EV/EBITDA (x)	NA	NA	NA	1.83
Gearing (Net Debt/EBITDA)	0.96	2.55	-6.77	0.08

Source: Company data, Morgans estimates

### Related research

[POS \(SPEC BUY - TP A\\$0.13\) - 22 Dec 2021](#)

[POS \(HOLD - TP A\\$0.13\) - 06 Sep 2021](#)

### Kyle WILLIAMS

(617) 3334 4991

kyle.williams@morgans.com.au

Analyst(s) own shares in the following stocks mentioned in this report

– N/A

# Poseidon Nickel

## Black Swan BFS delivers pathway to production

- The Black Swan 1.1Mtpa mill feed Bankable Feasibility Study (BFS) has returned robust project economics and sets the path for POS's "fill the mill" strategy with production targeted in 2024.
- \$50m pre-production capex and existing mine infrastructure support a low-risk restart into producing premium nickel concentrate with low mine operating costs.
- The BFS assumes that 5.0Mt of feed will be processed over ~4.5 years to produce ~200kt concentrate containing ~30kt contained nickel at a C1 cost of A\$6.7/lb.
- Discussions centered on product offtake and project financing continue ahead of making a final investment decision (FID) during H1 CY2023.
- With this note we transfer coverage of POS to Kyle Williams.
- We update our price target to 11cps using a flat nickel price of US\$11/lb and a 0.70 AUD/USD exchange rate to retain our Speculative Buy rating.

### Event: Black Swan BFS release

- The 1.1Mtpa Black Swan Feasibility Study is based on refurbishing and operating the existing plant by processing 5.0Mt of ore feed over a ~4.5-year period (post-development) to produce 200kt concentrate containing ~30kt nickel. A payback period of ~1.3 years underpins strong cashflows in years 1 and 2 of production.
- The Black Swan project economics are lifted through existing mine infrastructure, which underpins a low pre-production capex of ~\$50 million and includes \$38m to refurbish the Black Swan concentrator.
- First concentrate production is on track for late H1 CY24, assuming FID during the first half of CY23.

### Analysis

- The BFS estimated a C1 unit cost of ~A\$6.7/lb, which aligns with our modeling and supports the basis for a concentrate sales operating model.
- Following the positive 1.1Mtpa Black Swan BFS, POS is now pushing ahead with the feasibility study on the 2.2Mtpa feed option to produce a rougher concentrate and will primarily utilise feed from the Black Swan disseminated Resource below the existing pit. This scenario potentially doubles the nickel in concentrate production to ~14-15ktpa.
- Underlying operating assumptions and valuation are provided on page 4.

### Forecast and valuation update

- The bulk of our revised valuation is derived from the Black Swan 1.1Mtpa mill feed BFS, with the balance from Resources at Black Swan, Lake Johnston, and Mt Windarra. We have assumed an approximate production restart in late H1 CY24 and a ~4.5-year operating life based on current reserves and additional mill feed.
- Using a fixed nickel price of US\$11/lb and a 0.70 AUD/USD exchange rate results in a valuation of 11cps.

### Investment view

- POS is an attractive option on the nickel price, with a clear route to a quick production restart in a robust nickel market and strong demand for Class 1 nickel.
- POS holds a large nickel Resource inventory and strong exploration and development potential at Lake Johnston and Windarra.

### Price catalysts

- Feasibility Study due H1 CY23 based on the Black Swan 2.2Mtpa ore feed option producing rougher concentrate product to extend the Project LOM.
- Potential offtake and project financing securement along with FID during H1 CY23.
- Exploration news flow from the upcoming 15,000m Lake Johnston RC drilling program. Plan to increase Resource base to support a potential restart of operations.
- Update mine study for Mt Windarra to consider trucking ore to Black Swan.

### Risks

- General nickel sector risks remain the nickel price & AUD/USD exchange rate.
- Cost escalation in the broader resources sector.

# Poseidon Nickel

**SPECULATIVE BUY**

as at November 28, 2022

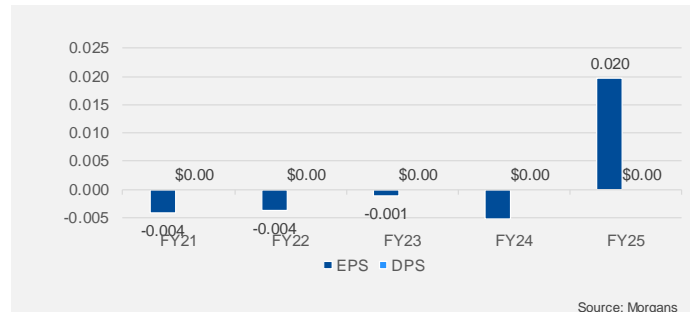
Price (A\$):	0.042	12-month target price (A\$):	0.11
Market cap (A\$m):	128.7	Up/downside to target price (%):	161.9
Free float (%):	80.0	Dividend yield (%):	0.0
Index inclusion:	ALL ORDINARIES	12-month TSR (%):	161.9

Poseidon Nickel Limited is a nickel sulphide exploration and development 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 1 80,000 ounces of gold.

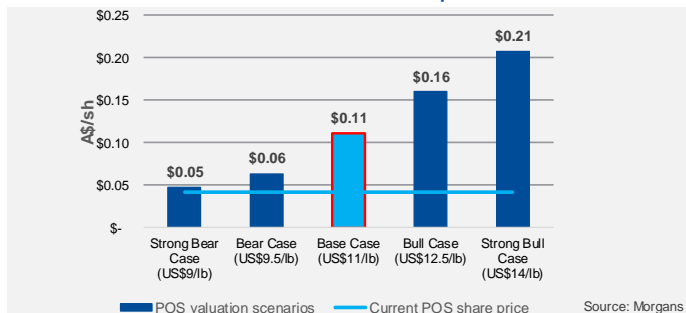
## Poseidon Nickel - Project Location Map



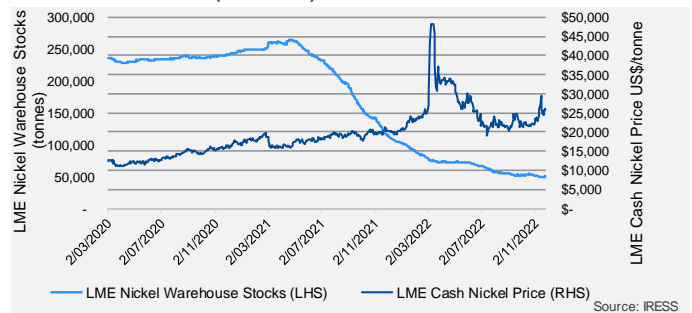
## Historical EPS and DPS (cents)



## POS Share Price - Valuation sensitivities to nickel price variation



## LME Nickel Cash Price (US\$/tonne) Vs. LME Nickel Warehouse Stocks



## Bull points



Nickel is a key ingredient in steel making and the lithium ion battery used in electric vehicles.

Poseidon intends to source power from the local grid, significantly reducing carbon emissions and operating costs over the life of mine.

Black Swan produces a high grade nickel concentrate with <6% MgO and FeMgO ratio of 5:1 giving a highly saleable product for nickel smelters.

Low upfront CAPEX due to the existing Black Swan concentrator, mine infrastructure and underground development.

Poseidon has 100% ownership of the flagship Black Swan Project, along with the Lake Johnston and Windarra, all within the Tier-1 mining jurisdiction of WA.

## Bear points



Development Funding- Ability to secure financing for the Black Swan Project.

High inflationary environment - potential increase to pre-development capital cost.

Ongoing COVID-19 supply chain impacts - potential for project delays.

Commodity price and foreign exchange risk.

Operating Risks - metallurgy and mining carries inherent risk for any mining company.

## Environmental, Social and Governance

ESG

Exposure

Management



### Exposure

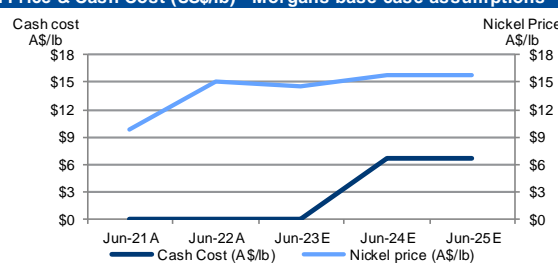
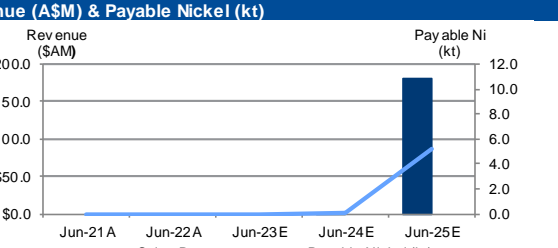
The Black Swan Project is currently in the development phase and is proposed to begin mining in the coming 18 months. The open cut mining operation at Black Swan will utilize a small heavy machinery fleet to mine nickel ore. The mine sites processing facilities, tailings dams, roads and workshops are in place already and therefore eliminating any land clearing to restart operations. Experienced company management is required to support employees, local communities and other key stakeholders linked to the business.

### Management

Adopting a low impact approach to mining nickel and significantly minimising any environmental impact. The management team have in-depth experience across mining operations in Western Australia. Environmental management at Black Swan will be comprehensive throughout the life of mine.

Source: Morgans

Figure 1: Financial summary

FINANCIAL SUMMARY						POSEIDON NICKEL LTD ASX:POS					
<b>Income statement (A\$M)</b>						<b>Market Information</b>					
	Jun-21A	Jun-22A	Jun-23E	Jun-24E	Jun-25E	Net Debt / (Cash)	A\$m			7.36	
Sales Revenue	\$0	\$0	\$0	\$1	\$182	12 Month Low	A\$			0.04	
Operating Costs	\$0	\$0	\$0	-\$7	-\$105	12 Month High	A\$			0.12	
Gross profit	\$1	\$1	\$0	-\$6	\$77	Issued Shares (Fully Diluted)	m			3064	
Operating expenses	-\$11	-\$11	-\$3	-\$3	-\$3	<b>Valuation summary</b>					
EBITDA	-\$10	-\$10	-\$3	-\$9	\$74		A\$m	A\$/share			
Depreciation & amortisation	\$0	\$0	\$0	\$0	-\$7	Black Swan Project (1.1 Mtpa Phase 1)	NPV 10%	\$ 128.1	\$ 0.052		
EBIT	-\$10	-\$10	-\$3	-\$9	\$67	Black Swan Resource		\$ 75.6	\$ 0.025		
Net interest expense	-\$1	-\$1	\$0	-\$7	-\$7	Lake Johnston Project		\$ 45.8	\$ 0.015		
Pre-tax profit	-\$11	-\$11	-\$3	-\$16	\$60	Windarra Nickel Project		\$ 35.2	\$ 0.011		
Income tax expense	\$0	\$0	\$0	\$0	\$0	Windarra Gold Tailings		\$ 8.7	\$ 0.003		
After-tax profit	-\$11	-\$11	-\$3	-\$16	\$60	Exploration		\$ 25.0	\$ 0.008		
Minority interests	\$0	\$0	\$0	\$0	\$0	Net Cash		\$ 7.4	\$ 0.002		
NPAT	-\$11	-\$11	-\$3	-\$16	\$60	Corporate		\$ (15.2)	\$ (0.005)		
Significant items	\$0	\$0	\$0	\$0	\$0	<b>Target Price</b>		<b>\$ 310.5</b>	<b>\$ 0.11</b>		
NPAT post abnormal	-\$11	-\$11	-\$3	-\$16	\$60	<b>Nickel Produced</b>					
<b>Cash flow statement (A\$M)</b>						Jun-21A	Jun-22A	Jun-23E	Jun-24E	Jun-25E	
Operating EBITDA	-\$10	-\$10	-\$3	-\$9	\$74	Ore mined - Black Swan (Mt)	0.00	0.00	0.00	0	1.15
Cash flow from ops (1)	-\$10	-\$10	-\$3	-\$16	\$67	Payable Nickel (kt)	0.00	0.00	0.00	0.04	5.25
Capex (2)	\$0	\$0	\$0	-\$53	-\$11	<b>Cash Cost (A\$/lb)</b>					
Cash flow from invest (3)	-\$12	-\$12	\$0	-\$53	-\$11	Jun-21A	Jun-22A	Jun-23E	Jun-24E	Jun-25E	
Incr/(decr) in equity	\$0	\$0	\$0	\$0	\$0	Black Swan Project	\$0.00	\$0.00	\$0.00	\$6.71	\$6.71
Incr/(decr) in debt	-\$25	-\$25	\$0	\$100	-\$13	<b>Key Metrics</b>					
Ordinary dividend paid	\$0	\$0	\$0	\$0	\$0	Jun-21A	Jun-22A	Jun-23E	Jun-24E	Jun-25E	
Other financing cash flow	\$9	\$9	\$0	\$0	\$0	AUD/USD	0.75	0.73	0.67	0.70	0.70
Cash flow from fin (5)	-15.9	-15.9	0.0	100.0	-12.5	Nickel price (US\$/lb)	\$7.28	\$10.89	\$9.74	\$11.00	\$11.00
Forex and disc ops (6)	0.2	0.2	0.0	0.0	0.0	Nickel price (A\$/lb)	\$9.75	\$15.01	\$14.48	\$15.71	\$15.71
Incr/(decr) cash (1+3+5+6)	-37.3	-37.3	-3.1	30.9	43.0	EPS	0.00	0.00	0.00	-0.01	0.02
Equity FCF (1+2)	-9.9	-9.9	-3.1	-69.1	55.5	DPS	0.00	0.00	0.00	0.00	0.00
<b>Balance sheet (A\$M)</b>						Jun-21A	Jun-22A	Jun-23E	Jun-24E	Jun-25E	
Cash & deposits	7.9	7.9	8.0	38.8	81.9	Dividend payout ratio (%)	0.0%	0.0%	0.0%	0.0%	0.0%
Trade debtors	0.9	0.9	0.9	0.9	0.9	Dividend yield (%)	0.0%	0.0%	0.0%	0.0%	0.0%
Other current assets	0.0	0.0	0.0	0.0	0.0	EBITDA Margin	0%	0%	0%	-691%	40%
Investments	0.0	0.0	0.0	0.0	0.0	P/E	-21.8x	-12.8x	-46.1x	-9.1x	2.4x
Fixed assets	112.0	112.0	124.7	178.0	182.5	EV/EBITDA	-24.2x	-11.7x	-43.6x	-22.7x	2.0x
Total assets	120.8	120.8	133.5	217.7	265.3	FCF Yield	-4.0%	-7.9%	-2.2%	-48.0%	38.6%
Short-term debt	0.0	0.0	0.0	0.0	0.0	Net Debt	-7.76	-10.94	-7.97	61.17	5.63
Trade payables	1.7	1.7	1.1	1.1	1.1	Net Debt / Equity	-0.13	-0.14	-0.11	1.08	0.05
Long-term borrowings	0.0	0.0	0.0	87.5	62.5	Net Debt / EBITDA	0.01	0.01	0.04	-0.12	0.00
Other liabilities	63.1	63.1	63.9	76.4	88.9	<b>Revenue (A\$M)</b>					
Total liabilities	64.8	64.8	65.0	165.0	152.5	Jun-21A	Jun-22A	Jun-23E	Jun-24E	Jun-25E	
Share capital	238.3	238.3	265.1	265.1	265.1	Black Swan Project Revenue	\$0.00	\$0.00	\$0.00	\$1.31	\$181.73
Other reserves	0.3	0.3	0.6	0.6	0.6	<b>Nickel Price &amp; Cash Cost (US\$/lb) - Morgans base case assumptions</b>					
Retained earnings	-178.5	-178.5	-193.3	-209.1	-149.1						
Total equity	60.1	60.1	72.4	56.6	116.6						
Minority interest	0.0	0.0	0.0	0.0	0.0						
Total shareholders' equity	60.1	60.1	72.4	56.6	116.6						
Total liabilities & SE	124.9	124.9	137.4	221.5	269.1						
<b>Directors and Management</b>											
Peter Harold						Managing Director & CEO					
Derek La Ferla						Non-Executive Chairman					
Dean Hildebrand						Non-Executive Director					
Peter Muccilli						Non-Executive Director					
Warren Hallam						Non-Executive Director					
<b>Substantial Holders</b>											
Edison Metals Pty Ltd						11.9%					
Tattarang Pty Ltd <Peepingee A/C>						3.1%					
Citicorp Nominees Pty Limited						2.9%					

Source: Morgans estimates, company data

## Valuation

### Assets

#### Black Swan assumptions

With the recently released Black Swan 1.1Mtpa mill feed BFS, we update our DCF based on the revised capital cost requirements, operating costs, and yearly processing rate. Key assumptions made in arriving at the revised DCF valuation are:

- Operations run over ~4.5 years utilising a refurbished 1.1mtpa concentrator and treating multiple ore feed sources including the Black Swan disseminated (BSD) open pit, and Silver Swan (SS) and Golden Swan (GS) underground mines, with the addition of Silver Swan tailings and disseminated serpentinite ore from surface stockpiles.
- The Phase 1 Black Swan Project (1.1Mtpa ore feed scenario) will produce ~200kt of smelter grade concentrate averaging 15% nickel containing ~30kt of nickel from the various feed sources representing an average metal recovery of 68%. Desirable smelter grade concentrate containing MgO<6%, Fe:MgO >5:1.
- Total feed from Ore Reserves in the BS, SS, and GS material totals 3.5Mt @ 1.0% Ni for 35.1 kt contained Ni. The remaining feed sourced from Resources contained in the Silver Swan Tailings and existing surface stockpiles brings the whole 1.1Mtpa feed source to 5.0Mt @ 0.9% Ni for 43.5kt contained Ni.
- Full extraction of the Silver Swan Reserve – 179kt grading 5.0% on the assumption this will be mined in combination with Golden Swan.
- \$50m in pre-production capital, with an additional \$50m in capital expenditure incurred post-first ore production. We have assumed a Life of mine capital cost of \$99m and \$5.2m of sustaining capex.
- \$38m to be spent on refurbishing the Black Swan concentrator over 11 months with a completion time in late Q3 FY24, followed by the first concentrate production in Q4 FY24.
- Our DCF applies full utilisation of carried forward tax losses totalling \$187m.
- Applied a global payability of 78.5% to the Silver Swan, Golden Swan, and Black Swan Reserve Ore concentrate based on detailed discussions with potential offtake partners.
- Due to the strengthened demand outlook for nickel and relative price stability, we have applied a flat nickel price of US\$11/lb for our base case scenario. The LME Cash nickel price has averaged US\$11.8/lb since the beginning of CY2022 and current spot pricing is at US\$11.5/lb.
- We apply a fixed AUD:USD 0.70 and a 10% discount rate to future cash flows.
- We have not made any assumptions regarding debt-to-equity finance ratios or equity dilution, and therefore, our model is centered on simple debt-only funding.

We apply a multiplier of 1.25x DCF NPV to arrive at our valuation of \$128m for the Black Swan Project. The rationale for this multiple is the wider optionality the process plant restart provides for the company, including the potential to toll treat third-party ores. This optionality provides an upside that cannot be captured in our operating cash flow assumptions. We derive a valuation for the remaining Black Swan Resource of \$76m by applying a risked NPV/Ni tonne based on our DCF model for the Black Swan Project. POS will undertake infill drilling to convert the Inferred Black Swan Resource into Reserves as part of the 2.2Mtpa Study.

*We apply the key assumptions from the November 2022 Black Swan 1.1Mtpa mill feed Bankable Feasibility Study*

*We model a \$50m pre-production capital spend, including \$38m for the Black Swan Concentrator Refurbishment.*

*We apply a fixed US\$11/lb Ni price and a flat AUD:USD FX rate of 0.70 over the ~4.5 year operation.*

**Figure 2: Black Swan BFS 1.1Mtpa mining inventory feed source to processing facility**

Feed Source	JORC Code	Feed Tonnage (Mt)	Nickel Grade (%)	Contained Nickel (kt)
Black Swan Disseminated	Proved & Probable Reserves	3.3	0.7%	22.1
Silver Swan		0.2	5.0%	9.0
Golden Swan		0.1	4.0%	4.0
<b>Feed Source from Ore Reserve</b>		<b>3.6</b>	<b>1.0%</b>	<b>35.1</b>
Silver Swan Tailings	Measured Resource	0.4	0.9%	3.2
Existing Surface Stockpiles	Indicated Resource	0.6	0.5%	3.2
Existing Surface Stockpiles	Inferred Resource	0.4	0.5%	2.0
Feed Source from Mineral Resources		1.4	0.6%	8.4
<b>Total feed sources</b>		<b>5.0</b>	<b>0.9%</b>	<b>43.5</b>

Source: Company data

## Lake Johnston

Lake Johnston, located approximately 200km southwest of Kalgoorlie, was purchased by POS from Norilsk Nickel in 2014 for A\$1m. The operation comprised the Emily Ann and Maggie Hays Mines and a 1.5mtpa processing plant. The Emily Ann deposit produced roughly 57,000 contained tonnes of nickel in concentrate between 1998 and 2007. Mining of the Maggie Hays deposit, with an initial resource of 12.3 million tonnes at 1.5% nickel for 182,000 contained nickel, started in 2008 before the mine and processing plant was placed under care and maintenance in 2013 due to the historically low nickel price.

POS plans to conduct an updated mining study on Maggie Hays and a subsequent feasibility study for Lake Johnston. The company's current focus is to restart Black Swan operations; however, given the existing mill in place at Lake Johnston, existing high-grade Resources, and the potential exploration upside, the formation of a second processing hub could achieve POS's longer-term nickel in concentrate production target of 15ktpa. Consultancy NewExco identified several advanced exploration targets at Lake Johnston, which POS plans to drill test as part of a 15,000m RC program starting in early 2023. The primary aim of drilling will be to locate the channelised flows along the Western Ultramafic basal contact. The basal contact of the Western Ultramafic is considered a high-priority target for potential economic nickel sulphide mineralisation.

We apply a value of \$46m to Lake Johnston in our POS valuation for its surface infrastructure and existing high-grade Resource in a region undergoing significant exploration for nickel deposits.

## Mt Windarra

Mt Windarra, located approximately 250km north of Kalgoorlie near the town of Laverton, was the first nickel asset acquired by POS in 2006. Discovered in 1969, Windarra operated from 1974-1983, producing 84kt Ni from 8Mt of ore. POS has completed approximately 70,000m of drilling at Mt Windarra since acquiring the project to bring historic mine resources into a JORC compliant Resource, with ~149kt of contained nickel across the Mt Windarra and Cerberus Nickel areas (grading 1.5-1.6% nickel). We apply a valuation of \$35m for the Mt Windarra Nickel Resource based on a risked, industry average EV/Resource multiple. In July 2021, POS released the Windarra Gold Tailings Feasibility Study which defined and studied options to process a 150koz gold and 373koz Silver Reserve contained in Mt Windarra tailings. The base case economic outcome indicated an NPV8 of \$21.7M which we have applied a risked valuation of \$9m.



## Exploration

We apply an exploration upside value of A\$25m across POS' three nickel projects, and potential upside at the Black Swan and Mt Windarra Project's beyond our current assumptions.

Figure 3: Morgans sum of the parts valuation

We attain a valuation of ~\$311m or \$0.11/share for POS

Valuation	Discount Rate	A\$m	A\$/share
Black Swan Project (1.1 Mtpa Phase 1)	10.0%	\$ 128.1	\$ 0.052
Black Swan Resource		\$ 75.6	\$ 0.025
Lake Johnston Project		\$ 45.8	\$ 0.015
Windarra Nickel Project		\$ 35.2	\$ 0.011
Windarra Gold Tailings		\$ 8.7	\$ 0.003
Exploration		\$ 25.0	\$ 0.008
Net Cash		\$ 7.4	\$ 0.002
Corporate		\$ (15.2)	\$ (0.005)
<b>Target Price</b>		<b>\$ 310.5</b>	<b>\$ 0.11</b>

Source: Morgans

Key sensitivities to our valuation relate to the nickel price and the AUD:USD FX rate which can be seen in figures 4 and 5 (below). When applying a bull case nickel price of US\$12.5/lb. and a AUD:USD of 0.70, the valuation increases to ~\$0.16/share.

Figure 4: POS share price sensitivity to nickel pricing and discount rate

		Nickel Price US\$/lb				
		\$9.0	\$9.5	\$11.0	\$12.5	\$14.0
Discount Rate (%)	12%	0.045	0.060	0.105	0.150	0.195
	11%	0.046	0.062	0.108	0.155	0.201
	10%	0.047	0.064	0.112	0.160	0.208
	9%	0.048	0.065	0.115	0.166	0.216
	8%	0.050	0.067	0.119	0.171	0.223

Source: Morgans estimates, company data

Figure 5: POS share price sensitivity to nickel pricing and exchange rate

		Nickel Price US\$/lb				
		\$9.0	\$9.5	\$11.0	\$12.5	\$14.0
AUD:USD FX	0.740	0.032	0.047	0.093	0.138	0.184
	0.720	0.039	0.055	0.102	0.149	0.196
	0.700	0.047	0.064	0.112	0.160	0.208
	0.680	0.056	0.072	0.122	0.172	0.222
	0.660	0.065	0.082	0.133	0.184	0.236

Source: Morgans estimates, company data

Figure 6: POS share price sensitivity to exchange rate and discount rate

		AUD:USD FX				
		0.740	0.720	0.700	0.680	0.660
Discount Rate (%)	12%	0.087	0.096	0.105	0.115	0.125
	11%	0.090	0.099	0.108	0.118	0.129
	10%	0.093	0.102	0.112	0.122	0.133
	9%	0.095	0.105	0.115	0.126	0.138
	8%	0.098	0.108	0.119	0.130	0.142

Source: Morgans estimates, company data

## Black Swan Site Visit: Summary View

We attended a site visit to Black Swan in mid-November to view the current workstreams underway and general project layout. The site is a short 50km drive northeast of Kalgoorlie, easily accessible by a well maintained unsealed road.

As part of the tour, we visited or viewed:

- The workshops, and administration facilities.
- The Black Swan open pit, mine waste and tailings areas.
- The underground mining infrastructure where ongoing pre-production works were ongoing.
- The Black Swan processing plant.

Through each part of the tour, the amount of pre-production works completed by the team since the 2018 Feasibility Study was clearly evident. The workshops and offices were in excellent condition, along with the rehabilitated underground development through to the bottom of the Silver Swan production levels. Pit dewatering was progressing well, with the view to completion during the December 2022 quarter. Our tour through the processing plant highlighted a straightforward refurbishment primarily due to the robust design of the concentrator and the short 3-year operation life.

**Figure 7: Black Swan open-pit dewatering operations**



Source: Morgans

**Figure 8: Black Swan Ball and SAG mills**



Source: Morgans

**Figure 9: Workshops and administration facilities**



Source: Morgans

**Figure 10: Black Swan processing plant**



Source: Morgans

## Key opportunities and risks

- **Established mining and processing infrastructure** – The existing Black Swan concentrator requires a low refurbishment cost, and therefore reduces the development risk and allows for near term production potential. Existing heavy vehicle workshops, administration buildings, and underground development are in good condition.
- **POS studying an expanded 2.2Mtpa feed option** – POS is undertaking a BFS on a 2.2Mtpa mill feed option which aims to introduce new feed sources to the LOM blend. This option involves blending and processing the talc-carbonate ore type with the serpentinite ore type to produce a rougher concentrate. This would double the production profile and significantly increase the LOM. The rougher concentrate could be transported to a nearby third-party pressure oxidation plant, such as that proposed by Pure Battery Technologies in the Kalgoorlie pCAM refinery. New ore feed could also be sourced from Poseidon's Windarra asset, remote mines, or toll-treating third-party ore.
- **Offtake and development funding** – Significant investment within the WA Nickel Industry toward development assets in recent years is a clear indicator of the robustness in the sector and the strong pricing outlook. POS has been in discussion with potential offtake partners throughout the BFS process with indicative terms from a number of parties including smelters and traders.
- **Regulatory approvals in place** - The existing environmental approvals including the Mine Closure Plan, Environmental Licence, Groundwater Licence and Clearing Permits are understood to cover the restart of operations as the Project was historically operated.
- **Resource definition** – POS is planning to conduct a 10,000m RC Drilling program from the bottom of the dewatered Black Swan open pit in December 2022 with the aim of converting a larger amount of the Inferred Resource to Reserves for the 2.2Mtpa scenario.
- **Operating risks** – The Black Swan mine has historically produced nickel in concentrate, so the metallurgical risk is considered low. POS achieved strong outcomes from recent metallurgical test work involving the addition of rougher concentrate regrind stage in the processing flowsheet and blending in Silver Swan Tailings confirmed a marketable nickel concentrate product. During operation, there is potential for lower than estimated recovery through the processing plant and therefore reduce the operation's profitability and negatively affect our valuation.
- **Inflation and costs** - Ongoing supply chain challenges continue to affect mining operations globally. Significant cost increases in freight charges, diesel and labour may continue to persist in the coming years.
- **Commodity price and foreign exchange risk** - Any adverse nickel pricing movements could affect the profitability of the Black Swan operation and therefore negatively impact our valuation. We have assumed a flat nickel price of US\$11/lb and AUD:USD of 0.70 in reaching our valuation for the Black Swan 1.1Mtpa ore feed Project. The nickel price can be highly volatile which may impact overall project economics. With a large low-grade Resource beneath the Black Swan open pit, we have also included value for the optionality that provides.



## Queensland

Brisbane	+61 7 3334 4888
Stockbroking, Corporate Advice, Wealth Management	
Brisbane: Edward St	+61 7 3121 5677
Brisbane: Tynan Partners	+61 7 3152 0600
Brisbane: North Quay	+61 7 3245 5466
Bundaberg	+61 7 4153 1050
Cairns	+61 7 4222 0555
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Mackay	+61 7 4957 3033
Milton	+61 7 3114 8600
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Noosa	+61 7 5449 9511
Redcliffe	+61 7 3897 3999
Rockhampton	+61 7 4922 5855
Springfield-Ipswich	+61 7 3202 3995
Spring Hill	+61 7 3833 9333
Sunshine Coast	+61 7 5479 2757
Toowoomba Chalk Capital	+61 7 4639 1277
Townsville	+61 7 4725 5787

## Northern Territory

Darwin	+61 8 8981 9555
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## New South Wales

Sydney	+61 2 9043 7900
Stockbroking, Corporate Advice, Wealth Management	
Sydney: Grosvenor Place	+61 2 8215 5000
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Sydney: Currency House	+61 2 8216 5111
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Orange	+61 2 6361 9166
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## Australian Capital Territory

Canberra	+61 2 6232 4999
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## Victoria

Melbourne	+61 3 9947 4111
Stockbroking, Corporate Advice, Wealth Management	
Brighton	+61 3 9519 3555
Domain	+61 3 9066 3200
Geelong	+61 3 5222 5128
Hawthorn	+61 3 9900 4350
South Yarra	+61 3 9006 9955
Southbank	+61 3 9037 9444
Traralgon	+61 3 5176 6055
Warrnambool	+61 3 5559 1500

## Western Australia

West Perth	+61 8 6160 8700
Stockbroking, Corporate Advice, Wealth Management	
Perth	+61 8 6462 1999

## South Australia

Adelaide	+61 8 8464 5000
Stockbroking, Corporate Advice, Wealth Management	
Exchange Place	+61 8 7325 9200
Norwood	+61 8 8461 2800
Unley	+61 8 8155 4300

## Tasmania

Hobart	+61 3 6236 9000
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