WESTERN AREAS LTD

22 October 2018 **ASX: WSA**

News Release

STRONG ODYSSEUS DFS RESULTS IN DECISION TO MINE

Western Areas Ltd (ASX: WSA, "Western Areas" or the "Company") is pleased to announce the results of the Cosmos Odysseus Definitive Feasibility Study ("DFS"), which confirms a robust 10-year operation producing 130kt of contained nickel in concentrate. Odysseus is expected to generate significant EBITDA and free cashflow at a very low all-in sustaining cost ("AISC").

The Board has approved a decision to mine ("DTM"), with Odysseus (or the "Project") to continue the separate early works program announced in April 2018. The Project does not require any significant capital outlay for a number of years, therefore providing optionality around funding future commitments.

The DFS demonstrates a larger, longer life project with improved economics compared to the Pre-Feasibility Study ("PFS"). The Project also has significant upside opportunities, with optimisation studies to commence on the potential of bringing the AM5 and AM6 deposits into production, which collectively comprise an Indicated Mineral Resource of 57.6kt of nickel adjacent to Odysseus. With first nickel concentrate scheduled for the December 2022 quarter, Odysseus will be one of the few nickel sulphide mines coming on-line just as forecast demand for class one nickel is expected to substantially increase in the Electric Vehicle ("EV") sector. Accordingly, the Company expects, and is already receiving, significant interest in offtake contracts.

Highlights

Strong financial returns[1]

- Pre-tax $NPV_{7\%}$ of $418m and 28% IRR at US$7.50/lb Ni price and 0.75 AUD:USD exchange rate
- EBITDA totalling $1.24 billion
- Surplus pre-tax net cashflow of $854m with a short 3.5 year payback from production start
- Circa $130m per annum average free cash flow (pre-tax) post start-up

Low cost operations

- LOM cash costs of $2.65/lb (US$1.98/lb) with cobalt by-products and AISC of $3.50/lb (US$2.63/lb)
- LOM cash breakeven price of $6.10/lb (US$4.58/lb) on an undiscounted basis (current spot price around $7.92/lb / US$5.64/lb)

Low early capital outlay and well funded

- Pre-production capital expenditure of $299m including contingency
- Low near-term funding, $12m for FY19 and $49m in FY20, readily covered by current cash reserves

Physical parameters

- Initial 10 year mine life from Ore Reserves of 8.1Mt grading 2.0% for 164kt of nickel[2]
- LOM average 13ktpa nickel in concentrate (14.6ktpa nickel in concentrate average from FY24-FY31)
- Shaft haulage incorporated with an average 900ktpa ore throughput in the mill

Significant upside potential

- Conservative cobalt by-product price assumption of US$12/lb; spot price adds $46m revenue LOM
- AM5 and AM6 Indicated Mineral Resources of 57.6kt subject to an optimisation study for potential additional production feed
- Exploration beneath Odysseus, following the massive sulphide intersection (5.3m @ 15.2% Ni).

[1] Unless otherwise stated, all cash flows are in Australian dollars and not subject to inflation or escalation factors. All years are financial years. All cash costs are calculated on a 100% payability basis. NPV is calculated from 1 July 2019.

[2] The Company notes that <2% of the material contained in the Ore Reserve is classified in Inferred Mineral Resources. An Inferred Mineral Resource has a lower level of confidence than an Indicated Mineral Resource. There is no certainty that further exploration work will result in the conversion of the material into an Indicated Mineral Resource.

Key Project Metrics

Mineral Resources	Tonnes (Mt)	Grade % Ni	Ni Tonnes (kt)
Indicated Resources	7.2	2.4	175
Inferred Resources	0.6	4.3	24
Total Mineral Resources	**7.8**	**2.6**	**199**
Ore Reserves	**Tonnes (Mt)**	**Grade % Ni**	**Ni Tonnes (kt)**
Probable Reserves	8.1	2.0	164
Total Ore Reserves	**8.1**	**2.0**	**164**
Capital Costs			
Pre-production total capital cost			**$299m**
Comprising: FY19			$12m
FY20			$49m
FY21			$76m
FY22 – 23			$162m
Post-production LOM			**$82m**
Production Parameters			
Life of mine (current Ore Reserves)			10 yrs
Ore tonnes mined			8.1Mt
Ore processing capacity			900 - 940ktpa
Nickel in concentrate – LOM			130kt
Cobalt in concentrate – LOM			2.4kt
Nickel in concentrate – LOM annual average			13kt
Life of Mine Financial Economics			
Base case nickel price assumption			US$7.50/lb
Exchange rate (AUD:USD) assumption			0.75
Revenue			$2,207m
C1 cash costs[3]			$2.65/lb (US$1.98/lb)
All-in sustaining costs[4]			$3.50/lb (US$2.63/lb)
EBITDA			$1,236m
Net cash flow (pre-tax)			$854m
Undiscounted cash breakeven nickel price			$6.10/lb (US$4.58/lb)
Pre-tax NPV (7% real)			**$418m**
IRR			**28%**
Capital payback period[5]			**3.5yrs**

[3] **C1 cash costs** means operating cash costs including mining, processing, geology, OHSE, site G&A less by-product credits, divided by nickel in concentrate produced (100% payable basis).

[4] **All-in sustaining cash costs** are cash operating costs (C1 cash cost plus sales transportation and royalties) plus mine development capital and sustaining capital.

[5] **Capital payback period** from date of first production.

Enhanced Project from PFS

The DFS released today includes a number of significant changes compared to the March 2017 PFS, including a shift in operating methodology, which has culminated in a larger, longer life project, delivering substantially improved economic outcomes. Based on the same commodity pricing assumptions in the PFS (which are lower than consensus forecasts), Odysseus is expected to generate a 47% increase in free cash flow over the life of the Project (compared to the PFS) and contribute an average $130m per annum free cash flow (pre-tax) from FY23. A summary of the key metric changes from the PFS to the DFS are summarised on the table below:

Metric	Unit	DFS US$7.50/lb @ 0.75	PFS US$7.50/lb @ 0.75
Nickel in ore mined	Ni t	**164,500**	112,200
Nickel in concentrate	Ni t	**130,100**	87,400
C1 unit cost	A$/lb	**2.65**	3.21
AISC	A$/lb	**3.50**	3.69
Pre-production capex	A$m	**299**	190-210
Production LOM capex	A$m	**82**	68
Pre-tax free cash flow	A$m	**854**	580
Pre-tax NPV	A$m	**418**	292
Pre-tax IRR	%	**28**	28

High level commentary on changes from PFS

1. ***Nickel in Ore and Concentrate*** – due to a greater understanding of mineralogy and metallurgical recoveries, nickel in ore mined has increased 52.3kt (+46%) and nickel in concentrate has increased 42.7kt (+49%). The inaugural Ore Reserve for Odysseus is 8.1Mt @ 2.0% for 164kt of nickel.
2. ***C1 and AISC Unit Costs*** – with the incorporation of a shaft hoisting system, ore transportation costs have significantly reduced. Operating costs are based on contractor rates supplied by various parties during FY19. With additional annual concentrate production versus the PFS, fixed costs are also spread over more nickel production. AISC includes higher sales transportation costs with the assumption that the nickel concentrate will now be exported from the Geraldton Port.
3. ***Pre–production Capex*** – capex has increased between $99m and $109m from the PFS range, principally due to the installation of a shaft haulage system for $68m. Other contributing factors include an increase in the size of the mill to cater for higher throughput, additional paste plant capacity, dewatering and rehabilitation to AM5 and a general increase in the cost of parts, labour and ancillary items. The increase is partially offset by a reduction in mine development with the switch to a top-down (rather than bottom-up) mining methodology.
4. ***LOM Capex*** – the increase of $14m is driven by moving to a top-down mining method and a significantly longer mine life.
5. ***Pre-tax free cashflow, NPV and IRR*** – significant improvement in free cashflow (+47%) and NPV (+43%) is driven by additional nickel sales volume and a longer mine life, using the same commodity price and foreign exchange assumptions.

One of the key advantages of the Project is the discrete nature of the capital profile, which can be flexed or suspended at any time depending on the prevailing nickel price, thereby enabling Western Areas to retain control over capital commitments.

Western Areas Managing Director Dan Lougher said that the DFS was an excellent outcome for Western Areas, with a decision to mine placing Odysseus as one of the few new global nickel sulphide operations scheduled to come on-line around the same time as the forecast uplift in nickel demand for batteries contained in Electric Vehicles.

"The DFS project team was able to refine the PFS work, which resulted in positive outcomes on many fronts, delivering a substantially larger and longer life project. The Odysseus Ore Reserve is now 164,500 tonnes of nickel, with the life of mine nickel concentrate production increasing by 42,700 tonnes to 130,100 tonnes compared to the PFS."

"Odysseus will utilise a shaft hoisting system, which is justified based on a 10-year operating life and throughput averaging around 900,000 tonnes per annum. Western Areas has already secured an option over a high quality, second-hand, shaft hoisting asset from South Africa that is ideally suited to Odysseus and has been costed into the DFS. The shaft hoisting operation will utilise a top-down mining approach, rather than the bottom-up method assumed in the PFS, and accordingly has generated substantial savings in ore transportation costs, as well as a reduction in mine development capex."

"With the Board making the decision to mine, the capital expenditure outlays are relatively minor over the next 12-24 months. This provides significant optionality to the Company, given that we are able to fund these costs from our cash reserves, which are currently in excess of $150m. In fact, the major pre-production expenditure, totalling $162m, is not required until FY22 and FY23."

"Whilst funding is not a short or medium-term matter to be addressed, we have fielded expressions of interest in providing offtake finance, unsolicited, non-binding and incomplete interest in purchasing a direct minority stake in Odysseus and other funding mechanisms. No decision has been made in this regard, given it is not an immediate priority for the Company, but it does positively reflect the demand and interest for new nickel sulphide operations and provides additional funding options for the Company."

"Another exciting aspect of Cosmos is the significant upside opportunity to grow the mining inventory around the Odysseus operation. In this regard, we will commence optimisation studies on how to integrate the substantial nickel tonnes at AM5 and AM6 deposits for additional mine life. These deposits alone contain 57,600 nickel tonnes in Indicated Mineral Resources, situated immediately adjacent to planned Odysseus underground infrastructure, and we are also confident in additional opportunities to expand the resource base and mine life."

"Odysseus is an important organic growth asset for Western Areas and fits within our core operational expertise, being project development, underground mining and conventional flotation. Furthermore, the Project is an exciting development for the Northern Goldfields community of Western Australia, where we have been nurturing local relationships since first acquiring Cosmos from Glencore for $24.5m in October 2015."

"Finally, Odysseus is an important asset in the Western Australian nickel sector and is located on the same prolific nickel belt that houses BHPB Nickel West two largest mining operations, Leinster and Mt Keith. With current uncommitted offtake, our belief is that Odysseus will be a key strategic asset in the nickel market, ultimately supplying the EV supply chain, into the future," said Mr Lougher.

Next steps

- Complete the early capital works program of $32m announced earlier this year, forecast for completion in July 2019;
- Engage mining contractors and other key suppliers for the construction of Odysseus;
- Commence optimisation work associated with AM5 and AM6, plus other near-mine and regional upside opportunities detailed later in this release;
- Complete the acquisition of second-hand shaft haulage infrastructure; and
- Continue to discuss offtake options with various parties.

Cosmos Mill previously in operation

Project overview

Project background

The Odysseus Project sits on a granted mining lease that is part of the high grade Cosmos Nickel Complex that lies 30km north of Leinster (see Figure 1). Cosmos lies in the heart of the prolific Leinster-Wiluna nickel camp, home to many high quality deposits such as Mt Keith, Cliffs, Perseverance, Rocky's Reward, Honeymoon Well, Venus and Yakabindie. Identified in 2010, Odysseus was the most recent discovery in a string of successes at Cosmos which include high grade deposits at Cosmos, Cosmos Deeps, Prospero, Tapinos, AM1, AM2, AM4 and Odysseus North Massive Sulphide, and medium grade deposits at AM5 and AM6. Between 2000 and 2012, the Cosmos Operation produced over 127kt of nickel in concentrate at an average head grade of 4.8% nickel.

The Project consists of mining the Ore Reserve of 8.1Mt at a nickel grade of 2.0% from Odysseus, via an extension of the existing Cosmos decline and processing via the existing plant and infrastructure, both of which will be upgraded as described later in this document (see Figure 2).

Figure 1: Nickel resources in the Leinster region

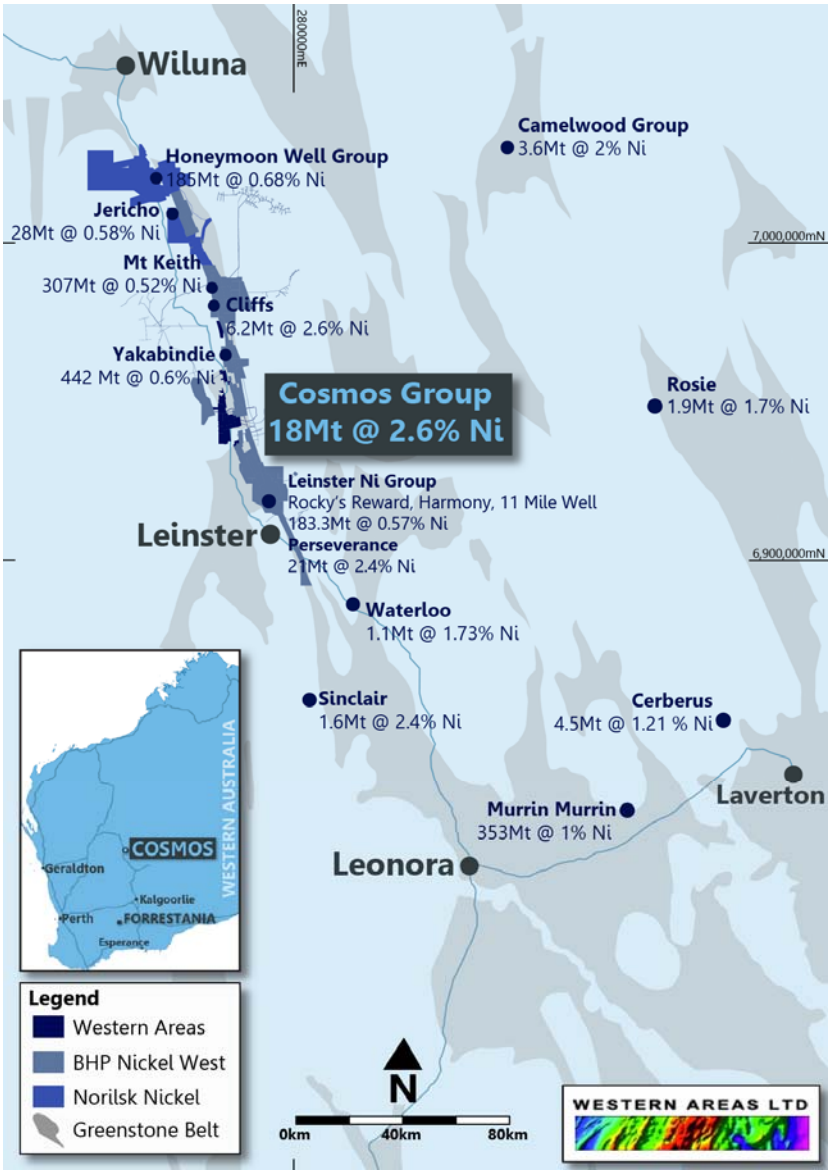
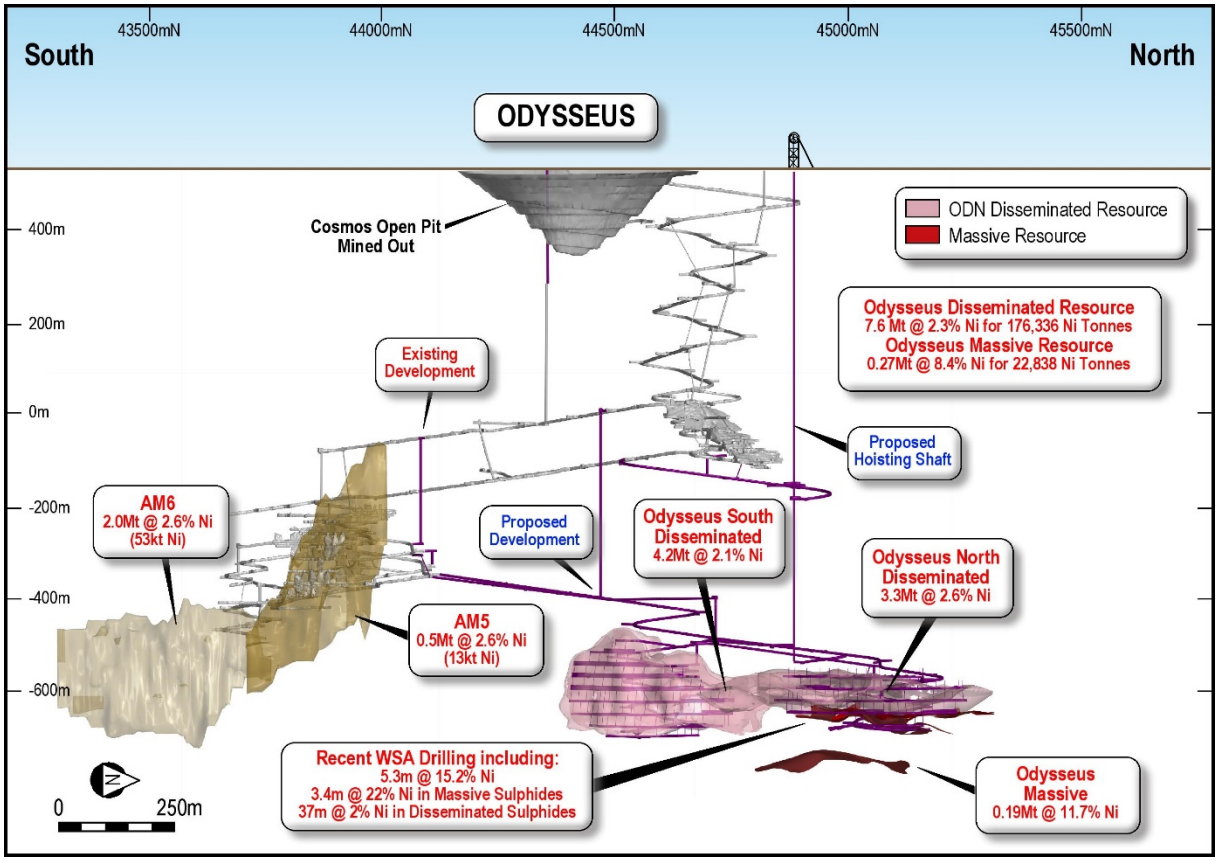


Figure 2: Project Long Section



Note: Downhole widths quoted

Project team

The DFS was compiled in-house by Western Areas personnel and study manager Piran Mining, which previously managed the Spotted Quoll DFS for Western Areas. A number of external consultants were utilised for their particular areas of expertise, with major input from:

- **GR Engineering Services (GRES)** – Process plant design, engineering, associated infrastructure
- **Piran Mining** – Mine planning and optimisation
- **KCSA Geomechanics** – Geotechnical engineering
- **Golders** – Geotechnical engineering
- **Dempers & Seymour** – Mining rock mass modelling
- **Itasca Australia** – Geotechnical modelling and geotechnical peer review
- **RSV SA** – Shaft engineering and design
- **Outotec** – Paste fill engineering, plant design and testing
- **OZ Vent** – Mine ventilation
- **ALS Metallurgical Services** – Metallurgical testwork
- **Groundwater Resource Management** – Hydrogeology
- **Big Dog Hydrogeology** – Hydrogeology peer review
- **MYR Consulting** – Risk assessment
- **Mining Access Legal and MMTS** – Tenement management services
- **SRK Consulting** – Geological model
- **Project Support** – Mining tender and infrastructure cost management
- **Project Consultancy Services** – Power study

Project details

Mineral Resource

The Mineral Resource for the Odysseus Project totals 7.8Mt of Indicated and Inferred Mineral Resources (JORC Code 2012) at a grade of 2.6% nickel for 199kt of contained nickel. This is a 14% increase over the 174kt nickel contained in the Indicated and Inferred Mineral Resources from the PFS. Confidence in the Resource base also significantly increased during the DFS with, Odysseus North upgraded through additional drilling resulting in the proportion of Indicated to Inferred Mineral Resources increasing from 51% in the PFS to 93% in the DFS. Odysseus South is currently classified as 94% Indicated Mineral Resource and Odysseus Massive as 39% Indicated Mineral Resource, with the remainder being classified as Inferred. The Odysseus Mineral Resource in Table 1 below is reported at a cut-off grade of 1.5% nickel (refer Table 1 - Section 3 disclosures for detail of assumptions).

Wireframing of grade and geological domains was completed using a combination of Implicit and Explicit modelling. Sample data was composited to 1m downhole lengths and flagged on domain codes generated from 3D mineralised and geological wireframes. Directional variography was performed for Ni and MgO, and estimation was completed at the parent cell level using an Ordinary Kriging algorithm. Estimation validation techniques included Inverse Distance estimation, visual comparison of the composite and block grades, swath plots of grade and Kriging Quality parameters and Conditional Simulation of nickel grades.

Table 1: Odysseus Mineral Resource

		Mineral Resource		
Zone	**Resource Category**	**Ore Tonnes (mt)**	**Grade % Ni**	**Ni Tonnes (kt)**
Odysseus South	Indicated	4.02	2.1	84.8
	Inferred	0.22	2.0	4.3
	Total	**4.24**	**2.1**	**89.1**
Odysseus North	Indicated	3.13	2.6	81.2
	Inferred	0.22	2.7	6.1
	Total	**3.35**	**2.6**	**87.3**
Odysseus North Massive	Indicated	0.07	12.6	8.8
	Inferred	0.13	11.2	14.0
	Total	**0.20**	**11.4**	**22.8**
Total Odysseus Resources	**Indicated**	**7.22**	**2.4**	**174.8**
	Inferred	**0.57**	**4.3**	**24.4**
	Grand Total	**7.79**	**2.6**	**199.2**

Ore Reserve

The Ore Reserve has been estimated by including only tonnes within the mine design that have been classified as Indicated Mineral Resource in the resource block model. Mining dilution and recovery factors have all been included in the estimation of the Ore Reserve. The maiden Ore Reserve is detailed in Table 2 below,

Table 2: Odysseus Ore Reserve

		Ore Reserve		
Zone	Reserve Category	Ore Tonnes (mt)	Grade % Ni	Ni Tonnes (kt)
Odysseus South	Probable	4.48	1.9	85.6
Odysseus North	Probable	3.65	2.2	78.9
Odysseus	**Total**	**8.13**	**2.0**	**164.5**

The Ore Reserve represents a high conversion from Indicated Mineral Resource to Probable Ore Reserve of 94% of nickel metal. This reflects the favourable shape, thickness, continuity, grade distribution and metallurgical characteristics of the Odysseus orebodies.

Considering that the design cut-off parameters are variable and depend on multiple mineral elements existing in the ore that drive metallurgical recoveries, a Net Smelter Return (NSR) approach was used to estimate the Ore Reserve. The NSR value reflects the expected market conditions at the time of concentrate delivery, noting that a slightly lower nickel price assumption was used than the financial model. The criterion to maximise nickel metal and revenue was the production of a rougher and cleaner concentrate.

The key assumptions used include:

Nickel Price - US$7.00/lb	*Target Concentrate Ni Grade - 16.5%*	*Fe:MgO levels - 2.2 to 2.6*
AUD:USD Exchange Rate - 0.75	*MgO in concentrate - 10%-12%*	*WA State Royalties - 2.5%*

The NSR used in the estimation of the Ore Reserves takes into account the following modifying factors: mining recovery and dilution, metallurgical recovery, site operating costs, royalties and revenues. These factors have all been estimated at a definitive feasibility level. Costs assumptions were materially in line with those developed and utilised in the final DFS financial model, demonstrating the robustness of the NSR assumptions and selection of the NSR approach to estimate the Ore Reserve (refer Table 1 - Section 4 disclosures for further detail of the assumptions).

The Odysseus Ore Reserve estimate was not materially influenced by flexing of the NSR cost assumptions due to the geometry, style, size and mining method selected. A relatively flat grade curve versus ore tonne was maintained when various scenarios were calculated and assessed.

Geology and Resources

The Odysseus deposits are located 1,000-1,100m below surface. Odysseus South spans 360m in strike length, 228m in height and has an average thickness of 62m. Odysseus North lies 100m north of Odysseus South at 1,000-1,075m below surface and spans 380m in strike length, 163m in height with an average thickness of 51m.

The North and South zones occur in the same mineralised trend as AM5 and AM6 and they all appear genetically related. The sulphides are highly disseminated to net-textured, consisting of pentlandite with minor pyrrhotite and pyrite. The broader Odysseus system exhibits mineralogical properties similar to that of the partially mined AM5 deposit.

The Odysseus Massive deposit consists of stringer to massive sulphide veins positioned immediately below Odysseus North at a vertical depth of 1,100m. The deposit comprises a number of different lenses, the largest measuring 100m in strike, up to 5m in height and up to 65m in width. These lenses may be ultimately extended with further resource drilling success. The decision to extend the length of a number of drill holes from the FY17 Odysseus North resource upgrade program into the massive sulphide below yielded very strong results (5.3m @ 15.2% Ni, including 3.4m @ 22% Ni) and confirmed the presence of further massive sulphide potential.

Mining

Odysseus will be accessed via a new single ramp decline that commences from the existing AM5/6 decline development. Compared to the central spiral decline proposed in the PFS, the ramp decline from the AM5/6 infrastructure minimises the full-face development required to access the Odysseus orebodies reducing the development timeframe by 6 months compared to the PFS. Whilst the existing decline development will need to be rehabilitated to a relatively lower take-off point, since it passes directly through existing AM5 infrastructure, it also creates the option of potentially mining the AM5 and AM6 deposits which contain an Indicated Mineral Resource of 2.2Mt @ 2.6% Ni. No evaluation nor study has been completed for the AM5 and AM6 deposits, and any potential benefits do not form part of the Odysseus DFS. Early, concurrent and later mining options will form part of further study work.

The primary mining method will be single-lift long-hole open stoping with paste fill accessed via transverse ore drives (west to east) on a 50m cross cut spacing. The South and North orebodies will be mined in a top down, centre out sequence. Compared to the PFS, which had proposed a bottom-up approach, the top-down approach combined with the quicker ramp access enables earlier access to ore.

Average stope size will be 15m wide along strike, up to 29m long across strike and the level spacing is 25m floor to floor, containing up to 30,000t of ore per stope. The LOM plan includes 3.5% unplanned dilution and mining recovery is expected to be 95%. Approximately 11% of the total 8.1Mt Ore Reserve will be produced from ore drive development with the remaining 89% produced from long-hole production stopes. Stopes will be backfilled using paste fill made from tailings recycled from the process plant. Comprehensive paste fill test work demonstrated a suitable high-strength paste backfill can be produced to meet underground mining requirements and maximise extraction, allowing for a top-down mining approach. Figure 3 below shows the location of new underground infrastructure and Table 3 details the key mining parameters.

Figure 3. Long section showing new infrastructure – decline to Odysseus and production shaft

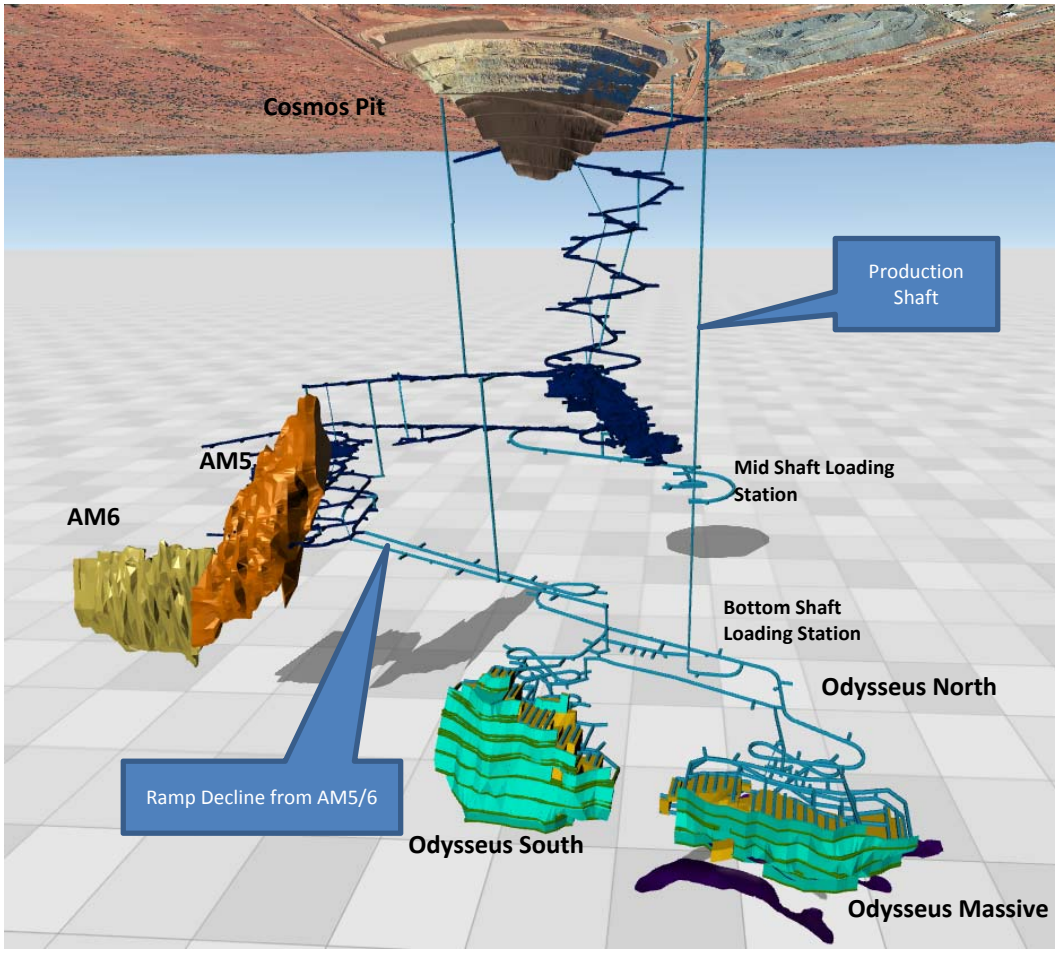


Table 3: Key mining parameters

Key mining parameters	Value
Stope Size (Strike x Width x Height)	Max 15m x 29m x 25m Average 20kt, Max 30kt
Mining Dilution	3.5% unplanned dilution HW/FW planned dilution of 0.76m applied
Mining Recovery	95.0%
Decline Metres	4.2km
Capital Lateral Development	13.0km
Operating Lateral Development	24.5km
Vertical Development (includes ventilation, raises and escape-ways)	6.5km
Ore Access Drives	16.3km
Ore Drive Size (Width x Height)	5.0m x 5.0m

Primary ventilation includes the completion of a partially reamed 5m diameter exhaust raise to surface and a new 5m diameter surface intake shaft completed in two legs via raise bore. The 1000m deep air intake shaft will double as a production hoisting shaft. In addition, provision for a refrigeration plant has been included. This will be required in the summer months and ensures an optimal, year-round, underground operating environment.

The hoisting shaft will be equipped with rope guides and services and has a capacity of 1.1mtpa to accommodate ore and waste. It will be equipped with a mid-shaft loading station (MSLS) and a bottom shaft loading station (BSLS). The MSLS will allow significant savings during the development of Odysseus while the BSLS is being established, allowing for hoisting of material during this period rather than hauling of material via trucks to surface. The MSLS can also be used for the potential future mining of the AM5 and AM6 deposits and provides a backup solution for any temporary inactivity of the BSLS.

At the BSLS, ore and waste will be hauled via 50t trucks to the shaft loading point where the material will be fed through a grizzly containing two rock breakers into a coarse ore storage bin. An apron feeder will then feed the coarse ore to a mineral sizer that reduces feed to a maximum of 150mm from which the material will then travel via an underground short conveyor towards the shaft loading flask. The material will then be fed into two 12.5t skips where it will be hoisted to surface. On surface, ore will be transported via an overland conveyor to the surface stockpile where a loader will feed the ore into the mill. Waste will be dumped via a side tipper approximately halfway between shaft and ROM pad and transported on trucks to the waste dump.

Paste Fill

The introduction of paste fill for Odysseus is considered a step change compared to the previous cemented rock fill regime used at AM5 and other Cosmos deposits. Paste fill was selected at Odysseus as it will enable higher mining recoveries given stope size, the shape of the orebody and surrounding geotechnical environment. Additionally, it enables a top-down mining approach as confirmed by visits to similar underground operations at depth, allowing for earlier access to ore and reducing the development required to establish a stoping front, enabling a faster steady-state production regime.

The design of the $11m paste fill plant is based on extensive tailings test work by Outotec and will be located 800m south of the Cosmos processing plant, immediately adjacent to the main shaft. Sand for the paste will be sourced from the nearby Yakabindie station located west of Cosmos. Other sources of sand have been identified within close proximity to Cosmos, should they ever be required. The daily fill rate assumed in the DFS is 1,250m^3/day and it is believed there is potential upside to this rate, based on improved availabilities.

Geotechnical work

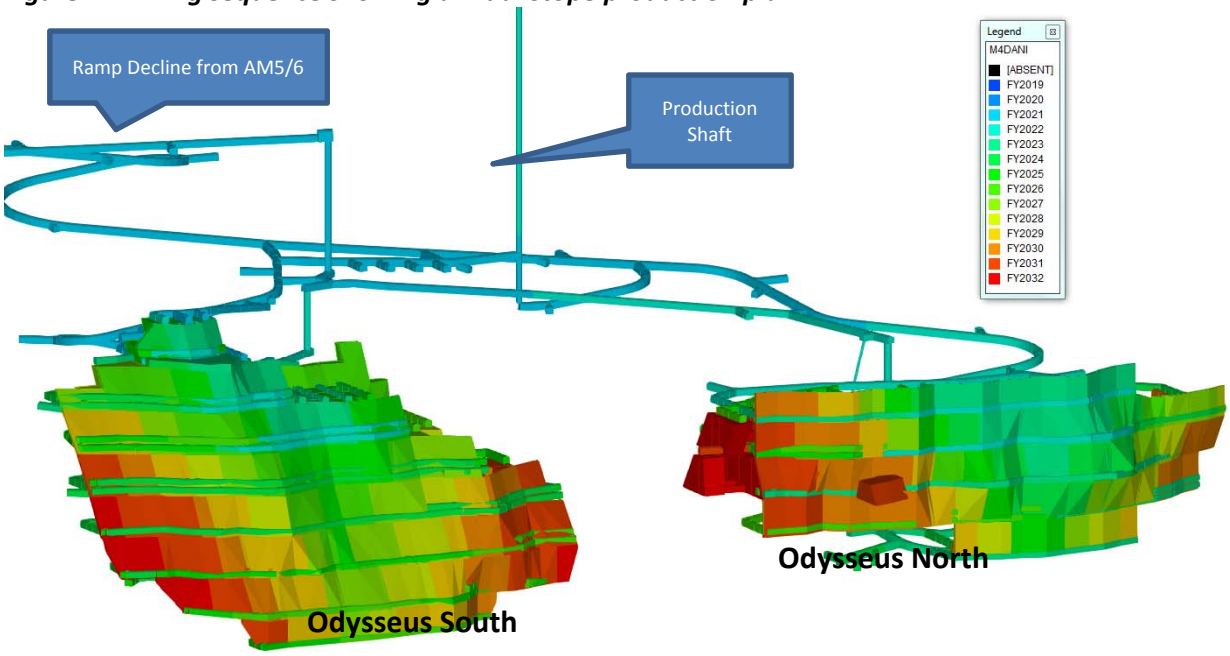
The mining methodology, stope design, access and key mining parameters are all based on extensive geotechnical work. A Mining Rock Mass model was developed for Odysseus based on a number of geotechnical drill holes undertaken during the DFS and re-logging of existing Odysseus core. Modelling indicates that the expected geotechnical conditions are similar to those of other mines in the Leinster region at similar depth. To manage the geotechnical environment, destress slots will be mined in panels ahead of stoping to provide a stress shield for stope production and access drives. In addition, the ground support regime has been specifically designed to manage geotechnical conditions during underground operations and include a combination of rock bolts, cable bolting, meshing and shotcrete.

The destressing slots ahead of stope production allow for optimal recovery of ore from Odysseus and enable the production rate to be lifted from 750ktpa in the PFS to over 900ktpa in the DFS. This mining method has been used previously at New Brunswick, Red Lake Gold Mines in Canada, Mt Charlotte in Kalgoorlie and many other mining operations. Western Areas has extensive experience in operating at these depths, having successfully operated at Flying Fox for over 12 years and has conducted benchmarking site visits to a number of mines in Australia and Canada in similar operating environments to provide further validation of the mining methodology.

Mining schedule

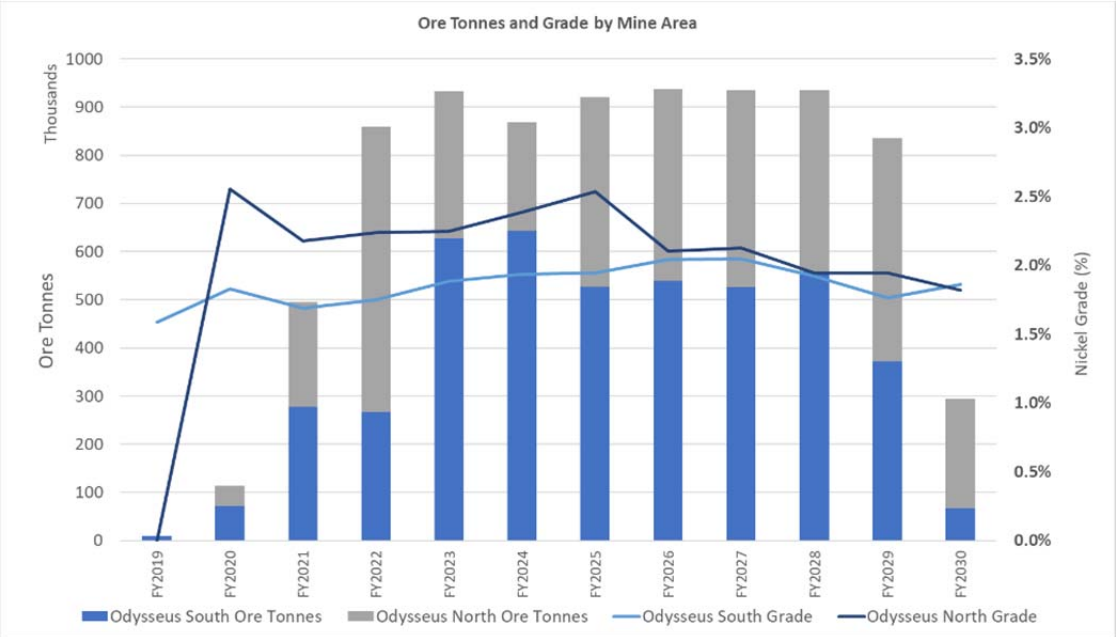
The mining schedule has been designed to minimise ramp-up time to the 900ktpa mining rate in order to fill the mill. The mining sequence is shown in Figure 4.

Figure 4: Mining sequence showing annual stope production plan



The annual mined metal production profile by resource category is shown below in Figure 5.

Figure 5: Mined ore production profile by deposit



Mining technology

Having conducted benchmarking visits to some of the leading underground mine sites around the world, the Project will incorporate some of the latest technology, to further enhance safety, operational efficiency and reduce costs. Key technologies include fibre-optic backbone to provide all production areas with Wi-Fi sufficient for the control of semi and fully autonomous loaders, production drills and other equipment. A state-of-the-art mine control room will be the real time operational nerve centre, monitoring and controlling ventilation, refrigeration, pumping, paste filling and mobile fleet activity. The system will monitor personnel and equipment location, providing real time feedback to the Ventilation on Demand (VOD) system to optimise power draw and ensuring chilled air is directed to the appropriate areas. The shaft systems and related materials handling system will be monitored via CCTV and controlled remotely via the mine control room.

Hydrogeology and dewatering

The Cosmos dewatering pumping system was deactivated in 2013 by the previous owner and since then ground water inflows flooded the underground mine workings and partially filled the Cosmos pit. On 10 April 2018, Western Areas announced the commencement of a $32m early works program focused on the construction of two new water management ponds (WMPs), an associated dewatering program and rehabilitation of existing decline infrastructure.

Western Areas engaged Groundwater Resource Management (GRM) to assess the hydrogeology and dewatering requirements as part of the DFS as follows:

- Stage One: dewatering of Cosmos pit to the pit base: As part of the approved early works, dewatering of the pit commenced at 50L/s at the start of 2018 and is accelerating to 120L/s as the new WMPs come online.

- Stage Two: dewatering of the existing underground workings: In addition to the 120L/s dewatering capacity in the pit, a 100L/s Schlumberger downhole pump will be installed in the southern vent raise lifting total dewatering capacity to 220L/s.

- Stage Three: operational dewatering for the proposed Odysseus mining area: The design capacity of the ongoing normal operational pumping infrastructure for Odysseus will be 100L/s, which will be sufficient to manage estimated inflows of around 25-50L/s.

All water from the ongoing dewatering activities will be piped to specifically designed and built water WMPs on site in accordance with statutory guidelines and regulation. Two new WMPs, WMP8 and WMP9, are currently under construction as part of the Cosmos early works program.

Figure 6: Completion of a new WMP at Cosmos

Dewatering remains the critical path item to production and it is expected to take almost 18 months to dewater and rehabilitate to the take-off point for the new ramp decline from AM5 to Odysseus. Once the take-off point is reached in March 2020, new decline and ore development will continue for a further two and a half years until concentrate production commences in Q4 CY2022, representing an elapsed time of 4 years to first concentrate production.

Infrastructure

As Cosmos was previously a fully operational site, existing assets include site buildings and offices, a 520 room en-suite village, airstrip, roads, powerlines, communications and water supply infrastructure.

Figure 7: Aerial view of Cosmos

Refurbishment activities undertaken as part of the Cosmos early works programme include:

- Cosmos village partial refurbishment
- Safety infrastructure upgrade (mines rescue, first aid etc.)
- Refurbishment of existing WMPs 1-5 and waste dump dam
- Design and construction of new WMPs 8 & 9
- Lining works for all WMP walls (existing & new structures)
- Dewatering piping network supply and installation
- Temporary diesel power station
- New reverse osmosis plant to provide site-wide drinking water
- Testing, repair, modification and recommissioning of high voltage transmission system

Refurbishment activities as part of the DFS include:

- Completion of Cosmos village refurbishment
- Completion of workshop and office refurbishment
- Waste water treatment upgrade
- Roads and carpark upgrades
- New re-sealed airstrip to be recommissioned for jet planes
- Communications and IT upgrade

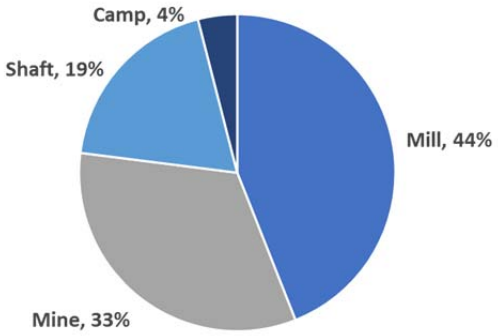
Road access is generally good to Cosmos, with sealed roads to within 4km of the mine site and a gravel road from the sealed Goldfields Highway. Water to supply the reverse osmosis plant for the camp will come from the Yakabindie borefield under an existing agreement with BHP. Process water for the mill will come directly from the underground mine.

Power

Development of the power generation solution for the Project followed a formal process to determine the most reliable and cost effective option. The DFS power study recommended power be supplied under a power purchase agreement whereby Western Areas sources the fuel (gas/ diesel) and a third-party provider supplies power to site. It is envisaged this will be under a Build-Own-Operate arrangement with a distribution system to support up to 20MW capacity. In order to accommodate the larger power requirement compared to the historical capacity of 12MW, the DFS incorporates $3.4m capital to construct a second 13km lateral gas spur line next to the existing Cosmos lateral spur line which connects the Cosmos power plant to the Goldfields Gas Pipeline (GGP). The GGP is a high pressure gas pipeline servicing 12 outlet points and runs through Wiluna, Mt Keith, Cosmos and Leinster.

The power purchase agreement will either be a natural gas fired package or natural gas/ renewable hybrid package. Gas will be supplied under a mix of long-term fixed take-or-pay arrangements and from the West Australian gas spot market. The Company has conducted a detailed market enquiry gaining pricing from six experienced power providers for input into the electricity supply cost model. The DFS assumes an all-in power price of 17.6c/kWh, however the Company believes there is significant opportunity to reduce this cost. The power supply tender process will be finalised over the next six months.

Figure 8: Power consumption at steady-state production



In terms of power consumption (Figure 7), the largest power consumer is the mill, followed by the mine, and the shaft hoisting system. Mine power consumption is driven by pumps, ventilation, refrigeration and equipment (jumbos, drills, raisebore). The shaft constitutes 19% of the total power draw with the remaining 4% coming from the camp. The design of the 20MW power station is based on a 14MW peak load requirement and 12MW average load requirement.

Plant and processing

The existing Cosmos processing plant will undergo a $36m expansion and refurbishment to increase mill throughput from its previous name-plate capacity of 450ktpa to 900ktpa. With further debottlenecking, the plant is expected to match mine capacity above 900ktpa and potentially up to 1Mtpa. The expansion will be achieved by the introduction of a secondary crusher, new conveyors, reconfiguring the existing grinding mills and additional flotation capacity, with design and engineering work undertaken by GR Engineering Services. Key operating parameters for the plant are shown in Table 4 and a process flow sheet is shown in Figure 9.

The Cosmos process plant design is based on a conventional sulphide processing route using traditional grinding and flotation technology to produce a saleable concentrate. Ore mined will be fed via conveyor from the production shaft head frame to the surface stockpile. A front-end loader will then be used to transport ore from the surface stockpile into the ROM bin to feed the mill.

Figure 9: Process flow sheet

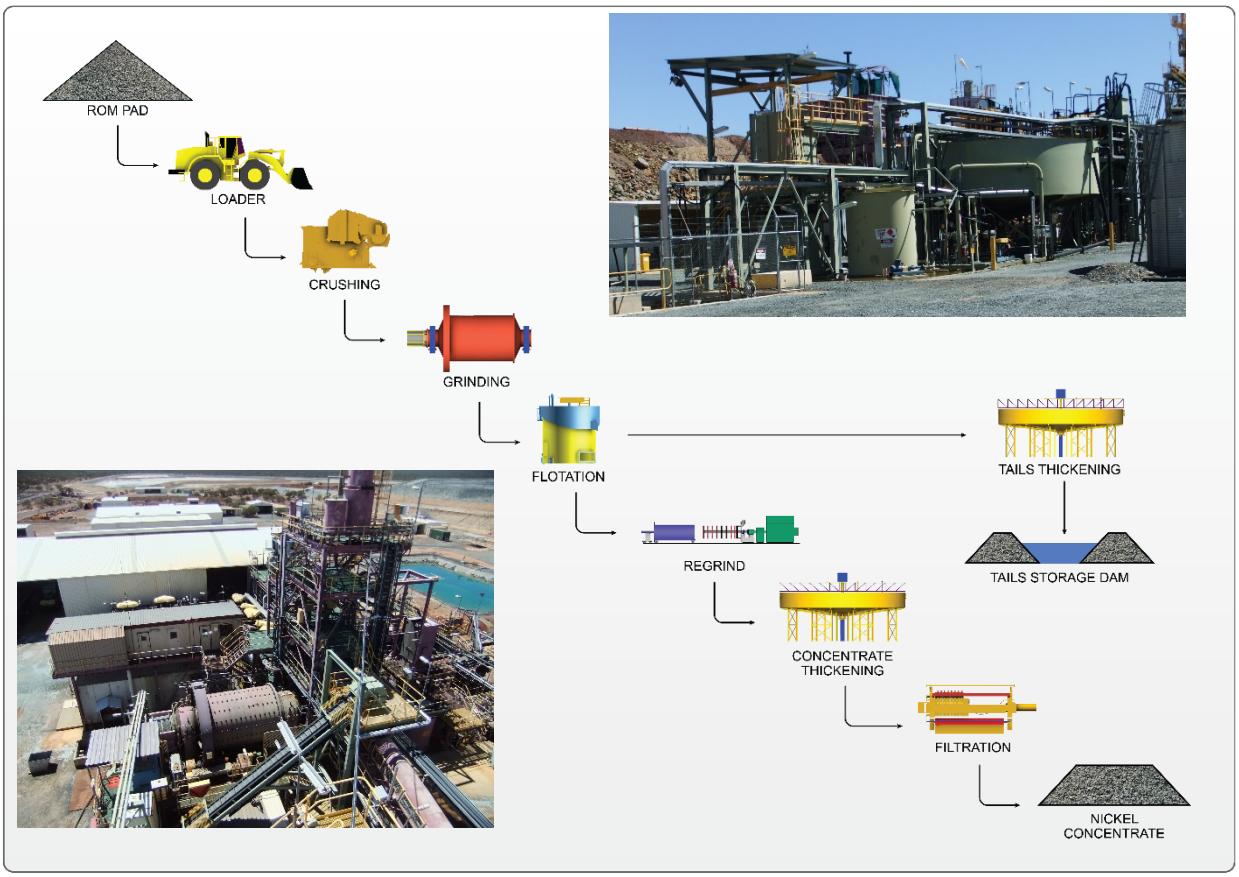


Table 4: Key plant parameters

Key plant parameters	Value
Design Annual Throughput	900ktpa
Crushing Rate	137tph
Milling Rate	109tph
Milling Utilisation	94%
LOM Ni recovery	79.1%
Ni grade in concentrate	16.5%
Co grade in concentrate	0.03%
Concentrate shed size	10,000t
Construction and Refurbishment period	12 months

Metallurgical test work

Odysseus is a typical Eastern Goldfields disseminated nickel deposit with the main sulphide minerals being pentlandite, pyrrhotite and minor pyrite, and the gangue minerals being olivine/serpentine with talc being less than 1%. Nickel grades are gradational in the disseminated mineralised zone, ranging from 0% to 3.5% Ni and cobalt is a minor element at around 0.04% Co in ore.

Five major metallurgical test work programs were carried out as part of the DFS with ALS Metallurgy building on work already completed in the PFS. Test work included open circuit flotation, locked cycle flotation, bulk scale flotation, feed and product sizing analysis and mineralogical analysis. A total of 11 disseminated and 6 massive sulphide composite samples were collected for the new programs, supplementing material already tested during the PFS program. A bulk tailings composite was also collected for the purposes of paste fill test work and this demonstrated an appropriate paste fill could be generated from de-slimed tailings and locally sourced sand.

The extensive metallurgical test work demonstrated that Odysseus can produce various types of concentrate (depending on the level of MgO targeted), based on a selection of re-cleaner, cleaner or rougher concentrates. Apart from MgO, the concentrates do not contain other deleterious elements. For the DFS, a conventional medium grade smeltable nickel concentrate has been selected, with a nickel concentrate grade of 16.5% and LOM average nickel recoveries of 79.1%. At these levels, MgO in concentrate is expected to be in the range between 10 and 12% and Fe:MgO ratios from 2.2 to 2.6.

Product and off-take

For the purposes of the DFS, the Company has assumed a conventional saleable processing route incorporating an MgO penalty as per standard industry terms, based on a number of indicative term sheets provided by potential offtake parties (see further details below). However, it should be noted that not all off-take parties include MgO penalties, and should the Company decide to follow a roasting processing option, no MgO penalty is generally incurred. Furthermore, there is flexibility to optimise the specification of the concentrate ultimately produced (within reason) depending on customer requirements.

Approximately 2,400t of cobalt will be recovered into the nickel concentrate, resulting in a cobalt in concentrate grade of 0.3%. This will add approximately A$42m of revenue over LOM at cobalt prices of US$12/lb which equates to $25m pre-tax NPV (6% of total pre-tax NPV). If very recent prices of US$25/lb were to be applied, cobalt would add a further $46m of revenue over LOM.

Currently, there are no concentrate sales agreements in place for Odysseus concentrates, although, for the purposes of the DFS, the Company received indicative terms from various nickel concentrate customers over the past 12 months. Odysseus concentrate is expected to be of saleable quality with low deleterious elements and a cobalt by-product, making it attractive to various customers around the world, particularly with its forecast high nickel content.

As part of the agreement for the purchase of the Cosmos assets by Western Areas, Glencore retains a matching right of up to 7kt of nickel in concentrate per annum to a cumulative maximum of 50kt of nickel in concentrate.

Logistics

Nickel concentrate will be loaded at the Cosmos concentrate shed and trucked to either the local smelter or exported via Geraldton to an international customer, depending on final offtake discussions. For the purposes of the DFS, Western Areas has assumed an export scenario with delivery to Fangchen, China for all Odysseus concentrate.

In this scenario, concentrates will be trucked 625km from Cosmos to the Port of Geraldton where it will remain stored ready for loading. At the port, concentrates will be transferred via a rotainer system into bulk carriers and shipped to customers. Containers will be returned at the Port of Geraldton for transport on the back-haul to Cosmos for re-loading.

Trucking costs from Cosmos to Geraldton are estimated at US$51/wmt, while shipping costs are US$36.5/wmt based on costing received. The DFS also includes a US$10/wmt stevedoring/ port fees and cargo insurance of 0.3% of the CFR value of the total shipping cost.

Overall, the total transport cost from Cosmos to Fangchen is estimated at US$88.5/wmt.

Capital and operating cost

Capital Cost[6]

The pre-production capital cost for the Project is estimated at $299m, which includes $10m contingency. Nearly 50% of the pre-production capital is mine development ($148m). No additional contingency was applied to the mining cost rates since tendered contractor rates were applied. However, conservative development advance rates were used in the build-up of the mine development schedule providing an effective contingency within the total pre-production mining costs.[7] The sustaining capital estimate is $82m, resulting in a total LOM capital expenditure of $381m as shown in Table 5 below.

The increase in pre-production capital is a result of the DFS being based on a larger throughput and longer life project compared to the PFS. The key change is the addition of a $63m haulage shaft ($68m with contingency) to transport increased LOM tonnage of 5Mt in the PFS to 8Mt of ore in the DFS. Average throughput levels have also increased from 750ktpa in the PFS to an average of 900ktpa in the DFS. The offsetting benefit from these changes is that mining operating costs have been reduced substantially from $81/t to $64/t and the change from truck haulage to shaft haulage is a key driver of this.

[6] Pre-production capital is total capital spend prior to the commencement of concentrate production and sustaining capital is capital spend post commencement of concentrate production.

[7] Capital development advance rates were reduced from 150m/month in the PFS to 90m/month in the DFS. Operating development advance rates were reduced from 150m/month in the PFS to 50m/month in the DFS.

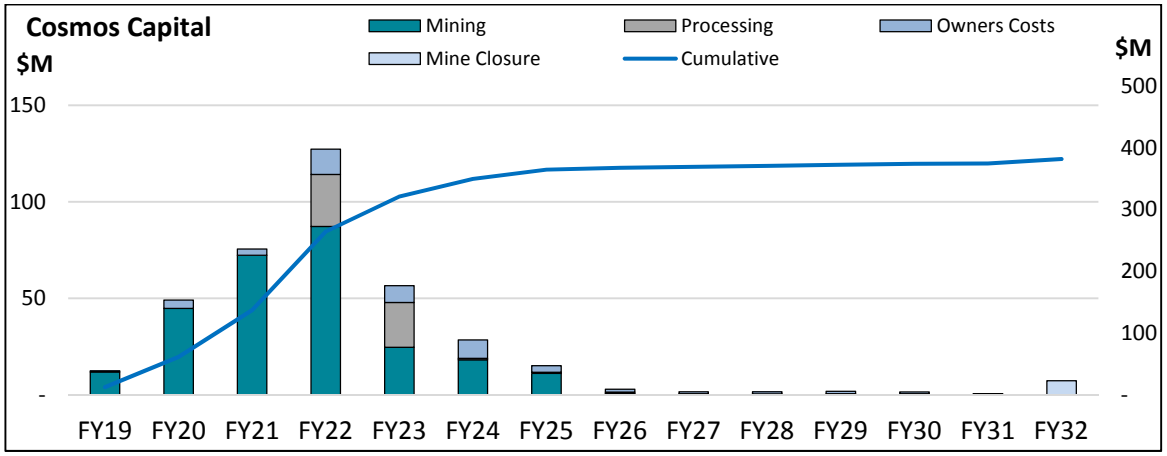
Table 5: Capital cost summary

Capital costs (A$m)	Pre-production	Sustaining	Total
Mine development (i)	148	39	187
Mine infrastructure and services (ii)	20	24	44
Shaft infrastructure (iii)	63	-	63
Plant (iv)	48	6	54
Owner's costs	10	4	14
Mine closure and rehabilitation(v)	-	7	7
Contingency (vi)	10	2	12
Total	**299**	**82**	**381**

(i) Underground mine development includes dewatering costs, underground rehabilitation, new decline and level development.
(ii) Mine infrastructure and services include a refrigeration plant, pump stations, technical services and grade control drilling.
(iii) Shaft infrastructure includes procurement and installation of shaft.
(iv) Pre-production plant capital of $48m includes mill expansion to 900ktpa capacity (A$36m), paste fill plant (A$11m) and an initial TSF lift ($0.5m). Further TSF lifts over LOM and paste fill reticulation costs have been included in plant sustaining capital.
(v) Net mine closure and rehabilitation costs of A$7m in 2032. Total closure costs are A$12m, offset by A$5m in estimated salvage value from plant and equipment.
(vi) Pre-production capital contingency of $10m comprises $5m for the shaft and $5m for plant, infrastructure and services.

Sustaining capital includes on-going mine capital development, mine infrastructure and services capital, minor plant capital, TSF lifts, minor administration capital and net mine closure costs of $7m. A profile of the capital spend, is shown in Figure 10.

Figure 10: LOM financial year capital profile



Operating Cost[8]

The DFS confirms that the estimated C1 unit cash cost for the Project is a globally competitive $2.65/lb (US$1.98/lb) nickel in concentrate. The estimated AISC is exceptionally low, at $3.50/lb (US$2.63/lb) nickel in concentrate, placing Odysseus in the second cost quartile. Mining costs constitute almost 50% of total operating costs. Productivities are based on a combination of benchmarked hard rock underground mines in similar operating environments in Australia and internationally, and the Company's current underground operating experience at Forrestania. Unit rates have been sourced from experienced tier one Australian hard rock underground mining contractors. The overall breakdown of costs is shown in Tables 6 and 7 below.

Table 6: Operating cost summary – per tonne of ore milled

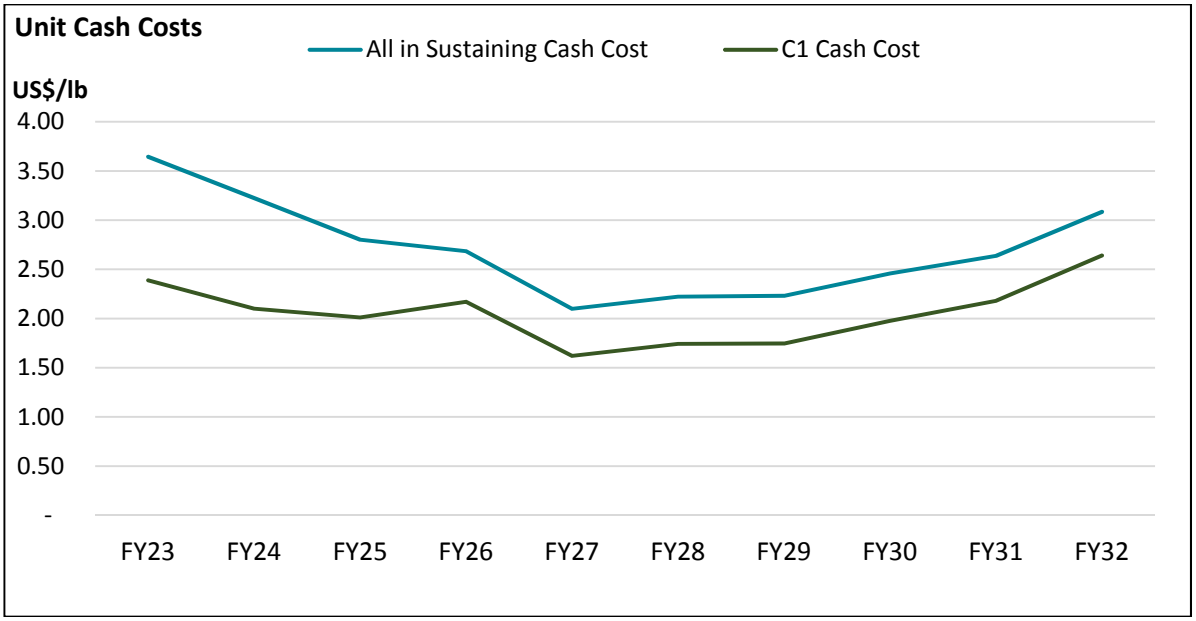
Cost per ore tonne milled basis LOM Operating Cost Estimates	Ore milled (A$/t)	Ore milled (US$/t)
Mining	63.8	47.8
Processing	29.3	22.0
Administration	5.3	4.0
By-product credits	(5.2)	(3.9)
C1 Cash Costs	**93.2**	**69.9**
Sales transportation costs	12.5	9.3
WA state royalty	8.5	6.4
Total Cash Operating Costs	**114.2**	**85.6**
Sustaining capital	9.2	6.9
All-in Sustaining Cost	**123.4**	**92.5**

Table 7: Operating cost summary – per pound of nickel in concentrate

Cost per lb nickel in concentrate basis LOM Operating Cost Estimates	Nickel in concentrate (A$/lb)	Nickel in concentrate (US$/lb)
Mining	1.81	1.36
Processing	0.84	0.62
Administration	0.15	0.11
By-product credits	(0.15)	(0.11)
C1 Cash Costs	**2.65**	**1.98**
Sales transportation costs	0.35	0.27
WA state royalty	0.24	0.18
Total Cash Operating Costs	**3.24**	**2.43**
Sustaining capital	0.26	0.20
All-in Sustaining Cost	**3.50**	**2.63**

[8] **C1 Cash costs** means operating cash costs including mining, processing, geology, OHSE, site G&A costs less by-product credits, divided by nickel in concentrate produced (100% payable basis).
Cash operating costs are cash costs plus concentrate transport and royalties.
All-in sustaining cash costs are cash operating costs plus sustaining capital.

Figure 11: Cash Operating Costs and AISC over LOM



Unit cash operating costs and AISC reduce after FY23 due to improvements in throughput diluting fixed costs and grade improvement followed by a marginal grade reduction in the later years.

Project financials

Financial Results

Key financial assumptions used in the project financial evaluation are shown in Table 8 below:

Table 8: Key financial assumptions

Financial assumptions	DFS
Nickel price	US$7.50/lb or US$16,535/t
Cobalt price	US$12.0/lb or US$26,455/t
Exchange rate AUD:USD	A$1.00 = US$0.75
NPV discount rate (real)	7%

The above key financial assumptions were chosen based on a careful consideration of market forecasts and consensus for both commodity prices and exchange rates. All pricing assumptions have been applied on a flat line basis over LOM. The Company is confident that the assumptions used are appropriate for nickel market supply and demand expectations over the proposed development period and provide a fair "baseline" set of assumptions for the DFS. Western Areas notes that certain nickel price forecasts from respected global research groups are significantly higher than the assumptions used for Odysseus.

The estimated nickel pricing level at which the Project would have a breakeven NPV, and the price at which net cash flow would be breakeven – the 'Cash breakeven price', are also provided.

Based on DFS financial assumptions, the base case Odysseus Project yields the following results:

- 16.5% nickel in concentrate containing 130kt of nickel over a 10 year LOM;
- Pre-tax NPV of $418m, an IRR of 28%;
- Post-tax NPV of $270m, an IRR of 22%;
- Capital payback period (from commencement of production) of 3 years and 6 months;
- Cash breakeven price (calculated on undiscounted cash flows) of A$6.10/lb (US$4.58/lb);
- LOM free cash flow of $854m (pre-tax); and
- LOM free cash flow of $595m (post tax).

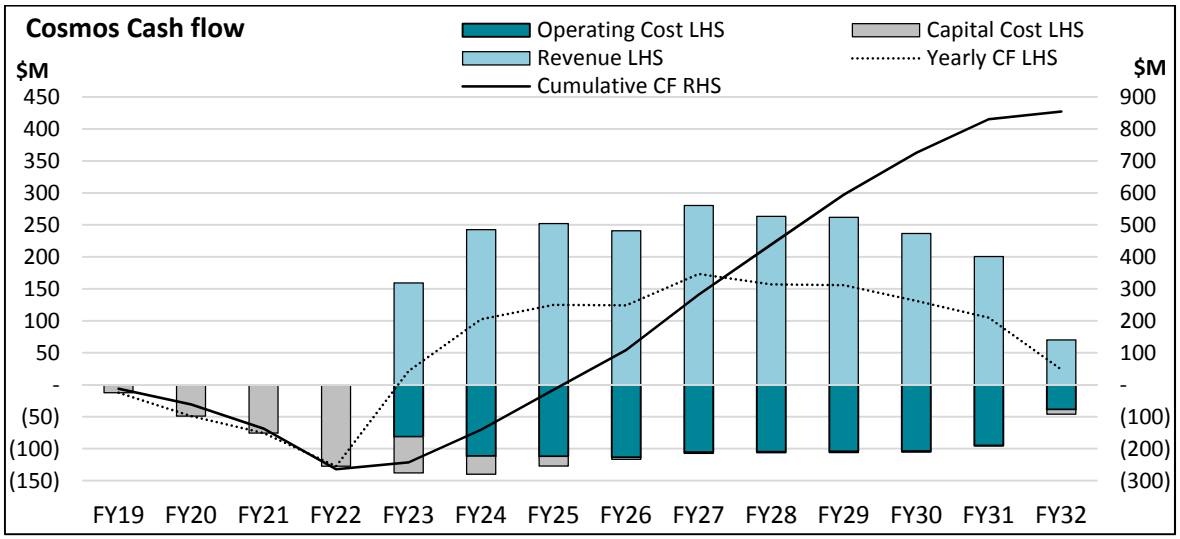
Financial metrics in the PFS and DFS are shown in Table 9.

Table 9: Key financial metrics

Metric (pre-tax basis)	Unit	DFS (US$7.50/lb) October 2018	PFS ($US7.50/lb) March 2017
Revenue	A$m	**2,207**	1,520
EBITDA	A$m	**1,236**	840
Pre-tax cash flow	A$m	**854**	580
Pre-tax NPV	A$m	**418**	292
IRR	%	**28**	28
Capital payback period	Years	**3 years 6 months**	3 years 7 months
NPV breakeven Ni price	$/lb	**$6.79 (US$5.09)**	$6.74 (US$5.06)
Cash breakeven Ni price	$/lb	**$6.10 (US$4.58)**	$6.09 (US$4.57)

The Project is forecast to yield revenue of over $2.2 billion and pre-tax cash flow of $0.85 billion over its initial 10 year mine life as shown in Figure 12 below. Total LOM net cash flows change by $291m for every US$1/lb change in the nickel price.

Figure 12: Cash flow generation (pre-tax) – financial year per annum and cumulative



Sensitivity Analysis

As would be expected, the Project is strongly leveraged to the USD nickel price and the USD/A$ exchange rate as shown in Figure 13 below.

Figure 13: Pre-tax NPV sensitivity analysis

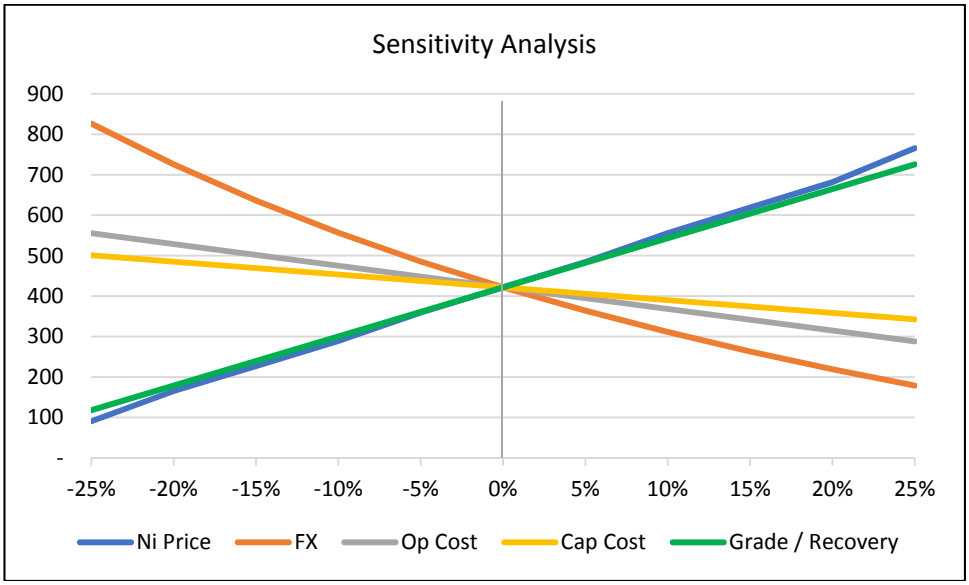


Table 10 and Table 11 below detail the sensitivity in the project pre-tax NPV to a range of nickel prices, exchange rates and discount rates.

Table 10: Pre-tax NPV sensitivity to nickel prices and exchange rates

			Nickel Price (US$/lb)						
			6.00	6.50	7.00	7.50	8.00	8.50	9.00
			-20%	-13%	-7%	0%	7%	13%	20%
Exchange Rate	0.60	-20%	401	505	606	722	837	942	1,047
	0.65	-13%	309	405	509	605	712	808	905
	0.70	-7%	230	319	416	505	604	694	783
	0.75	0%	162	244	326	418	511	594	678
	0.80	7%	102	179	264	342	429	507	586
	0.85	13%	49	122	202	275	357	431	505
	0.90	20%	2	71	146	216	293	363	432

Table 11: Pre-tax NPV sensitivity to nickel prices and discount rates

			Nickel Price (US$/lb)						
			6.00	6.50	7.00	7.50	8.00	8.50	9.00
			-20%	-13%	-7%	0%	7%	13%	20%
Discount Rate	6.0%	-14%	189	278	375	464	563	653	743
	6.5%	-7%	175	261	354	441	536	623	710
	7.0%	0%	162	244	335	418	511	594	678
	7.5%	7%	149	229	317	397	486	567	648
	8.0%	14%	137	214	299	377	463	541	619

PFS to DFS comparison on key metrics

A comparison to the PFS is provided in Table 12 below. Overall, the Project has increased in size with overall greater LOM tonnage and throughput resulting in lower unit mining and milling costs, increased capital with the addition of a shaft, but overall greater value creation compared to the PFS.

Table 12: DFS vs PFS key metrics

Area	Unit	DFS	PFS
Physicals			
Mined tonnes	Mt	**8.1**	4.9
Head grade	% Ni	**2.02**	2.31
Nickel in ore mined	Ni t	**164,500**	112,200
Recovery	%	**79.1%**	77.9%
Concentrate grade	% Ni	**16.5**	22.0
Nickel in concentrate	Ni t	**130,100**	87,400
Capital Costs			
Pre-production	A$m	**299**	190 – 210
Sustaining	A$m	**82**	68
Unit Costs			
Cash costs	A$/lb	**2.65**	3.20
Sales transportation and state royalty	A$/lb	**0.59**	0.27
Depreciation and amortisation	A$/lb	**1.59**	1.21
Total costs	A$/lb	**4.83**	4.67
AISC	A$/lb	**3.50**	3.69
Financial Analysis			
Pre-tax NPV	A$m	**418**	292
IRR	%	**28**	28

Funding requirements

Funding requirements in FY19 and FY20 are relatively low, totalling $61m which is mainly dewatering activities, decline infrastructure rehabilitation, starting the new decline and long lead items for the shaft. Thereafter, total capital requirements from FY21 to FY23 would total $238m. Peak cumulative cash draw-down on an annual basis occurs in FY22, totalling $264m, inclusive of working capital, with concentrate production starting in FY23. The Company has a demonstrated ability to arrange finance as required for development of its projects. In addition to the available cash reserves, the Company has already received interest in many funding alternatives, including offtake finance, minority project sell-down (e.g. 10-15%) and other forms of funding. The near to medium-term funding requirements can be readily met from existing cash reserves.

Upside Opportunities

Western Areas has identified a number of additional enhancement opportunities which could generate significant additional value to the Project.

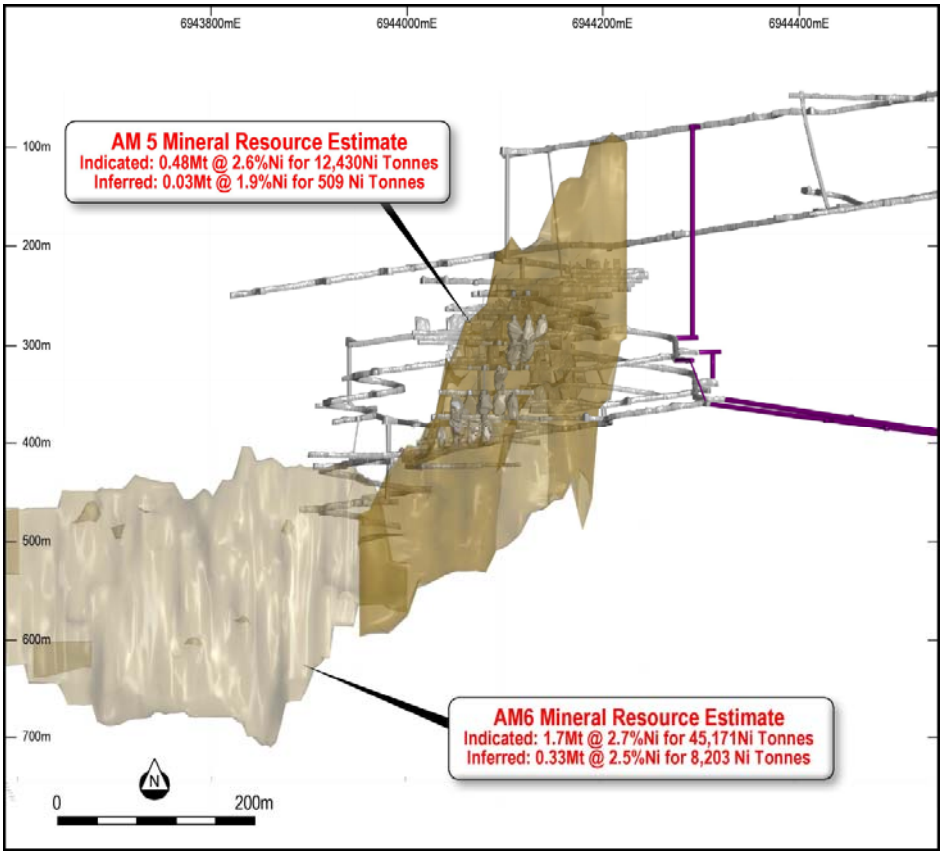
The potential for additional nickel units is the Project's largest upside. Increases to the massive sulphide zone below Odysseus North could provide a cash flow benefit due to the potential high grade nature of the material and its proximity to planned infrastructure. The AM5 and AM6 deposits lie above and south of Odysseus and collectively comprise Indicated Mineral Resources of 2.5Mt grading 2.6% nickel for 57.6kt of nickel. Further opportunities exist along strike from Odysseus over a distance of 8km.

Near-mine upside – AM5/6

Xstrata mined AM5 from 2010 to 2012 and then decided to place Cosmos on care and maintenance, but the deposit was not mined out and the top levels of AM6 had only just been developed. The existing AM5 and AM6 workings being rehabilitated for the new take-off point for the decline ramp down to Odysseus, and creates the potential option of bringing AM5 and AM6 into the mine plan earlier, at the same time as, or later than Odysseus. These two deposits already have underground infrastructure in place and will be accessible from the existing decline network once dewatered.

Combined, AM5 and AM6 contribute a further 2.5Mt @ 2.6% Ni in Indicated Mineral Resource and could potentially be brought on before the Odysseus deposits for early cash flow or alternatively developed in the same timeframe as Odysseus to create a larger operation. Potential development options for AM5 and AM6 will now be evaluated following completion of the DFS and will be finalised in 2019.

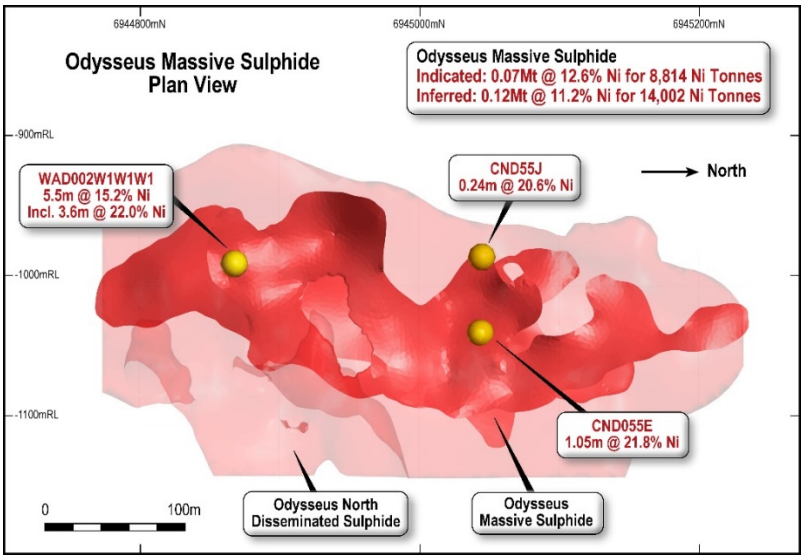
Figure 14. AM5 and AM6 with existing infrastructure and ramp decline take-off point



Near-mine upside – Odysseus North Massive Sulphide

As part of the FY17 Odysseus North resource drilling program planned for the DFS, a decision was made to extend a number of resource drill holes through Odysseus North into the Odysseus North Massive Sulphide lens below to test the continuity of the massive sulphide. Intercepts such as 5.3m @ 15% Ni including 3.4m @ 22% Ni confirmed the continuity of the massive sulphide lenses directly below Odysseus North. The encouraging resource drilling results indicate potential for additional high-grade massive sulphide at the Odysseus North Massive Sulphide lens. Some of the results to date are shown in Figure 15 below.

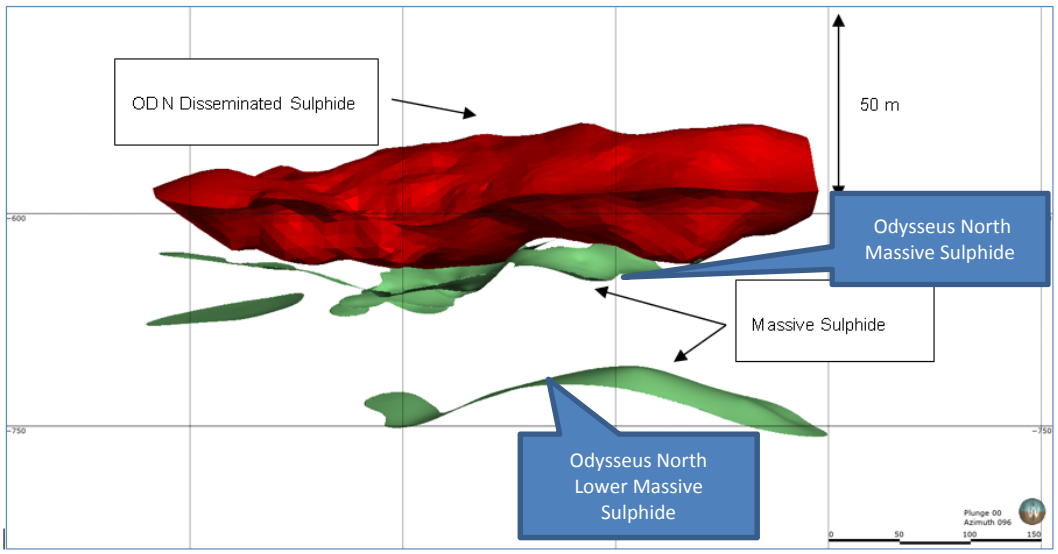
Figure 15: Odysseus North Massive Sulphide drilling results



Near-mine upside – Odysseus North Lower Massive Sulphide

A second massive sulphide lens 'Odysseus North Lower Massive Sulphide" is located 95m below the Odysseus North Massive Sulphide lens shown in Figure 16. Historical intersections include 12% Ni over 5.4m. None of the resource from the Odysseus North Lower Massive Sulphide lens has been included in the DFS mine plan.

Figure 16: Odysseus North Lower Massive Sulphide location



The Odysseus North Massive Sulphide lens and Odysseus North Lower Massive Sulphide lens would both be the focus of underground resource drilling once a suitable underground drilling platform can be established. Together these deposits contain 14kt of nickel in Inferred Mineral Resources that are not included in the DFS mine plan. Once dewatered and the ramp decline is in place, an underground drilling platform can be established to both upgrade the Inferred Mineral Resource and define further extensions to Odysseus North Massive Sulphide and Odysseus North Lower Massive Sulphide.

Regional upside

Previous owners, Jubilee and Xstrata, discovered a total of 310kt nickel in the Cosmos and Prospero areas and the potential for more remains a significant opportunity. The Company believes that the Cosmos tenements have the potential to host additional large, cumulative, ultramafic bodies associated with high tenor nickel sulphides, and accordingly Western Areas is encouraged by the strong prospectivity of the area.

This belief has been rewarded by early stage success at the Neptune prospect, with nickel grade intercepts returned from several drill-holes hosted within cumulate ultramafic rocks confirming the presence of nickel sulphides in the area. Additional targets in the Cosmos tenement area between the Neptune prospect and old Prospero mine have been identified that will be tested in the future as part of the Company's exploration program.

Other potential upsides

- **Discrete and sequential development stages allow a high degree of control over expenditure.** Stages include dewatering, mine rehabilitation, construction of the new decline, refurbishment of existing facilities etc. These workflows can be suspended at any time should the nickel price move in an unfavourable direction.

- **Assess owner-mining options for the period FY23 and beyond.** Assess owner-mining options for production period (after start-up) to reduce mining costs and optimise operation.

Western Areas is now reviewing these potentially value-adding opportunities and any additions will be incorporated in further study work.

Risks

Western Areas has identified a number of key risks to the Project. These include, but are not limited to:

- **Confidence in the resource model** – the Company has undertaken resource drilling to upgrade the majority of the resource to the Indicated Mineral Resource category. This has formed the basis for the Ore Reserve defined in the DFS. Grade control drilling costed into the DFS should ultimately increase the confidence of some of the Indicated to the Measured Mineral Resource category once in operation.

- **Geotechnical risks** – to be managed using industry standard ground control methods (cable bolting, meshing, shotcrete) tailored to the specific requirements of Odysseus as per the recommendations from the extensive geotechnical modelling and analysis. Geotechnical work completed to date is considered to be at DFS level.

- **Mining risks** – the proposed mine schedule and mining method is considered conventional in approach and is expected to provide the run of mine ore tonnage and quality. The operational aspects of development and production are generally considered relatively low risk, with some uncertainty surrounding areas of higher deformation.

- **Hydrogeology risks** – dewatering of existing workings is required and timeframes are based on extensive modelling of inflows and volumes underground. However even though estimates are believed to be conservative, variations in inflows can occur.
- **Processing risks** – recommissioning of major plant and equipment remains a risk when dealing with an operation which has been on care and maintenance since 2012. Also, metallurgical risks exist associated with achieving the desired product specification. These risks have been managed through extensive laboratory testing and developing a geo-metallurgical model.
- **Paste-fill plant risks** – strict operating and maintenance regimes will be established to ensure the paste fill plant can consistently deliver underground paste fill requirements when needed.
- **Accuracy of production and development rates and associated costs** - production scenarios are modelled using benchmarked production rates and previous data from the Cosmos operation, industry rates and experience at the Company's Forrestania operations. Costs have been sourced from mining contractors during FY19.
- **Amount and timing of pre-production capital** – current capital expenditure estimates are at DFS level and subject to change. DFS capital estimates include a $10m contingency allowance and conservative advance rates.
- **Delays in approvals** – any delays in approvals to commence mining and processing will directly impact the time to production.
- **Off-take terms subject to negotiation–** Cosmos is subject to matching rights from Glencore on the first 7kt nickel in concentrate per annum, to a LOM maximum of 50kt nickel in concentrate. Off-take terms are subject to negotiation and no formal contracts have been entered into at this time.

Based on the 12 years of continuous operating history at Cosmos and Western Areas experience working at a similar operation at Forrestania, the Company believes it is has sufficient reasonable grounds for the production assumptions and costs estimates used in the DFS and the risks identified above can be effectively understood and appropriately managed as works progress.

Development Timeline

Approvals and heritage

Most of the approvals are in place including, construction and use of the new WMPs, dewatering and underground decline refurbishment for the Cosmos Mine. Approvals are required for recommencement of mining, processing and the TSF expansion. Western Areas has commenced these approval processes and they are expected to be completed well before the commencement of mining.

The project sits on registered mining leases. Western Areas maintains a strong relationship with the traditional owners of the land, the Tjiwarl people and the local pastoralist.

Project timeline

Odysseus remains approximately four years away from first concentrate production. The schedule comprises one and a half years of dewatering and two and a half years of decline and ore drive development. At this stage, first concentrate production occurs in the December quarter of CY22. Key milestones are shown in Table 13.

Table 13: Key milestones

Milestone	Estimated Timing
DFS completed	Q4 CY18
Commence DFS optimisation study	Already in progress
Dewatering and mine rehabilitation	Already in progress
Dewatering completed to AM5, commence new decline development	March 2020
First concentrate production	Q4 CY22

-ENDS-

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COMPETENT PERSON STATEMENTS:
The information within this report as it relates Ore Reserves is based on definitive feasibility level information, as per JORC Code 2012, compiled by Mr Marco Orunesu Preiata. Mr Orunesu Preiata is a Member of AusIMM and a full time employee of Western Areas. Mr Orunesu Preiata has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity undertaken 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.' Mr Orunesu Preiata consents to the inclusion in the report of the matters based on the information in the context in which it appears.

The information in this report as it relates to Exploration Results and Mineral Resources is based on information compiled by Mr Andre Wulfse. Mr Wulfse is a Fellow of AusIMM and a full time employee of Western Areas. Mr Wulfse has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity undertaken 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.' Mr Wulfse consents to the inclusion in the report of the matters based on the information in the context in which it appears.

FORWARD LOOKING STATEMENT – INFERRED MINERAL RESOURCE STATEMENTS:
The Company notes that <2% of the material contained in the Ore Reserve is classified in Inferred Mineral Resources. The inclusion of material is considered immaterial and only included by co-incidence due to the practical considerations in the stope design process and the need to maintain consistent mining shapes. An Inferred Mineral Resource has a lower level of confidence than an Indicated Mineral Resource. There is no certainty that further exploration work will result in the conversion of the material into an Indicated Mineral Resource. The Company believes it has a reasonable basis for making the forward-looking statement in this announcement, including with respect to any Production Targets.

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", "expect", "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 flow, 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 interpretations 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 to differ materially. These variations, if materially adverse, may affect the timing or the feasibility and potential development of the Odysseus project. Western Areas Ltd undertakes no obligation to revise these forward-looking statements to reflect subsequent events or circumstances.

Examples of forward looking statements used in this report include: "first nickel concentrate scheduled for the December 2022 quarter", and, "The Project is forecast to yield revenue of over $2.2 billion and pre-tax cash flow of $0.85 billion over its initial 10 year mine life" and "AM5 and AM6 contribute a further 2.5Mt @ 2.6% Ni in Indicated Mineral Resource and could potentially be brought on before the Odysseus deposits for early cash flow or alternatively developed in the same timeframe as Odysseus to create a larger operation".

Table 1 – JORC 2012

Section 1: Sampling Techniques and Data

Criteria	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 down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	• *Targets were sampled using Diamond drilling, and holes were typically drilled perpendicular to the strike (north-south) of the stratigraphy, at angles ranging between 55° and 80°.* • *Drill holes were located initially with hand held GPS and later surveyed by differential GPS. Each sample was submitted to ALS laboratories at Malaga, Perth and was weighed to determine density by the weight in air, weight in water method. All sampling was conducted under WSA QAQC protocols which are in accordance with industry best practice.* • *Diamond drill core (NQ2) is ¼ core sampled on geological intervals (0.2m to 1.5m) to achieve sample weights under 2kgs. Samples were crushed, dried and pulverised (total prep) to produce a sub sample for analysis by 4 acid digest with an ICP/AES and FA/ICP (Au, Pt, Pd) finish.*
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• *All samples were prepared and assayed by independent commercial laboratories whose instruments are regularly calibrated* • *Geophysical survey QC parameters were reviewed by an independent supervising geophysicists from Newexco Services Pty Ltd*
	• 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 1m 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.	• *Diamond core is typically marked at 1m intervals* • *Sample intervals are marked up by geologists based on geology* • *Sampled mineralisation intervals are sent to a commercial laboratory for crushing and grinding before assaying.*
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).	• *Diamond drilling comprises HQ and NQ2 sized core.* • *Core is oriented using the Boart Longyear TruCore orientation system*
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.	• *Diamond core recoveries have been logged and recorded in the database* • *Diamond core is logged and recorded in the database. Overall recoveries are >95% and there were no core loss issues or significant sample recovery problems. Core loss is noted where it occurs* • *Diamond core was reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers.*
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.	• *All geological logging was carried out to a high standard using well established nickel host rock and wall rock geology codes in using spreadsheets with appropriate spreadsheet templates as a guide.*
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	• *Final logging is quantitative and core photography is done to a high standard in both dry and wet form.*
	• The total length and percentage of the relevant intersections logged.	• *All holes are logged in full.*
Sub-sampling	• If core, whether cut or sawn and whether	• *Diamond core is sampled as quarter core only and cut by experienced*

Criteria	JORC Code explanation	Commentary
techniques and sample preparation	quarter, half or all core taken.	*field crew on site by diamond saw.*
	• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	• *All samples are core; samples are crushed and split by independent commercial laboratory personnel.*
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• *The independent commercial labs prepared the samples using industry best practice which involves oven drying, coarse crushing and pulverizing using certified methods and equipment that is regularly tested and cleaned.*
	• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	• *The field crew prepares and inserts QAQC certified reference materials OREAS and Geostats standards have been selected based on their grade range and mineralogical properties, with approximately 12 different standards used.*
	• 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.	• *Standards and blanks are inserted approximately every 20 samples or at least one every hole for short RC drilling.*
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	• *All geological logging was carried out to a high standard using well established geology codes in LogChief software.*
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.	• *All samples are assayed by independent certified commercial laboratories.* • *The laboratories used are experienced in the preparation and analysis of nickel sulphide ores.*
	• 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.	• *Handheld calibrated Niton XRF are used to get preliminary semi-quantitative measurements* • *No Geophysical tools or handheld XRF instruments were used to determine any element concentrations that were subsequently used for MRE or exploration reporting purposes*
	• 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.	• *Certified reference materials are included in all batches dispatched at an approximate frequency of 1 per 25 samples, with a minimum of two per batch.* • *Field duplicates are inserted into submissions at an approximate frequency of 1 in 25, with placement determined by Nickel grade and homogeneity. Lab checks, both pulp and crush, are taken alternately by the lab at a frequency of 1 in 25.* • *Accuracy and precision were assessed using industry standard procedures such as control charts and scatter plots.* • *Evaluations of standards are completed on a monthly, quarterly and annual basis using QAQCR.*
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• *Geological interpretation using intersections peer viewed by senior WSA geologists.*
	• The use of twinned holes.	• *Not applicable – No twinned holes*
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• *All primary geophysical data were recorded digitally and sent in electronic format to Newexco Services Pty Ltd for quality control and evaluation.* • *All geological logging was carried out to a high standard using well established geology codes in LogChief software.* • *All other data including assay results are captured in Excel .* • *Drill holes, sampling and assay data is stored in a SQL Server database located in a secure data centre.*
	• Discuss any adjustment to assay data.	• *None*
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	• *Downhole surveys were completed using a gyroscopic instrument on all resource definition holes.* • *Check surveys were done by a professional independent surveyor*

Criteria	JORC Code explanation	Commentary
	• Specification of the grid system used.	• *MGA94 Zone 51 grid coordinate system is used as a standard.*
	• Quality and adequacy of topographic control.	• *The project area is flat and the topo data density is adequate for MRE purposes* • *Collar positions were picked up by suitably qualified surveyors*
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	• *The WAD002 intersect is approximately 40m along strike from WAD002A and WAD002W1W1W1 daughters which are less than 10m apart at the massive sulphide elevation.*
	• 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.	• *Not applicable – No Mineral Resource or Ore Reserve reported*
	• Whether sample compositing has been applied.	• *Sample compositing has been applied using appropriate cut-off grades for reporting of Exploration Results* • *A nominal 1m sample composite length has been applied for MRE Reporting purposes*
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.	• *The majority of the drill holes are orientated to achieve intersection angles as close to perpendicular as possible.* • *Geological structures including late stage granite pegmatites were modelled prior to the WSA managed drilling program and accounted for during drill hole navigation which was monitored on a regular basis by the Competent Person to ensure unbiased sampling of the deposit*
	• 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.	• *No orientation based sampling bias has been observed in the data, intercepts are reported as downhole lengths unless otherwise stated.*
Sample security	• The measures taken to ensure sample security.	• *Standard West Australian mining industry sample security measures were adhered to*
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• *Newexco Pty Ltd an independent exploration company, has reviewed the sampling techniques employed by WSA.*

Section 2: Reporting of Exploration Results

(Criteria listed in Section 1, also apply to this section.)

Criteria	JORC Code explanation	Commentary
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 license to operate in the area.	• *The Cosmos Nickel Complex comprises 26 tenements covering some 9,226Ha. The tenements include mining leases and miscellaneous licenses* • *Western Areas wholly owns 23 tenements, which were acquired from Xstrata Nickel Australasia in October 2015. The remainder of the tenements (3) are subject to a Joint Venture with Alkane Resources NL, where Western Areas has earned 80.6% interest* • *All tenements are in good standing*
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• *Historical nickel exploration has been completed by Glencore PLC, Xstrata Nickel Australasia and Jubliee Mines NL*
Geology	• Deposit type, geological setting and style of mineralisation.	• *The deposits form part of the Cosmos Nickel Complex, which lies within the Agnew-Wiluna Belt of the central Yilgarn Craton, Western Australia* • *The deposit style is komatiite hosted, disseminated to massive nickel sulphides.* • *The mineralisation typically occurs in association with the basal zone of high MgO cumulate ultramafic rocks.* • *Many of the higher grade ore bodies in the Cosmos Nickel Complex also show varying degrees of remobilisation, and do not occur in a typical mineralisation profile*
Drill hole Information	• A summary of all information material to the understanding of the exploration results	• *See drill hole summary tables enclosed in the text and below.*

Criteria	JORC Code explanation	Commentary
	including a tabulation of the following information for all Material drill holes: – easting and northing of the drill hole collar – elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar – dip and azimuth of the hole – down hole length and interception depth – hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• *Standard weighted averaging of drill hole intercepts were employed. No maximum or minimum grade truncations were used in the estimation.* • *The reported assays have been length and bulk density weighted. A lower nominal 0.5% Ni cut-off is applied to the disseminated intersects and no cut-off is applied to the massive intersects, with no top cut applied. High grade intercepts internal to broader zones of mineralisation are reported as included intervals.* • *Metal equivalents have not been used*
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	• *Drill hole intersections may not be true widths*
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	• *Maps and sections are Included within report. Disseminated and Massive nickel sulphide results for WAD002W1W1W1 are shown below superimposed on a provisional disseminated low grade shell*

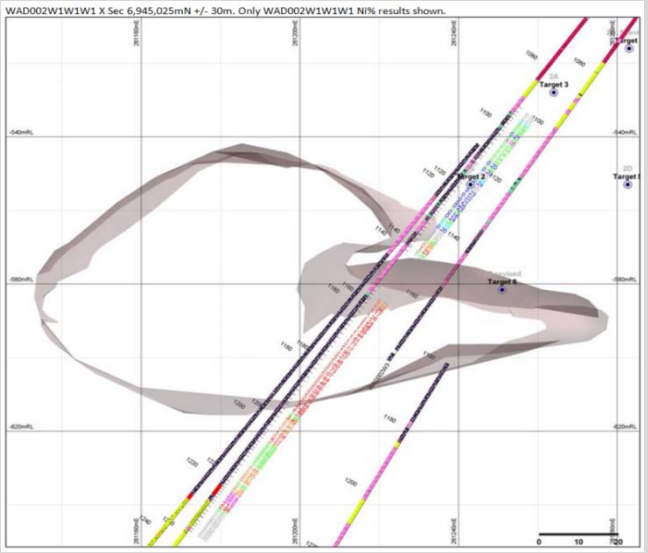
HOLEID	Easting	Northing	RL_MINE	DEPTH (m)	Type	DIP	Azimuth	Width (m)	Ni %	FROM (m)
WAD002	261630.351	6944917.08	476.661	1402.23	DD	-75	275	27.82	0.83	1107.18
	including							3.96	1.11	1116.04
	and							8.18	0.81	1146
	and							12.54	1.96	1165.18
	including							6.03	2.65	1166.97

COSMOS (OdyNorth ResDef) - WAD002A Exploration Results February, 2017

HOLEID	Easting	Northing	RL_MINE	DEPTH (m)	Type	DIP	Azimuth	Width (m)	Ni %	FROM (m)
WAD002A	261630.351	6944917.077	476.661	1274.9	DD	-75	275	25.99	2.46	1170.00
	and							1.28	5.30	1201.80
	and							2.57	12.56	1226.66
	including							1.61	18.03	1227.05

COSMOS (OdyNorth ResDef) - Exploration Results WAD002W1W1W1

HOLEID	Easting	Northing	RL_MINE	DEPTH (m)	Type	DIP	Azimuth	Width (m)	Ni %	FROM (m)	COG
WAD002W1W1W1	261630.351	6944917.077	476.661	1384.10	DD	-75	275	0.39	4.08	1102.62	
	including							1.45	1.23	1139.78	
	and							37.42	1.99	1159.82	1.0 % Ni
	including							25.75	2.31	1170.00	1.5% Ni
	and							0.28	3.40	1198.42	
	and							0.66	4.11	1205.49	
	and							5.27	15.23	1224.00	
	including							3.44	22.05	1224.00	

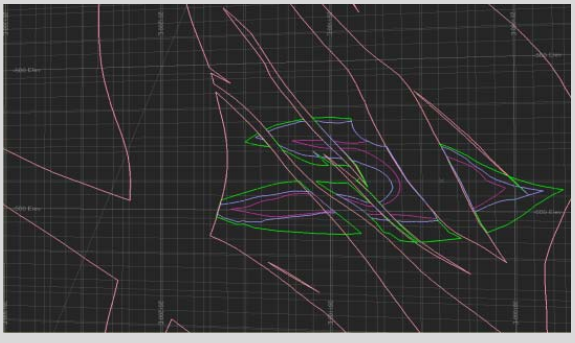


Criteria	JORC Code explanation	Commentary
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• *All results above a nominal cut-off are reported for the disseminated intersects and all the massive intercepts are reported*
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• *Included within report* • *Information on structure type, dip, dip direction alpha and beta angles, texture, shape, roughness and fill material is stored in the structural logs in the database.*
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• *Preliminary plans are included within the report* • *Future explorations programs may change depending on results and strategy*

Section 3: Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, also apply to this section.)

Criteria	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.	• *Database validated by site geologists.* • *All data is entered utilising Maxwell's LogChief software for logging of drill hole data in the field on dedicated laptops.* • *Assay data in the form of csv files from the primary assay laboratory ALS Chemex and the umpire assay laboratory Genalysis received by exploration are imported directly into the database whenever possible.*
	• Data validation procedures used.	• *The LogChief software provides the first level of data validation, utilising locked lookup tables for all data fields which have set codes attributed to them.* • *The Datashed database utilises validation lookup tables and trigger scripts to ensure that all numeric, date and code information is correct.* • *All QAQC controls are reviewed and actioned after each submission.*
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	• The Competent Person (Andre Wulfse) is an employee of Western Areas and has undertaken regular site visits since the acquisition of Cosmos.
	• If no site visits have been undertaken indicate why this is the case.	• Not applicable.
Geological interpretation	• Confidence in (or conversely, the uncertainty) of the geological interpretation of the mineral deposit.	• *The Odysseus deposit is hosted within an ultramafic unit and consists of disseminated nickel sulphide mineralisation as a high grade core surrounded by medium and low grade zones.* • *Late stage pegmatites sit above, below and also crosscut the modelled ore body.* • *The wall rocks and mineralised envelopes were digitised in 3 dimensions using Implicit and Explicit modelling* • *Polygons and wireframes were snapped to both underground and surface drillhole intercepts as appropriate.* • *Wireframe triangulations were created from digitised polygons, and subdivided into domains as necessary, while taking into account geology and / or grade distribution. All triangulations were validated and checked to ensure they are closed and not crossing.* • *Five primary geological and geostatistical mineralised domains were modelled:* o *Super high grade (>3.5% Ni)*

		○ *High grade (1.5-3.5% Ni)* ○ *Medium grade (1.0 – 1.5% Ni)* ○ *Low grade (0.4 – 1.0% Ni)* ○ *Massive sulphide domain* • *Seven main lithological domains were created from the base of the massive sulphides to surface over a strike length of 3.5km:* ○ *Felsic Volcanic* ○ *Felsic Porphyry* ○ *Granite Pegmatite* ○ *Ultramafic* ○ *Sediments* ○ *Mafic* ○ *Granites* • The orebody and the immediately surrounding wall rocks have been modelled to a level of confidence commensurate with the resource classification applied and discussed later. Geologic and grade continuity confidence has been substantially improved since the previous estimate by; ○ >3,000m of surface diamond drilling ○ Downhole geophysics ○ A pre-feasibility study including metallurgical and geotechnical studies ○ An extensive independent structural modelling study ○ Mineral Resource and Geologic remodelling using the additional data whilst cross referencing and maintaining some of the assumptions (including grade zone cut-offs) used by the previous Competent Person
	• Nature of the data used and of any assumptions made.	• Current and historic exploration data previously reported by WSA and Xstrata was used for this estimate. All material assumptions are summarized in this Table and in the report
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	• Several alternative iterations of the mineralized and lithological models were generated and critically assessed during this study. The most appropriate model was then used as a base case for mineral resource estimation. • Several alternative iterations of grade estimations using linear and non linear techniques were completed and critically assessed before finalizing the MRE • At all stages of the process, were the models compared to the previously reported models to ensure an appropriate level of consistency between the previous and the current interpretation
	• The use of geology in guiding and controlling Mineral Resource estimation.	• Geology is the overriding influencing factor in this MRE. A robust digital geologic model forms the basis of the MRE.
	• The factors affecting continuity both of grade and geology.	• Grade and geometry continuity is primarily influenced by intrusive late stage barren pegmatite dykes which penetrate the host ultramafic rocks and crosscut mineralisation in some locations. These pegmatites have been carefully modelled using implicit and explicit techniques. The grade was interpolated across the late stage pegmatite boundaries and then the areas bounded by pegmatites were blocked out with zero grades. The figure below shows the resultant effect where the areas affected by the pegmatites are barren but the overall continuity of the grade shells (low grade=green) is maintained. 

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 strike length of the Odysseus South deposit is approximately 350m. The largest distance from the top of the mineralisation to the base is approximately 225m. The width of the deposit varies between 0.8m to 68m averaging 27m. Average grade and thickness increases down plunge to the north. • The strike length of the Odysseus North deposit is approximately 325m. The largest distance from the top of the mineralisation to the base is approximately 340m. The width of the deposit varies between 0.8m to 71m averaging 28m (5m cut off). Average grade and thickness increases to the north.
Estimation and modeling techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, method was chosen include a description of computer software and parameters used 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 estimation was done using the following main software packages; o Leapfrog Geo Version 4.0.1 o Datamine Studio RM Version 1.2.47.0 o Snowden Supervisor Version 8.6 • Wireframing of grade and geological domains using underground and surface drilling was completed in Datamine and Leapfrog. • Sample data was composited to 1m downhole lengths and flagged on domain codes generated from 3D mineralized wireframes and 3D lithological wireframes. • Directional variography was performed for the Ni and density data for each of the domains using Snowden Supervisor software. • All estimation was completed at the parent cell scale to avoid any potential geostatistical support issues. • Top cut investigations were completed and no top cuts were applied during estimation. Low and high grade Ni domains were used instead.
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• This 2017 MRE is the seventh resource estimate for the Odysseus Disseminated Nickel Sulphide Deposit. • The resource model volumetrics were compared to the previous model and variances can be explained due to the additional drilling and modelling techniques. • No mine data exists for the Odysseus deposits • Estimation validation techniques included visual comparison of the composites and estimated blocks, graphs of pass number versus % filled, swathe plots of the composite grades vs the grade of the block model, and swathe plots of kriging variance, kriging efficiency and slope of regression. • Non linear estimation techniques (Conditional Simulation) was used as an additional validation technique to validate the resource
	• The assumptions made regarding recovery of by-products.	• Ni is currently considered the only economic product that will be recovered
	• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	• The ratio of Fe to Mg is recognized as influencing standard Ni flotation mill recoveries and both elements have been interpolated into the block model and the ratio has been calculated for each parent block in preparation for further metallurgical work. • All variables that have >1,000 assays out of a possible 4,500 assays have been estimated into the model, these are: • Fe,Mg,As,Co,Cr,Cu,S,Zn,MgO,Fe2O3
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• A proto model was constructed using parent blocks of 10 mE x 15 mN x 5 mRL and sub-blocked to 1.25m x 2.5m x 1.25m. • Drill hole spacing ranges from 22m to 76 m, averaging 50 m. • The size of the search ellipse was based on the Ni variography for each domain. Three search passes were used and the search ellipses varied for each of the 13 mineralized domains • A maximum number of samples from any particular borehole were set at 30 and 36 depending on the Domain. This prevents a disproportionate number of samples from any borehole having an undue influence on the estimate.
	• Any assumptions behind modeling of selective mining units.	• No assumptions were made other than that the mineralisation in the disseminated is zoned and the outer low grade shell may not make it into the reserve category after an appropriate reserve cut-off has been applied.
	• Any assumptions about correlation between variables.	• No correlation between geochemical elements was observed.

	• Description of how the geological interpretation was used to control the resource estimates.	• Mineralised zones were digitised using explicit and implicit techniques by WSA and independent Geologists • Polygons were snapped to both underground and surface drilling intercepts. Each wireframe is representative of a grade domain, and used in compositing and estimating to ensure high grades were not smeared into the low grade zones and vice versa.
	• Discussion of basis for using or not using grade cutting or capping.	• Top cut investigations were completed and no top cuts were applied during estimation. Low and high grade Ni domains were used instead.
	• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	• Estimation validation techniques included visual comparison of the composites and estimate blocks, graphs of pass number versus % filled, swathe plots of the composite grades vs the grade of the block model, and swathe plots of kriging variance, kriging efficiency and slope of regression
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnages were estimated on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The resource is reported above 1.5% Ni cut off grades for all mineralized material and a minimum true thickness of 1.5m for Massive sulphides
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.	• Standard paste fill longhole mining is assumed for the disseminated material and jumbo operated room and pillar for the massive sulphide material
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.	• Ni flotation mill recovery techniques are assumed for both the disseminated and massive sulphide material
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.	• Potential waste and process residue disposal sites have been identified during a pre feasibility study and are not going to deviate much from previous sites using during past open cast and underground mining at Cosmos.
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.	• Bulk densities are determined suing the same independent commercial laboratories as discussed in previous sections.

	• 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.	• All data used in the MRE is from competent fresh rock and void spaces are not material
	• Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• Bulk densities are determined for each sample assayed and interpolated into the block model
Classification	• The basis for the classification of the Mineral Resources into varying confidence categories.	• Resource classification is based on a combination of Geological knowledge and confidence in the interpretation, data distribution, estimation passes, Kriging Efficiency (KE) and Slope of Regression (Slope) data analysis. • The Odysseus deposit is classified as JORC Indicated and Inferred. No blocks were classified as Measured
	• Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, and confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	• The definition of mineralised zones is based on a high level of geological understanding. It is believed that all relevant factors have been considered in this estimate, relevant to all available data.
	• Whether the result appropriately reflects the Competent Person's view of the deposit.	• The MRE reflects the Competent Person's view of the deposit and the risks associated with the grade and structural continuity.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• The MRE has not been independently audited or reviewed in its entirety. Independent Consultants have been involved in the modelling process to varying degrees.
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.	• Conditional Simulation techniques were used to determine the relative accuracy of Odysseus South within stated confidence limits and the results indicated that the global grade is very robust (within 0.05% variance) using 36 simulations.
	• 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.	• The MRE Statement relates to local estimates
	• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• The Odysseus deposit has not been mined but estimates have been compared against previous estimates and the overall geometry and global grades are consistent.

Section 4: Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where applicable section 2 & 3, also apply to this section.)

Criteria	JORC Code explanation	Explanation
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Ore Reserve statement is based upon the Mineral Resource declared as at 30 June 2017 by WSA with ASX Announcement dated 16 June 2017 titled "Significant increase in Odysseus high grade nickel resources and upgraded disseminated indicated mineral resources" (see Table 1 Sections 1 to 3 in the announcement). Mineral Resources are reported inclusive of Ore Reserves.
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.	Several site visits were conducted during 2017 and 2018 by the Competent Person who found conditions to be in line with technical assessments incorporated in the Ore Reserve. The Competent Person accompanied specialist geotechnical and geological consultants on these visits to ensure continuity and clear understanding between disciplines.

		The Competent Person also conducted several visits in Australia and Canada to mines with similar geotechnical environment, mining methods and conditions.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	The Ore Reserve is predicated on a DFS commissioned by WSA and completed in September 2018. The study is based on the current and well established Australian and international mining practice, as assessed during various site visits to other operating mines carried out during the study. The finding of the DFS was an economically viable mining operation.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Considering that the design cut-off parameters are variable and depend on multiple elements existing in the ore that drive metallurgical recoveries, an NSR approach was used to define the ore. The criterion to maximise Nickel metal and revenue with a Rougher and Cleaner concentrate was used. The assumptions used were the following: Nickel Price US$7.00 / lb AUD:USD Exchange Rate 0.75 Target Concentrate Ni Grade 16.5% MgO in concentrate 10%-12% Fe:MgO levels 2.2 to 2.6 The NSR value reflects the expected market conditions at the time of the concentrate delivery; this parameter is considered commercial sensitive by the company. The Company has significant and recent experience in negotiating and operating these types of agreements, and it is believed the assumptions related to NSR are achievable in the market. Other costs assumptions were: WA State Royalties: 2.5% Glencore matching rights of up to 7kt of Ni in concentrate per annum for a total of 50kt Ni in concentrate. Total Opex Cost per Tonne Ore A$128.50 Logistical Costs per Tonne Concentrate US$85.20
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). The mining dilution factors used. The mining recovery factors used. Any minimum mining widths used. The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. The infrastructure requirements of the selected mining methods.	The mining method selected is top-down, longhole stoping with paste backfill, with a centre out mining sequence. Average production levels when at steady state are 900kt per year. Comprehensive geotechnical analysis and stress modelling have been conducted to determine appropriate excavation methods and sequence, stope sizes and ground control regimes and these have been incorporated in the mine design and costing. The studies were led by Principal Geotechnical Engineer, Iain Thin (KSCA Geomechanics), and the elastic and plastic modelling with the FLAC® code by ITASCA Australia Pty Ltd. Geotechnical data were sourced through a combination of data collected by Dempers & Seymour Pty Ltd and Golder Associates Pty Ltd. All available historical data, including historical seismic database, were used in the geotechnical assessment, both for static and dynamic conditions. The Geotechnical hole database was a combination of holes drilled under the previous owners and new holes drilled by Western Areas. Viability of the paste fill methodology was conducted by Outotec Australia. A default material density of 2.65t/m³ with grade of 0% has been applied where not defined by the Resource model. Dilution factors have been applied based on the stoping method and location as follows: Planned dilution:

		• HW stopes wall extended 0.76m into waste • FW stopes wall extended 0.76m into waste • Unplanned dilution factor of 3.5% applied to all stopes • A 95% mining recovery factor has been applied to all stoping activities. • The minimum mining width for stopes is 3m. The Ore Reserve has been calculated by including only tonnes within the mining shapes that have been categorised as at least Indicated Mineral Resources. However due to the presence of barren intrusive lithological units that are classified as Inferred Mineral Resources, the mine design accounts for these Inferred tonnages. In total the Ore Reserve and economic model includes less than 2% of Inferred material due to the practical considerations in the stope design process and the need to maintain a consistent mining front to mitigate, to mitigate as best possible, geotechnical risks due to the expected stress environment. Development rates were derived from experience gained during site visits in operating mines with similar conditions. Mining Schedule was developed by Piran Mining using 5DPlanner® and EPS® codes. The underground mine design includes infrastructure suitable for the planned mining method and production rate, including an access decline, hoisting shaft, pump stations, underground workshop, underground sizer and general mining infrastructure. Surface infrastructures are already present at site and allowance is made in the study to upgrade and refurbish them for the project targets.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. Whether the metallurgical process is well-tested technology or novel in nature. The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. Any assumptions or allowances made for deleterious elements. The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	The metallurgical factors used are from extensive tests carried out during the feasibility study and historical data of the Cosmos concentrator. Figures used are considered commercially sensitive by the company. The flow sheet, based on the mineralogical data and adopted for test work, was similar to previous operations at Cosmos when Xstrata was treating ore from AM5, which is a disseminated sulphide similar to Odysseus. It was also the basis for laboratory testing by Xstrata on Odysseus material in 2010 to 2012 and Western Areas testing during the PFS in 2016. The metallurgical process is a well tested technology for Nickel Sulphides recovery with two stages of fragmentation with wet screening for size classification, one milling stage with cyclone size classification and two stages of flotation (Rougher and Cleaner) with an intermediate regrinding stage. Recovery is related to the Sulphur:Nickel ratio. Rougher and Cleaner combined average recovery is above 79%. For the purpose of the feasibility study a smeltable concentrate with grade of 16.5% Ni and 10% to 12% MgO Fe:MgO levels from 2.2 to 2.6 was selected. Odysseus concentrates are very clean with no deleterious elements. No by products were considered for the design of the Ore Reserves envelope due to their small impact (see following sections). Credits are allocated for Cobalt in the financial model only with an assumed price of US$ 12.00 / lb. Allowance is made for the refurbish and upgrade of the existing concentrator from its current capacity of 450ktpa to over 900ktpa.
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	All required environmental approvals have been obtained for the dewatering and refurbishment phases of the operation. Approvals for mining and processing will commence in Q4 2018 as supported by the DFS information and specifications and will be in place prior to mining commencing. The relevant environmental approvals are detailed below. • Department of Water Environment Regulation (DWER):

		○ Prescribed Premises Licence ○ Clearing Permit ○ Groundwater Licences ○ Groundwater Licence Operating Strategy (GLOS) • Department of Mining Industry Regulation and Safety (DMIRS): ○ Mining Proposals ○ Mine Closure Plan
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	Surface infrastructure associated with the overall Cosmos operation includes a pre-existing processing plant, tailings storage facilities, camp, power stations, airstrip, workshops and offices. Refurbishment or upgrades for all these items have been fully designed, costed and accounted for in the economic assessment of the Project. Studies for the refurbishments and/or upgrade of the current infrastructures have been carried out by well-established and recognised engineering firms. Cosmos mine site will be supplied by a local diesel/ gas 20 MW power station and an 11kV overhead power-line operated by Western Areas ltd. Potable water is produced via reverse osmosis plants located at the Cosmos concentrator and pumped via a pipeline to the mine-site. Process water is recycled from the mine dewatering network. Bulk material logistics is predominately via conventional truck haulage. Mine personnel reside at the nearby Cosmos Village (520 rooms) and is predominately a FIFO (via the Bellevue airstrip) workforce with some minor DIDO. The mine-site is 40km to the north of Leinster township and has one gravel access road that starts from the main gazetted paved road of the region (Goldfields Highway)
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study. The methodology used to estimate operating costs. Allowances made for the content of deleterious elements. The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products. The source of exchange rates used in the study. Derivation of transportation charges. The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. The allowances made for royalties payable, both Government and private.	Capital Underground Development costs are derived from the LOM plan based on current market data derived from a formal pricing exercise, carried out with well-established and recognised Australian Mining Contractors. All other Capital costs are sourced as necessary via quotes from suppliers or technical studies associated with the Feasibility Study. Mining, processing, administration, surface transport, concentrate logistics and state royalty costs are based on existing cost estimates and technical studies associated with the Feasibility Study. Closure cost allowance is included in the study. The nickel price and foreign exchange assumptions used were sourced from industry standard sources. Nickel price from US$7.00/lb @ FX0.75. State Royalties @ 2.5%. Glencore matching rights of up to 7kt of Ni in concentrate per annum for a total of 50kt Ni in concentrate. No other royalties specific to the mining tenement are applicable to the economic assessment. Net Smelter Return (NSR) factors reflect the expected market conditions at the time of the concentrate delivery, this parameter is considered commercial sensitive by the company.

Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. the derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	These have been selected after consideration of historical commodity prices variations over time and the requirement for the Ore Reserve to be robust to potentially volatile commodity price and foreign exchange conditions. The price setting mechanism for the sale of product subject to this report is traded openly on the London Metals Exchange ("LME"). Potential penalties and net smelter revenue factors are included in the Smelter Return factor used. This factor is based on the expected market conditions at the time of the concentrate delivery. Figures used are considered commercially sensitive by the company. As part of the Feasibility Study, various potential offtake parties were contacted and discussions held regarding potential offtake of the proposed Odysseus concentrate. Based on the metallurgical specification of the concentrate WSA/ ANI received indicative offers. The details of these offers are utilised in the economic model to determine the NSR. The Company has significant and recent experience in negotiating and operating these type of agreements, and it is believed the assumptions related to NSR are achievable in the market. No by products were considered for the design of the Ore Reserves envelope due to their small impact (see following sections). Credits are allocated for Cobalt in the financial model only with an assumed price of US$ 12.00 / lb.
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.* *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	The commodity subject to this report is traded openly on the London Metals Exchange ("LME"). The Company has for many years maintained both long and short term offtake sales contracts with multiple customers, both locally and internationally. Existing contracts have been assessed for the sales volume assumptions. As the Company has been supplying multiple customers over a significant time period no acceptance testing has been assumed in the Ore Reserve development process. For the Nickel price assumptions refer to the previous sections.
Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	The economic analysis was conducted using a discounted cash flow model with sensitivity analysis carried out with the following ranges: • Ni price from US$6.00/lb to US$9.00/lb. • Exchange rate from 0.6 to 0.9. • Discount rate from 6% to 8%. The analysis delivered robust results summarised in the following tables: Pre-tax NPV sensitivity to nickel prices and exchange rates Nickel Price (US$/lb) Exchange Rate 6.00 / -20% / 401 6.50 / -13% / 505 7.00 / -7% / 606 7.50 / 0% / 722 8.00 / 7% / 837 8.50 / 13% / 942 9.00 / 20% / 1,047 0.65 / -13% / 309 / 405 / 509 / 605 / 712 / 808 / 905 0.70 / -7% / 230 / 319 / 416 / 505 / 604 / 694 / 783 0.75 / 0% / 162 / 244 / 326 / 418 / 511 / 594 / 678 0.80 / 7% / 102 / 179 / 264 / 342 / 429 / 507 / 586 0.85 / 13% / 49 / 122 / 202 / 275 / 357 / 431 / 505 0.90 / 20% / 2 / 71 / 146 / 216 / 293 / 363 / 432 Cobalt component on the NPV ranges from a minimum of $21m for exchange rate 0.90 and Ni Price US$6.00 / lb to a maximum of $32m for exchange rate 0.60 and Ni price US$9.00 / lb. Pre-tax NPV sensitivity to nickel prices and discount rates

		Nickel Price (US$/lb) Discount Rate 6.00 (-20%): 6.0% (-14%) 189; 6.5% (-7%) 175; 7.0% (0%) 162; 7.5% (7%) 149; 8.0% (14%) 137 6.50 (-13%): 278; 261; 244; 229; 214 7.00 (-7%): 375; 354; 335; 317; 299 7.50 (0%): 464; 441; 418; 397; 377 8.00 (7%): 563; 536; 511; 486; 463 8.50 (13%): 653; 623; 594; 567; 541 9.00 (20%): 743; 710; 678; 648; 619 Cobalt component on the NPV ranges from a minimum of $23m for discount rate of 8.0% and Ni Price US$6.00/lb to a maximum of $27m for discount rate of 6.0% and Ni price US$9.00/lb.
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate.*	All legal permits to mine Odysseus have been obtained by Western Areas following the paths described by the relevant laws with the participation of the local communities (see previous points), as a company policy (CDMS-000610-Social Responsibility Policy), the relations with the local communities and territories are a key part of operational management. The Cosmos Nickel Operations fall entirely within the Tjiwarl Native Title area. Western Areas has an excellent working relationship with the Tjiwarl people. Numerous Aboriginal heritage surveys have been conducted over the wider Cosmos Project site since its inception. A number of anthropological and archaeological sites have been identified as a result of these surveys but no sites affect, or are currently affected, by the mining and infrastructure holdings that form the Cosmos Project. A number of Tjiwarl traditional owners are employed at the CNP as part of early works construction. Western Areas is in continuous dialogue with the Tjiwarl Aboriginal Corporation and has signed a Negotiation Protocol and commenced early discussions for a Mining Agreement.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* *Any identified material naturally occurring risks.* *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	It is noted that mining operations are an inherently risky business in which to operate, no other risk factors apart from the normal risk components included in all the above points and assumptions have been identified.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person's view of the deposit. The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Odysseus has the following Ore Reserves at 30 of September 2018: Probable Ore Reserves of 8.1Mt ore at 2.0% Ni for 164.5kt of nickel. Ore Reserves are derived entirely from the Indicated Mineral Resource and the result appropriately reflects the Competent Person's view of the deposit. Less than 2% of material is classified as Inferred. This inclusion is due to the geometry of the practical mining shapes created varying to the shape of the resource model classification boundaries
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The project team is a mix of internal and external independent professionals. No formal external reviews were deemed necessary due to the nature of the project team that has a preponderant external component. Formal external reviews may be conducted if requested.
Discussion of relative accuracy/confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative	The confidence on the study is driven by the high quality work carried out and site visits conducted. The present estimation, for the nature of the commodity mined, refers to global market conditions (see above points for the assumptions). As is normal in mining operations, the key points that can have a significant impact on the performance of the Cosmos Mine are the market conditions in general, and the Nickel price and the currency exchange rates in particular. All the other parameters are derived from sound historical production data, engineering studies

	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. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	and site visits to mines that operate in similar conditions both in Australia and abroad