#### AUSTRALIAN NICKEL CONFERENCE

" It's all about growth"

DAN LOUGHER | 5 October 2021

#### WESTERN AREAS LTD



# AGENDA





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The information within this PowerPoint presentation was compiled by Western Areas management, but the information as it relates to exploration results, mineral resources or ore reserves was prepared by Mr Graeme Gribbin, Mr Andre Wulfse or Mr Marco Orunesu-Preiata respectively. Mr Gribbin, Mr Wulfse and Mr Orunesu-Preiata are full time employees of Western Areas Ltd. Mr Gribbin is a member of Australian Institute of Geoscientists (AIG). Mr Wulfse is a Fellow of Australian Institute of Mining and Metallurgy (AusIMM) and Mr Orunesu-Preiata is a member of Australian Institute of Mining and Metallurgy (AusIMM) and have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'(2012 JORC Code). Mr Gribbin, Mr Wulfse and Mr Orunesu-Preiata consent to the inclusion in this presentation of the matters based on the information in the form and context in which it appears.

This announcement is authorised for market release by Western Areas Limited Managing Director and CEO, Daniel Lougher.

Western Areas Registered Office: L2, 2 Kings Park Road, West Perth, 6005, Australia



# CORPORATE



#### Western Areas, are safe areas



#### Days LTI free



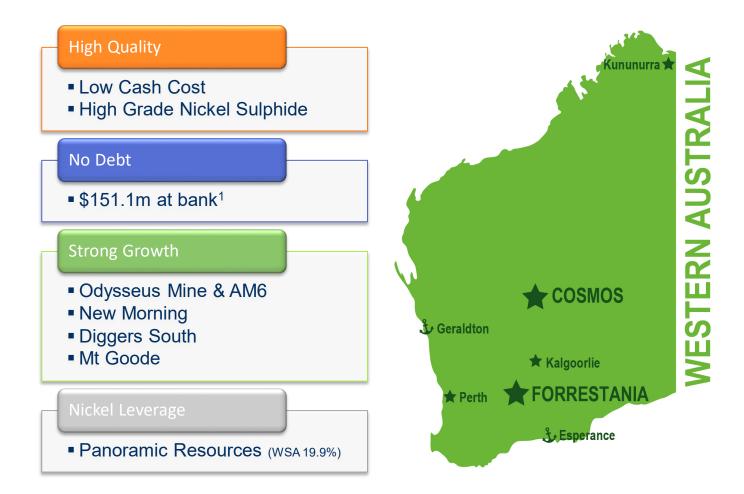
#### 12 month LTIFR moving average





#### **Corporate overview**

"The Company aims to be a sustainable and profitable, nickel focused, base metal miner, building value and scale while maintaining financial strength"





#### **Environment Social Governance**





#### Environment

- Zero Major environmental incidents
- Transparency & Disclosure (ESG report, CDP, transition to TCFD and SASB)
- Published Climate Change Statement
- Third party verification of Scope 1 & 2 emissions
- Climate change integration of risks and opportunities into strategy
- Renewable power project for Cosmos
- Sustainable Nickel story low carbon NSP

# 

#### Social

- LTIFR reduction to 0.63 (Jun-20 1.41)
- Cultural Awareness Training
- Maintain relationship with Tjiwarl Aboriginal Corporation and commenced Mining Agreement negotiations.
- Engagement with numerous other traditional owner groups.
- Teamed up with Performex WA to provide employee Wellness Program

#### Governance

- Inaugural Modern Slavery Statement published in March-2021
- Increased diversity of the Board of Directors to 40% NED
- Reviewed and updated key policies such as Code of Conduct & Whistleblower Policy
- Comprehensive Risk Management Program

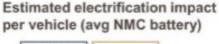


# NICKEL MARKET



### New Odysseus concentrate offtake – timing is good!

- Tender process commenced for the initial, uncontracted Odysseus concentrate
- Strong market environment for sustainable, nickel sulphide concentrates with OEM concerns on emerging nickel deficits (ie BHP and Tesla Inc deal and recent MoU with Japanese groups)
- Korea and Japan moving "faster" to consolidate future offtake contracts. Potential to build new smelter and hydrometallurgical plants
- We may see changes in traditional "smelter short term" to LOM contracts, with improved commercial terms and potential downstream benefits
- Majors active in Ni assets M & A



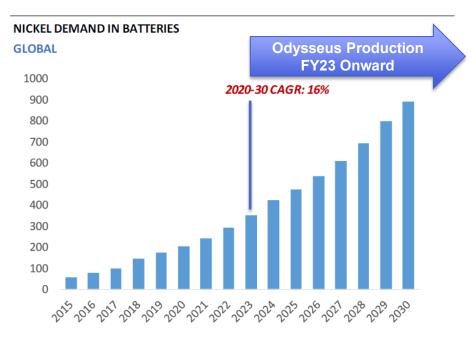




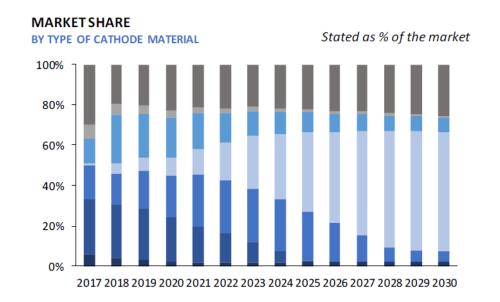


### What we are seeing

- BHP/Tesla Inc announce partnership for nickel
- Significant inbound battery producer interest, targeting nickel offtake to feed production lines
- Strong growth in EV production and demand, especially in Europe, with increasing Government incentives globally



- Tsingshan laterite to nickel matte conversion, this product is needed, but what is the carbon footprint?
- Jinchuan (largest nickel cathode producer in China) increasing nickel sulphate volumes. Believed to be investing in pre-cursor production lines



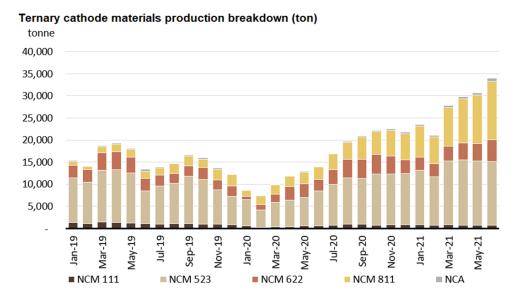
■ NCM 111 ■ NCM 532 ■ NCM 622 ■ NCM 811 ■ NCA ■ LMO ■ LFP Source: Trafigura Research, SMM

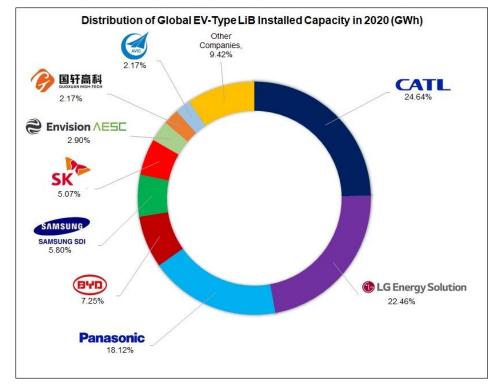
Source: Trafigura Research, SMM, CIAP – March 2020



### **Battery market**

- Battery producers currently dominated by China, Korea and Japan
- USA starting to positioning for supply Looking abroad to find critical battery metals
- Technology change to NCM 811 which requires higher quantity of nickel, gaining market momentum



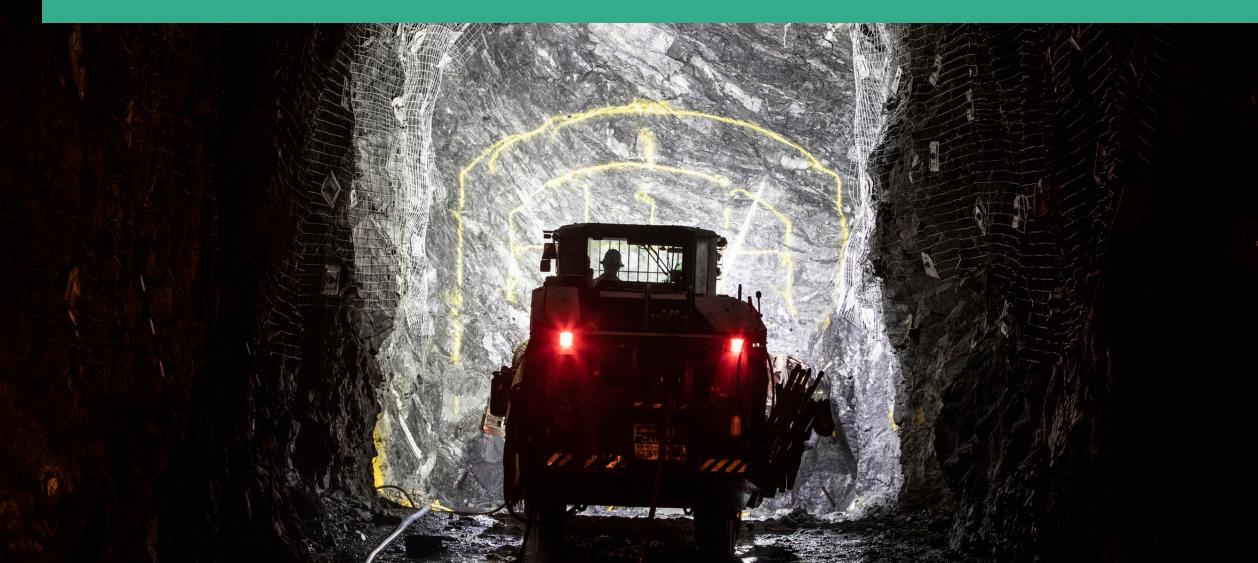


Source: Golden Dragon Capital Ltd

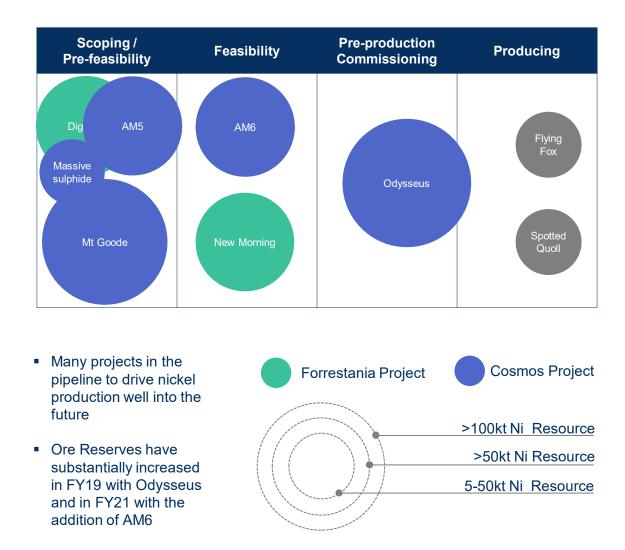
Source: ICCSINO



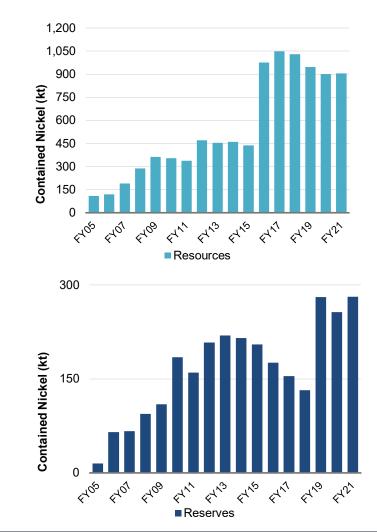
# GROWTH



### **Nickel growth pipeline**



#### **Nickel Resources**





#### **Key resources**

Area	Resource (All JORC 2012)	Measured		Indicated		Inferred		Total		
		Tonnes	Grade Ni %	Ni Tonnes						
Forrestania										
Forrestania Area	Spotted Quoll <sup>1</sup>			672,396	6.4	146,678	5.0	819,074	6.1	50,367
	Flying Fox High Grade <sup>1</sup>			776,389	4.5	259,568	1.5	1,035,957	3.7	38,823
	New Morning Massive Zone <sup>1</sup>			340,126	3.3	78,067	3.9	418,193	3.4	14,249
Total Key Forrestania Mineral Resource				1,788,911	5.0	484,313	2.9	2,273,224	4.6	103,439
Cosmos										
Cosmos Area	Odysseus South <sup>1</sup>			4,016,949	2.1	219,641	2.0	4,236,590	2.1	89,069
	Odysseus North incl. Massive <sup>1</sup>			3,199,049	2.8	350,148	5.7	3,549,197	3.1	110,083
	AM6 <sup>2</sup>			2,648,508	2.5	116,416	1.7	2,764,924	2.4	67,362
	AM5 <sup>1</sup>			895,815	2.6	31,376	6.6	927,191	2.8	25,717
	Cosmos Area Sub Total			10,760,321	2.4	717,581	3.9	11,477,902	2.5	292,231
Mt Goode Area <sup>1</sup>		13,563,000	0.8	27,363,000	0.6	12,009,000	0.5	52,935,000	0.6	326,943
Total Key Cosmos Mineral Resource		13,563,000	0.8	38,123,321	1.1	12,726,581	0.7	64,412,902	1.0	619,174
Total Key WSA Mineral Resource		13,563,000	0.8	39,912,232	1.3	13,210,894	0.8	66,686,126	1.1	722,613

Note: Mineral Resources are reported inclusive of Ore Reserves. Figures have been rounded and may not add up to totals.

Note: Key Resources table excludes Flying Fox and Lounge Lizard Disseminated Zones, New Morning Daybreak Disseminated Zones, Beautiful Sunday, Cosmic Boy Area and Diggers Area.

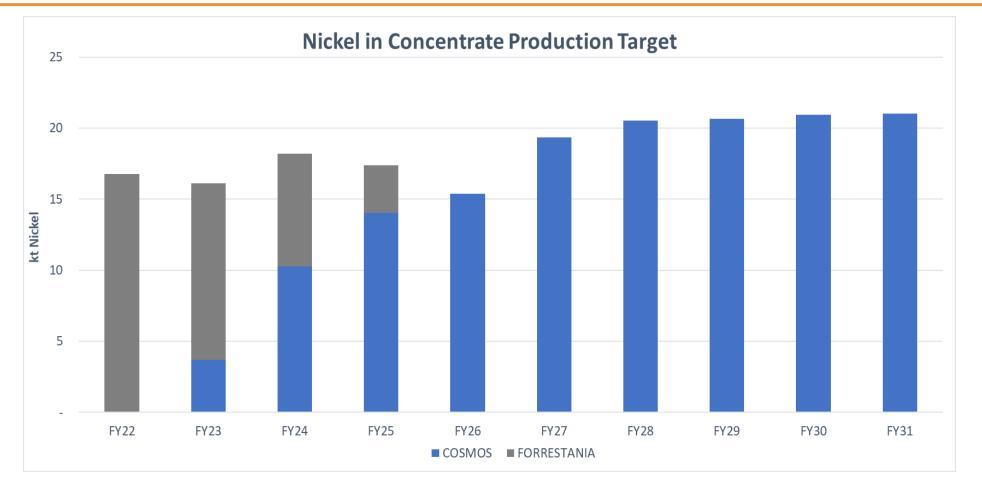
<sup>1</sup> Please refer to Western Areas' June 2021 Quarterly Activities Report released on 23 July 2021 at <u>www.asx.com.au</u> for detailed figures on Western Areas current Ore Reserve and Mineral Resource Statement. For further details on JORC (2012) Table 1 details please refer to Western Areas' 2020 Quarterly Activities Report released on 23 July 2021 at <u>www.asx.com.au</u>.

<sup>2</sup> Please refer to Western Areas' Maiden Ore Reserve for AM6 Boosts Cosmos Base Case released on 2 September 2020 at <u>www.asx.com.au</u> for further details on AM6 Ore Reserve and Mineral Resources including JORC (2012) Table 1.

\* Western Areas confirms that it is not aware of any new information or data that materially affects the information included in these announcements and that all material assumptions and technical parameters underpinning the estimates in the announcements continue to apply and have not materially changed. Western Areas confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcements.



### **10yr production profile**



Graph data source:

Forrestania production targets based on Spotted Quoll and Flying Fox ore reserves. Refer to "June 2021 Quarterly Report" announcement

Cosmos production targets based on Odysseus and AM6 ore reserves. Refer to "Strong Odysseus DFS results in Decision to Mine," dated 22 October 2018 and "Maiden Ore Reserve at AM6 Boosts Odysseus Base Case," dated 2 September 2020 announcements Cosmos Mill upgraded to 1.1Mtpa from FY27 onwards



#### ODYSSEUS MINE DEVELOPMENT



And the second second

#### **Cosmos nickel operation**

#### WESTERN AREAS' SECOND OPERATIONAL HUB:

- Outstanding nickel address
- Total Ore Reserves of 211k tonnes of nickel
- Strategically located between Nickel West's Leinster and Mt Keith mines
- Established infrastructure



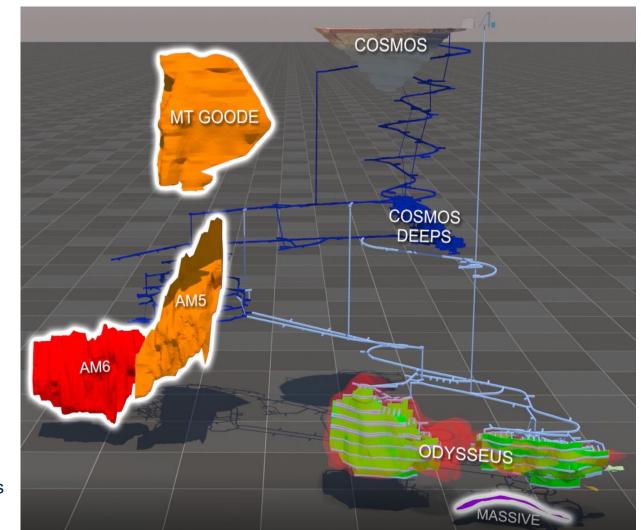




### **Odysseus – a long life project with significant upside**

#### Odysseus - Long life, low cost project:

- Ore Reserve 8.1mt @ 2.0% for 164kt nickel
- Mine life > 10 years
- Attractive AISC
- Average nickel in concentrate production 14.5ktpa from FY24
- AM6 now a value add:
  - Ore Reserve 2.1mt @ 2.2% for 47kt nickel
  - Large 212kt of nickel in combined Ore Reserves, increasing mine life and capital efficiency
  - Feasibility very advanced
- Significant upside:
  - 327kt nickel tonne resource at Mt Goode
  - Record 22% Ni massive sulphide intersections in lenses below Odysseus

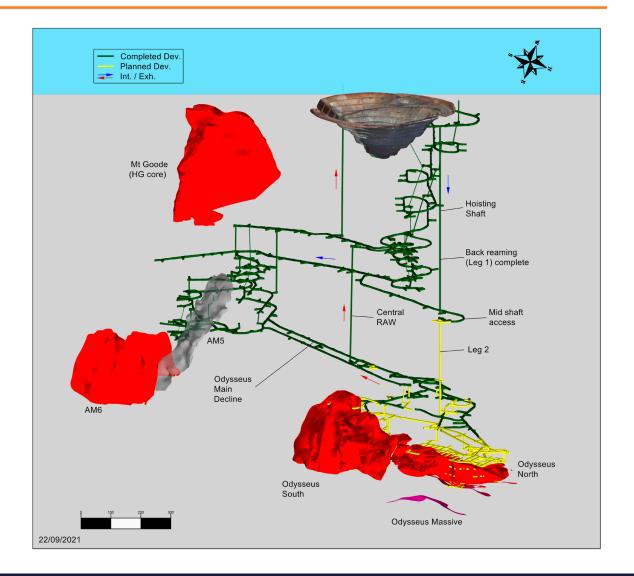




#### **Odysseus mine – underground development progress**

#### Pre-production Activities:

- First development ore intersected
- Back reaming of Leg 1,630m @ 5.7m D complete
- Winder house construction well advanced
- Odysseus decline development advanced 3km, now above the Odysseus orebodies
- Pre-production mine development capex expenditure profile:
- FY22 A\$160m; FY23 A\$55m
- WSA is fully funded with cash and agreed debt facilities





### **Odysseus first development ore**

- First development ore on L15 in Odysseus south orebody
- Potential for toll treatment







### **Odysseus hoisting shaft leg 1 raise bore breakthrough**

- Completed length of 630m, 5.7m diam no issues
- Laser survey completed indicating that shaft verticality is within the 200mm tolerance
- LIDAR survey commenced (3-D hole)
- Leg 2 pilot drilling to commence early November
- Shaft commissioning 2<sup>nd</sup> Q CY23





### Infrastructure works gaining momentum





### Infrastructure works gaining momentum





### Infrastructure works gaining momentum





### Why a hoisting shaft?

- Significant economical and environmental benefits versus trucking
- Combined with renewable power = energy efficient site, 85% reduction in CO<sub>2</sub>
- Low, consistent opex and proven technology
- Cycle time: ~3 mins
- Save 1.5 ML diesel burnt pa (DPM)
- Remove 5 MW of heat generated from diesel engines
- Remove minimum 200m<sup>3</sup>/s of additional ventilation requirement

#### **Key Metrics:**

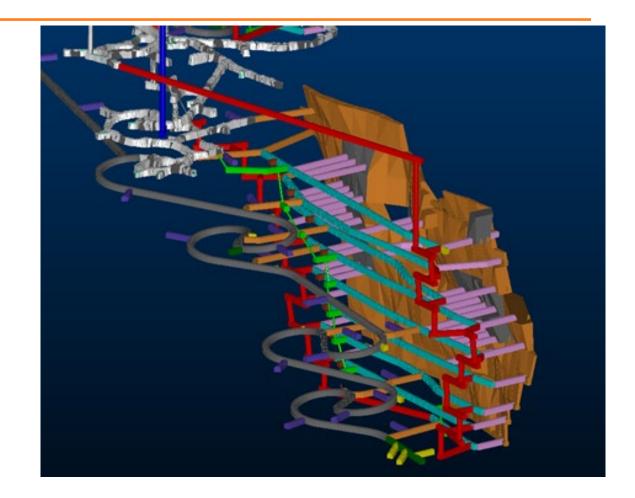
- 5.7m diam. raise bore
- 4 guide ropes per conveyance
- 1.27Mtpa (ore and waste)
- 12 t skips
- 1 truck required to feed shaft
- 4.5 MW peak power





### **AM6 Feasibility**

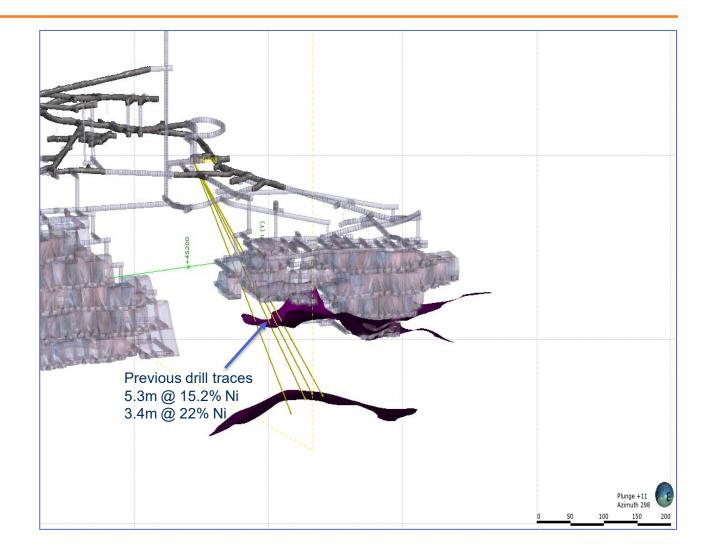
- Feasibility study
  - Very advanced
  - Improved mill recoveries from recent metallurgical work
  - Ore reserve 2.1mt @ 2.2% for 47kt nickel
  - Integration into the Odysseus production schedule
  - Increase mill capacity to 1.1Mtpa
- Mining
  - Accessed from existing decline
  - Utilises Odysseus shaft for ore haulage
  - Utilises Odysseus return ventilation circuit and dedicated fresh air intake
  - LHOS and paste fill
  - Top down-centre out mining sequence





### **Odysseus massive sulphide underground drilling**

- Existing resource of 0.19Mt @ 11.7% nickel
- UG drilling to commence this month
- Drilling to increase confidence of massive sulphide resource
- The underground drill site provides a perfect opportunity to use short holes to intersect the massive sulphide



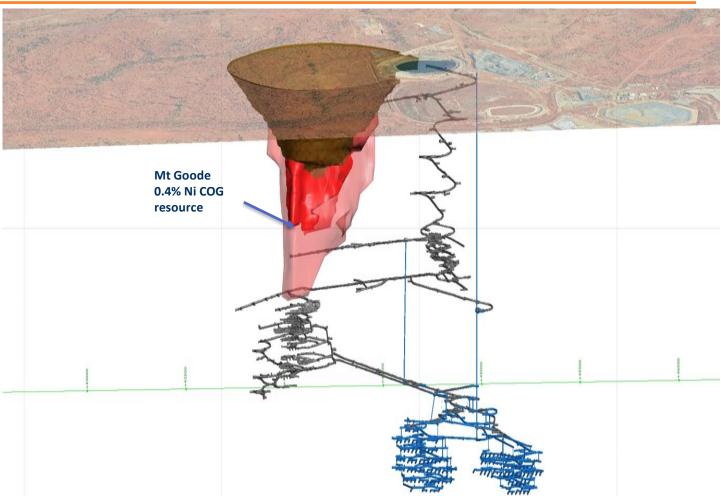


### Mt Goode scoping study underway

Resources	Tonnes (Mt)	Grade (Ni %)	Ni Tonnes (kt)	
Measured	13.6	0.8	105.8	
Indicated	27.4	0.6	158.7	
Measured + Indicated	40.9	0.7	264.5	
Inferred	12.0	0.5	62.4	
TOTAL	52.9	0.6	326.9	

#### Mining

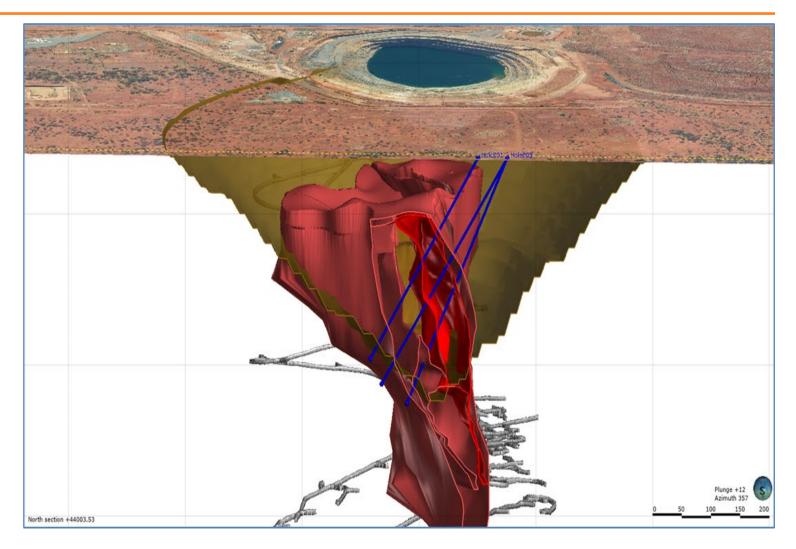
- Mining Scoping Study UG & OP
- Conventional truck and shovel open pit preferred mining option
- ~ 4Mtpa of ore
- Targeting early ore and deferral of waste stripping





### Mt Goode geometallurgical drilling

- 3 hole diamond drill programme to be undertaken in October 2021 for geometallurgical holes to support a PFS
  - Will correlate against historical resource data
  - Samples used for mineralogy testing, flotation and beneficiation studies
  - Technical review of Hydrometallurgy processing route to be undertaken

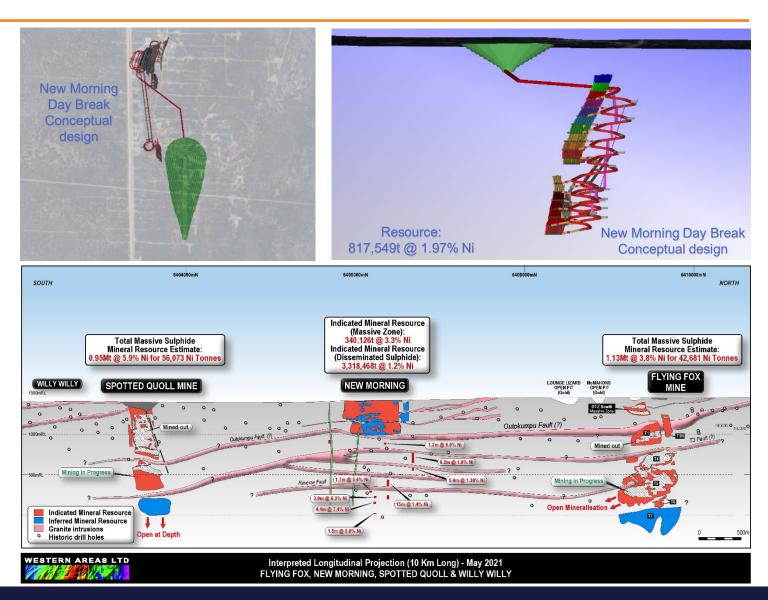




#### Forrestania nickel operation – opportunities

#### WESTERN AREAS' CURRENT OPERATIONAL HUB:

- Outstanding nickel address
- Total Resources of 307k tonnes of nickel
- Mining since 2005
- Established infrastructure
- Two operating mines Flying Fox and Spotted Quoll
- New project commissioning:
  - Scats Heap Leach
- Strong upside potential:
  - New Morning Daybreak
  - Diggers South

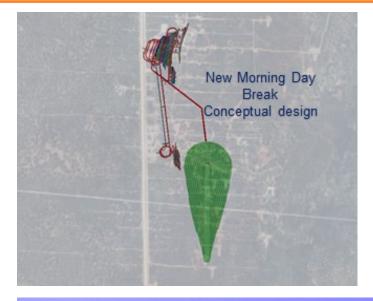


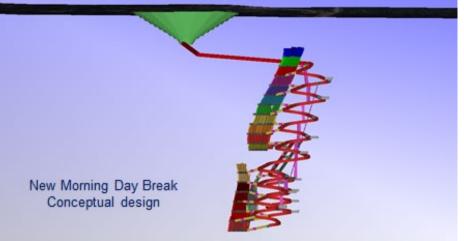


#### **New Morning Daybreak**

#### New Morning Daybreak

- Total Resource: 6.2Mt @ 1.4% Ni (88kt Ni)
- Underground opportunity:
  - 0.4Mt @ 2.2% Ni (10kt Ni) Mining Inventory
  - 0.7Mt @ 1.9% Ni (13kt Ni) Mining Inventory
  - 1.0Mt @ 1.6% Ni (17kt Ni) Mining Inventory
- Minimum 3 year LOM
  - 6 months development of box-cut and portal establishment
  - 4 months pre-production decline development
- Conventional processing in Cosmic Boy concentrator
- 83% recovery and 14% Ni in conc. grade based on historical test-work
- Key components of study being developed to Feasibility Study Level
- Current critical path items:
  - Permitting in progress with Federal EPBC







### **Heap leach**

- Recovering nickel from scats collected from the concentrator (~ 280kt @1.5% Ni), via heap leach process
- Commissioned a 20,000t demonstration sized heap leach (late April)
- Consists of three cells to test effects of water quality, pH and utilises the BioHeap process
- PLS collected will be pumped to the existing MREP sulphide precipitation circuit first product produced





#### **MREP unlocks value – mill scats heap leach project**



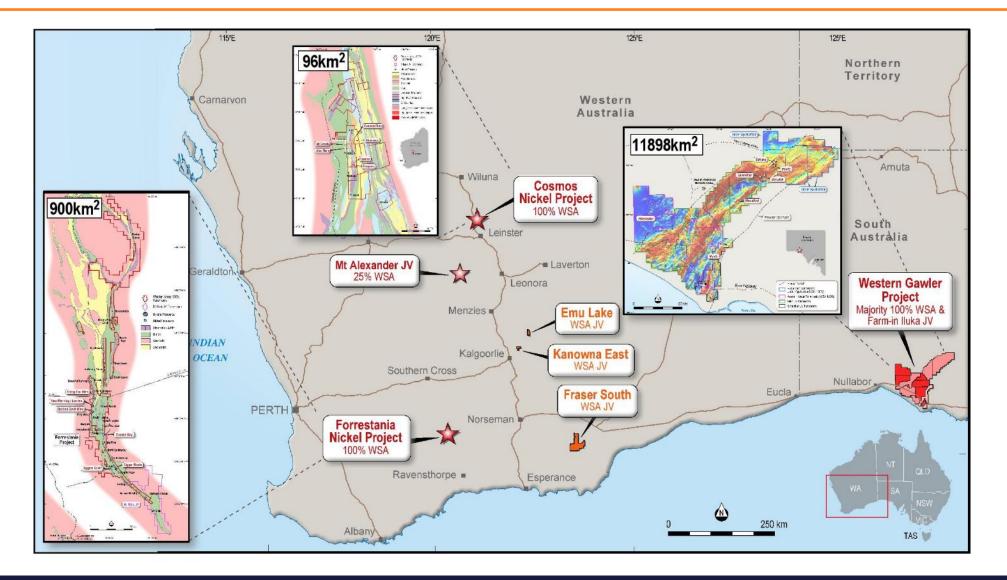




# EXPLORATION

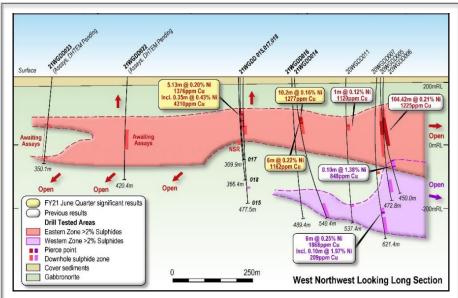


#### **Exploration - key tenement holdings**





### **Diverse Exploration Portfolio**

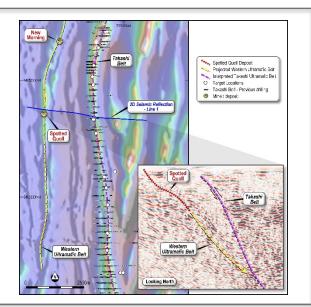


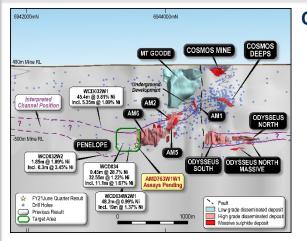
#### WESTERN GAWLER (ILUKA JV) - SAHARA

- Broad intervals of elevated nickel sulphides returned from maiden diamond hole (20WGDD005)
- 104.42m @ 0.21% Ni, 0.12% Cu
- Twelve holes completed in 2021
- Elevated accumulations of disseminated (>2%) sulphide now intersected in excess 750m along strike
- More sulphides confirmed at regional targets (Firefly, F1-7 South and F1-7 North) with follow-up drilling planned

#### FORRESTANIA – NEW Target Space

- Series of 2D Seismic survey lines completed in September 2020 west and north of Spotted Quoll Mine
- New structural interpretation suggests the Takashi Belt represents a thrust repeat of the fertile Western Ultramafic Belt
- RC drilling completed (June July) testing this underexplored new target area, with numerous ultramafic intervals intersected and assays pending.





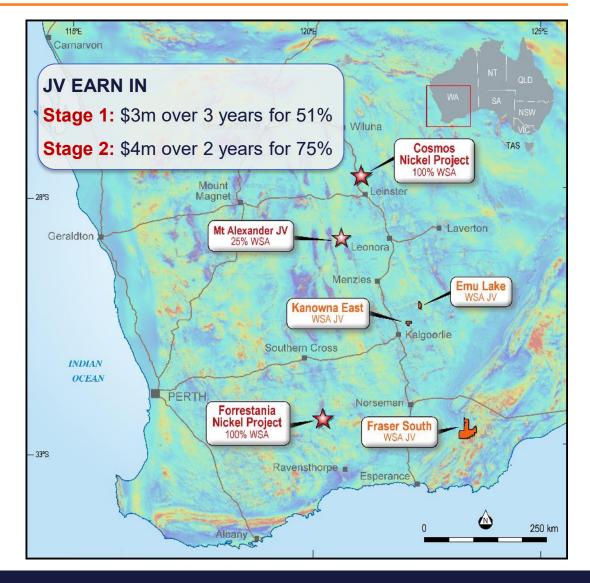
#### COSMOS

- Centred within the prolific Leinster Wiluna Nickel corridor
- Significant exploration upside identified along 9km of prospective ultramafic host sequence
- Recent underground exploration drilling completed with mineralisation identified south of the Alec Mairs (AM6) resource confirmed
- Future underground drilling will aim to unlock the full potential south of AM6

### **Metal Hawk JV**

- Western Areas has entered into a strategic partnership with Metal Hawk Ltd on highly prospective base metals tenure within both the Eastern Goldfields and Albany – Fraser
- Kanowna East (earning in to all non-gold rights)
  - 10km south of high-tenor Silver Swan complex
- Emu Lake (earning in to all non-gold rights)
  - Along strike from Binti Binti Nickel prospect
- Fraser South (earning in to all mineral rights)
  - Southern, underexplored structural continuation of Albany-Fraser

A regional geological reconnaissance air core program commenced in August at Emu Lake, designed to further delineate ultramafic stratigraphic horizons prospective for hosting nickel sulphide mineralisation.





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