

**WESTERN AREAS LTD**



# **DIGGERS & DEALERS PRESENTATION**

7 AUGUST 2018

[www.westernareas.com.au](http://www.westernareas.com.au)



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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 and Mr Orunesu-Preiata are members 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.

# AGENDA



Corporate



Nickel Market



Growth Strategy



Operations



Exploration

# CORPORATE OVERVIEW

ASX code	WSA
Share price	3.34
Shares outstanding (m)	273.5
Market Cap (A\$m) <sup>1</sup>	913.5
Cash (A\$m) <sup>2</sup>	151.6

## COSMOS Complex

592kt Ni resources  
PFS complete  
DFS nearing completion

## FORRESTANIA

### Flying Fox

10.0kt Ni mined FY18  
29.2kt Ni reserves  
88.9kt Ni resources

### Spotted Quoll

14.4kt Ni mined FY18  
71.9kt Ni reserves  
105.3kt Ni resources



High  
Quality

Low Cash Cost  
Nickel Sulphide  
High Grade

No Debt

\$151.6M at bank<sup>2</sup>

Strong  
Growth

DFS for new mine at  
Odysseus  
MREP project  
New Morning

Nickel  
Leverage

A\$1/lb lift in nickel = circa  
A\$30M EBITDA

1. Based on share price on 1 August 2018    2. As at 30 June 2018

# SHORTS, WHAT SHORTS?

- Hit number 1 shorted stock mid July 2017
- Now just over 1% short and not in the top 100
- How and why:
  - ✓ A negative view on nickel is now a very positive view
  - ✓ Continued to meet our targets
  - ✓ Demonstrate organic growth
  - ✓ Engaged and worked with institutional investors on policy





# **NICKEL MARKET – SUBSTANTIAL STRUCTURAL CHANGE PREDICTED**



# WHAT WE ARE SEEING

- **Significant increase in inbound off-take enquiries** for the MREP product and Nickel Sulphide concentrate, post expiry of current contract period, primarily linked to the Electric Vehicle battery sector
- **Our partner, China's largest stainless steel producer, Tsingshan,** has strong growth plans which will require significant additional nickel units – **reinforcing industry wide trend**
- **Technology change to NCM 811 batteries** requires an increased quantity of Nickel
- **Current nickel price too low** to incentivise new project development. New mine development can take >3 years – the nickel “pie” is not expanding fast enough
- **May see divergent market in nickel supply** emerging between stainless steel and EV
- **LME and other stockpiles shrinking** on the back of current stainless demand



Estimated electrification impact per vehicle (avg NMC battery)

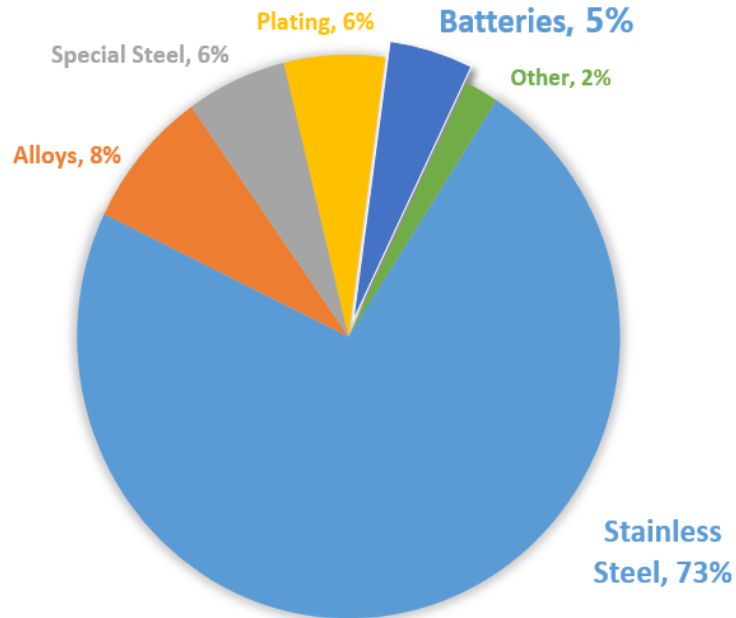
40-50kg <b>Ni</b>	50-75kg <b>Cu</b>
5-15kg <b>Co</b>	+ Cu for charging point + Cu for grid access

1 Year LME Nickel Warehouse Stocks Level



# STAINLESS STEEL STILL THE KING..... FOR NOW

## Nickel End Market Demand - 2017



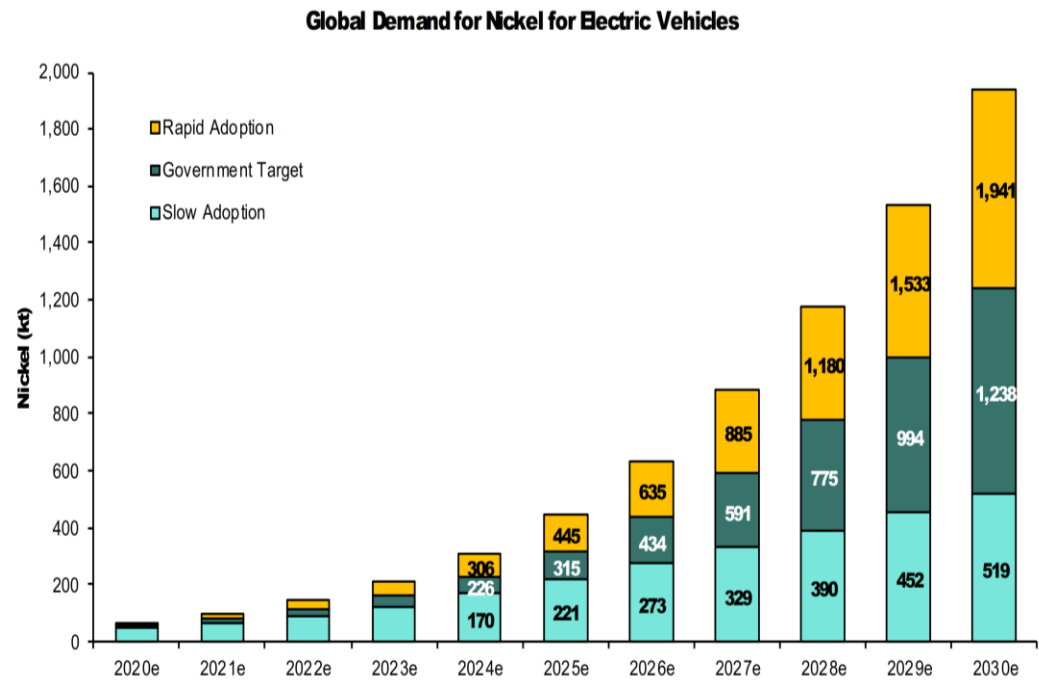
Source: Bernstein - June 2018

- Stainless steel still the main demand driver.
- Nickel demand from EV battery sector could run to 440kt by 2025, against a current total nickel market of 2,200kt.
- Stainless still demand also predicted to increase.
- Becoming apparent that the nickel market is now looking differentiated.
- Nickel sulphate is the most suited to battery sector, and primary nickel source most suited to this is nickel sulphide.



# FUTURE ELECTRIC VEHICLE DEMAND FOR NICKEL

- Potentially very significant incremental demand versus a current nickel market size of c.2,200kt
- Research indicates that NMC 811 to be the fastest growing battery combination by 2025!



Source: Bernstein - June 2018

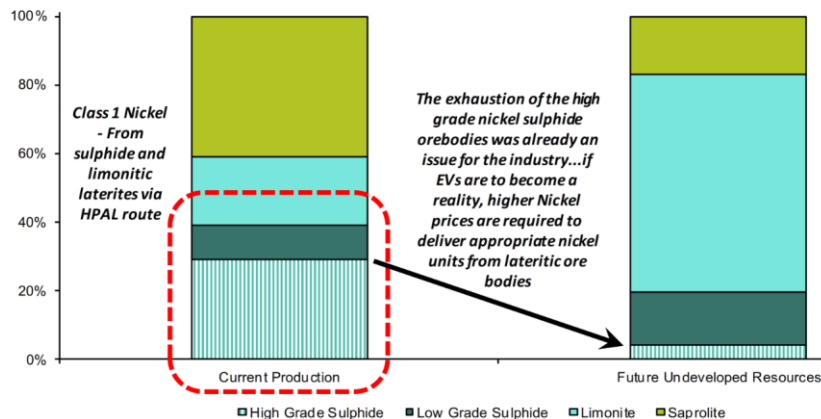
# CHEMISTRY FAVOURS NICKEL SULPHIDE FOR BATTERIES

... but there is very little Nickel sulphide left to be developed

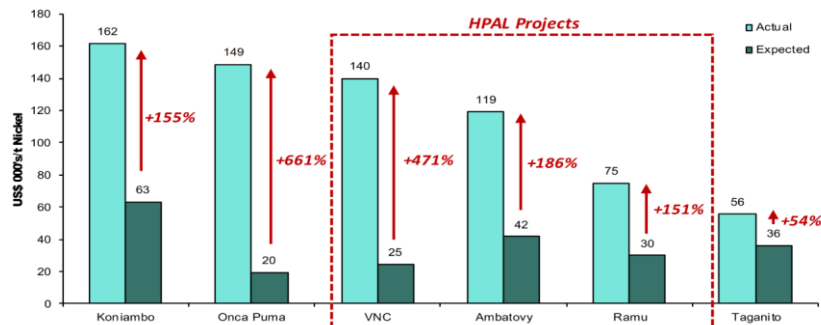
... and laterites via HPAL are serial disappointments

Source: Bernstein

Nickel Production By Ore Type



Recent Significant Nickel Projects - Actual vs. Expected Capital Intensity



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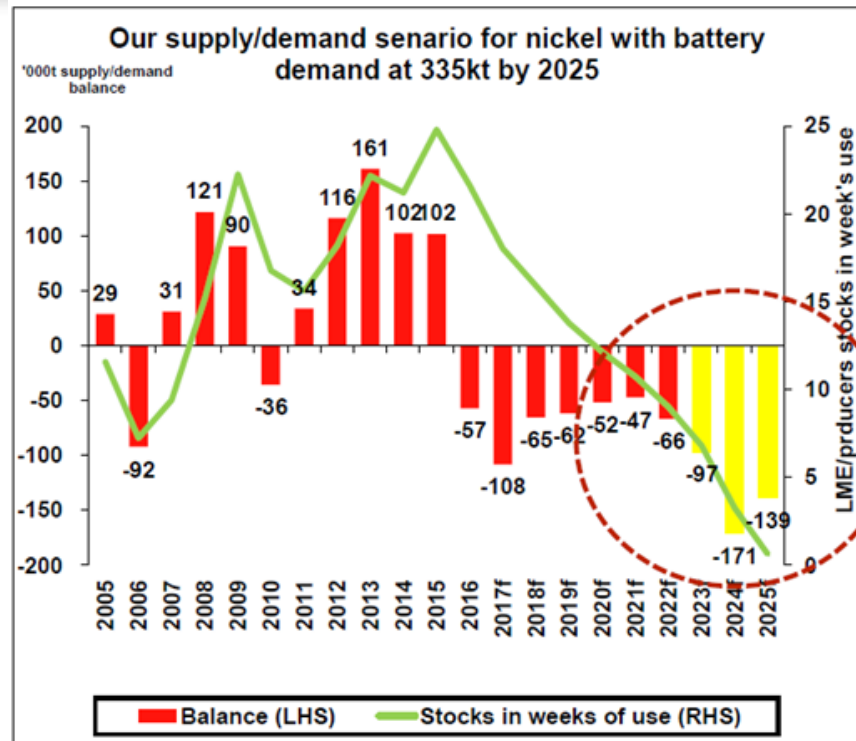
# NICKEL DEFICITS ON THE HORIZON!

Two successive sizeable nickel market deficits, both this year and in 2019, combined with **expectations for continued deficits** through the first half of the 2020's ... point to a **necessity for higher prices**.

*Deutsche, July 18*

There is **consensus** from within the industry, nickel trade bodies and industry consultants, **that the market is in deficit**.

*Bernstein, June 18*

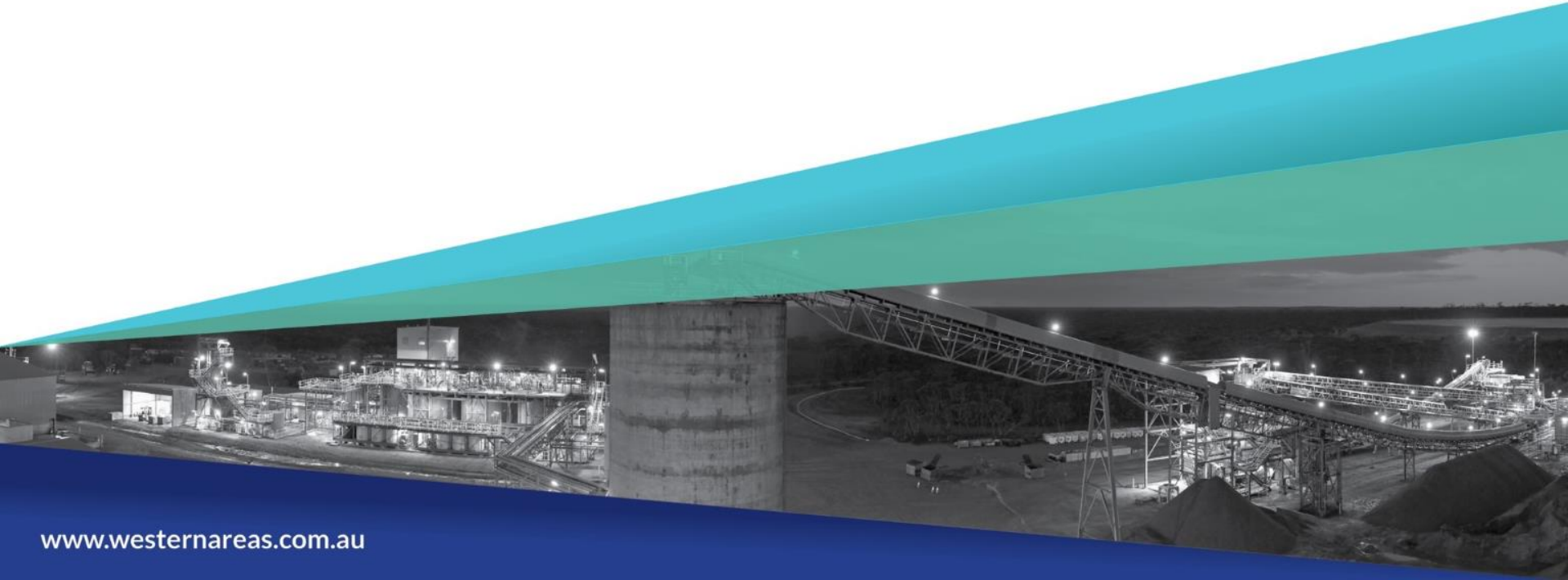


Source: CRU, INSG, Macquarie Research, October 2017

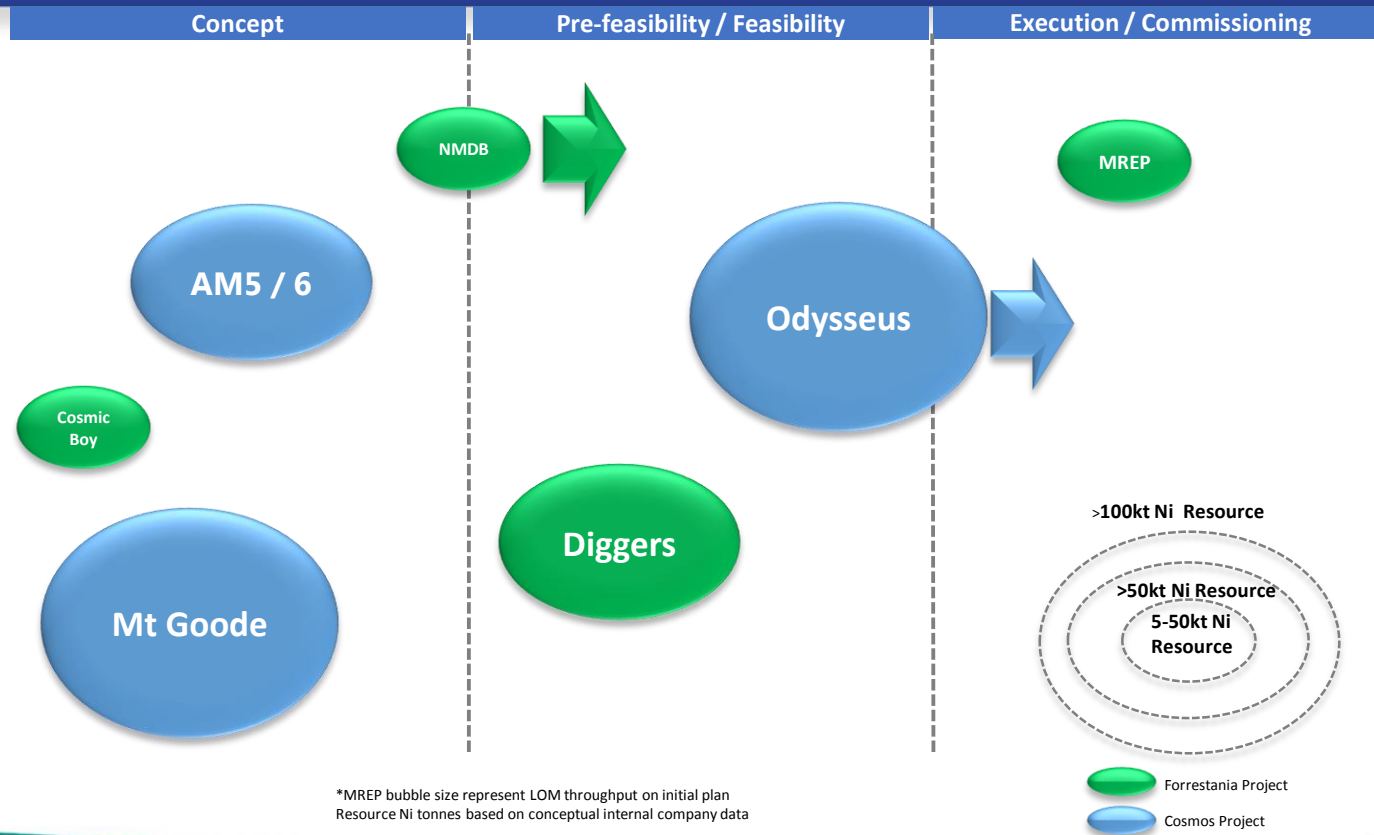
We expect the nickel market to **remain in deficit beyond 2018**, and we believe **higher prices** are required to incentivise new supply to keep up with demand growth.

*J.P. Morgan, July 18*

# GROWTH – TAKING ADVANTAGE OF THE NICKEL OPPORTUNITY



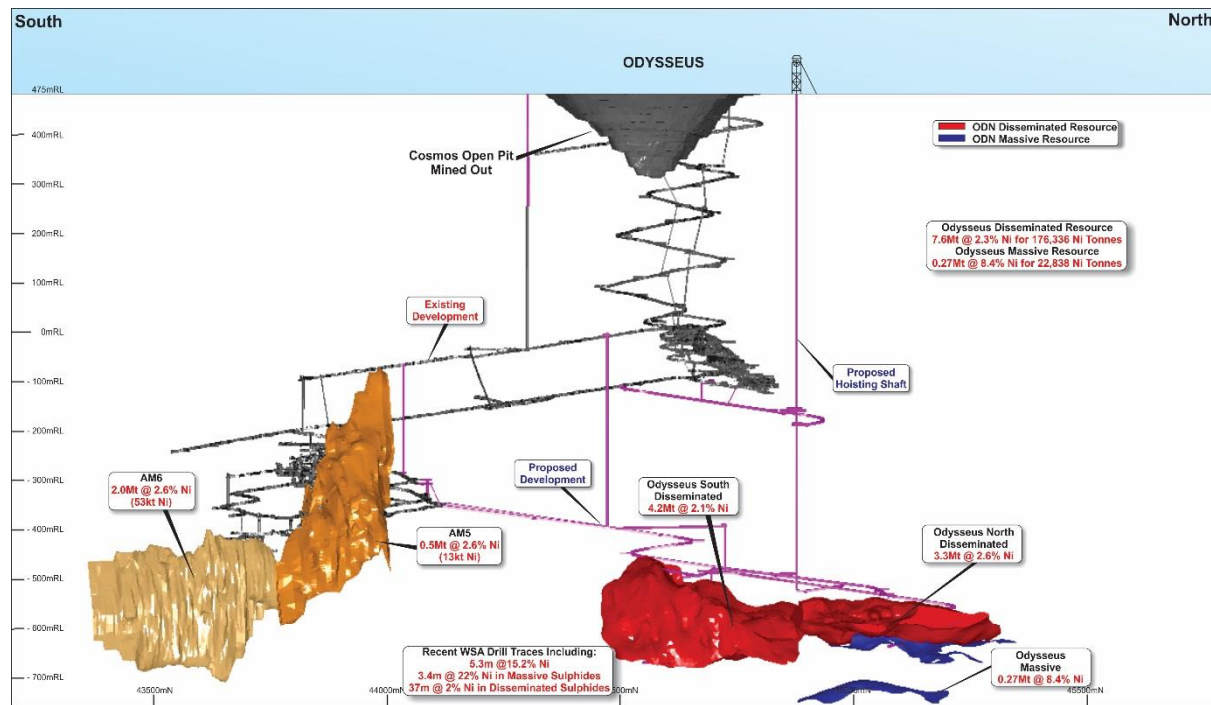
# NICKEL GROWTH PIPELINE



# COSMOS – ODYSSEUS – NOW A LARGER PROJECT

## Western Areas Second Operational Hub

- Mine life > 10 years
- Once ramped up, average nickel production >12.5ktpa
- DFS scheduled for release in September CY18
- **Pre-production capex to include:**
  - ✓ Shaft haulage
  - ✓ Larger mill (900ktpa immediately)
- **18 month early works program (A\$32m):**
  - ✓ 2 new water management ponds
  - ✓ Dewatering open pit
  - ✓ Underground rehabilitation
- **Significant exploration upside:**
  - ✓ AM5 and AM6 orebodies
  - ✓ Record massive sulphide intersections
  - ✓ Regional drilling success at Neptune





# \$32 MILLION IN EARLY SITE WORKS UNDERWAY

## *Eighteen-month program ...*

- Evaporation pond refurbishment and 2 new ponds - construction commenced
- Mine camp (520 rooms) upgrade commenced
- De-watering underway – Cosmos open pit
- Decline rehabilitation to 500m below surface
- Schlumberger high capacity submersible pump to accelerate de-watering

*... bringing Odysseus to development ready status*



# MILL RECOVERY ENHANCEMENT PROJECT (MREP)

*Produces new higher-grade product (45%-50% Ni)*

*Generating value from waste tailings*

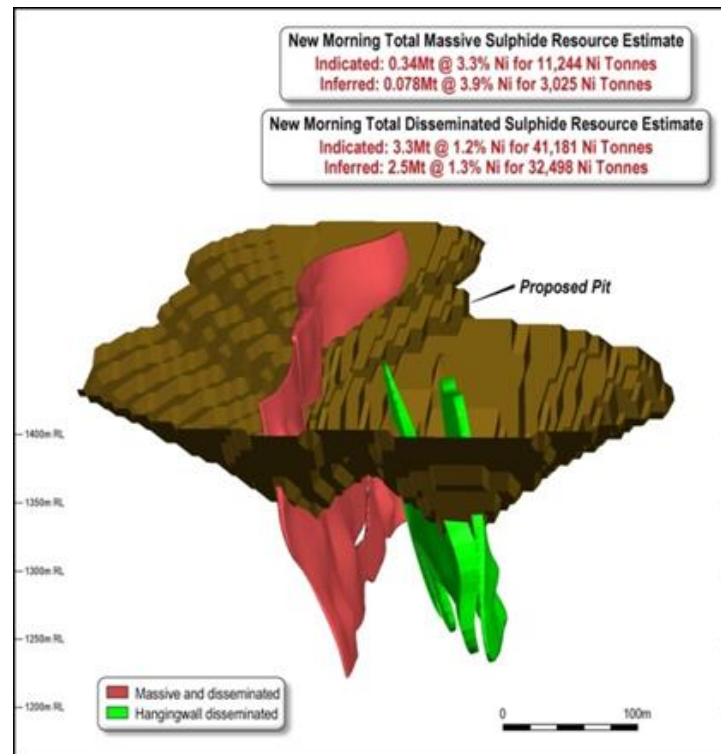
*New customers - EV battery market*

- Utilises BioHeap® process to leach waste tailings
- Now commissioned, producing product to specification
- Construction of separate bagging facility for high grade product (for EV market offtake) underway. Due for completion Sep Q
- Back-end of plant capable of up to 4,000t of nickel pa – New Morning to potentially provide feed into the future

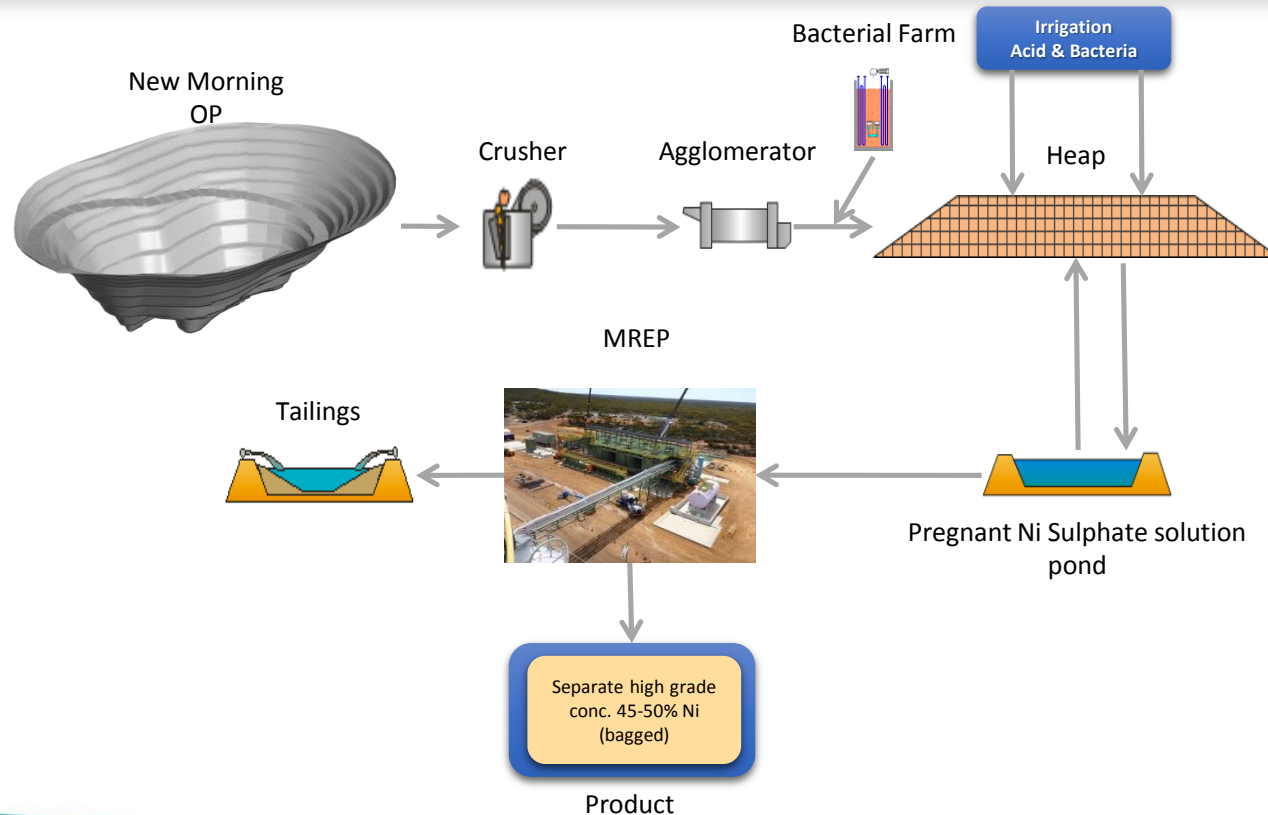


# NEW MORNING / DAYBREAK

- Open Pit Scoping Study commenced – utilising MREP capacity
- **Massive sulphide resource of 418kt @ 3.6% for 14,269 nickel tonnes**
- **Low grade resource (at 0.5% Ni COG) of 5.8m tonnes @ 1.3% for 73,679 nickel tonnes**
- Located 2.5km from Flying Fox and 2.8km from Spotted Quoll
- BioHeap® test work ongoing to evaluate heap leach criteria



# CONCEPTUAL NEW MORNING NICKEL FLOWSHEET



# OPERATIONS

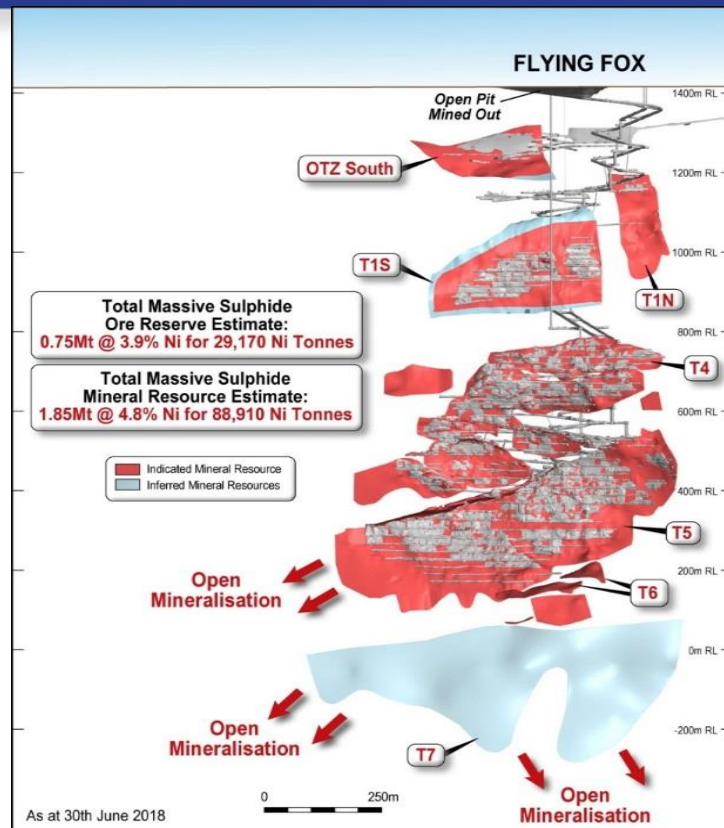


# FLYING FOX MINE

Reserve Contained nickel	0.75Mt @ 3.9% 29,170 Ni tonnes
Resource Contained nickel	1.85Mt @ 4.8% 88,910 Ni tonnes
Mine life (on reserves)	3-4 years

## Key points

- FY18 production – 10,054 Ni tonnes
- Added OTZ South Massive Zone – 182,898t @ 4.1% Ni for 7,417 nickel tonnes
- Recent resource extension drilling into T6 domain has been encouraging, **including 8.0m @ 10.7% Ni**
- Has been operating for over 12 years
- Low grade disseminated resource – Heap leaching opportunity



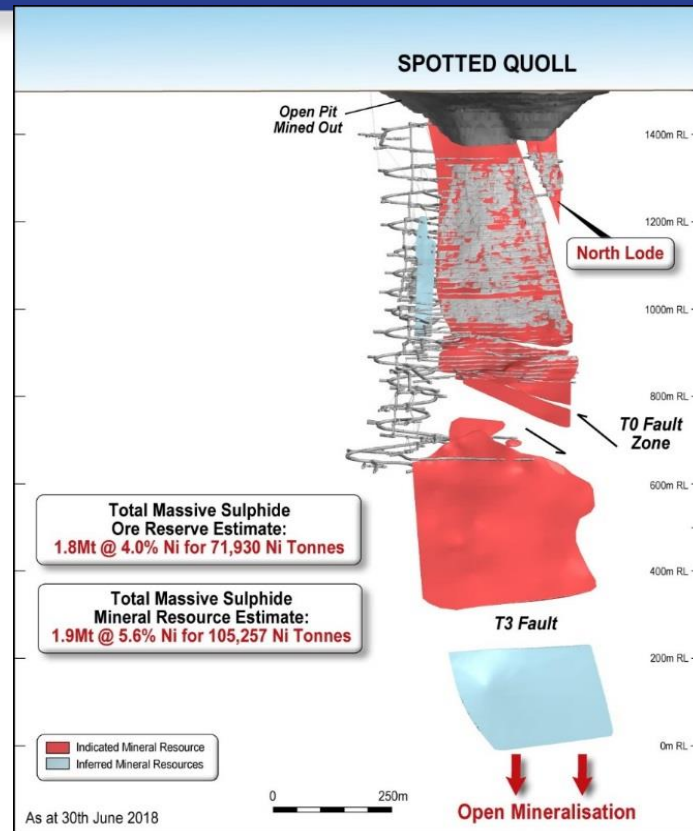


# SPOTTED QUOLL MINE

Reserve Contained nickel	1.8Mt @ 4.0% 71,930 Ni tonnes
Resource Contained nickel	1.9Mt @ 5.6% 105,257 Ni tonnes
Mine life	7 years

## Key points

- Has never recorded an LTI
- FY18 production – 14,388 Ni tonnes
- Remains open at depth and to the North
- First resource drilling since original reserve to commence FY19
- Production has outperformed reserve tonnes and grade consistently



# COSMIC BOY NICKEL CONCENTRATOR

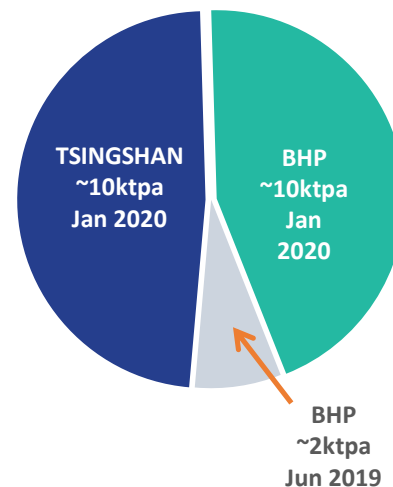
## Concentrator Summary

- Mill processed 616,598 tonnes of ore in FY18, for 21,060 nickel tonnes
- Concentrate grades of between 15.0% to 16.0% Ni
  - **Premium blending product (Fe/Mg ratio >15:1)**
  - Desirable to smelters and roasters

## Export Infrastructure and Logistics

- Export concentrate transported to Esperance Port in containers and shipped through to China
- BHP Nickel West concentrate delivered to Kambalda by road

## Offtake Contracts



WSA produces a high quality and in demand nickel concentrate

# EXPLORATION- A GROWING PORTFOLIO



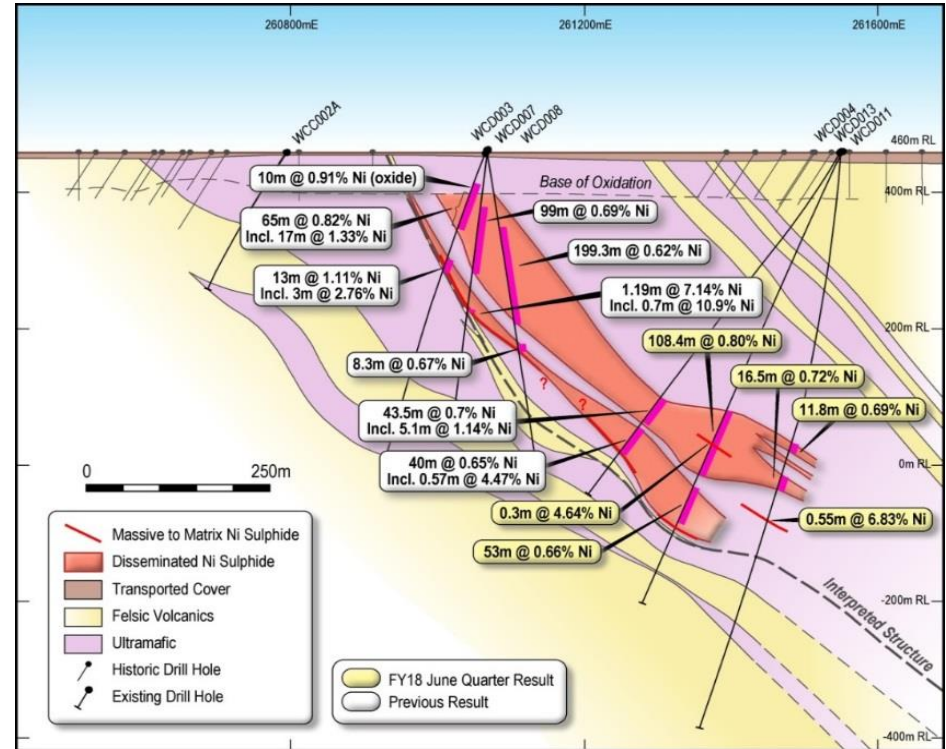
# COSMOS EXPLORATION

## Drilling Results - Neptune

- Phase 2 drilling campaign at Neptune well advanced with mineralisation confirmed over 1km along strike including;
  - ✓ 108.4m @ 0.8% Ni, including 0.3m @ 4.64% Ni
  - ✓ 16.5m @ 0.72% Ni; and
  - ✓ 0.55m @ 6.83% Ni

## Drilling Results - Odysseus

- Very high grade drill results at Odysseus North, extension to project resource
- Significant exploration upside:
  - ✓ AM5 and AM6 orebodies (53kt of contained nickel)
  - ✓ Recent massive sulphide drilling success beneath Odysseus
  - ✓ Opportunities for a roasting concentrate



# WESTERN GAWLER PROJECT

## Prospective Greenfields Exploration Asset

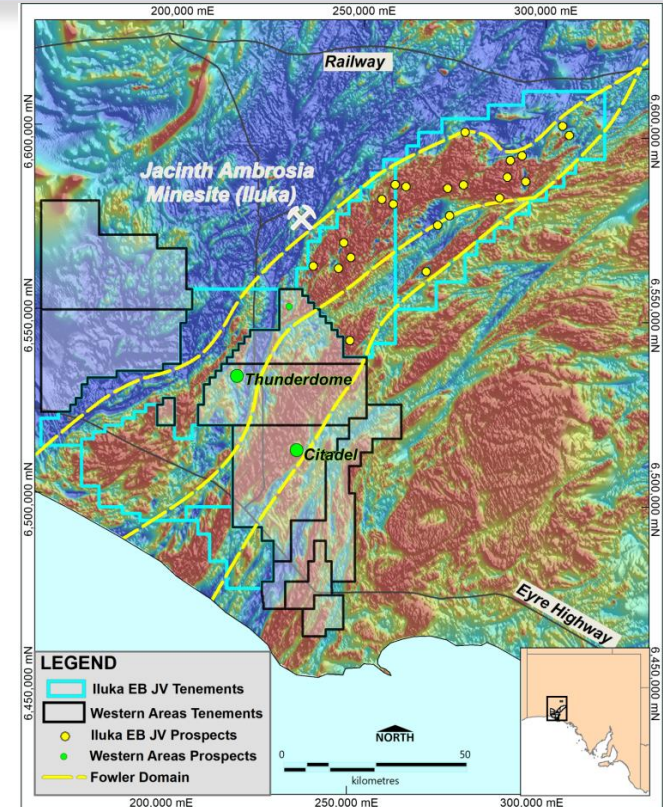
- 4,450km<sup>2</sup> WSA tenement holding
- Ramp-up of exploration activities across FY18
  - 217 drill holes
  - 149 line kilometers of Moving Loop EM ground surveys
- Regional scale SkyTEM airborne EM survey completed in early FY19
- Identification of Thunderdome as emerging prospective corridor hosting numerous mafic intrusions

## Strategic agreement with Iluka

- Five tenements covering an additional 5,070km<sup>2</sup>
- Two stage Farm-in earning up to 75% base and precious metals rights
- Effectively representing close to 100% of the highly prospective Fowler Domain

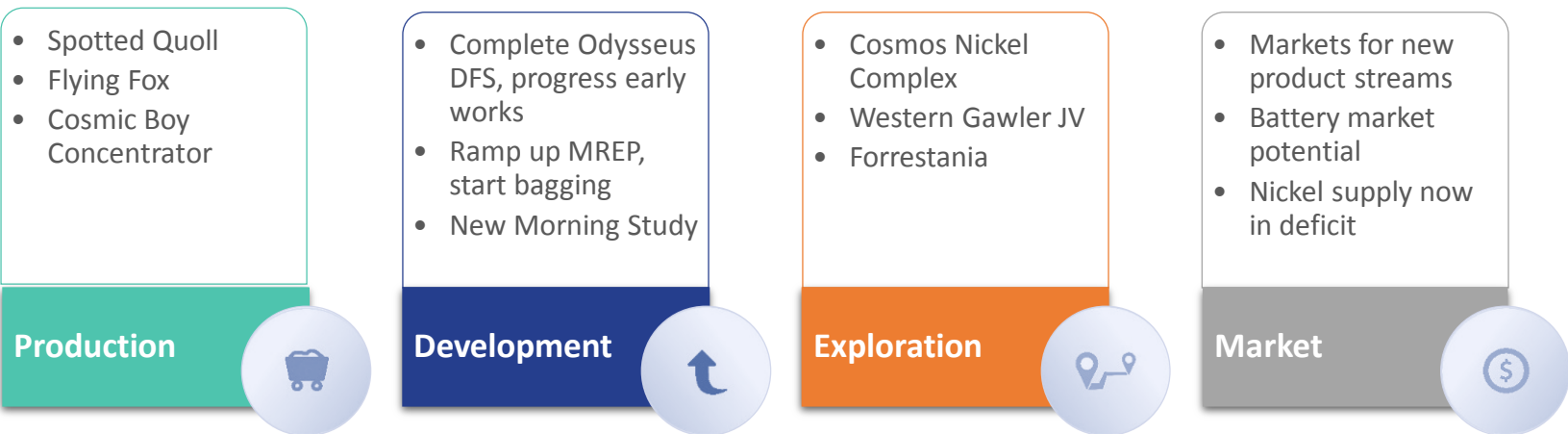
## Ramp-up of Exploration Activity

- Elevated funding support in FY19
- Integrated series of belt scale exploration campaigns planned
- Strong pipeline of targets identified





# THE YEAR AHEAD

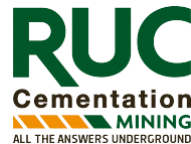




# THANK-YOU



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