

**WESTERN AREAS LTD**



# CORPORATE PRESENTATION

OCTOBER 2017

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





# AGENDA

Corporate



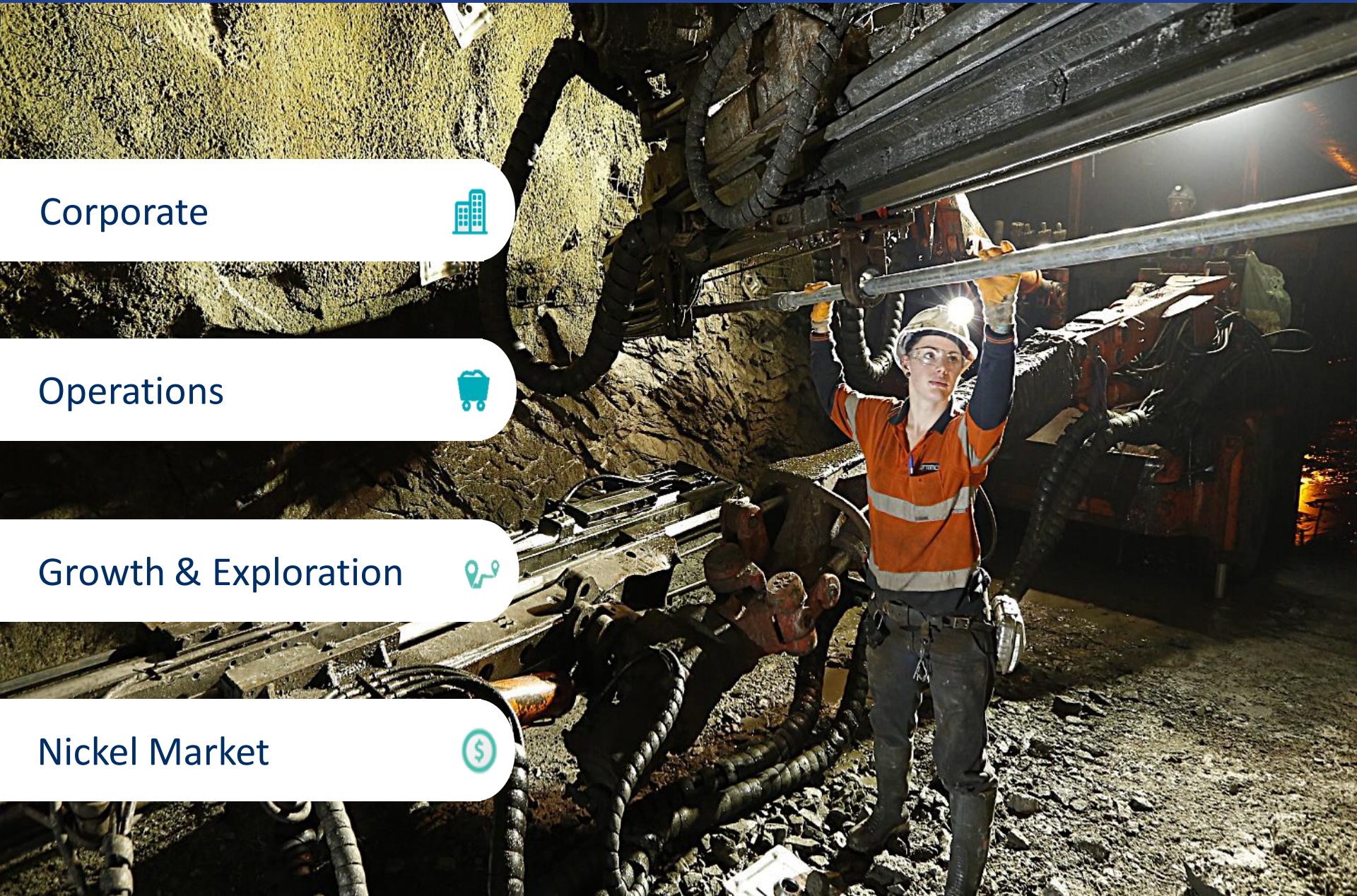
Operations



Growth & Exploration



Nickel Market





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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.

# CORPORATE



# CORPORATE OVERVIEW

## High quality assets

- Highest grade, low cash cost nickel producer
- Free cashflow positive

## No debt, clean balance sheet, low costs

- Low unit cash cost producer
- A\$131.9m cash at bank

## Organic growth options and innovation

- Exciting exploration hits
- Odysseus DFS and Mill Enhancement project

## Positioned for nickel recovery

- A\$1/lb lift in nickel price = circa A\$35m EBITDA
- New and improved offtake contracts implemented

ASX code	WSA
Share price	3.06
Shares outstanding (m)	272.2
Market Cap (A\$m) <sup>1</sup>	832.9
Cash (A\$m) <sup>2</sup>	131.9

### Cosmos Nickel Complex

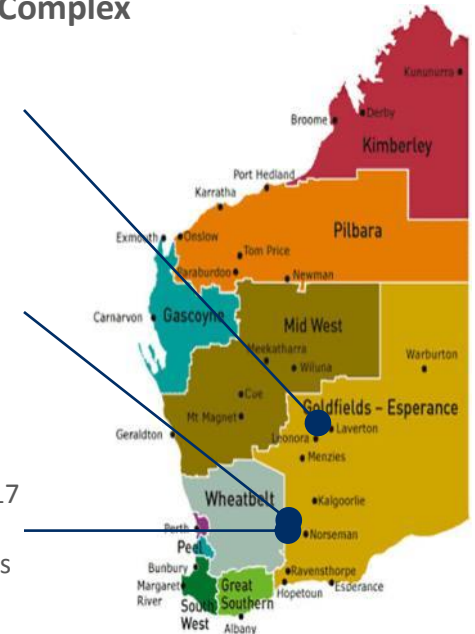
592kt Ni resources  
PFS complete  
DFS underway

### Flying Fox

10kt Ni mined FY17  
38kt Ni reserves  
99.8kt Ni resources

### Spotted Quoll

15.5kt Ni mined FY17  
85.6kt Ni reserves  
118.6kt Ni resources

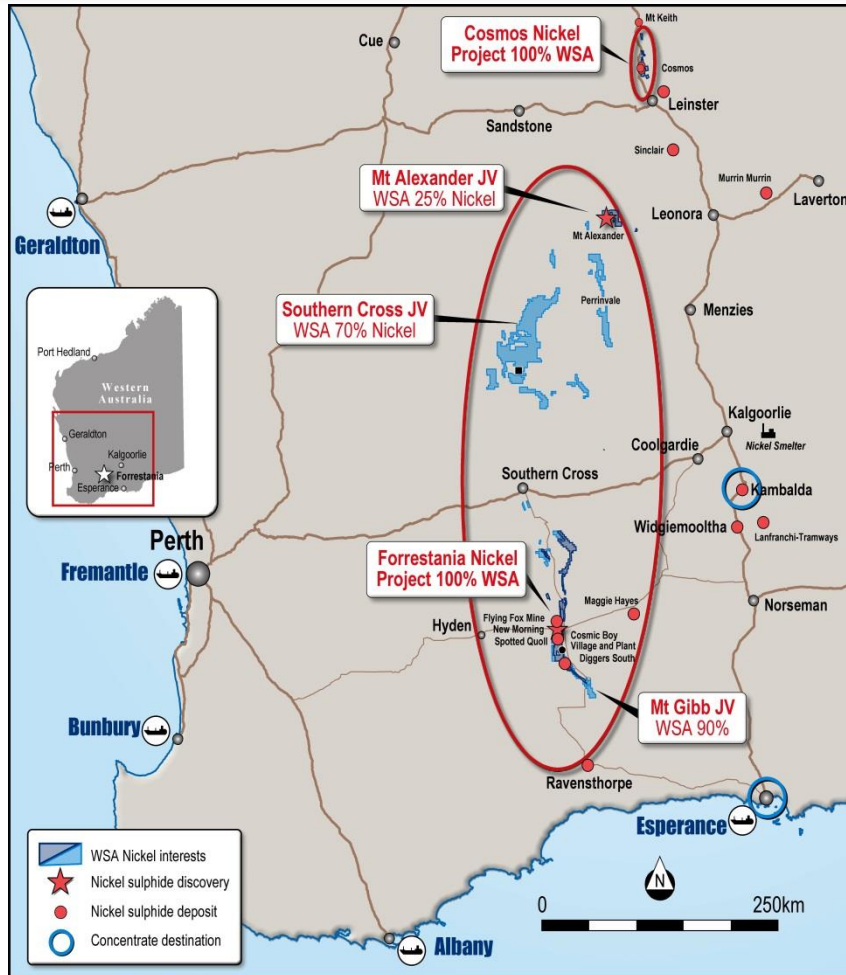


A leading mid-tier base metal producer

1. Based on share price on 19 October 2017 2. Cash as at 30 September 2017



# LOCATION – EASILY ACCESSIBLE SITES



Lounge Lizard 10m wide face of 7% Massive Nickel Sulphide



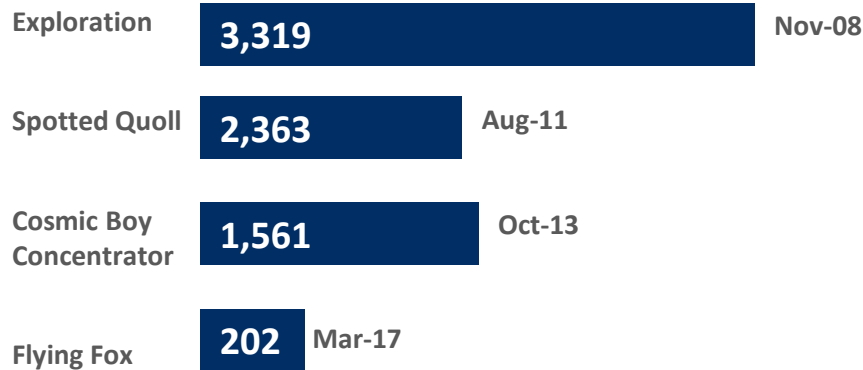
Spotted Quoll face at average 10.6% Nickel Sulphide

Premier and stable mining district with high quality mines growth options

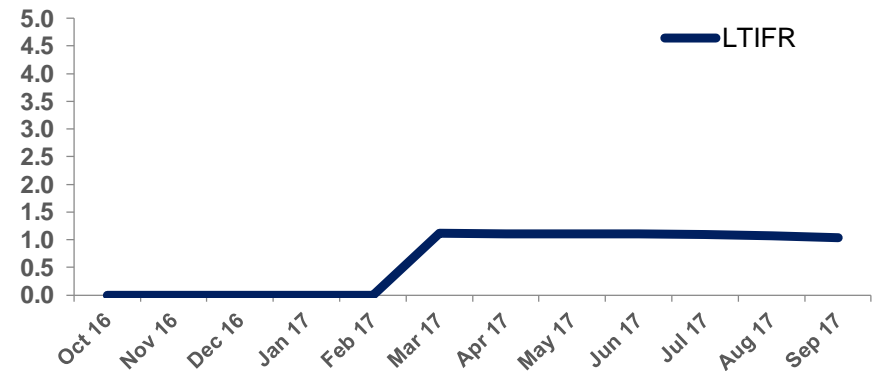
# WESTERN AREAS ARE SAFE AREAS



Days LTI free



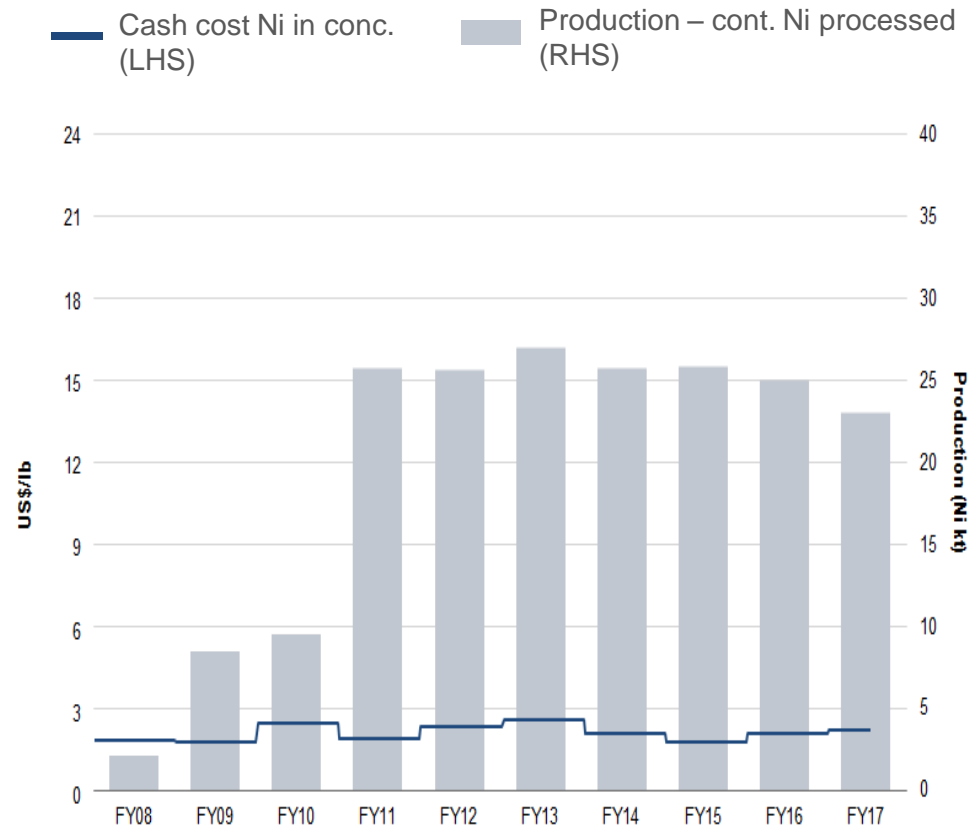
12 month LTIFR moving average



Safe operations make efficient operations

# CONSISTENT DELIVERY

- Seven years delivering or exceeding guidance
- Remain debt free
- Consistent low cost producer
- Mill performs well above nameplate capacity
- Ore sorter initiative
- Innovation – ‘pinch valve’ and mining optimisation at SQ



A management team that consistently delivers on guidance



# KEEPING ACTIVE IN A VOLATILE MARKET

*Innovation, adding value, finding new opportunities, doing things differently...*

New and improved  
offtake deals

MREP – a new,  
higher grade and  
value product  
stream

Advancing Cosmos  
– a third potential  
mine

Greater operational  
efficiency

Lithium  
investments

Value from non-  
core assets

*Delivering on our promises...*

Targets	Completed
Offtake contracts	✓
Cost control	✓
Prudent capital management	✓
Innovation	✓
Building our portfolio	✓
New products and markets	✓

# FY18 GUIDANCE

Category	FY18 Guidance
Mine Production (Nickel tonnes in Ore)	23,500 to 25,000
Nickel tonnes in Concentrate Production	21,500 to 22,500
Unit Cash Cost of Production (Nickel in Concentrate)	A\$2.40/lb to A\$2.65/lb
Sustaining and Mine Development Capital Expenditure*	A\$30.0m to A\$36.0m
Mill Recovery Enhancement Project (MREP)	A\$14.0m
Feasibility Studies	A\$3.0m
Exploration	A\$12.0m

\* Includes Spotted Quoll ventilation shaft completion and mechanical fit-out (A\$5.8m)

## Comments

- Focus is on value, not volume, using a nickel price assumption similar to the current spot price
- FY18 top end guidance for mine and concentrate production close to FY17 actuals
- Spotted Quoll contributes around 60% of production in FY18
- The lower end of FY18 guidance for unit costs is slightly lower than Q4 FY17 actual (A\$2.42/lb)
- Spotted Quoll decline capital back to normal rates. Flying Fox capex <A\$3.0m
- MREP commissioned in Q3 FY18 adding around 350 nickel tonnes for FY18
- Feasibility costs mainly relate to Odysseus DFS
- Exploration budget encompasses Cosmos, Western Gawler and Forrestania (with expenditure allocated to Flying Fox Resource conversion and mine life extension)
- Next guidance update planned to be with the half-year results release in February 2018

# OPERATIONS



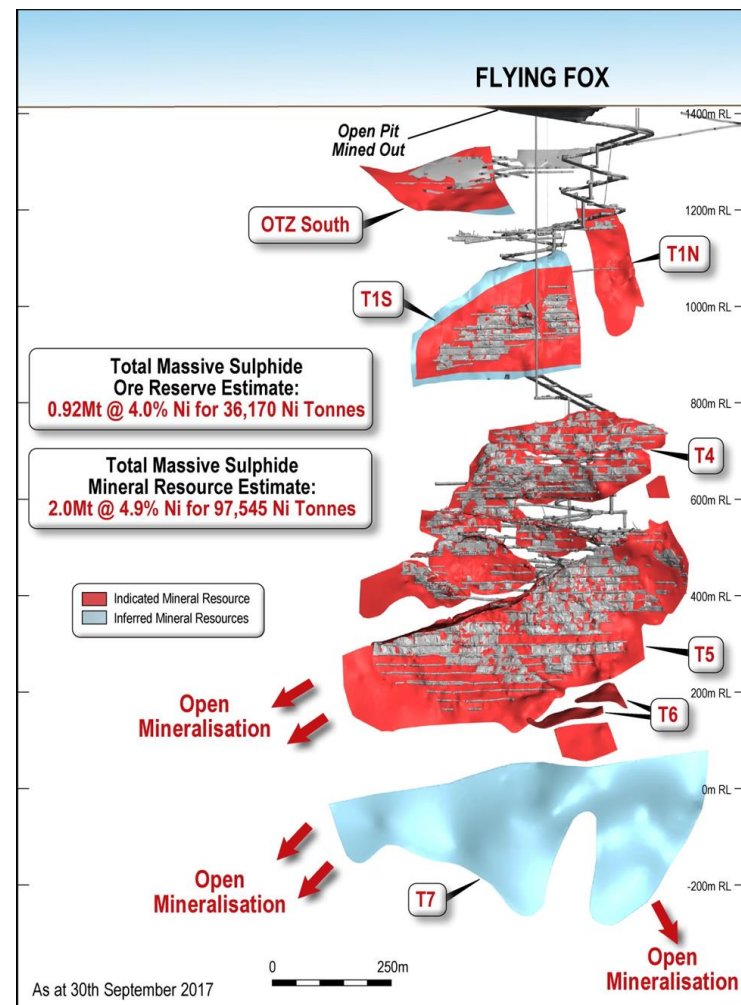


# FLYING FOX MINE

Reserve Contained nickel	0.92Mt @ 4.0% 36,170 Ni tonnes
Resource Contained nickel	2.00Mt @ 4.9% 97,545 Ni tonnes
Mine life (on reserves)	4 years

## Key points

- FY17 production – 10,486 Ni tonnes
- **RESOURCE LIFE – 10 YEARS**
- 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



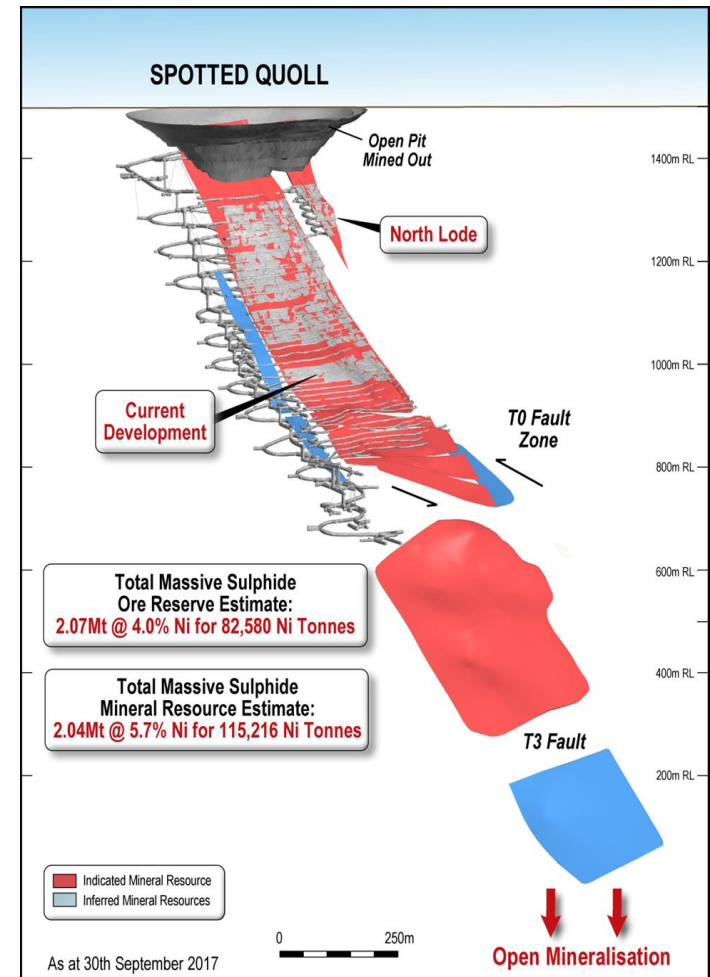
WSA foundation asset within Forresteria

# SPOTTED QUOLL MINE

Reserve Contained nickel	2.07Mt @ 4.0% 82,580 Ni tonnes
Resource Contained nickel	2.04Mt @ 5.7% 115,216 Ni tonnes
Mine life	7 years

## Key points

- March Mineral Resource upgrade +12,650 nickel tonnes
- Has never recorded an LTI
- FY17 record annual production – 15,510 Ni tonnes
- Remains open at depth and to the North
- Production has outperformed reserve tonnes and grade consistently
- Top down mining with paste fill



WSA Explored, Discovered and Developed

# COSMIC BOY NICKEL CONCENTRATOR

## Concentrator Summary

- Mill processed an annual record of 617,808k tonnes of ore in FY17, for 23,005 nickel tonnes
- 12% above name plate capacity of 550,000 tpa
- 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 half height containers and shipped through to China
- BHP Nickel West concentrate delivered to Kambalda by road



WSA produces a high quality and in demand nickel concentrate



# NEW AND IMPROVED OFF-TAKE CONTRACTS

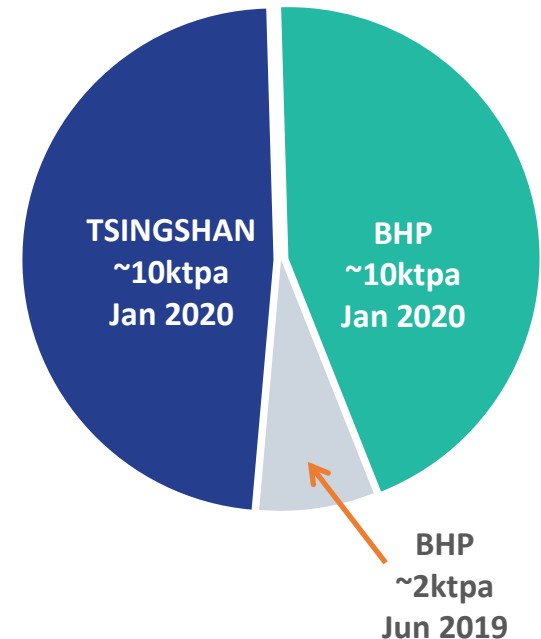
*Opening new markets*

*Superior commercial terms*

*Creating more value from the same nickel product*

## Our Partners:

- **BHP:** 55%
- **Tsingshan:** 45%
- ✓ China's largest stainless steel producer
- ✓ Consumes ~25% of China's nickel demand
- ✓ Revenue RMB85 billion in 2015, 20k employees



## Roasting

- Creates a high grade nickel oxide that can be blended with laterite ore
- By-product of sulphuric acid for 'pickling' stainless steel
- Most concentrates do not suit roasting
- Proven process - opening up opportunities with Tsingshan

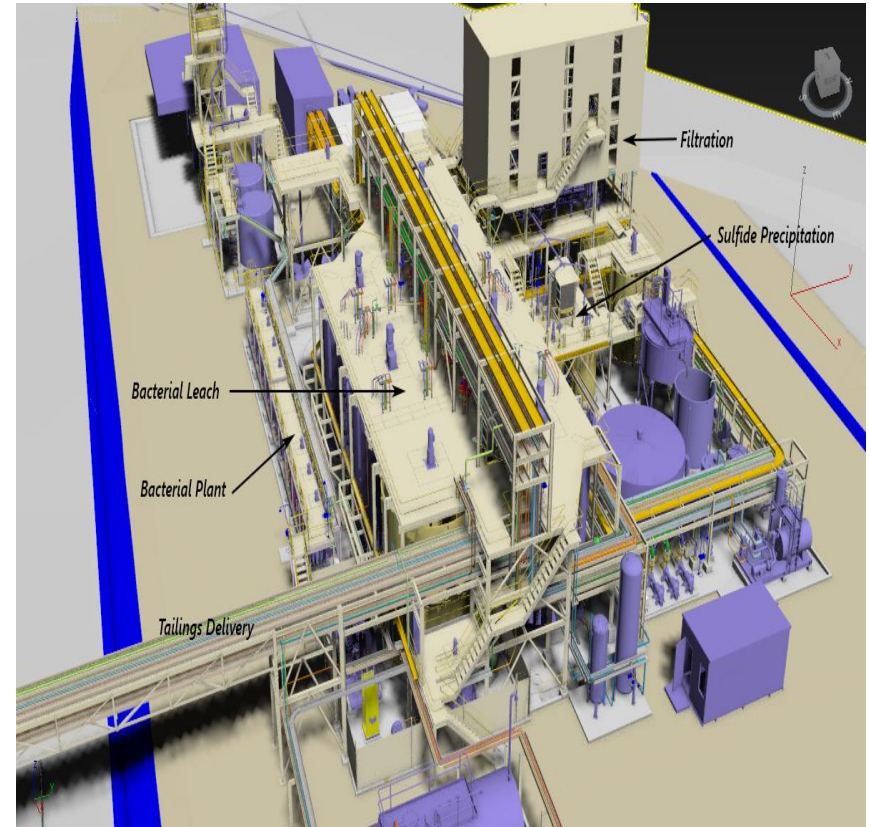
# MILL RECOVERY ENHANCEMENT PROJECT (MREP)

*Produces additional new higher-grade product*

*Generating value from waste tailings*

*New customers eg EV battery market*

- Located next to Cosmic Boy Nickel Concentrator
- Construction has commenced on site
- First production of high grade nickel sulphide in Q1 2018
- Utilises BioHeap® process to leach waste tailings
- A\$17.5m completion cost, unit cost A\$2.44/lb, 3 year payback



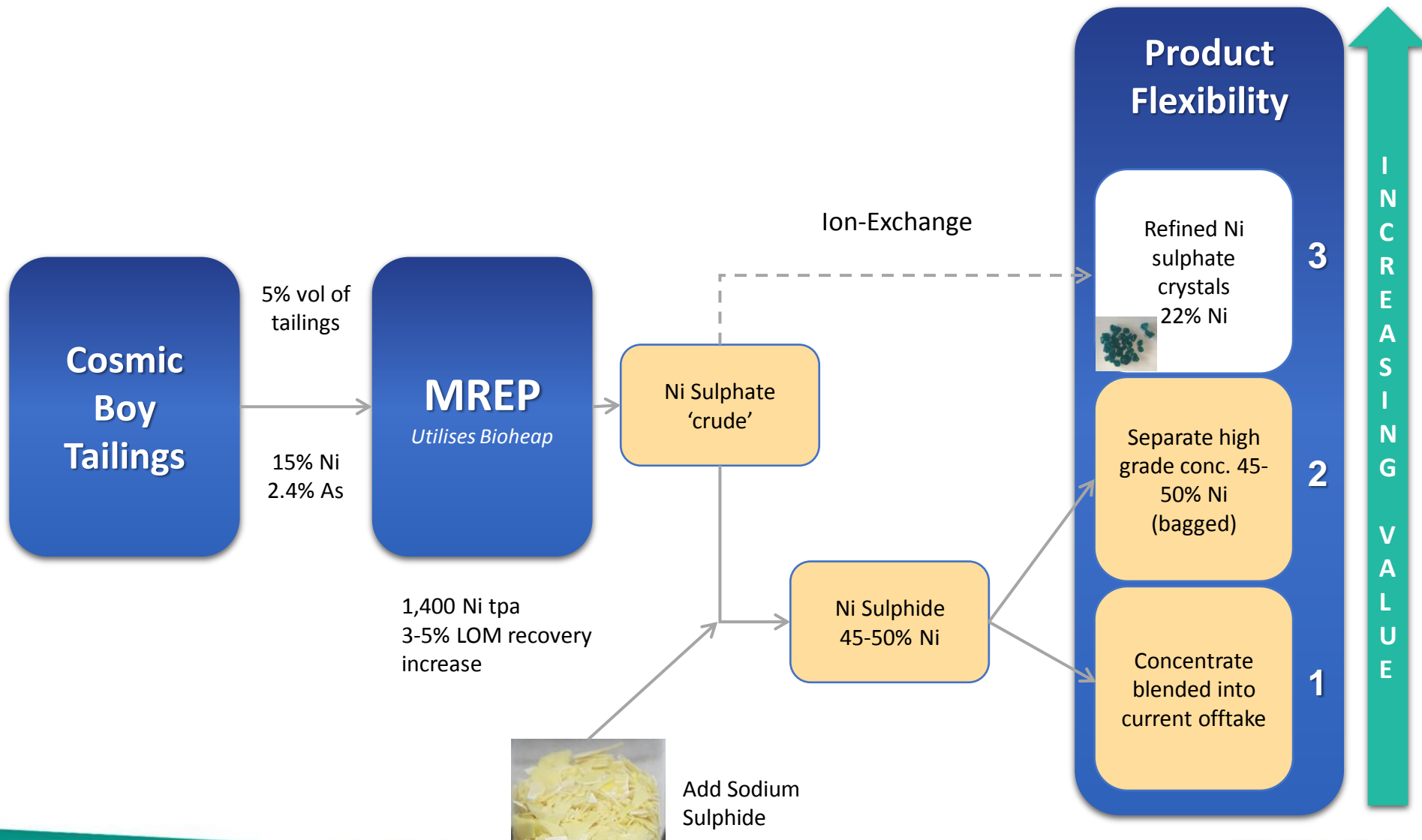


# MREP SITE WORKS – 6/10/17

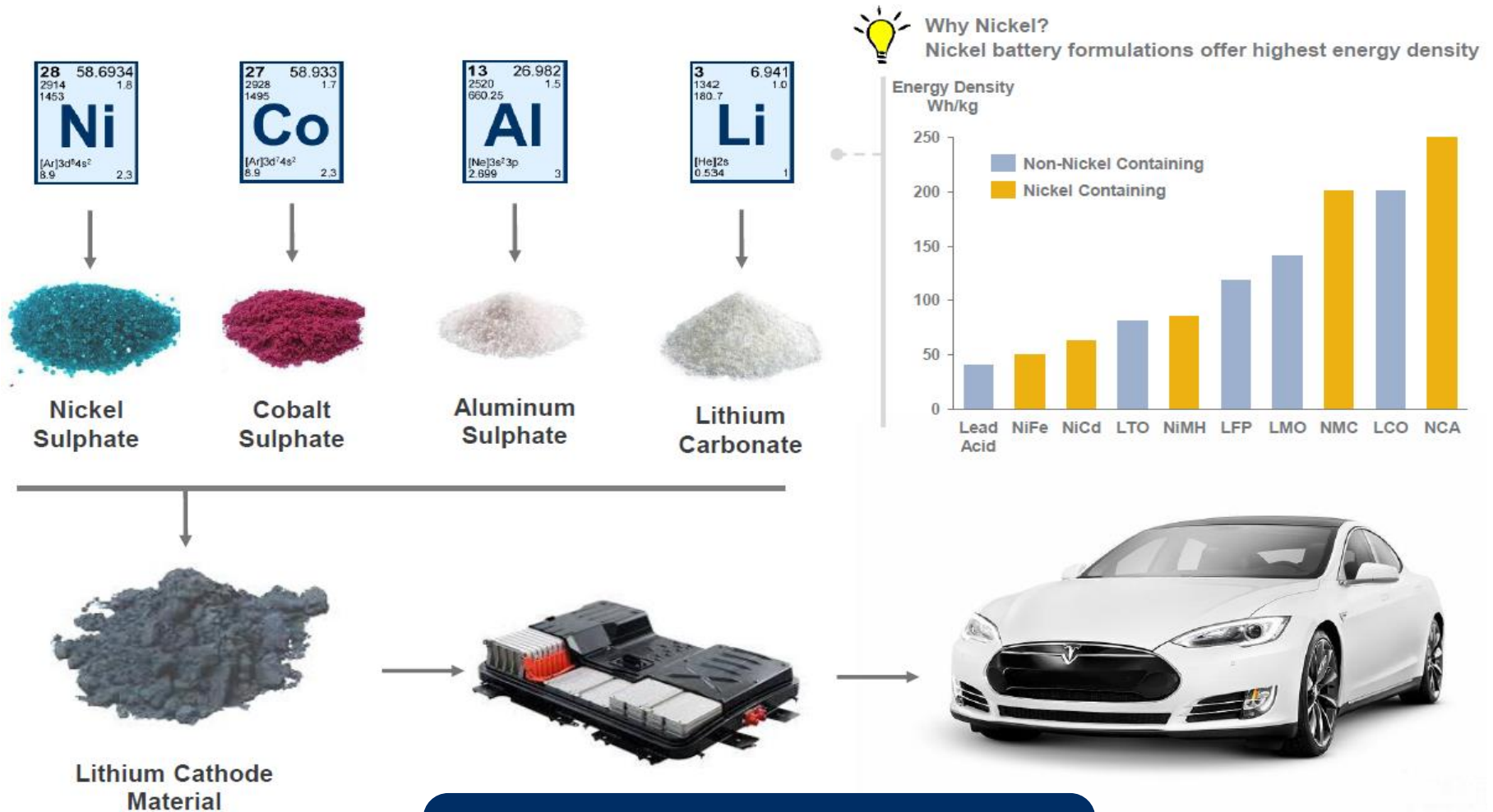




# MREP FLOWSHEET



# NICKEL IS A KEY INGREDIENT IN LITHIUM-ION BATTERIES (~50KG NI PER CAR)



"Our cells should be called Nickel-Graphite, because primarily the cathode is nickel and the anode side is graphite with silicon oxide... [there's] a little bit of lithium in there, but it's like the salt on the salad," Tesla CEO Elon Musk

# GROWTH & EXPLORATION OUTLOOK





# ORGANIC GROWTH PROFILE

## Large holding in 2 significantly endowed nickel provinces

### Forrestania Operations – Western Australia

- New Morning project – Near mine leveraging existing infrastructure with studies underway
- History of reserve/resource extension
- Mill Recovery Enhancement Project – lift metallurgical recoveries by 3-5%
- Evaluating Lithium potential at the Forrestania tenements

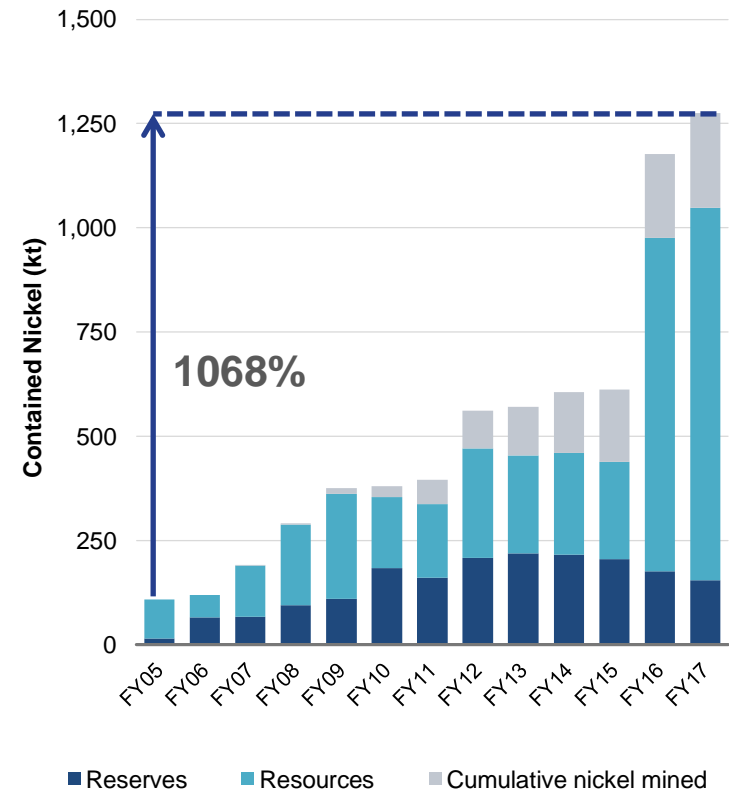
### Cosmos Nickel Complex / Odysseus – Western Australia

- Existing resources and infrastructure (previous Glencore/ Xstrata/Jubilee Mines operation)
- Odysseus DFS underway with significant high grade intersections in latest drilling
- First pass drilling at Neptune successful

### Western Gawler – South Australia

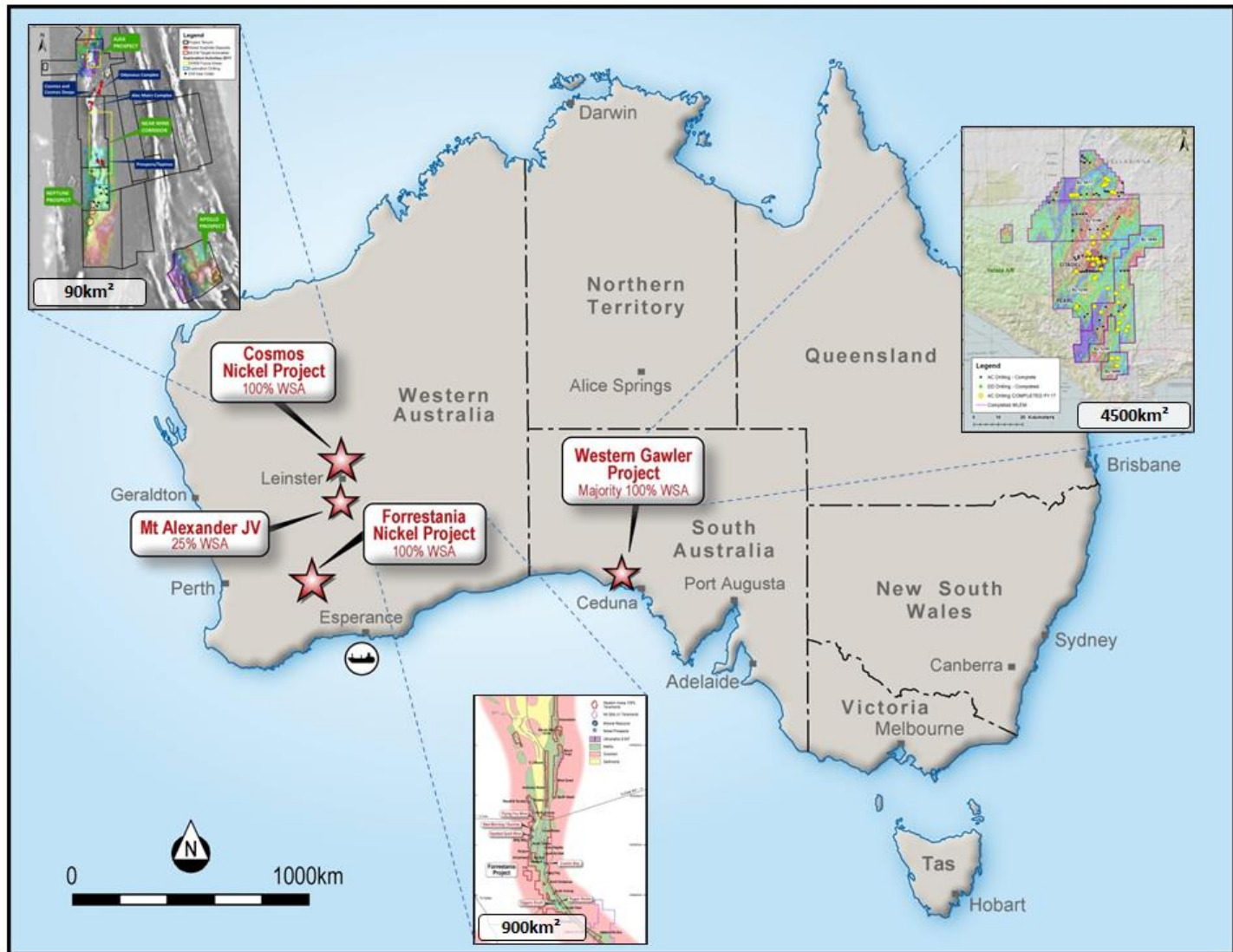
- First mover advantage
- Intrusive style and geologically similar to Nova

### Historic reserves & resources



WSA has a track-record of discovery and development

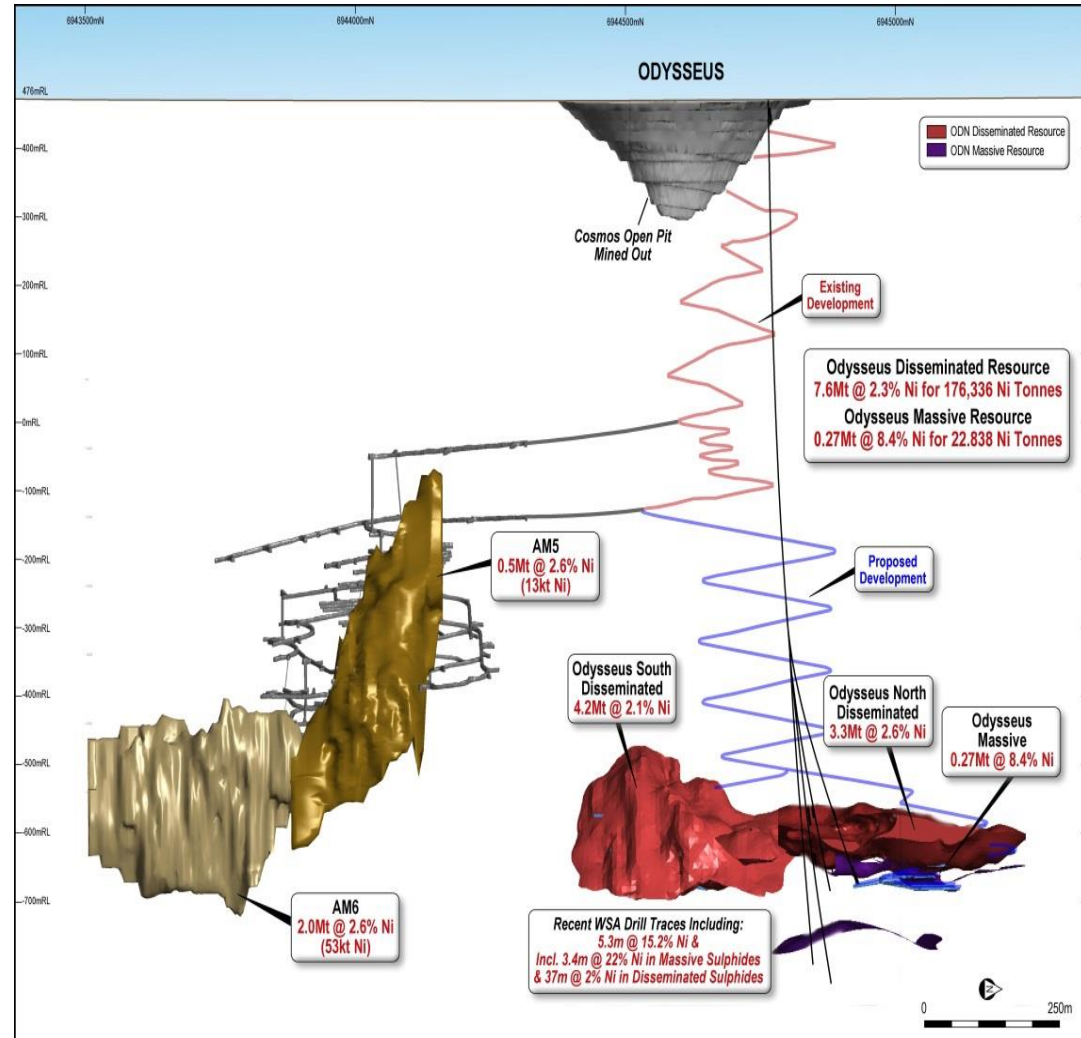
# EXPLORATION UPSIDE – KEY TENEMENT HOLDINGS



# COSMOS - ODYSSEUS PROJECT

## *A potential new (third) nickel operation on the horizon...*

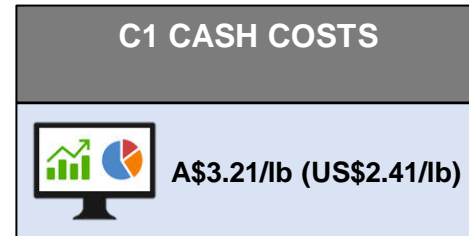
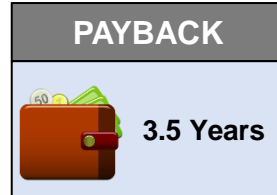
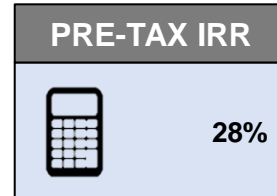
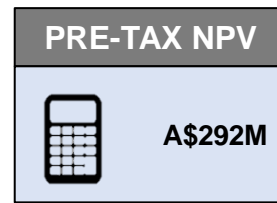
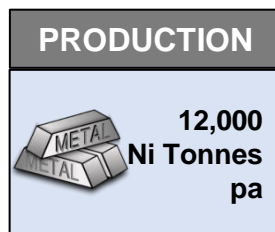
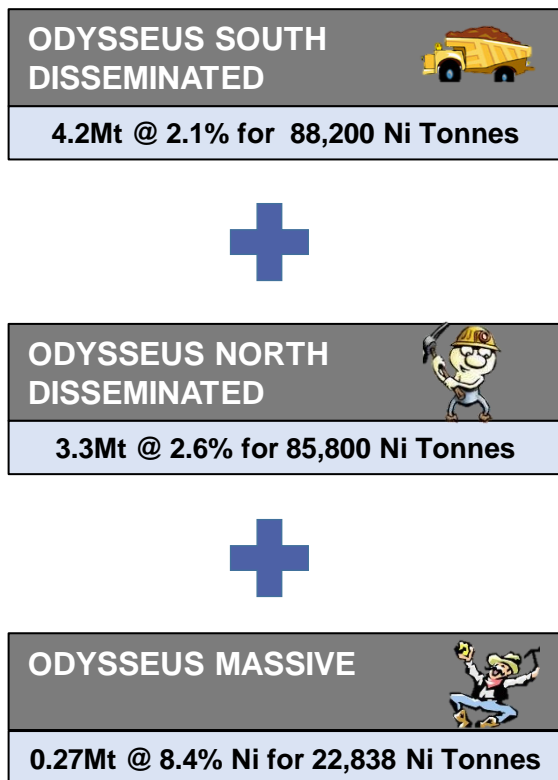
- Covers 88km<sup>2</sup> in prolific nickel belt, including the Odysseus deposit
- Odysseus PFS shows financially and economically robust project and nickel production metrics
- Very low sustaining capital expenditure after initial pre-production capex
- Very low all-in unit sustaining costs of **A\$3.69/lb (US\$2.70/lb)**
- Odysseus DFS underway, to be completed March 2018
- 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
  - ✓ Regional drilling success at Neptune
  - ✓ Opportunities for a roasting concentrate





# ODYSSEUS PRE-FEASIBILITY STUDY RESULTS

## Key Metrics



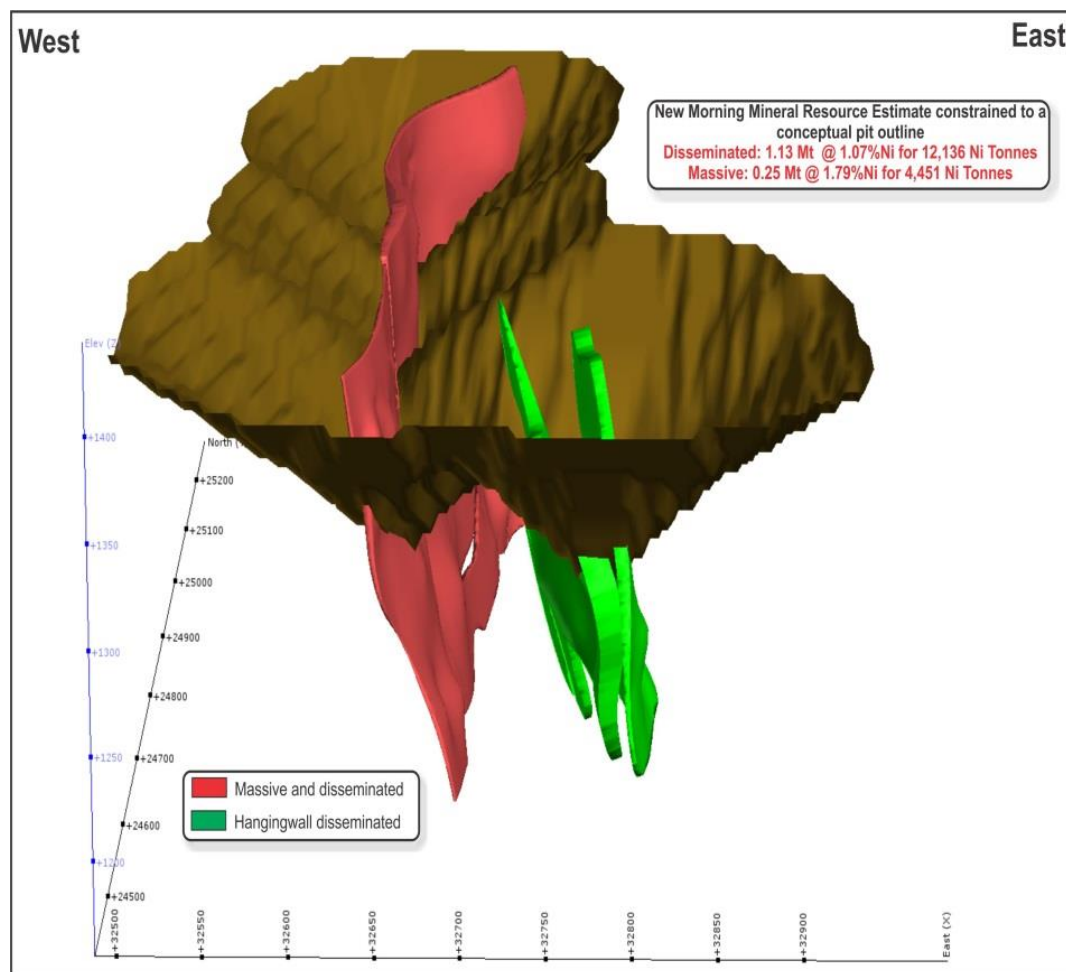
### Assumptions:

- Nickel Price of US\$7.50/lb;
- USD Exchange rate A\$0.75

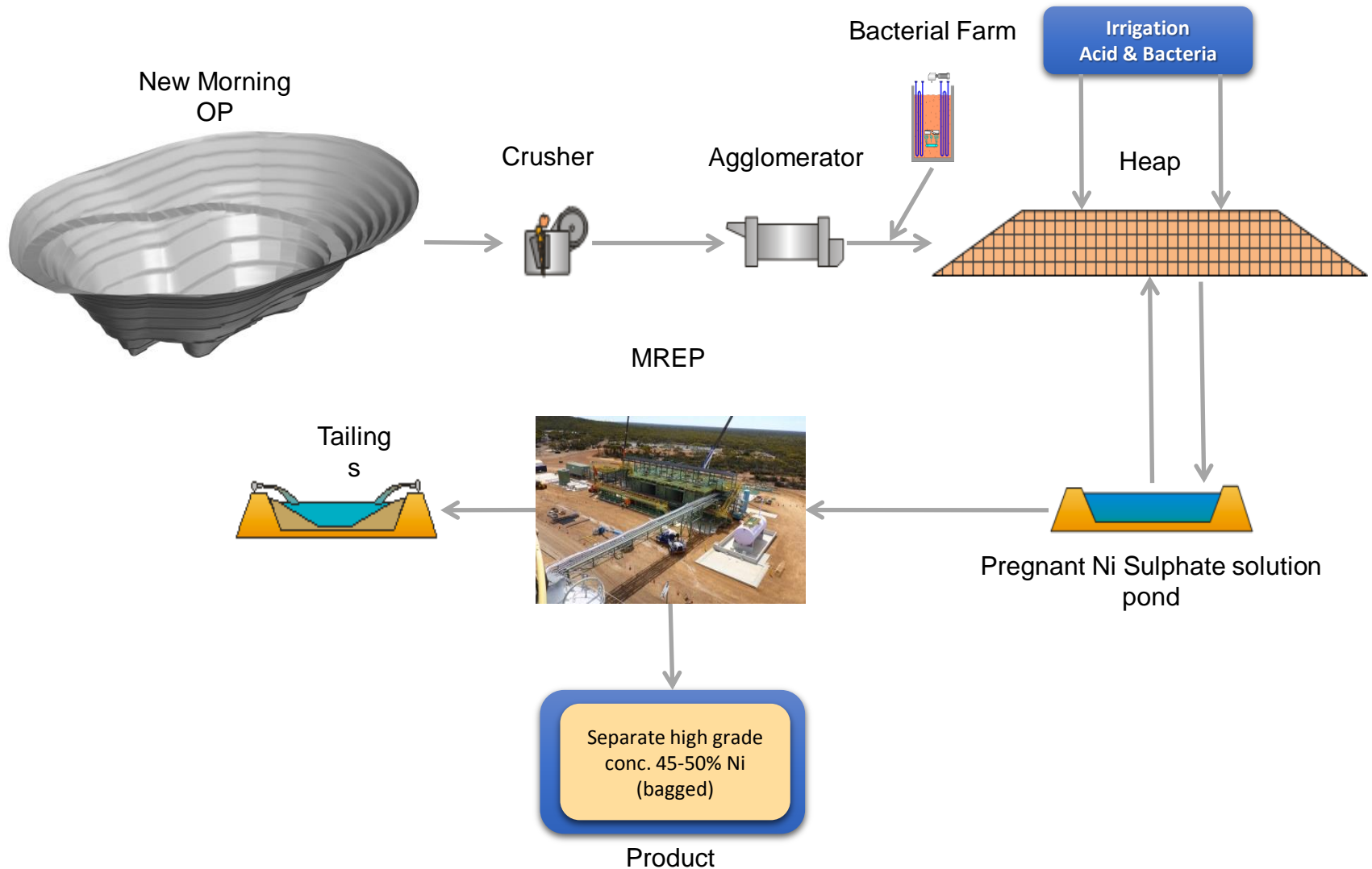
For full pre-feasibility detail, see ASX announcement, 30 March 2017

# NEW MORNING / DAYBREAK

- Massive sulphide resource of 418kt @ 3.4% for 14,249 nickel tonnes
- Low grade resource (at 0.5% Ni COG) of 5.1m tonnes @ 1.3% for 67,090 nickel tonnes
- Located 2.5km from Flying Fox and 2.8km from Spotted Quoll
- Open Pit Scoping Study commenced
- BioHeap® testwork ongoing to evaluate heap leach criteria



# CONCEPTUAL NEW MORNING NICKEL FLOWSHEET

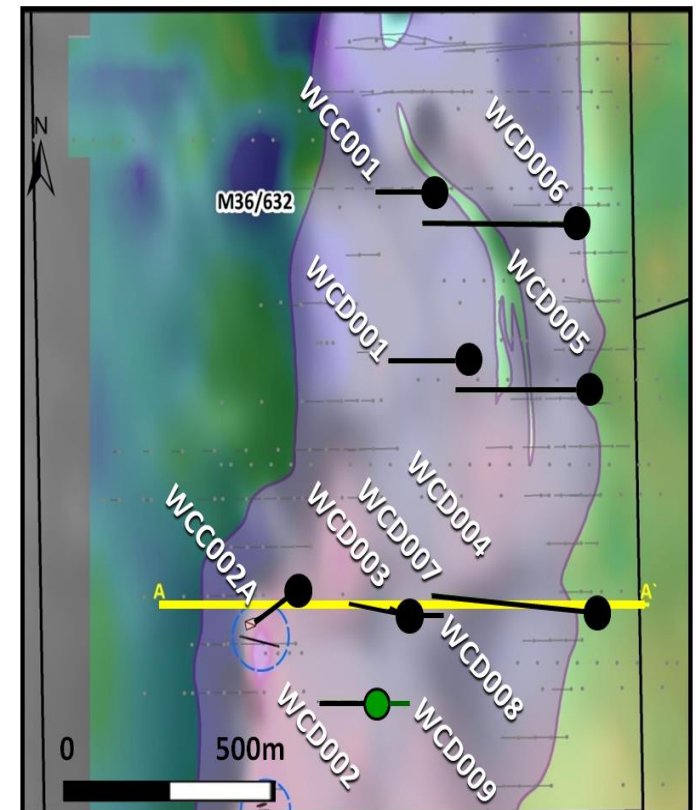
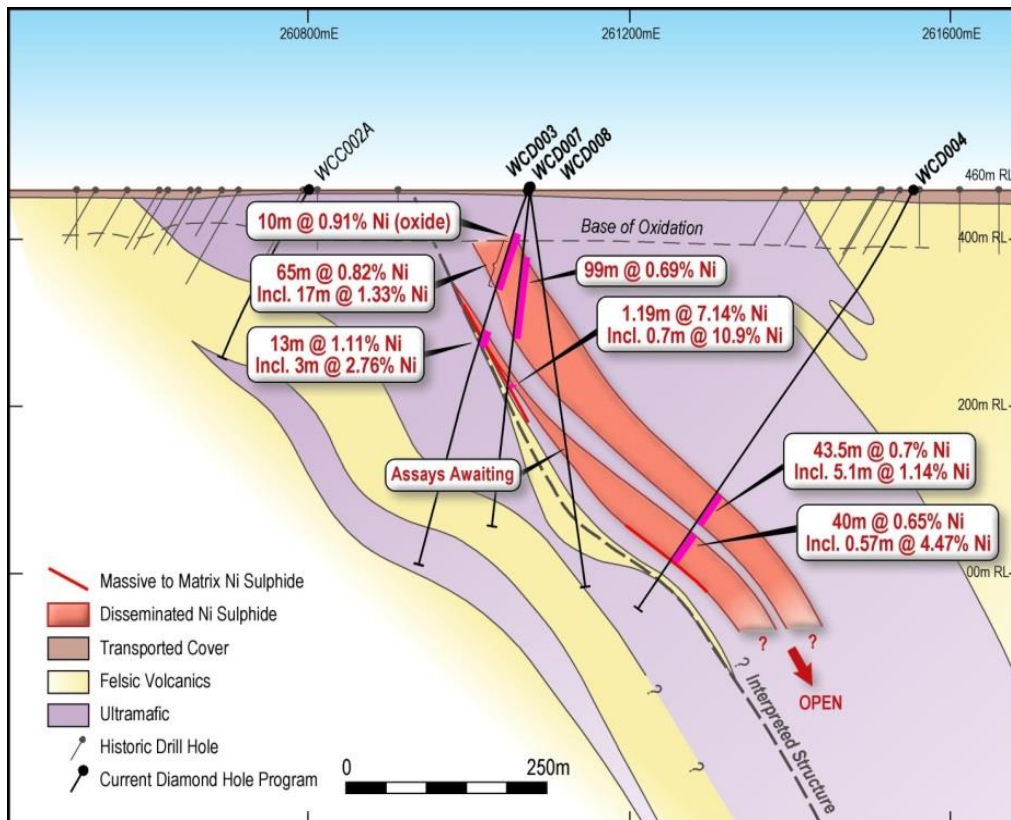




# COSMOS EXPLORATION - NEPTUNE

## Drilling Results

- First drill program completed at Neptune and high grade nickel sulphides intersected
- 65.0m @ 0.82% Ni, including 17.0m @ 1.33% Ni
- 1.2m @ 7.1% Ni, including 0.7m @ 10.9% Ni**



# WESTERN GAWLER PROJECT

## Large-Scale Greenfields Exploration Asset

- 4,450km<sup>2</sup> tenement holding
- Majority 100% owned
  - With Strandline farm in agreement – WSA earning up to 90%
- Underexplored margin of the Gawler Craton - camp scale opportunities preserved

## Right Address

- Multi-commodity - Nickel- Copper- Gold
- Multitude of untested targets
- Analogous to Fraser Range

## Right Rocks

- Fertile mafic-ultramafic intrusive rocks throughout area
- Magmatic nickel sulphides confirmed

## Right Signatures

- Anomalous values returned from drilling





# EXPLORATION SUMMARY – WESTERN GAWLER

## Broad scale prospectivity for Ni/Cu and Gold

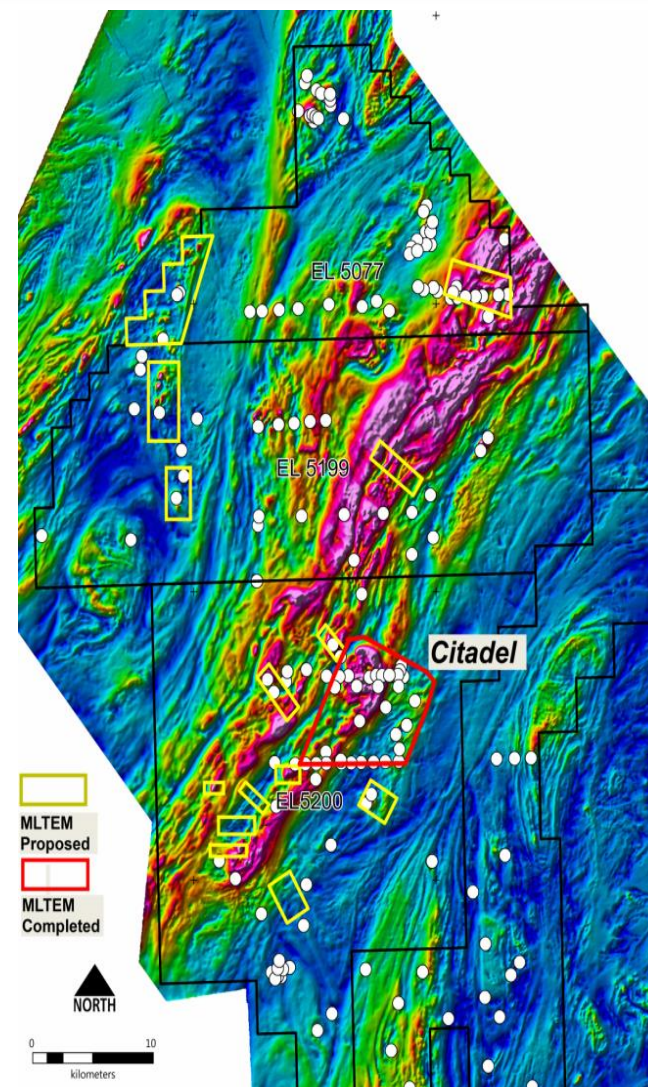
### Successful first phase of exploration

- Regional AC/RC drilling completed in July 17
- Surface EM at Citadel completed
- Multiple mafic/ultramafic intrusions identified – priority targets

### Planned exploration (next six months)

- Surface EM over priority areas underway
- Heritage Surveys booked for November 2017
- Follow-up AC/RC drilling planned in January quarter FY18
- Focused targets- Moving Loop EM, confirm geochemistry and intrusive extents

### Community – Proactive engagement to support activities





# NICKEL MARKET



# GEO-POLITICAL FORCES, BUT STRONG DEMAND

## Indonesia relaxes the laterite ore export ban implemented in 2014

- This is **not a reversal** of the ban and exports allowed under certain circumstances;
  - Exporter must show plans and demonstrate progress to constructing in-country processing facilities
  - Only impacts ore <1.7% nickel
  - Exporters must prove 30% of low grade is processed in-country
  - Rules on majority ownership transfer over 10 years
- **Only around 8.8 Mt of <1.7% nickel laterite approved to be exported - immaterial!**

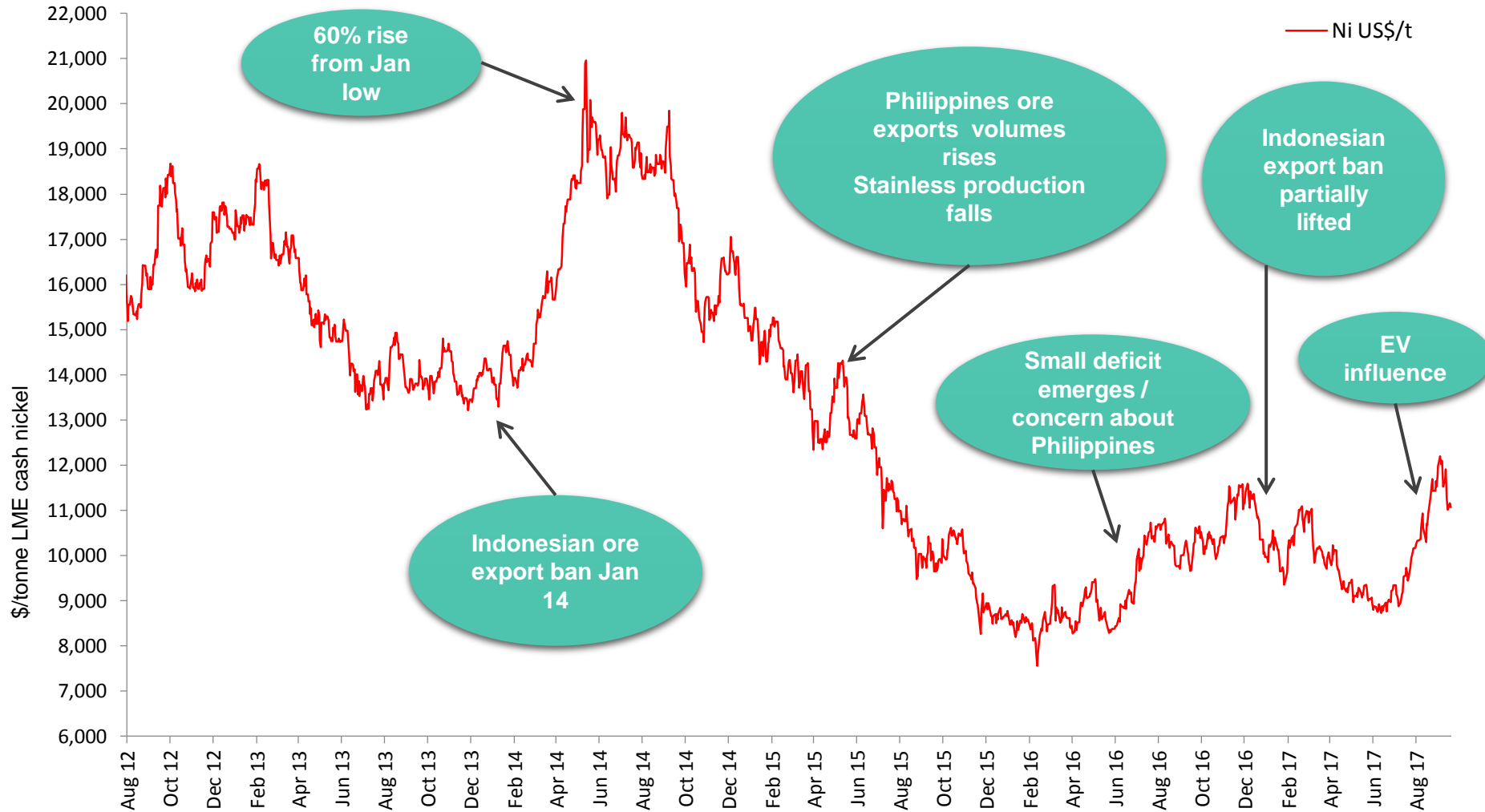


## Philippines reviewing nickel mine closures and suspensions

- Mining and Resources Secretary Lopez announces closures and suspensions that could impact 50% of domestic laterite nickel exports (2 February 2017)
- Strong opposition from mining groups - Lopez not supported by Senate (2 May 2017) and replaced by Roy Cimatu
- Strong comments by Duterte and Cimatu regarding taxation of miners and continuation of environmental review (July 2017)
- Roy Cimatu appointed by law makers (October 2017)



# NICKEL PRICE “ROLLER COASTER”





# NI GROWTH FROM THE EV BATTERY SECTOR

- Nickel is a key ingredient in lithium-ion batteries (~50kg per car)
- EV battery manufacture could drive +10-40% of incremental nickel demand by 2025 – *UBS, July 2017*
- ~15m EV production in 2025 would mean an additional ~300- 900ktpa of incremental nickel demand – *UBS, July 2017*

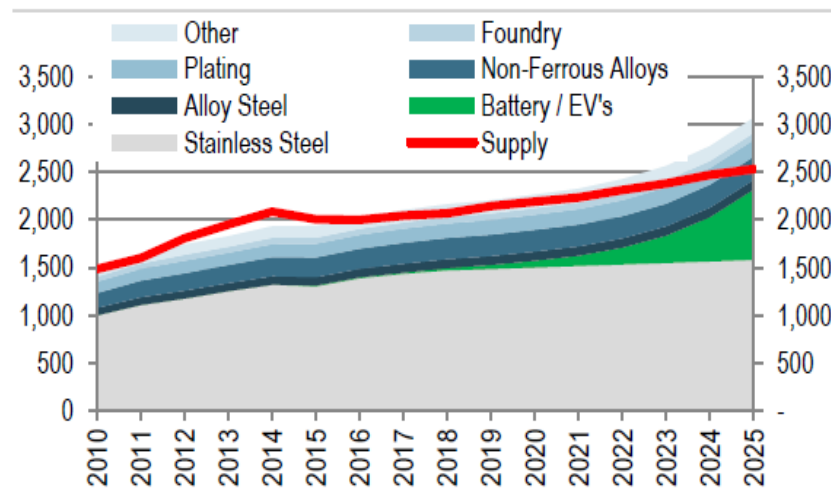
**“It’s not just the demand for nickel – it’s the form as well”**

Source: UBS Global Commodities – July 2017

**“The company (VW) which aims to make up to three million EVs a year by 2025 ”**

Source: Mitsui Bussan Commodities - September 2017

EV's create a new source of Nickel Demand (ktpa)



Source: Nickel Supply & Demand (ktpa); AME, WBMS, UBS.

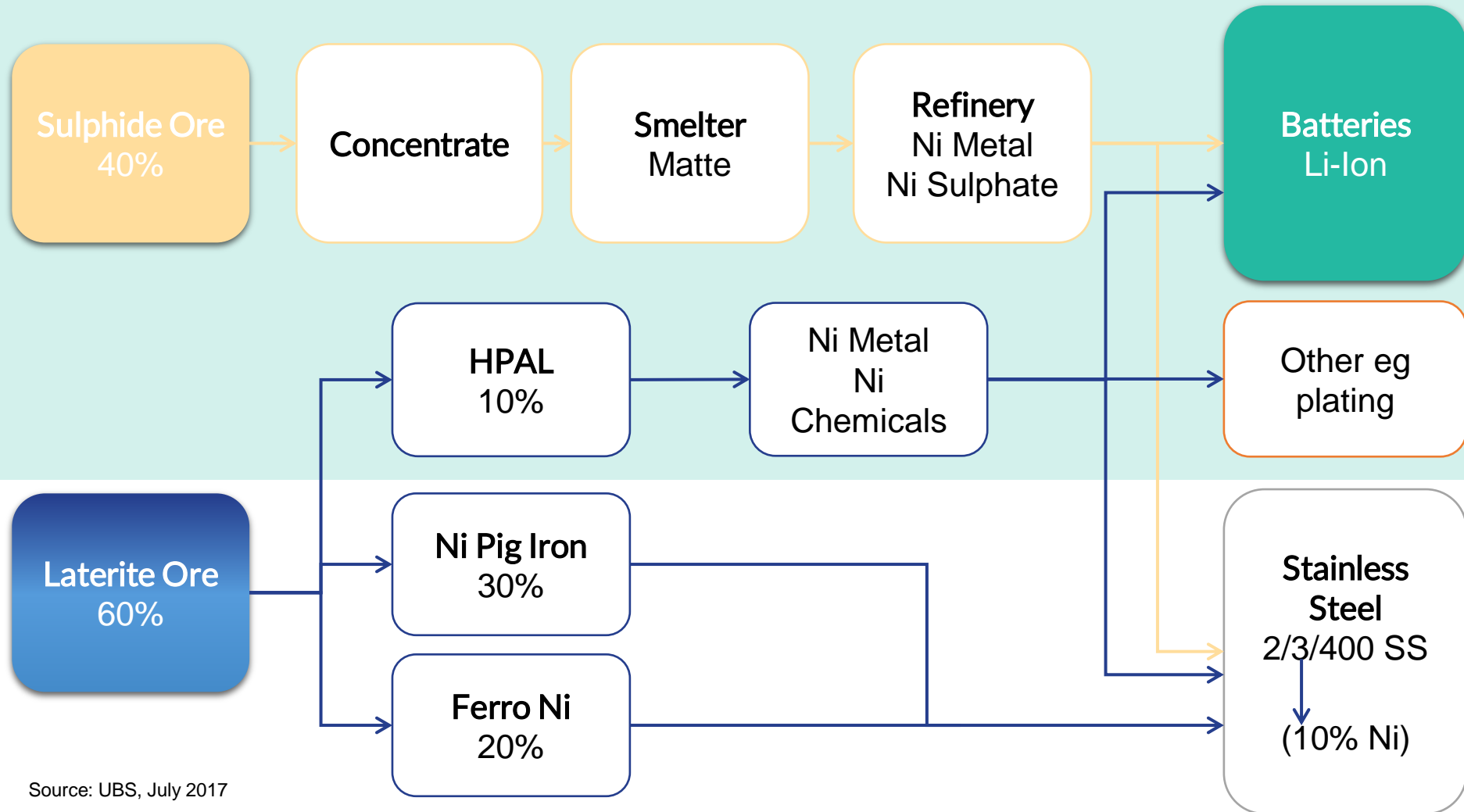
**“Asian Battery Makers Eye Nickel Top-Up As Cobalt Price Bites”**

Source: Mitsui Bussan Commodities - August 2017

**“Big Winner from Electric Vehicles”**

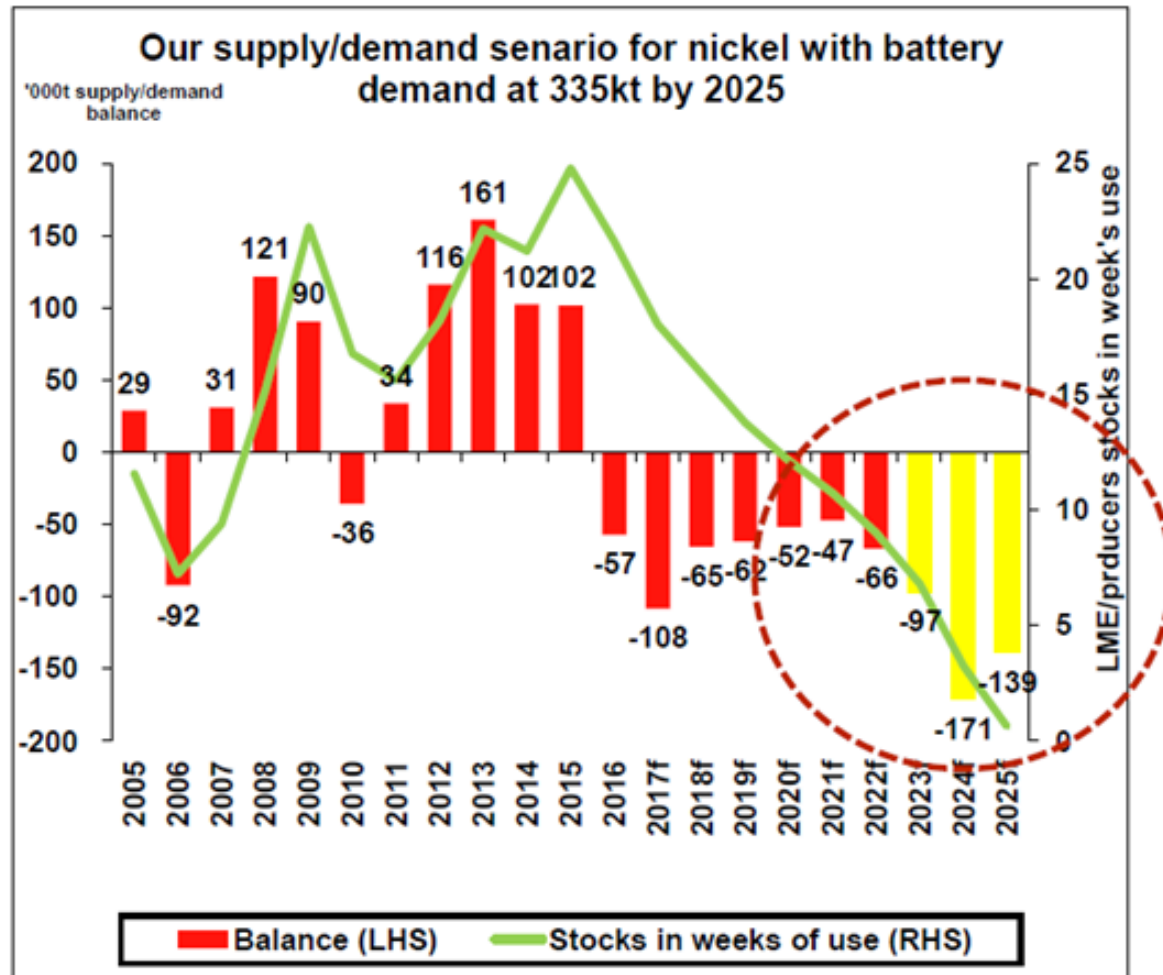
Source: UBS Global Commodities – July 2017

# ONLY ~50% OF NICKEL WILL BE AVAILABLE FOR EV ?



Source: UBS, July 2017

# NICKEL DEFICITS ON THE HORIZON !



Source: CRU, INSG, Macquarie Research, October 2017

# THE YEAR AHEAD

- Spotted Quoll
- Flying Fox
- Cosmic Boy Concentrator

## Production



- Complete Odysseus DFS
- Commission MREP
- New Morning Study

## Development



- Cosmos Nickel Complex
- Western Gawler JV
- Forrestania

## Exploration



- Markets for new product streams
- Battery market potential
- Potential for nickel to move to supply deficit

## Market





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