



Neometals

All the right elements®

Corporate Update Presentation – August 2019
ASX Code: NMT OTC/Nasdaq Intl: RDRUY

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Compliance Statement:

The information in this document that relates to Mt Edwards Nickel – Mineral Resource Estimate, “Lithium Battery Recycling – Scoping Study Results”, “Barrambie Vanadium DFS Results, Start of Titanium Pilot” and “Mt Edwards Nickel – Drill Results” has been extracted from ASX Releases set out below. The Company confirms that it is not aware of any new information or data that materially affects the information included in the ASX Releases set out below:

19/4/2018	Mt Edwards Nickel – Mineral Resource Estimate
22/05/2019	Barrambie Vanadium DFS Results and Start of Titanium Pilot
04/06/2019	Lithium Battery Recycling – Scoping Study Results
5/08/2019	Mt Edwards Nickel – Drill Results

The Company confirms that all the material assumptions underpinning the “Lithium Battery Recycling – Scoping Study Results ” released on 4 June 2019, and “Barrambie Vanadium DFS Results and Start of Titanium Pilot” released on 22 May 2019 continue to apply and have not materially changed.

Executive Summary



Purpose – “Neometals innovatively develops opportunities in minerals and advanced materials essential for a sustainable future”

- Project developer listed on ASX (ticker NMT)
- Focus on mineral/materials for the EV and ESS sectors
- Established in 2003, team of 20, Perth HQ and research laboratory in Montreal
- Team with proven track record in project facilitation and development:
 - Developed Mt Marion into the world’s 2nd largest spodumene producer
 - Staged sell-down with total project returns to ~A\$200M on outlay of A\$3M
- Returned A\$45M to shareholders in last 4 consecutive financial years*
- Cash of ~A\$113.7M* plus ~A\$8.9M in investments vs current mkt cap of A\$95M

What we do



- Neometals is pursuing multiple opportunities - strategy is clear
- Story is not complicated, but approach is different:
 - We **identify** value – organic (Li refinery/battery recycling) and M&A (Mt Edwards)
 - We **build** value – with the drill bit/in laboratory then evaluation studies
 - We **realise** value – with **partners** to achieve optimum scale, risk and return
 - We **return** value – dividends and buy backs
- First-class **balance sheet** to fund a pipeline of **advanced projects** (pilot/DFS stage)
- Assembled a first-rate team with relevant industry experience to develop an ecosystem to deliver technical and economic solutions – **pathways to cashflow**
- We align our project development activities with that of underlying markets

Who we are



NE Board Members

Management Team



MD / CEO



Company Secretary
/ CFO



COO



CDO



GM – Lithium
Projects



GM – Marketing



GM – Commercial /
IR



GM – Process /
Metallurgy



GM – Metallurgy /
R&D



GM – Exploration

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Corporate Overview

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ASX: NMT	OTC:RDRUY
Shares on Issue ¹	m 544.44
Share Price (21-Jun-2019)	A\$ 0.177
Market capitalisation (21- Aug-2019)	A\$m 95.28
Cash (30-June-19)	A\$m 113.7
Debt (30-June-19)	A\$m -
Investments (30-June-19)	A\$m 8.9

Major Shareholders (31-Jul-2019)	
David Reed (Non-Executive Director)	9.0%
Westoz Funds Management	2.9%
Global X Lithium ETF	2.0%
Top 20	33.7%
No of Shareholders	~8,000

Note 1: Excludes 7.0m performance rights.

Note 2: Loan receivables and investments

Source: Neometals



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Value Generation

Nm

- **Core projects** (final stages of evaluation):
 1. Lithium-Ion Battery Recycling Project (Pilot-stage, 100% NMT);
 2. Lithium Refinery Project (DFS Stage, MOU 50:50 JV); and
 3. Barrambie Titanium and Vanadium Project (DFS, 100% NMT).
- **Exploration and long-term projects** include:
 - Mt Edwards lithium and nickel exploration project (WA); and
 - Suite of mineral/material related technology developments.



Recycling and Recovery

Li Ion Battery Recycling Project

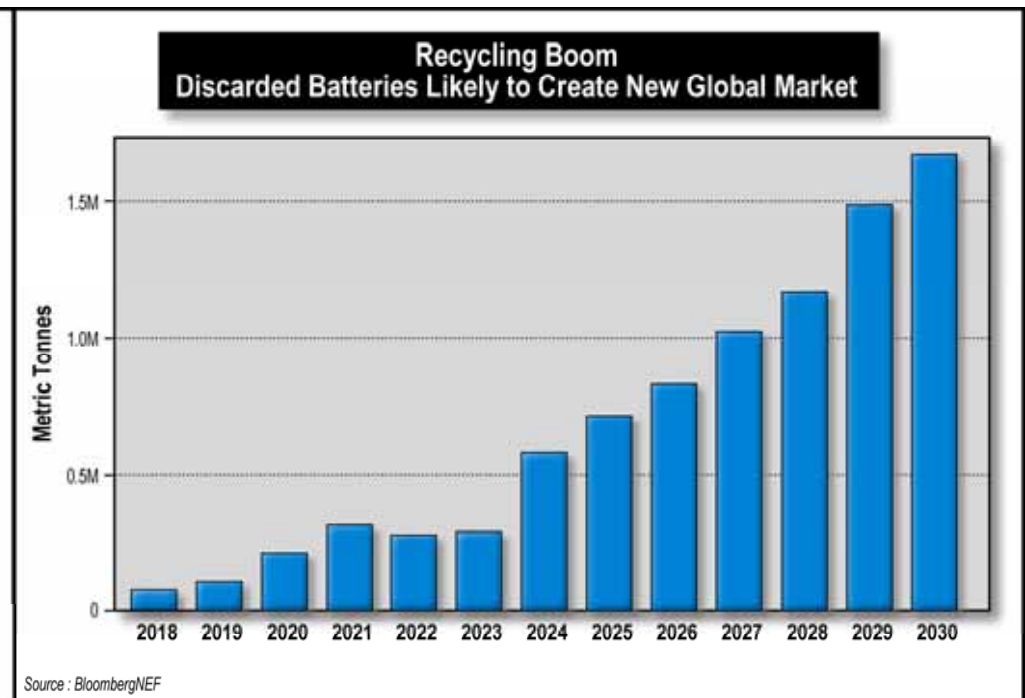
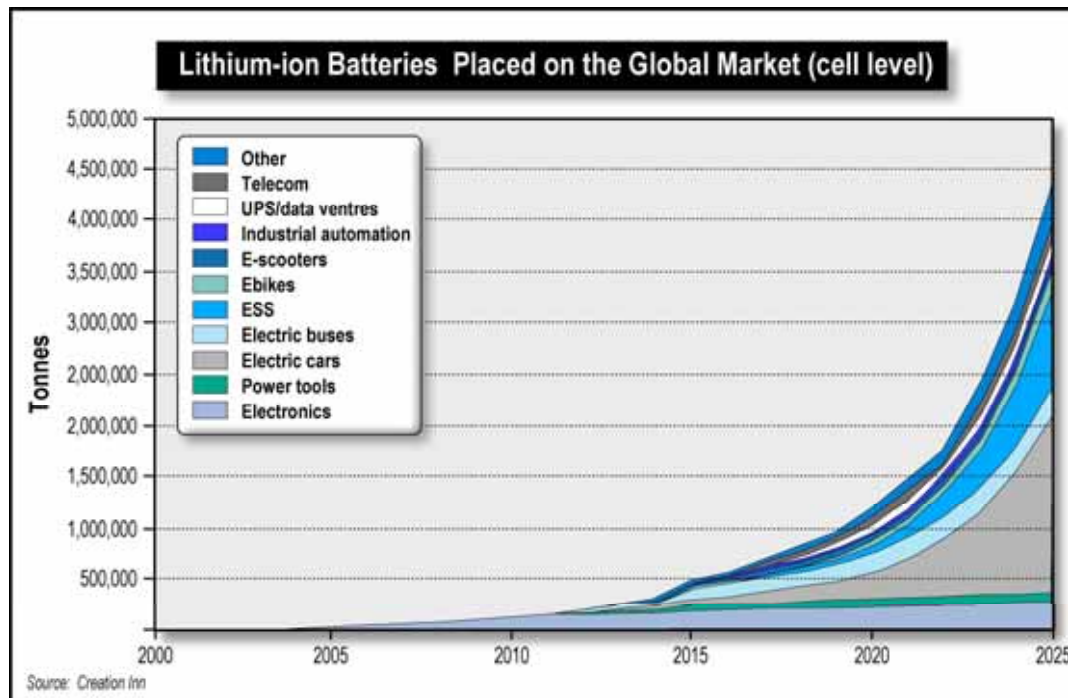
Neometals 100%

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We have strong conviction in the long term lithium battery/EV/ESS thematic....

and that the batteries wear out!



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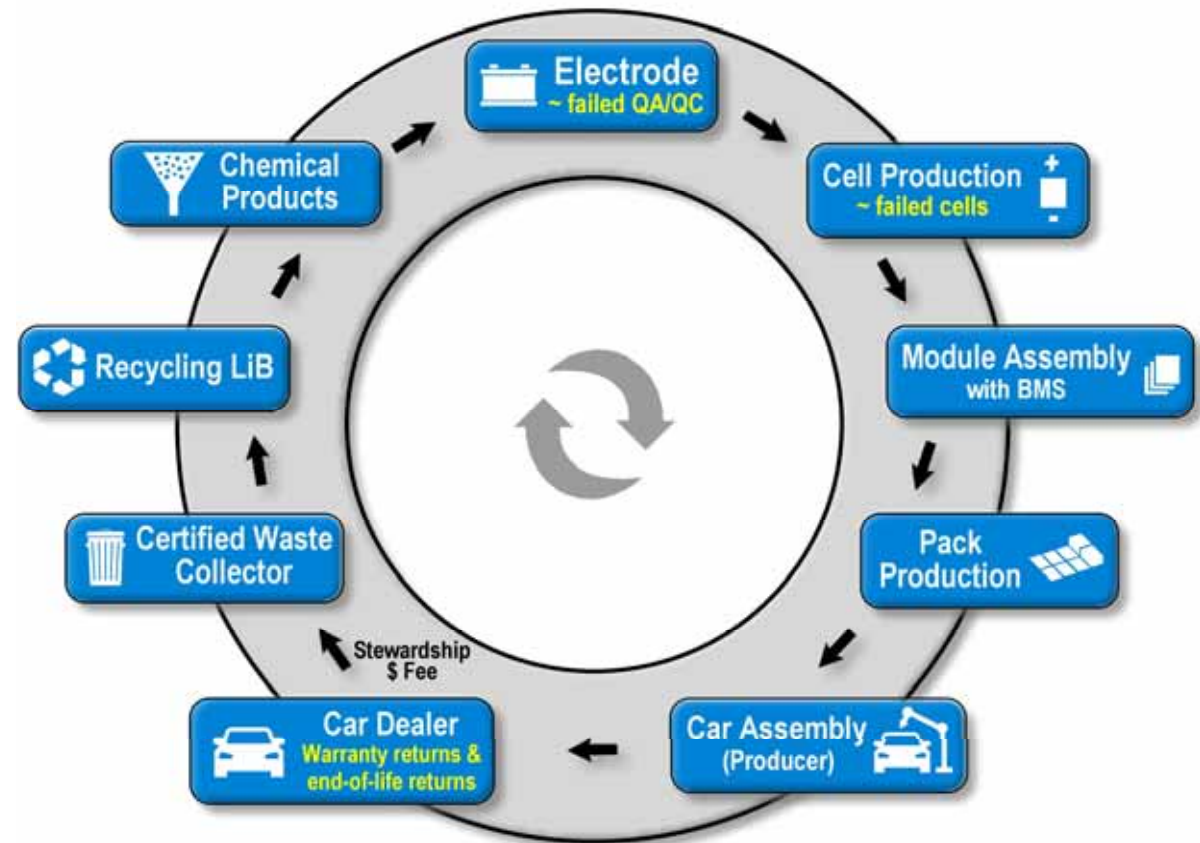
Value chain – we must recycle



Pressure on companies to recycle:

- regulatory commitment
- stakeholder pressure to conduct themselves in sustainable fashion
- are committed to life cycle management in home jurisdiction – extending it across global footprint

Typical Value Chain for Automotive LiB's

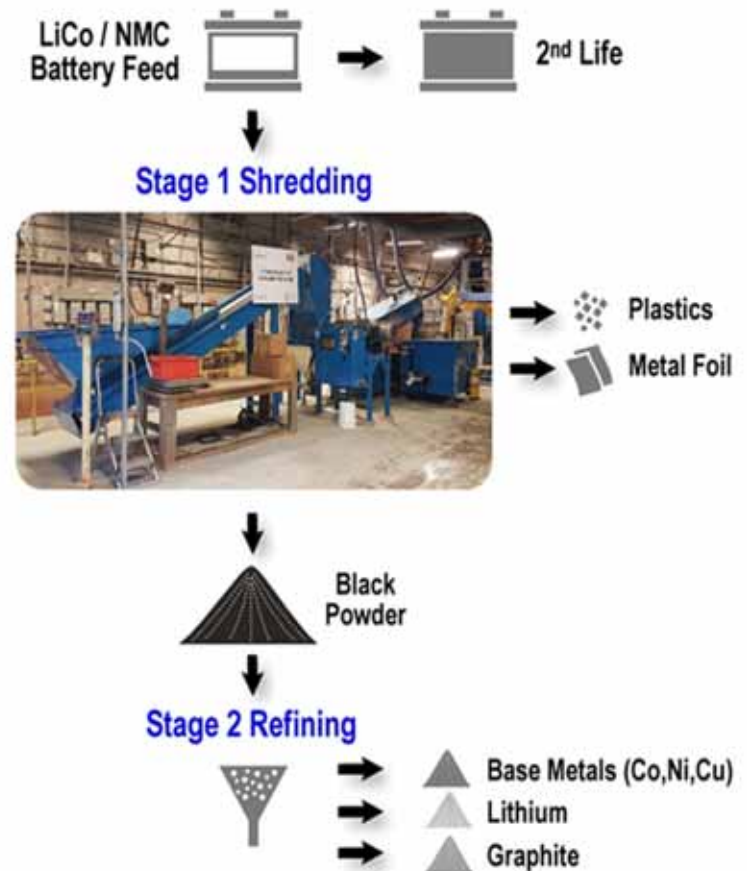


Recycling Technologies



Status: Predominantly landfill (<5% **recycling rate** outside China), leading flowsheet is actually more base metal recovery via pyrometallurgy (smelting ~ 40% wt recovery) with small amount hydrometallurgy and second life

NMT: proprietary all-hydrometallurgical process targeting >90% recovery of valuable materials from spent and scrap lithium-ion batteries (“**LIB**”). Process accepts multiple LIB chemistry types and formats inc. majority of EV and electronics cells. Prov Pat Pending



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Scoping Study indicates strong metrics from processing consumer and EV batteries



RECYCLING PLANT FEED RATE



50tpd
18,263tpa

EV & CONSUMER BATTERY FEED



Products
Inc. high purity
Co, Ni, Cu, Li

OPEX



US<\$7/lb^{*}
contained cobalt
excluding co-products

CAPITAL COSTS



US\$66M^{*}
A\$92M

PAYBACK



<2 years

PRE TAX NPV₁₂



IRR 72%

* 1 USD: 1.4 AUD at US\$6.15/kg Cobalt Sulphate (~20% cobalt contained in CoSO₄),
US\$5/kg Lithium Sulphate, US\$3.30/kg Nickel Sulphate, US\$2/kg Copper Sulphate

Flexible Business Model



Revenue generation via:

1. Provision of recycling service - fee for service and/or sale of chemical products recovered
2. JV with battery feed supplier i.e. battery manufacturer, EV Co, waste collector
3. Technology licensing income
4. Sale of chemical products
5. Combinations of the above

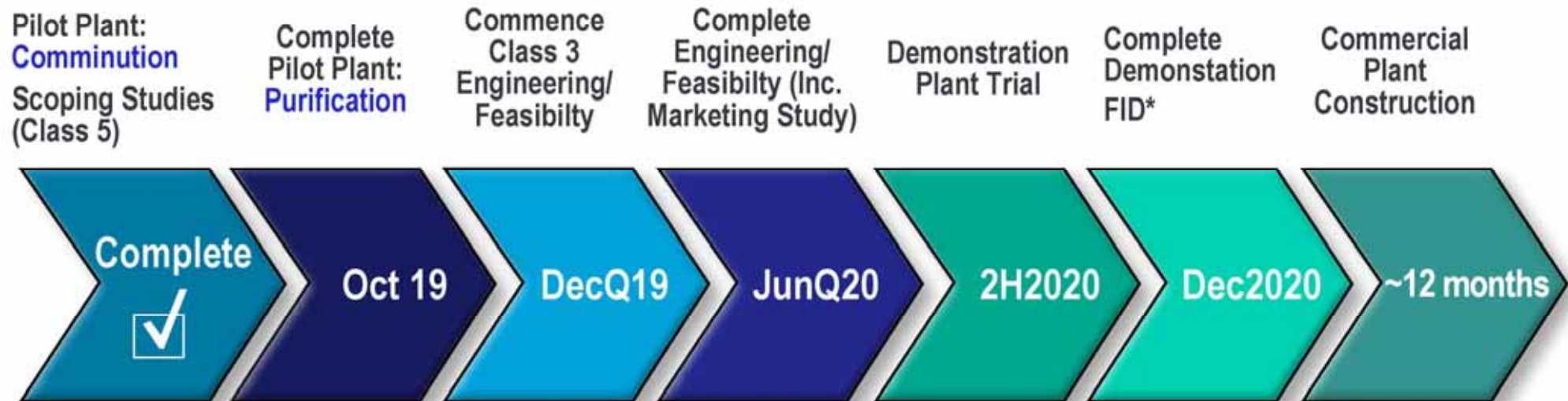
Differentiation:

- Unique flowsheet - true closed loop, high recoveries and environmentally friendly
- Flowsheet accepts broad battery chemistries
- Flexible modular approach. Stage 1 and 2 don't have to be co-located
- Bypasses many transport complications associated with hazardous waste
- Produce chemical products for battery industry rather than intermediates

Recycling Project Status



Indicative Project Timeline - LiB Recycling



* Subject to Board Approval.

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Downstream processing

Lithium Refinery Project

Neometals MoU for 50:50 JV with Manikaran Power

Overview



Progressing technical, commercial and approvals workstreams during downturn to be shovel ready when the market turns

- Modern, conventional direct-conversion sulphate process to produce ~10kt pa of battery-quality LiOH from spodumene concentrate - *similar flowsheet proven by leading producers Ganfeng and GRM*
- Successful vendor process flowsheet testing completed by Veolia HPD:
 - run-of-mine Mt Marion sample produced 99.99% pure battery grade LiOH
- Baseload feed from Neometals' annual offtake option from Mt Marion (57,000tpa), looking to enhance capital intensity from additional feedstock sources and location studies



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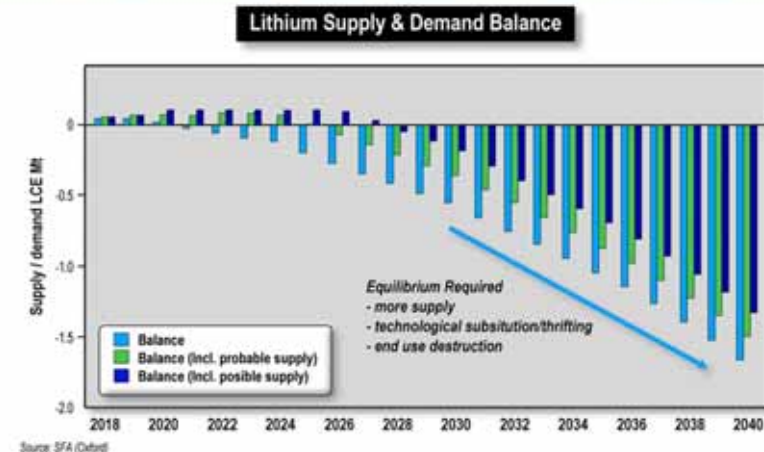
MOU to JV LiOH Refinery in India



- MOU in place with Manikaran Power for jointly funded feasibility evaluation of first lithium refinery in India
- Manikaran is the 3rd largest power trading company in India with extensive renewable energy interests
- A positive FID will trigger 50:50 JV to develop refinery using NMT Mt Marion offtake (option on 57,000tpa spodumene concentrate) as baseload
- Engineering and Feasibility studies targeted for completion by end 2020
- FID consideration in first half 2021 timed to deliver production into a strong lithium market in structural deficit
- Important to have local partner with equity stake at project level, rather than just offtake



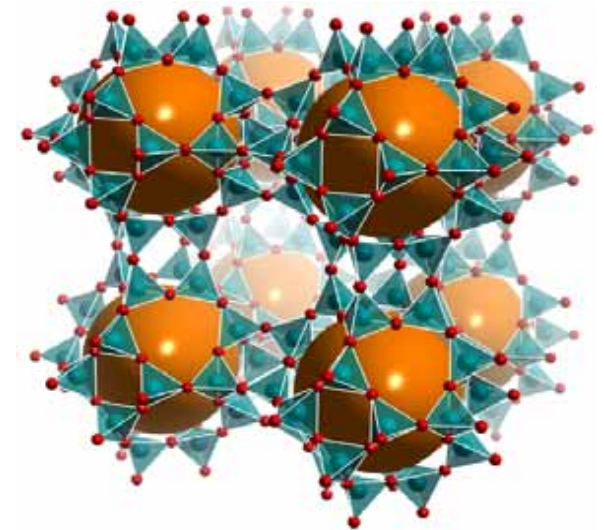
Market is long now but supply deficit expected to emerge mid 20's despite new capacity



Potential for significant co-product revenue



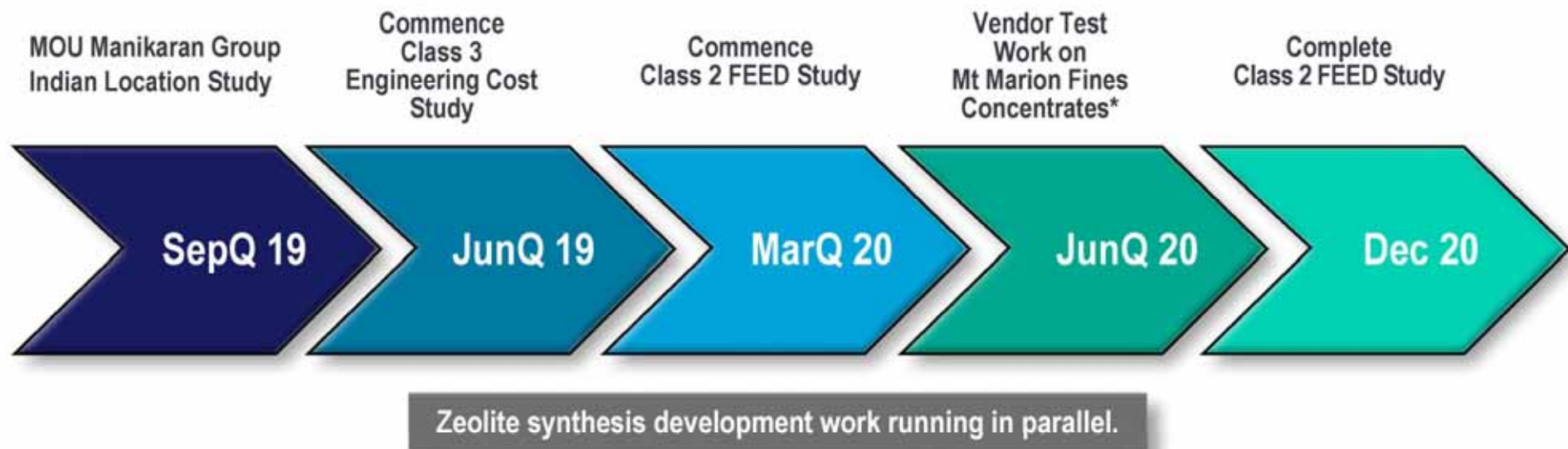
- Developed patent pending process to synthesize zeolite from lithium refinery residue (LR) rather than traditional chemical precursors
- Zeolite used as molecular sieve in gas purification, water treatment and green chemistry applications. Large +US\$13B market
- LR waste disposal is costly and can present environmental challenge
- Converting LR to zeolite solves above and creates opportunity for significant additional revenue to enhance project economics
- Success in manufacturing two types of commercial synthetic zeolites from Mt Marion and other WA sourced mine feed
- Early product evaluation shows the specification is close to commercial targets even before optimization from planned piloting
- Class 4 PFS study has commenced in parallel with product marketing studies and qualification
- Can be developed with refinery or as stand-alone opportunity



Refinery Project Status



Indicative Project Timeline - Lithium Refinery



* Subject to Board Approval

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Titanium and Vanadium

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Barrambie VTM Project

Ti/V

One of the highest grade hard-rock Titanium assets and one of the largest Vanadium projects globally

- 100% Owned
- A\$30M spent to date in exploration / evaluation including 55km of drilling.
- Completed updated DFS on primary vanadium operation using conventional salt roast-leach process
- Need a 'Whole of Deposit' solution to realise value from titanium
- Commenced pilot-scale beneficiation to produce samples for conventional hydrometallurgical process to produce both high purity titanium and vanadium chemicals



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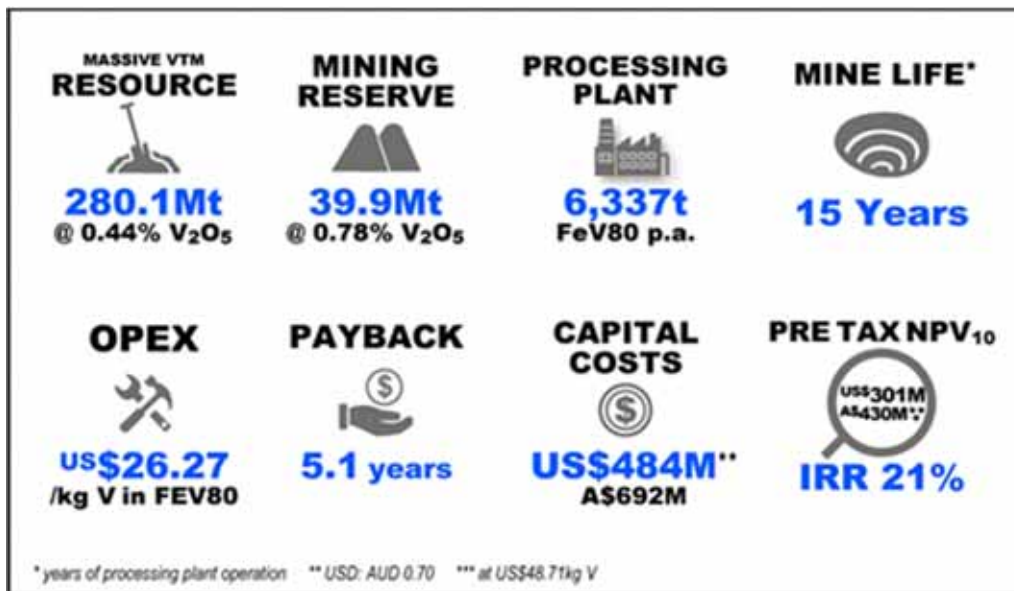


Unlocking titanium value is the key

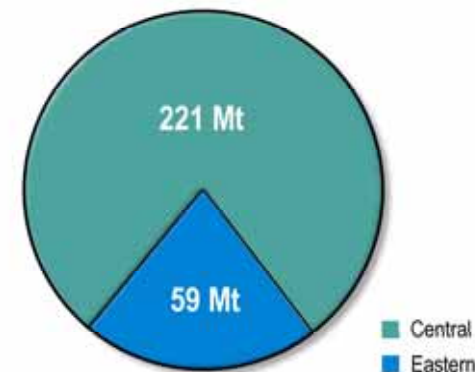


2019 DFS for V production is technically feasible and economically viable*

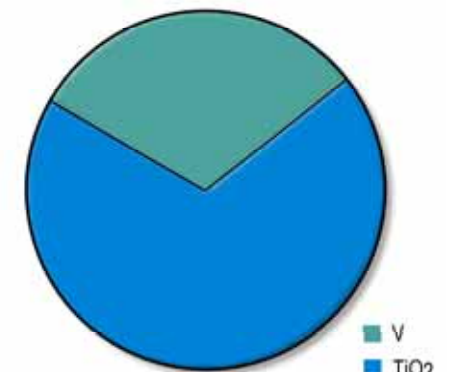
but ignores 70% in-ground value



Barrambie by Ore Body Size (Mt)



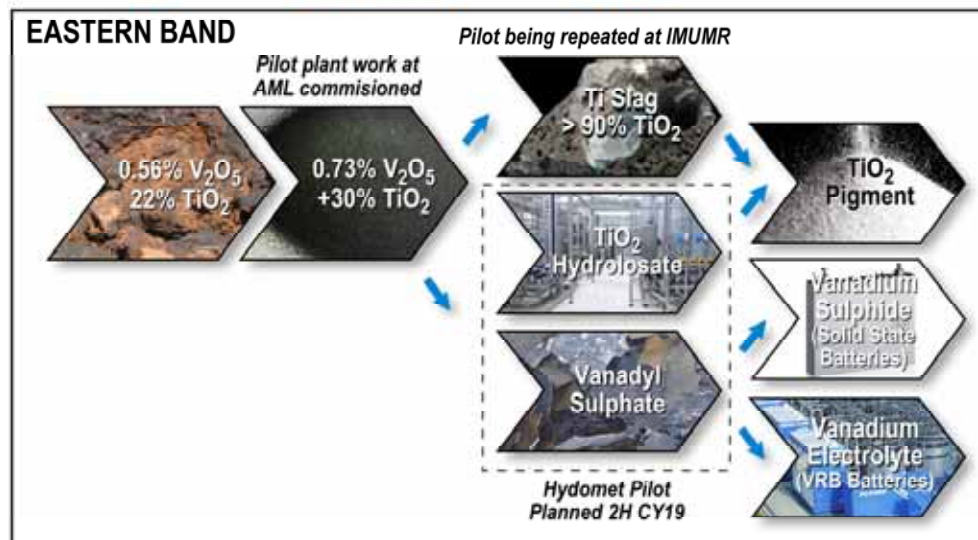
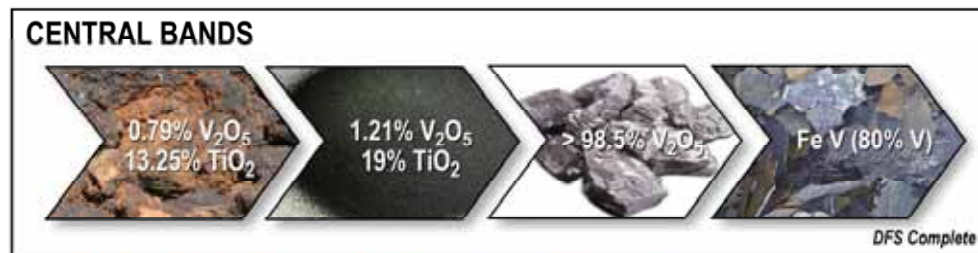
Barrambie by Metal Value (%)



Evaluation Strategy



Targeting high-purity, higher value Ti and V chemical production at a right-sized scale to deliver best economics at achievable capital intensity

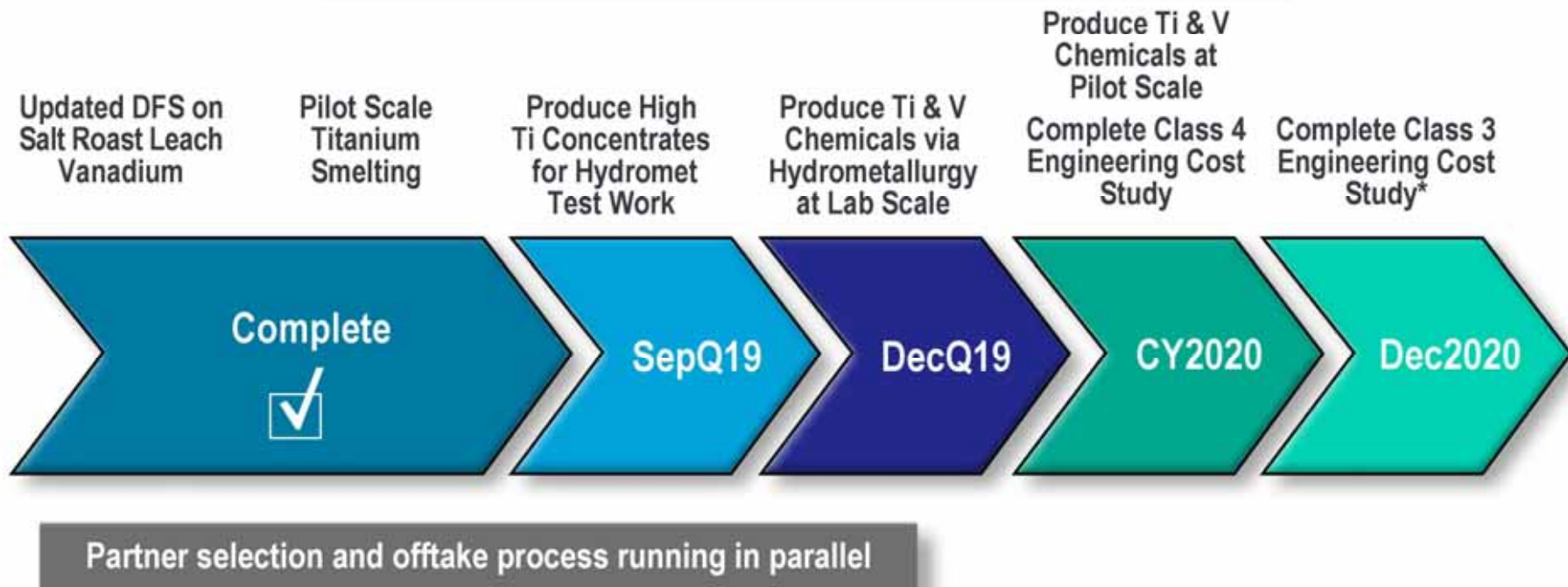


Take through to Class 3 DFS in 2020

Barrambie Indicative Project Pipeline

Ti/V

Indicative Project Timeline - Barrambie Project



*Class 2 FEED Study to follow.

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Li + Ti/V = Nm

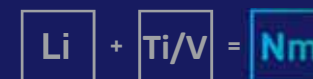
Ni

Exploration

Mt Edwards Project

Neometals 100%

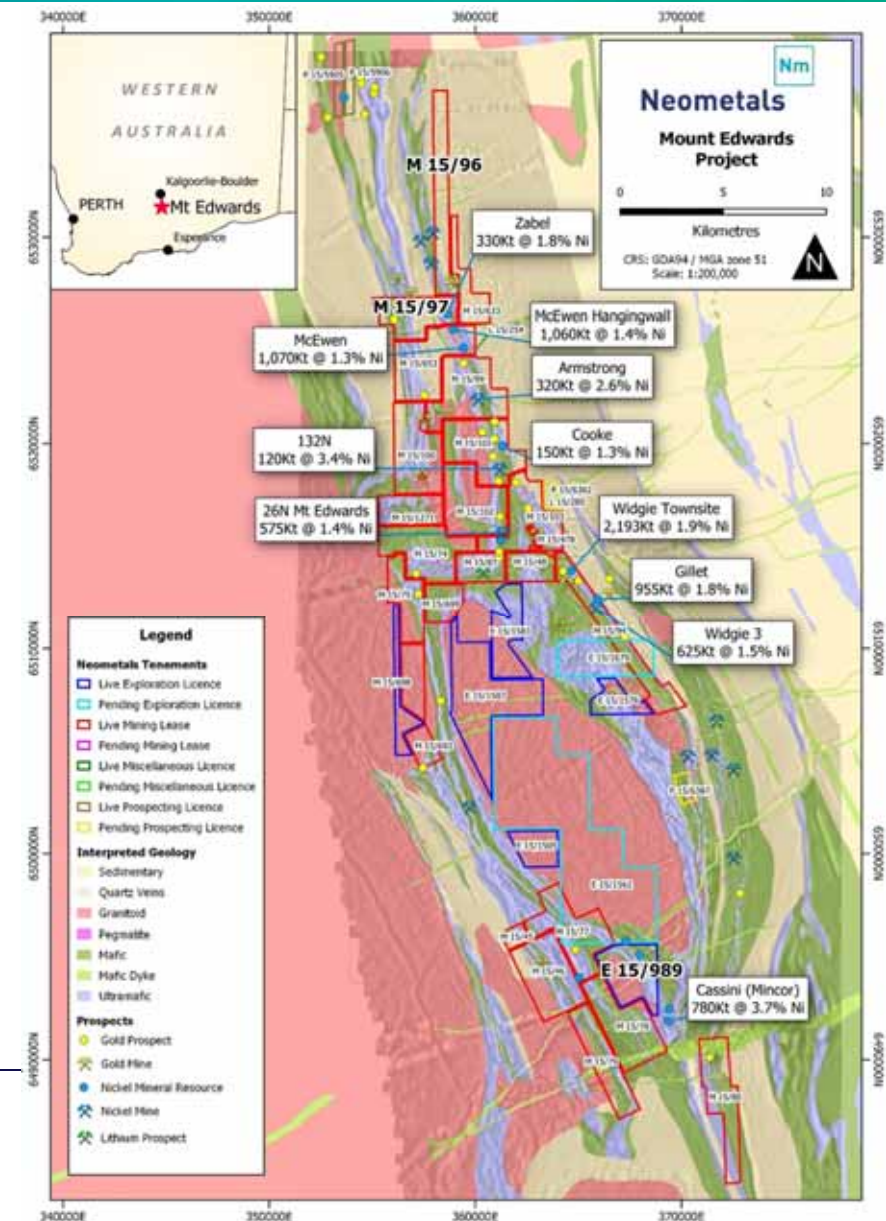
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Mt Edwards Nickel and Lithium Project

Nm

- Brownfields Ni and Li exploration project
- Significant historic Ni production and current inventory. Indicated and Inferred Mineral Resource of **7.39Mt @ 1.7% Ni** for ~**123,000t** contained Ni*
- Exploration confirms the presence of multiple fertile lithium-caesium-tantalum pegmatites**
- Located 80km south of Kalgoorlie. Access to sealed roads, rail and energy infrastructure
- Tenements cover area of 240km² across the highly prospective Widgiemooltha Dome
- Identified high-grade nickel sulphides (4m at 6.3% Ni) in recent in-fill drilling
- Li exploration not high priority at present



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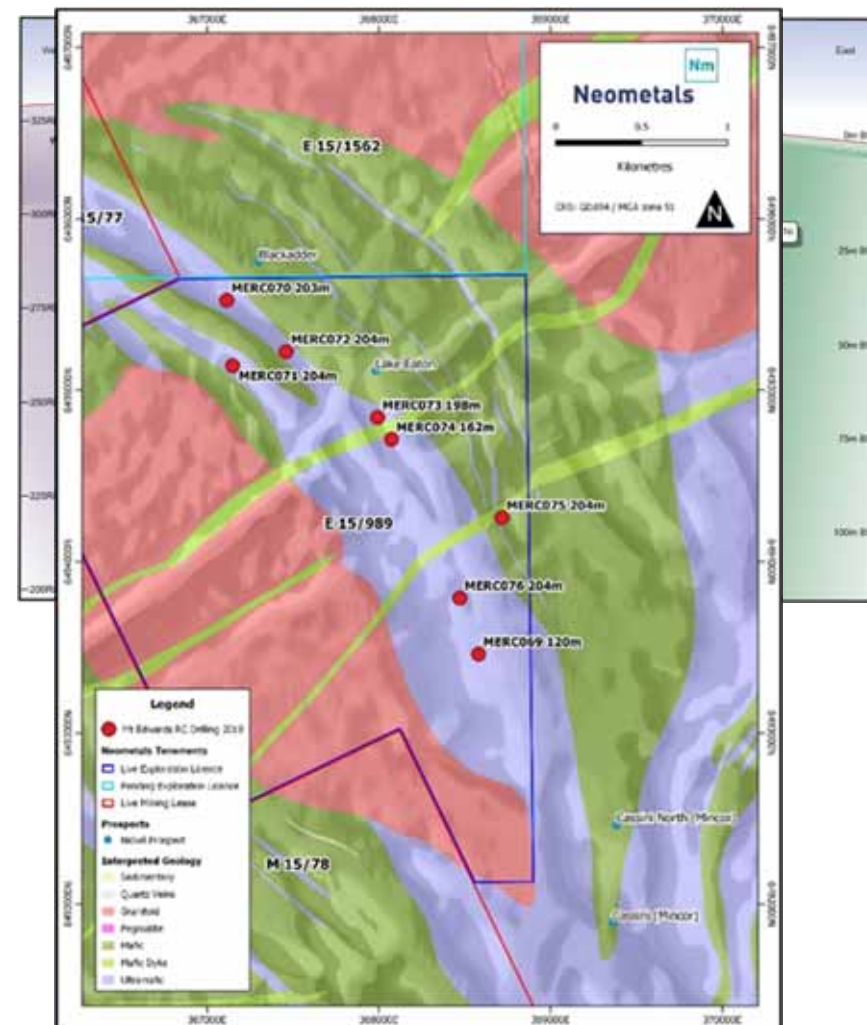
*See supporting information for Mt Edwards JORC Mineral Resource information

**Please refer to ASX announcement 19 April 2018 titled "Mt Edwards Nickel – Mineral Resource Estimate"

Latest exploration results

Nm

- 15-hole infill and exploration RC drilling program yielded encouraging assays at Zabel (330kt @ 1.8% Ni) including:
 - 8m @ 3.2% Ni from 108m (including 4 @ 6.3% Ni); and
 - 1m @ 5.1% Ni from 89m.
- Discovery at Lake Eaton prospect (2km NW of Cassini) – identified the contact that runs from Mincor's Cassini resource into NMT ground
- Anomalous nickel in fresh sulphides at top of ultramafic unit beneath lake sediments in MERC073
- Geochemical analysis indicates classic Kambalda style komatiite channels
- Downhole EM surveys complete and interpretation underway
- Drilling to test down dip/along strike of anomalous Lake Eaton assays and EM targets commences in early September



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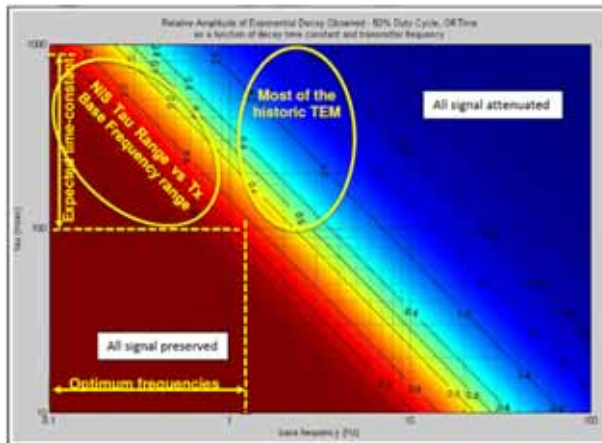
Please refer to ASX announcement 5 August 2019 titled "Mt Edwards Nickel – Drill Results"



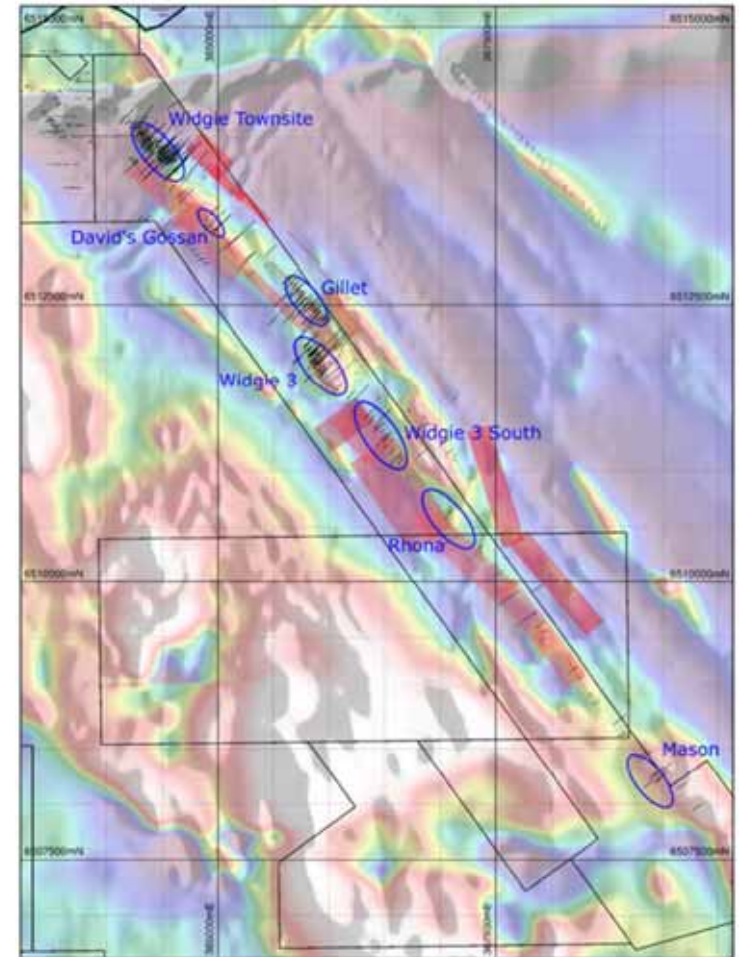
Targeting high-grade Ni within existing inventory and making new discoveries

Nm

- Newexco conducting extensive review of resources, exploration database and +50 historical targets
- Initial findings of review of historic geophysics are:
 - Inferior DHEM coil sensors used, recommend resurvering with fluxgate/SQUID
 - Majority of historic TEM have been carried out using wrong frequency 5 Hz vs ideally 1Hz (below)



- Fixed-Loop EM poor screening technique (conductors shaded red) poor correlation with current targets (in blue)



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Company Highlights



SECURITY

- ✓ Strong balance sheet A\$113.7* plus \$8.9M investments, no debt
- ✓ Strong board and management team, collectively the largest shareholders
- ✓ History of de-risking development with strong operating and offtake partners
- ✓ History of disciplined capital allocation, value realisation and sharing with shareholders

OPPORTUNITY

- ✓ Advanced portfolio of minerals and materials required for a sustainable future
- ✓ Innovative value-enhancement and risk-mitigating business models
- ✓ Clear growth strategy – unique and proven approach
- ✓ High impact nickel exploration commencing next month
- ✓ MCAP discrepancy – value crystallisation as already mature projects secure validation catalysts

Thank you

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SUPPORTING INFORMATION

Barrambie Mineral Resource Estimate

Ti/V

Global Resource as at 17 April 2018¹

	Tonnes (M)	TiO ₂ (%)	V ₂ O ₅ (%)
Indicated	187.1	9.61	0.46
Inferred	93.0	8.31	0.40
Total	280.1	9.18	0.44

High Grade V₂O₅ Resource (at 0.5% V₂O₅ cut-off)²

	Tonnes (M)	TiO ₂ (%)	V ₂ O ₅ (%)
Indicated	49.0	16.93	0.82
Inferred	15.9	16.81	0.81
Total	64.9	16.90	0.82

High TiO₂ Resource (14% TiO₂ cut-off)²

	Tonnes (M)	TiO ₂ (%)	V ₂ O ₅ (%)
Indicated	39.3	21.18	0.65
Inferred	14.3	21.15	0.58
Total	53.6	21.17	0.63

⁽¹⁾ Based on Cut-off grades of ≥0% TiO₂ or ≥.2% V₂O₅

Refer to Neometals' ASX release dated 17 April 2018 titled "Updated Barrambie Mineral Resource Estimate" available at www.neometals.com.au/reports/2018-04-17-5645-BarrambieP.pdf

⁽²⁾ The high-grade titanium and vanadium figures are a sub-set of the total Mineral Resource. These figures are not additive and are reporting the same block mode volume but using different cut-off grades.

Mt Edwards Mineral Resource Estimate

as at June 2018, for a block cut-off grade of 1% Ni

Classification	Deposit	Tonnes (kt)	Nickel %	Nickel (t)
Measured	Armstrong	10	2.1	210
Measured Total		10	2.1	210
Indicated	132N	110	3.5	3,895
	Armstrong	280	2.3	6,495
	Widgie Townsite	2,190	1.9	40,720
Indicated Total		2,580	2.0	51,110
Inferred	132N	10	1.8	175
	Armstrong	30	4.9	1,475
	Cooke	150	1.3	1,950
	McEwen	1,070	1.3	13,380
	McEwen Hangingwall	1,060	1.4	14,840
	Zabel	330	1.8	5,780
	Mt Edwards	575	1.4	8,210
	Widgie3	625	1.5	9,160
	Gillet	955	1.8	17,050
Inferred Total		4,805	1.5	72,020
Grand Total		7,395	1.7	123,340

NOTE: Figures may not sum due to rounding. Significant figures do not imply an added level of precision.

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