

**ASX: RXL**



# **Rox Resources**

## **Battery Metals Conference Presentation**

**21 March 2019**

**Alex Passmore**

**ASX: RXL** [www.roxresources.com.au](http://www.roxresources.com.au)

**Chief Executive Officer**

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## Competent Person Statements

### Exploration Results

*The information in this report that relates to previous Exploration Results, was either prepared and first disclosed under the JORC Code 2004 or under the JORC Code 2012 and has been properly and extensively cross-referenced in the text to the date of original announcement to ASX. In the case of the 2004 JORC Code Exploration Results and Mineral Resources, they have not been updated to comply with the JORC*

### Resource Statements

*The information in this report that relates to nickel Mineral Resources for the Fisher East project was reported to the ASX on 5 February 2016 (JORC 2012). Rox confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 5 February 2016, and that all material assumptions and technical parameters underpinning the estimates in the announcement of 5 February 2016 continue to apply and have not materially changed.*

*The information in this report that relates to nickel Mineral Resources for the Collurabie project was reported to the ASX on 18 August 2017 (JORC 2012). Rox confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 18 August 2017, and that all material assumptions and technical parameters underpinning the estimates in the announcement of 18 August 2017 continue to apply and have not materially changed.*

*The information in this report that relates to gold Mineral Resources for the Mt Fisher project was reported to the ASX on 11 July 2018 (JORC 2012). Rox confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 28 March 2018, and that all material assumptions and technical parameters underpinning the estimates in the announcement of 28 March 2018 continue to apply and have not materially changed.*

# Disclaimers



## Cautionary Statement – Scoping Study Parameters

*The updated Scoping Study released to the ASX on the 10<sup>th</sup> of October 2018 is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the updated Scoping Study will be realised.*

*The updated Scoping Study and the production targets derived from the updated Scoping Study are preliminary in nature as the conclusions are drawn on Inferred Mineral Resources (12%) and Indicated Mineral Resources (88%).*

*The Indicated Mineral Resources and Inferred Mineral Resources underpinning the conclusions from the updated Scoping Study, including the production targets, have been prepared by a competent person in accordance with the requirements of JORC Code 2012 Edition. This announcement does not include an estimate of Ore Reserves as the supporting modifying factors have not been determined to a sufficient level of confidence.*

*Some (12%) of the Mineral Resources used in the study are Inferred Mineral Resources. When subset to the Resources in the Mining Plan there are only 4.2% Inferred Resources. There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the predictions of expected costs or production rates contained herein, and the production targets themselves, will be realised.*

*Unless otherwise stated all financial figures are in Australian dollars, are undiscounted and are not subject to inflation or escalation factors. All years are calendar years.*

*At this stage no toll milling agreement has been negotiated and there is no certainty that an acceptable toll milling agreement can be negotiated.*

*The forward nickel price and exchange rate assumptions in this report are based on a careful consideration of market forecasts and consensus by a number of third parties. There is no guarantee that this nickel price or exchange rate will be realised.*

*The Company has concluded that there is a reasonable basis for providing the forward-looking statements included in this report and detailed reasons for that conclusion are contained herein. The Company cautions though that there is no certainty that the forecast financial information or production targets will be realised. Material assumptions underpinning the production target and forecast financial information derived from the production targets are set out in this announcement.*

*The Study referred to in this announcement is a technical and economic investigation of the viability of the Fisher East Project. It is based on low accuracy technical and economic assessments, (+/- 35% accuracy) and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Study will be realised. The Production Target referred to in this presentation is based on JORC Resources which are approximately 96% Indicated and 4% Inferred. The mine plan has been generated using stope optimisation and averaging of grades over multiple year periods prior to the application of mining dilution. To achieve the outcomes indicated in this study initial funding in the order of A\$48 to A\$87 million is likely to be required. Investors should note that there is no certainty that Rox will be able to raise funding when needed. It is also possible funding may only be available on terms that may be dilutive to or otherwise effect the value of Rox's shares.*

# Highlights



- ◆ New management, new energy, focus, and strategy
- ◆ Rox is a junior exploration and development company that has a strong history of exploring for, and discovering, base metal and gold deposits
- ◆ The company has traded mineral assets when these have not met the strategic imperatives of the company or when a divestment represented an exceptionally strong return
- ◆ The Rox team has a strong technical background and the recent addition of new CEO (Alex Passmore) adds market knowledge and project generation capacity
- ◆ Rox's Fisher East nickel project to be monetised:
  - ◆ JV / Development
  - ◆ Asset Sale options also being considered
- ◆ Well funded with \$11.6m cash and receivables



# Corporate Information



## Capital Structure

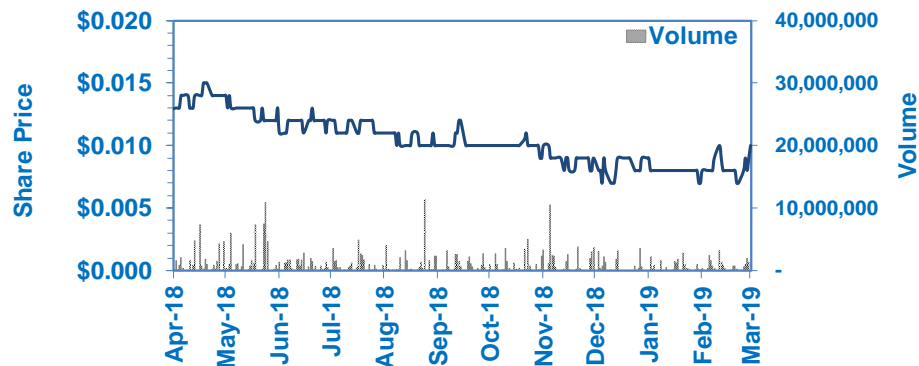
ASX Code:	RXL
Shares on Issue:	1,259M
Share Price:	A\$0.009
Unlisted Options:	65.8M
Market Capitalisation:	\$11.3M
Cash & Receivables* (at 31 Dec 2018):	\$11.6M
Debt:	Nil
Top 20:	21%

\* A\$3.75 million deferred payment from Teck for Reward sale, plus \$0.4 million in held shares and \$7.9 million in cash (as at 31 December 2018)

## Board and Management

Chairman	Stephen Dennis
Managing Director (retiring)	Ian Mullholland
Finance Director	Brett Dickson
Chief Executive Officer	Alex Passmore
Exploration Manager	Will Belbin

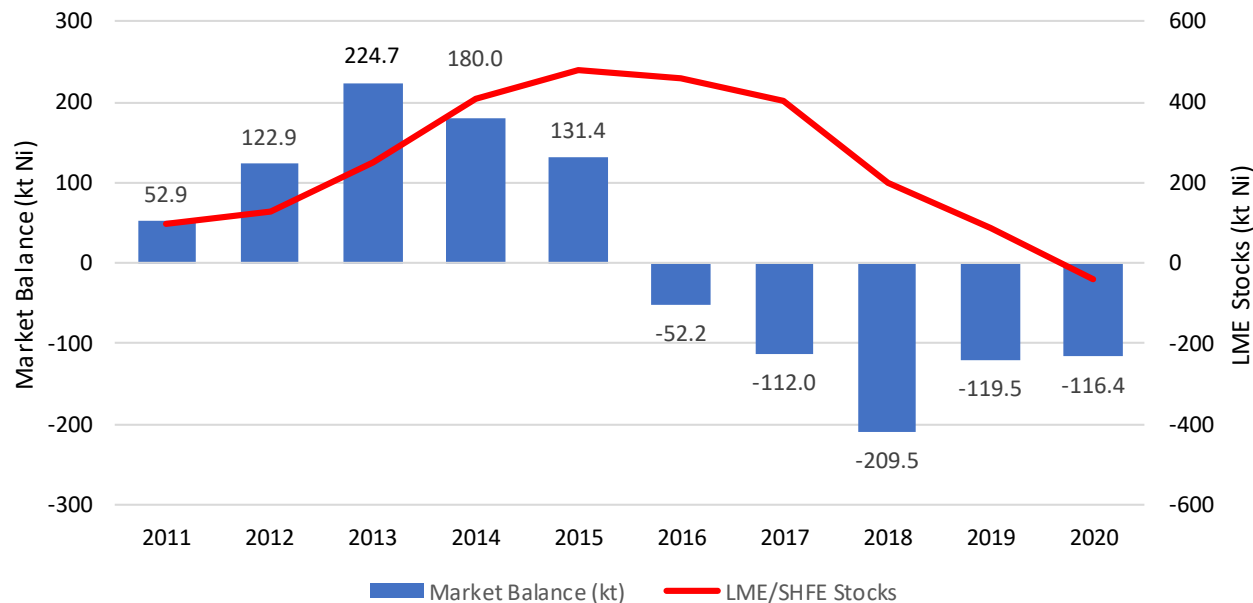
Rox Share Price, Last 12 Months



- Lack of market liquidity and market recognition for RXL
- H2 CY2018 was characterised by broader market weakness
- Trading below cash and receivables on low volumes.
- Has suffered from a lack of news flow and market apathy
- Management very aware of the value disconnect

# Nickel Market Deficit

Nickel Market Balance & Stocks



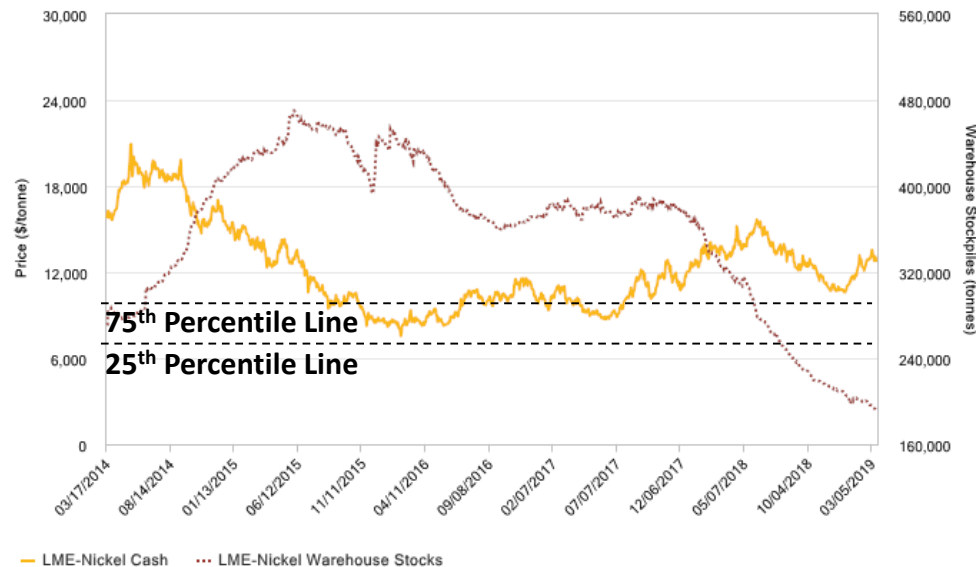
- Nickel market deficit emerged in 2016 and is expected to continue for sometime
- Nickel used in battery end uses to grow rapidly (estimates of 40% CAGR)
- Currently 70% nickel supply is used in stainless with battery usage increasing from 4% of total demand



# Nickel Price Observations

- Nickel price has started to edge upwards in Q1 CY2019
- However this is a muted response given:
  - Rapidly declining stocks in LME warehouse
  - Price is not far above cash cost level for the best performing  $\frac{3}{4}$  of the sector
  - At 2015 price levels 75% of the industry was cash negative
  - No incentive for capital investment

Prices only just rebounding of the cost curve



Source: adapted from SP Global

# Rox's Nickel Projects



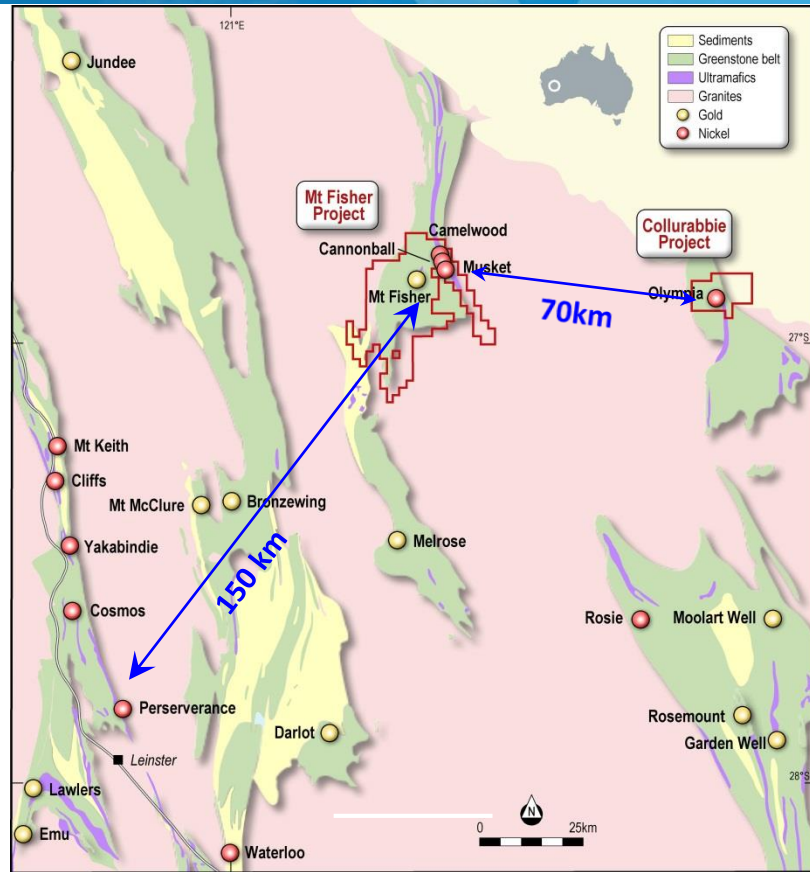
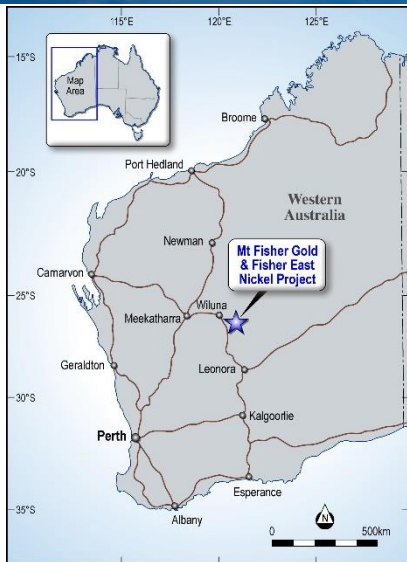
- ◆ High Grade Nickel Sulphide Resources in WA
- ◆ 4.8 Mt @ 2.0% Ni; 91,000t Ni\*
- ◆ WA is a stable and reliable jurisdiction
- ◆ Amongst the highest grade Ni in WA



*\*See Appendix for resource details*



# Rox's Nickel Projects



- Two exceptional high grade nickel sulphide resources in WA's northern goldfields
- 70km apart
- 150km from established infrastructure

# Fisher East Nickel Conceptual Plan



- Updated Scoping Study<sup>1</sup> based on new Conceptual Mining Study by CSA – stope optimisations, detailed mine schedule – optimum mining rate was 500 ktpa
- Other parameters same as previous Scoping Study in 2015<sup>2</sup>
- Two possible cases examined:
  - Build a concentrator on site (Concentrator Case)
  - Truck ore to nearby plant (Toll Mill Case)
- Resources in Mining Plan of 2.9Mt @ 1.7% Ni are ~96% Indicated
- Next stage is to expand resource and then undertake pre-feasibility level work

# Scoping Study Delivers



	Concentrator	Toll Mill
<b>Mining Inventory</b>	2.9Mt @ 1.7% Ni	2.9Mt @ 1.7% Ni
<b>Mine Life</b>	6 years	6 years
<b>Annual Production</b>	7,300t Ni in conc	7,300t Ni in conc
<b>Pre-Production Capital</b>	A\$87m	A\$48m
<b>Operating Cash Costs</b>	US\$3.14/lb	US\$3.42/lb
<b>All In Sustaining Costs</b>	US\$3.57/lb	US\$3.83/lb
<b>Net Cash Flow</b>	A\$146.5m	A\$102.3m
<b>NPV</b>	<b>A\$79.2</b>	<b>A\$58.2</b>
<b>IRR</b>	<b>44%</b>	<b>55%</b>

*See Appendix for source data*

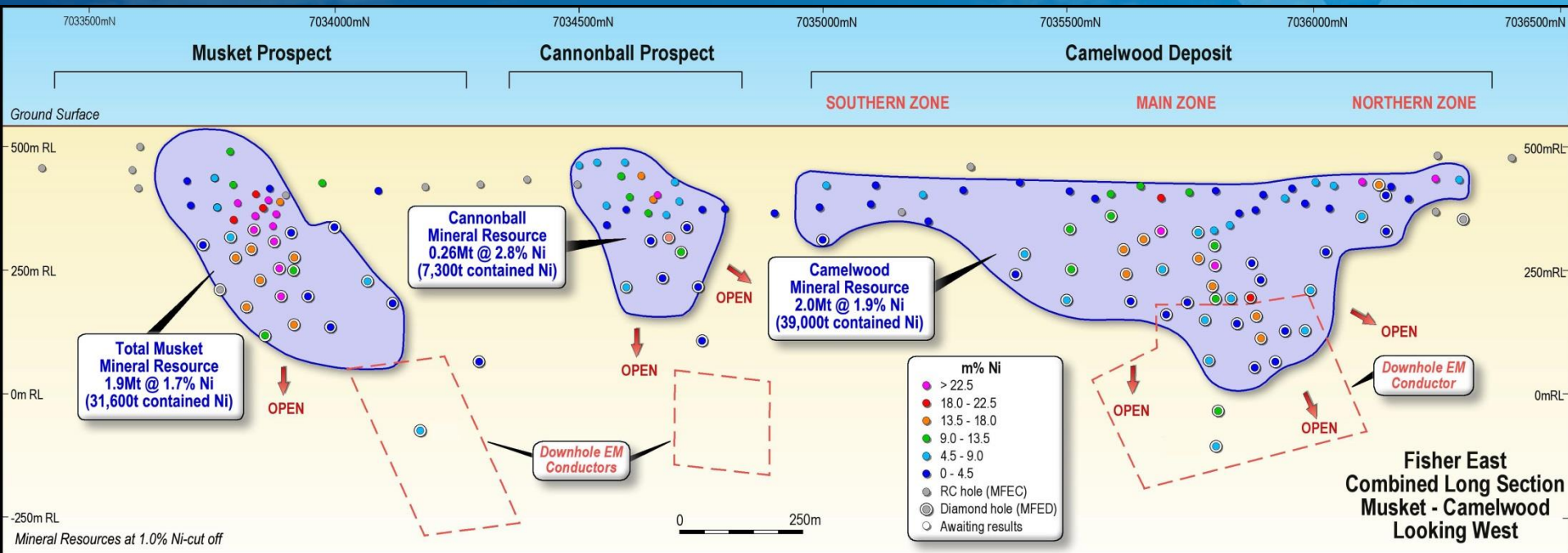
*Please refer Scoping Study announcement dated 10 October 2018.*

*Please note Cautionary Statements regarding Scoping Studies and the Cautionary Statement regarding Forward Looking Statements on slides 2 & 3.*

*Estimate is accurate to ±35%*

*The Company is not aware of any new information that materially affects the information included in the relevant announcement.*

# Fisher East Resources



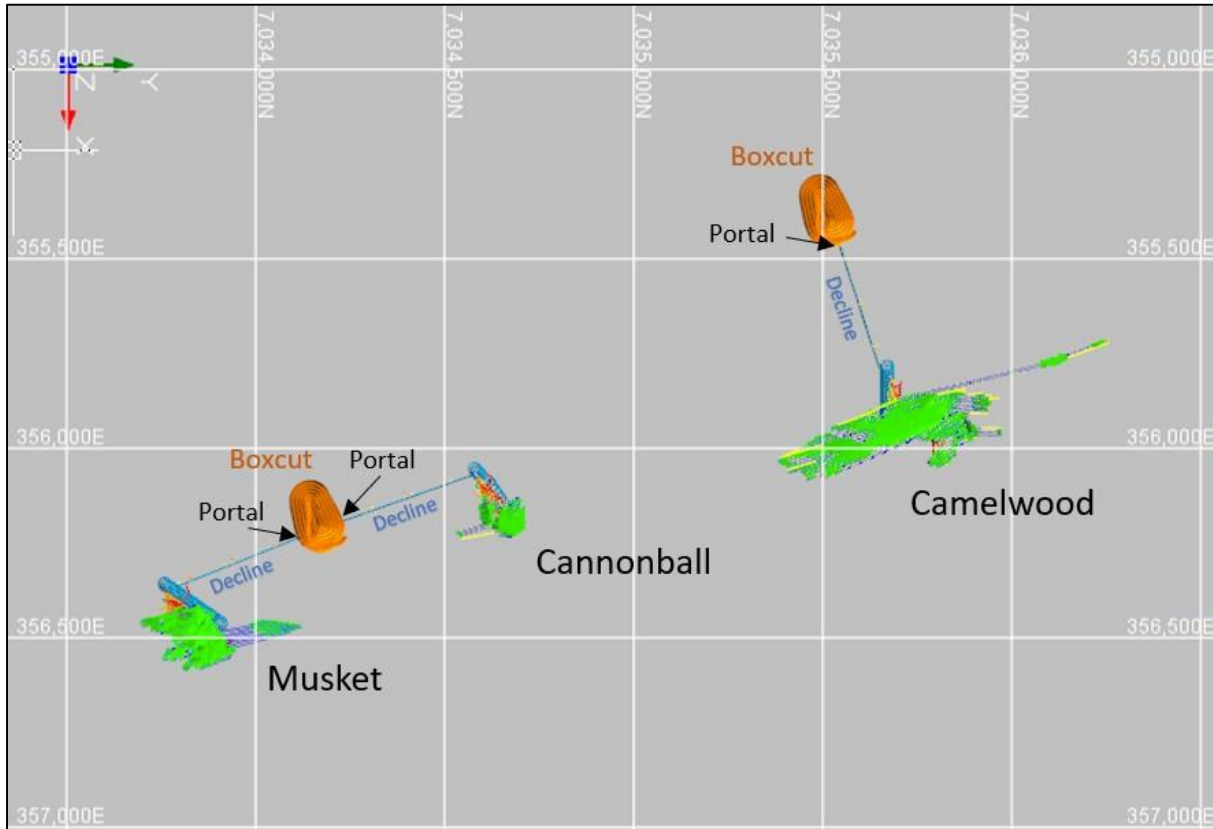
➤ Total Mineral Resource\* of **4.2 Mt @ 1.9% Ni**, for **78,000 tonnes Ni metal**

➤ Potential to increase current resources and to identify new resources

\* See Appendix for Mineral Resource details



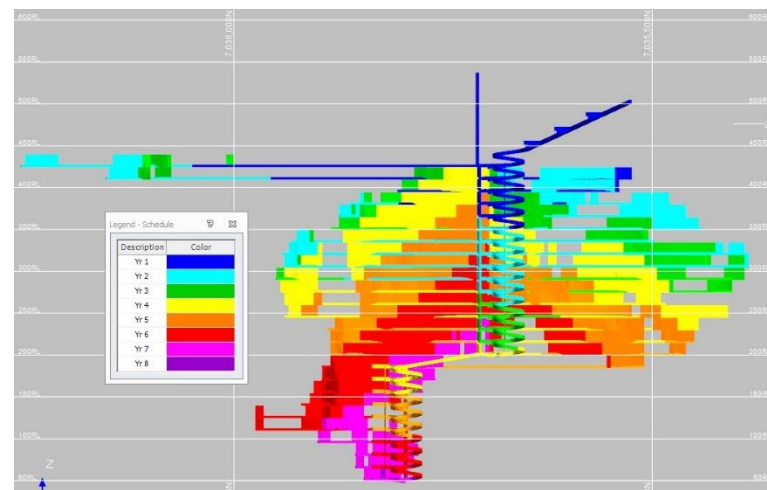
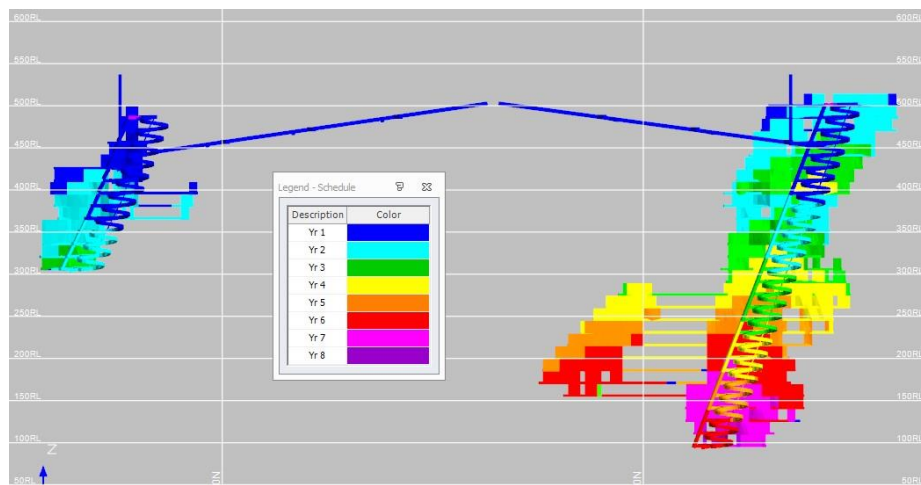
# Mine Layout



- Three deposits are along a 2km strike
- Shared decline for Musket/Cannonball
- Camelwood has its own decline
- Spiral declines
- Standard underground mining technique - sublevel stoping with paste fill
- 15 m sublevels, with 3.0m x 3.0m mineralised development profiles

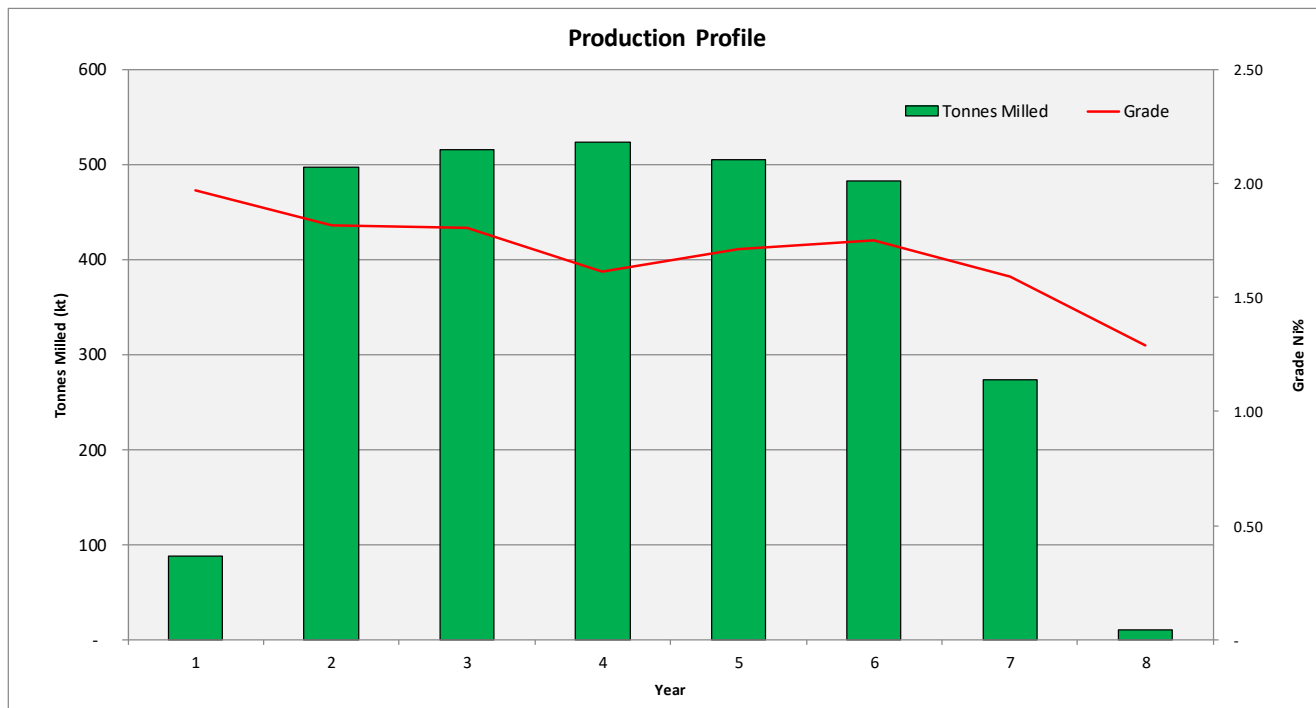


# Mine Schedule & Design



- ➊ Years 1 and 2 are most capital intensive
- ➋ Depth and side extensions at Musket to be drilled
- ➌ Depth extensions at Camelwood also to be drilled
- ➍ Current 6 year mine life could be extended to 9 years with extra drilling

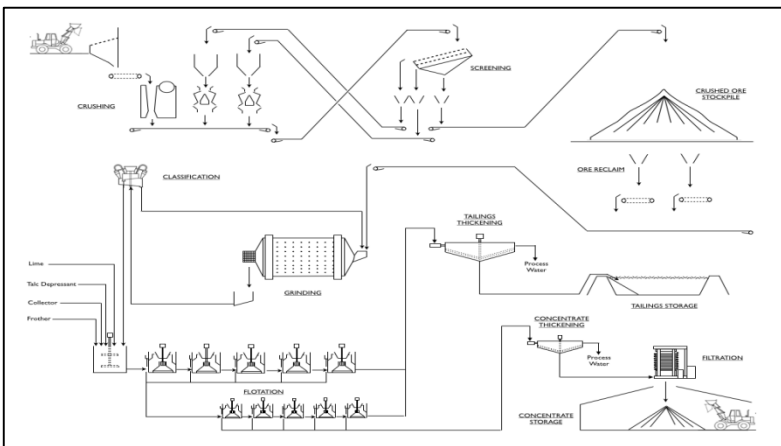
# Mine Schedule & Design



# Processing & Logistics



- Simple process flow sheet and logistics
- Metallurgical recoveries, 80 – 99%, and saleable concentrate grades, 10 - 14% Ni, acceptable Fe:MgO ratios, low As (no penalties)
- Overall metallurgical recovery of 88% at concentrate grade of 13% Ni assumed
- 500,000 tpa milling rate
- Concentrator on site Capex \$87m
- Toll Mill Capex \$48m
- Either truck concentrate to Esperance (900km), or truck ore to Leinster (200km)
- Baseline environmental studies complete
- **Increased resources will increase mine life and project value**



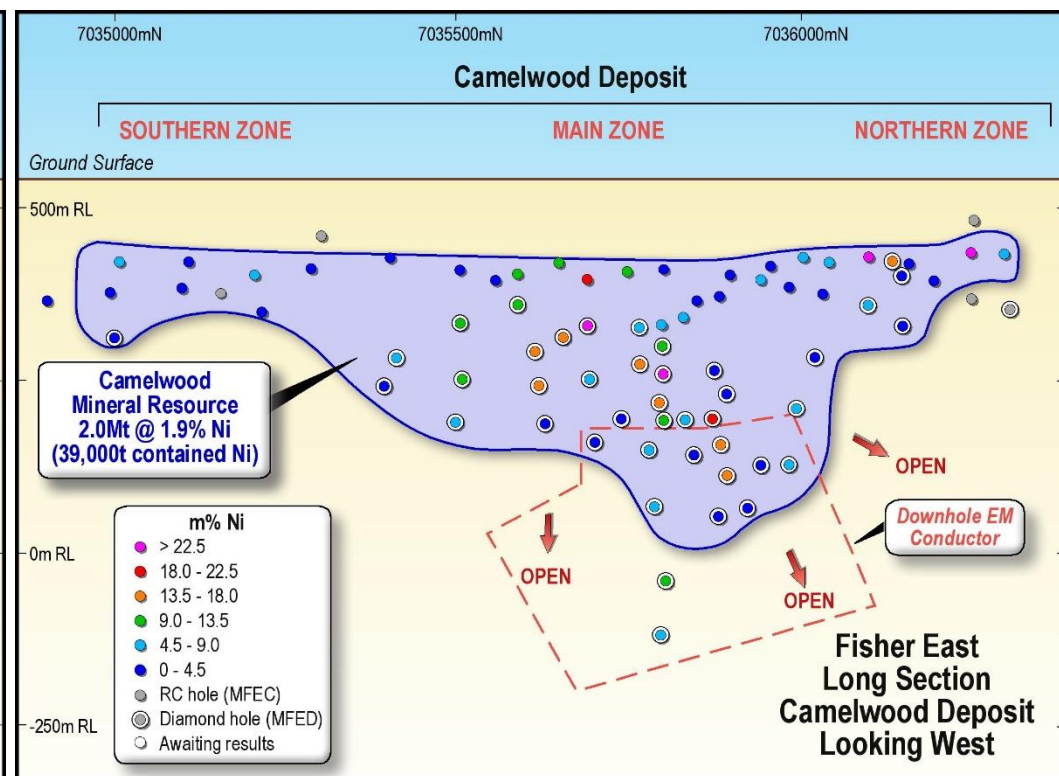
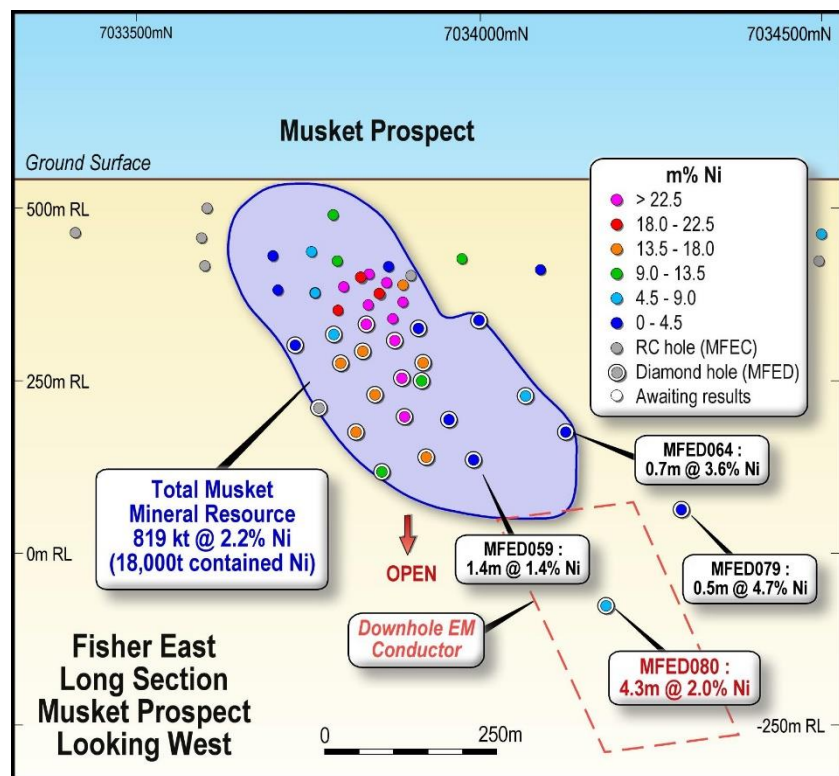
# Cost Estimates



Operating Costs	Concentrator Case (A\$/lb)	Concentrator Case (US\$/lb)	Toll Mill Case (A\$/lb)	Toll Mill Case (US\$/lb)	Metric (pre-tax)	Unit	Concentrator Case	Toll Mill Case
Mining & Development Cost	2.25	1.69	2.25	1.69	Pre-tax Cash Flow	A\$M	~A\$146m	~A\$102m
Transport Cost	0.63	0.47	1.19	0.89	Pre-tax NPV	A\$M	~A\$79m	~A\$58m
Processing Cost	1.16	0.87	1.04	0.78	IRR	%	~44%	~55%
G & A	0.15	0.11	0.07	0.06	Capital Payback Period	Years	~2.3 Years	1.8 Years
C1 Cash Cost (rounded)	<b>4.20</b>	<b>3.15</b>	<b>4.60</b>	<b>3.45</b>				
WA State Royalty	0.17	0.13	0.16	0.12				
Total Cash Costs	4.37	3.27	4.72	3.54				
Sustaining Capital	0.39	0.29	0.38	0.29				
All in Sustaining Cost (rounded)	<b>4.80</b>	<b>3.60</b>	<b>5.10</b>	<b>3.83</b>				

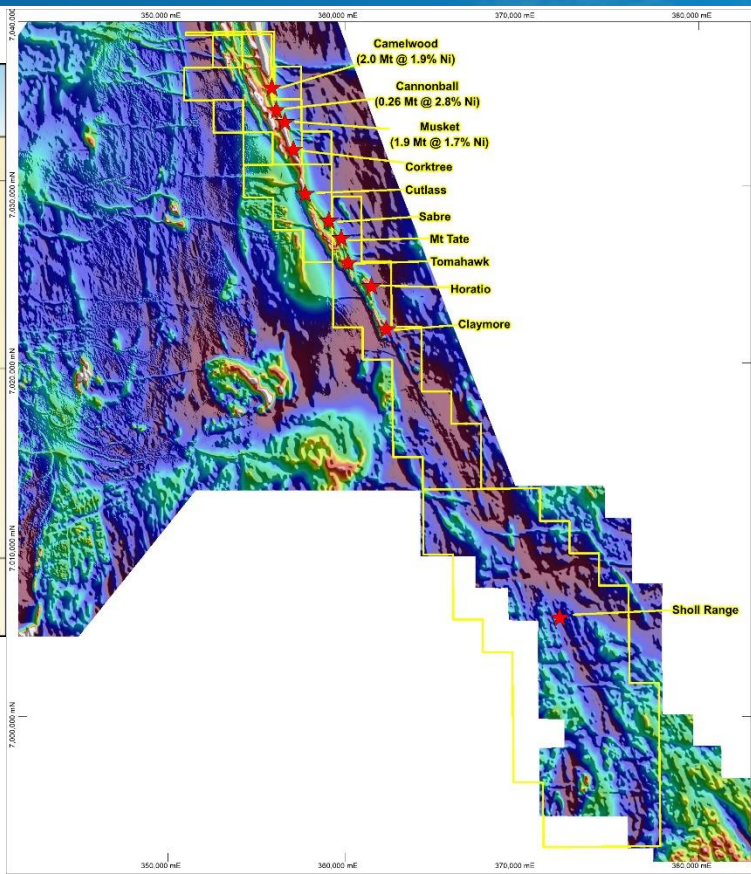
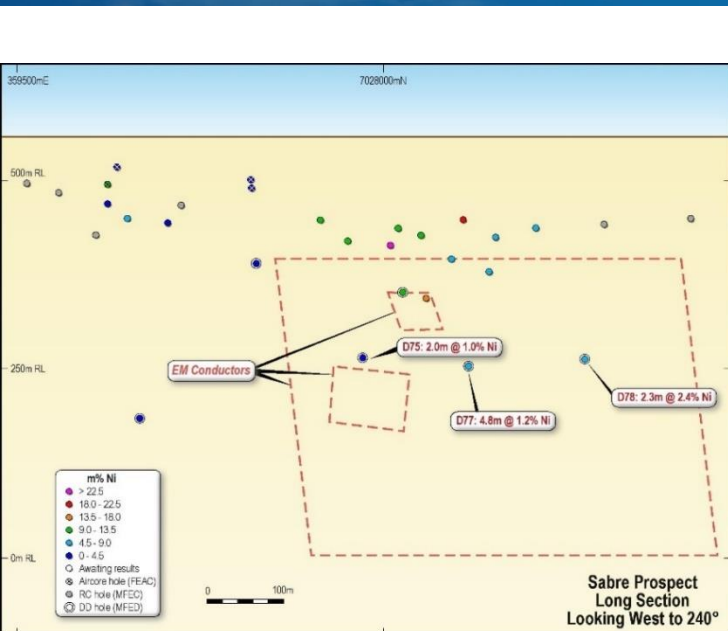
Capital item	Concentrator Case (A\$M)	Toll Mill Case (A\$M)	Financial Assumption	\$/t	\$/lb
Mining Capital	29	29	Nickel Price US\$	US\$16,500/t	US\$7.50/lb
Process Plant & Infrastructure	58	19	Nickel Price A\$	A\$22,000/t	A\$10.00/lb
Pre-Production Capital	<b>87</b>	<b>48</b>	Exchange Rate A\$/US\$	0.75	0.75
Post-Production Capital	38	37			
<b>TOTAL</b>	<b>125</b>	<b>85</b>			

# Resource Extensions





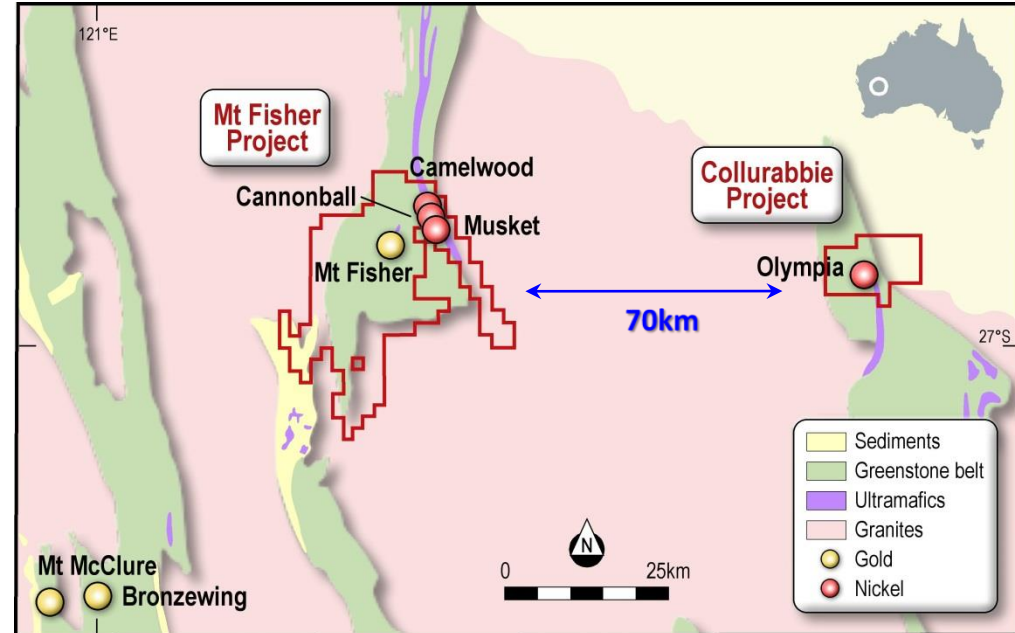
# Mineralisation not in Resource



- Exploration of several targets along 25km of strike
- Economic thicknesses and grades of Ni intersected at **Sabre**
- Fresh sulphides >1.5% Ni
- in RC at **Mt Tate** 0.6% Ni intersected at Sholl Range
- Over **40km** of strike to explore

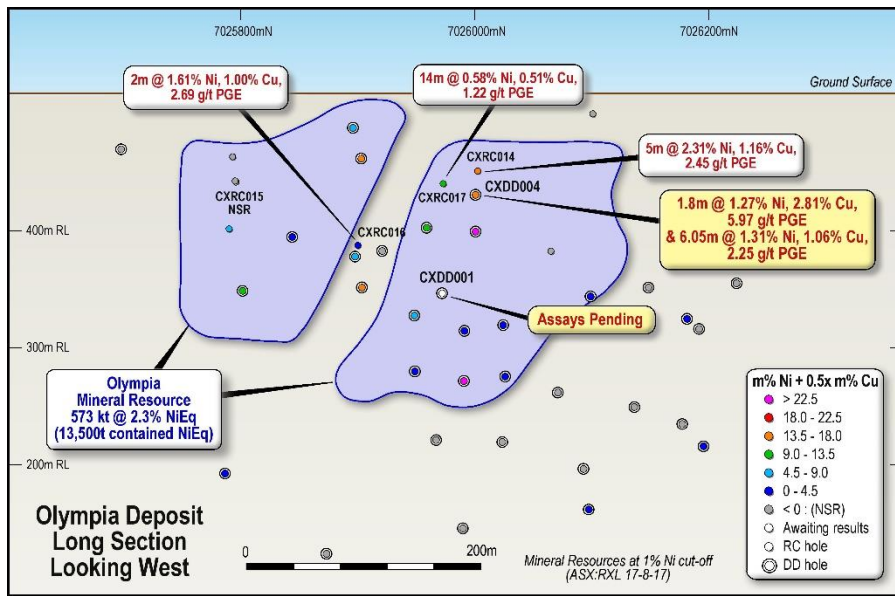
# Collurabbie

- 167 km<sup>2</sup> of prospective tenure
- Main discovery at Olympia deposit
- Only 70km from Fisher East
- Widespread Ni-Cu-PGE mineralisation** over ~15km strike length on multiple stratigraphic horizons
- Underdone previous exploration**
- Extensive and quality datasets of drilling and geophysics
- Drill targets for Ni-Cu-PGE and Au
- Counter-cyclical high quality acquisition at a relatively cheap\* price



\* \$25,000 cash + 7.5 million RXL shares (~\$150K)

# Exploration Potential



🌀 Olympia Mineral Resource of **573,000 tonnes @ 1.6% Ni, 1.2% Cu, 0.08% Co and 2.3 g/t Pt+Pd, 2.3% NiEq\***

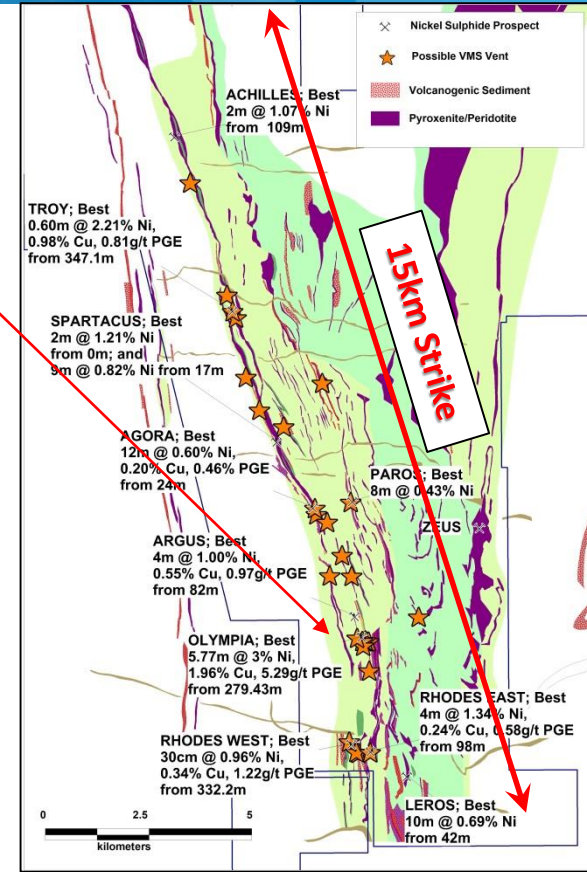
🌀 High grade drill intercepts

🌀 Open at depth

🌀 Exploration potential over 15km of strike

🌀 First pass metallurgical test work underway!

*\* See Appendix for Mineral Resource details*





# Key Points

- Impressive Fisher East Scoping Study Outcomes
- Both Concentrator and Toll Cases are very attractive – and Upside Case is very achievable
- Large shallow mineral systems (over 10km in strike length, open at 700m depth, sulphides at 60m depth)
- Straight forward underground mining & processing
- Excellent metallurgy and concentrate specs
- Rox is aiming to monetise the Fisher East nickel project in the coming 12 months -> JV, development, divestment or a combination thereof





# Thank You

Rox Resources Limited

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# Appendix - Study Outcomes



Capital Costs	Concentrator Case	Toll Case
Mining Inventory	2.9Mt @ 1.7% Ni	2.9Mt @ 1.7% Ni
Pre-Production Capital	A\$87.0m	A\$48.0m
Sustaining Capital	A\$37.9m	A\$37.0m
Life of Mine	6.0 years	6.0 years
Processing Rate	500ktpa	500ktpa
Nickel in concentrate - LOM	44,100t	44,100t
Nickel in concentrate - Annual	7,300tpa	7,300tpa
Nickel Price	US\$7.50/lb	US\$7.50/lb
Exchange Rate (AUD:US)	0.75	0.75
Revenue	A\$678.5m	A\$630.0m
C1 Cash Costs	A\$4.19/lb (US\$3.14/lb)	A\$4.56/lb (US\$3.42/lb)
All in Sustaining Costs	A\$4.76/lb (US\$3.57/lb)	A\$5.10/lb (US\$3.83/lb)
EBITDA	A\$271.3m	A\$187.4m
Net Cash Flow (pre-tax)	<b>A\$146.5m</b>	<b>A\$102.3m</b>
Pre-tax NPV (10%)	<b>A\$79.2m</b>	<b>A\$58.2m</b>
IRR	<b>44%</b>	<b>55%</b>
Payback	2.25 years	1.8 years

See RXL announcement  
10 October 2018

# Appendix – Mineral Resources



## Fisher East Nickel, ASX:RXL 5 February 2016

Deposit	Category	Tonnes (Mt)	Ni%	Ni (kt)
Camelwood	Indicated	1.7	2.0	34.0
	Inferred	0.3	1.5	5.0
	<b>Total</b>	<b>2.0</b>	<b>1.9</b>	<b>39.0</b>
Cannonball	Indicated	0.24	2.9	7.0
	Inferred	0.02	1.9	0.3
	<b>Total</b>	<b>0.26</b>	<b>2.8</b>	<b>7.3</b>
Musket	Indicated	1.8	1.7	30.0
	Inferred	0.1	1.5	1.5
	<b>Total</b>	<b>1.9</b>	<b>1.7</b>	<b>31.6</b>
<b>TOTAL</b>	<b>Indicated</b>	<b>3.7</b>	<b>1.9</b>	<b>71.0</b>
	<b>Inferred</b>	<b>0.5</b>	<b>1.5</b>	<b>7.0</b>
	<b>Total</b>	<b>4.1</b>	<b>1.9</b>	<b>78.0</b>

Fisher East: 1.0% Ni block cut-off grade.  
Values may not sum due to rounding.

## Olympia Nickel-Copper-PGE, ASX:RXL 18 August 2017

Tonnes (kt)	Ni %	Cu %	Co ppm	Pd ppm	Pt ppm	NiEq %*	NiEq (kt)	Pd+Pt (koz)
<b>573</b>	<b>1.6</b>	<b>1.2</b>	<b>820</b>	<b>1.5</b>	<b>0.85</b>	<b>2.2</b>	<b>13.5</b>	<b>43.0</b>

Olympia: 1.0% Ni block cut-off grade.  
Values may not sum due to rounding.

Information provided as required by section 50 of the JORC Code 2012

\*NiEq = (Ni grade x Ni price x Ni recovery + Cu grade x Cu price x Cu recovery) / (Ni price x Ni recovery)

Where Ni price = US\$13,000/t, Cu price = US\$6,300/t (as of 10 October 2018)

Ni recovery = 85%, Cu recovery = 85%

Metallurgical recoveries based on results from deposits with similar mineralogy, e.g. Savannah (83% recovery for both Ni and Cu), and Nova (88% recovery for both Ni and Cu). In general, the metallurgical recoveries of nickel and copper are similar, so the factors cancel each other out in the metal equivalent calculation. In addition, metallurgical recoveries at the Fisher East project average 88% for nickel.

It is the Company's reasonable opinion that all metals in the metal equivalent will be able to be recovered and sold, as they are at Savannah and Nova.

# Appendix – Mineral Resources



## Mt Fisher Gold, ASX:RXL 11 July 2018

Deposit	Category	Tonnes	Grade (g/tAu)	Gold (Oz)
Moray Reef	Measured	25,521	8.02	6,577
	Indicated	4,930	5.95	943
	Inferred	1,242	3.87	155
	<b>TOTAL</b>	<b>31,693</b>	<b>7.53</b>	<b>7,675</b>
Mt Fisher	Measured	125,605	3.61	14,569
	Indicated	59,533	3.63	6,948
	Inferred	40,934	3.41	4,494
	<b>TOTAL</b>	<b>226,073</b>	<b>3.58</b>	<b>26,011</b>
Damsel	Measured	23,712	2.59	1,974
	Indicated	151,464	2.27	11,060
	Inferred	591,820	2.23	42,339
	<b>TOTAL</b>	<b>766,997</b>	<b>2.25</b>	<b>55,373</b>
<b>TOTAL</b>	Measured	174,838	4.11	23,121
	Indicated	215,928	2.73	18,951
	Inferred	633,997	2.31	46,987
	<b>TOTAL</b>	<b>1,024,762</b>	<b>2.70</b>	<b>89,059</b>

0.8 g/tAu block cut-off grade.

Values may not sum due to rounding.