**ASX: RXL** 



EXPLOREX

# Cashed Up Nickel Explorer

Rox Resources Limited

Australian Nickel Conference

23 October 2018

ASX: RXL www.roxresources.com.au

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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 Code 2012 on the basis that the information has not materially changed since it was last reported.

#### **Exploration Target**

The information in this report that relates to Exploration targets for the Fisher East nickel sulphide project is based on information compiled by Mr Ian Mulholland (B.Sc.(hons), M.Sc. F.AusIMM, FAIG, FSEG), a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy (AusIMM) and is also a Fellow of the Australian Institute of Geoscientists (AIG). Mr Mulholland is a full-time employee of the Company and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Mulholland consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### 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 Collurabbie project was reported to the ASX on 18 August 2017 (IORC 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.

### Disclaimers



#### **Cautionary Statement – Scoping Study Parameters**

The updated Scoping Study 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.

### It's All About Nickel





"Amongst the highest grade Ni in WA" High Grade Nickel
Sulphide Resources
in WA

"WA is a stable and reliable jurisdiction"

**₹** 

"Ni price was up 70% in last financial year"

4.8 Mt @ 2.0% Ni; 91,000t Ni\* Major Re-rating of Rox share price



"Valuation of peers is higher per resource tonne of Ni"

Scoping Study
Cash Flow
A\$146M



Upswing in Ni price underway



\*See Appendix for resource details

# **Scoping Study Update**



- ◆ Updated Scoping Study¹ 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 2015²
- 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	
Mining Inventory	2.9Mt @ 1.7% Ni	2.9Mt @ 1.7% Ni	
Mine Life	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	
All In Sustaining Costs	US\$3.57/lb	US\$3.83/lb	
Net Cash Flow	A\$146.5m	A\$102.3m	
NPV	A\$79.2	A\$58.2	
IRR	44%	55%	

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.

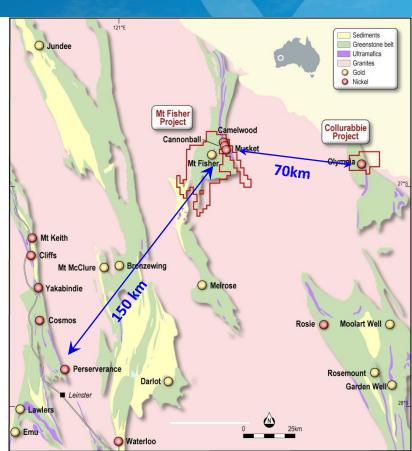
# Nickel Sulphide Discoveries





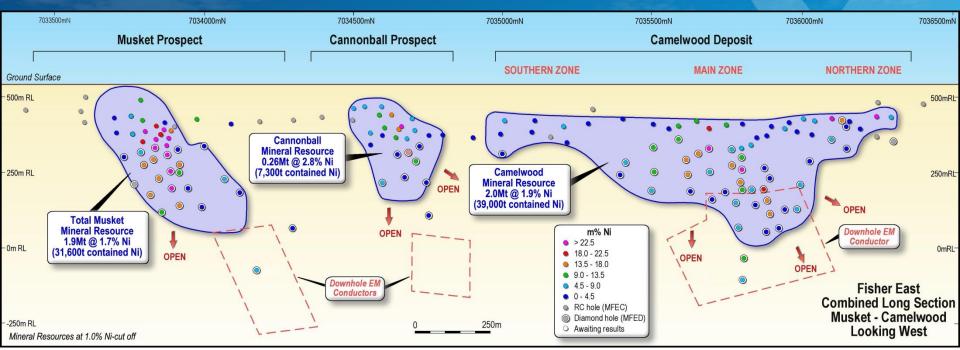


- Two exceptional high grade nickel sulphide resources in WA's northern goldfields
- 70km apart
- 150km from established infrastructure



### Fisher East Resources

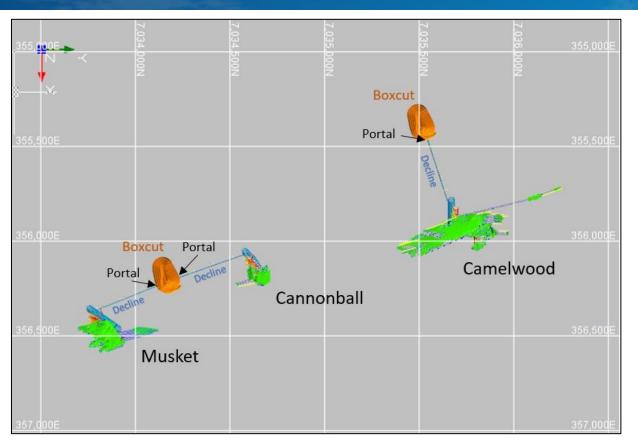




- Total Mineral Resource\* of 4.2 Mt @ 1.9% Ni, for 78,000 tonnes Ni metal
- Potential to increase current resources and to identify new resources

# Mine Layout

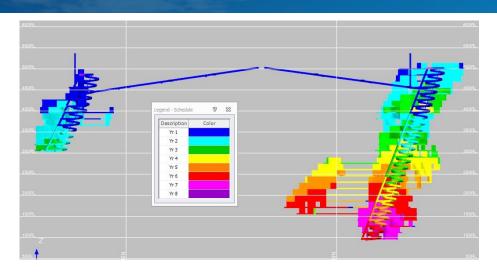


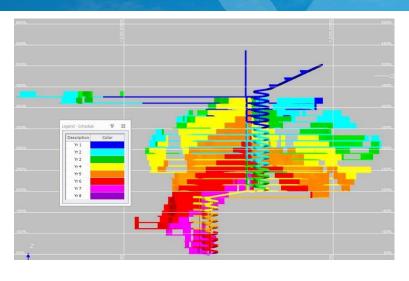


- Three deposits are along a 2km strike
- Shared decline for Musket/ Cannonball
- Camelwood has its own decline
- Spiral declines
- Standard underground mining technique - sublevel stoping with paste fill
- 15 m sublevels, with 3.0m x3.0m mineraliseddevelopment profiles

# Mine Schedule & Design







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

# Mine Schedule & Design

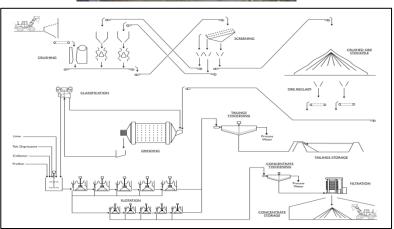




# **Processing & Logistics**







- **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

12

### Cost Estimates

**Sustaining Capital** 

All in Sustaining Cost (rounded)



Operating Costs	Concentrator	Concentrator	Toll Mill Case	Toll Mill Case	Metric (pre-tax)	Unit	Concentrator	Toll Mill
	Case (A\$/lb)	Case (US\$/lb)	(A\$/lb)	(US\$/lb)			Case	Case
Mining & Development Cost	2.25	1.69	2.25	1.69	Pre-tax Cash	A\$M	~A\$146m	~A\$102m
Transport Cost	0.63	0.47	1.19	0.89	Flow	77141	742-10111	AQIOZIII
Processing Cost	1.16	0.87	1.04	0.78	Pre-tax NPV	A\$M	~A\$79m	~A\$58m
G & A	0.15	0.11	0.07	0.06	IRR	%	~44%	~55%
C1 Cash Cost (rounded)	4.20	3.15	4.60	3.45	Capital Payback	Years	~2.3 Years	1.8 Years
WA State Royalty	0.17	0.13	0.16	0.12	Period			
Total Cash Costs	4.37	3.27	4.72	3.54				

0.38

5.10

0.29

3.83

Capital item	Concentrator Case	Toll Mill Case (A\$M)	
	(A\$M)		N
Mining Capital	29	29	N
Process Plant & Infrastructure	58	19	IN
Pre-Production Capital	87	48	E
Post-Production Capital	38	37	
TOTAL	125	85	

0.29

3.60

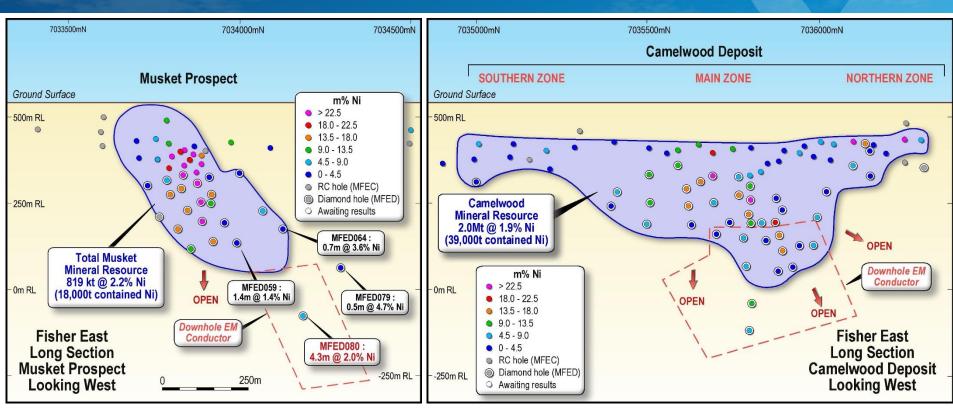
0.39

4.80

Financial Assumption	\$/t	\$/lb		
Nickel Price US\$	US\$16,500/t	US\$7.50/lb		
Nickel Price A\$	A\$22,000/t	A\$10.00/lb		
Exchange Rate A\$/US\$	0.75	0.75		

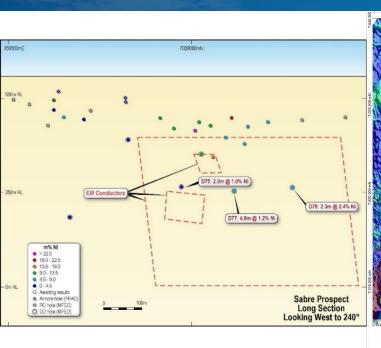
### Resource Extensions

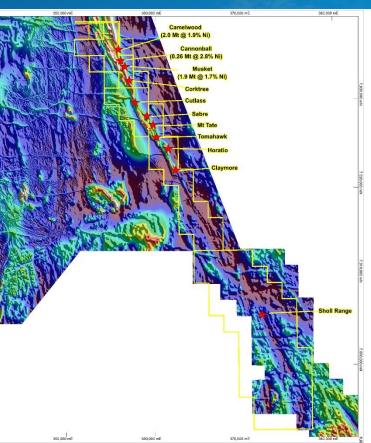




# **Upside Case**







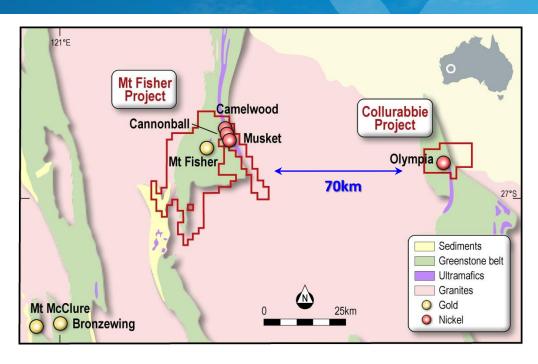
- **Exploration of** several targets along 25km of strike
- Economic thicknesses and grades of Ni intersected at Sabre
- Fresh sulphides in aircore at Mt Tate to follow up
- 0.6% Ni intersected at Sholl Range
- Over 40km of strike to explore

15

### Collurabbie

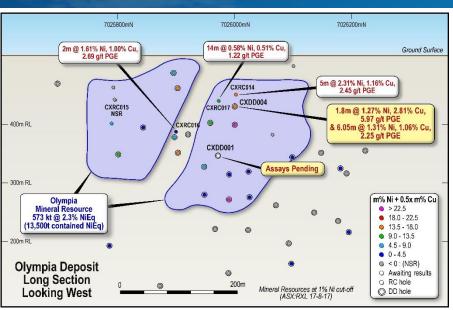


- ◆ 167 km² of prospective tenure
- Main discovery at Olympia deposit
- Only 70km from Fisher East
- Widespread Ni-Cu-PGE mineralisation over ~15km strike length on multiple stratigraphic horizons
- Underdone previous exploration
- Extensive and quality datasets of drilling and geophysics
- Drill targets for Ni-Cu-PGE and Au
- Counter-cyclical high quality acquisition at a relatively cheap\* price



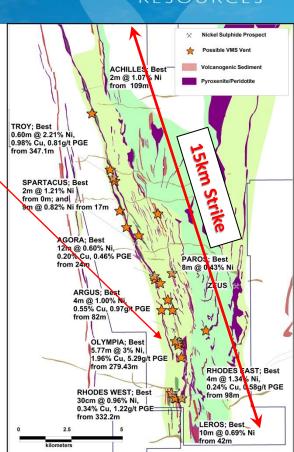
# **Exploration Potential**





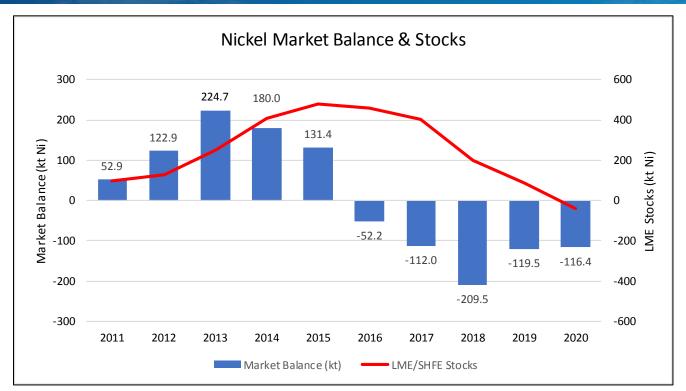
- Olympia Mineral
  Resource of 573,000
  tonnes @ 1.6% Ni,
  1.2% Cu, 0.08% Co
  and 2.3 g/t Pt+Pd,
  2.3% NiEq\*
  - High grade drill intercepts
- Open at depth
- Exploration potential over 15km of strike
- First pass metallurgical test work underway!

<sup>\*</sup> See Appendix for Mineral Resource details



# Nickel Deficit is Coming





- After 5 years of surplus, nickel market now into yearly deficits (out to 2020 and beyond)
- Stocks shrinking to "alarm" levels by late-2019
- Supply Demand forces will lead to upward pressure on nickel price

After Deutsche Bank, July 2018

# **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)
- ◆ Aggressively exploring tenements covering > 500km²
- Straight forward underground mining & processing
- Excellent metallurgy and concentrate specs
- Strong treasury of cash & receivables = \$12.8 million\*





# Corporate Information



Capital Structure						
ASX Cod	de:	RXL				
Shares	on Issue:	1,259M				
Share P	rice:	A\$0.010				
Unlisted	d Options:	65.8M				
Market	Cap:	\$12.6M				
Cash & 30 Jun 2	Receivables* (at 2018):	\$12.8M				
Debt:		Nil				
EV: Trading at ~Ca		\$-0.2M				
Top 20:	Backing	22%				

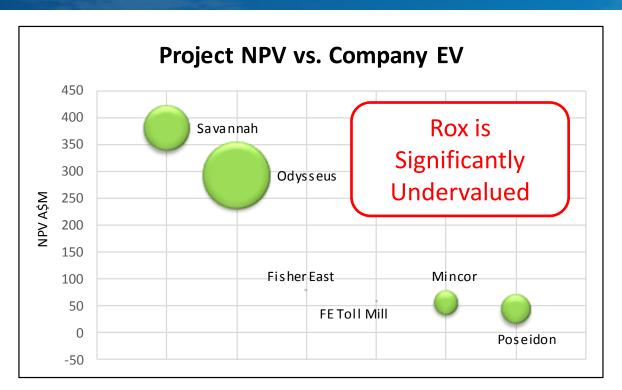




<sup>\*</sup> NPV of A\$3.75 million deferred payment from Teck for Reward sale is A\$2.4 million

# A Great Opportunity





- RXL Cash & receivables have an NPV ~\$13m
- Concentrator Case has an NPV of \$79m
- Toll Mill Case has NPV of \$58m
- Rox's Market Cap should be a lot more than cash backing!
- Independent research\* has valued Rox at ~\$35m (\$0.026/share)

<sup>\*</sup>e.g. Bell Potter, 20 June 2018



# Thank You

**Rox Resources Limited** 

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# Appendix - Study Outcomes ROX



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)	A\$146.5m	A\$102.3m	
Pre-tax NPV (10%)	A\$79.2m	A\$58.2m	
IRR	44%	55%	
Payback	2.25 years	1.8 years	

### Appendix – Mineral Resources



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

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

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

### 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)
573	1.6	1.2	820	1.5	0.85	2.2	13.5	43.0

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

#### <u>Information provided as required by section 50 of the JORC Code 2012</u>

\*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 – Peer Comparison Data



	Unit	Savannah	Odysseus	Fisher East	FE Toll Mill	Mincor	Poseidon
Ore Reserves/Mining Inventory	Mt	7.7	4.9	2.9	2.9	1.1	3.3
Grade	Ni%	1.42	2.30	1.73	1.73	2.50	0.72
Production Rate	ktpa	936	750	500	500	300	1100
Mine Life	Yrs	8	8	6	6	4	3
Up-Front Capex	A\$M	32	200	87	48	32.6	31.4
Sustaining Capex	A\$M	198	68	37.9	37	36.5	25
Total Capex	A\$M	230	268	124.9	85	69.1	57
Орех	A\$/t	120	130	140.7	152.9	179.4	67
Production p.a. (Ni conc)	ktpa Ni	10.8	12.0	7.3	7.3	4.4	8.0
Total Production	ktpa Ni	89.6	90.0	43.9	43.9	16.5	24.0
Capital Intensity	\$/t Ni	2,566	2,978	2,935	2,027	4,188	2,361
Ni Price Used	US\$/t	14,884	16,500	16,500	16,500	16,500	16,979
Discount Rate	%	8	7	10	10	10	10
Exchange Rate	\$US:A\$	0.75	0.75	0.75	0.75		0.76
Net Cash Flow	A\$M	570.0	580.0	146.5	102.3	80.6	60.2
NPV (Pre-Tax)	A\$M	380	292	79.2	58.2	54.6	43.6
IRR	%	200	28	44	55	70.7	92
C1 Cash Cost	A\$/lb	2.10	3.21	4.19	4.56	5.75	4.18
AISC	A\$/lb	4.80	3.69	4.76	5.10	6.80	6.71
Information Source		ASX:PAN 27-10-17	ASX:WSA 30-3-17	ASX:RXL 10-10-18	ASX:RXL 10-10-18	ASX:MCR 10-3-16	ASX:POS 18-7-18
Study Stage		Feasibility	Pre-Feasibility	Scoping	Scoping	Feasibility	Feasibility
Enterprise Value (as of 10-10-18)	A\$M	246	535	1	1	68	104