

Iron Ore 2017

24-26 July 2017

Central Eyre Iron Project

*Developing a new iron ore mine in a challenging climate*



# Disclaimer

## Forward Looking Statements

This announcement contains certain statements with respect to future matters which may constitute "forward-looking statements". Such statements are only predictions and are subject to inherent risks and uncertainties which could cause actual values, results, performance or outcomes to differ materially from those expressed, implied or projected. Investors are cautioned that such statements are not guarantees of future performance and accordingly not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

## Competent Persons' Statements

The information in this report that relates to the Inferred Mineral Resources (Oxide and Transitional) estimated for the Murphy South - Boo-Loo/Dolphin prospect is based on and fairly represents information and supporting documentation compiled by Mr Iain MacFarlane, who was a Fellow of the Australasian Institute of Mining and Metallurgy. Mr MacFarlane at the time of release was a full time employee of Coffey Mining Limited. There has been no material change and as such this resource is reported as it was released in 2011. Mr MacFarlane had sufficient experience relevant to the style of mineralisation and the type of deposits under consideration and to the activity which he was undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr MacFarlane has consented to the inclusion in reports of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Resources estimated in 2013 for the Murphy South/Rob Roy (Fresh) prospect is based on and fairly represents information and supporting documentation compiled by Ms Heather Pearce, who is a member of the Australasian Institute of Mining and Metallurgy, and was a full-time employee of Iron Road Limited. This estimation was peer reviewed by Dr Isobel Clark, who is a member of the Australasian Institute of Mining and Metallurgy and who at the time of release was employed by Xstract Mining Consultants. Dr Clark has sufficient experience relevant to the style of mineralisation and the type of deposits under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Clark consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this report that relates to Mineral Resources (Fresh) estimated for the Boo-Loo/Dolphin prospect is based on and fairly represents information and supporting documentation compiled by Ms Heather Pearce, who is a member of the Australasian Institute of Mining and Metallurgy, and was a full-time employee of Iron Road Limited at the time of release. This estimation was peer reviewed by Mr Alex Virisheff, who is a member of the Australasian Institute of Mining and Metallurgy and employed by AMC Consultants. Mr Virisheff has sufficient experience relevant to the style of mineralisation and the type of deposits under consideration and to the activity which he is undertaking 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 Virisheff consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The Ore Reserves estimated for CEIP involving mine planning is based on and fairly represents information and supporting documentation compiled by Mr Bob McCarthy, a Member of the Association of Professional Engineers and Geoscientists of British Columbia (Canada) and a full time employee of SRK Consulting (North America). Mr McCarthy has sufficient experience relevant to the style of mineralisation and the type of deposits under consideration and to the activity which he is undertaking 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 McCarthy consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The Ore Reserves estimated for the CEIP involving aspects other than mine planning is based on and fairly represents information and supporting documentation compiled by Mr Larry Ingle, a Member of the Australian Institute of Mining and Metallurgy and a full time employee of Iron Road Limited. Mr Ingle has sufficient experience relevant to the style of mineralisation and the type of deposits under consideration and to the activity which he is undertaking 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 Ingle consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# Overview

- Open pit mine, processing facilities, rail, port and all supporting infrastructure
- 24 Mtpa (dry) of 67% Fe magnetite product
- ~100  $\mu\text{m}$  direct sinter feed, no further processing
- 3.7 Bt @ 15% Fe Ore Reserve – largest in Australia
- 1 Mt per day total material movement



# Location



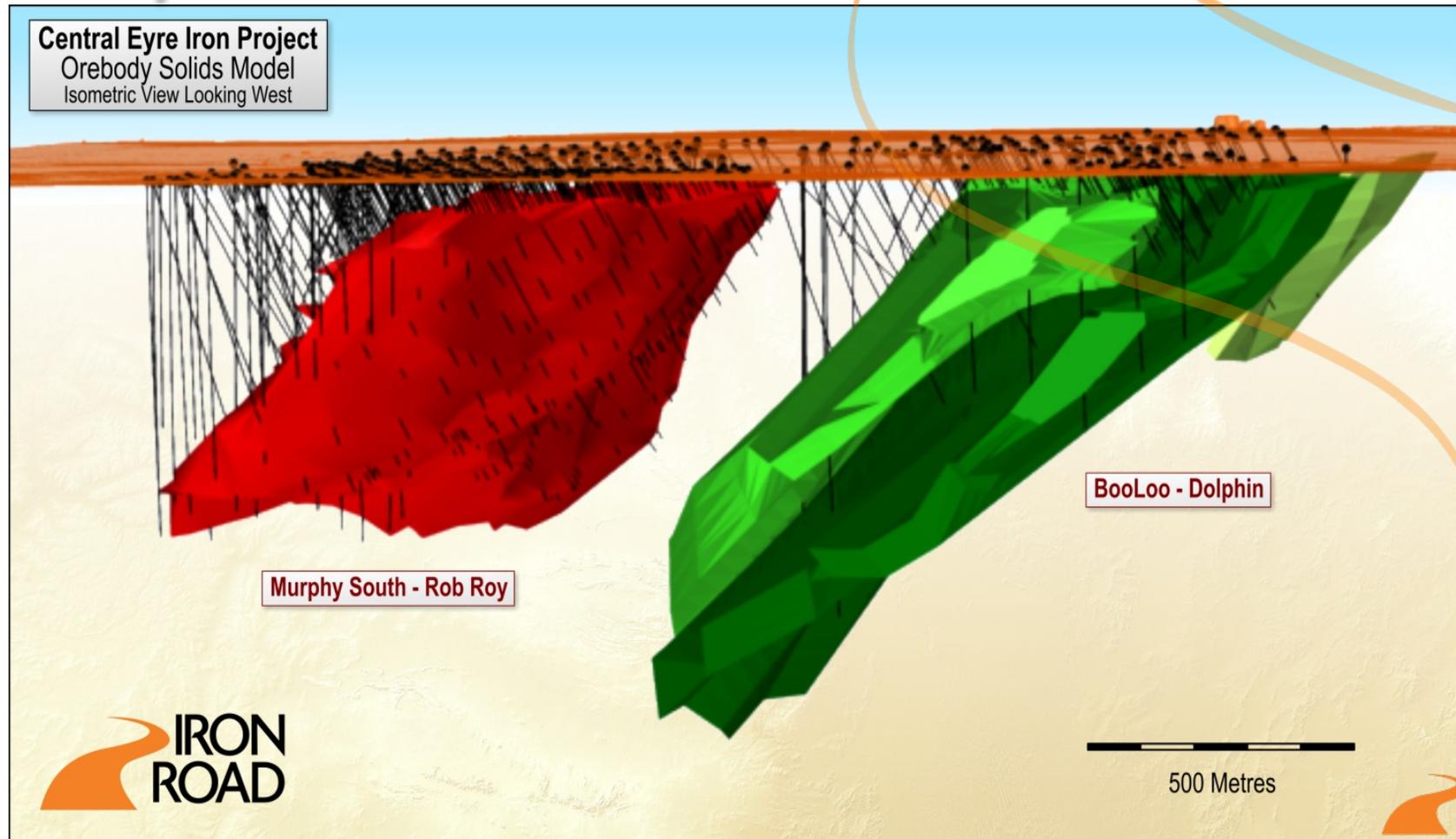
-  Tenement Outline
-  Main Road
-  Railway
-  Infrastructure Corridor
-  Proposed Cape Hardy port



Adelaide

# Orebody

Central Eyre Iron Project  
Orebody Solids Model  
Isometric View Looking West



Murphy South - Rob Roy

BooLoo - Dolphin

500 Metres



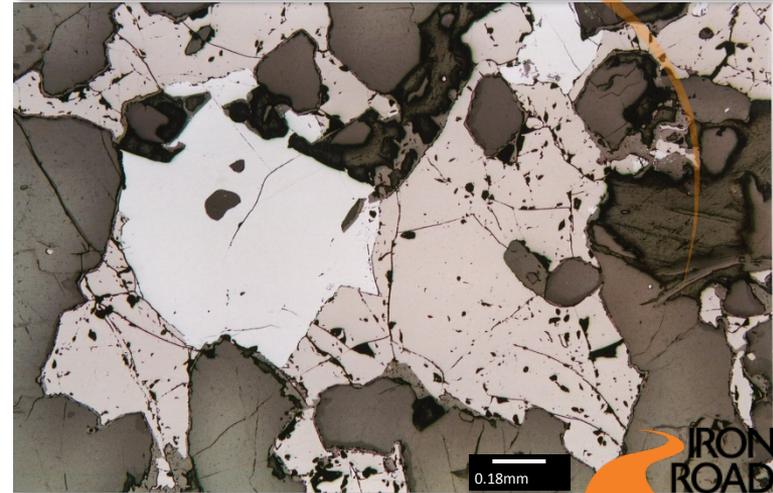
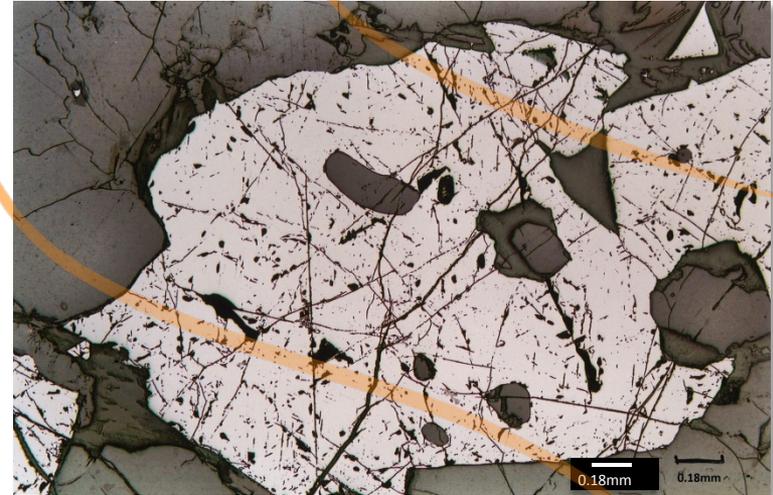
# Geology

- Quartz – feldspar – magnetite – garnet – biotite gneiss
- Low levels of S and P
- No clays, igneous intrusions or faults
- Low variability
- Average UCS of 110 MPa



# Mineralogy

- Mainly quartz – feldspar – magnetite
- Coarse-grained, average of 1.5 mm
- Cut with micro-fractures
- Sharp grain boundaries
- Grain size has driven the approach to process design



# Blasting and IPCC

- Using blasting as “primary crushing”
- In-Pit Crushing and Conveying
- Scalping screens and sizers
- Waste and Ore crushed
- Conveyors moving crushed waste and ore

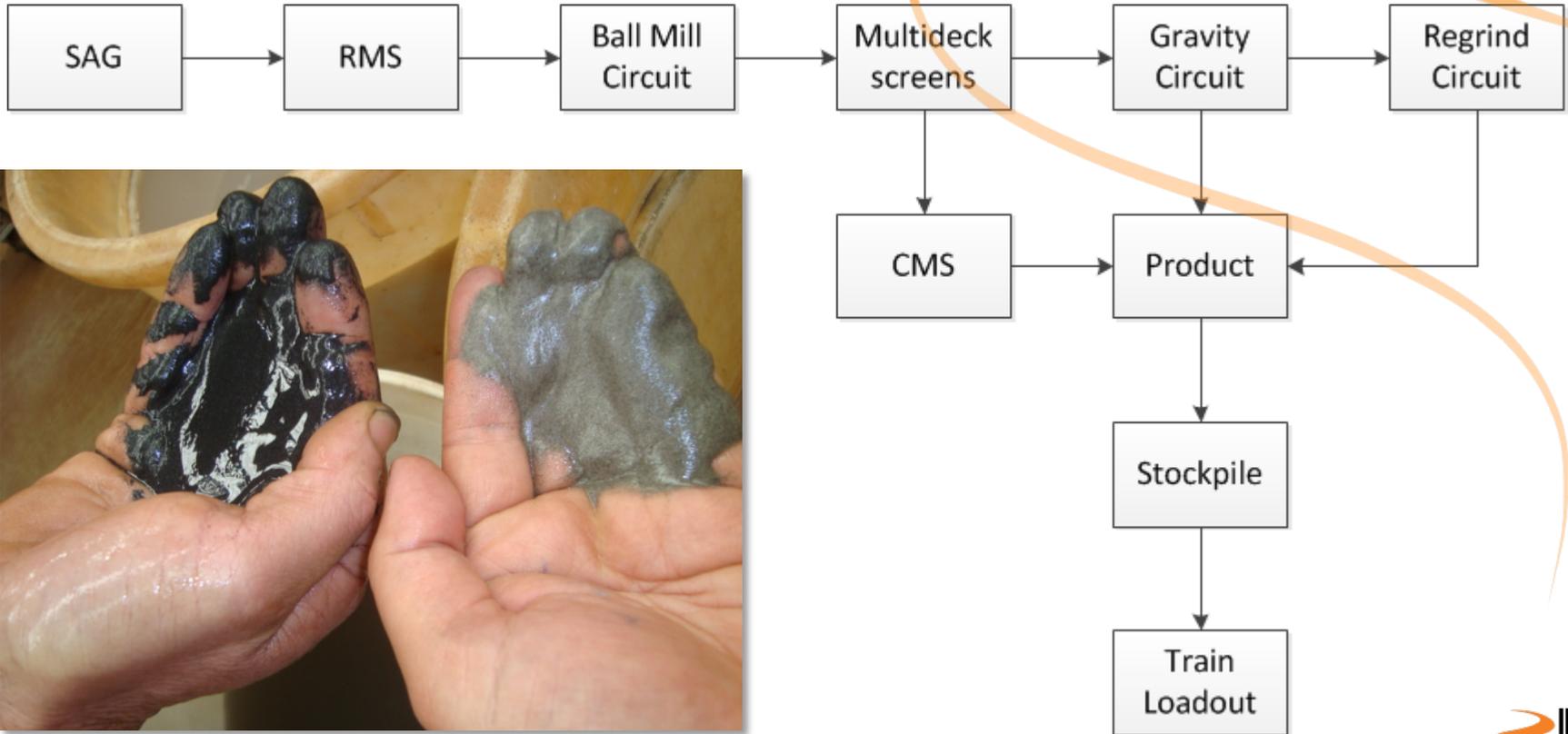


# Conveyors

- ~70 km of conveyors on the site once at full capacity
- Minimising use of trucks
- Ore stacked on the ROM
- Waste transported to the Integrated Waste Landform (IWL)
  - Tailings from process commingled



# Simplified Process Flowsheet



# Product

- 24 Mtpa (dry)
- 67% Fe
- 100  $\mu\text{m}$
- 8% moisture
- $\text{SiO}_2 + \text{Al}_2\text{O}_3 < 5\%$
- $\text{P} < 0.01\%$
- $\text{S} < 0.01\%$



# Testwork

- ALS Laboratories
- Bureau Veritas
- Industry leaders including TUNRA, DRA Mineral Projects, Thiess, Orica, MMD, Weir, FL Smidth, Mineral Technologies and potential other suppliers
- Programmes included:
  - Davis Tube Recovery (DTR)
  - Comminution parameters
  - Magnetic separation testwork
  - Filtration
  - Wilfley table tests
  - Full scale spiral testwork
  - Material handling properties



# Tailings

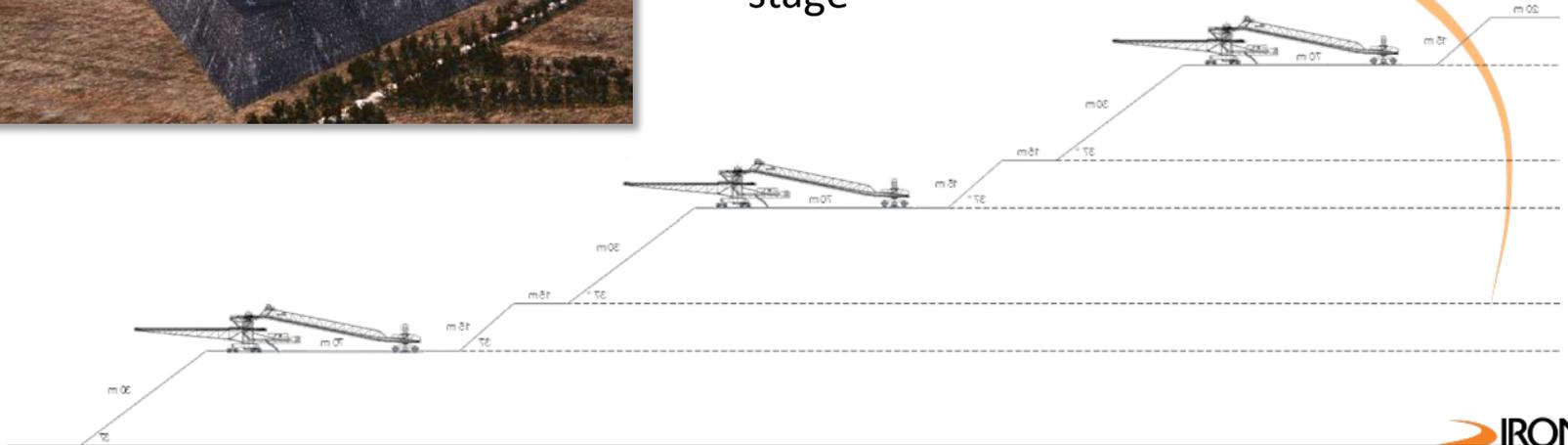
- Two tailings sizes
  - Coarse  $\sim 4$  mm
  - Fine  $\sim 100$   $\mu\text{m}$
- Coarse free draining with screens
- Fines dewatered with vacuum filter belt to 10%
- Water recovered and stays in the process
- Tailings added to waste conveyor



# Dumping Technology for IWL



- Three spreaders at 25,000 tph each
- Three dumping benches of 45 m height each (30 m deep dump + 15 m high dump)
- Slewing development of IWL
- Potential for in-pit truck dumps in later stage



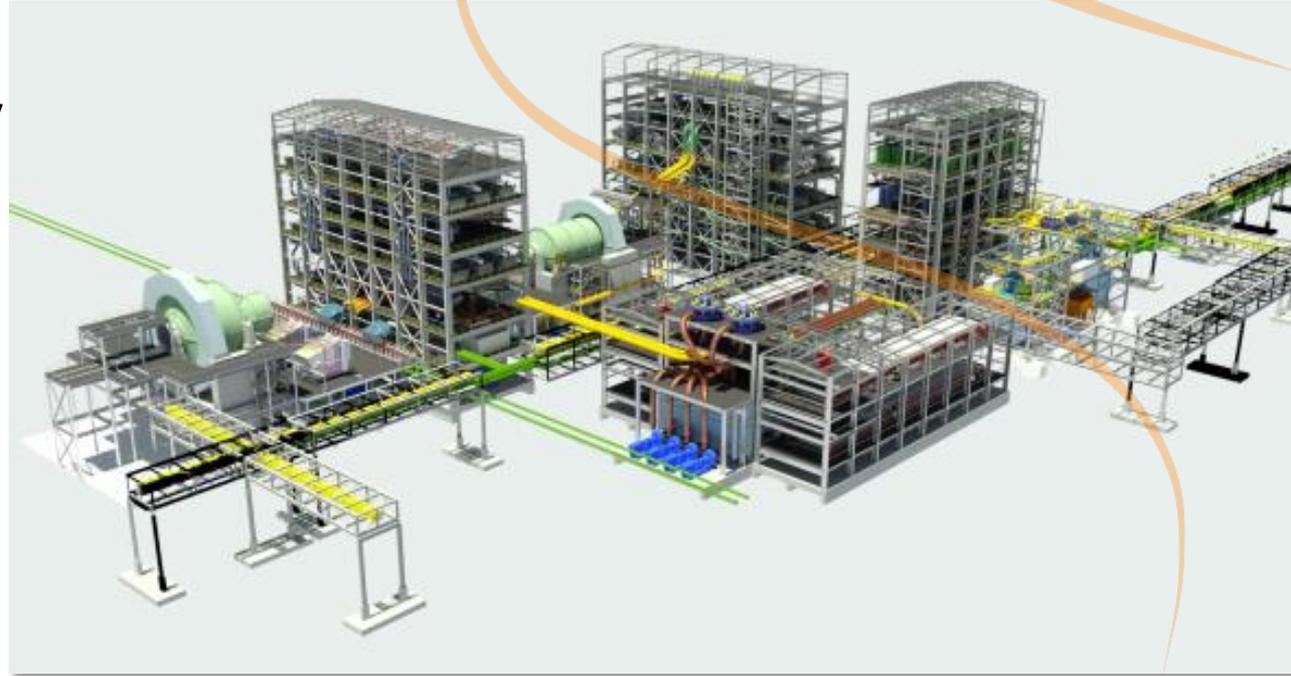
# Water

- Process recycles water where possible
- Bore field located ~60 km from mine site
  - Hyper saline
  - Processing in bore water
- RO plant produces clean water for washing the concentrate product, gland seals and potable requirements
  - Brine used as dust suppression
- Mine pit dewatering water used in the pit for dust suppression
  - Pit water very saline
  - Not applied to ore destined for the plant



# Modular Design

- Prefabrication and preassembly in an offshore fabrication facility
- Nine super modules per process train
- Controls schedule, safety and logistics concerns
- First three stages of commissioning before transported to site
- Fabrication and transport experts involved in the design





**Largest module is the  
CMS building**

**47 m long**

**19 m wide**

**44 m high**

**Slightly larger  
footprint than the  
Duxton Hotel and just  
5m shorter**

**“Things do not just happen.  
They are made to happen.”**

*John F Kennedy*



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# Appendix

**Table 1 – CEIP Ore Reserve Summary**

Resource Classification	Metric Tonnes (Mt)	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)
Proved	2,131	15.55	53.78	12.85
Probable	1,550	14.40	58.58	12.64
<b>Total</b>	<b>3,681</b>	<b>15.07</b>	<b>53.70</b>	<b>12.76</b>

The Ore Reserves estimated for CEIP involving mine planning is based on and fairly represents information and supporting documentation compiled by Mr Bob McCarthy, a Member of the Association of Professional Engineers and Geoscientists of British Columbia (Canada) and a full time employee of SRK Consulting (North America). Mr McCarthy has sufficient experience relevant to the style of mineralisation and the type of deposits under consideration and to the activity which he is undertaking 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 McCarthy consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The Ore Reserves estimated for the CEIP involving aspects other than mine planning is based on and fairly represents information and supporting documentation compiled by Mr Larry Ingle, a Member of the Australian Institute of Mining and Metallurgy and a full time employee of Iron Road Limited. Mr Ingle has sufficient experience relevant to the style of mineralisation and the type of deposits under consideration and to the activity which he is undertaking 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 Ingle consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. This report includes results that have previously been released under JORC 2012 by the Company on 2 May 2016. The Company is not aware of any new information or data that materially affects the information included in this announcement and all material assumptions and technical parameters underpinning the Ore Reserve continue to apply and have not materially changed.

# Appendix

**Table 2 – CEIP Global Mineral Resource**

Location	Classification	Tonnes (Mt)	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)
Murphy South/Rob Roy	Measured	2,222	15.69	53.70	12.84	0.08	4.5
	Indicated	474	15.6	53.7	12.8	0.08	4.5
	Inferred	667	16	53	12	0.08	4.3
Boo-Loo/Dolphin	Indicated	796	16.0	53.3	12.2	0.07	0.6
	Inferred	351	17	53	12	0.09	0.7
<b>Total</b>		<b>4,510</b>	<b>16</b>	<b>53</b>	<b>13</b>	<b>0.08</b>	<b>3.5</b>

The Murphy South/Rob Roy Mineral Resource estimate was carried out following the guidelines of the JORC Code (2004) by Iron Road Limited and peer reviewed by Xstract Mining Consultants. The Murphy South - Boo-Loo/Dolphin oxide and transition Resource estimate was carried out following the guidelines of the JORC Code (2004) by Coffey Mining Limited. The Boo-Loo/Dolphin fresh Mineral Resource estimate was carried out following the guidelines of the JORC Code (2012) by Iron Road Limited and peer reviewed by AMC Consultants. This report includes results that have previously been released under JORC 2004 and JORC 2012 by the Company on 30 June 2010, 28 May 2013 and 27 February 2015. The Company is not aware of any new information or data that materially affects the information included in this announcement and all material assumptions and technical parameters underpinning the Mineral Resource continue to apply and have not materially changed.

**Table 3 – CEIP Indicative Concentrate Specification – 100 micron (p80)\***

Iron (Fe)	Silica (SiO <sub>2</sub> )	Alumina (Al <sub>2</sub> O <sub>3</sub> )	Phosphorous (P)
66.7%	3.36%	1.90%	0.009%

\* The concentrate specifications given here are based on current data from metallurgical test work, bulk samples and simulation modelling designed specifically to emulate the proposed beneficiation plant.