



ASX ANNOUNCEMENT

Iron Road Limited (Iron Road, ASX:IRD)



INVESTOR STRATEGY DRIVES NEW MINE PLAN

**Mine capital expenditure requirements more than halved;
major reduction in strip ratio maintains competitive mine operating costs**

Highlights

- New mine plan for the Central Eyre Iron Project (CEIP), driven by a clear industry preference to maximise capital efficiency, has resulted in major reductions to mine capital requirements and life of mine strip ratio.
- Annual iron concentrate mine production target reduced from 24Mtpa to 12Mtpa (dry) at a grade of 66.7% iron, over initial 22 year ore production mine life.
- Total mine capital costs reduced by >50% to US\$645 million.
- Mine operating costs of US\$23.8/t iron concentrate in-line with previous 2017 plan, including a 10% mining contractor margin.
- Mine electrical power demand decreased by approximately 80%.
- New 2019 Rob Roy pit shell wholly within the previous 2017 Murphy South pit shell, maintaining high confidence based on already well understood geometallurgical parameters.
- Rescaling of the ore beneficiation plant and project infrastructure to suit the new mine output as well as evaluating an alternative concentrate transport system to the proposed port is at an advanced stage.
- Large scale reduction in CEIP capital requirements prioritised to renew investment interest given continued strength in the high grade iron ore market.

Iron Road Limited (Iron Road, ASX: IRD) is pleased to advise that following an extensive review, assisted by leading open pit mine experts, the CEIP mine plan has been changed. The primary aims of significantly reducing total mine capital requirements and reducing reliance on electrical power have been satisfied, without forgoing competitive mining costs, iron concentrate quality or project optionality. Key to the new plan is reducing the former ambitious mine production target, and cutting substantially both pre-strip volumes and life of mine strip ratio. This outcome has been achieved without compromising future mine expansion options and leverages efficiencies available through the application of a hybrid conventional truck and excavator method, accompanied by conveyor mining systems.

Key Metrics – Mine Physicals

Item	Unit	2019 Rob Roy	2017 Murphy South / Boo-Loo
Mining method	-	Conventional, EPCC and IPCC	IPCC
LoM ore production	Year	22	27
Pre-strip	Mt	177	322
LoM material movement (excluding pre-strip)	Mt	3,347	9,917
LoM strip ratio	waste:ore	0.97:1	1.34:1
LoM iron concentrate production target	Mt (dry)	250	589
Iron concentrate production	Mtpa (dry)	12	24
LoM concentrate grade	% iron	66.7	66.7
Mine power demand	MW	35	170
<i>Notes:</i> LoM – life of mine			
EPCC – ex-pit crushing and conveying			
IPCC – in-pit crushing and conveying			

Of the 1,701 million tonnes of magnetite mineralisation contained within the Rob Roy pit shell; 92% reports to the Measured, 6% to the Indicated and 2% to the Inferred Mineral Resource categories. The Rob Roy pit shell is derived entirely within the Murphy South / Boo Loo Mineral Resource (detailed in Table 1).

There is a low 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 production target itself will be realised.

Key Metrics – Mine Costs

Item	Unit	2019 Rob Roy	2017 Murphy South / Boo-Loo
Capitalised Pre-strip	US\$M	214	374
Mine Capex	US\$M	431	965
Total Mine Capital	US\$M	645	1,339
Mining Opex (including waste & tailings management)	US\$/t	23.8	23.7
Mine contractor margin	-	10%	Not applicable
Sustaining capital	US\$/t	3.8	4.5
AU\$/US\$	-	0.72	0.75
<i>Notes:</i> Rob Roy Mine costs expressed in 2018 terms			
Murphy South / Boo-Loo Mine costs expressed in 2017 terms			

Basis for Mine Plan Review

The CEIP Definitive Feasibility Study and subsequent optimisation studies¹ established that the CEIP could credibly deliver premium quality iron concentrate at high annual production rates up to 24Mtpa (dry). Former mine plans were specifically designed to achieve highly efficient movement of very large volumes of ore and waste to underpin high annual concentrate production targets with competitive life of mine cost profiles.

The scale of former mining and beneficiation proposals, together with the supporting infrastructure required, indicated previous total upfront capital hurdles of approximately US\$4 billion (including pre-strip). Flagged funding tasks of this magnitude have proven prohibitive for potential CEIP partners and many greenfield development proposals globally have experienced difficulty maintaining momentum. Volatile commodity markets and a sustained environment where corporate strategies remain heavily skewed towards capital management, in preference to growth, have been other key inhibiting factors.

Although having eased from peak percentage levels over recent months, price premiums for high quality iron concentrate and pellet feed remain strong as highlighted by the 65% Fe Fines Index currently trading around US\$90/dmt. There is growing industry and market analyst consensus that strong demand and tight markets for high iron grade products is likely to continue.

In the absence of timely Chinese backed equity funding materialising for the CEIP and following constructive feedback from other potential investors, the Company initiated work assessing the viability of a smaller start-up mine with a production target of approximately 12Mtpa iron concentrate (dry). It was anticipated that reducing the immense scale of material movements would result in much lower development capital options for the CEIP² and a team of open pit mine experts were engaged to assist with the work.

This work as highlighted is complete and entails:

- Focussing on a single open pit which substantially reduces pre-strip and waste mining requirements over life of mine;
- Utilising a conventional truck and shovel and EPCC/IPCC hybrid mining solution, which evolves with progression of the mine over time, reducing mine electrical power demand by approximately 80%;
- A mine design which provides optionality, allowing for a later cut-back of the southern wall and extraction of additional mineralisation within the global Mineral Resource.

The above changes are represented in Figure 1, below. The new mine design is referred to as '*Rob Roy*' and is wholly contained within the previously defined Murphy South pit.

The tables on page 2 illustrate key changes between the new scenario (Rob Roy) to the previous mine plan (Murphy South and Boo Loo).

¹ CEIP Study Confirms Compelling Commercial Case (26 February 2014), Optimisation Studies Complete at CEIP (13 October 2015), Mine Review Drives Further Value Accretion Opportunities at the CEIP (31 October 2017)

² Quarterly Activities Report (26 October 2018), Managing Director's AGM Presentation (23 November 2018)

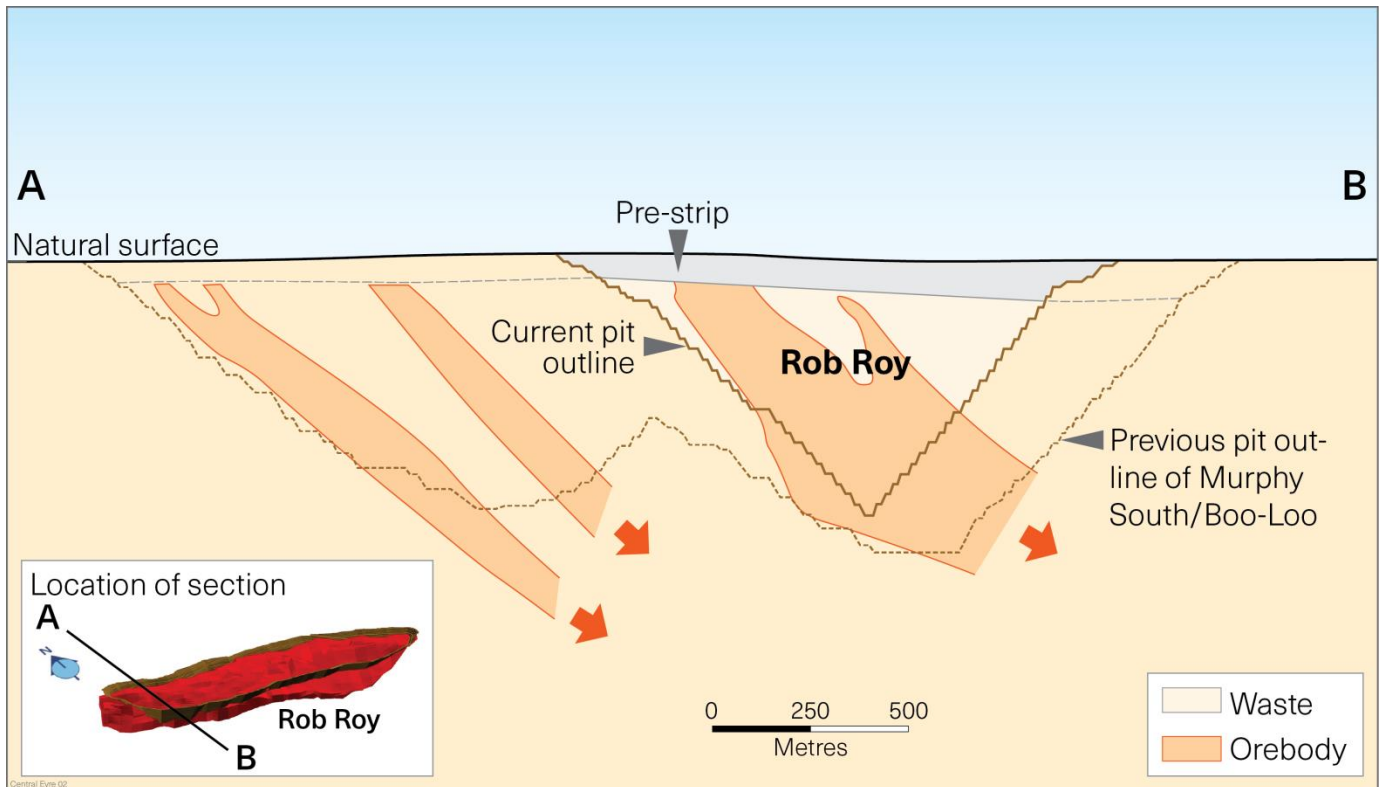


Figure 1

Schematic cross-section looking east showing the new and previous pit outlines

Next Steps

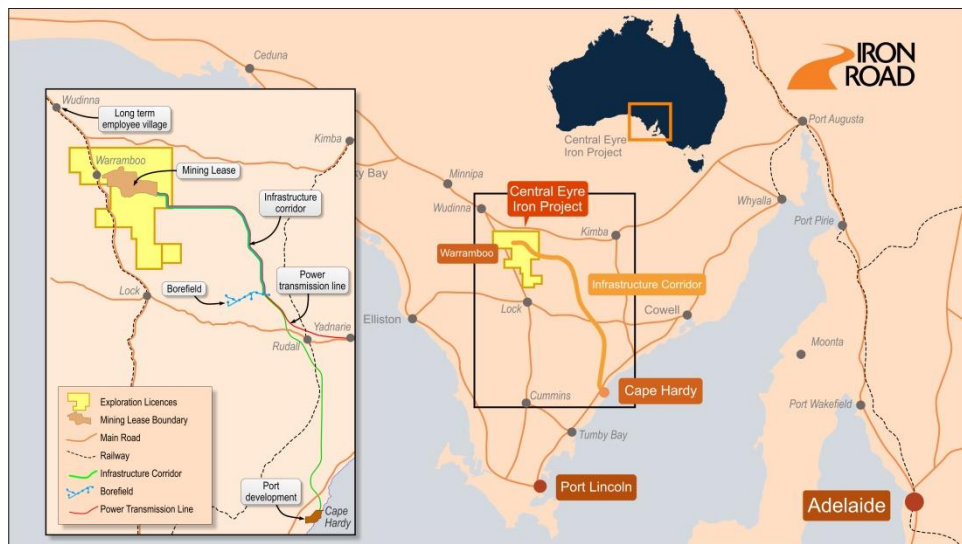
The restructure of the mine plan has numerous downstream implications, including reduced process plant requirements, a further lowering of electrical power demand and transmission capacity, lower water usage and reduced costs associated with other mine site and off site facilities.

At the lower targeted rate of iron concentrate output, an alternative low capital option (versus heavy haulage rail) is now viable for the 148km transportation of product to the proposed port at Cape Hardy for export. The impact of these changes is currently being evaluated. Principal aims of targeting further large scale capital efficiencies while maintaining a competitive Free on Board (FOB) unit cost profile remain a priority to renew investment interest in the CEIP. Results of this work together with a fresh appraisal of project economic metrics are expected to be released to the market later in Q1, 2019.

- Ends -

Note

The Optimisation study referenced in this announcement was released on 13 October 2015 as “Optimisation Studies Complete at CEIP” and updated on 20 April 2016 as “Continuing Cost Reductions at Central Eyre Iron Project” and 3 July 2017 as “CEIP Capital Cost Estimate Reduction”. The Company has provided an update to material assumptions and is not aware of any other new information or data that materially affects the information included in this announcement. The Mineral Resources underpinning the Production Target have been prepared by competent persons in accordance with the requirements of the JORC code.



For further information,
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Tables

Table 1 – CEIP Global Mineral Resource

Location	Classification	Tonnes (Mt)	Fe (%)	SiO ₂ (%)	Al ₂ O ₃ (%)	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
Total		4,510	16	53	13	0.08	3.5

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 2 – CEIP Indicative Concentrate Specification – 106 micron (p80)*

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

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