

28 November 2012

## Buckland Project – Pre-Feasibility Study Delivers Positive Results

### Key Results<sup>1</sup>

- **Pre-Feasibility Study (PFS) confirmed technical and financial viability of a 4Mtpa to 8Mtpa mining operation from Bungaroo South, transport via private haul roads and shipping via a new transshipment facility at Cape Preston East.**
- **An initial 92Mt JORC Ore Reserve<sup>2</sup> to underpin the production of a 58% Fe Fines iron ore product for more than 15 years.**
- **Capital Cost of ~\$575 million (Direct) plus ~\$235 million (Indirect – including contingency, EPC/M & owners cost) to reach 8Mtpa.**
- **Life of Mine Cash Operating Cost of ~\$48 per tonne FOB.**
- **Net Present Value (NPV<sub>10</sub>) of ~\$725 million pre-tax on an ungeared basis.**
- **Average annual EBITDA of ~\$240 million.**
- **Potential Construction Start - Q4 CY13; Potential Production Start - Q1 CY15.**

### Background

Iron Ore Holdings Ltd (IOH) has completed a comprehensive Pre-Feasibility Study (PFS) on its 100% owned Buckland Project in Western Australia.

The Buckland Project encompasses the establishment of a new mine, a new private haul road and a barging facility.

This is the first mine to port PFS completed in IOH's seven year history and is a significant milestone that should enable IOH to control its own development pathway and timing.

IOH managed the PFS activities with the support of leading industry specialists including SKM (engineering), Snowden (mining), RPS Aquaterra (water) and CSL (transshipment).

Feasibility Study activities, off-take discussions and funding processes will commence without delay.

<sup>1</sup> All figures are shown in Australian dollars (in 2012 real terms) and have been rounded, unless otherwise stated.

<sup>2</sup> Refer Appendix A.

## Statement by Managing Director, Alwyn Vorster:

*“The Buckland Project was conceived earlier in 2012 when IOH took the initiative to develop a supply chain solution for our Bungaroo South deposit independent from third party infrastructure.*

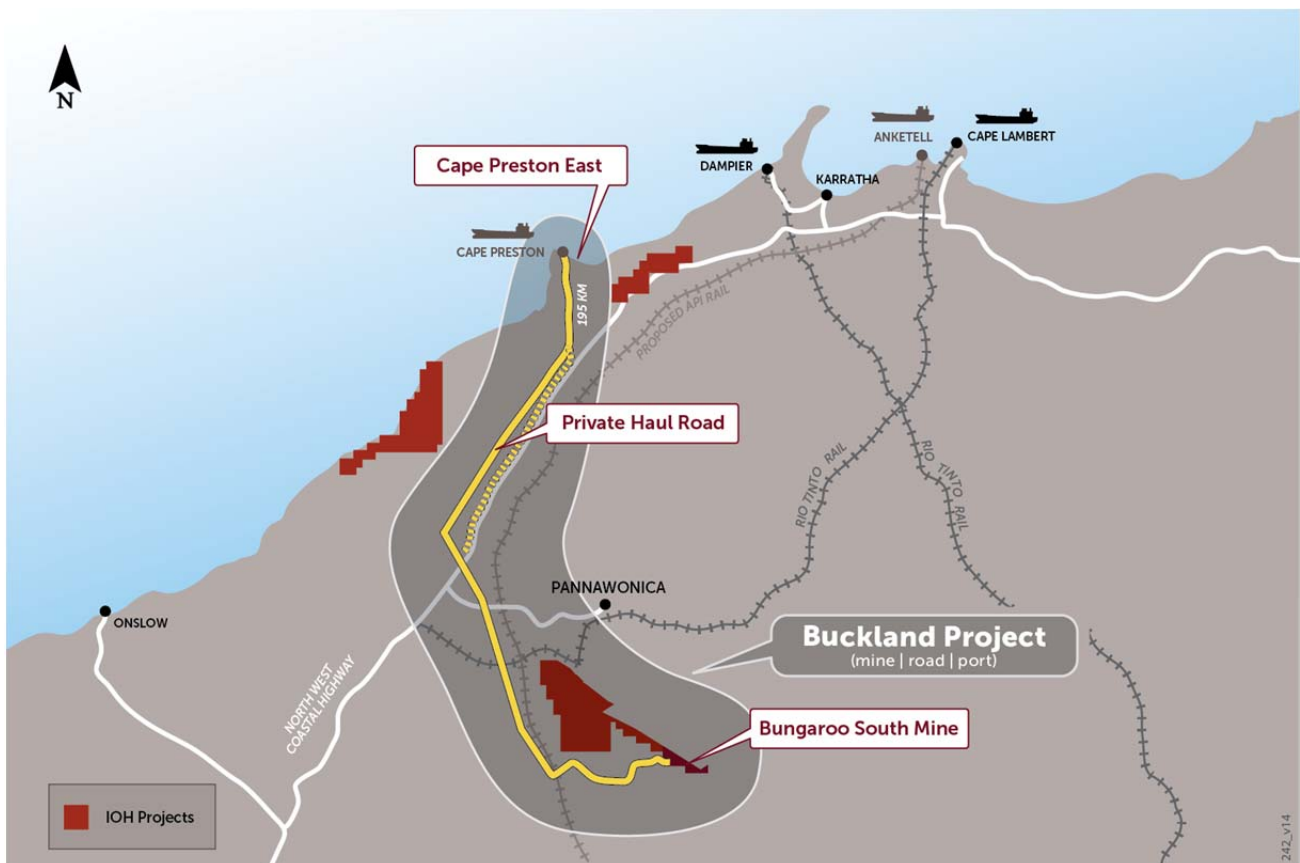
*“Our IOH team, contractors and advisors achieved remarkable results within a short space of time to establish a robust and credible business case on both the technical and regulatory front.*

*“This positive PFS result validates our strategy and is an important step in IOH’s potential transition from an exploration company to become a participant in the iron ore export industry.”*

## Project Background

The Buckland Project covers all the activities associated with the potential development of an 4Mtpa-8Mtpa Bungaroo South mine for more than 15 years, a dedicated ~195km private haul road and a small scale barging facility at Cape Preston East on the Pilbara coast (refer Figure 1). The Bungaroo South deposit is located approximately 45km south of Pannawonica and 30km from Robe River’s Mesa J mine.

**Figure 1: Buckland Project – Independent Mine-to-Port Solution**



**Table 1: Summary of PFS Results**

Item	PFS Results and Comments
<b>JORC Mineral Resources<sup>3</sup></b>	269 million tonnes (Channel Iron Deposit and Bedded Iron Deposit)
<b>JORC Ore Reserve<sup>3</sup> (initial)</b>	92 million tonnes
<b>Life of Mine (LoM)</b>	More than 15 years
<b>Strip Ratio (LoM)</b>	0.8 tonne waste : 1 tonne ore
<b>Product</b>	Iron Ore Fines with nominal size <12mm
<b>Projected Product Quality</b>	Dry processing @ 4Mtpa; Fe: 57.8%; SiO <sub>2</sub> : 6.0%; Al <sub>2</sub> O <sub>3</sub> : 3.0%; P: 0.146% Wet Processing @ 8Mtpa; Fe: 58.0%; SiO <sub>2</sub> : 5.7%; Al <sub>2</sub> O <sub>3</sub> : 2.3%; P: 0.147%
<b>Production Target</b>	4Mtpa ramping up to 8Mtpa (within 3 years)
<b>Road Haulage</b>	Public and Private Roads (Years 1-3): 190km haul distance; 115t payload trucks Private Roads (Year 4 onwards): 195km haul distance; 200t payload trucks
<b>Transshipment Facility</b>	1.4km A-frame finger jetty; 15,000 tonne self-propelled barge
<b>Capital Cost</b>	To 4Mtpa: ~\$400M (direct cost) + ~\$175M (indirect cost); Expansion to 8Mtpa: ~\$175M (direct cost) + ~\$60M (indirect cost)
<b>Cash Operating Cost (LoM)</b>	~\$48/tonne FOB (including all contingencies)
<b>Financials</b>	NPV <sub>10</sub> of \$725 million pre-tax; average EBITDA per annum of \$240 million
<b>Tenure</b>	Mining Lease secured; two Native Title Agreements secured; Mine & Port environmental referrals submitted; Port MoU executed
<b>Target Dates</b>	PFS completed Q4 CY12; Feasibility Study completion Q3 CY13; Final Investment Decision Q3 CY13; First Ore Shipped Q1 CY15

<sup>3</sup> Refer Appendix A.

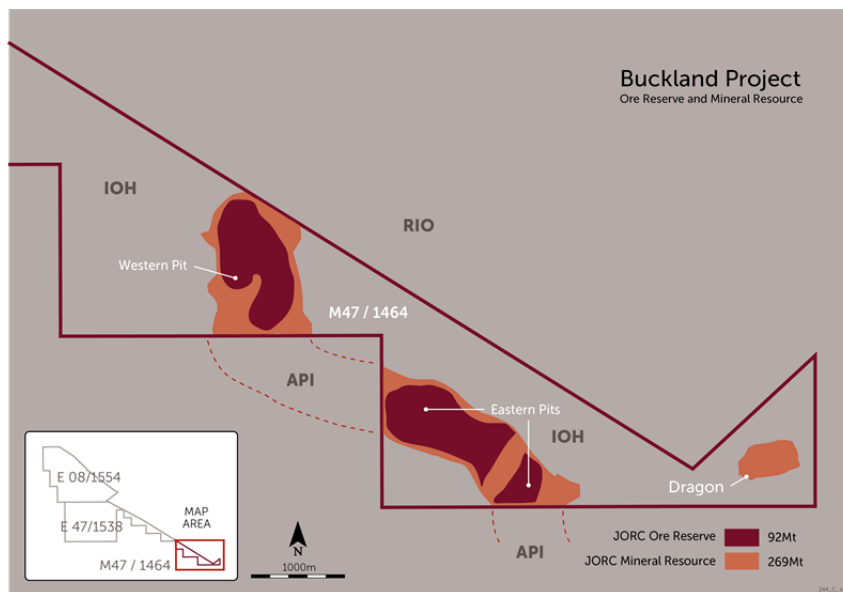
## Detailed Project Description

### Resources, Reserves and Mining

The Project is underpinned by a 269Mt JORC Mineral Resource<sup>4</sup> and an initial 92Mt JORC Ore Reserve<sup>4</sup> with an average grade of 57.6% Fe (see Appendix A; Table 2). Infill drilling during the Feasibility Study will target the conversion of an additional 30Mt to 40Mt Mineral Resources to Ore Reserves.

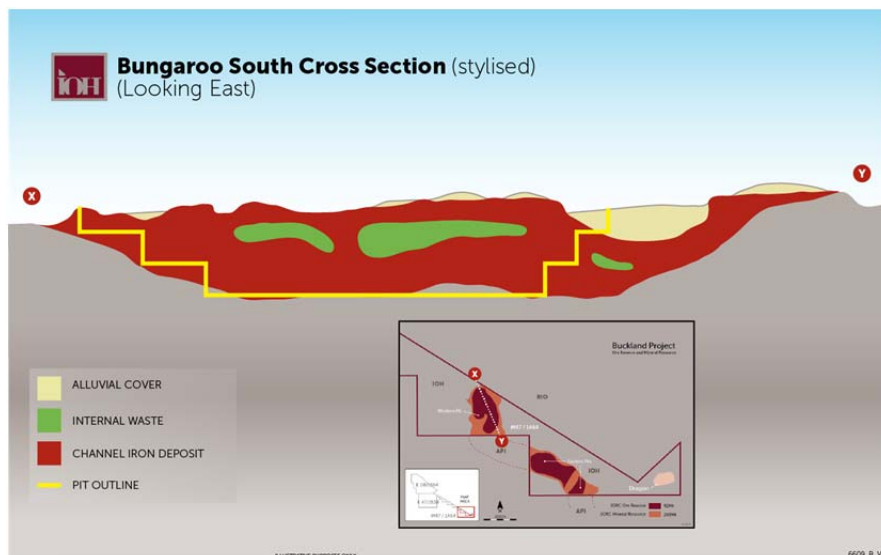
The Buckland Project ore will be mined from the Bungaroo South Mining Lease (M47/1464 – see Figure 2), which will include a Western Pit, two Eastern Pits and a Dragon Pit. The four pits will be located within approximately 7km of each other.

**Figure 2: Buckland Project - JORC Ore Reserve and Mineral Resource**



Bungaroo South's Channel Iron Deposit (CID) orebody has a simple geometry (see Figure 3). A mineralised zone and boundaries are clearly definable and the orebody is relatively close to surface. With a low stripping ratio of around 0.8 tonne of waste for 1 tonne of ore over the LoM and conventional drill & blast technology, Bungaroo South will be a relatively low cost mining operation.

**Figure 3: Bungaroo South - Cross Section (West Pit)**



<sup>4</sup> Refer Appendix A.

For the first two and a half years, ore will be mined from above the water table at a nominal rate of 4Mtpa. As mining progresses the ore will be extracted from below the water table and the production rate will be increased to 8Mtpa of product. An iron ore fines product with top size of ~12mm will be produced.

The dry processing flowsheet is a conventional Direct Shipping Ore (DSO) style crush & screen plant, many of which have been operating in Australia and overseas for many decades.

The wet processing facility flowsheet is based on a standard de-slime concept, with several such plants operating in the Pilbara region. Wet processing will have a major positive impact on the overall product quality with a 58% Fe product targeted (see Table 1).

### Proposed Haul Roads and Transport Configuration

Different combinations of public and private road routes and multiple road haulage configurations were considered for the transport of product from the mine location to the Cape Preston East area.

At an initial production of 4Mtpa, ore will be hauled by utilising a mix of public and private roads over a distance of ~190km, with 115 tonne payload road train combinations under a concessional loading scheme currently under application.

At the 8Mtpa production level, transport will occur with 200 tonne payload off-road truck combinations to maximise economies of scale. As 200 tonne truck payloads are not permitted on public roads, a 70km infill road section will be created resulting in a ~195km private road from mine to port (see Figure 1). Licence applications for the private road corridor have been lodged.

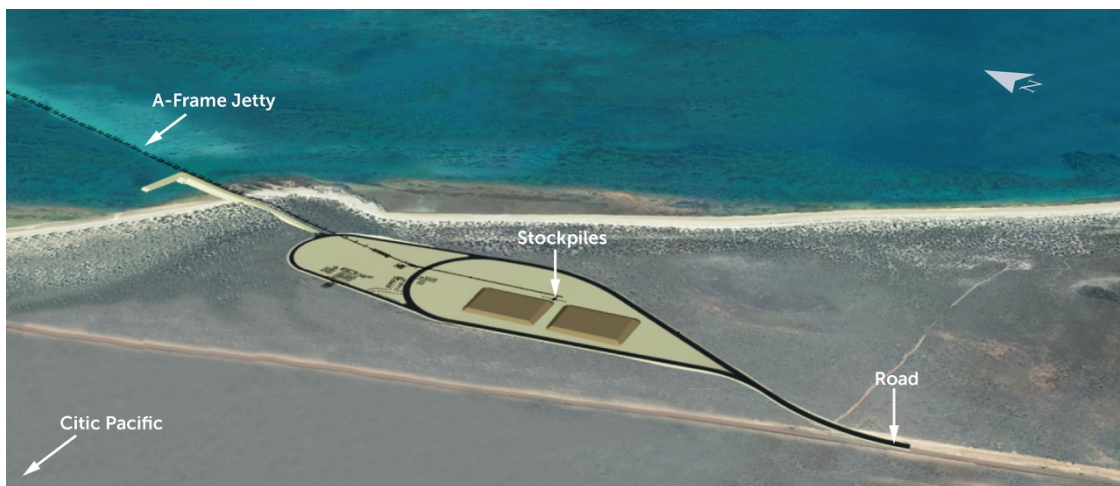
### Barge Loading Facility Solution

The Cape Preston East land area was reserved by the WA State Government in 2008 for future development of a multiuser port facility. IOH is working with various State Government agencies to facilitate the development of an export facility in this area and has signed a non-binding memorandum of understanding (MOU) with the Dampier Port Authority on 14 November 2012.

Based on relatively shallow marine conditions in the area, IOH is proposing the development of a modest scale barging facility which does not involve channel dredging. This approach has been chosen to lower the overall port development cost, minimise the environmental impact and accelerate the development timeline.

Front-end loaders will reclaim ore from port stockpiles and deliver it into a landside loading bin. Conveyors will link the landside facilities with a barge loader at the ocean side of a 1.4km A-frame finger jetty, as shown in Figure 4.

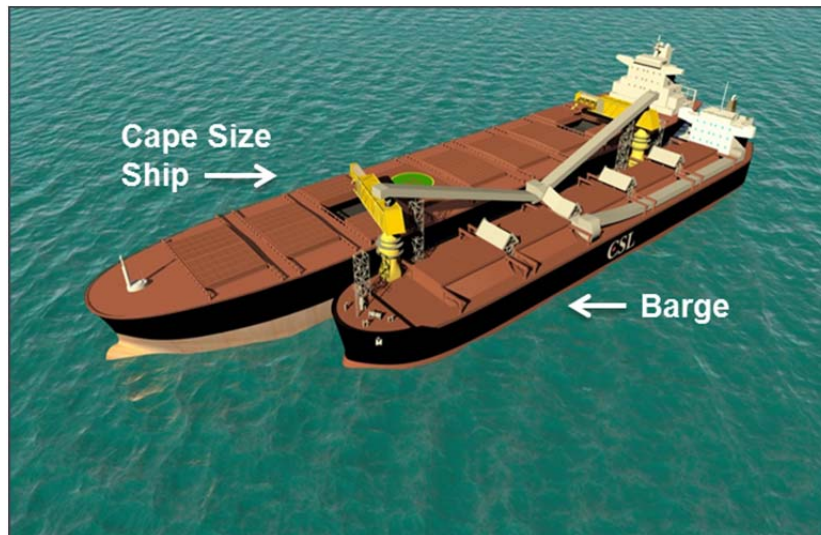
**Figure 4: Proposed Cape Preston East Transhipment Facility**



The PFS barging operation assumptions are based on work by credible and experienced transshipment operators, Canadian Shipping Lines (CSL). It is proposed that the transshipping will be done with a large 15,000 tonne capacity self-powered vessel with self-unloading capability, travelling at approximately 7 knots.

Barges will travel ~10 nautical miles and tranship to Panamax or Cape Size vessels waiting at transshipment zones designated by the Department of Transport (see Figure 5).

**Figure 5: Proposed Transshipment Barge**



Operating models for the Cape Preston East transshipment facility are currently being negotiated with the WA State Government.

### Capital Cost Estimate

The PFS assumes that primary mining equipment, the road haulage fleet and the transshipment barge will be contractor owned. The estimated capital cost of the Project in Q4 2012 Australian dollars is summarised by work breakdown area in Table 2:

**Table 2: Estimated Capital Cost**

Area	4Mtpa Capital Estimate \$M	8Mtpa Expansion Capital Estimate \$M
Mining and Processing	100	100
Haul Roads	160	50
Transshipment Facility	140	20
<b>Sub Total – Direct Costs</b>	<b>400</b>	<b>175</b>
Indirect Costs (Contingency, EPC/M, Owners)	175	60
<b>TOTALS</b>	<b>575</b>	<b>235</b>

Based on the above capital cost, the estimated capital intensity at full production will be around \$100 of capital per annual product tonne produced.

## Operating Costs

Cost estimates assume the overall operation will be managed by IOH, with primary mining activities, road haulage and barging being outsourced to credible contractors. The breakdown of the average LoM operating cost estimate is shown in Table 3.

**Table 3: Estimated Operating Cost (including all contingencies)**

Item	LoM Cost (\$/t)
Mining and Processing	18.50
Road Haulage	19.00
Transshipment Facility	6.50
Corporate and Administration	4.00
<b>Total (FOB)</b>	<b>48.00</b>

## Economic Evaluation

The key financial assumptions are summarised in Table 4. Discounted cash flows were modelled in real terms referenced to Q4 2012 in Australian dollars. The project was analysed on an ungeared (100% equity) basis.

**Table 4: Financial Assumptions**

Item	Assumption
Discount Rate (real)	10%
Corporate Tax Rate	30%
MRRT Rate	30%
WA Royalty Rate – non beneficiated ore	7.5%
Native Title Royalty Rate	Pilbara benchmark
Long Term Exchange Rate A\$:US\$ (5 major Broker average forecast Oct 12)	A\$0.80
Long Term 62% Fe FOB price (Wood MacKenzie Iron Ore Market Service Oct 12)	US\$90/dmt
Price Adjustments for Quality	Fe and impurity adjustments based on Platts Index guidelines and industry benchmarks

The results of the economic modelling, based on the above assumptions and on an ungeared (100% equity) basis, are presented in Table 5:

**Table 5: Economic Modelling Results**

<b>Item (LoM)</b>	<b>Unit</b>	<b>Result</b>
Revenue	\$m	10,800
EBITDA	\$m	4,000
Average Annual EBITDA	\$m	240
EBITDA Margin	%	37
<b>Project NPV (Pre-tax)</b>	<b>\$m</b>	<b>725</b>
<b>IRR (Pre-tax)</b>	<b>%</b>	<b>23</b>

The modelling assumes more than \$2 billion of tax and royalty payments to the WA State and Federal Governments over the LoM.

### **Pre-Feasibility Study – Execution**

IOH provided overall management direction and coordination for the Buckland Project PFS to ensure that the outcome aligned with the overall IOH business strategy.

In addition, IOH managed PFS components including the marketing strategy, environmental inputs, heritage and land access approvals, port lease initiatives and financial modelling.

Leading industry specialists conducted other key components of the PFS, including Sinclair Knight Merz Pty Ltd (SKM), Snowden Mining Consultants Pty Ltd (Snowden), RPS Aquaterra and Canadian Shipping Lines (CSL).

As per normal industry standards, different components of the PFS have different cost and risk accuracy as well as confidence levels. However, overall the PFS can be classified as having an estimated accuracy of better than 25% with a high confidence level.

### **Tenure**

IOH has secured a Mining Lease for Bungaroo South, has executed Land Access Agreements with the two Native Title claim groups, has executed a non-binding MOU with Dampier Port Authority relating to Cape Preston East which is currently the subject of detailed tenure negotiations and has applied for road licensing permits and licences.

Environmental referrals for both mine and port have been submitted, based on extensive IOH environmental work and consultation with government agencies. A six to nine month approval process is anticipated.



## Project Schedule

IOH has concluded the following important milestones on the Buckland Project within a nine month timeframe:

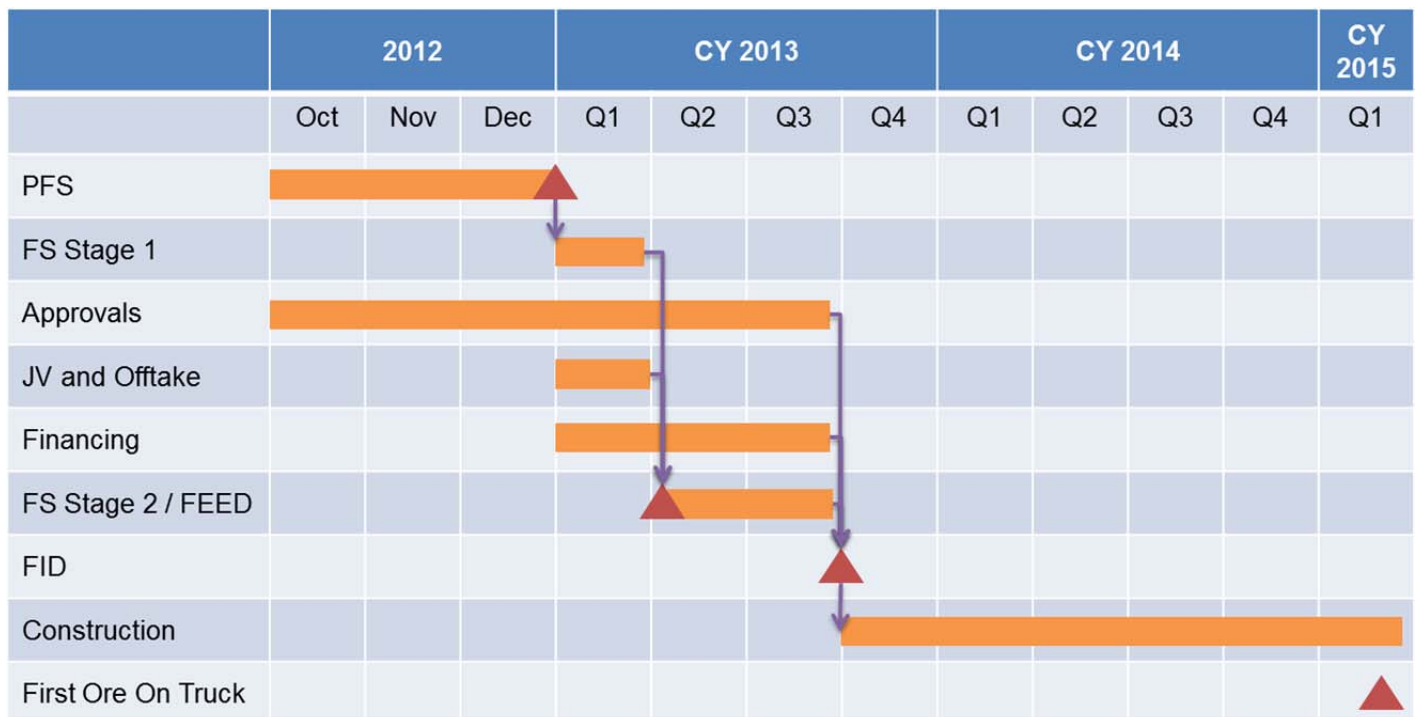
- 1) executing an extensive infill drilling campaign on Bungaroo South;
- 2) declaration of IOH's maiden Ore Reserve at Bungaroo South;
- 3) securing a Mining Lease for Bungaroo South;
- 4) executing two Native Title agreements on the Buckland Project;
- 5) executing a non-binding MOU with Dampier Port Authority relating to Cape Preston East;
- 6) completing a positive project PFS; and
- 7) submitted mine and port environmental referrals to the Environment Protection Authority (EPA).

On the basis of the positive technical and financial results in the PFS, the IOH Board has approved the Buckland Project proceeding to a Feasibility Study phase with a funding process to commence in parallel.

Extensive value engineering will occur during the Feasibility Study to optimise capital cost estimates.

The anticipated timeline for the Buckland Project is shown below in Figure 6:

**Figure 6: Project Schedule (Anticipated)**



\*\*\* ENDS \*\*\*

## Appendix A

**Table 1: IOH JORC Mineral Resources at 27 November 2012**

Location	Project or Tenement	JORC Indicated Resources (Mt)	JORC Inferred Resources (Mt)	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)	Cut off (% Fe)	Total (Mt)
Central Pilbara	Iron Valley	216.3	-	58.4	63.0	5.1	3.1	0.18	7.3	50	259.1
		-	42.8	57.9	61.1	7.0	3.9	0.14	5.2	50	
Western Pilbara	Bungaroo South	179.7 <sup>A</sup>	-	58.0	63.1	5.9	2.4	0.15	8.1	53	282.5
		-	68.6	55.1	60.0	9.6	2.6	0.14	8.2	53	
	Dragon	-	21.5	55.4	60.5	7.9	3.6	0.15	8.4	50	
	Rabbit	-	5.5	57.1	61.1	7.5	3.3	0.12	6.5	50	
	Rooster	-	7.2	56.2	60.6	6.5	4.8	0.08	7.2	52	
<b>Bedded Iron Deposit &amp; Channel Iron Deposit Total</b>		<b>396.0</b>	<b>145.6</b>								<b>541.6</b>
Central Pilbara	North Marillana	46.8	-	50.0	55.8	9.5	7.7	0.04	10.4	45	46.8
<b>Blending Material Total</b>		<b>46.8</b>	<b>-</b>								
Coastal Pilbara	Maitland River (Magnetite)	-	1,106.0	30.4	30.8	44.0	2.3	0.06	1.2	26	1,106.0
<b>Magnetite Total</b>		<b>-</b>	<b>1,106.0</b>								
<b>Total Mineral Resources</b>		<b>442.8</b>	<b>1,251.6</b>	<b>Total Resources (Indicated and Inferred)</b>							<b>1,694.4</b>

<sup>A</sup> Includes Probable Ore Reserve of 92 Mt (see Table 2 below).

**Table 2: IOH JORC Probable Ore Reserve at 27 November 2012**

Location	Project or Tenement	JORC Proven Reserve (Mt)	JORC Probable Reserve (Mt)	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)	Cut-off (% Fe)	Total (Mt)	
Western Pilbara	Bungaroo South	West	-	31.4	57.9	62.7	5.9	2.9	0.15	7.7	54	92.4
		East	-	61.0	57.5	62.3	6.5	2.3	0.15	8.3	54	
<b>Total Ore Reserve</b>			<b>92.4</b>								<b>92.4</b>	

## Competent Persons Statements:

The information in this report that relates to exploration, exploration targets and drilling results is based on information compiled by Mr Manohar Ghorpade, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Ghorpade is a full time employee of Iron Ore Holdings Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he 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'. Mr Ghorpade consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources estimates has been compiled by Mr Lynn Widenbar, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Widenbar is a full time employee of Widenbar and Associates and produced the Mineral Resource Estimates based on data and geological information supplied by IOH. Mr Widenbar has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves'. Mr Widenbar consents to the inclusion in this report of the matters based on his information in the form and context that the information appears.

The information in this report that relates to Ore Reserve estimations for Bungaroo South Deposit is based on information compiled by Mr Alan G. Cooper, who is a member of the Australasian Institute of Mining and Metallurgy. Mr Cooper is a full time employee of Snowden Mining Industry Consultants Pty Ltd. Mr Cooper has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he 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'. Mr Cooper consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Disclaimer:

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Iron Ore Holdings Ltd's planned exploration program, commencement of exporting of iron ore, industry outlook and other statements that are not historical facts. When used in this document, the words such as "could," "target," "plan," "estimate," "intend," "may," "potential," "should," and similar expressions reflected in these forward-looking statements are reasonable, such as statements involving risks and uncertainties and no assurance can be given that actual results be consistent with these forward-looking statements.

## Corporate Profile (as at 27 November 2012)

Iron Ore Holdings Ltd (ASX: IOH) owns and manages a portfolio of bedded hematite, channel iron and magnetite iron ore tenements and projects within its Central, Western and Coastal hubs in the Pilbara region of Western Australia. The Company's projects are all strategically located within close proximity to existing and planned infrastructure. IOH has a stable share register, as well as an experienced Board and senior management team.

**Ordinary Shares on Issue:** 161,174,005

### Board of Directors:

Hon Richard Court AC	Non-Executive Chairman
Alwyn Vorster	Managing Director
Mal Randall	Non-Executive Director
Brian O'Donnell	Non-Executive Director
Ryan Stokes	Non-Executive Director

### Company Secretary:

Simon Robertson

### Executive Team:

Alwyn Vorster	Managing Director
Christian Johnstone	Chief Financial Officer
Brett Hazelden	GM Project Development
Zen Davison	GM Business Development
Manohar Ghorpade	Chief Geologist

### Registered Office:

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E: [info@ironoreholdings.com](mailto:info@ironoreholdings.com)  
W: [www.ironoreholdings.com](http://www.ironoreholdings.com)

### Share Registry:

Security Transfer Registrars Pty Limited.  
770 Canning Highway  
Applecross, WA, 6153  
[www.securitytransfer.com.au](http://www.securitytransfer.com.au)

### Major Shareholders:

Wroxby Pty Ltd	52.7 %
Sumisho Iron	4.3 %