

28 January 2014

## Buckland Project – Mineral Resource Update

### Highlights

- **Buckland Project Mineral Resource estimate is now 283Mt @ 56.5% Fe.**
- **90% of Buckland's Mineral Resource now converted to higher confidence Indicated and Measured categories.**
- **Improved Mineral Resource provides solid foundation for pending Ore Reserve update.**

Iron Ore Holdings Ltd (IOH) is pleased to announce a Mineral Resource update for the iron ore deposits within its Buckland Project.

The Buckland Project concept (see Appendix A Figure 1), includes a mine at Bungaroo South, a new private 200km sealed haul road and a new 20Mtpa transshipping port at Cape Preston East. This project is currently at an advanced Feasibility Study (FS) stage, aimed for completion in Quarter 2 of CY2014. The Mineral Resource update incorporates new drilling and mapping results from CY2013 aimed at increasing confidence and converting more of the Mineral Resource to Ore Reserve.

The Mineral Resource for the Buckland Project includes:

- a new estimate for the main Bungaroo South deposit, with 100% conversion to Indicated and Measured Mineral Resource categories;
- a new estimate for the Dragon deposit, with 70% conversion to Indicated Mineral Resource category; and
- new estimates for the Rabbit and Rooster deposits, with 60% conversion to Indicated Mineral Resource category.

The new Mineral Resource statement is summarised in Table 1. All Buckland Mineral Resources are classified and reported in accordance with JORC Code 2012 Edition. A detailed summary of the supporting data is provided in Appendix B ('JORC Code 2012 Edition - Table 1').

The total Measured, Indicated and Inferred Mineral Resource estimate (at a 50% cut-off grade) within the Buckland Project is now **283.3 Million tonnes @ 56.5% Fe**. More than 90% of the estimated Mineral Resource is now within the Measured and Indicated categories.

Within its projects IOH now has Mineral Resources comprising 542 Million tonnes @ 57.4% Fe of DSO ore type and 1.1 Billion tonnes @ 30.4% Fe of BFO ore type (see Table 2).

### Summary of Material Information

The Buckland Project Mineral Resource occurs in a group of five deposits, Bungaroo South and Dragon covered by Mining Lease M47/1464-I, with Rabbit, Rooster and Snake covered by Exploration Licence E08/1554-I. The Project consists of six contiguous tenements, containing other exploration prospects, which are held by 100% owned subsidiaries of IOH.

The area straddles the western edge of the Hamersley Basin in the Pilbara Craton. Iron ore in the Hamersley Iron Province occur in mainly three deposit types, enriched Bedded Iron Deposit (BID), Channel Iron Deposit (CID) and Detrital Iron Deposit (DID). The Bungaroo South, Rabbit, Rooster and Snake deposits are made up predominantly of CID with minor DID and the Dragon deposit is a BID.

The nature of those deposits is summarised below (explanatory tables and figures are included in Appendix A):

- *Bungaroo South*: This deposit was formed in a major northerly flowing tributary to the Robe River and Bungaroo Creek palaeo-channels. The Bungaroo South Mineral Resource has two areas designated Western Zone and Eastern Zone, within a larger contiguous deposit divided by tenure held by other parties.

- *Dragon*: This martite-goethite mineralisation developed in the Dales Gorge Member of the Brockman Formation is located to the SE of the Bungaroo South deposit and elevated on a hill. It occurs in north dipping limb of a large scale anticline.
- *Rabbit and Rooster*: These two satellite deposits are situated 4km and 10km respectively south of the Rio Tinto Iron Ore Mesa J mine at the foot of the Buckland Hills. The deposits formed along the northern Buckland Hills range front, in narrow steep sided NE flowing palaeo-channels.
- *Snake*: This small satellite deposit is situated in the Buckland Hills and elevated on the top of a plateau. It comprises five separate areas, remnants of a continuous meandering channel eroded and incised by recent drainages.

Key drilling information includes: Measured Mineral Resources are generally classified in areas with a nominal 50m x 50m drilling grid spacing; Indicated Resources are generally classified in areas with a nominal 100m x 50m drilling grid spacing and Inferred Resources are generally classified in areas with a nominal 200m - 400m x 50m drilling grid spacing. All CID resource definition drill holes are vertically orientated; BID resource drilling at Dragon was angled to address dipping mineralisation. Drilling was conducted using reputable contractors and standard industry drilling techniques. Diamond drill core size varied from HQ3 to PQ3. RC drilling was completed using a 5.5 inch face sampling hammer.

Key sampling information includes: All samples were collected routinely on 2m intervals for logging and assaying. All samples were submitted for multi-element X-Ray Fluorescence Spectrometry (XRF) analysis at reputable laboratories. Quality Assurance/Quality Control (QA/QC) samples were routinely inserted and monitored. Quality monitoring ensured that the accuracy and precision of this analysis is acceptable. Supported by the initial marketing parameters set for the Buckland Project FS (in progress) a standard iron ore cut-off grade of 50% was applied for these deposits.

Key resource modelling information includes: Geological 3D models, constructed from surface mapping and drilling data, were used to constrain resource estimation. The Bungaroo South resource estimation was conducted using block model methodologies consistent with planned bulk mining parameters and semi-selective mining parameters for the smaller deposits. For all deposits (other than Snake and Rooster), major element grades Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, S, Mn and LOI grades were estimated through ordinary kriging interpolation. For Snake and Rooster an Inverse Distance Squared methodology was applied.

In-situ bulk density values are based on physical measurements conducted on core samples on site and at reputable laboratories and from down hole geophysical logs. The applied values are generally supported by extensive deposit data or based on comparative data with like mineralisation from the other deposits in the district.

Table 1 presents the updated JORC Mineral Resource for the Buckland Project. \*\*\* ENDS \*\*\*

**Table 1: Buckland Project Mineral Resource Estimate Update**

Buckland Project Deposits	JORC Class	Cutoff (% Fe)	Tonnes <sup>B</sup> (Mt)	Density t/m <sup>3</sup>	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)
Bungaroo South <sup>A</sup>	Measured	50	30.9	2.6	57.4	62.1	6.7	3.0	0.15	7.6
	Indicated	50	214.9	2.5	56.6	61.6	7.8	2.4	0.15	8.1
Dragon	Indicated	50	9.1	2.3	55.8	60.9	8.1	3.1	0.14	8.3
	Inferred	50	3.4	2.3	54.7	59.4	10.2	3.0	0.13	7.9
Rabbit	Indicated	50	5.9	2.6	55.0	58.9	10.3	3.4	0.13	6.6
	Inferred	50	1.3	2.5	53.7	58.1	11.2	3.3	0.08	7.5
Rooster	Indicated	50	5.2	2.6	55.8	60.2	7.2	4.6	0.08	7.3
	Inferred	50	5.4	2.5	52.1	56.8	9.6	6.3	0.06	8.3
Snake	Inferred	50	7.1	2.6	57.0	62.6	5.8	2.8	0.15	9.0
Sub Total	Measured	50	30.9	2.6	57.4	62.1	6.7	3.0	0.15	7.6
	Indicated	50	235.1	2.5	56.5	61.5	7.9	2.5	0.14	8.1
	Inferred	50	17.2	2.5	54.8	59.8	8.3	4.0	0.11	8.4
<b>Total</b>			<b>283.3</b>	<b>2.5</b>	<b>56.5</b>	<b>61.4</b>	<b>7.8</b>	<b>2.7</b>	<b>0.14</b>	<b>8.1</b>

<sup>A</sup> Includes Probable Ore Reserve of 92.4 Mt (Table 3).

<sup>B</sup> Tonnages are dry metric tonnes and have been rounded, hence small differences may be present in the totals.

**Table 2: IOH Mineral Resource at 28 January 2014**

Location	Type	Project	Deposit	JORC Class	Cutoff (% Fe)	Tonnes <sup>D</sup> (Mt)	Density t/m <sup>3</sup>	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)
Central Pilbara	DSO <sup>E</sup>	Iron Valley <sup>A+B</sup>	Iron Valley	Indicated	50	216.3	2.9	58.4	63.0	5.1	3.1	0.18	7.2
				Inferred	50	42.8	3.0	57.9	61.1	7.0	3.9	0.14	5.2
Western Pilbara		Bungaroo South	Measured	50	30.9 <sup>C</sup>	2.6	57.4	62.1	6.7	3.0	0.15	7.6	
				Indicated	50	214.9 <sup>C</sup>	2.5	56.6	61.6	7.8	2.4	0.15	8.1
			Dragon	Indicated	50	9.1	2.3	55.8	60.9	8.1	3.1	0.14	8.3
				Inferred	50	3.4	2.3	54.7	59.4	10.2	3.0	0.13	7.9
		Rabbit	Indicated	50	5.9	2.6	55.0	58.9	10.3	3.4	0.13	6.6	
			Inferred	50	1.3	2.5	53.7	58.1	11.2	3.3	0.08	7.5	
		Rooster	Indicated	50	5.2	2.6	55.8	60.2	7.2	4.6	0.08	7.3	
			Inferred	50	5.4	2.5	52.1	56.8	9.6	6.3	0.06	8.3	
		Snake	Inferred	50	7.1	2.6	57.0	62.6	5.8	2.8	0.15	9.0	
		Sub Total	Measured			50	30.9	2.6	57.4	62.1	6.7	3.0	0.15
Indicated			50	451.4	2.7	57.4	62.2	6.5	2.8	0.16	7.7		
Inferred			50	60.0	2.9	57.0	60.7	7.3	3.9	0.13	6.1		
<b>Total</b>					<b>542.3</b>	<b>2.7</b>	<b>57.4</b>	<b>62.0</b>	<b>6.6</b>	<b>2.9</b>	<b>0.16</b>	<b>7.5</b>	
Coastal Pilbara	BFO <sup>F</sup>	Maitland	Maitland River <sup>A</sup>	Inferred	26	1,106.0 <sup>G</sup>	3.25	30.4	30.8	44.0	2.3	0.06	1.2

<sup>A</sup> Reported in 2012 in accordance with JORC Code 2004 edition; all other resources classified and reported in accordance with JORC Code 2012 edition.

<sup>B</sup> Includes Probable Ore Reserve of 134.7 Mt (see Table 3 below).

<sup>C</sup> Includes Probable Ore Reserve of 92.4 Mt (see Table 3 below).

<sup>D</sup> Tonnages are dry metric tonnes and have been rounded, hence small differences may be present in the totals.

<sup>E</sup> DSO ("Direct Shipping Ore") is considered to be ore types which do not require significant beneficiation (upgrading) before it is usable as feedstock in the sinter or iron making processes.

<sup>F</sup> BFO ("Beneficiable Feed Ore") is comprised of ore types which require significant beneficiation (upgrading) before it is usable as feedstock in the sinter or iron making processes.

<sup>G</sup> Indicative Davis Tube Recovery (grind size, P80 25µ) testwork produced a magnetite concentrate with weight yields ranging from 13 - 28%.

**Table 3: IOH Probable Ore Reserve<sup>A</sup> at 28 January 2014 (unchanged)**

Location	Deposit		JORC Ore Reserve	Tonnes <sup>B</sup> (Mt)	Cut-off (% Fe)	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)
Central Pilbara	Iron Valley		Proven	-	53	-	-	-	-	-	-
			Probable	134.7		58.5	63.0	4.9	3.2	0.17	7.2
Western Pilbara	Bungaroo South	West	Proven	-	54	-	-	-	-	-	-
			Probable	31.4		57.9	62.7	5.9	2.9	0.15	7.7
		East	Proven	-	54	-	-	-	-	-	-
			Probable	61.0		57.5	62.3	6.5	2.3	0.15	8.3
<b>Total</b>				<b>227.1</b>	<b>53.4</b>	<b>58.1</b>	<b>62.8</b>	<b>5.5</b>	<b>2.9</b>	<b>0.16</b>	<b>7.6</b>

<sup>A</sup> Reported in 2012 in accordance with JORC Code 2004 edition.

<sup>B</sup> Tonnages are dry metric tonnes and have been rounded, hence small differences may be present in the totals.

### Competent Persons Statements:

The information in the report to which this statement is attached that relates to Exploration Targets, Exploration Results, is based on information compiled by Mr Roland Bartsch, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Bartsch is a full time contract 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 being undertaken to qualify as a Competent Person as defined in the 2012 Edition of 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Bartsch consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

In respect of the Iron Valley and Maitland deposits 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.

In respect of the Bungaroo South, Dragon, Rabbit and Rooster deposits the information in this report that relates to Mineral Resources is based on information compiled by Mr Lynn Widenbar, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Widenbar is a full time employee Widenbar and Associates and produced the Mineral Resource Estimates based on data and geological information supplied by IOH and has sufficient experience which 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Widenbar 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 Ore Reserve estimations for Bungaroo South and Iron Valley Deposits 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 28 January 2014)

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
Ryan Stokes	Non-Executive Director
Mal Randall	Non-Executive Director
Brian O'Donnell	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 Commercial
Roland Bartsch	GM Geology
Michael Klvac	GM Corporate Affairs

#### Share Registry:

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

#### Registered Office:

Level 1  
1 Altona Street  
West Perth WA 6005

#### Major Shareholders:

Wroxby Pty Ltd	52.7 %
3 <sup>rd</sup> Wave Investors	4.7 %
Sumisho Iron	4.3 %

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# APPENDIX A Diagrams and Charts

Figure 1: IOH Key Project and Tenement Locations

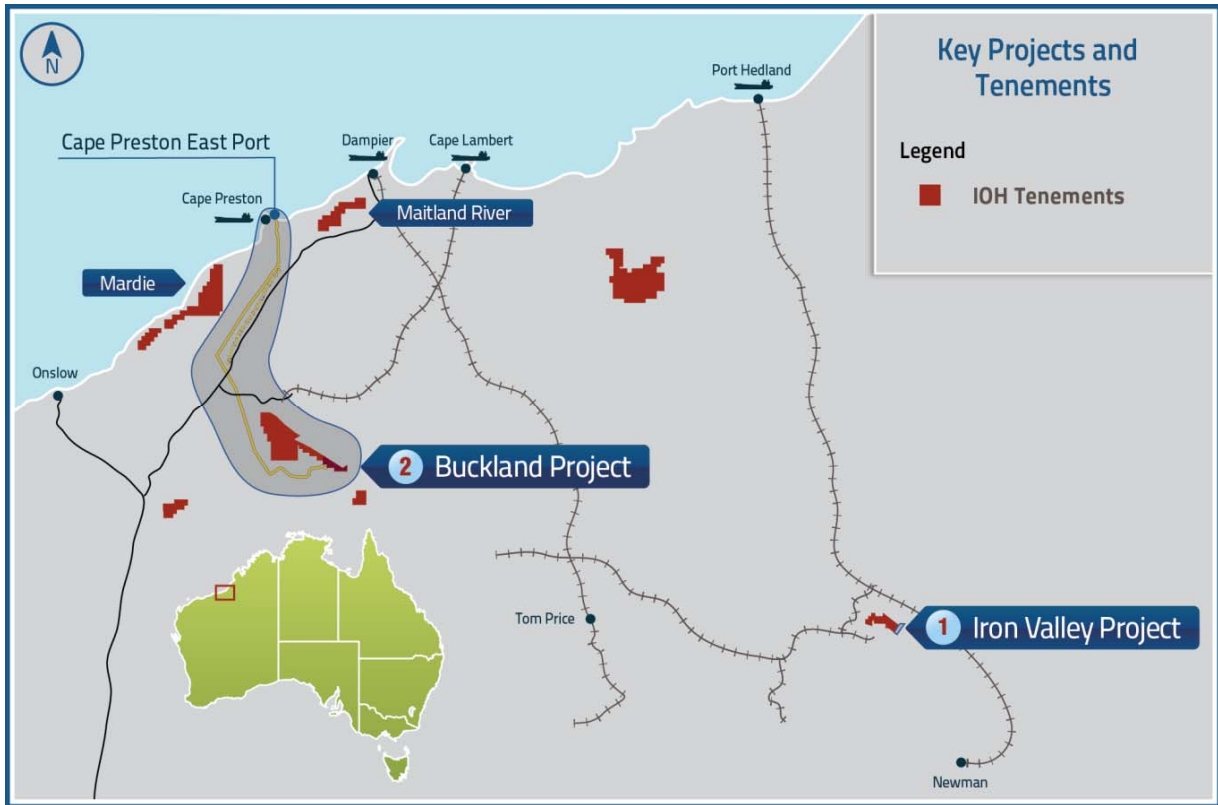
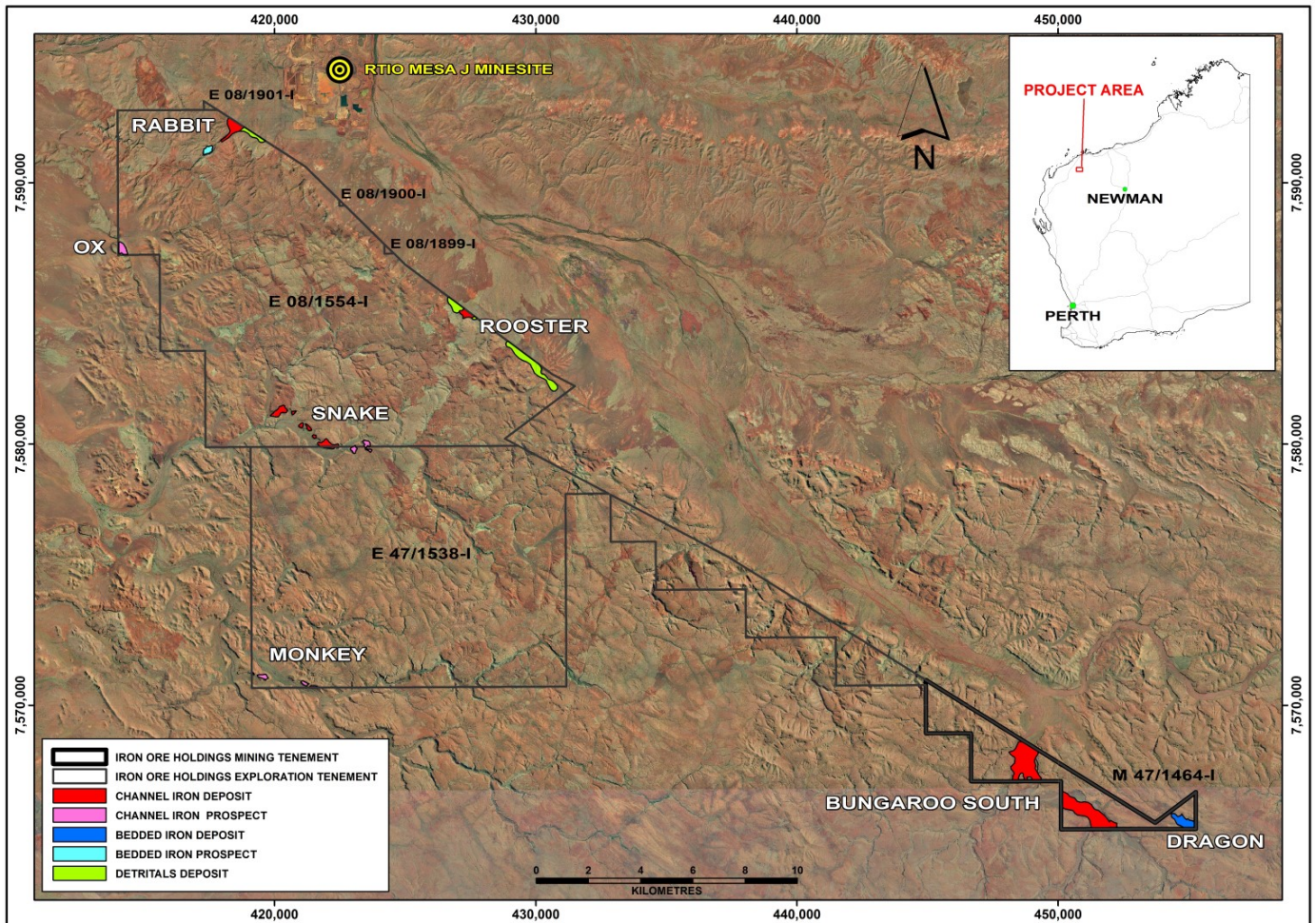


Figure 2: Buckland Project Deposit Locations and Deposit Type Distribution



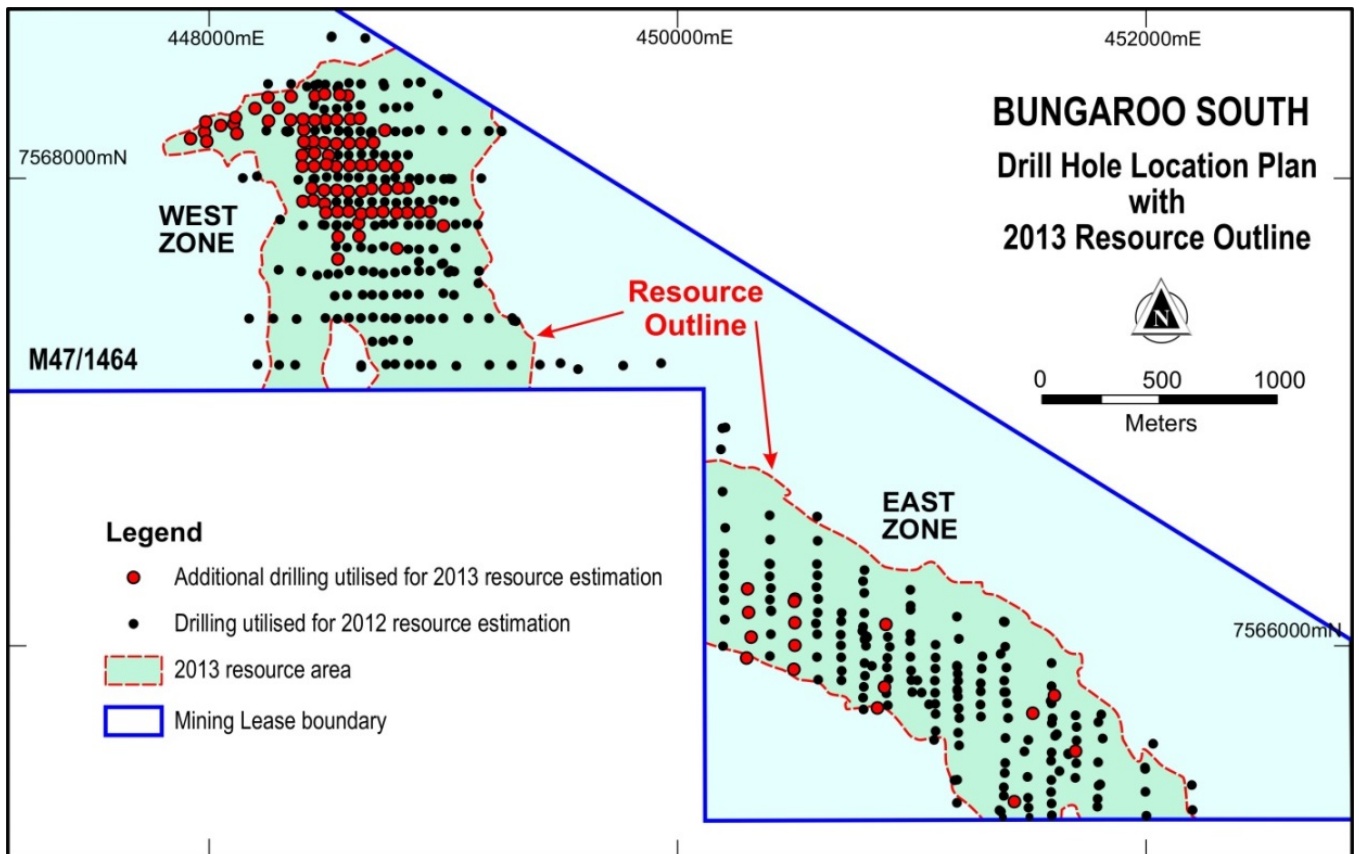
**Table 4: Bungaroo South Mineral Resource Estimate Summary**

Deposit	Resource Type	JORC Class	Material Type	Cutoff (% Fe)	Tonnes (Mt)	Density t/m <sup>3</sup>	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)	
Bungaroo South	DSO	Measured	U_CID	50	9.0	2.7	57.6	62.5	6.0	3.0	0.15	7.9	
		Indicated	U_CID	50	64.2	2.7	56.9	61.8	7.4	2.6	0.15	7.9	
		Measured	IC	50	0.2	2.3	51.8	56.3	13.0	4.1	0.13	8.1	
		Indicated	IC	50	6.6	2.3	51.7	56.3	13.5	3.5	0.14	8.2	
		Measured	L_CID	50	19.8	2.5	57.7	62.4	6.3	3.1	0.15	7.5	
		Indicated	L_CID	50	131.9	2.5	56.9	62.1	7.2	2.4	0.15	8.3	
		Measured	PCG	50	1.9	2.5	53.9	57.9	13.4	2.2	0.15	6.9	
		Indicated	PCG	50	12.1	2.5	54.0	58.3	12.9	1.9	0.13	7.2	
		Total	U_CID	50	73.3	2.7	57.0	61.9	7.2	2.6	0.15	7.9	
		Total	IC	50	6.8	2.3	51.7	56.3	13.5	3.5	0.14	8.2	
		Total	L_CID	50	151.7	2.5	57.0	62.1	7.1	2.5	0.15	8.2	
		Total	PCG	50	14.0	2.5	54.0	58.2	13.0	2.0	0.13	7.2	
		Measured	Total	50	30.9 <sup>A</sup>	2.6	57.4	62.1	6.7	3.0	0.15	7.6	
		Indicated	Total	50	214.9 <sup>A</sup>	2.5	56.6	61.6	7.8	2.4	0.15	8.1	
		<b>TOTAL</b>			<b>50</b>	<b>245.8</b>	<b>2.5</b>	<b>56.7</b>	<b>61.7</b>	<b>7.7</b>	<b>2.5</b>	<b>0.15</b>	<b>8.1</b>

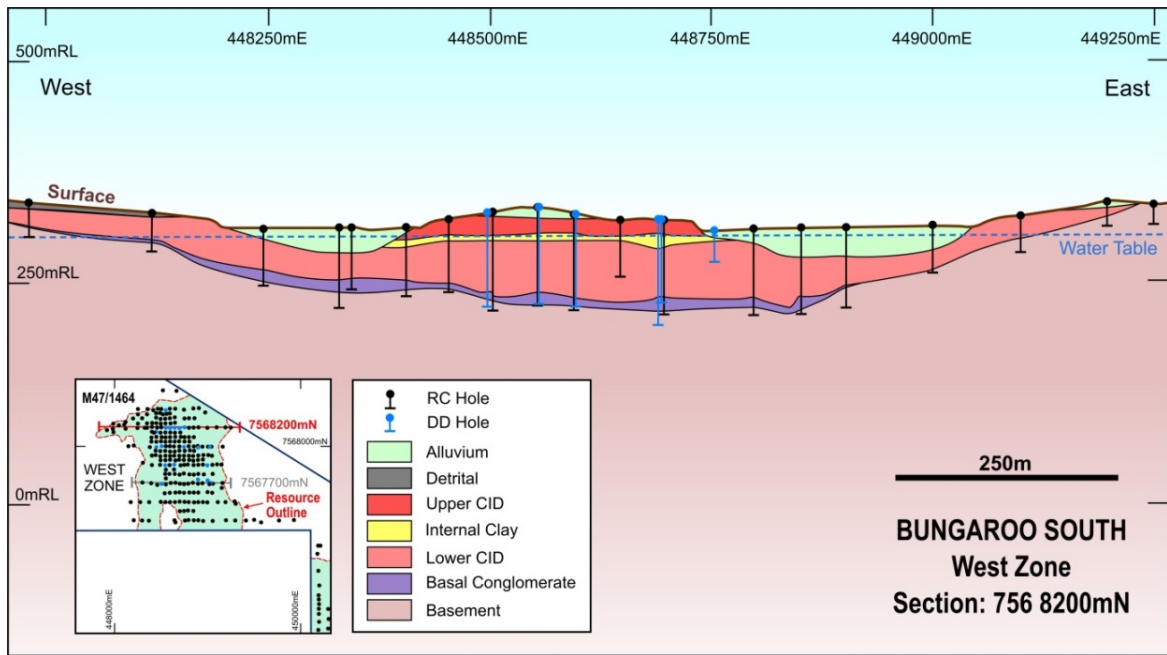
Includes published Probable Ore Reserve of 92.4 Mt (Table 3).

Tonnages are dry metric tonnes and have been rounded, hence small differences may be present in the totals.

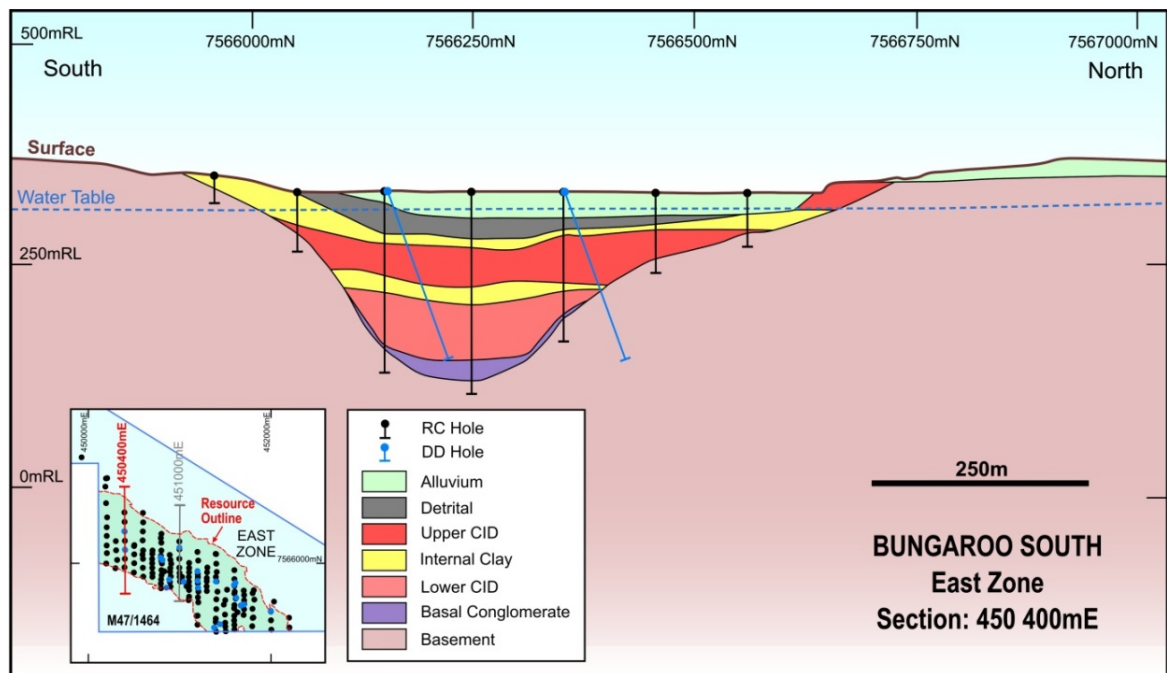
**Figure 3: Bungaroo South Drill Hole Location Plan and Resource Outline**



**Figure 4: Bungaroo South West Zone Schematic Geological X-Section. View Looking North.**



**Figure 5: Bungaroo South East Zone Schematic Geological X-Section. View Looking West.**

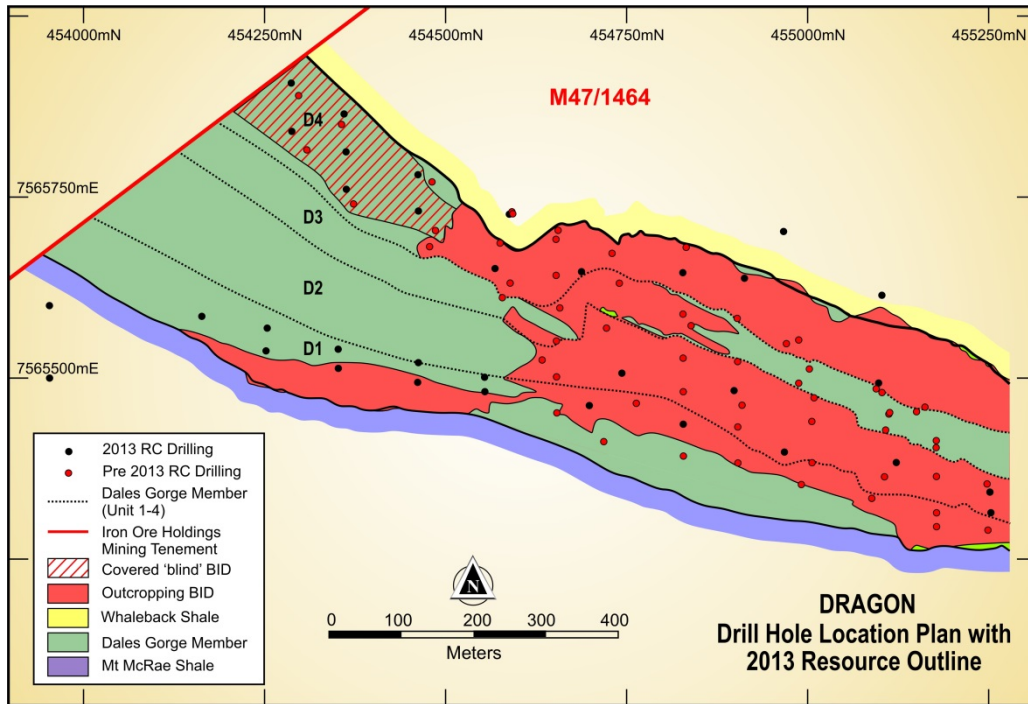


**Table 5: Dragon Mineral Resource Estimate Summary**

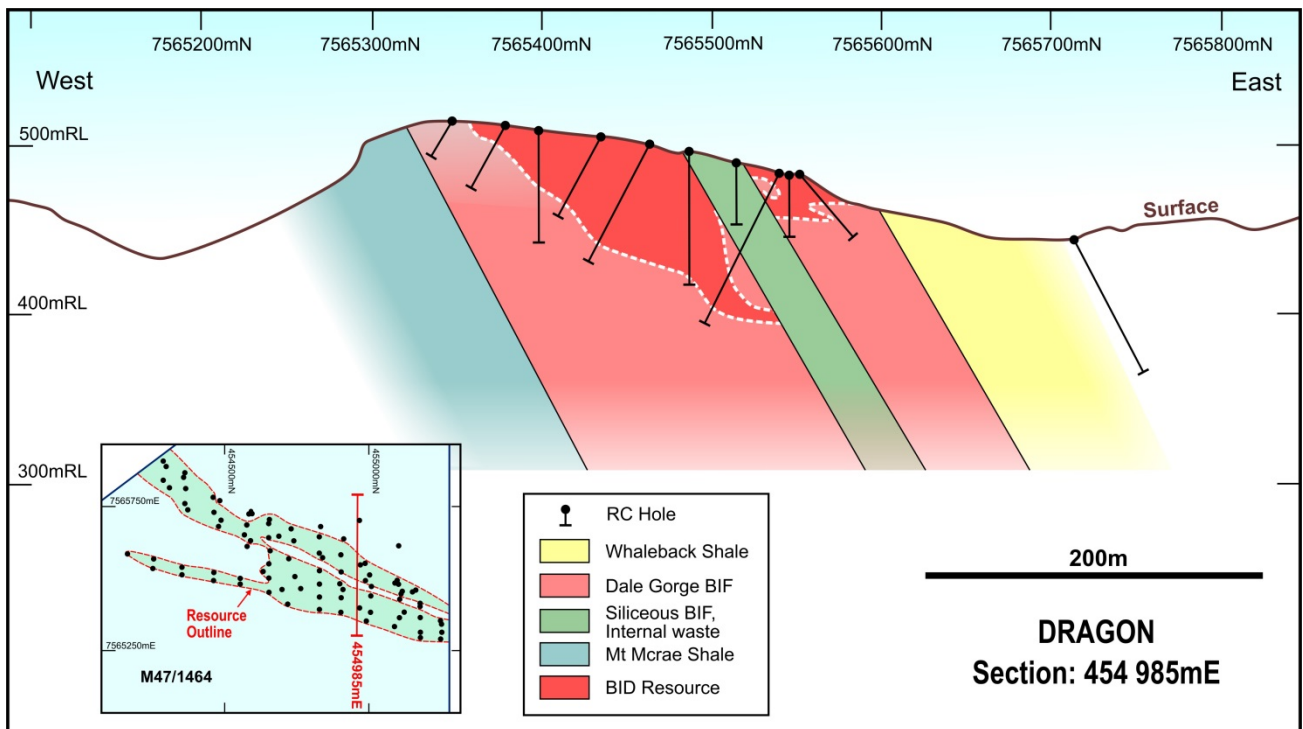
Deposit	Resource Type	JORC Class	Material Type	Cutoff (% Fe)	Tonnes (Mt)	Density t/m <sup>3</sup>	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)
Dragon	DSO	Indicated	BID	50	9.1	2.3	55.8	60.9	8.1	3.1	0.14	8.3
		Inferred	BID	50	3.4	2.3	54.7	59.4	10.2	3.0	0.13	7.9
		<b>TOTAL</b>			<b>50</b>	<b>12.5</b>	<b>2.3</b>	<b>55.5</b>	<b>60.5</b>	<b>8.7</b>	<b>3.1</b>	<b>0.14</b>

Tonnages are dry metric tonnes and have been rounded, hence small differences may be present in the totals.

**Figure 6: Dragon Drill Hole Location Plan and Resource Outline**



**Figure 7: Dragon Schematic Geology X-Section. View Looking West.**



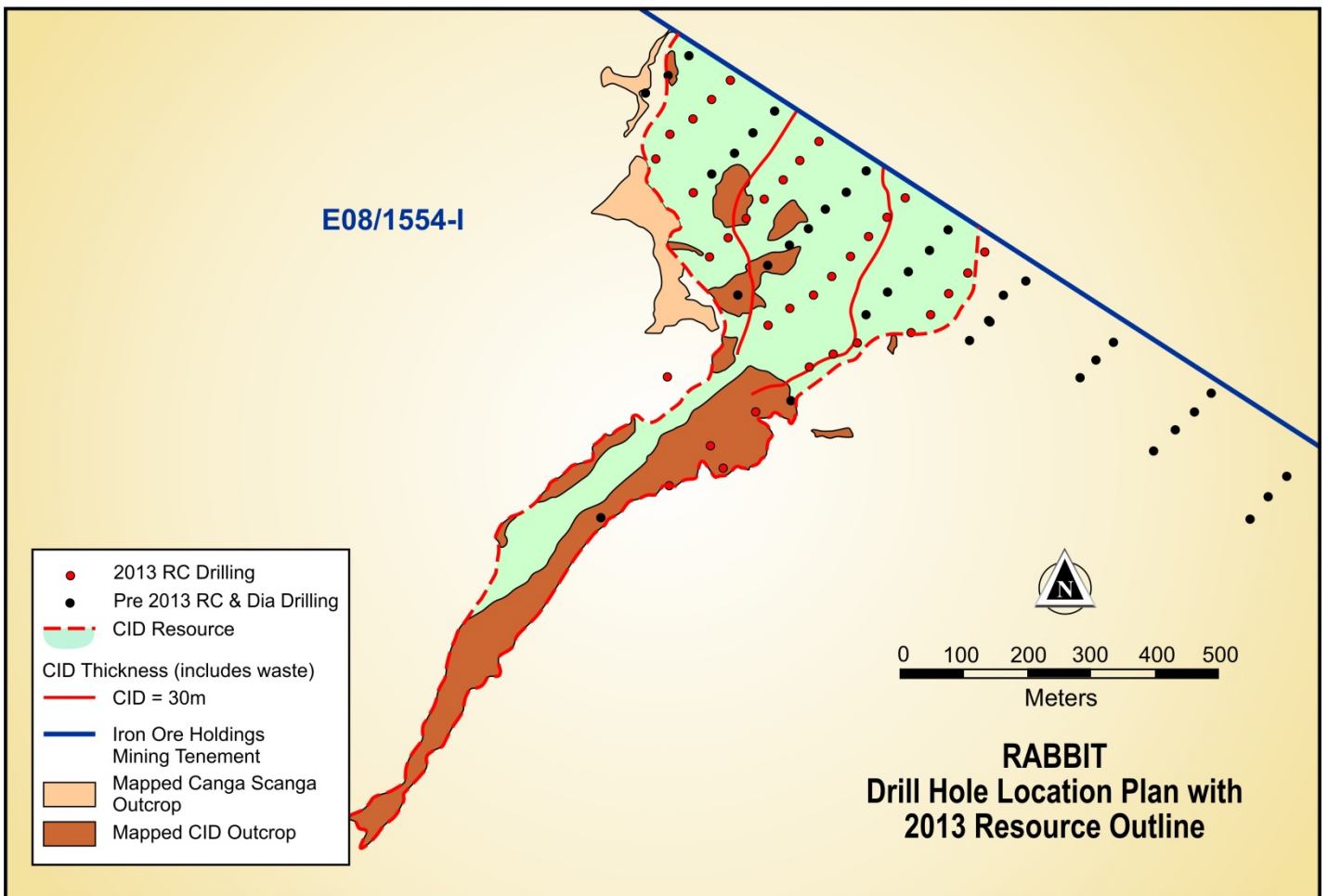


**Table 6: Rabbit Mineral Resource Estimate Summary**

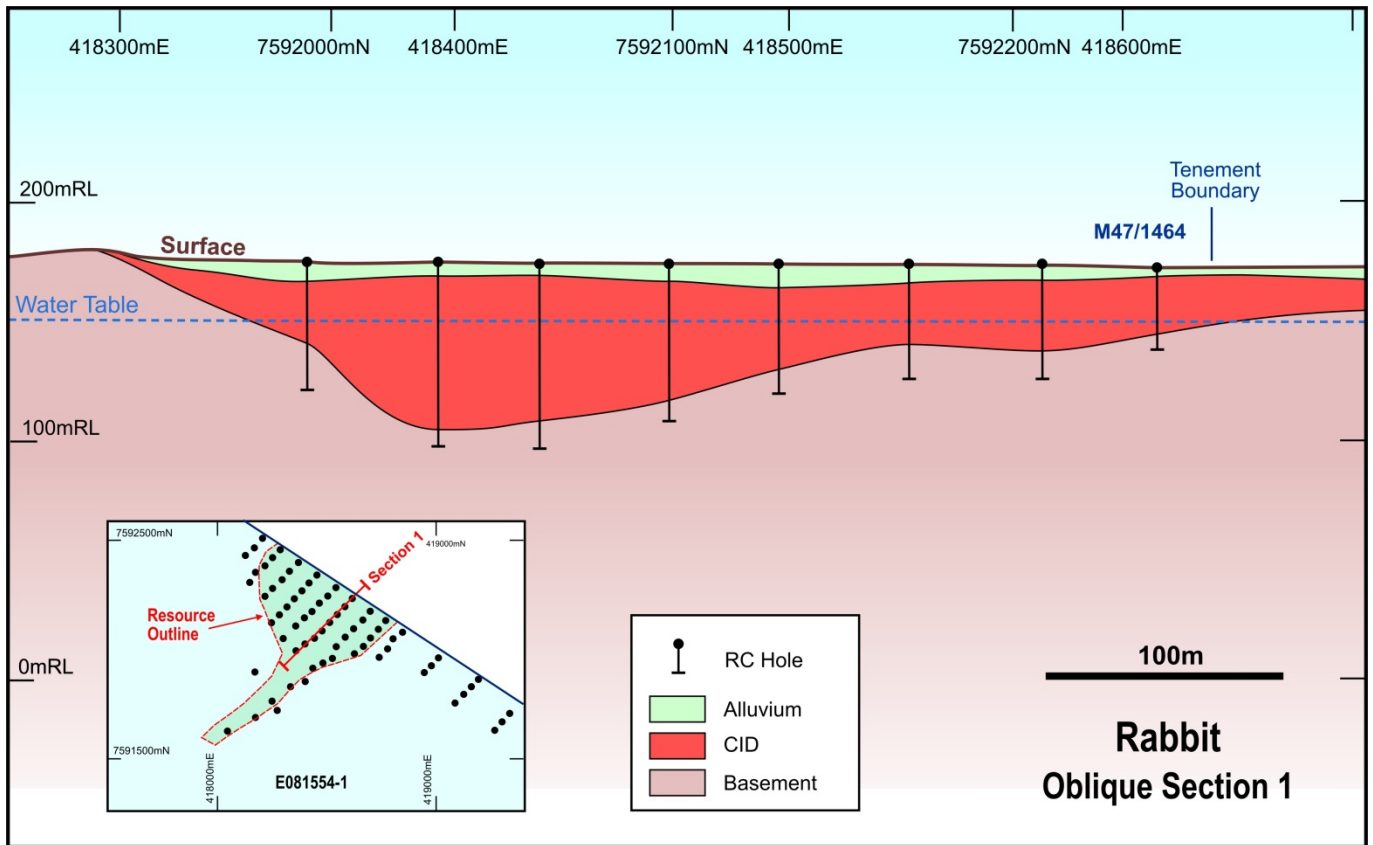
Deposit	Resource Type	JORC Class	Material Type	Cutoff (% Fe)	Tonnes (Mt)	Density t/m <sup>3</sup>	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)		
Rabbit	DSO	Indicated	CID	50	5.9	2.6	55.0	58.9	10.3	3.4	0.13	6.6		
		Indicated	DID	50	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0		
		Inferred	CID	50	0.4	2.6	54.3	58.0	11.1	3.4	0.06	6.5		
		Inferred	DID	50	0.9	2.5	53.4	58.1	11.2	3.3	0.08	8.0		
		Total	CID	50	6.4	2.6	55.0	58.8	10.4	3.4	0.12	6.6		
		Total	DID	50	0.9	2.5	53.4	58.1	11.2	3.3	0.08	8.0		
		Indicated	Total	50	5.9	2.6	55.0	58.9	10.3	3.4	0.13	6.6		
		Inferred	Total	50	1.3	2.5	53.7	58.1	11.2	3.3	0.08	7.5		
		<b>TOTAL</b>			<b>50</b>		<b>7.2</b>	<b>2.6</b>	<b>54.8</b>	<b>58.8</b>	<b>10.5</b>	<b>3.4</b>	<b>0.12</b>	<b>6.8</b>

Tonnages are dry metric tonnes and have been rounded, hence small differences may be present in the totals.

**Figure 8: Rabbit Drill Hole Location Plan and Resource Outline.**



**Figure 9: Rabbit Schematic Geology X-Section. View Looking Northwest.**



**Table 7: Rooster Mineral Resource Estimate Summary**

Deposit	Resource Type	JORC Class	Material Type	Cutoff (% Fe)	Tonnes (Mt)	Density t/m <sup>3</sup>	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)	
Rooster	DSO	Indicated	CID	50	4.6	2.6	56.3	61.1	6.3	4.3	0.09	7.9	
		Indicated	DID	50	0.6	2.5	51.9	53.7	13.9	7.2	0.05	3.3	
		Inferred	CID	50	0.2	2.6	52.4	57.8	8.9	5.7	0.07	9.2	
		Inferred	DID	50	5.2	2.5	52.1	56.8	9.6	6.3	0.06	8.2	
		Total	CID	50	4.8	2.6	56.1	61.0	6.4	4.3	0.09	7.9	
		Total	DID	50	5.8	2.5	52.1	56.5	10.1	6.4	0.05	7.7	
		Inferred	Total	50	5.2	2.6	55.8	60.2	7.2	4.6	0.08	7.3	
		Inferred	Total	50	5.4	2.5	52.1	56.8	9.6	6.3	0.06	8.3	
		<b>TOTAL</b>			<b>50</b>	<b>10.6</b>	<b>2.5</b>	<b>53.9</b>	<b>58.5</b>	<b>8.4</b>	<b>5.5</b>	<b>0.07</b>	<b>7.8</b>

Tonnages are dry metric tonnes and have been rounded, hence small differences may be present in the totals.

Figure 10: Rooster Drill Hole Location Plan and Resource Outline.

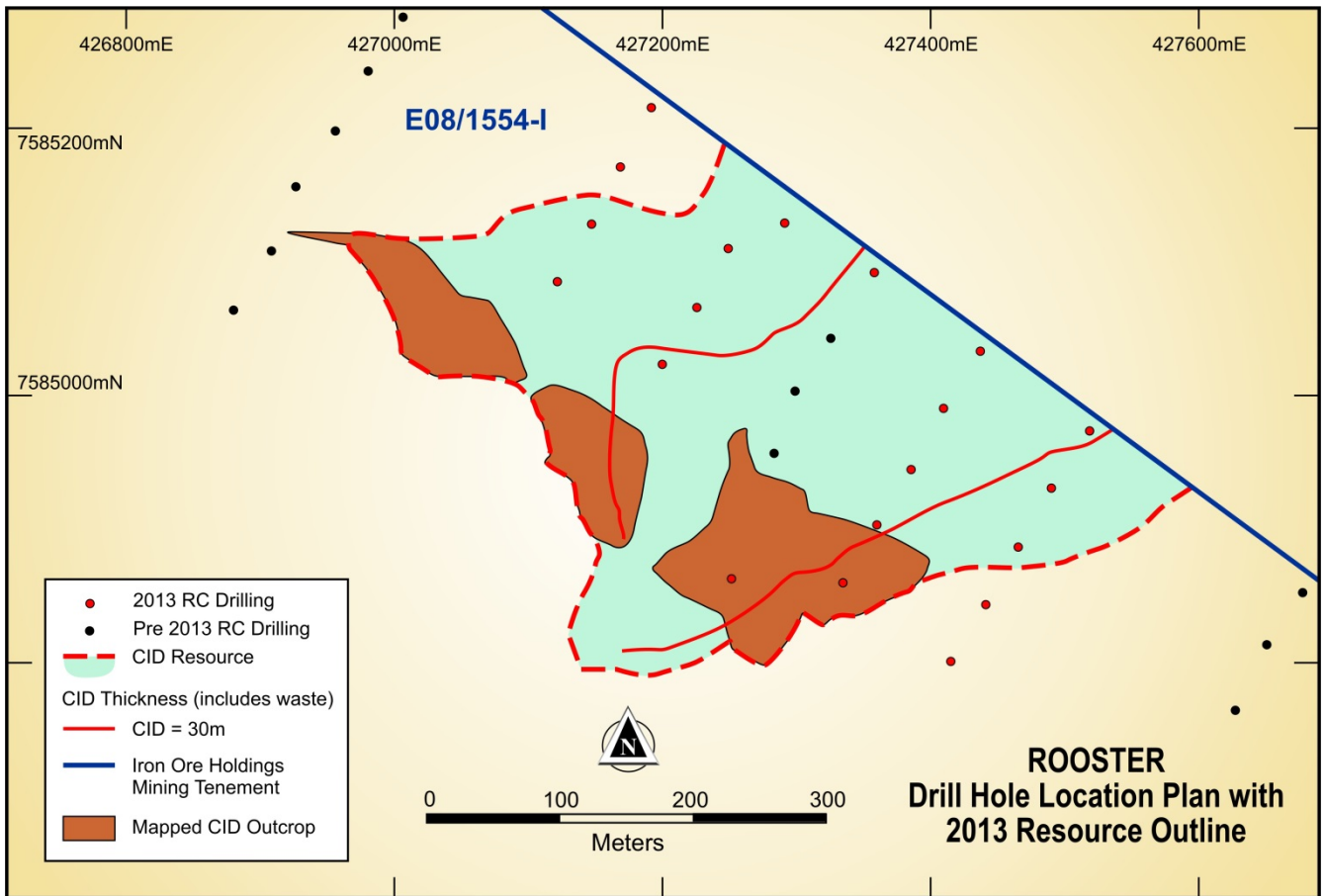
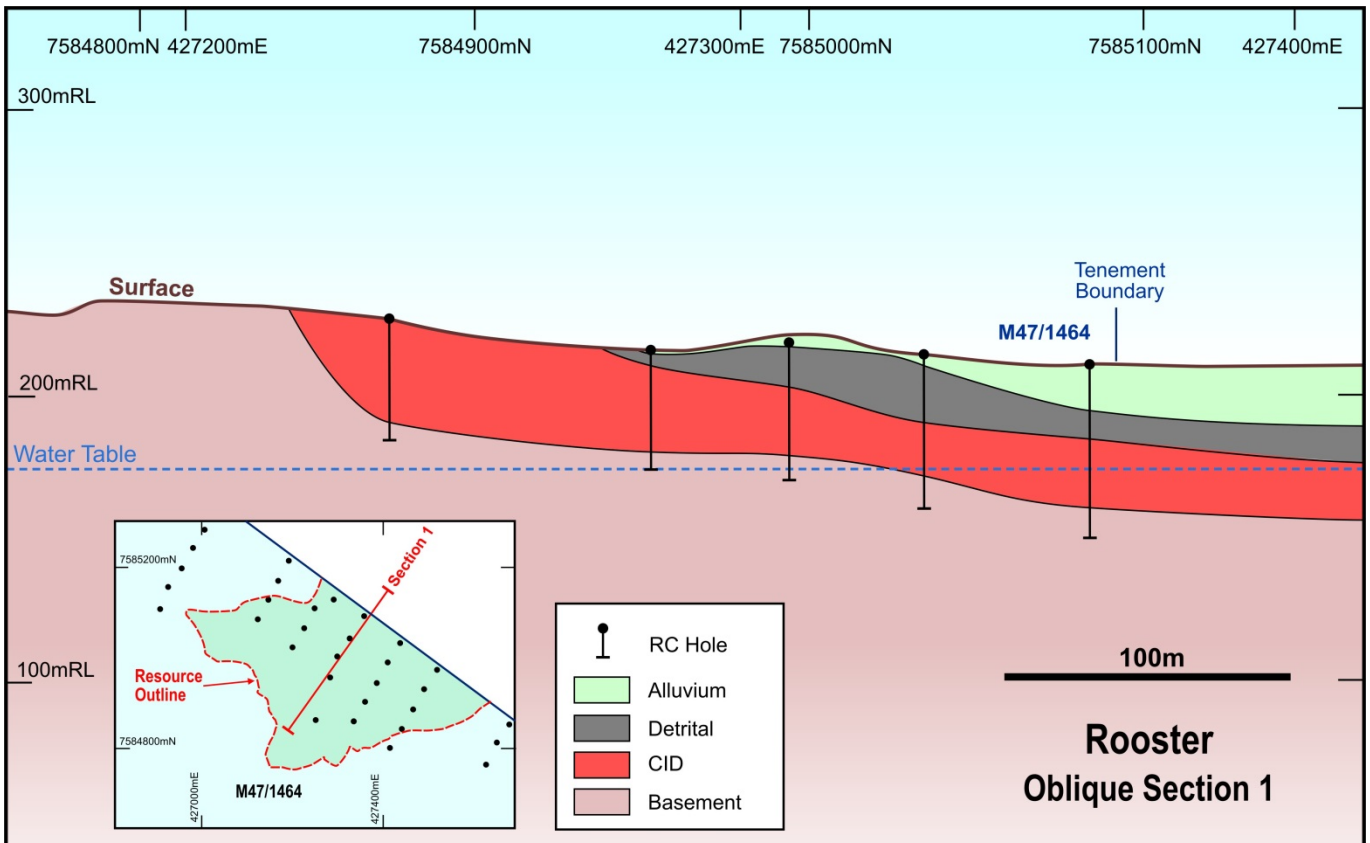


Figure 11: Rooster Schematic Geology X-Section. View Looking Northwest.

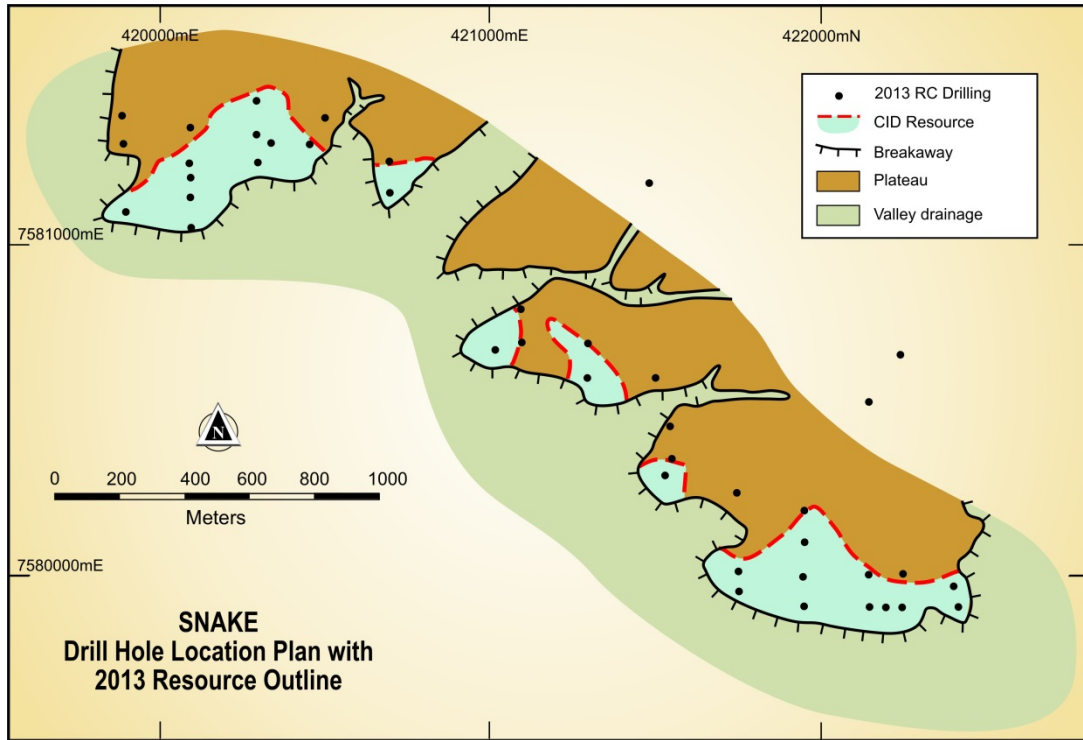


**Table 8: Snake Mineral Resource Estimate Summary**

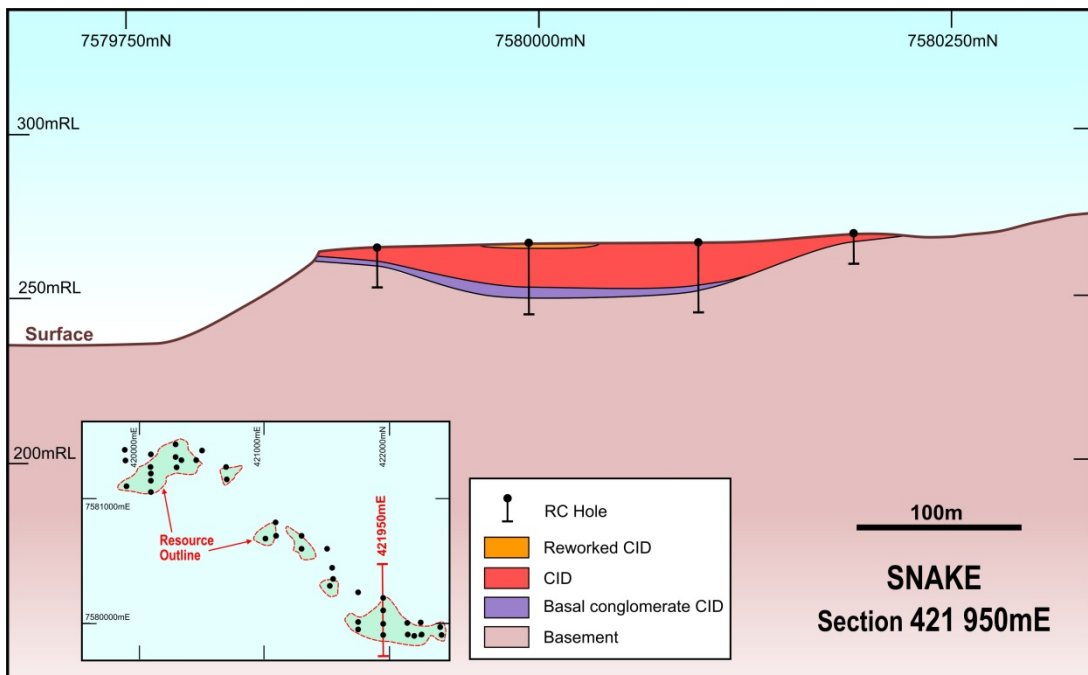
Deposit	Resource Type	JORC Class	Material Type	Cutoff (% Fe)	Tonnes (Mt)	Density t/m <sup>3</sup>	Fe (%)	CaFe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)
Snake	DSO	Inferred	CID	50	7.1	2.64	57.0	62.6	5.8	2.8	0.15	9.0
		<b>TOTAL</b>		<b>50</b>	<b>7.1</b>	<b>2.64</b>	<b>57.0</b>	<b>62.6</b>	<b>5.8</b>	<b>2.8</b>	<b>0.15</b>	<b>9.0</b>

Tonnages are dry metric tonnes and have been rounded, hence small difference may be present in the totals.

**Figure 12: Snake Drill Hole Location Plan and Resource Outline**



**Figure 13: Snake Schematic Geology X-Section. View Looking Northwest.**



**APPENDIX B**  
**Iron Ore Holding Ltd – Bungaroo South, Dragon, Rabbit, Rooster and Snake Deposits**  
**JORC Code, 2012 Edition – Table 1**

**Section 1 Sampling Techniques and Data**

Criteria	Commentary
<i>Sampling techniques</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• All sampling has been carried out in accordance with the IOH Reverse Circulation (RC) and Diamond Drilling Sampling Procedure (described in detail below) which is industry standard.</li> <li>• RC drilling was used to obtain 2m samples from which the whole sample is crushed to -3mm and 2.5kg was pulverised for production of a fused bead for multi-element XRF analysis.</li> <li>• Diamond drill core was sampled to lithological boundaries.</li> <li>• The RC drilling provides consecutive 2m representative samples of the intersected geological formations.</li> <li>• Each sample weighs approximately 4kg.</li> </ul> <p><i>Rabbit and Snake</i></p> <ul style="list-style-type: none"> <li>• Diamond drill core sampling was conducted at 2m intervals for ease of handling and correlation with exploration RC drilling.</li> </ul>
<i>Drilling techniques</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• RC drilling was conducted using a 5.5 inch face sampling hammer.</li> <li>• Diamond drilling used a HQ3 drill bit/core size.</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>• 451 RC and diamond drill holes were completed for a total of 35,635m drilled. The drilling comprised 389 RC drill holes for 29,068m drilled and 62 diamond holes for 6,567m (includes 512m of RC/sonic precollar drilling).</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>• 107 RC drill holes were completed for a total of 6,110m drilled.</li> <li>• No Diamond drilling has been undertaken.</li> </ul> <p><i>Rabbit</i></p> <ul style="list-style-type: none"> <li>• 75 RC and diamond drill holes were completed for a total of 3,312m drilled. The majority of drilling was RC (70 holes).</li> </ul> <p><i>Rooster</i></p> <ul style="list-style-type: none"> <li>• 87 RC drill holes were completed for a total of 2,834m drilled.</li> <li>• No Diamond drilling has been undertaken.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>• 39 RC and diamond drill holes were completed for a total of 476m drilled. The majority of drilling was RC (34 holes).</li> </ul>
<i>Drill sample recovery</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• Sample recovery was assessed visually by a field geologist present at the drill site at the time of drilling and noted in the database.</li> <li>• Cavities encountered during drilling were relayed by the driller to the attending rig geologist and recorded accordingly.</li> <li>• Sample bias due to preferential loss/gain of fine/coarse material is considered to be within acceptable limits across all deposits.</li> </ul>
<i>Logging</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• All RC chip samples have been retained and geologically logged for all sample intervals. The geological logging has been validated using geochemical lab results.</li> <li>• Geological logging was carried out by IOH staff and contract geologists with recording of water table depth, weathering profiles, lithology, colour, estimate of mineral percentages and for mineralised intervals, Pilbara Iron Ore Codes (PIOC) for grain size/texture, clast/pisolite composition, matrix and lustre/ hardness and interpretation of stratigraphy.</li> <li>• Logging is both quantitative and qualitative.</li> <li>• All RC chip and Diamond core trays are photographed and stored in the IOH databases as a reference.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• When the RC rig produced dry cuttings per drill interval, the sample passes through the cyclone and riffle or cone splitter. The splitter produces two identical samples of approximately 4kg in weight for each interval drilled. These samples were placed into two identically labelled calico bags. The remainder of the drill cuttings (~30kg) were collected and placed in a pile on the ground. Piles were placed sequentially in rows of 10. The calico bags were placed with the respective piles.</li> <li>• Where the RC rig produced wet, clay-rich drill cuttings that may have biased the operation of the splitter, the complete sample was collected directly from the cyclone and left to dry in perforated plastic bags prior to being riffle-split into two identically labelled calico bags <u>or</u> collected directly from the cyclone, using a wet splitter for wet samples, into two identically labelled calico bags and left to dry on the respective pile.</li> </ul>

Criteria	Commentary
	<ul style="list-style-type: none"> <li>One calico bag from each drill interval was sent to the lab for analysis. If the sample was not of sufficient weight, both calico samples from that interval were combined and sent to the lab. Sample sizes &gt;3kg were considered to be of sufficient weight for the grain size of the material generated from the RC drilling.</li> <li>When no further analysis of the samples was required the remaining calico bags were moved to a secure storage facility on site.</li> <li>Whole diamond core was submitted for assay, broken and collected in calico sample bags (4-5kg of core).</li> </ul> <p><i>Dragon and Snake</i></p> <ul style="list-style-type: none"> <li>Approximately 97% of drilling was dry.</li> </ul>
<p><i>Quality of assay data and laboratory tests</i></p>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>Samples were analysed by Ultra Trace Laboratories (Bureau Veritas) Perth. The samples were analysed by XRF for Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub>, CaO, Mn, P, S, MgO, K<sub>2</sub>O and 14 other trace elements. In addition, LOI (Loss On Ignition) was determined by TGA (Thermo Gravimetric Analysis) at temperatures of (0-400°C, 400-650°C and 0-1000° C) (LOI400, LOI650 and LOI1000).</li> <li>Standards [Certified Reference Material (CRM)] and field duplicates were collected respectively on a 1 in 50 basis. Lab checks were also carried out on the sample pulps. The standards were inserted into each sample batch to test the accuracy of the laboratory analysis. The CRM expected analyte grades were unknown to the lab at the time of testing. Based on the standards across all deposits: the accuracy of key major elements such Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> and P for head assays is acceptable; the field duplicate head assay data was unbiased and shows an acceptable level of precision; and the lab checks also show acceptable accuracy and precision.</li> <li>No samples were analysed by an umpire lab.</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>The drill database comprises 16,020 multi-element analysis.</li> <li>Five types of CRM supplied by Geostats Pty Ltd were used. There was a total of 330 standards, 317 duplicate samples, 841 laboratory standards and 816 laboratory repeat analysis samples.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>The drill database comprises 3,070 multi-element analysis.</li> <li>Two types of CRM supplied by Geostats Pty Ltd were used. There was a total of 64 standards, 61 duplicate samples, 160 laboratory standards and 161 laboratory repeat analysis samples.</li> </ul> <p><i>Rabbit</i></p> <ul style="list-style-type: none"> <li>The drill database comprises 1,624 multi-element analysis.</li> <li>Two types of CRM supplied by Geostats Pty Ltd. There was a total of 34 standards, 31 duplicate samples, 85 laboratory standards and 81 laboratory repeat analysis samples</li> </ul> <p><i>Rooster</i></p> <ul style="list-style-type: none"> <li>The drill database comprises 1,251 multi-element analysis.</li> <li>Two types of CRM supplied by Geostats Pty Ltd. There was a total of 26 standards, 25 duplicate samples, 70 laboratory standards and 59 laboratory repeat analysis samples.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>The drill database comprises 467 multi-element analysis.</li> <li>Two types of CRM supplied by Geostats Pty Ltd. There was a total of 10 standards, eight duplicate samples, 28 laboratory standards and 29 laboratory repeat analysis samples.</li> </ul>
<p><i>Verification of sampling and assaying</i></p>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>Significant intersections are not highlighted or selectively sampled; all RC cuttings are systematically sampled.</li> <li>All drilling-related data has been entered into IOH Excel logging spreadsheets on a "Toughbook" laptop on site or logged on paper.</li> <li>Toughbook laptop and paper logs were uploaded to the IOH Access database weekly by the database manager.</li> <li>No adjustments are made to raw data.</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>Six RC holes were twinned with diamond holes; in general hole comparison are acceptable; a possible minor low bias of Al<sub>2</sub>O<sub>3</sub> due to potential clay loss in diamond holes is noted.</li> </ul> <p><i>Dragon, Rabbit, Rooster and Snake</i></p> <ul style="list-style-type: none"> <li>No twin drill holes have been undertaken.</li> </ul>
<p><i>Location of data points</i></p>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>All drill hole collars were surveyed by MHR Surveyors using RTK (Real Time Kinetic) GPS (Global Positioning Systems). Collar surveys have an expected accuracy of 0.05m horizontally and 0.05m vertically.</li> <li>The grid system is MGA Zone 50 (GDA94 based) for horizontal data and AHD (based on AusGeoid09) for vertical data.</li> <li>All resource drill holes are vertical (diamond holes drilled for geotechnical purposes are</li> </ul>

Criteria	Commentary
	<p>angled); down hole surveys were not conducted on vertical holes.</p> <ul style="list-style-type: none"> <li>The Digital Terrain Model (DTM) was produced by Widenbar &amp; Associates using Airborne Laser Scan (ALS) survey data collected by AAM Pty Ltd using a fixed wing aircraft. The data is GDA compliant and project design accuracy was vertical data 0.13m and horizontal data &lt;0.35m with final accuracy estimated at 0.07m.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>Down hole surveys were conducted on angled holes. Of the 107 drill holes, 37 were down hole surveyed. There were 22 holes surveyed using a Non-North Seeking Gyroscopic tool; 13 short holes were surveyed in the collar using a Magnetic Deviation tool. Down hole surveys were not conducted on vertical holes. Also, 13 angled drill holes use the initial drill angle recorded at the beginning of the hole to estimate the path of the entire drill hole. The down hole surveys were carried out by Pilbara Wireline Services (PWS).</li> </ul> <p><i>Rabbit and Rooster</i></p> <ul style="list-style-type: none"> <li>The DTM was produced by Widenbar &amp; Associates using DTM data generated by Aerometrix from photography collected using a Vexcel Ultracam using a fixed wing aircraft.</li> </ul>
<i>Data spacing and distribution</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>No sample compositing has been applied at the raw data stage.</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>451 RC and diamond drill holes were completed for a total of 35,635m drilled. The resource definition drilling is nominally 100m by 50m grid spacing across the majority of the resource; with a 50m x 50m grid spacing in the northern half of the Western Deposit resource; areas along the eastern edge of the Western Deposit and northern edge of the Eastern Deposit are a nominal 200m x 50m grid spacing. Drill sections are orientated approximately across strike of the CID channel.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>A total of 107 reverse circulation holes were drilled for 6,110m. The resource definition drilling is nominally 100m by 50m spacing.</li> </ul> <p><i>Rabbit</i></p> <ul style="list-style-type: none"> <li>A total of 75 holes were drilled for 3,312m. The resource definition drilling is nominally 100m by 50m grid spacing in the area the main higher grade CID resource; in the area of the DID resource it is a nominal 200m x 50m grid spacing. Drill sections are orientated obliquely to the CID channel and approximately across strike of the DID.</li> </ul> <p><i>Rooster</i></p> <ul style="list-style-type: none"> <li>A total of 87 holes were drilled for 2,834m. The resource definition drilling is nominally 100m by 50m grid spacing in the area the main higher grade CID resource; in the area of the DID resource it is a nominal 400m x 50m spacing. Drill sections are orientated obliquely to the CID channel and approximately across strike of the DID.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>A total of 39 holes were drilled for 762m. The resource definition drilling is nominally 200m along strike with typically two to five holes on a section at a nominal 50 – 100m grid spacing. Drill sections are orientated approximately across strike of the CID channel.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>All drill holes were drilled vertically to test the sub-horizontal CID stratigraphy.</li> <li>No bias is considered to be caused by drilling orientation.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>A total of 57 drill holes were drilled vertically.</li> <li>A total of 50 drill holes were drilled approximately at right angles to the strike of the mineralisation and are angled to cut across the dip of the mineralisation.</li> </ul>
<i>Sample security</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>Samples from RC drilling are collected and bagged at the drill site during the drilling operation.</li> <li>All samples are then catalogued and sealed prior to dispatch to laboratory by IOH staff.</li> </ul>
<i>Audits or reviews</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>QA/QC samples are routinely monitored by the database manager and geologist on a batch and campaign basis. The accuracy of key major elements such Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> and P for primary assays was acceptable and the field duplicate assay data was unbiased and shows an acceptable level of precision.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>The registered native title claimant group for the Buckland Hills area is the Kururma Marhudunera (KM) Claim Group. IOH and KM executed a Land Access Deed (LAD) in October 2012.</li> </ul> <p><i>Bungaroo South and Dragon</i></p> <ul style="list-style-type: none"> <li>The deposit lies on Bungaroo South Mining Lease M47/1464-I, part of the Buckland Project</li> </ul>

Criteria	Commentary
	<p>comprising several contiguous Exploration Licences with the Mining Lease.</p> <ul style="list-style-type: none"> <li>The registered holder of M47/1464-I is Bungaroo South Pty Ltd, a 100% owned subsidiary of Iron Ore Holdings Ltd.</li> <li>M47/1464-1 was granted for 21 years with an expiry date 28/10/2033. The mining lease is authorised for iron.</li> <li>There are no known environmental or cultural heritage constraints that would impact on the development of the resource. Level 2 Fauna and Flora surveys and archaeological and ethnographic surveys have been completed across the deposit.</li> </ul> <p><i>Rabbit, Rooster and Snake</i></p> <ul style="list-style-type: none"> <li>These deposits are within the Buckland Hills Exploration Licence E08/1554-I, part of the Buckland Project comprising several contiguous Exploration Licences with the Bungaroo South Mining Lease.</li> <li>The registered holder of E08/1554-I is Mal's Ridge Pty Ltd, a 100% owned subsidiary of Iron Ore Holdings Ltd.</li> <li>E08/1554-1 was originally granted on 7/1/2006, the current expiry date is 28/10/2033. The mining lease is authorised for iron.</li> <li>There are no known environmental or cultural heritage receptors that would impact on the development of the resource. One artefact scatter heritage site has been identified at the edge of the resource area. The site is considered (by IOH) to be of low significance and it is probable that Section 18 clearances will be obtained.</li> </ul>
<i>Exploration done by other parties</i>	<p><i>Bungaroo South, Rabbit, Rooster and Snake</i></p> <ul style="list-style-type: none"> <li>No known prior exploration.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>Exploration was previously carried out by Rio Tinto Iron Ore (RTIO); outcropping BID mineralisation (BID) was recognised at the prospect and referred to as Ricane.</li> </ul>
<i>Geology</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>The hills mainly comprise outcropping Brockman Iron Formation of the Archaen / Proterozoic Hamersley Group. These basement rocks were variously weathered and altered, to iron and silica rich duricrusts during the Tertiary Age, reflecting a different climate and hydrological regime (referred to as the Hamersley weathering surface).</li> <li>Fluvial iron-rich valley fill sediments, known as Channel Iron Deposits of the Robe Formation (CID or also known as the Robe Pisolite) were deposited during the early-middle Tertiary, in palaeochannels throughout the Pilbara region. These included the &gt;150km long Robe River Palaeochannel and tributaries.</li> <li>The CID (pisolite) generally crops out towards the edges of the valley. It comprises goethite-hematite pisolite containing varying amounts of fossil wood, ochreous goethite, variably cemented by goethite or hematite and containing minor clay layers and pods, cavities and vughs. The pisolite becomes less hard and competent with depth as the friable ochreous goethite content increases. Below the pisolite is basal pisolite or conglomerate with elevated clay and lithic content.</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>The deposit is located in the Buckland Hills 38km SW of the RTIO Mesa J mine - one of many CID deposits defined by RTIO in the Robe River paleo-drainage system e.g. Bungaroo Creek. The Bungaroo South deposit is a tributary to this system.</li> <li>The Bungaroo South CID has formed in palaeo-drainage valley fill deposits; current drainages occupy a similar path.</li> <li>The IOH CID areas are designated Western Zone and Eastern Zone and are part of larger contiguous deposit covered by adjoining tenure held by API and RTIO.</li> <li>A broad stratigraphy is defined at Bungaroo South that is relatively consistent across both the Western and Eastern Zones, from bottom to top it comprises: Basement - Hamersley Group rocks; Basal Conglomerate - a thin sequence of lower grade CID scree and conglomerate filling the base of the channel and overlying and draped on the basement; Lower CID - a thick sheet of higher grade CID; Internal Clay Band - a thin sheet of lower grade CID, conglomerate and clay rich layers and pods; Upper CID - a thick sheet of higher grade CID (in the Western Zone the Upper CID is overlain by a second widespread Internal Clay Band with local relict caps of a third CID); Detrital Iron Deposits - locally developed thin zones, typically low grade and Quaternary Alluvium - typically unconsolidated or partially consolidated shingle, gravel and sand fill in the current drainage.</li> <li>The Lower CID unit forms a widespread continuous sheet; the Upper CID is eroded and incised by the recent drainage systems and is, as a result, variable in thickness and continuity.</li> <li>Previous interpretations and models recognised thin surficial 'hardcap' and 'reworked' CID zones within the Upper CID; these boundaries were largely based on chemical changes which are gradational; based on this and combined with the thinness they have not been isolated in this interpretation for modelling purposes.</li> <li>In the Western Zone water table depth is approximately 10m (303m RL) from the main drainage surface, with the Upper CID largely above water table; in the Eastern Zone water table depth is approximately 15m (315m RL).</li> </ul>



Criteria	Commentary
	<p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>The Dragon Deposit is located at the southern extremity of Mining Lease M47/1464, within the upper end of Bungaroo Valley.</li> <li>The Deposit is a supergene enriched bedded iron deposit (BID) comprised dominantly of martite-geothite that has developed in the Dales Gorge Member of the Brockman Formation.</li> <li>The Deposit is situated on the north dipping limb of a large scale anticline. Within the deposit area, while the overall stratigraphy dips moderately to steeply to the north, local bedding varies with steep south, flat, and steep north dips as a result of a series of tight short wavelength (1 - 70m) parasitic folds preferentially developed in the Dales Gorge mineralised units.</li> <li>The main zone of mineralisation sits on a ridge and is a remnant portion of the Tertiary (Hamersley) weathering surface. Positioned on the peak of the local ranges, the mineralisation is perched above the local water table and is essentially dry.</li> <li>The zone of mineralisation is discordant to the stratigraphy it forms a thin (10 -30m thick) flat sheet roughly concordant with the topographic surface, and a structurally controlled zone with a typical dip of 40° (varying from 40° in the SE to 60° in the NW of the deposit). The width and grade of mineralisation tapers with depth; potential economic grades and widths extend to 60m vertical depths from surface.</li> </ul> <p><i>Rabbit</i></p> <ul style="list-style-type: none"> <li>The Rabbit Deposit is situated 4 km SW of RTIO Mesa J mine at the foot of the Buckland Hills.</li> <li>The IOH Rabbit and Rooster CID deposits have formed along the northern range front at the base of the current (and probable Tertiary) steep escarpment in narrow steep sided NE flowing channels that shed into the broad Robe River Valley. In addition to the higher tenor CID mineralisation, broad sedimentary fans of low tenor detrital iron deposits (DID) shed from the range have been defined at both locations.</li> <li>A simple stratigraphy is defined at Rabbit; a thick sequence of lower grade CID scree and conglomerate filling the base of the channel and overlying the basement, replaced by a sheet of roughly horizontal higher grade CID, which in turn is capped by a thin domain of lower grade CID. Only minor thin discontinuous clay zones were intersected within the CID. The high grade CID sheet coincides with the water table (at a depth of approximately 26m); with approximately half above and half below water table.</li> </ul> <p><i>Rooster</i></p> <ul style="list-style-type: none"> <li>The Rooster Deposit is situated 11km S of the RTIO Mesa J mine at the foot of the Buckland Hills.</li> <li>The Rabbit and Rooster CID deposits have formed along the northern range front at the base of the current (and probable Tertiary) steep escarpment in narrow steep sided NE flowing channels that shed into the broad Robe River Valley. In addition to the higher tenor CID mineralisation, broad sedimentary fans of low tenor detrital iron deposits (DID) shed from the range have been defined at both locations.</li> <li>A simple stratigraphy is defined at Rooster; a thick sequence of lower grade CID scree and conglomerate filling the base of the channel and overlying the basement, replaced by a sheet of roughly horizontal higher grade CID, which in turn is capped by a thin domain of lower grade CID and thin sheet of DID. Only minor thin discontinuous clay zones were intersected within the CID. The high grade CID sheet coincides with the depth of the water table (approximately 36m); with approximately half above and half below water table.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>The deposit is situated in the Buckland Hills 14km S of the RTIO Mesa J mine and 30km NW of IOH's Bungaroo South deposit at the foot of the Buckland Hills.</li> <li>The deposit sits elevated on a plateau along the top of a breakaway escarpment to a major creek that largely parallels the palaeo-drainage in which the deposit formed. The CID deposit comprises five separate blocks; remnants of a continuous meandering channel which has been eroded and incised by recent drainages.</li> <li>A simple stratigraphy is defined at Snake for modelling that is consistent with the other IOH CID deposits in the Buckland Project area. From top to bottom the stratigraphy comprises; a thin zone of reworked CID, a thick zone of CID (main zone of mineralisation), a thin lower grade mineralised basal conglomerate sitting on the basement rocks.</li> <li>The deposit is perched above the water table and is essentially dry.</li> </ul>
<i>Drill hole Information</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>Exploration results are not being reported for the Mineral Resource area. Drill hole information is provided in the resource estimation section.</li> </ul>
<i>Data aggregation methods</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>Exploration results are not being reported for the Mineral Resource area.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>Exploration results are not being reported for the Mineral Resource area.</li> </ul>

Criteria	Commentary
<i>Diagrams</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• Exploration results are not being reported for the Mineral Resource area.</li> </ul>
<i>Balanced reporting</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• Exploration results are not being reported for the Mineral Resource area.</li> </ul>
<i>Other substantive exploration data</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• Exploration results are not being reported for the Mineral Resource area.</li> </ul>
<i>Further work</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• Further work will be undertaken prior to mining.</li> </ul>

### Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
<i>Database integrity</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• IOH maintains a centralised database for its various operations. Database administration is based in the head office in Perth and under the supervision of the Database Administrator.</li> <li>• All drill hole data was validated during data entry and data import.</li> <li>• Checks for duplicate collars (IOH Access Database, Micromine).</li> <li>• Checks for missing samples (IOH Access Database, manual).</li> <li>• Checks for down hole from-to interval consistency (IOH Access Database, Micromine).</li> <li>• Checks for overlapping samples (IOH Access Database, Micromine).</li> <li>• Checks for samples beyond hole depth (IOH Access Database, Micromine).</li> <li>• Checks for missing assays (IOH Access Database, Micromine).</li> <li>• Checks for down hole information beyond hole depth (IOH Access Database, Micromine).</li> <li>• Checks for missing down hole information (Micromine).</li> <li>• Checks for missing or erroneous collar survey (manual).</li> </ul>
<i>Site visits</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• Mr L Widenbar (the Competent Person) visited these sites on the 21/01/2014.</li> </ul>
<i>Geological interpretation</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>• The geology and mineralisation is well exposed in outcrop. Detailed surface mapping has been undertaken to constrain the surface geology.</li> <li>• IOH produced 2D cross-sectional geological interpretations based on geology using drill logs and outcrop mapping. These were converted to a 3D model for resource estimation purposes.</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>• The geology and mineralisation is locally well exposed in outcrop along the current drainage channels.</li> <li>• Major units boundaries (Basement, Upper CID, Lower CID, Internal Clay, DID and Alluvium) were modelled as 'hard' geological boundaries without internal subdivision; smaller zone of internal clay were only isolated where drilling showed broader continuity between sections; isolated lens, pods and 'chimneys' of internal clay were addressed as described in <i>Estimation and Modelling Techniques</i>.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>• Initial sectional interpretation was done using combinations of geology and an Fe grade cut-off. Stratigraphic boundaries and internal waste bands 3D surfaces were constructed to constrain the limits of the resource.</li> <li>• Initial interpretation by IOH was based on a 50% cut-off grade.</li> <li>• Final mineralisation envelopes were produced using an indicator methodology with a 50% Fe threshold.</li> <li>• Data within the mineralised envelopes was then used to calculate variograms and carry out grade interpolation.</li> </ul> <p><i>Rabbit</i></p> <ul style="list-style-type: none"> <li>• The geology and mineralisation is well exposed in outcrop defining a narrow channel extending 1km into the range and on the edge of the range front.</li> <li>• Internal CID geological boundaries are gradational and have not been isolated for modelling purposes. The basement and overlying Quaternary alluvium surface were modelled as 'hard' surfaces.</li> </ul> <p><i>Rooster</i></p> <ul style="list-style-type: none"> <li>• The geology and mineralisation is exposed in outcrop locally on the edge of the range front.</li> <li>• Internal CID geological boundaries are gradational and have not been isolated for modelling purposes. The basement, Tertiary DID and overlying Quaternary alluvium surface were modelled as 'hard' surfaces.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>• The base of basal conglomerate (i.e. base of channel) base of CID and base of reworked CID were modelled as 'hard' surfaces.</li> </ul>

Criteria	Commentary
<i>Dimensions</i>	<p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>Western Zone CID dimensions are 1.4km x 900m typically by 50m by 65m (in length x width, thickness and depth).</li> <li>Eastern Zone CID dimensions CID zone is 2.2km x 650m typically by 100m by 130m (in length x width, thickness and depth).</li> <li>Thickness and depth range to a maximum 140m and 200m respectively.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>The major mineralised zone is 1,000m by 10-60m by 10-65m (in length, thickness and depth).</li> </ul> <p><i>Rabbit</i></p> <ul style="list-style-type: none"> <li>The main CID zone is 600m x 600m by 10-40m by 0-35m (in length x width, thickness and depth).</li> <li>A minor Detrital zone with minor CID in the east is approximately 800m by 30-50m and typically 10-20m in thickness.</li> </ul> <p><i>Rooster</i></p> <ul style="list-style-type: none"> <li>The main CID zone is 300m x 300m by 10-30m by 0-50m (in length x width, thickness and depth).</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>The deposit extends over an area of 3,000m x 300m.</li> <li>Dimensions of the four separate CID zones range from 100m x 100m to 700m x 200m (length x width) and 10m to 30m and 0m to 30m (thickness and depth).</li> </ul>
<i>Estimation and modelling techniques</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>Ordinary Kriging (OK) interpolation was selected as the estimation method.</li> <li>OK allows the measured spatial continuity to be incorporated into the estimate and is appropriate for the nature of the mineralisation.</li> <li>Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, LOI, Mn and S etc. were estimated by OK, with an Inverse Distance Squared (ID2) estimate carried out as a check. Minor elements were estimated by ID2 interpolation.</li> <li>Check estimates produced confirmation of primary OK results.</li> <li>Validation of the final resource has been carried out in a number of ways, including: <ul style="list-style-type: none"> <li>Drill Hole Section Comparison</li> <li>Comparison by Mineralisation Zone</li> <li>Swathe Plot Validation</li> <li>Model versus Declustered Composites by Domain</li> </ul> </li> <li>All modes of validation have produced acceptable results.</li> <li>As there has been no mining to date, no reconciliation data is available.</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>Six separate geological domains separated into east and west areas were used to control estimation.</li> <li>Analysis of sample lengths indicated that compositing to 2m was necessary, whilst still honouring domain boundaries.</li> <li>Variography was carried out individually for the two CID domains in the east and west areas to determine kriging interpolation parameters. Four sets of variogram parameters were defined for Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P and LOI.</li> <li>Variography was carried out on “flattened” composites in order to allow for variable dip of the zones.</li> <li>Search ellipse sizes for the estimation were based on a combination of drill spacing and variogram ranges.</li> <li>The primary search ellipse was 40m along strike, 30m across strike and 10m vertically. A minimum of 68 samples and a maximum of four samples were required in this search pass and all data was used.</li> <li>The second search ellipse was restricted to data with Fe greater than 45% and Al<sub>2</sub>O<sub>3</sub> less than 4.5% in order to avoid smearing irregular and erratic clay data. This ellipse was 120m along strike, 60m across strike and 10m vertically. A minimum of eight samples and a maximum of 12 samples were required in the search pass; a minimum of two drill holes was required. A maximum of four samples per drill hole was used. Where blocks were not informed in the second pass, a third search was used with radii of 300m along strike, 150m across strike and 10m vertically. A minimum of one sample and a maximum of 12 samples were required in this search pass.</li> <li>Block size was 25m (E-W) by 25m (N-S) by 2.5m (Vertical) with sub-cells to 2.5m x 2.5m x 0.5m.</li> <li>Several previous Indicated and Inferred Resource estimates have been published.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>One major mineralised domain and several disconnected minor domains were used to control estimation.</li> <li>Analysis of sample lengths indicated that no compositing was necessary, as all samples were 2m.</li> <li>Variography was carried out for the major mineralised domain to determine kriging interpolation parameters.</li> </ul>

Criteria	Commentary
	<ul style="list-style-type: none"> <li>Variography was carried out on “unfolded” data in order to allow for variable dip and strike.</li> <li>Search ellipse sizes for the estimation were based on a combination of drill spacing and variogram ranges.</li> <li>A preliminary search was carried out with an ellipse of 20m along strike, 12.5m down dip and 3m across the mineralised zone. This search only used samples below 25% Fe and was designed to generate small, isolated low-grade zones within the main zone.</li> <li>The second search ellipse was 75m along strike, 50m down dip and 10m across the mineralised zone and this pass used all data. A minimum of two samples and a maximum of 15 samples were required in the search pass; a minimum of two drill holes was required. A maximum of three samples per drill hole was used.</li> <li>Minor elements were estimated by ID2 interpolation.</li> <li>Block size was 25m (E-W) by 10m (N-S) by 5m (Vertical) with sub-cells to 1.25m x 1m x 0.5m.</li> <li>A previous Inferred Resource estimate has been published.</li> </ul> <p><i>Rabbit</i></p> <ul style="list-style-type: none"> <li>Four separate geological/mineralisation domains and two area domains were used to control estimation.</li> <li>Analysis of sample lengths indicated that compositing to 2m is necessary.</li> <li>Variography was carried out on the main CID domain to determine kriging interpolation parameters.</li> <li>Search ellipse sizes for the estimation were based on a combination of drill spacing and variogram ranges.</li> <li>Primary search ellipse was 125m along strike, 60m across strike and 10m vertically. A minimum of eight samples and a maximum of 16 samples were required in the search pass; a minimum of two drill holes was required. A maximum of four samples per drill hole was used. Where blocks were not informed in the first pass, a second search was used with radii of 300m along strike, 130m across strike and 10m vertically. A minimum of one sample and a maximum of 16 samples were required in this search pass.</li> <li>Block size was 25m (E-W) by 25m (N-S) by 2.5m (Vertical) with sub-cells to 2.5m x 2.5m x 0.5m.</li> <li>A previous Inferred Resource estimate has been published.</li> </ul> <p><i>Rooster</i></p> <ul style="list-style-type: none"> <li>Four separate geological / mineralisation domains and two area domains were used to control estimation.</li> <li>Analysis of sample lengths indicated that compositing to 2m was necessary.</li> <li>Search ellipse sizes for the estimation were based on drill spacing.</li> <li>Primary search ellipse was 125m along strike, 60m across strike and 10m vertically. A minimum of eight samples and a maximum of 16 samples were required in the search pass; a minimum of two drill holes was required. A maximum of four samples per drill hole was used. Where blocks were not informed in the first pass, a second search was used with radii of 300m along strike, 130m across strike and 10m vertically. A minimum of one sample and a maximum of 16 samples were required in this search pass.</li> <li>Block size was 25m (E-W) by 25m (N-S) by 2.5m (Vertical) with sub-cells to 2.5m x 2.5m x 0.5m.</li> <li>A previous Inferred Resource estimate has been published.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>There were insufficient samples for variography.</li> <li>Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, LOI, Mn and all minor elements were estimated using an Inverse Distance Squared methodology.</li> <li>Primary search ellipse was 250m along strike, 125m across strike and 15m vertically. A minimum of eight samples and a maximum of 16 samples were required in the search pass; a minimum of two drill holes was required. A maximum of four samples per drill hole was used. Where blocks were not informed in the first pass, a second search was used with radii of 500m along strike, 250m across strike and 20m vertically. A minimum of one sample and a maximum of 16 samples were required in this search pass.</li> <li>Block size was 25m (E-W) by 25m (N-S) by 2.5m (Vertical) with sub-cells to 2.5m x 2.5m x 0.5m.</li> <li>A previous Inferred Resource estimate has been published.</li> </ul>
<i>Moisture</i>	<ul style="list-style-type: none"> <li>Tonnages are estimated on a dry basis.</li> </ul>
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <li>A 50% cut-off grade is used, which is industry standard.</li> </ul>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <li>Mining is assumed to be by conventional open-pit methods.</li> </ul>
<i>Metallurgical factors or assumptions</i>	<p>General</p> <ul style="list-style-type: none"> <li>No metallurgical characterisation work. Deposits have similar mineralisation character to Bungaroo South and other CIDs.</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>Extensive metallurgical test work has been completed in conjunction with plant design as part</li> </ul>

Criteria	Commentary
	to the Buckland Project FS in progress. A simple crushing and screening in combination with a wet washing process is planned to produce a 'fines' product.
<i>Environmental factors or assumptions</i>	<p><i>Bungaroo South, Dragon, Rabbit and Rooster</i></p> <ul style="list-style-type: none"> <li>Preliminary mine and waste dumps have been designed as part to the Buckland Project FS in progress.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>Preliminary mine and waste dumps have been designed as part of a desktop study.</li> </ul>
<i>Bulk density</i>	<p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>In-situ bulk density values are based on physical measurements conducted on site and at Amdel Laboratories on diamond drill core and down hole geophysical (Surtron) logs. The holes logged, and diamond drill holes tested provide a broad representative coverage of the deposit. The data was assessed and assigned values designated by IOH.</li> <li>In-situ bulk density values assigned are as follows: Quaternary Alluvium 2.1t/m<sup>3</sup>; DID 2.0t/m<sup>3</sup>; Upper CID 2.7t/m<sup>3</sup>; Internal Clay &lt;50% Fe 1.9t/m<sup>3</sup>, &gt;50% Fe 2.3t/m<sup>3</sup>; Lower CID Western Zone 2.5t/m<sup>3</sup>, Eastern Zone 2.45t/m<sup>3</sup>; Basement unmineralised &lt;50% Fe 2.3t/m<sup>3</sup>, mineralised &gt;50% Fe 2.6t/m<sup>3</sup>.</li> <li>The assigned in-situ density values are consistent or lower, when compared with values of 2.7 - 2.8t/m<sup>3</sup> published for neighbouring RTIO Mesa J and H CID deposits.</li> </ul> <p><i>Dragon</i></p> <ul style="list-style-type: none"> <li>A bulk density of 2.3t/m<sup>3</sup> has been used for all mineralised material.</li> <li>A bulk density of 2.5t/m<sup>3</sup> has been used for all waste.</li> <li>The density is based on a review of down hole Surtron geophysical logs of eight representative RC holes. The holes have not been calibrated with physical measurements.</li> <li>The assigned value based on the available data has been used to maintain data integrity for the resource estimate, but is considered conservative as it implies a very high degree of porosity in the mineralisation, which is not prevalent in outcrop.</li> </ul> <p><i>Rabbit and Rooster</i></p> <ul style="list-style-type: none"> <li>An in-situ bulk density of 2.6t/m<sup>3</sup> has been used for all mineralised CID material.</li> <li>The bulk density has been determined by IOH based on like ore characteristics to the neighbouring RTIO Mesa J mine and Bungaroo South deposit. In the case of Rooster also supported by limited measurements from core samples.</li> <li>A total of 37 density measurements were taken from core samples. The average density for the samples (14 in total) with Fe grades &gt;35 % Fe is 2.8 t/m<sup>3</sup>.</li> <li>The assigned 2.6t/m<sup>3</sup> value is consistent when compared with published in-situ density values of 2.7- 2.8t/m<sup>3</sup> for the neighbouring RTIO Mesa J and H CID deposits which sit immediately to the NW, and Bungaroo South CID deposit with in-situ density value estimates ranging from 2.45 - 2.7t/m<sup>3</sup>.</li> <li>A bulk density of 2.6t/m<sup>3</sup> has been used for all basement, 2.5t/m<sup>3</sup> detrital iron deposits (DID) and 2.5t/m<sup>3</sup> Quaternary alluvium.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>An in-situ bulk density of 2.65t/m<sup>3</sup> has been used for CID material, 2.55t/m<sup>3</sup> for reworked CID, and 2.60t/m<sup>3</sup> for basal conglomerate.</li> <li>The bulk density has been determined by IOH based on like ore characteristics to the neighbouring RTIO Mesa J mine and Bungaroo South.</li> </ul>
<i>Classification</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>Mineral Resources have been classified in the Measured, Indicated and Inferred categories, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code). A range of criteria has been considered in determining this classification including: <ul style="list-style-type: none"> <li>Geological continuity.</li> <li>Data quality.</li> <li>Drill hole spacing.</li> <li>Modelling technique.</li> <li>Estimation properties including search strategy, kriging variance (where applicable), number of informing data and average distance of data from blocks.</li> </ul> </li> <li>The Competent Person endorses the final results and classification for Bungaroo South, Dragon, Rabbit, Rooster and Snake.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>No external audits have been carried out.</li> <li>The resource estimate has been internally reviewed by IOH staff.</li> </ul>
<i>Discussion of relative accuracy/ confidence</i>	<p><i>General</i></p> <ul style="list-style-type: none"> <li>No production data is yet available for comparison</li> </ul> <p><i>Bungaroo South</i></p> <ul style="list-style-type: none"> <li>Relative accuracy and confidence has been assessed by review of block kriging variance and variability statistics of individual block estimates.</li> <li>The resource estimate consists of material in the Measured, Indicated and Inferred categories and is considered to reflect local estimation of grade.</li> </ul>

Criteria	Commentary
	<p><i>Dragon, Rabbit and Rooster</i></p> <ul style="list-style-type: none"> <li>• Relative accuracy and confidence has been assessed by review of block kriging variance and variability statistics of individual block estimates.</li> <li>• The resource estimate consists of material in both the Indicated and Inferred categories and is considered to reflect local estimation of grade.</li> </ul> <p><i>Snake</i></p> <ul style="list-style-type: none"> <li>• Relative accuracy and confidence has been assessed empirically by review of drill hole and model comparison data.</li> <li>• The resource estimate consists of material in the Inferred category and is considered to reflect local estimation of grade.</li> </ul>