

### Metal Bulletin - China Iron Ore 2013

Beijing China 26-28 February 2013

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### **Competent Person's Statement**

The information in this report which relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Brian Varndell, a Fellow Member of the Australasian Institute of Mining & Metallurgy ("AusIMM") and independent consultant to the Company. Mr Varndell is an employee of Al Maynard & Associates Pty Ltd and has many years of experience in exploration and mining in a variety of mineral deposit styles. Mr Varndell 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 Varndell consents to inclusion in the report of the matters based on his information in the form and context in which it appears.

# **Corporate Snapshot**



Issued Securities	
Ordinary Shares (GWR)	192M
Issued Options	25M
Major Shareholders	
Cliffs Asia Pacific Iron	13%
Wynnes Investment Holding Ltd	11%
Joyful Winner Holdings Ltd	11%
Hunan Valin Steel Co Ltd	8%

#### Market Capitalisation/cash

Market Cap (\$0.25 per share) (31/1/2013)	A\$48M
Cash (31/12/2012)	A\$20M

#### **Board and Senior Management**

Gary Lyons – Non-executive Chairman
Tan Sri Dato' Tien Seng Law – Deputy Chairman
Chin An Lau – Non-executive Director
Kong Leng Lee (Jimmy) – Non-executive Director
Mick Wilson – Executive Director
Mark Pitts – Company Secretary
Craig Ferrier – Executive General Manager

### **Project Interests**

- Iron Ore Development Project
  - Wiluna West Iron Ore
- Advanced Gold Project
  - Wiluna West Gold
- Iron Ore Exploration Projects
  - Woodley Iron Project
  - Earaheedy Iron Project
  - Booylgoo Iron Project
- Equity investments
  - West Peak Iron Limited (19.9%)



### Wiluna West Project Overview

- Tenement holding 267km<sup>2</sup>
- Granted mining leases over main project area
- DSO hematite Mineral Resource Estimate of 130Mt @ 60% Fe
- DSO hematite Mineral Reserve Estimate of 69.2Mt @ 60.3% Fe
- Gold Mineral Resource Estimate of 3.5Mt @ 2.3g/t for 258,200 oz





# Wiluna West Iron Ore

## Wiluna West Iron Ore







### **Status Resources and Reserves**

- Resource definition drilling largely completed
- 130Mt of JORC\* DSO hematite Resource
- 69Mt of Proven & Probable JORC Reserves, with an additional 13Mt of Inferred Resource within Reserve pit limits (total of 82Mt)

\*JORC refers to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code) as prepared by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (Effective 17 December 2004)

## **JORC** Resources and Reserves

DSO Hematite Resources	Classification	Tonnes (Mt)	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	LOI (%)	P (%)
	Measured	3.7	59.6	7.8	2.5	4.0	0.09
	Indicated	77.2	60.3	7.4	2.4	3.6	0.05
	Inferred	49.5	59.7	7.3	2.4	3.9	0.05
	Total	130.3	60.0	7.4	2.4	3.6	0.06

	Classification	Tonnes (Mt)	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	LOI (%)	P (%)	
DSO Hematite	Proven	2.9	59.7	7.6	2.6	4.0	0.07	
Reserves	Probable	66.3	60.4	7.2	2.5	3.6	0.05	
	Total	69.2	60.3	7.2	2.5	3.6	0.05	

# Infrastructure Overview

- Existing port options available:
  - Esperance (planned upgrade)
  - Geraldton
- Future port option:
  - Oakajee (proposed)

Port	Spur or Road	Public Rail	Total
Esperance	320km	650km	970km
Geraldton	672-834km 569km	Nil 112km	672km* 683km
Oakajee	230km	400km	630km



Esperance Port

km = kilometres from Wiluna West Project site

\*Minimum distance on public roads to Geraldton - option via Sandstone

# **Existing Port and Rail Infrastructure**



#### **Esperance**

Deep water port – Capesize vessels

GWR

- Planned upgrade by up to 20Mt
- Capacity Reservation Deed in place
- Sealed road from Wiluna to Leonora
- Railway siding at Leonora loadout
- Railway from Leonora to Esperance

#### or

### Geraldton

- Viable immediate option
- Existing multi-user port
- Panamax vessels
- Road & rail option also under review
- 760km via Meekatharra road
- 672km via Sandstone (road upgrade)

# Esperance Port expansion

Jan 2012	Minister for Transport announces intention to upgrade Esperance Port by up to 20mtpa	
Jul 2012	GWR signs EPSL Capacity Reservation Deed. The arrangements reserve capacity for GWR to export 3 million tonnes per annum	
Jan 2013	Procurement process to identify a private sector consortium to design, finance, construct and operate the planned MUIOF commences	
1 Mar 2013	Registration of Interest and Pre-qualification (ROIP) process closes	
Mar/Apr 2013	Applications to be reviewed by an evaluation panel comprising a range of technical advisors	
End of Apr 2013	A short list of qualified entities will be invited to participate in a Request for Proposal (RFP) process	
Sep 2013	Preferred proponent appointed	
Early 2014	Construction of the MUIOF to begin	
Early 2015	Completion of MUIOF	



# Wiluna West JWD Mining Project

# JWD Mining Approval

- In April 2012, the WA Department of Mines and Petroleum approved the mining proposal for the John William Doutch (JWD) high grade deposit
- Mining Approval concerns 3 million tonnes @ 1Mtpa



JWD Hematite Resource	Classification	Tonnes (Mt)	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	LOI (%)	P (%)
Reported	Indicated	6.3	64.5	2.6	1.6	2.7	0.03
above a 50% Fe Cut-Off	Inferred	4.5	63.6	3.0	1.5	2.6	0.03
	Total	10.8	64.1	2.8	1.6	2.6	0.03

# JWD Mining Approval

- JWD mine development planning well advanced
- In-fill drilling completed to support detailed mine planning
- Logistics studies completed
- Material characterisation program:
  - CSIRO lump test completed
  - CISRI sinter pot test in February 2013



# Blast Furnace Lump Test Work

### Tumble Index (TI) and Abrasion Index (AI):

Measures cold strength and degradation during handling from mine to charging to the BF – impacts on lump yield

#### Decrepitation Index (DI):

Generation of fines due to decomposition (thermal shock) of hydrated ores in the upper section of the blast furnace – high DI reduces blast furnace permeability

#### Reduction Degradation Index (RDI):

Degradation and loss of strength due to low-temperature reduction involving volume changes of mineral phases in a reducing atmosphere – high RDI reduces blast furnace permeability

### Reducibility (RI):

Ease of removing oxygen from iron oxides in a reducing atmosphere - low RI increases the blast furnace fuel rate

### Softening/melting behaviour (S&M):

Measures cohesive zone properties – no standard test available, ideally the temperature of softening should be high and the temperature range to melting low giving a narrow cohesive zone – a broad cohesive zone reduces blast furnace permeability

The CSIRO R&D test results for the GWR lump indicate the lump is suitable for direct feed into blast furnace (BF):

- RDI at 9 is low which is good
- DI is acceptable (<9 is preferred)</li>
- RI is acceptable but moderately low ( >62 is preferred)
- TI & AI indices indicate a competent lump which would generate low fines during handling and provide higher lump yield at the BF compared to BHP Billiton or Rio lump

# GWR Lump - Chemistry



(GWR Lump - dry Wt % at loading)

Component	
Fe (Calcined)	65.7
Fe (Natural)	63.5
SiO <sub>2</sub>	3.7
Al <sub>2</sub> O <sub>3</sub>	1.6
Ρ	0.02
LOI	3.4



Craig Ferrier at Wiluna West Iron – JWD Project site

# GWR Lump – Test Results











# **Regional Exploration DSO Iron**

### **Regional Exploration – Woodley**

- Located 100km south-west of Wiluna
- Northwest trending BIF with a strike length of 22km
- Maiden 21-hole 1608m RC drilling program in November 2012 yields significant DSO hematite/goethite intercepts including:
  - 12m @ 55.8% Fe (63.2% Ca Fe) from 6m at Target 2
  - 10m @ 58.2% Fe (61.8% Ca Fe) from 7m at Target 2
  - 11m @ 57.5% Fe (61.2% Ca Fe) from 9m at Target 4
  - 16m @ 58.8% Fe (62.1% Ca Fe) from 10m at Target 4
  - 11m @ 58.2% Fe (62.4% Ca Fe) from 6m at Target 4



## **Regional Exploration – Earaheedy**

- Located 200km north-east of Wiluna
- Tenement interests cover 1,537km<sup>2</sup>
- Hematite/goethite mineralisation associated with Frere Formation
- Le Steere farm-in agreed in Dec 2012
- Geological mapping and rock chip sampling completed
- Remote sensing and aerial magnetic surveys underway





# Equity Interests

# West Peak Iron Limited (WPI)

- Significant landholding West African country of Liberia
- 977km<sup>2</sup> of tenements in four project areas all containing identified ironbearing formations
- Located close to port, rail and road infrastructure
- GWR holds 19.9% interest and board representation



Milestone	Status	Complete
Native Title Agreement	Jul 2010	
69 Mt Reserve	Aug 2011	
Small Mining Approval (JWD)	Apr 2012	
Esperance Capacity Reservation Deed	Jul 2012	
JWD lump test work	Sep 2012	V
Esperance Port	Jan 2013 – MUIOF proponent selection process launched	
Commencement of mining	2013 – Pending port access	
Major Mining Approval	Section 38 (1) EPA referral lodged Dec 2012	



# For further information

GWR

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