

RIU Sydney May 2009

Mike Young Managing Director



## NULLAGINE PROJECT KEY POINTS

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- **Resource 51Mt @ 57% Fe and low Al<sub>2</sub>O<sub>3</sub> and** *ultra low* **P**
- Direct Shipping, high-quality Sinter Blend Ore
- Mining simple geometry, surface miners, low impact
- Feasibility Study nearing completion June '09
- Infrastructure discussions with FMG continuing
- Marketing up to 50% offtake strong interest in the rest
- Niche product with high value-in-use





# CAPITAL & MANAGEMENT

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Capital Structure		Number
Shares		59.4
Options		6.1
Fully Diluted Total		65.5
Market Cap @ \$0.50		\$30M
Major Shareholders	lumber	% Total
Consolidated Minerals	15.6	26%
Alkane Resources	9.0	15%
UBS Wealth Management	2.9	4.8%
TOTAL	26.5	45.8%

Board
Tony Kiernan - Chairman
Mike Young – Managing Director
Garth Higgo – Non-exec Director
<b>Terry Ransted</b> – Non-exec Director
<b>Steven Chadwick</b> – Non-exec Director
Management
Simon Storm – Company Secretary
<b>Blair Duncan</b> – GM Operations
<b>Greg Hudson</b> – Chief Geologist
Paul Vermeulen - Marketing



# PROJECTS LOCATION

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## **Nullagine Project**

- > 1500 km<sup>2</sup> holding in Pilbara
- Adjacent to existing infrastructure

## **Bungaroo Creek Project**

- > Adjacent Rio's Bungaroo CID
- Greenfields project
- > Awaiting grant of tenure





# NULLAGINE IRON ORE PROJECT

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## **Bonnie Creek CID**

- > 51Mt DSO 57.0% Fe (65% CaFe)
- ~65 Mt DSO 56.0% Fe present
- Ultra-low P, High quality sinter blend
- Adjacent to FMG operations

## **Nullagine River CID**

> DSO & upgrade CID (~5 Mt)

## **Shaw River CID**

Potential DSO, upgrade & detritals





## NULLAGINE PROJECT

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#### **Total Mineral Resource Estimate – March 2009**

		DS	<b>O Reso</b>	urce Est	timate			
Class	Mt	Fe	CaFe	SiO <sub>2</sub>	$Al_2O_3$	Р	S	LOI <sub>1000</sub>
Measured	1.7	57.0	64.8	3.49	2.15	0.018	0.016	12.0
Indicated	38.6	57.0	64.7	3.15	2.09	0.016	0.011	12.0
Inferred	10.4	57.0	64.8	3.27	2.00	0.013	0.010	12.1
TOTAL DSO	50.7	57.0	64.8	3.19	2.07	0.015	0.011	12.0

## **CID Resource Estimate**

Class	Mt	Fe	CaFe	SiO <sub>2</sub>	$Al_2O_3$	Р	S	LOI <sub>1000</sub>
Measured	2.2	54.5	62.1	4.94	3.65	0.018	0.017	12.1
Indicated	68.8	54.0	61.8	4.48	3.08	0.017	0.011	12.7
Inferred	18.1	54.7	62.3	4.27	2.85	0.013	0.018	12.1
<b>TOTAL CID</b>	89.1	54.1	61.9	4.45	3.05	0.016	0.013	12.6

• The DSO resource estimate is a subset of the CID resource

• DSO resource reported at 57% Fe specification grade



# IRON ORE DEPOSITS – Pilbara Fines Peer Comparison

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DSO Fines Deposits	Element/ Compound	Typical Spec	BCI CID Bonnie Ck	BHP CID Yandi	RIO CID Robe R	FMG Chichester
	Fe	<u>&gt;</u> 57	57.0	58.0	57.0	59.1
	CaFe	>60	64.8	64.2	62.8	64.0
	SiO <sub>2</sub>	3 - 5	3.2	5.0	5.7	4.2
	$Al_2O_3$	<u>≤</u> 2.0	2.1	1.3	2.7	2.3
	Р	< 0.10	0.015	0.04	0.04	0.05
	S	< 0.03	0.011	0.01	0.01	n.a.
	LOI	6-9	12.0	9.7	9.2	7.6

BCI Resource Estimate Jan 2009

FMG, RIO and BHP data from corporate websites



# NULLAGINE PROJECT – Outcamp Prospect

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#### **Outcamp-Warrigal**

- > 38 Mt at 57.0% Fe (64.7% CaFe)
- Low strip ratio
- > Outcropping mineralisation







## NULLAGINE PROJECT – Outcamp Prospect

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Shallow "pits" mainly above surrounding plains - mining ore from day 1

>Above water table - lower environmental impact

>Low OpEx - low strip ratio, use of surface miners



# NULLAGINE PROJECT

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## **Project Parameters**

- > 51Mt DSO 57.0% Fe (65% CaFe)
- Surface mining; in-pit crushing
- Startup 1.5 Mtpa, Ramp-up 3 → 5 Mtpa
- ➢ CapEx A\$35-50M
- OpEx ~\$40/tonne FOB
- Mine to ship via FMG rail and port
- Ultra-low P, High quality sinter blend
- Expand capacity through cashflow



# NULLAGINE PROJECT – Mining

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#### **VERMEER TL1255 Terrain Leveller**

> Drill & Blast not required

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LIMITED

- Primary Crushing not required
- > Mine Haul Trucks not required



VERMEER TL1255 operating at Cloud Break (FMG) – photo by BC Iron



## INFRASTRUCTURE

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## **Infrastructure Strategies**

- Rail Haulage agreement with FMG/TPI
  - MoU July 2007 The Pilbara Infrastructure (TPI)
    - Rail haulage via TPI to Port Hedland
    - Port services via TPI Anderson Point
  - Discussions on going
- Rail Access under WA State Agreement using contract haulage by a 3<sup>rd</sup> party rail company on TPI railway
  - Port access via Utah Point facility 2010-2012
  - Port access via planned NWIOA facility 2012+



Fortescue ore train – photo by BC Iron



## THE RIGHT MILL - BLAST FURNACE

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# **Blast furnace**

- Iron ore & coal are added at the top in alternating layers – *lump & coke only*
- Hot air is blasted into the bottom of the furnace
- Rising gases provide environment for reducing the iron oxides  $- Fe_2O_3 \rightarrow FeO$
- Descending burden melts to create iron metal
- High Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub> affect furnace efficiency
- High P affects the steel quality added costs

## NICHE PRODUCT – SINTER FEED

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## Sintering

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- All iron ore mines produce a *lump* and *fines* but only lump can be used in the blast furnace
- Synthetic lump is made by from *fines* by high temperature agglomeration - *sintering*
- Sintering creates "Made to order lump"
- Optimal physical properties of the sinter:
  - Strength, Fe content, impurities, reducibility
- > Optimal sintering efficiency
  - Productivity, yield, assimilation





# SINTERING QUALITY

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## Why is NIOP ore so good?

## **Chemical advantages**

- "Ultra low" Phosphorous (<0.02%)</p>
- High Calcined Fe (>64%)

# Physical advantages

- Low ultra-fines improves sintering
- Large fines product sizing (9-10 mm) lower crushing costs

# Sintering advantages in Blend (Shandong University, PRC)

- > High sintering yield (up to 77%)
- High productivity (up to 1.48 t/m²/hr)
- > Tumble Index up to 68%
- Considered a '*First Class*' sinter blend feedstock





# **Marketing Offtake**

- Offtake agreement with Tennant Metals
  - 25% Offtake as Principal or Agent at BC's option
  - Mechanisms for increased offtake to 50%
  - Australian company reduced counter party risk
- BC Iron Ore Marketing Strategy
  - Customised sinter blend High Value in Use
  - Ultra-low P "like gold" blend with lower quality ores
  - Develop Long Term Contracts with niche mills to deliver security from Mine to Mill



## CONCEPTUAL TIMETABLE

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- ➤ Tenders
- Feasibility Study Complete
- Mining Approvals & Agreements
- Construction Commences
- Production Start-up 1.5 Mtpa
- Production Ramp-up 3.0 Mtpa



May 2009

**June 2009** 

3<sup>rd</sup> Qtr 2009

2<sup>nd</sup> Half 2009

1st Half 2010

2<sup>nd</sup> Half 2010

Timetable conceptual only and dependant on haulage and port arrangements



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# NULLAGINE IRON ORE PROJECT

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## **Simple Path to Mining**

- Mineable Resource
- Statutory Approvals
- Simple Mining Methods
- Infrastructure
- > Market
- Community Benefit

High quality DSO, low contaminants, *ultralow P* 

No pit, above water table, NT agreement

Surface miner, low strip ratio, ore at surface

**MoU for Haulage and Port Services** 

Offtake secure, Niche sinter product

>100 employees, ~\$175M royalties



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The information that relates to the drilling data and geological interpretations is based on information compiled by Michael Young who is a Member of The Australian Institute of Geoscientists and a Director of the Company. The information that relates to the Mineral Resource Estimate has been compiled by Mr Richard Gaze who is a member of the Australasian Institute of Mining and Metallurgy and an employee of Golder Associates. Both Mr Young and Mr Gaze have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that they are undertaking to qualify as a Competent Persons as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Gaze and Mr Young consent to the inclusion in their names in the matters based on their information in the form and context in which it appears.

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