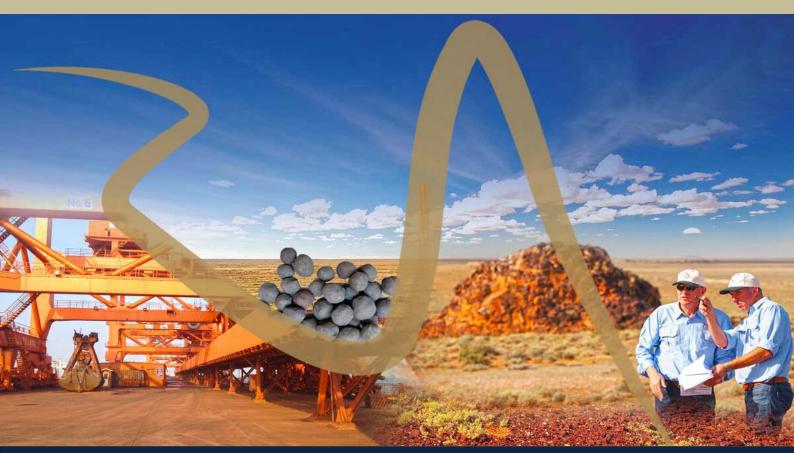


# **Hawsons Iron Project**

# Supergrade soft rock magnetite, January 2016

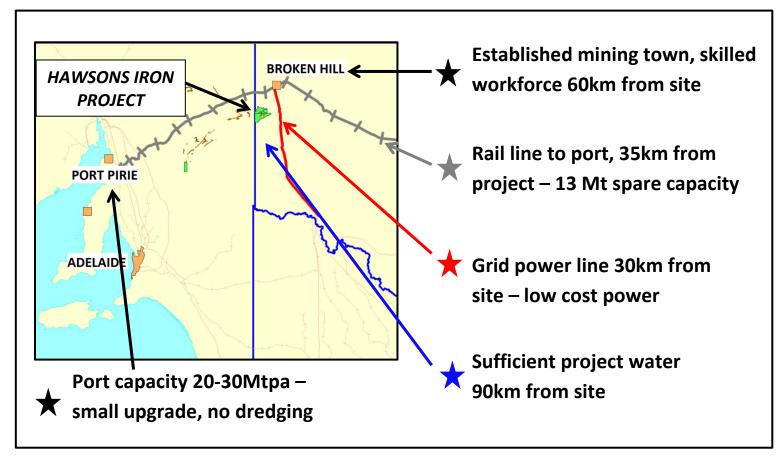
- > Targeted low costs mean very competitive incentive price for development
- Amongst the world's best pellet feed product, including direct reduction quality will ensure end users support Hawsons development first
- ➤ Target to produce 10-20 Mtpa of Supergrade product (>70% Fe) for 50-100 years
- Reliable and secure Supergrade supply delivered to several markets at under USD 50/t \*
- Capital costs targeted to be very competitive globally at circa USD 145-175/t per tonne of capacity (excluding pre-production mining costs)
- Existing port, rail and power infrastructure in place, and water source identified
- Project approvals and feasibility studies able to be completed in 2 years with a further 2 years for construction
- Optimisation opportunities available to improve costs
- Plan to be first in line in the next development cycle
- \* Targeted all in cash costs (incl. freight, royalties, admin, sustaining capital) (AUD1.00: 0.72USD)



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### **Summary**

The Hawsons Iron project has potential to deliver Supergrade magnetite concentrate (70.3% Fe and 2.28%  $SiO_2+Al_2O_3$ ) for pellets at volumes greater than 10 Mtpa for more than 50 years. The reliable and secure supply would be delivered by 180,000t ships to ports in China, Asia and the Middle East at a targeted price under USD50 per tonne all in costs (incl. freight, admin, sustaining capital and royalties). The grain size would be 97% less than 38 microns.

Capital costs for a 10Mtpa operation are expected to be globally competitive. Study results show capital intensity target of approximately USD145-175 per tonne of annual production capacity and is reasonable because of the existing infrastructure. Given the changing input costs globally and the prefeasibility stage of development, there is significant optimisation opportunities to lower the costs further. An on-site pelletising option is also potentially attractive.

A potentially very competitive incentive price of development and the highest quality pellet feed available will ensure Hawsons is best placed to attract support from financiers and end users when the project development cycle restarts.

The company has a staged investment plan to complete the bankable feasibility study and be ready for the next development cycle, and sees potential for excellent investment returns throughout this staged investment.

The project is supported by pre-feasibility study level engineering, an independent JORC resource statement and significant metallurgical test work.

Carpentaria has recently completed pilot plant test work and produced over 500kg of Supergrade concentrate for pelletising test work and product marketing. The product marketing program continues to return significant interest from a wide section of markets, including the high value direct reduction (DR) market.

The infrastructure is in place, including a rail line and port. Sufficient project water has been confirmed by drilling and power will be sourced from the existing electricity grid. The project is also able to be scaled up to 20Mtpa production. Project approvals required from the government are well underway.

Carpentaria is targeting completion of the environmental impact statement within 9 months. Carpentaria is targeting production in late 2019.

Carpentaria own 62% of the project with Pure Metals PL owning 38% (diluting).

#### **Project Status**

- All project elements at BFS Ready stage with very positive results to date
- Environmental impact statement (EIS) well advanced
- 10Mtpa pellet case favoured, low capital cost 10Mtpa concentrate option also positive
- Market engagement underway to determine win-win product specification

## **Project Concept**

The project concept is to finance, construct, mine and process ore for transport and sale of 10Mtpa of iron ore pellet feed or pellets over 50 years to end user(s) requiring high purity, high strength feed.

Sales will target the high grade end of the demonstrably robust and growing pellet and/or pellet feed market maximising the revenues and the comparative physical and chemical advantages of Hawsons product.

A bankable feasibility study would be completed that enables project construction and commissioning contracts to be secured.

Requisite approvals are obtained on a timely and favourable basis including land title over the mining lease area, environmental permitting, transport infrastructure access, pipeline leases, mine operations plan and water allocation.

There is strong local government and community support for the Project including the port works. Native Title is extinguished across all project areas.

Funding to develop is via equity and debt. Equity is sourced from the project owners; debt is likely via project finance.

Total JORC Inferred and Indicated Resource of 2.4bn tonnes at 14.1% mass recovery delivering 336Mt concentrate at 69.7% Fe.

Electricity for the mine site is supplied by the Eastern States power grid via a new 35km transmission spur. Process and transport water are sourced from a deep aquifer 90km to the south and transported via an underground pipeline; one third requires desalination.

The mine site workforce is sourced from, and accommodated in Broken Hill where existing housing is available less than one hour's drive from site.

Mining is via conventional truck and shovel initially, switching to in-pit crushing and conveying when economics support. Mining at ~150Mtpa over the first five years steps down to 75Mtpa for the remainder of the mine life. Optimisation via surface miners and driverless trucks will be assessed before operations commence.

Processing is via conventional a flow sheet and equipment incorporating:

- 2-stage impact crushing plant
- coarse magnetic separation (50% of material as reject)
- ball mill delivering a 30micron grind size
- sizing control via screens and cyclones
- liberation via final magnetic separation and elutriation

Product: high grade, high purity concentrate including a Direct Reduction (<2.0% combined silica and alumina) feed option with final specifications being determined based on market feedback.

Concentrate is transported as slurry 65km to the existing rail line at Broken Hill, where it is de-watered (9%  $H_2O$ ). The product may be pelletised using a new pellet plant at Broken Hill, either product will be loaded into rail wagons supplied by the rail provider, and transported 360km to Port Pirie.

At Port Pirie, the concentrate is stockpiled at a new out-of- town stockpile facility before being transported via pipe conveyor for loading at existing berths.

Concentrate barged via 12-17,000dwt self-propelled barges 15-30km into the Spencer Gulf where it is loaded into Cape-sized vessels for export to a number of different market possibilities, the largest being the blast furnace market in China.

The project also has a direct rail link with steelworks located at Whyalla and Port Kembla.

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The information in this presentation that relates to Exploration Results, Exploration targets and Resources is based on information compiled by Q.S. Hill, who is a member of the Australian Institute of Geoscientists and has had sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Q.S.Hill is an employee of Carpentaria and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. All resources are reported under JORC 2012 and have had noe material change since first published 26 March 2014.

**Project Partners and Consultants** 





















