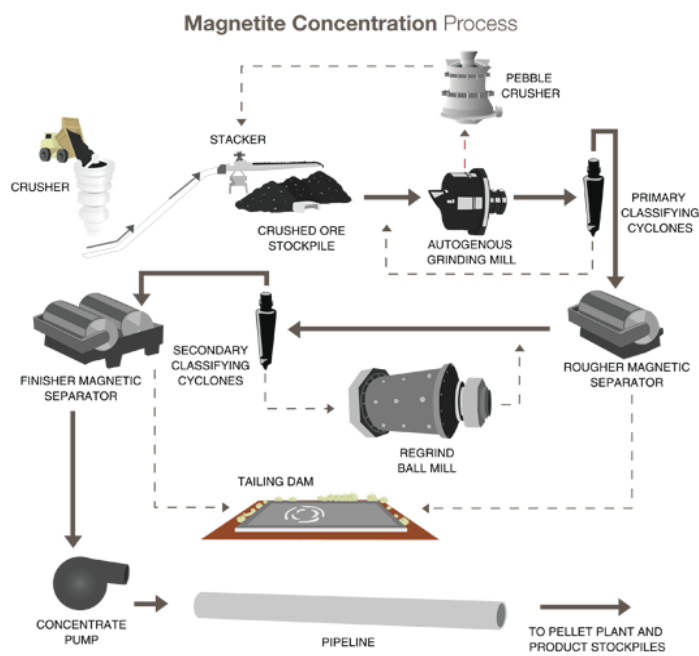


### MAGNETITE PROCESSING AND LOGISTICS



\*Source: Citic Pacific Mining

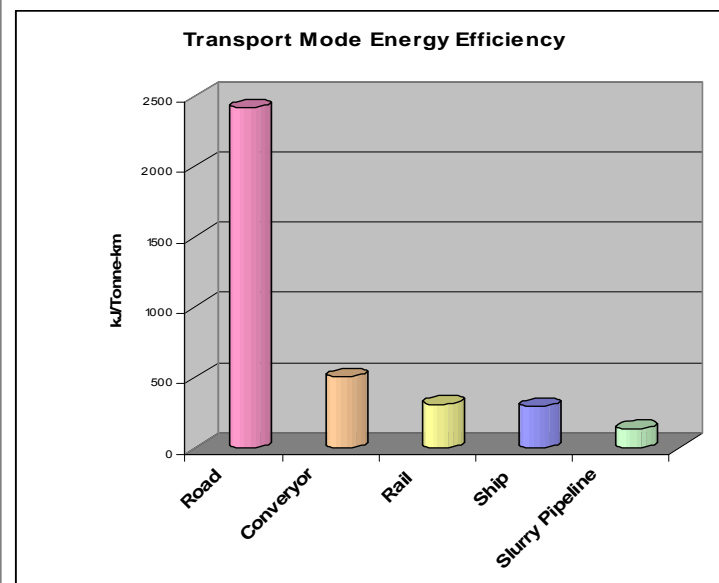
The Sheep Hill Port facility is proposed by Centrex as an export facility for its magnetite iron ore projects on the Eyre Peninsula. Magnetite iron ores in Australia generally differ from the traditional hematite sources in that the primary rock is of lower grade ( $\approx 30\%$  Fe) and must be processed to produce an iron ore concentrate. Although more costly to mine than direct shipping ore (DSO) hematite ( $\approx 62\%$  Fe), the resulting magnetite concentrate produced is of a higher quality ( $\approx 70\%$  Fe) and the iron ore pellets produced from the concentrate are more energy efficient in the iron making process than hematite lump and fines products. Traditionally magnetite pellets sell at a significant premium to hematite products.

Magnetite ore consists of alternating layers of magnetite and quartz with carbonate as well in some cases. To process the magnetite ore the material is firstly crushed and then ground (wet) to form a fine material. This grinding separates the magnetite from the waste rock. The ground material is passed over a magnetic separator which picks the magnetic magnetite out of the ore.

As the material is very fine the wet magnetite product is then able to be piped as a slurry to the port where the water is removed via filtration and returned back to the mine for further use.

The dewatered product is then ready for export. There are many advantages to using a pipeline to pump the refined ore from the mine to the port including;

- The cost of building and operating a pipeline is far less than using either road or rail
- As the product is transported in a closed system there are no issues of dust
- Since the pipeline is generally buried underground then there is no additional traffic movements



**Comparison of transport mode by energy efficiency showing energy required to move 1 tonne a kilometre (\*Source: rail & ship Komor 1995, slurry pipeline PSI 2009, conveyor & road, Helix 2009)**

#### WE APPRECIATE YOUR FEEDBACK

If you have any comments or feedback regarding the project please send written responses to "Sheep Hill Port Project" either by mail or online to:

Level 3, 100 Pirie Street, Adelaide SA 5000

OR

[reception@centrexmetals.com.au](mailto:reception@centrexmetals.com.au)



Apr 2009

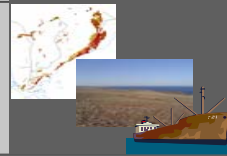
## CENTREX SIGNS \$180M HOA WITH CHINESE STEEL COMPANY FOR MINE AND PORT

A **Heads of Agreement (HOA)** was signed between Centrex and Wuhan Iron & Steel Company (WISCO) in December 2008 to explore and develop five exploration tenements and the Sheep Hill Port on the Southern Eyre Peninsula. WISCO is the 3rd largest steel producer in China and the agreement reached means WISCO will gain a 50% interest in the iron ore rights across five of Centrex's tenements for a price of up to \$180 million, with \$90 million paid upfront and another \$90 million in staged payments as resource targets are met. As part of this agreement Centrex and WISCO will establish an unincorporated joint venture and an incorporated management company to run the project. This will include the joint development of the Sheep Hill Port site to provide an export hub for projects across the five tenements. WISCO paid a \$500,000 non-refundable deposit to Centrex in December to secure exclusive rights to the joint venture.

Centrex visited WISCO in China during March 2009 to discuss the detail of the joint venture transaction documents. The joint venture still requires approval from both the Australian Federal Government (Foreign Investment Review Board) and the Chinese Government (National Development Review Committee). Centrex and WISCO hope to finalise the transaction documents and gain the necessary approvals in May 2009.



**LEFT & TOP RIGHT: Centrex Managing Director Gerard Anderson (right) signs the HOA with WISCO Vice President & Chief Accountant Mr. Peng Cheng (left) in Beijing; MIDDLE & BOTTOM RIGHT: Gerard agrees the details of the HOA with WISCO Minister of Resources and Development, Mr. Kuang Zhongxiang**



### FLORA AND FAUNA STUDIES



*Environmental scientist from Golder Associates surveying the dunes near Sheep Hill (The dunes are to be sectioned off and protected from the port development site).*

Golder Associates carried out a desktop review and five day spring biological survey to assess terrestrial ecology (flora and fauna) conditions and consider potential project related impacts at the proposed port site and transport corridors. The survey identified three main-types of native vegetation at the site, which were all degraded to varying degrees;

- Low shrubland/open hummock grassland dominated by Ruby Saltbush
- Tall open shrubland dominated by Dillon
- Tall open shrubland

A significant proportion of the site is occupied by fallow paddocks and cereal crops.

All remnant native vegetation that occurs on the site is disturbed or degraded. Weeds and invasive species made up approximately a third of plant species found at the site. No significant native vegetation species or trees were identified on the site. The development will not result in any significant loss of native vegetation.

Fauna habitats were highly degraded with poor species diversity. Rabbits are abundant in the area and are further degrading habitats with over-browsing, over-grazing and soil disturbance.

Study outcomes indicated the site does not contain any habitats considered critical or limiting to any listed fauna species. The development is unlikely to have significant impacts to any of the listed fauna species.

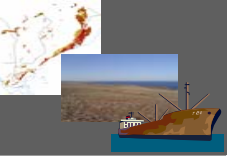
### MEET THE TEAM



**BEN HAMMOND**  
**Senior Project Geologist/Project Manager**

Ben is a Geologist by profession however he has spent much of his career in business improvement and project management across all aspects of mining including maintenance, rail and shipping. His previous Iron Ore experience includes roles at both BHP Billiton's Newman mines and Port Hedland shipping facilities.

Ben is the Project Manager for the Sheep Hill Port studies. He brings hands on experience from existing iron ore port operations to the project as well as knowledge from right across the iron ore supply chain.



### MARINE STUDIES

Golder Associates conducted a three phase investigation of the marine environment in and around the proposed port location during late spring 2008. This included a targeted field survey and an assessment of potential port affects.

The coastline in the proposed port region consists of sandy beaches with rock outcrops and patches of seagrass and other algal habitats.

Field investigations revealed the local marine environment is typical of the Spencer Gulf with no endangered or significant habitat identified.

Seagrass present in the proposed port location consisted of a patchy and variably dense mosaic of several different species. This was located in subtidal areas to a depth of 12-13m. Beyond this depth the sea floor was composed of sand with a variety of taxa including bivalves. Epifauna within the sea grass included a variety of fish, sea squirts, sea stars and sea cucumbers, crabs, snails and bryozoans. The salinity of the water varied between 40-45ppt which is higher than oceanic waters due to high evaporation in the Spencer Gulf.

The study suggests construction of a port facility will have minimal impact on the marine environment in the broader context of the Spencer Gulf,



*A Golder Associates Environmental Scientist surveys rocky-outcrops along the Sheep Hill coastline.*



*Golder Associates Marine Ecologists collect samples from the waters off the coast of Sheep Hill.*

and will be limited and restricted in timing and duration. The port facility may have positive and negative impacts on marine habitats in the intertidal zone, with port structures acting as new habitats. The potential affects of the port structures in the intertidal zone are considered to be minor with no marked affect on the overall ecosystem function.

Moderate changes (eg. Potential habitat loss, local hydrodynamics) to the local subtidal zone could occur, but these would be minor in the context of the Spencer Gulf. The development of a port at the site would not completely remove ecosystem components from the subtidal zone and therefore no loss of overall ecosystem function would occur.

Further studies will be undertaken once detailed wharf designs are complete to better define the potential affects on local hydrodynamics and sedimentation patterns.