



23 February 2018

Market Update – Southdown Magnetite Project

Grange Resources Limited (ASX:GRR) (**Grange**) is pleased to announce that, in conjunction with its joint venture participant, SRT Australia Pty Ltd ('SRT'), it has appointed PCF Capital Group Pty Ltd ('PCF Capital') to assist with the seeking of a strategic investor(s) for the Southdown Magnetite Project (**Southdown or the Project**).

Just 90km from Albany in Western Australia's Great Southern region, Southdown is a joint venture between Grange (70%) and SRT Australia Pty Ltd (30%) (jointly owned by the Sojitz Corporation, a Japanese global trading company, and Kobe Steel, the third largest Japanese steel maker).

The Southdown Magnetite Project is an advanced project with over 1.2 billion tonnes of high quality mineral resources, including ore reserves of 388Mt (see announcement dated 28 February 2014). The Project has been designed to produce 10mtpa of high grade, quality magnetite concentrate at 69.5% iron. This is expected to command a premium price in the iron pellet feed market over a potential mine life of around 30 years. A Definitive Feasibility Study (DFS) was completed by the project owners in 2012 for 10mtpa concentrate production (see announcement dated 1 May 2012), with most of the regulatory and environmental approvals in place. It is planned to be a pit to port operation involving:

- an open cut mine and concentrator;
- transmission line for power supply;
- desalination plant to supply water needs;
- slurry and return water pipelines from/to the Port; and
- significant Albany Port expansions, as contemplated by the DFS.

Alternative Development Option

There is also an optimised project development option which, at this stage, has only been progressed to pre-feasibility by our JV partners since the completion of the DFS. This would involve a smaller 5mtpa operation within the constraints of existing approvals, mineral resources and ore reserves; and is anticipated to deliver reductions in capital spend from ~A\$2.9B down to ~A\$1.4B. This alternative case extends the life of mine from 14 years to 28 years for the western zone, and more than 50 years for the total resource (see Project Details below). **The 10mtpa DFS completed in 2012 remains the base case for the JV**, and the decision as to whether the alternative option is further studied to definitive feasibility will be an issue considered together by the existing joint venture partners and any joining equity investor.

The schedule for further studies, project development and implementation will also be developed in conjunction with any joining investor.

Commenting on the appointment of PCF Capital, Grange CEO Mr Honglin Zhao stated:

“Southdown is a world-class magnetite deposit that is becoming increasingly relevant as steel markets continue to demand premium iron ore products. At almost 70% iron content, Southdown’s concentrate product will be one of the highest grade seaborne iron ore’s in the world. The appointment of PCF Capital will allow interested parties to formally convey their interest in the Project.”

PCF Capital is a leading Australian corporate advisory firm that specialises in strategic partnering. PCF Capital has advised on over 120 strategic partnering and mine divestment transactions covering projects on every continent.

Project Highlights

- Southdown is an advanced project with in excess of A\$170m spent to date on drilling, test work, land acquisition, permitting and engineering studies.
- A Definitive Feasibility Study (DFS) was completed in May 2012 based on a design to produce at a nominal rate of 10mtpa of concentrate at a premium quality specification of 69.5% Fe.
- Mineral Resources of over 1.2 billion tonnes at 33.7% DTR, and Ore Reserves of 388 million tonnes at 35.6% DTR, prepared in accordance with JORC 2012 (see announcement dated 28 February 2014).
- DFS confirms a mine life of 14 years within the current permitted area, generating an NPV at a discount rate of 10%, of A\$1,008 million and an ungeared IRR of 16.6% (see announcement dated 1 May 2012).
- Initial capital expenditure is estimated at A\$2.885 billion including EPCM, owner’s costs and contingency of A\$0.535 billion.
- Operating costs are estimated at A\$58.50 per tonne of concentrate delivered at the ships rail in Albany, excluding royalties.
- Most of the environmental permits are in place, with the EPBC for the mine site, desalination plant, pipelines and ship loading facilities at the formal assessment phase after completing the public review period in November 2017.
- The majority of the land required for the project site, slurry and water pipe lines has been secured.
- Aboriginal heritage issues have been successfully addressed with minor follow up work in progress.

An alternative development option was studied by the JV partners to a prefeasibility standard (PFS) in 2015. This introduces different options for development and reduces initial capital. The key changes from the DFS include:

- The use of contract mining.
- Reduction in production rate to 5mtpa of concentrate.
- Reduction in size of the concentrator to one line to match the production rate.
- Additional concentrate storage at the mine site to allow reduction in footprint at the Port.
- Change to a transshipping methodology to remove the need for extensive dredging and land reclamation.

Detailed Project Information for the 5mtpa Alternative Development Option

The Southdown Magnetite Project (**Southdown** or the **Project**) is 70% owned by ASX-listed Grange Resources Limited (**Grange**) and 30% owned by SRT Australia Pty Ltd (**SRT**) through an unincorporated joint venture implementation agreement (**JV**). SRT is jointly owned by Sojitz Corporation, a Japanese global trading company, and Kobe Steel, Japan's third largest steel maker. In 2015 SRT completed a pre-feasibility level study into an alternative development option based on a reduction of the nominal production rate to 5mtpa. The 10mtpa DFS proposal is the base case option for the JV.

Location

The Project is located ~90km northeast of Albany in the South West corner of Western Australia (*Figure 1*). The Southdown deposit extends approximately 12km in length, under Mining Lease (M70/1309) and Exploration Licence (E70/2512) covering an area of more than 1700 hectares on freehold farming property and various neighbouring exploration licences.

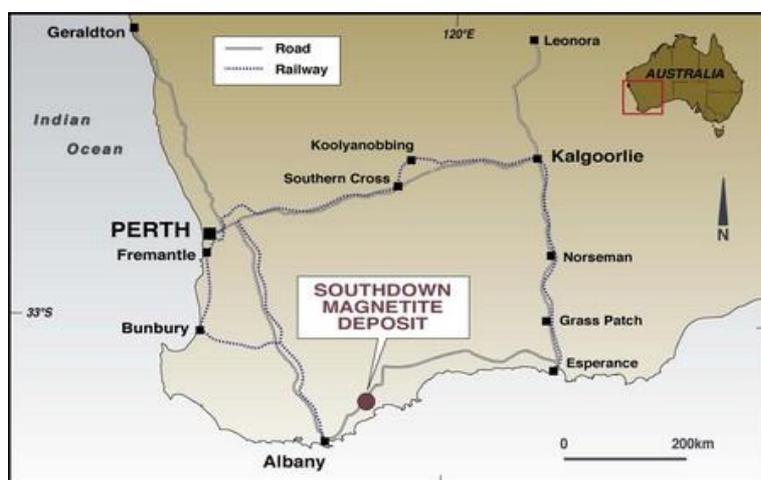


Figure 1: Southdown Magnetite Project Location

Mineral Resource & Ore Reserve

The Project contains a total resource of 1.25 Bt of magnetite ore grading at Davis Tube Recovery (DTR) of 33.7 %. This resource has been defined using geological boundaries and a cut-off grade of 10 wt% Davis Tube Concentrate (DTC) and includes minor internal dilution. A resource statement prepared in accordance with JORC 2012 has been declared for the Project. The mineral resource consists of alternating bands of magnetite hosted in clinopyroxene and primary quartz located within SDJV mining lease, M70/1309-I and Exploration Licence E70/2512-I (see announcement dated 28 February 2014).

The metallurgical plant has been designed to achieve 69.5% Fe in the final concentrate (see ASX announcement, April 2012)

Mineral Resource Category	Tonnes (Mt)	DTR (%)	DTC Conc. Fe (%)
Measured	423.0	37.8	69.6
Indicated	86.8	38.7	69.7
Inferred	747.1	30.9	69.5
Total	1256.9	33.7	69.5

Table 1: Southdown Magnetite Mineral Resource

Ore Reserve Category	Tonnes (Mt)	DTR (%)
Proven	384.6	35.6
Probable	3.1	41.7
Total	387.7	35.6

Table 2: Southdown Magnetite Ore Reserve

An additional 24.4 Mt of Inferred Resources is included within the designed pit.

A detailed statement of the Mineral Resources and Ore Reserves can be found in the ASX announcement dated 28 February 2014. Grange confirms in reproducing the Mineral Resources and Ore Reserves in this subsequent report, that it is not aware of any new information or data that materially affects the information included, and all the material assumptions and technical parameters underpinning the estimates in this report continue to apply and have not materially changed. Grange confirms that all environmental approvals and tenure have been maintained in compliance and terms extended as required to retain currency.

Mining

Minor changes to the ore scheduling and layout have resulted in no material change compared with the 2014 Ore Reserve. Mining will be undertaken by conventional bulk mining methods utilising drill and blast, hydraulic face shovels and dump trucks coupled to a run of mine (ROM) stockpile. Ore will be trucked directly from the blasted faces to either direct tip into the primary crusher or onto the ROM stockpile, as proposed within the DFS, but reduced to a nominal production rate of 5mtpa.

The reserve within mine lease M70/1309 has the capacity to provide nominal 5mtpa of concentrate for up to 28 years of mine life. This study uses contractor mining rather than being owner/operator, as in the DFS.

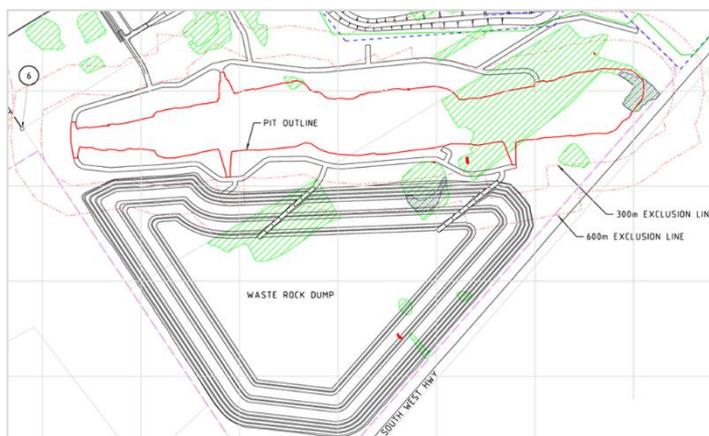


Figure 2: Layout of open pit and waste dump

Processing

The magnetite mineralisation will be crushed, and progressively ground, sized and magnetically separated to produce a magnetite concentrate. Production waste (tailings) will be thickened and deposited in slurry form into a Tailings Storage Facility (TSF).

To achieve a 5mtpa nominal production rate, the concentrator as proposed under the DFS will be reduced from two lines to one. Some components will remain sized to accommodate a 10mtpa rate to facilitate an expansion in production at some later date. An additional concentrate storage dam will be constructed on site to accommodate a reduction in size of the storage shed at the port.

The magnetite concentrate will be transported as slurry by a buried pipeline approximately 110 km to a concentrate dewatering and storage facility at the Albany Port. This pipeline will remain sized for a nominal 10mtpa production rate as proposed in the DFS to facilitate later expansion.

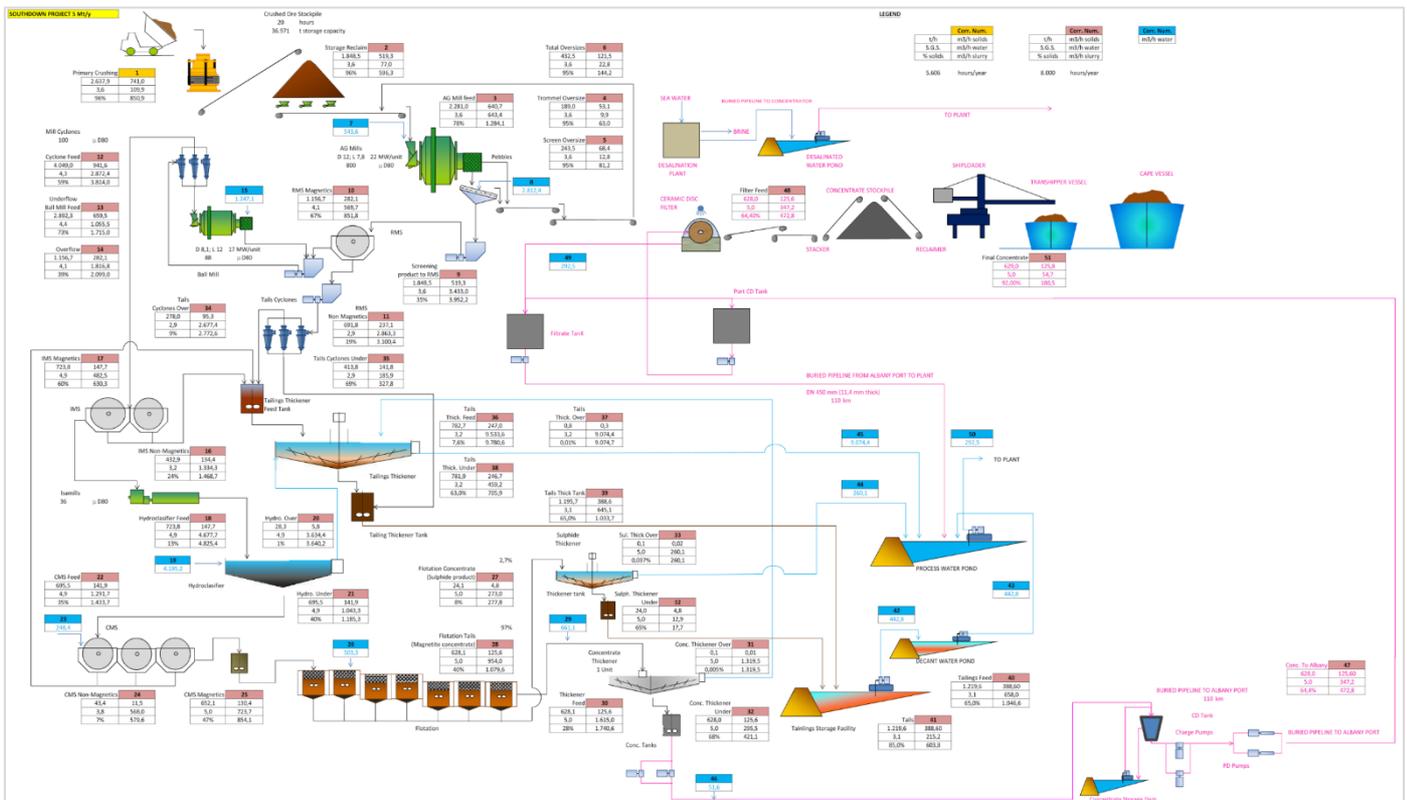


Figure 3: Concentrator Flowsheet for the 5mtpa PFS

Port Facilities

Relative to the DFS proposal, this study has undertaken a high-level review of adopting a transhipping methodology with a reduced on-site storage capacity. This would allow the use of existing land within the Port, significantly reducing the cost and environmental footprint of dredging and land reclamation required for the DFS. It would incorporate the addition of a new wharf at Berth 5, a filtration plant, a concentrate stockpile and a ship loading facility. The magnetite concentrate will be loaded onto a 20 kt Transhipment Vessel (TSV) and barged to the larger Cape sized vessels (175 kt) located at an anchorage point in the King George Sound.

Further studies would be required in conjunction with the Port of Albany to identify an appropriate anchorage point, and assess the environmental, community and visual impact to facilitate new environmental approvals.



Figure 4: Albany Port Berth Location

Water

There are limited sources of natural water in the project area. The Redmond – King River Aquifer, located near the city of Albany will be developed for construction water while a desalination plant will be the principal provider of water for the operation. The design and layout of the desalination plant, including the seawater intake, plant location and brine disposal, shall remain as proposed under the DFS, but will be reduced in size to a capacity of 5.5GL/a. Alternative sources of water for construction, and possibly operation, are being investigated within the mining tenements in the Wellstead Aquifer to reduce the dependence on the Redmond – King River Aquifer.

Power

A 220 kV transmission line (total length 278 km) from the Muja switchyard at Collie to the Southdown mine site would be considered for installation by Western Power (WP) to provide the required 109 MW connected load at the Project. This demand is reduced relative to the 180 MW demand for the DFS.

In Albany, a new 22 kV connection at the existing WP Albany 132/22 kV substation would service the port facilities with installed capacity of 11 MW connected load.

Environmental Approvals

All federal and state approvals have been secured and maintained in good standing. The remaining Commonwealth EPBC approval for the mine site, desalination plant, slurry pipeline and port facilities is progressing, with the completion of the public review period in November 2017, and the commencement of the formal assessment period in early 2018.

While the PFS has been designed within the constraints of the current approvals, some aspects will require discussion with the relevant agencies to proceed. In particular, the new Port arrangements will require new approvals.

Project Schedule

A master schedule has been developed for the PFS with first ore on ship anticipated after 27 months from final investment decision. Further details will be developed as required.

Capital Cost Estimate

A capital cost estimate (Capex) was developed for the PFS on the principle of gross maximum price (GMP) basis and will be optimised further in a definitive feasibility study if this option is progressed.

The capital cost estimate summarised by section in Table 3, is reported in Q1-2015, Australian dollars (A\$) and is derived from a number of currencies and exchange rates.

The total cost estimate covers the engineering design, construction and commissioning of the Project, together with the required facilities and infrastructure.

Capital Cost Area	Total Cost (A\$M)
Mine	Contractor costs
Concentrator	286.35
Transmission Line	229.28
Filtration and storage (Port of Albany)	136.98
Logistics - Slurry Pipeline	228.46
Site Improvements & Infrastructure	62.20
Accommodation	102.90
Desalination Plant and Water Supply	108.79
Miscellaneous Items and Allowances	247.49
Subtotal	1,402.44
PMC Cost	8.59
Owners Cost	25.32
Total Project	1,436.35

Table 3 – PFS Capital Costs

Operating Cost Estimate

The operating costs were developed by specialist contributors. They utilised the mine schedule, process design criteria (PDC) and other design documents to support the nominal production of 5mtpa of concentrate and its subsequent logistics to the port and the material handling onto Cape size ships.

The operating cost (Opex) estimate is presented in Australian dollars (A\$) and uses prices obtained at the time. The below table summarises the average operating costs for the PFS to treat 14.79mtpa of ore to produce 5mtpa of dry concentrate.

Project Cost Area	A\$/t Concentrate
Mining	28.24
Concentrator and Tailings Storage	26.79
Logistics – Concentrate & Return Water Pipelines	1.11
Albany Filtration	1.85
Desalination	1.24
Albany Port, Material Handling & Transhipping	5.30
Overheads	2.48
Total	67.01

Table 4 - PFS Opex costs – excludes capitalised prestart costs

Note: using an exchange rate of 79c/USD (21 Feb 2018), the estimated Opex cost total of A\$67.01/tonne concentrate is equivalent to US\$52.65.

Economic Evaluation

Revenues were estimated using forecast nominal benchmark iron ore prices and exchange rates provided in commissioned marketing reports from leading experts and independent consultants. The respective reports analyse the steel consumption / production, iron ore market overview, pellet feed demand, value-in-use analysis and future price forecast of the Southdown product.

A financial model has been developed with inputs generated from first principles and the findings of the PFS.

The project free cash flows (after tax), were subjected to a discounted cash flow analysis (DCF) using a discount factor of 12% nominal. The net present value (NPV) of project Free Cash Flow for the 28-year plan is estimated at \$753 million as at the feasibility study date, generating an internal rate of return (IRR) of 19.2% per annum. This is represented by some \$13.14 billion of Free Cash Flow over this plan, excluding initial capital and is based upon Operating Sales less Opex, Sustaining Capex and ongoing rehabilitation expenditure. For the 28 year mine plan the average concentrate price assumed for this product grade is US\$109/tonne at a AUD:USD exchange rate of \$0.75.

Project Opportunity

The Project provides an attractive investment opportunity for its owners and shareholders to develop a high grade magnetite concentrate (69.5% Fe). This project will provide high quality raw material for the production of quality Blast Furnace (BF), Direct Reduction (DR) pellets, and sinter feed in a market which continues to demand high quality products.

The proximity of the Project to established infrastructure in the Albany region, the size of its resource and relative ease of ore extraction combined with Australia's stable political and regulatory environment is a major positive for the Project. It offers the potential for steel groups to enter into long-term off-take agreements with a view to ensuring a secure continuum of iron ore concentrate supply.