

Southdown Joint Venture (SDJV) Southdown Magnetite Project Mining Magnetite Information Sheet

October 2022

The Southdown Project is a joint venture between Grange Resources (70%) and SRT Australia Pty Ltd (30%) – this partnership is known as the Southdown Joint Venture (SDJV).

Grange Resources Limited (Grange Resources) is Australia's most experienced magnetite producer with over 50 years of mining and production from its Savage River Mine in Tasmania.

SRT Australia Pty Ltd is jointly owned by Sojitz Corporation, a Japanese global trading company, and Kobe Steel, a major Japanese steel maker.

Project Overview

What is magnetite?

Magnetite is a very stable and unreactive mineral, and is a valuable source of iron ore that occurs naturally on the Earth's surface and is mainly used in making steel. Iron ore most commonly occurs in the form of haematite or magnetite.

The high iron content and low impurity in magnetite concentrate offers a better quality product that is both more productive and efficient than haematite. Magnetite also has internal thermal energy meaning less energy is required during processing, resulting in lower carbon emissions during steel making and better environmental outcomes.

Once mined from the open cut, the mineral is crushed, ground, screened and magnetically separated to produce a magnetite concentrate that is ready for export and processing.

Mining Magnetite

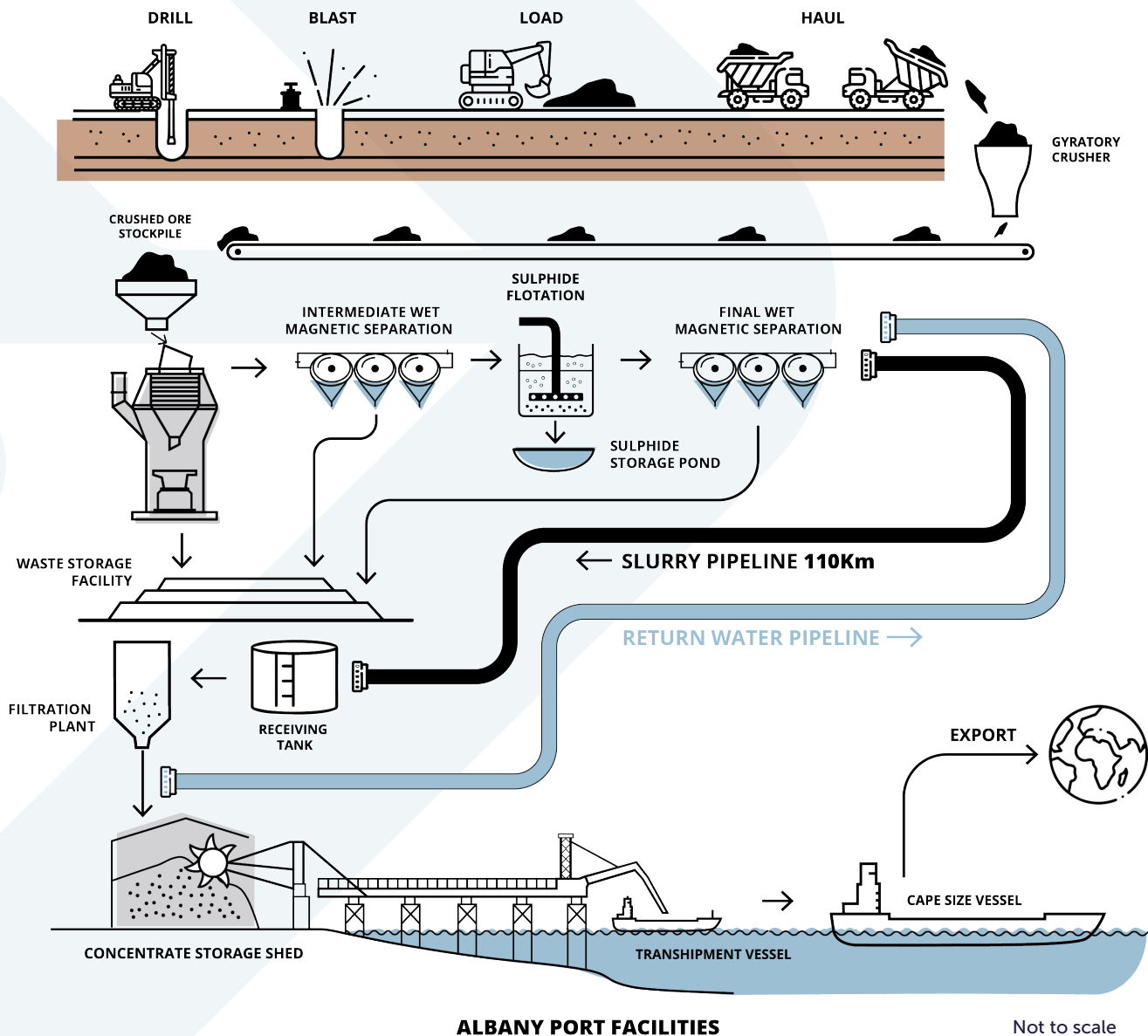
The Southdown Magnetite Project is a pit to port operation, with similarities to Grange Resources' Savage River and Port Latta operations which have been operating for over 50 years in Tasmania.

The magnetite ore will be mined by standard open cut methods using drills to blast the ore, and transported by face shovels and haul trucks to the primary crusher beside the pit.

From here the ore enters the processing stream and will be crushed, ground, screened and magnetically separated to produce a magnetite concentrate at the mine site.

The magnetite concentrate will then be transported from the mine site to the Port of Albany for export via a 110km underground slurry pipeline.

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Once the slurry reaches the Port of Albany, it will be dewatered in the filter plant and stored in a storage shed ready for shipping. Approximately 85% of water from the slurry will be pumped back to the mine site in a second pipeline following the same alignment as the slurry pipeline and reused. The rest of the water remains with the concentrate to achieve the target 8-9% Total Moisture Limit to minimise dust and maintain safe shipping practice.

'Top up' water supply would be required due to various losses within the process, such as evaporation, dust suppression activities, water contained within tailings, and moisture contained within the exported product.

This is planned to be obtained from the Water Corporation's Wastewater Treatment Plant and local groundwater sources.

When the concentrate is ready for shipping, it will be loaded on to small vessels via covered conveyors and a shiploader and transported to larger Cape size vessels in King George Sound. This process is known as transshipping.

In 2012 approvals were gained to build and operate a 12 GL/a seawater desalination plant for the larger production capacity planned at that time. The SDJV has investigated a range of options for water supply to ensure there is a reliable supply of water for the project with no adverse impacts to the environment or the community. The approvals for the seawater desalination plant will be maintained for possible future project expansion.

Value of Iron Ore Products



Port Latta Iron Ore Pellet
~ 65% Fe



Southdown Magnetite Concentrate
~ 69.5% Fe



Savage River Magnetite Concentrate
~ 63% - 67% Fe



Direct Shipping Lump
~ 63% Fe



Direct Shipping Fines
~ 57% - ~ 62% Fe



Turning magnetite into steel

Magnetite is a naturally occurring mineral, commonly refined into an iron ore concentrate and used for steel production.

Smelting magnetite to iron involves agglomeration or 'clumping together' of the magnetite concentrate, and thermal treatment to produce spherical shaped balls – pellets.

The pellets can be used directly in a blast furnace or at direct reduction steel making plants. The blast furnace chemically reduces the iron oxide into liquid iron called 'hot metal'.

The iron ore and reducing agents (coke, coal and limestone) are combined. Pre-heated air is blown at the bottom of the combination for a period of time and the final product is a liquid which is drained, and refined to produce steel.

Our magnetite concentrate is a refined product, and has high iron content and low impurities.

This has beneficial quality, productivity, efficiency and environmental outcomes for the steel maker.

Environment And Social Consideration

The project is committed to the provision of mineral resources to support sustainable development, growth, and prosperity that make a real difference to people's lives as outlined by the World Economic Forum.

Grange will produce high quality, steel-making raw materials economically and effectively. Our operations will be efficient, flexible, and stakeholder focused.

Environment

The Southdown Magnetite Project has been granted primary environmental approvals by the Western Australian government under the *Environmental Protection Act 1986* (EP Act) and by the federal government under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). However, there are some modifications to the project that require further approvals.

Work is underway to obtain environmental approvals for the modified aspects of the project. A new environmental approval will also be sought for the transshipping component of the project by the Southern Ports Authority. It is anticipated that referrals will be submitted to the regulators in the second half of 2022.

Grange has committed to minimising our environmental impact and engaging with the community and stakeholders to enhance

the sustainability of the project. The SDJV has already completed projects to assist endangered species and has collected extensive data to improve our understanding of the unique flora, fauna and groundwater systems in the region of the project.

Social

The project is committed to working with stakeholders and the community in the planning, implementation and operation of its projects as well as delivering community benefits including employing local people to work and service the mine, supporting local and regional economic development and investing in community initiatives.

Planning and preparation for the Southdown project has spanned a number of years, during which Grange has established a project office in Albany and has been working closely with key stakeholder organisations and community members.

Grange will continue to engage stakeholders and the community as the project progresses through the Albany Project Office, information sessions, landowner discussions, briefings and presentations and a range of focused communications.

Contact Information

To stay informed of upcoming engagement opportunities or learn more about the project, visit the Southdown Magnetite Project webpage at www.grangeresources.com.au/operations/southdown.

If you wish to speak with a member of the project team, please email info@grangeresources.com.au phone **08 9841 4255** or visit the Albany Project Office at **31 Albany Hwy, Albany, WA**

We acknowledge the Noongar Menang people as traditional custodians of this region and recognise their continuing connection to land, water and culture. We pay our respects to Aboriginal communities and cultures, and to their Elders past, present and emerging.