

RADAR IRON

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A MIGHTY ATTRACTION

In the 15 months since listing on the Australian Securities Exchange, junior exploration company Radar Iron (ASX: RAD) has established a pipeline of iron ore prospects in the Yilgarn region of Western Australia. Managing director Jonathan Lea talks to Gay Sutton about the thrill of the chase

Radar Iron is a relative newcomer to the mining sector, but in the 15 months since it was spun out of Transit Holdings, exploration has yielded some exciting results. Key transport infrastructure developments are also scheduled to come on line at precisely the point at which Radar expects to reach its development phase in 2014, firmly positioning the company as a future Yilgarn producer of note.

The company launched on the Australian Securities Exchange in December 2010 with three primary assets: the mineral rights for the prospective iron ore tenements of Johnston Range, Die Hardy and Evanston. Located close to one another in the central Yilgarn region of Western Australia, they border the already highly productive Cliffs Natural Resources iron ore mines.

“There are three things you need for an iron ore mine. You need a resource in the ground, a transport corridor and a market,” explains managing director Jonathan Lea. “Many projects in Australia have reasonable resources in the ground but no way of transporting the ore out of the country efficiently and economically. Here in the Yilgarn we have a government-owned railway line just south of us, and two ports currently exporting iron ore.”

The transport infrastructure in the Yilgarn is not only well established, but it is in the process of being upgraded to support the rapidly expanding mining industry. Radar’s tenements lie approximately 100 kilometres north of the rail heading at Koolyanobbing, which is already used by



Magnetite banded
iron outcrop,
Johnston Range



RC drilling, Die Hardy Range

Cliffs to move nine million tonnes of iron ore a year. From there, it is a 500 kilometre rail journey to the port of Esperance in the south-east or Kwinana, which is due west and very close to Perth.

“The port of Esperance would be our preferred option,” Lea says. “It currently has the capacity to handle around 10 million tonnes of iron ore per annum, and this is pretty much taken up by Cliffs. But the Western Australian government announced in January this year that it will actively support an expansion plan to increase capacity to 30 million tonnes. If all goes according to plan, the new port will become operational in 2014, and this would suit our development schedule for exporting iron ore.”

Radar’s proposed development schedule is based on the results of a \$7 million programme of exploration that has taken place over the past 15 months, largely across the Johnston Range and Die Hardy properties. Meanwhile, in January 2011 the company acquired the mineral rights for additional project areas, Jackson, Boondine and Windarling, bringing its total holdings in the Yilgarn to 1,200 square kilometres and making Radar one of the largest mineral rights holders in the area. Exploration is at a different stage at each property and both haematite and magnetite iron ores have been identified.

“The Johnston Range is our most advanced hematite project, and is the primary focus of our exploration efforts at the moment,” Lea says. “The assay results released in January this year show



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Jasperoidal magnetite banded iron formation

potential for significant deposits, so we plan to resume drilling next month and hope to define our initial haematite resources within three or four months.”

The plan is to invest another \$4 million in exploration drilling over the coming year, largely at the Johnston Range but also extending into Evanston which lies just to the east. Meanwhile, geophysical studies will continue across all properties to generate more haematite targets for further exploration.

South of the Johnston Range lies Die Hardy, and exploration here is further advanced. “Last year we completed 10,000 metres of drilling and identified a resource of 352 million tonnes of magnetite with good qualities and metallurgical properties. This has the potential to be tripled in size quite easily by more drilling. However, magnetite projects require a large capital investment, so we intend to undertake a pre-feasibility study this year to confirm that it will be an economically viable mining project before

“THE JOHNSTON RANGE IS OUR MOST ADVANCED HEMATITE PROJECT, AND IS THE PRIMARY FOCUS OF OUR EXPLORATION EFFORTS”

we continue with any further exploration.”

The difference between the haematite found at Johnston Range and the magnetite found at Die Hardy lies at the heart of the decision to focus the majority of investment and effort on the former, where drilling results are already very promising. Haematite is often known as direct shipping ore because it’s easy to mine and requires very little processing. It can be dug out of the ground through open pit mining, crushed to a maximum size of 35mm and exported. The capital costs for developing a haematite mine are therefore very low.

Magnetite, by contrast, requires a much larger capital investment. Although mined in the same way, it is fine-grained and normally closely associated with silica or quartz. The rock is therefore crushed and finely ground, then passed over magnets to extract the magnetite from the silica to create a concentrate. “The process is power intensive and the capital cost of building the plant runs into hundreds of millions of dollars,” Lea says. “So the option of developing Die Hardy is further down the track for us, but we are talking with some end users about the possibility of investing in the project in the future.”

The strategy for the portfolio of



RC drilling, Johnston Range



Regional spring wildflowers

properties is to develop the haematite mine at the Johnston Range as quickly as possible and to plough the profits back into expanding production. “We will probably start with a small output of around one million tonnes each year from the Johnston Range. And if the price of iron remains high, which I believe it will do for at least a decade, we could easily make around a \$50 to \$80 per tonne margin,” Lea says. “That will quickly pay off our

capital and generate cash for increasing the scale of the operation.”

In parallel with this, a programme of preliminary geophysical studies and ground reconnaissance mapping is planned this year for Radar’s most recent acquisitions, Jackson, Boondine and Windarling.

All have both haematite and magnetite mineralisation and the aim is to develop a pipeline of targets for ongoing exploration. “We are also looking to increase our holding of ground holding prospective iron ore, but we will be focusing primarily here in the Yilgarn where we have excellent transport infrastructure in place,” Lea says.

**\$7
MILLION**

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**Cost to date of Radar’s
exploration programme**

“However, in the longer term I believe magnetite is going to be the future of iron ore mining around the world, particularly as high grade haematite becomes exhausted.”

With a lucrative haematite prospect for the short term, a significant magnetite resource for the long term,

and plenty of exploration scheduled for the portfolio of properties, Radar looks set to enjoy a busy few years. **BE**

“IN THE LONGER TERM I BELIEVE MAGNETITE IS GOING TO BE THE FUTURE OF IRON ORE MINING AROUND THE WORLD”

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