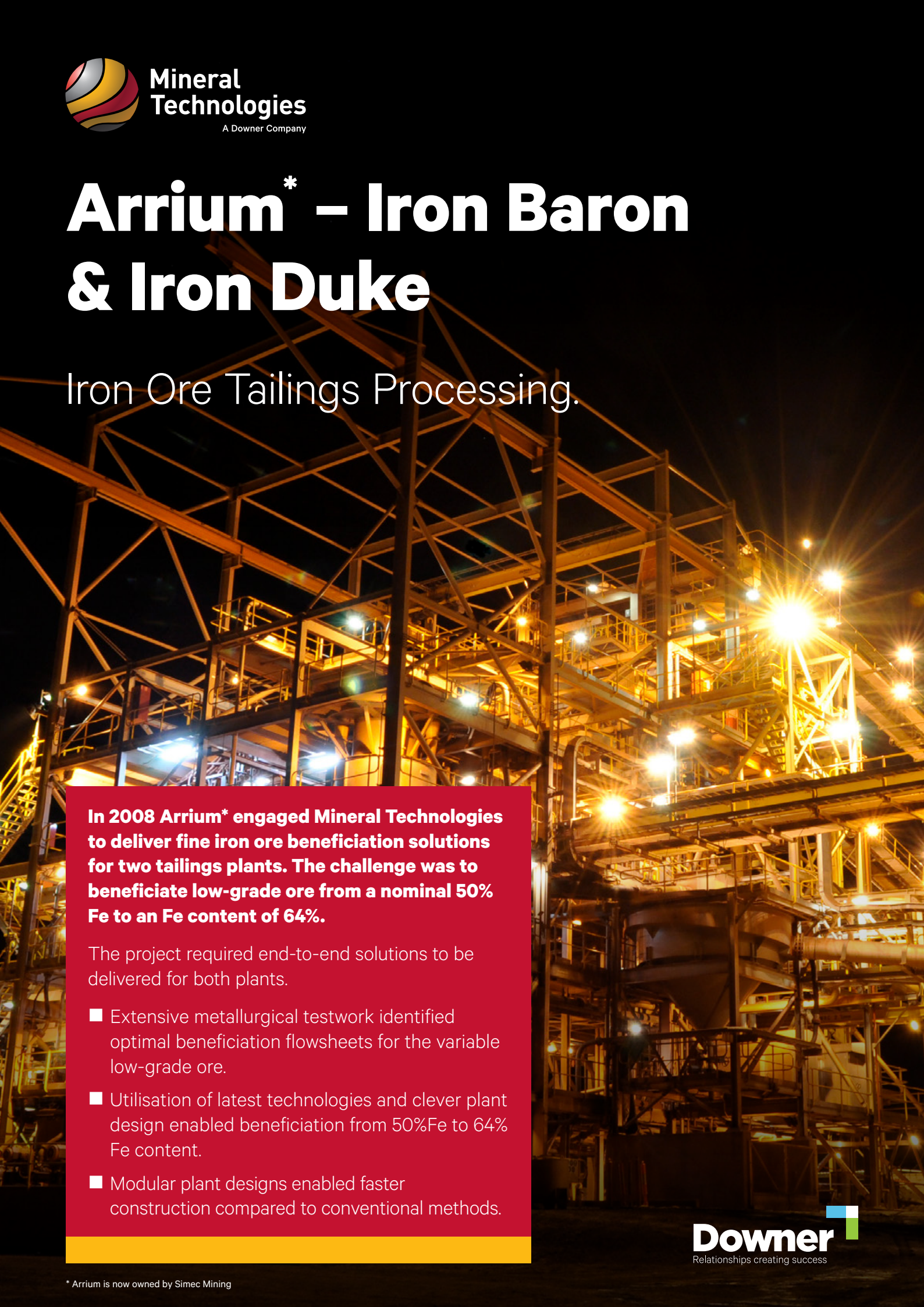
Mineral Technologies
A Downer Company

Arrium* – Iron Baron & Iron Duke

Iron Ore Tailings Processing.



In 2008 Arrium* engaged Mineral Technologies to deliver fine iron ore beneficiation solutions for two tailings plants. The challenge was to beneficiate low-grade ore from a nominal 50% Fe to an Fe content of 64%.

The project required end-to-end solutions to be delivered for both plants.

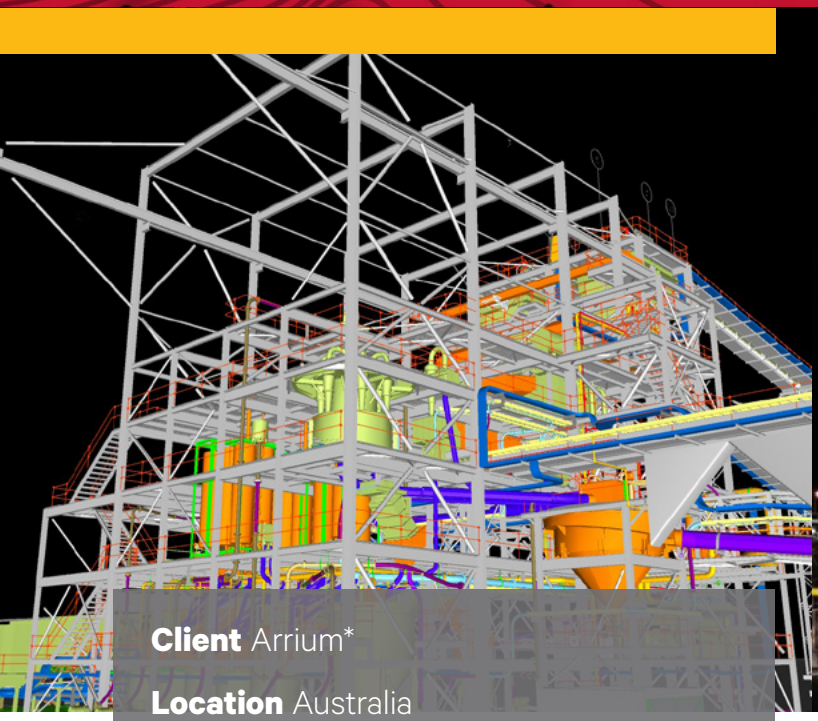
- Extensive metallurgical testwork identified optimal beneficiation flowsheets for the variable low-grade ore.
- Utilisation of latest technologies and clever plant design enabled beneficiation from 50%Fe to 64% Fe content.
- Modular plant designs enabled faster construction compared to conventional methods.

Downer
Relationships creating success

* Arrium is now owned by Simec Mining

Project Profile

Arrium* – Iron Baron & Iron Duke



Client Arrium*

Location Australia

Capability Groups Mineral Processing

Commencement 2008

Completion 2013

Services Provided

- Metallurgical testing
- Flowsheet development
- Basic and detailed plant design
- Process equipment supply
- EPC contract
- Plant commissioning
- Operator training
- Process guarantee

Highlights

- Variable low grade tailings stockpiles beneficiated to deliver high grade Iron Ore product
- Preassembled modular plant design for minimal site construction time
- Whole Plant Delivery – fully integrated processing solutions from concept to operation
- EPC project

Smart Engineering

Extensive testwork over a 2-year period combined with robust industrial mining technologies and clever design resulted in cost-effective beneficiation plant design for Arrium's* Iron Baron and Iron Duke projects.

The challenge for these projects was managing the high variability of the low-grade and mine waste stockpiles. Mineral Technologies' know-how and experience in metallurgical testwork was a key part of the solution, uncovering a number of beneficiation options. The extensive testwork delivered process designs utilising the latest HC33 gravity separation spiral technology to achieve cost-effective solutions.

The Iron Baron plant is beneficiating highly variable low-grade ore from a nominal 50% Fe to an Fe content of 64%. At full feed capacity the plant is capable of treating 2.2 mtpa production capacity.

These projects are further evidence of a trend across Australia to beneficiate low-grade tailings stockpiles to produce high-grade ore.

Total Solution – Iron Duke

Due to the success of the Iron Baron project, Mineral Technologies was engaged to deliver a complete solution including testwork, design, delivery and commissioning for the new Iron Duke spiral processing plant which was completed in 2013.

Arrium* engaged Mineral Technologies' expertise from concept through design and execution. Awarded the EPC contract in 2010 for the Iron Duke plant, Mineral Technologies and its parent Downer delivered the construction phase.

Based on Mineral Technologies' extensive testwork on the project, the total solution also included a process guarantee which significantly reduced project risk for Arrium*.