CASE STUDY:

RIO TINTO IMPROVES PLANT PERFORMANCE WITH MARTIN® HURRICANE AIR CANNONS

Site overview

Rio Tinto's Mesa A Processing Plant is an iron ore operation in the Pilbara region of Western Australia. The site processes ore through a range of equipment and transfer points including the ROM bin, sizer, secondary underflow, screen underpan chutes and surge bin.



Issues on site

High moisture levels made the ore sticky, causing material to build up in the ROM bin, sizer, secondary underflow, screen underpan chutes and surge bin. These blockages reduced plant throughput, increased screen media wear and created risks of equipment damage and conveyor disruption.

Clearing the build-up relied heavily on hosing, exposing personnel to manual handling and musculoskeletal risks, line-of-fire hazards, high-pressure water, material splashback and dust inhalation. Repetitive hosing over extended shifts also placed additional physical demands on the site team.

KEY FINDINGS:

150 Hours

Plant downtime saved annually

540,000 Tonnes

Annual throughput recovered

RioTinto



Client: Rio Tinto

Location: Pilbara, Western Australia

Industry: Iron Ore

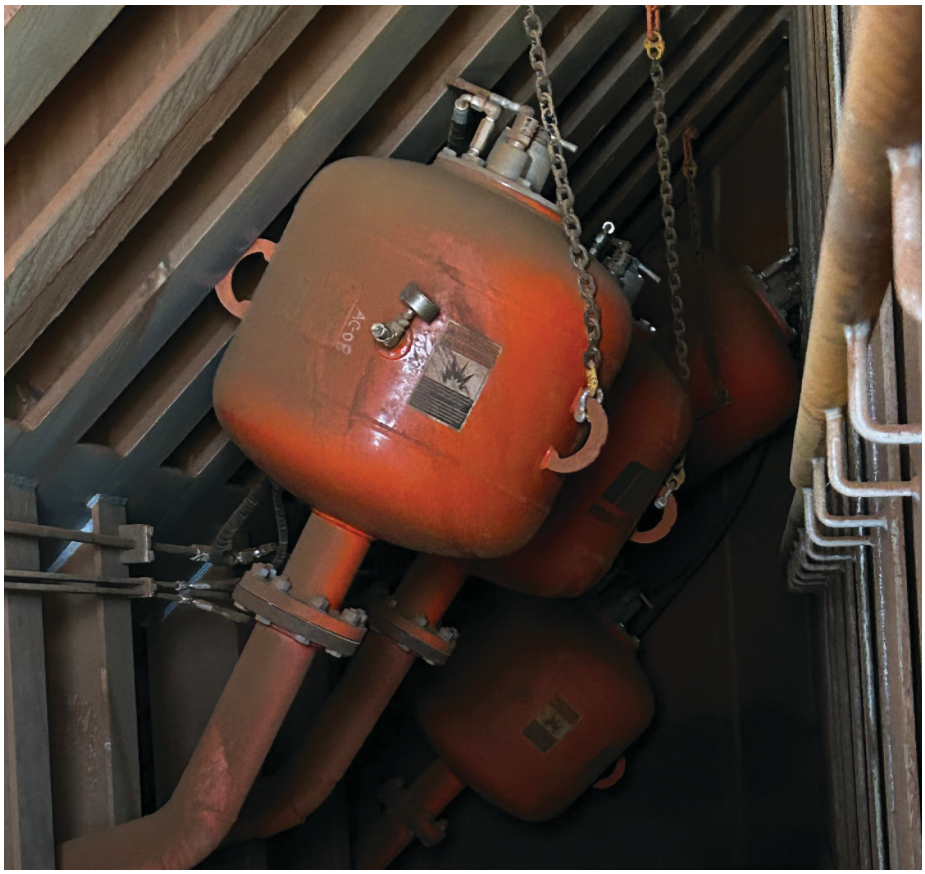
Scope of Project: Supply and installation of 150 L Martin® Hurricane Air Cannons across critical material handling areas at Mesa A Processing Plant.

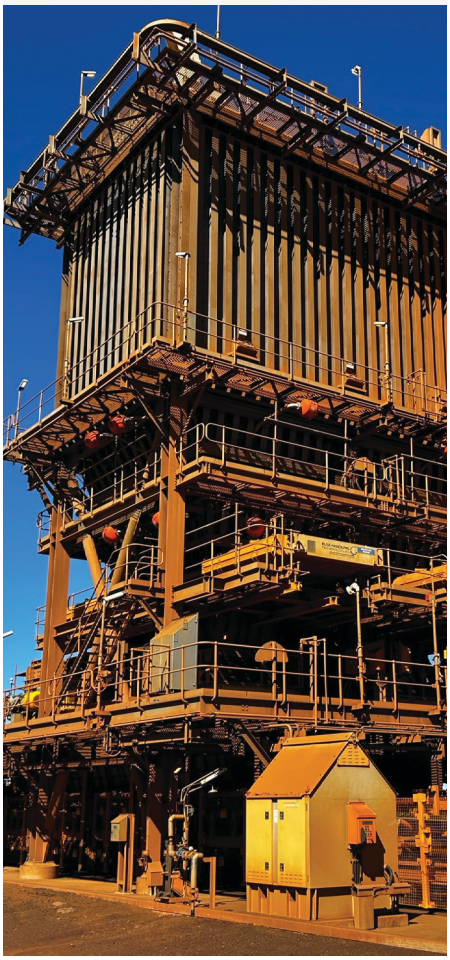
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THE SOLUTION:

Following detailed consultation, a site survey and 3D proposal analysis, Rio Tinto installed 150 L Martin® Hurricane Air Cannons in the affected areas.

The air cannons eliminated build-up in the screen underpan chutes, with only minimal maintenance access required and removed the need for manual hosing inside the chutes. They also prevented material from overflowing onto conveyors and surrounding structures, reducing both clean-up requirements and personnel exposure to site hazards.





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RESULTS

The Martin® Hurricane Air Cannons resolved critical blockages, reduced maintenance intervention and delivered an immediate return on investment.

Based on site estimates, the solution:

- Saved approximately 150 hours of plant downtime per year
- Recovered approximately 540,000 tonnes of throughput per year
- Eliminated manual hosing inside the affected chutes
- Reduced exposure to high-pressure water, manual handling, line-of-fire, splashback and dust hazards
- Prevented material overflow onto conveyors and structures, reducing clean-up and maintenance requirements

The outcome has encouraged the site team to identify additional chutes and bins where air cannons could help reduce material build-up and remove the need for hosing.

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