



Case Study:

LOW PROFILE FEEDER™ 'RECLAIM HOPPER' FOR IRON ORE TAILINGS

Location:
220km SE of Geraldton,
Western Australia

Operation Type:
Iron Ore / Magnetite Mine

Equipment Solution:
Low Profile Feeder

Year:
2012

Scope of Project:

Transmin's client, a global EPC servicing the mining and cement industries, were looking for a cost-effective way to transfer stockpiled iron ore tailings from a series of filter presses to an overland conveyor at a newly established iron ore and magnetite mine in Mid-Western Australia.

The EPC had been hired by the site contractor and operator, to come up with a solution to the problem and decided that the most efficient way to do this was to use a low profile 'Reclaim Hopper' that could be fed iron ore tailings using a front end loader.

This would enable significant savings to be made by eliminating the need for multiple conveyors and transfer points, which require a larger capital outlay than a single CAT 992k loader.

The system also needed to be able to transfer 1500 tonnes of iron ore tailings per hour from the reclaim stockpile to the overland conveyor in order to meet the production requirements of the site's owner.

The Solution:

Transmin's Low Profile Feeder (LPF) Reclaimer Hopper was the perfect choice for their situation because it fills the role of both feeder and conveyor, and allows for receipt, storage and feeding to be done with

the one machine, saving on additional capital expenditure.

It is also designed to have a bulk-loading hopper fitted to the frame, so it can be fed using front-end-loaders and other bucket machinery, which was one of the project's primary requirements.

Management at the EPC were also impressed with the various models Transmin had available, and the fact they can be customised with many additional features and options, including a large range of capacities and belt sizes, and the unique ability to change direction from horizontal to inclined using a bend transition without the need for additional machines or transfer points.

The Result:

According to EPC Project Manager, Stuart Taylor, the Low Profile Feeder has consistently outperformed the desired 1500 tonnes/hour output rate, without any problems.

Because the feeder can be supplied with material via a front end loader, costs have been kept to a minimum compared to the additional capital that would have been required if multiple conveyors and take-up/transfer points were needed.

Instead, they are now operating in the most efficient way possible and Transmin's Low Profile Feeder had been the key to achieving this outcome.

“The client is really impressed with the performance of the reclaim Low Profile Feeder™. In fairness, the machine was used above and beyond its initial design spec and it's never missed a beat. This thing is bullet proof.”

Stuart Taylor, Project Manager at the client EPC

LPF™ Specifications:

Based on their requirements, the client EPC chose the following specifications:

- ▶ **Heavy-duty D4 chain**
- ▶ **1.8m wide belt**
Reinforced with steel slats
- ▶ **1500 tonnes / hour**
- ▶ **Belt speed 0.25m/second**
- ▶ **35m³ hopper**
For front-end-loader
- ▶ **75kw electric motor**
- ▶ **Total weight approx. 40 tonnes**



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