

## Expansion to Assmang's Cato Ridge Alloys plant

DemcoTECH Engineering was contracted together with Kantey & Templer Consulting Engineers for the expansion to the manganese export facility at Assmang Limited's Cato Ridge Alloys plant in KwaZulu Natal, South Africa. The expansion consists of upgrading two existing rail tippers, installing a series of troughed conveyors with transfer houses, from the tippers to a new 80,000 ton stockpile, an elevated travelling tripper, tunnel reclaim equipment and a road load-out facility. The project was a joint venture comprising DemcoTECH, who was responsible for the materials handling system, and Kantey & Templer, who provided the civil works and all structural steelwork.

The scope of the project ranged from a feasibility study, through to costing and implementation and comprised three parts: refurbishment of the tippers, followed by refurbishment of various existing conveyors and lastly, establishment of a greenfields stockpile and road load-out facility to cater for the increased production.

Upgrading the two rail tippers involved adapting the existing equipment to suit a greater throughput of wagons. This involved changes to the tippler drives, structural adaptations, upgrading the charger and changes to the operating philosophy. The tippers are each capable of discharging up to 11 wagons per hour.

The design of the new stockpile included a series of new conveyors from the tippers to the stockpile and an elevated travelling tripper supported in a gallery, to discharge product onto a 200m long stockpile. A reclaim tunnel under the stockpile withdraws material which is conveyed to the load-out facility. The road load-out facility combines a surge bin, belt feeder, weigh flask and shuttle conveyor to deliver precise quantities of ore to a variety of road vehicles for export. The road load-out facility is highly automated.

The design changes made to the fully automated system were defined in a feasibility study, which included a time and motion study on the wagons.

Cato Ridge Alloys beneficiates the manganese ore from Assmang's mines in the Northern Cape, South Africa, to produce medium and low carbon ferro-manganese alloys.

DemcoTECH Engineering is a specialist bulk materials handling and niche process plant company offering services from concept design through to project completion to the power generation, cement, mining, metallurgical, manufacturing and port handling industries. Services include conceptual design, feasibility studies, design, engineering, procurement, expediting, construction and commissioning. Plant supplied by DemcoTECH includes troughed conveyors, air-supported conveyors, pipe conveyors, rail-mounted slewing boom stackers, pivot boom conveyors and mobile conveyors.



<b>Client</b>	Kantey & Templer
<b>Commodity</b>	Manganese Ore
<b>Contract Type</b>	Turnkey
<b>Duration</b>	November 2011 – May 2013
<b>Location</b>	KwaZulu-Natal, South Africa

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