

Turnkey Civils, Liqhobong Tailings Dump Materials Handling System, Lesotho, 2017

DemcoTECH was awarded the contract to design and construct a system to dispose of between 3 to 4Mtpa of dry tailings. The system had to be re-routable, extendable and capable of withstanding the extreme weather conditions and mountainous terrain of Lesotho.

The head/drive pulley of the existing conveyor was elevated above local ground level with a discharge chute discharging material onto the tail end of the new DemcoTECH 320m long extendable conveyor. The new conveyor consists of a tail-end horizontal winch take-up unit, a drive unit as well as a brake and a VSD with resistor banks. It has a suspended belt magnet as well as a mass meter all of which is covered by side and roof sheeting fitted along the length of the conveyor. The extendable conveyor feeds onto a diagonal retractable conveyor approximately 120m long installed from an existing transfer point and which will also be able to feed onto a standby slewing conveyor or straight onto the retractable conveyor.

This layout ensures that tailings may be routed to two discharge points namely; to the shiftable conveyor depositing tailings along the wall or onto the standby slewing conveyor. A kidney-shaped stockpile is deposited to be dosed as required for the operations.

The shiftable conveyor is a 60m take up/belt storage system which feeds onto a slewable boom. The shiftable conveyor was lengthened in increments of approximately 12 meters from the initial length, to the final 455m length along the tailings dump wall. The tail belt storage system is modular and anchored in the dump with buried anchors. A manual winch releases and retracts the belting as the head end advances. The storage area is ideal for belt splicing in parallel with the conveyors' head end advancement operation.

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.



Client	Turnkey Civils Lesotho
Commodity	Diamonds
Contract Type	EPCM
Duration	12 months, (2016 -2017)
Location	Lesotho

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