

Letseng Diamond Mine Tailings Disposal System

Demcotech' Engineering's contract to supply the tailings disposal system was part of the establishment of a second diamond treatment plant at Letseng Mine (Plant No 2), which doubled the mine's hard rock processing capacity from 2.6 million t/yr to 5.2 million t/yr, making it the worlds' seventh largest diamond mine by throughput.

The project included a conveyor with fixed tripper and multiple discharge points, two 1 km long tail-driven downhill extendable conveyors with a rail-mounted tripper and 20 m boom spreader, and three transfer houses. The capacity was 700 tph (900 mm belt width).

The system was required to operate at ambient temperatures ranging from +35 °C to – 20 °C. This is due to the fact that the Letseng operation is the highest diamond mine in the world, located at an altitude of approximately 3 200 m. With regular snowfalls, particularly in winter, the ambient temperature ranges from about -18 °C to 20 °C. Because of the exposed nature of the site, however, the chill factor of the strong winds often reduces this to -20 °C. and below.

Diamond production at Letseng re-commenced in November 2004 after a 20-year break, with the kimberlite at the mine known for its high proportion of large and high-value diamonds. It is estimated that nearly 15 % of the diamonds in the ore are larger than 10 carats in size and recently the mine has recovered three of the worlds' top 20 diamonds.



Client	Letseng Diamonds Proprietary Limited (owned 70 % by Gem Diamonds and 30 % by Government of the Kingdom of Lesotho).
Material	Diamond Tailings
Contract Type	Design , Engineering , Procurement, Erection and Commissioning
Duration	2008
Location	Maluti Mountains, Lesotho

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