

TDS Projects Construction completing ground handling infrastructure installation at Finsch

A project which commenced in November 2014, TDS Projects Construction is now completing the installation of extensive ground handling infrastructure at Petra Diamond's Finsch Mine.



Thuthukani Engineering Solutions, a TDS Projects Construction affiliation, designed the C-cut ground handling infrastructure at Cullinan mine and were then tasked with the design of Finsch's infrastructure required for the sub-level caving expansion project.

This immense project (phase one completed, phase two in progress) includes the fabrication, construction and installation of nine tipping points, five ore pass retaining walls, four bulkheads, two crusher stations with overhead cranes, and four conveyors. Phase one commenced on 20 November 2014 and was completed on 25 March 2016, while phase two commenced on 4 April 2016 with completion estimated for July 2018.

“Our experience in the construction of mining infrastructure allows us to be innovative when presented by particular requirements dictated by a project or site. This is evident in aspects of the project such as the ore pass retaining walls, which are pre-casted and a first of their kind for underground operations and allow flexibility for the construction of tipping points on multiple levels simultaneously,” says Hennie Coetzee, MD at TDS Projects Construction.

“With the construction and operation of the bulkheads, there were numerous key findings by our team – some of which challenged the SANS standards used for the design thereof,” he explains.



The bulkhead structures include steelwork well in excess of 100 tonnes per bulkhead and were installed at the bottom of a 5.1-metre diameter ore pass, ranging from 70 to 190 metres in height. One of the bulkheads consists of a staggering 165 tonnes of steel, 150m³ of concrete and 15 tonnes of reinforcing to be constructed within a matter of four months – while the conveyor system constructed at Finsch covers a distance of 1650 metres at an incline of nine degrees and was completed within a construction period of 13 months.

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