



CASE STUDY: Ranger Drilling for Rio Tinto

TEST HOLE DRILLING & FILLING

BACKGROUND

Ranger Drilling is a Perth based drilling contractor that provides safe and productive drilling solutions across a wide range of applications in the mining industry.

OBJECTIVE

Working in extreme temperatures and in a remote location, Ranger Drilling were contracted by Rio Tinto Hope Downs Mine to deliver a package including drilling and grouting of exploration test holes ranging in depth from 70m to 200m.

These holes allow for Geotechnical Testing Equipment to be inserted and grouted into position for the purpose of monitoring water pressure and ground movement for future expansion projects to the mine.

ANTEC SOLUTION

The ChemGrout CG600 Diesel Hydraulic Colloidal mixer hired from Antec was chosen due to its ability to deliver high volumes of grout. The Turbo Mix Colloidal mixer provided a homogenous mix with the Bentonite material being passed through a high speed centrifugal pump thoroughly coating each powder particle before discharging into a 368 litre holding tank.

Shortly after being mixed, the bentonite is pumped through an in-line grout pressure gauge passing through a Tremie line to the desired depth. Over 37 cubic metres of bentonite was batched and pumped over the first stage. The highly efficient colloidal mixer makes possible water to cement ratios down to 0.35 by weight, resulting in very high strength grouts with little if any bleed water release.



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The mixer is ideal for neat cement, bentonite, micro fine cements, flyash, lime dust and post tension grouts..

Pump Type: Progressive Cavity 3L6

Output: 77 litres per minute @ 261psi

Power Source: 27HP Kubota Diesel Engine coupled to dual circuit hydraulic system



Timing for this project was critical and the notice period short with 3 weeks to commission a Mine Spec Colloidal mixers supplied and fitted to a MAN TGS 8X8 Mine Spec Truck. The MAN vehicle required significant vehicle fabrication to ensure guarding around the truck mounted mixer was to Rio Tinto safety standards. Being a mobile setup allowed Ranger to easily relocate the grout plant around the site in conjunction with the pallet of bentonite stored at the rear of the vehicle.

ABOUT ANTEC

Antec is a manufacturer and distributor of a wide range of products to the mining, minerals processing and infrastructure industries in Australia. Antec are the exclusive distributor of the ChemGrout range of grout pumps which are available for hire or buy.



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