

Drill Pads.....

First HD150S crawler drill rigs in Hong Kong

The first HD150S hydraulic crawler drill rigs to be delivered in Hong Kong are working for foundation specialists Gammon installing a cofferdam wall around the perimeter of the site of a new church in Kowloon Tong. The two HD150S rigs, plus two HD90MKII drills are working on the foundations for a seven storey church building.

Both HD150S rigs have been designed for heavy construction applications involving high torque drilling in conjunction with heavy pullback requirements. A versatile undercarriage system and heavy duty upper structure enable the rig to perform large jobs in the smallest possible working areas.

All controls and gauges for the HD150S drilling operations - universal boom, mast, turntable, flushing line and engine emergency stop button - are mounted on a swing arm control console which can be locked at the most convenient position for drilling operations. The rig includes a combined retaining hydraulic clamp and breakout device, eliminating manual spanner operation by the operator on the drill rods.

The heavy duty mast incorporates the hydraulic pull-down device featuring a hydraulic cylinder with a chain feed arrangement and guide carriage for the rotator or drifter.

The HD90MKII rigs are self-propelled, all-hydraulic units mounted on crawlers and have three hydraulic circuits to supply

The two HD150S crawler-mounted drill rigs in action on the confined Hong Kong site.



power necessary for crawler movement, levelling jacks, mast articulation, head feed, rotation and percussion.

All four drills are engaged in a 4½ month contract with Gammon, to install the cofferdam wall around the perimeter of the 2,500 m² compact, congested triangular-shaped site.

A total of 436 pipes will be installed, with diameters of 219 mm and 406 mm and average depth of 17 m. One side of the site will have the 219 mm pipes, this size having been originally specified, but with the delivery of the HD150S rigs the 406 mm diameter will be more cost-effective along the other two sides.

All four rigs are fitted with Odex overburden drilling systems, the HD150Ss drilling an inner diameter of 365 mm for the 406 mm pipes and the HD90s drilling an inner diameter of 190 mm for the 219 mm pipes.

The units are drilling through completely decomposed granite down to 9 m and then through highly decomposed granite to final required depth. The HD150Ss take around 3 h for complete 17 m drilling with the largest diameter, while the HD90s take about 2 h for the smaller diameter, including welding of the casing joints. When installed, each pipe will be filled with a cement grout 2 m below ground level using an HD

Engineering GP60 grout pump.

On completion of the cofferdam wall, Gammon will also use an HD CGP30 chemical grout pump and an HD90MKII rig fitted with a drifter to drill 100 mm diameter grouting holes 700 mm apart around the outer perimeter. The CGP30 grout pump will be used to pump high pressure cement and bentonite grout to a depth of 24 m. This unit features two pumps, each with independently adjusted pressure and volume controls. It provides a maximum output of 71 litres/min at a stepless operating pressure from 0-25 bar. With no diaphragm, pistons or seals, it has virtually no wearing parts and maintenance is minimal.