



The cavings noted below 1100 m, and the bridging during logging operations resulted from an underbalanced mud weight combined with clay hydration. The cavings continued until the final circulations by which time the mud weight had been increased to 1.19 SG.

The use of higher polymer concentrations and a progressively increasing mud weight, with depth, is recommended over this interval on future wells. DRILLING DETERGENT should be used as required to prevent bit balling and packoffs.

KCl use for clay inhibition is not recommended for future use over this interval due to the quantities and volumes required. However, its use at 3% to 5% is an available option.

### 8 1/2," HOLE SECTION

This section was drilled to TD at 2723 m with no problems except tight hole on the first trip back through new hole. The FRESHWATER/IDBOND mud system provided a stable gauge hole for logging but was unable to prevent both initial and progressive tight hole from clay hydration. After three days of logging, with no wiper trip, the hole bridged off at 2273 m over a hydrophillic clay interval below the Dolerite volcanics.

If required a KCl/IDBOND mud system could be used on future wells to minimise formation damage and clay swelling over this interval. With formation water salinity at 25,000 ppm chlorides, the FRESHWATER/IDBOND system provided the required contrast at 3,000 ppm chlorides for logging purposes.