

## A.8.3

Installation of PiezometersC020 (P1)

Cored hole C020 was open to a depth of 32m. Piezometer 1 is set at 28.2m, and slotted between 28.2 and 26.7m. Fine to medium quartzose sand was used to fill the drill hole between 32 and 27m. The final depth of the sand was difficult to measure due to fine sand grains remaining in suspension. This was measured after 24 hours had elapsed. A cement slurry was added, which theoretically filled the drill hole between 27 and 26m. Piezometer 1 flowed upon addition of the cement slurry.

C020 (P2)

Piezometer 2 was inserted 24 hours after piezometer 1. Cored hole C020 was open to 2m, even though the volume of sand and cement poured down the drill hole should have filled it to a minimum depth of 25m. However, the caliper log shows that the roof of Seam 2 is washed out, suggesting a weak roof strata to LBO. Collapse\* may have occurred in this weak zone, and inhibited sand and cement slurry settling to the required depth.

Piezometer 2 is set at 23m, after being pushed through a solid 1 to 2m thick plug, assumed to be cement, and then through less resistant strata, probably sand. Piezometer 2 is slotted between 23 and 21m. The drill hole was plugged from 2m to ground level with cement.

\*Collapse refers to weak wall strata breaking, falling and reducing the hole diameter.

C020 (P) Discussion

Piezometer 1 will monitor the water pressure at the base of LB3, because the piezometer flowed when the cement plug was added.

Piezometer 2 will monitor the zone from LB3 to the LBO roof.

R064 (P)

Rotary hole R064 was bridged\* at 26.6m. The piezometer is set at 43.6m after bypassing the bridged zone. The piezometer is slotted between 43.6 and 41.1m. Fine to medium quartzose sand fills the hole to a depth of 11.8m.

It was assumed that the blockage in the hole had cleared, and sand was shovelled down the hole. The sand was allowed to settle for 24 hours before the depth of the sand was measured. The volume of sand shovelled down the hole was theoretically insufficient to fill the hole to a depth less than 26m. A cement plug was placed at 11.8m, and cuttings were used to backfill the hole to the surface.