

Scuddles Mine - Western Australia - 1996**Mine Decline**

This base metal mine is situated north of Perth in Western Australia.

A water leak of 45 litres per second broke out in the decline during April 1996. The mine pump stations were not able to cope with this water ingress and a decision was made to seal the inflow. Sovereign previously sealed water in the ventilation shafts - 1992 (75 litres per minute) and 1993 (600 litres per minute) and their services were called upon again.

The water pressure - 40 Bar/580 P.S.I. Drilling commenced 20 metres back from the face. Six 40 metre long core holes (AQ) were drilled: 2 holes 5 degrees up; 2 holes flat; 2 holes 5 degrees down; all these holes were angled outwards at 20 degrees from the excavation. All holes had standard 50 mm casing pipes (3.0 metres long) grouted into 76mm holes.

All holes were drilled until water was intersected to remove pressure from the effected "break-out" position and to determine the orientation of the fissure.

Three additional holes were drilled into the hanging wall to intersect the fissure 20 metres back from the face. Fluorescent dye tests were performed to establish the water flow and to determine the required injection pattern. It was found that all of these holes were inter-connected with the face "breakout" position.

Sovereign's emulsion grout, Scem66 was injected using a Cameron Mk IV pump. Sealing pressure was set at 100Bar/1450P.S.I. and a seal was achieved within 3 shifts.