



Aviemore Dam Seismic Enhancement Project

| | |
|-------------------|--|
| Project | Aviemore Dam Seismic Enhancement Project |
| Client | Meridian Energy Ltd |
| Contractor | E Type Engineering Ltd |
| Location | Aviemore Dam, North Otago, New Zealand |
| Date | November - December 2005 |
| Brief | To drill (20) 560mm diameter holes to a depth of 2.9m to enable columns to be installed to support the canter levered dam roadway. |

In mid 2005 an approach was made to Lowery to develop a drilling solution to enable the canter levered roadway crossing the Aviemore Dam to be provided with additional structural support. Engineers designed for installation of twenty concrete reinforced columns along the dam to provide the structural support.

A methodology was developed to drill through the road deck, continue below the suspended road and into the dam itself to enable the construction of the twenty columns. Included within the Lowery scope of work was,

- Drilling of (20) 560mm diameter holes to a depth of 2.9m
- Collection and disposal of concrete slurry in a sensitive environmental area
- Collection and disposal of concrete cores (24 tons)

The requirements to drill a 560mm diameter hole to a 2.9m depth to meet the project timelines resulted in the need for a high power and easily set up drill rig. Steve Lowery worked to develop a solution, resulting in the development of a 72hp mobile drill rig. The benefits of the new drill rig were significant to the project in timeline and cost savings.

The Lowery team established themselves on site and worked well alongside a helpful team from E Type Engineering. Drilling progressed well and by overcoming issues relating to greywacke aggregate (slowing of production rates due to polishing of drill segments) and unplanned vertical steel hindering core removal, the project was completed successfully in six weeks.