

# NELSON DISCUSSION GROUP – MAY

*‘Enjoying learning from each other’*

Friday 12 May 2017

## Fast Facts

**Discussion Leader/Presenter:**

Murray Gillon

**Conveners:**

John Dow FAusIMM(CP)  
James Macdonald (FSEG)

**Topic:**

Stabilising the Clyde Dam Reservoir Landslides

**When:**

Friday 12 May  
5:00pm

**Where:**

Nelson Bridge Club  
21 Haven Rd,  
NELSON

**RSVP:**

Please RSVP your interest to attend to:  
Carol Foote on 03 548 1707 or  
[CFoote@golder.co.nz](mailto:CFoote@golder.co.nz) for further information

**Parking:**

On Haven Rd and behind the Bridge Club

**Cost:**

Free for all. Includes drinks and finger food

Our Discussion Group welcomes all persons with engineering, geotechnical, general geoscience and environmental interests. Meetings are normally held on the second Friday of each month from 5:00pm. We learn from each other through relaxed and facilitated discussion in-the-round.

The Nelson Discussion Group series is brought to you by local geoscientists and engineers supported and funded by local professional enterprises, individuals and the AusIMM and is worth 2 PD hours



## Stabilising the Clyde Dam Reservoir Landslides.

**Speaker: Murray Gillon**

**Jointly Sponsored by AusIMM and IPENZ (Geotech Group)**

The proposed Clyde Dam project was the subject of local, national and political controversy and dissent in the late 1970s and early 1980s. This culminated in the then National Government, with the help of Social Credit, passing the Clyde Dam Empowering Act in 1982. The controversy included whether a single high dam or two low dams should be built.

The Clyde Dam itself was subject to delays and cost overruns as a result of a 12 month strike, unexpectedly adverse foundation conditions and, following NZ's first seismotectonic hazard report, a change in the dam geometry to accommodate an earthquake joint above the 'riverbed fault'.

A few months before the planned lake filling in 1990, a further delay of 2-3 years and an additional cost of up to \$330M was announced to enable stabilising works to be carried out on several large landslides in the Cromwell Gorge. These landslides presented major risks of either generating hazardous impulse waves on Lake Dunstan or forming landslide dams with potential to flood Cromwell and the Upper Clutha Valley towards Wanaka.

Our speaker, Murray Gillon, was the Design Manager for the completion of the Clyde Dam Project from 1989, including the major landslide investigations and stabilisation. The stabilising works included 18 km of drainage tunnels, 109 km of drainhole drilling and 6M cubic metres of buttressing earthworks.

While the presentation will be primarily focused on the 'discovery' of the landslides and the development of their different stabilisation measures, Murray will also discuss the Clyde Dam and its foundation and the unique earthquake joint that became part of the Clyde Dam design.

Murray is a civil engineer who has specialised in dam engineering and dam safety. He has experience as a constructor, a designer, an owner and a consultant. He is internationally recognised for his dam engineering expertise and is currently a member of 4 expert panels in Australia and Malaysia. Murray is a Distinguished Fellow of IPENZ.

## Future Meetings:

**June 9: Simon Nathan “Waiuta gold mining operations at Blackwater, Reefton”.**

**July 7: Alan Eggers “South Taranaki Bight offshore IronSands Project”.**