



A rotary drilling rig (Beretta T41) mounted on wide tracked low ground bearing carrier.

## Ground Investigation

### Glenbuck Wind Farm: Ground Investigation

**Client:** Mosslee  
**Client's Representative:** Energia Generation  
**Site operations:** June to July 2015

Causeway Geotech were appointed by Mosslee to complete a ground investigation at Glenbuck Farm to provide geotechnical information for the input to the design and construction of the proposed four turbine wind farm, comprising of access roads and a substation.

The scope of works included a total of four boreholes were put down in a minimum diameter of 150mm through soils and rock strata to their completion depths by a combination of methods, including light cable percussion boring by a Dando 2000 rig, and rotary follow-on drilling by a Beretta T41 tracked rotary drilling rig.

Works were carried out under the supervision of a Site Engineer from Causeway Geotech who liaised with the Client's Representative from Energia Generation accordingly.

The boreholes were put down to depths of up to 5.50-10.50m below ground level. Cable percussion boring was used to advance the boreholes to bedrock, after which rotary coring was subsequently employed to recover core samples of the bedrock. The core was extracted in up to 1.5m lengths using a metric T2-101 core barrel, which produced core of nominal 84mm diameter, and was placed in triple channel wooden core boxes.

Twenty nine trial pits were excavated using 13t tracked excavator fitted with a 600mm wide bucket, to depths of 1.00-3.50m. Plate load tests were carried out at four locations to determine in-situ CBR values. Plate movements were measured using three dial gauges fitted to a remotely fixed tripod frame. Each loading increment was maintained until the plate movement had effectively stopped.

A geophysical survey was completed taking measurements using the MASW and Seismic Refraction methods.

This project was used in an MSc research dissertation which was supported by Causeway Geotech Ltd as part of our ongoing commitment to geotechnical research and development.



# CAUSEWAY GEOTECH



Metric T2-101 core barrel produced excellent core recovery for the Basalt bedrock in 84mm diameter.



Trial pits were dug using a 13t tracked excavator with a 600mm wide bucket to depths of 1.00-3.50m.

## Project Summary – Glenbuck Wind Farm

- A geotechnical ground investigation, completed with the use of boreholes, trial pits and geophysics.
- Dando 2000 rig was used for light cable percussion boring to bedrock with rotary drilling follow on using a Beretta T41
- Numerous samples were taken to be laboratory tested.
- The core was extracted in up to 1.5m lengths using a metric T2-101 core barrel, which produced core of nominal 84mm diameter, and was placed in triple channel wooden core boxes.
- Site operations conducted over June to July 2015
- Completed within the Client's deadlines for issue of tender information
- Completed with **ZERO INCIDENTS, and within budget.**