



**STRUCTURAL  
SOILS LTD**

## Recent projects

### **Pulpit Rock, Loch Lomond, Scotland**

A tunnel has been proposed to relieve congestion on a section of the A82 adjacent to Loch Lomond. To investigate the tunnel route, coring in rock was required. Owing to difficult access, rotary drilling rigs were lifted by helicopter to locations above the proposed tunnel so that boreholes up to 40 m deep could be drilled.

The client was Transport Scotland and the engineer was Scott Wilson. The project value was £600,000.

### **Llyn Alaw Reservoir, Anglesey**

Eleven rotary boreholes were drilled through both the crest and the toe of a 1960s concrete dam that impounds a reservoir supplying water to Anglesey. The dam lies within a site of special scientific interest. The dam crest was 1.6 m wide and boreholes were inclined to miss the grout curtain. Packer tests were undertaken, and vibrating wire piezometers installed in the boreholes. The engineer was Atkins and the client was United Utilities.



## Rotary drilled boreholes

Rotary drilling techniques are employed where boreholes are required into very dense gravel or bedrock. Both open hole and cored boreholes are drilled depending on the requirements of the investigation, using a variety of equipment and flush media.

Instrumentation such as gas and groundwater monitoring standpipes, piezometers, inclinometers and extensometers can be readily installed in rotary boreholes.

Intact cores are recovered in seamless plastic tubes for subsequent logging by a suitably qualified engineer and for laboratory testing. Most of our rotary coring work relies on the use of our own drilling rigs, some of which are suitable for limited access work. Insitu testing such as standard penetration tests, packer tests and pressuremeter tests can be carried out in rotary boreholes.

### **How can we help?**

If you are planning any development involving construction, you are likely to require a site investigation. Structural Soils Limited (an RSK company) is always pleased to offer advice at an early stage and will provide information on geology, recommended investigation techniques and suggested scopes of work, usually without charge. In return we would expect to be invited to quote or provide a price for the investigation. Owing to our competitive pricing structure, we win approximately 40–50% of contracts priced. We then undertake the works using the most relevant equipment available. Common methods used on site include trial pitting, dynamic sampling, cable percussion drilling and rotary drilling, but we also have access to geophysical methods and static cone penetration testing. Geotechnical laboratory testing is undertaken in our laboratories in Bristol, Castleford and Hemel Hempstead, and chemical testing is undertaken by an accredited laboratory with which we have strong and long standing relations.

Factual and interpretive reports are prepared by our team of experienced engineers, geologists and environmental scientists, and provide advice on foundation solutions, contamination levels and remediation options.

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