Boulby Mine is a 200-hectare site run by Cleveland Potash, located just southeast of the village of Boulby, on the northeast coast of the North Yorkshire Moors in Redcar and Cleveland, England. It is Europe’s second deepest mine at 1,400 metres, producing half of the UK’s output of potash, an agricultural fertilizer. As a by-product the mine produces rock salt, used across the region as a de-icing agent on roads in winter conditions.

As part of a maintenance operation, a new segmental concrete ring lining was developed to be installed at the base of the mine shaft.

**Project Summary**

| PROJECT: Boulby Mine Shaft Re-Lining |
| YEAR: 2009 |
| CLIENT: Cleveland Potash Ltd |
| CONTRACTOR: Ebor Concrete |
| SPECIALIST SUB-CONTRACTOR: NA |
| CONSULTANT: NA |

### Overview

Boulby Mine is a 200-hectare site run by Cleveland Potash, located just southeast of the village of Boulby, on the northeast coast of the North Yorkshire Moors in Redcar and Cleveland, England. It is Europe’s second deepest mine at 1,400 metres, producing half of the UK’s output of potash, an agricultural fertilizer. As a by-product the mine produces rock salt, used across the region as a de-icing agent on roads in winter conditions.

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### Monitoring

Several instruments were installed within the pre-cast concrete segments manufactured by Ebor Concrete Ltd to measure hoop stress on the inner & outer surfaces, radial stresses at the outer face and load in selected temporary suspension members.

Total Pressure Cells (TPC) and vibrating wire embedment strain gauges were installed within the segments prior to them being installed on site.

All data from the instruments will be fed back to a GeoLogger data acquisition module which monitors and records the data.

### Products used

- **VW embedment strain gauges**
  - Used to measure strain within the segments.
- **GeoLogger data logger**
  - Used to measure radial stress within the segments.
- **GeoLogger data logger**
  - Multi channel data logger used to collect data automatically.